EIGHTH REPORT

OF THE

BOARD OF TRUSTEES

OF THE

ILLINOIS

INDUSTRIAL UNIVERSITY,

For the Two Years Ending September 30th, 1876,

WITH

CATALOGUE OF THE PLANTS OF ILLINOIS AND OTHER PAPERS.

SPRINGFIELD, ILL.:
D. W. LUSK, STATE PRINTER AND BINDER.
1877.

ILLINOIS INDUSTRIAL UNIVERSITY,
CHAMPAIGN, 1877.

TO HIS EXCELLENCY,

The Governor of the State of Illinois:

I have the honor to submit herewith the Biennial Report of the Board of Trustees of the Illinois Industrial University, for two years ending September 30th, 1876. The reports have heretofore been made annually, and seven have been published; this, therefore, is the Eighth, and for the eighth and ninth years of the University.

T. J. BURRILL,
Cor. Secretary Board of Trustees.

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BOARD OF TRUSTEES.

UNDER LAW OF MAY 7, 1873.

Ex-Officio.

His Excellency, Governor JOHN L. BEVERIDGE.
Hon. D. B. GILHAM, President State Agricultural Board.

Term expires 1877.

ALEXANDER BLACKBURN, Macomb.
R. B. MASON, Chicago.
W. C. FLAGG, Moro.

Term expires 1879.

J. J. BYRD, Cairo.
J. H. PICKRELL, Harristown.
D. D. SABIN, Belvidere.

Term expires 1881.

A. M. BROWN, Villa Ridge.
EMORY COBB, Kankakee.
D. GARDNER, Champaign.

OFFICERS OF THE BOARD.

EMORY COBB, Esq., President.
Prof. T. J. BURRILL, Corresponding Secretary.
Prof. E. SNYDER, Recording Secretary.
JOHN W. BUNN, Esq., Treasurer.

EXECUTIVE COMMITTEE.

EMORY COBB, President.
D. GARDNER.
J. H. PICKRELL.

S. W. SHATTUCK, Business Agent.

OFFICERS AND INSTRUCTORS.

FACULTY.

JOHN M. GREGORY,
Regent, and Professor of Philosophy and History.

STILLMAN W. ROBINSON,
Professor of Mechanical Engineering.

THOMAS J. BURRILL,
Professor of Botany and Horticulture.

SAMUEL W. SHATTUCK,
Professor of Mathematics.

COL. EDWARD SNYDER,
Professor of Modern Languages and Military Science.

DON CARLOS TAFT,
Professor of Geology and Zoology.

J. BURKITT WEBB,
Professor of Civil Engineering.

JOSEPH C. PICKARD,
Professor of English Language and Literature.

*DR. MANLY MILES,
Professor of Agriculture.

N. CLIFFORD RICKER,
Professor of Architecture.

HENRY A. WEBER,
Professor of Chemistry.

JAMES D. CRAWFORD,
Professor of Ancient Languages and Librarian.

†GEORGE E. MORROW.
Professor of Agriculture.

DR. FREDERICK W. PRENTICE,
Lecturer in Veterinary Science.

MISS LOU CATHERINE ALLEN,
Instructor in Domestic Science.

INSTRUCTORS AND ASSISTANTS.

MISS CHARLOTTE E. PATCHIN,
Instructor in Music.

ALEXANDER C. SWARTZ,
Assistant in Architecture and Mathematics.

JAMES KENIS,
Instructor in Clay Modeling aad Architectural Ornamentation.

IRA O. BAKER,
Assistant in Civil Engineering and Physics.

PETER ROOS,
Instructor in Industrial Art and Designing.

ELNA A. ROBINSON,
Assistant in Mechanical Engineering and Foreman of Machine Shop.

FERNANDO A. PARSONS,
Instructor in Bcok-keeping.

MELVILLE A. SCOVELL,

ARTHUR E. BARNES,
Assistants in Chemical Laboratory.

CHARLES I. HAYS,
Assistant in Horticulture and Botany.

CHARLES E. PICKARD,
Assistant in English and Ancient Languages.

EDWIN L. LAWRENCE,
Head Farmer.

VANTILE W. CODDINGTON,
Foreman of Carpenter Shop.

*For 1875–6.
†Appointed June 7, 1876.

LIST OF STUDENTS.

FOR THE ACADEMIC YEAR 1875-76.

EXPLANATION.

The figures after the names indicate 1st, 2d, 3d and 4th year students; the * partial.

RESIDENT GRADUATES.

NAMES.	COURSE.	POST-OFFICE.
Barnes, Arthur E.	Chemistry	Champaign
Brown, Ralph L.	Literature and science	Marengo
Coddington, Vantile Wm.	Architecture	Menomonee, Wis
McCauley, John Charles	Literature and science	Defiance, Ohio
Muller, John	Literature and science	Wurtemberg, Ger.
Scovell, Melville A.	Chemistry	Champaign

UNDER-GRADUATES.

GENTLEMEN.

Names.	Course.	Postoffice.
Abbott, Theodore Sperry....3	Mining engineering	Union Grove
Adams, Clarence G....4	Agricultural	Champaign
Allen, Ralph....4	Agricultural	Delevan
Allen, Charles Wesley....3	Agricultural	Harristown
Allen, Robert C....1	Literature and science	Gilman
Anderson, Jacob W....3	Mechanical engin'ring, architec're	Ladoga, Ind.
Atherton, Byron J....2	Mechanical engineering	Villa Ridge
Allen, Arthur C....1	Builder's course	Lena
Adams, Frank E....1	Literature and science	Peoria
Baker, Carroll....3	Agricultural	Tuscola
Baker, Eddie J....2	Agricultural	Savoy
Baker, Selby S....1	Builder's course	Chebanse
Ballard, Frank Edward....2	Architecture	Chicago
Ballard, Charles K....2	Architecture	Chicago
Ballou, Edward Lull....4	Mechanical engineering	Sherwood, Wis.
Balcom, William Arthur....1	Architecture	Champaign
Barry, Charles Hart....3	Literature, science and military	Alton
Barry, Frank....2	Literature, science and military	St. Louis

Names of Students—Continued.

Names.	Course.	Postoffice.
Bailey, William J. ..3	Literature, science and military...	Argo.
Beardsley, Henry Mahan. ..1	Literature and science	Champaign.
Barlow, Abner L. ..1	Literature and science.	Dixon
Bennett, Granville J. ..1	Agricultural.	Argo.
Bennett, Lynn C. ..2	Chemistry.	Pontiac.
Best, Wesley Erasmus. ..2	Commercial and military.	Litchfield.
Blakeslee, George F. ..1	Mechanical engineering.	DuQuoin
Blakeslee, Eli T. ..2	Elective.	DuQuoin
Bishop, David Milton. ..1	Literature and science.	Godfrey.
Booth, Christopher Stephen. ..1	Literature and science.	Columbus
Bourne, Harry P. ..2	Civil engineering	Woodstock.
Boyd, Frank. ..1	Commercial	Mattoon.
Briles, Bayard S. ..1	Agricultural.	Ash Grove.
Bridge, Wallace E. ..2	Agricultural and military.	LaMoille.
Boyers, S. E. ..1	Literature and science.	Mt. Carroll
Brown, Frank L. ..1	Literature and science.	Good Hope
Brannen, Dennis James. ..2	Commercial.	Savoy.
Brown, Henry A. ..1	Chemistry.	Dixon.
Brush, Charles E. ..3	Architecture.	Carbondale.
Bryan, Orville Grant. ..1	Agriculture.	Xenia.
Burnap, Henry T. ..1	Chemistry.	Alton.
Burgess, Clark M. ..1	Elective.	Bennett.
Burnham, James E. ..1	Mechanical engineering.	Mason City.
Buckingham, William ..3	Mechanical engineering, military.	Chicago.
Buckingham, Roswell H. ..1	Mechanical engineering.	Chicago.
Butler, William Nichols. ..1	Literature, science and military.	Anna.
Butler, Cyrus Waldo. ..1	Civil engineering and military	Anna.
Butterfield, A M. ..1	Agricultural.	Champaign.
Blackall, Clarence H. ..3	Architecture and military	Chicago.
Bumstead, James E. ..3	Literature and science.	Marengo.
Burr, Ellis Merton. ..2	Mechanical engineering.	Woodstock.
Byrd, Oliver Wilson. ..3	Commercial.	Ladoga, Ind.
Campbell, Robert H. ..3	Literature and science.	Mt. Carroll.
Campbell, James William. ..4	Literature and science.	Philo
Castle, L. T. ..1	Chemistry.	Upper Alton.
Chandler, Walter M. ..1	Literature and science.	Weldon.
Chandler, Ernest M. ..1	Agricultural.	Bourbon.
Chandler, William Bayard. ..4	Literature and science.	Bourbon.
Childs, Will M. ..1	Civil engineering.	Buda.
Clark, Wallace. ..1	Commercial.	Homer.
Clay, Luther G. ..4	Horticultural and military.	Cobden.
Clark, Charles Wright. ..4	Civil engineering.	Champaign.
Coburn, Ralph Porter. ..2	Mechanical engineering.	Lyndon.
Coffman, Noah B. ..3	Natural history.	Urbana.
Chester, Homer Waldo. ..2	Agricultural.	Champaign.
Coffin, Frank Sherman. ..2	Literature and science.	Taylorville
Collins, Wilbur Milan. ..1	Literature and science	Knoxville, Iowa
Conklin, Roland ..1	Literature and science	Champaign.
Cowen, Roy H. ..3	Civil engineering and military.	Champaign.
Coun, Frank S. ..2	Chemistry	Urbana.
Conroy, James ..2	Literature and science.	Terre Haute, Indiana.
Coquillett, George A. ..1	Literature and science.	Woodstock
Culver, Lucian M. ..2	Commercial	Henry.
Cummings, Orlando W. ..1	Agricultural.	Buda
Crow, B. F. ..4	Architecture	Woodbine, Iowa.
Davis, A. L.		
Dean, Frank A. ..2	Literature and science and military	Buckley
Dean, Ezra Carter ..2	Literature and science.	La Moille.
Denton, Charles Allen. ..1	Literature and science.	Hamilton
Dillon, Absolem W. ..1	Commercial	Tremont
Doty, Frank V. ..1	Literature and science.	Middleton, Ohio.
Drake, James Frederic ..4	Literature and science.	Belvidere
Dunlap. Frank. ..1	Commercial	Belmond, Iowa.
Durkin, Peter ..1	Natural history.	Metamora
East, William H. ..1	Mechanical engineering.	DuQuoin
Edson, Charles Ballou. ..2	Commercial and military.	Galva
Elliott, Charles Gleason. ..3	Civil engineering.	Tonica
Elliott, J. K ..1	Literature and science.	Wenona
Faulkner, Richard D. ..3	Agricultural.	Clement.
Fenity, Frank C. ..2	Chemistry	Kane
Fessenden, Arthur L. ..3	Mechanical engineering.	Xenia, Ohio.
Fisher, George W. ..2	Commercial	Litchfield
Flansburg, Claude. ..2	Literature, science and military.	Galva

Names of Students—Continued.

Names.	Course.	Postoffice.
Forsyth, James....1	Mechanical engineering	Springfield
Fitzhugh, William H....1	Commercial	Delevan
Freijs, Charles Theodore....1	Architecture	Urbana
Francis, Frederick....2	Mechanical engineering	Kewanee
Frackelton, David S....1	Literature and science	Petersburg
Gaffner, Theophilus....2	Chemistry and military	Highland
Gardner, Albert O....1	Natural history	East Lynne
Gilkerson, Hiram....3	Agricultural and military	Ney
Gilkerson, John....3	Literature and science	Ney
Gill, John D....4	Literature and science	Antwerp, New York
Gillette, Stephen Loren....3	Literature, science and military	Aurora
Gibson, Charles Brockway....3	Chemistry and military	Springfield, Vermont
Garrod, James A....2	Architecture	Champaign
Gould, Harry C....2	Civil engineering and military	Henry
Gore, Simeon T....4	Architecture	Ashley
Graves, Ernest W....1	Horticultural	Sandwich
Gregory, Alfred....2	Literature and science	Champaign
Gregory, Charles E....4	Literature and science	Rochelle
Gunder, James Henry....2	Civil engineering	Fairmount
Hallinen, Joseph....1	Literature and science	Champaign
Hallett, D. Frank....3	Literature and science	Mt. Carroll
Hannah, Samuel....3	Literature and science	Rossville
Hannah, Richard Henry....4	Horticultural	Rossville
Harrison, Samuel A....1	Literature and science	Alton
Hartshorn, William Henry....2	Literature and science	Buckley
Harden, Edgar E....1	Literature and science	Dixon
Hauser, Henry....3	Civil engineering and military	Mascoutah
Halsey, Herbert B....1	Literature and science	Dover, New Jersey
Hatch, F. W....1	Literature and science	English Prairie
Hendren, William....2	Mechanical engineering	Batesville, Arkansas
Hewins, Charles F....2	Literature and science	Loda
Hiett, George Washington....3	Agricultural	Sugar Grove, Indiana
Hinsdale, F. D....1	Civil engineering	Kewanee
Hobbs, Charles Albert....1	Literature and science	Mt. Vernon
Hoit, Otis Willis....1	Agricultural	Geneseo
Hodges, George Irving....3	Commercial	Champaign
Hull, Evelyn Thomas....3	Horticultural	Alton
Irwin, Ralph J....2	Literature and science	Mason City
Jackson, Arthur C....1	Literature and science	Maroa
Johnson, William P....1	Civil engineering	Chicago
Johnson, Fred....3	Civil engineering	Springfield, Vermont
Johnson, John Nelson....1	Chemistry	Mt. Vernon
Johnson, Lawrence Lincoln....1	Commercial	Urbana
Jolley, Albert Rembrandt....3	Literature, science and military	Cerro Gordo
Jones, Eugene L....1	Commercial	Henry
Jones, James F....3	Literature and science	Chester
Jones, Henry R....2	Agricultural	Athens
Judd, Frank W....1	Literature and science	Dixon
Kays, Emery....2	Literature and science	Oxbow
Kennedy, Allan G....3	Civil engineering and military	Eau Claire, Wisconsin
Kincaid, Richard Yates....2	Agricultural	Athens
Kincaid, Lee....1	Agricultural	Athens
Kingsbury, Charles Sumner....4	Civil engineering	Medway, Massachusetts
Knibloe, Walter E....4	Natural history	Gilman
Knight, Philip Christopher....2	Civil engineering	La Moille
Kuhn, Isaac....1	Civil engineering	Cleveland, Ohio
Kimble, Willis P....1	Civil engineering	Paris
Lamson, John W....1	Literature and science	Half Day
Lee, Elisha....1	Agricultural	Hamlet
Lee, W. H....1	Agricultural	Millersburgh
Lee, Eddy Orlando....3	Literature and science	Mt. Carroll
Lewis, Edward V....3	Agricultural and military	Chatham
Lewis, John C....2	Literature, science and military	Roseville
Lewellin, Joseph C....3	Architecture	Sterling
Lindley, Austin M....2	Chemistry	Urbana
Lloyde, Frank Hayden....3	Literature and science	Champaign
Lucas, John A....1	Literature and science	Champaign
Mackay, Daniel G....4	Literature and science	Mt. Carroll
Mackay, Henry....4	Literature and science	Mt. Carroll
Mackay, William A....4	Literature, science and military	Mt. Carroll
Mahan, Henry Weston....4	Literature, science and military	Champaign

Names of Students—Continued.

Names.	Course.	Postoffice.
Makemson, Samuel Clinton....3	Literature and science	Wilmot, Ind.
Mann, Frank Irving....4	Literature, science and military	Gilman
Mann, James Robert....4	Literature, science and military	Gilman
Mann, William A....1	Literature and science	Gilman
Mann, Howard Adin....4	Natural History	Batavia
Mathews, Newman Hamlin....3	Mechanical engineering	Champaign
McLane, James A....2	Architectural	Waukegan
McKinney, H. A....1	Literature and science	Argenta
McPherson, John Jr....3	Civil Engineering	Rockford
Megredy, W. A....1	Agricultural	
Melendy, Clarence P....1	Literature and science	Thomson
Mersereau, W. Randolph....1	Elective	Rantoul
Metcalf, Allan DeNeen....1	Literature and science	Edwardsville
Milton, Franklin Silas....1	Civil Engineering	Jerseyville
Mills, W. B....2	Literature and science	Mt. Palatine
Minier H. M....1	Literature, science and military	Minier
Moore, John Fremont....3	Architectural	Davenport, Iowa
Moffett, John....3	Literature and science	Derinda
Moravia, Wensel....2	Mechanical engineering and mil'y	Chicago
Motherspaw, William T....1	Commercial	Champaign
Muelheims, Robert....1	Chemistry and military	Nashville
Nase, Frank....1	Commercial	Mt. Carroll
Newton, George White....2	Mechanical engineering	Castleton
Ness, Joseph....3	Literature and science	Hoopeston
Noble, Louis Reeder....4	Mechanical engineering and mil'y	Mattoon
Nicolet, Charles H....1	Literature and science	Champaign
Norred, Fenton Mercer....1	Agricultural	Dawson
Nussbaumer, J. J....1	Chemistry	Nashville
Oliver, Will Forrest....4	Literature, science and military	Ladoga, Ind.
Page, Andrew Orville....2	Agricultural	Champaign
Palmer, Frank Mitchell....4	Civil engineering and military	Clinton
Patchen, John W....2	Commercial	West Bloomfield, N. Y.
Patterson, Wm. Fremont....2	Literature and science	Mt. Carroll
Parker, Tweed W....1	Commercial	Cairo
Pfeiffer, William A....1	Natural history and military	Rantoul
Pervier, Clayton C....1	Commercial	Mineral
Percival, Curtis E....1	Agricultural	Champaign
Philips, W. H....1	Literature and science	Litchfield
Philips, Richard....3	Commercial	Rantoul
Pierce, Elon Albert....4	Agricultural	Belmond, Iowa
Pickrell, Arthur A....2	Agricultural	Mechanicsburg, Iowa
Pocock, Augustine James....1	Civil engineering	Hayesville, Ohio
Pollock, James Lyon....2	Literature and science	Mt. Vernon
Porter, Arthur W....1	Commercial	Garden Prairie
Porterfield, George K....2	Literature, science and military	Mendota
Porterfield, Emmet....3	Agricultural	Sidney
Prettyman, B. Stockley Jr....1	Literature and science	Pekin
Raley, Charles R....1	Agricultural	Granville
Ray, John DeWitt....1	Mechanical engineering	Belvidere
Reed, Louis A....1	Literature and science	Mason City
Reinwalt, John M....1	Literature and science	Mt. Carroll
Rhodes, James Frederic....4	Literature, science and military	Dwight
Rhodes, Joseph William....3	Civil engineering	Dwight
Rice, George Clark....3	Literature and science	Fithian
Richards, Charles L....2	Agricultural	Woodstock
Robinson, A. F....1	Mining engineering	Maroa
Ross, Joseph Laines....2	Agricultural	Macomb
Rudy, William D. O....2	Chemistry and military	Mattoon
Russell, Charles Mortimer....2	Literature and science	Urbana
Rutan, Abram R....3	Literature and science	Dwight
Sabin, Eugene F....1	Commercial	Belvidere
Sackett, John Warren....1	Literature and science	Rantoul
Safford, A. B....1	Literature and science	Crete
Safford, John T....1	Agricultural	Hamilton
Sargent, I. C....2	Literature, science and military	Rockford
Sawyer, Hamlin W....2	Literature, science and military	Godfrey
Sawyer, John Y....2	Architectural and military	Godfrey
Savage, Manford....2	Literature and science	Girard
Savage, George Marvin....1	Literature and science	Girard
Schmeltzer, J. Foster....1	Civil engineering	Manteno
Scott, Herbert W....1	Commercial	Sheffield
Scribner, Artemus Coffin....4	Agricultural	Bradford

Names of Students—Continued.

Names.	Course.	Postoffice.
Seymour, John James....3	Civil engineering and military.....	Seymour.....
Sim, Coler Lindley....3	Chemistry and military.....	Urbana.....
Smith, Herbert O....1	Agricultural.....	Dixon.....
Snyder, Frank Augustus....2	Literature and science.....	Galva.....
Sheldon, Clarence C....2	Literature and science.....	Urbana.....
Sparks, Hosea B....2	Literature, science and military...	Alton.....
Spence, William Wright....2	Literature and science.....	Hamilton.....
Spence, Franklin....3	Literature and science.....	Hamilton.....
Spitler, Jefferson D....1	Literature and science.....	Todd's Point.....
Spradling, William F....2	Literature and science.....	Sheridan.....
Sprague, Martin....2	Literature, science and military...	Monticello.....
Staley, Calvin C....4	Literature and science.....	Champaign.....
Stanton, Samuel Cecil....4	Natural history and military.....	London, Eng.....
Stayman, John Mather....3	Mechanical engineering.....	Champaign.....
Starr, Frank A. E....4	Literature, science and military...	Elsah.....
Stacey, Morrell M....1	Chemistry.....	Princeton.....
Stevens, George H....1	Literature and science.....	Sheffield.....
Stevenson, George H....1	Literature and science.....	Neponset.....
Stewart, William J....1	Commercial.....	Colona.....
Stewart, Charles Evans....4	Civil engineering and military.....	Champaign.....
Stewart, Arthur Robinson....1	Agricultural.....	Champaign.....
Stickle, William Henry....2	Agricultural.....	Macomb.....
Stoddard, Ira J. Jr....3	Civil engineering and military.....	Pella, Iowa.....
Stookey, Daniel Wesley....4	Mechanical engineering.....	Harristown.....
Studley, Christopher C....1	Literature and science.....	Neponset.....
Stull, William....4	Literature and science.....	Marengo.....
Stull, Louis....3	Literature and science.....	Marengo.....
Sutherland, Edmund W....1	Civil engineering.....	Holder.....
Swannell, Arthur....1	Literature and science.....	Kankakee.....
Taft, Lorado....1	Natural history.....	Champaign.....
Taylor, Charles B....1	Literature and science.....	Urbana.....
Tomlinson. J. J....2	Elective.....	Magnolia.....
Tower, George W....2	Agricultural.....	Sycamore.....
Tower, George D....2	Literature and science.....	Mendota.....
Viall, Ely John....1	Agricultural.....	Manteno.....
Vaumer, J. M.....	.....	.....
Waggoner, Eugene L....1	Literature and science.....	Godfrey.....
Wakefield, Charles C....3	Agricultural.....	Monroe City, Mo.....
Walker, Frank E....2	Literature and science.....	La Moille.....
Waters, Frank P....1	Literature and science.....	Lexington.....
Ward, Walter P....3	Literature and science.....	Terre Haute.....
Warrington, George....3	Mechanical engineering.....	Chicago.....
Weed, Mahlon Ogden....2	Chemistry.....	Belvidere.....
Weems, William L....1	Literature and science.....	Quincy.....
Weston, Charles....4	Literature and science.....	Champaign.....
Whitham, Robert F....4	Civil engineering and military.....	Fairfax, Iowa.....
White, W. Woods....2	Literature, science and military....	Atlanta, Ga.....
Whitlock, John F....3	Literature, science and military...	Dwight.....
Whitmire, Clarence L....1	Natural history and military.....	Metamora.....
Whiton, Arthur L....1	Agricultural.....	Chicago.....
Wild, George A....4	Civil engineering and military.....	Marengo.....
Williams, Walter L....2	Agricultural.....	Argenta.....
Williams, Thomas T....4	Literature and science.....	Sterling.....
Williams, Frederick A....2	Agricultural.....	Montrose, Iowa.....
Williams, George A....2	Agricultural.....	Quincy.....
Wilson, Charles M....3	Mechanical engineering.....	Mackinaw.....
Wood, Frederick Lansing....4	Literature, science and military....	Chicago.....
Wood, John H....1	Commercial.....	Cairo.....
Wright, M. J....3	Literature and science.....	Woodstock.....
Zeller, George Anthony....3	Chemistry.....	Spring Bay.....
Ziesing, Richard....1	Elective.....	Peru.....
Ziesing, August....2	Civil engineering and military.....	Peru.....
Zimmerman, Henry W....2	Civil engineering.....	Peru.....

LADIES.

Adams, Nettie....3	Literature and science.....	Urbana.....
Ayers, Lettie....3	Literature and science.....	Urbana.....
Bacon, Katharine J....1	Literature and science.....	Champaign.....
Barber, Margaret....1	Literature and science.....	Milmine.....

Names of Students—Continued.

Names.		Course.	Postoffice.
Batchelder, Augusta	1	Domestic science and art	Harristown
Batchelder, Abbie W	1	Domestic science and art	Harristown
Bergen, Lavinia	3	Literature and science	Lilly
Bernstein, Joanna	3	Literature and science	Champaign
Bogardus, Eva	3	Literature and science	Champaign
Brosher, Cornelia	3	Literature and science	Champaign
Brown, Fannie	1	Literature and science	Champaign
Carley, Isotta	3	Literature and science	Champaign
Chester, Minnie A	1	Literature and science	Champaign
Columbia, Emma E	3	Literature and science	Champaign
Condit, Annie H	1	Literature and science	Champaign
Conn, Emma Anna	3	Literature and science	Champaign
Culver, Nettie	2	Literature and science	Henry
Cuppernell, Jessie A	1	Literature and science	Champaign
Cushman, Grace	2	Literature and science	Urbana
Darnell, May	1	Literature and science	Rantoul
Davies, Abbie May	1	Literature and science	New Lichmond, Ohio
Eaton, Ada	3	Literature and science	Philo
Estep, Ida	2	Literature and science	Rantoul
Estep, Jessie	2	Literature and science	Rantoul
Falls, Ida Bell	3	Literature and science	Champaign
Fish, Almira	1	Literature and science	Franklin Grove
Fox, Mary	1	Literature and science	Champaign
Genung, Lou	1	Literature and science	Rantoul
Gipson, Lillie F	1	Literature and science	Champaign
Graham, Belle	2	Literature and science	Champaign
Green, N. L	1		
Gregory, Helen B	3	Literature and science	Champaign
Hale, Isabella	1	Domestic science and art	Sheffield
Holsted, Clara	1	Literature and science	Rantoul
Hammond, May	1	Literature and science	Rantoul
Hammond, Emily	2	Literature and science	Rantoul
Holmes, Mary	1	Literature and science	Loda
Holton, Mattie S	4	Literature and science	Champaign
Hullinger, Kate	4	Natural history	Rock Falls
Ivers, Mary A. E	2	Literature and science	Champaign
Johnson, Etta Anna	3	Literature and science	Champaign
Johnson, Nettie	1	Literature and science	Champaign
Kimball, Agnes M	1	Literature and science	Blivens' Mills
Kimberlin, Nettie	2	Domestic science and art	Louisiana, Mo
Kincaid, Mattie	3	Literature and science	Champaign
Larned, Mary Sofrona	4	Literature and science	Champaign
Lindley, Allie V	1	Literature and science	Urbana
Lloyd, Lottie E	1	Literature and science	Arcola
Low, Laura T	1	Literature and science	Chicago
Mahan, Jennie C	3	Literature and science	Champaign
Maxwell, Emily C	3	Literature and science	Champaign
McElroy, Mary	1	Literature and science	Champaign
McAllister, Nettie	1	Literature and science	Champaign
McFarland, Ida	1	Literature and science	Rantoul
McWilliams, Emma M	2	Domestic science and art	Bourbon
Melendy, Ada L	1	Literature and science	Mt. Carroll
Moffet, Portia	1	Domestic science and art	Vancils Point
Moffet, Aletha	1	Literature and Science	Vancils Point
Page, Belle	2	Literature and science	Champaign
Page, Emma	2	Literature and science	Champaign
Page, Mary	2	Architecture	Champaign
Page, Martha Ellen	3	Literature and science	Champaign
Piatt, Emma C	3	Literature and science	Monticello
Pierce, Effie F	2	Literature and science	Belmond, Iowa
Pierce, Clara E	2	Literature and science	Belmond, Iowa
Potter, Nellie	1	Literature and science	Indianapolis, Ind
Ruddick, Lillie R	1	Literature and science	Seymour, Ind
Russell, Annie S	2	Literature and science	Champaign

Names of Students—Continued.

Names.		Course.	Postoffice.
Scoggins, Sarah	2	Literature and science	Champaign
Skinner, Ella V.	3	Literature and science	Champaign
Smith, Avice E.	3	Literature and science	Union
Somers, Hattie	2	Literature and science	Urbana
Spence, Jennie	2	Chemistry	Hamilton
Spruill. S. C.	2	Literature and science	Urbana
State, Nellie	1	Literature and science	Urbana
Staley, E.	1	Literature and science	Champaign
Strong, Sarah B.	2	Literature and science	Champaign
Switzer, Gertrude	3	Commercial	Champaign
Thomas, Elizabeth R.	4	Literature and science	Champaign
Varner, Carrie	1	Literature and science	Urbana
Victor, Carrie	4	Literature and science	Champaign
Wallace, Emma	3	Literature and science	Champaign
Whited, Rose	3	Literature and science	Belmond, Iowa

RECAPITULATION.

UNDERGRADUATES—Gentlemen	297
" —Ladies	83
RESIDENT GRADUATES—Gentlemen	6
	386

COURSES PURSUED.

Agriculture	45	Military	55
Horticulture	4	Literature and Science	199
Mechanical Engineering	22	Domestic Science and Art	6
Civil Engineering	31	Mining Engineering	2
Architecture	15	Builder's Course	2
Natural Science	9	Elective	5
Chemical	20		
Commercial	26		386

LIST OF STUDENTS.

FOR THE ACADEMIC YEAR 1876-77.

RESIDENT GRADUATES.

Names.	Residence.
Gill, John D	Antwerp, N. Y.
Noble, L. R	Mattoon.
Stookey, G. W	Harristown.

SENIOR CLASS.

GENTLEMEN.

Names.	Course.	Residence.
Abbott, Theodore Sperry	Mining engineering	Union Grove
Allen, Charles Wesley	Literature and science	Harristown
Barry, Charles Hart	Literature, science and military	Alton
Barry, Frank	Literature, science and military	St. Louis, Mo
Blackall, Clarence H	Architecture and military	Chicago
Brush, Charles E	Architecture	Carbondale
Buckingham, William	Mechanical engineering, military	Chicago
Bumstead, J. E	Literature and science	Marengo
Clay, Luther G	Horticultural and military	Cobden
Crow, B. F	Architecture	Woodbine, Iowa
Elliott, Charles Gleason	Civil engineering	Tonica
Faulkner, Richard D	Literature and science	Clement
Gibson, Charles Brockway	Chemistry and military	Springfield, Vt
Gilkerson, Hiram	Agricultural and military	Ney
Gilkerson, John	Literature and science	Ney
Kennedy, Allan G	Civil engineering and military	Eau Clair, Wis
Lewellin, Joseph C	Architecture	Sterling
Lewis, Edward C	Agricultural and military	Chatham
McPherson, John Jr	Civil engineering	Rockford
Moore, John Freemont	Architecture	Davenport, Iowa
Rice, George Clark	Literature and science	Fithian
Seymour, John James	Civil engineering and military	Seymour
Sim, Coler Lindley	Chemistry and military	Urbana
*Spence, Franklin	Architecture	Hamilton
Stayman, John Mather	Mechanical engineering	Champaign
Stoddard, Ira J. Jr	Civil engineering and military	Pella, Iowa
Ward, Walter ?	Literature and science	Terre Haute
Whitham, Robert F	Civil engineering and military	Fairfax, Iowa
Wright, Myron Jerome	Agricultural	Woodstock

Names of Students—Continued.

LADIES.

Names.	Course.	Residence.
Adams, Nettie	Literature and science	Urbana
Bogardus, Eva	Domestic science	Champaign
*Broshar, Cornelia	Literature and science	Champaign
*Conn, Emma	Literature and science	Champaign
Falls, Ida Bell	Literature and science	Champaign
Gregory, Helen B	Literature and science	Champaign
Maxwell, Emily C	Literature and science	Champaign
Page, Martha Ellen	Literature and science	Champaign
Piatt, Emma C	Domestic science	Monticello
Skinner, Velma Elethea	Literature and science	Champaign
Smith, Avice E	Literature and science	Union
Switzer, Gertrude	Literature and science	Champaign
Victor, Carrie	Literature and science	Champaign

JUNIORS.

GENTLEMEN.

Names.	Course.	Residence.
Baker, Ed. J	Agricultural	Savoy
Ballard, Charles K	Architecture	Chicago
Bridge, Wallace E	Agricultural and military	La Moille
Bullard, Samuel A	Architecture	Mechanicsburg
Burr, Ellis M	Mechanical engineering	Woodstock
Coffman, Noah B	Natural history	Urbana
*Conroy, James	Literature and science	Terre Haute, Ind
Dean, Frank A	Literature, science and military	Buckley
*Flansburg, Claude	Literature, science and military	Galva
Francis, Frederick	Mechanical engineering	Kewanee
Gaffner, Theophilus	Chemistry	Highland
*Gould, Harry C	Civil engineering and military	Henry
Gregory, Alfred	Literature, science and military	Champaign
Hauser, Henry	Civil engineering and military	Mascoutah
Johnson. Fred	Civil engineering	Springfield, Vt.
*Jones, James F	Literature and science	Chester
*Kays, Emery	Literature and science	Tonica
Lindley, Austin M	Chemistry	Urbana
Lloyde, Frank Hayden	Literature and science	Champaign
McLean, James A	Architecture	Waukegan
Mills, W. B	Literature and science	Mt. Palatine
Morava, Wensel	Mechanical engineering, military	Chicago
*Patchen, John W	Commercial	W. Bloomfield, N. Y.
Philips, Richard	Chemistry	Rantoul
*Pickrell, Arthur A	Agricultural	Mechanicsburg
Pollock, James Lyon	Literature and science	Mt. Vernon
Porterfield, Emmet	Agricultural	Sidney
Richards, Charles L	Agricultural	Woodstock
Rudy, William Dole	Chemistry	Mattoon
Rutan, Abraham R	Literature and science	Dwight
Sargent, I. C	Literature, science and military	Rockford
Sawyer, Hamlin W	Literature, science and military	Godfrey
Savage, Manford	Literature and science	Girard
Sparks. Hosea B	Literature and science	Alton
Spradling, William F	Literature and science	Sheridan
Sprague, Martin	Literature, science and military	Monticello
*Wakefield, Charles C	Agricultural	Monroe, Mo.
Weed, Mahlon Ogden	Natural history	Belvidere
Warrington, George	Mechanical engineering	Chicago
White, W. Woods	Literature, science and military	Atlanta, Ga.
Whitlock, John F	Literature and science	Dwight
*Williams, Walter L	Agricultural	Argenta
Wilson, Charles M	Chemistry	Mackinaw
Ziesing, August	Civil engineering and military	Peru
Zimmermann, Henry W	Literature and science	Peru

Names of Students.—Continued.

LADIES.

Names.	Course.	Residence.
Columbia, Emma E.	Literature and science	Champaign
Culver, Henrietta	Literature and science	Henry
Davis, Nancy Jane	Literature and science	Monticello
Deardorff, Sarah	Literature and science	Cobden
Estep, Ida	Literature and science	Rantoul
Estep, Jessie	Literature and science	Rantoul
Larned, Mary	Literature and science	Urbana
Mahan, Jennie C.	Literature and science	Champaign
Page, Belle	Literature and science	Champaign
Page, Emma	Literature and science	Champaign
Page, Mary	Architecture	Champaign

SOPHOMORES.

GENTLEMEN.

Names.	Course.	Residence.
Ayers, Grover	Literature and science	Springfield
Balcom, William Arthur	Architecture	Champaign
Beardsley, Henry Mahan	Literature and science	Champaign
Bennett, Lyme C.	Chemistry	Pontiac
Bourne, Harry P.	Civil engineering	Woodstock
Brannen, Dennis James	Commercial	Savoy
Bristol, Ira D.	Mechanical engineering, military.	Aurora
*Butler, William Nichols	Literature, science and military	Anna
*Booth, Christopher S.	Literature and science	Columbus
Chandler, Ernest M.	Agricultural	Arcola
*Childs, William M.	Civil engineering	Buda
Coburn, Ralph Porter	Mechanical engineering, military.	Chicago
Coffin, Frank Sherman	Literature and science	Taylorville
Conn, Frank S.	Chemistry	Urbana
Colvin, A.	Literature and science	Mt. Palatine
Cox, Frank	Literature and science	Mattoon
*Dean, Ezra Carter	Literature and science	La Moille
Farson, John W.		Champaign
*Fennity, Frank C.	Literature and science	Kane
Frackelton, Davis S.	Literature and science	Petersburg
Freijs, Charles Theodore	Architecture	Urbana
Gillett, Stephen L.	Literature, science and military	Aurora
Gunder, James Henry	Civil engineering	Fairmount
*Harrison, Samuel A.	Literature, science and military	Alton
Hoit, Otis Willis	Agricultural	Geneseo
*Hewins, Charles F.	Literature and science	Loda
Jackson, Arthur C.	Literature, science and military	Maroa
Johnson, William P	Civil engineering	Chicago
Kimble, Willis P.	Civil engineering	Paris
Kuhn, Isaac	Civil engineering	Cleveland, Ohio
Lee, Elisha	Agricultural	Hamlet
*Mann, William A.	Literature and science	Gilman
Melendy, Clarence P.	Literature and science	Thompson
Milton, Franklin Silas	Civil engineering	Jerseyville
*Minier, H. M.	Literature, science and military	Minier
Nase, Frank P.	Commercial	Mt. Carroll
Pickrell, Arthur A.	Agricultural	Mechanicsburg
Prettyman, B. Stockley, Jr.	Literature and science	Pekin
*Porter, Arthur W.	Civil engineering	Garden Prairie
Pocock, Augustine James	Civil engineering	Haysville, Ohio
Robinson, Albert F.	Mining engineering	Jacksonville
Russell, Charles M.	Literature and science	Urbana
*Savage, George M.	Literature and science	Girard
*Schmeltzer, J. Foster	Civil engineering	Manteno
Stacy, Morrell M.	Chemistry	Princeton
Stevens, George H.	Literature, science and military	Sheffield
Swannell, Arthur	Literature and science	Kankakee
Snyder, Frank Augustus	Literature and science	Galva
Taft, Lorado	Natural history	Champaign

Names of Students—Continued.

Names.	Course.	Residence.
Taylor, Charles B.	Literature and science	Urbana
Thompson, William A.	Civil engineering and military	Chicago
Walker, Frank E.	Literature, science and military	Urbana
Whitmire, Clarence L.	Natural history and military	Metamora
Williams, George A.	Agricultural	Quincy
Wilson, James M.	Literature and science	Riverton
Ziesing, Richard	Chemistry	Peru

LADIES.

Bacon, Catharine	Literature and science	Champaign
Batchelder, Abby W.	Domestic science	Harristown
Batchelder, Augusta	Domestic science	Harristown
Butts, Gussie	Literature and science	Union
*Chester, Minnie	Literature and science	Champaign
*Darnell, May	Literature and science	Rantoul
Dunlap, Maggie		Savoy
Graham, Belle	Literature and science	Champaign
Hale, Isabella	Domestic science	Sheffield
*Kimberlin, Nettie	Literature and science	Louisiana, Mo.
*Lloyd, Lottie E.	Literature and science	Arcola
Low, Laura T.	Literature and science	Chicago
McAllister, Nettie	Literature and science	Champaign
*McElroy, Mary	Literature and science	Champaign
Pierce, Effie F.	Literature and science	Belmond, Iowa
Russell, Annie	Literature and science	Champaign
Scoggin, Sarah	Literature and science	Champaign
*Spence, Jennie		Hamilton
Spruill, Carrie S.	Literature and science	Urbana
Stewart, Maggie L.	Literature and science	Champaign
Strong, Sarah B.	Literature and science	Champaign

FRESHMEN.

GENTLEMEN.

Names.	Course.	Residence.
Adams, Frank E.	Literature and science	Peoria
Anno, E. W.	Commercial	Topeka
Barrows, Charles S.	Mechanical engineering	Woodstock
Bills, Charles J.	Literature and science	Garden Prairie
Blakeslee, Eli F.		DuQuoin
Blakeslee, George F.		DuQuoin
Boothby, Arthur	Literature and science	Pittsfield
Briles, Bayard S.	Agricultural	Ash Grove
Brown, Frank Lincoln	Literature and science	Hamilton, Mo.
Brown, Henry H.	Chemistry	Dixon
Buckingham, Roswell H.	Mechanical engineering	Chicago
Burnham, James E.		Mason
Burnap, Henry F.	Chemistry	Alton
Burroughs, D. E.	Literature and science	Edwardsville
Butler, Cyrus Waldo	Civil engineering and military	Anna
Collins, Wilbur Milton	Literature and science	Knoxville, Iowa
Cook, Charles F.	Literature and science	Edwardsville
Coquillett, George A.	Literature and science	Woodstock
Crafton, J. H.	Literature and science	Topeka
Cummings, Orlando W.	Agricultural	Buda
Durkin, Peter	Natural history	Metamora
Elmer, Levellon R.		Waterman
Farrell, Cornelius	Mechanical engineering	Scribner, Neb.
Fitzhugh, William	Commercial	Delavan
Forsyth, James	Natural history	Springfield
Goodspeed, E.		
Graves, Ernst W.	Horticultural	Sandwich
Hafner, Christian	Literature and science	Oak Park

Names of Students—Continued.

Names.	Course.	Residence.
Haines, John Wilber	Mechanical engineering	Baraboo, Wis.
Hallienem, Joseph	Literature and science	Champaign
Hardin, Edgar E	Literature and science	Dixon
Hatch, F. W		Eng. Prairie
Hawkinson, Frank W	Mechanical engineering	Marseilles
Howard, John Hartwell	Mechanical engineering	Champaign
Hinsdale, F. E	Civil engineering	Kewanee
Hessel, J. F		Champaign
Jones, Eugene L	Commercial	Henry
Jones, R. D	Literature and science	Lacon
Kincaid, Lee	Agricultural	Athens
Lamson, John William	Literature and science	Half Day
Lewellin, Henry S		Sterling
Merriam, L. B	Civil engineering	Urbana
Mersereau, W. Randolph		Rantoul
Metcalf, Allan D	Literature and science	Edwardsville
Motherspaw, William F	Commercial	Champaign
Meulheims, Robert	Chemistry	Nashville
Morris, Robinson B	Chemistry	Urbana
Parker, W. L	Mechanical engineering	Upper Alton
Pearman, James Ora	Chemistry	Champaign
Percival, Curtis E	Commercial	Champaign
Pervier, Clayton C		Mineral
Pfeiffer, William A		Rantoul
Pletcher, Francis M		Plattville
Quinn, John H	Literature and science	Sycamore
Raley, Charles R	Agricultural	Granville
Ray, John DeWitt	Mechanical engineering	Belvidere
Reed, Louis A		Mason City
Robinson, Arthur S	Mechanical engineering	Jacksonville, Fla.
Russegue, George M	Mechanical engineering	Boston, Mass.
Reid, James W		Greenville
Sackett, John Warren	Literature and science	Champaign
Smith, Albert Edward	Mechanical engineering	Watertown, Wis.
Sondericker, Jerome	Civil engineering	Woodstock
Springer, Thomas Wentworth	Literature and science	Edwardsville
Stewart, C. W		Champaign
Stewart William J	Commercial	Colona
Studley, C. Carl	Literature and science	Neponset
Spencer, J. C		
Sellew, R. H		
Searl, Clark Nelson	Chemistry	Osborn
Safford, A. B	Literature and science	Crete
Thomas, Evans W	Literature and science	Franklin Grove
Travis, W. W	Literature and science	Chenoa
Wadsworth, John	Literature, science and military	Chippewa Falls, Wis.
Weems, William G	Literature and science	Quincy
White, Frank	Civil engineering	Hale
White, Arthur L	Agricultural	Chicago

LADIES.

Names.	Course.	Residence.
Condit, Anna H	Literature and science	Champaign
Cuppernell, Jessie A	Literature and science	Champaign
Elliott, Elsie	Literature and science	Tonica
Fox, Mary	Literature and science	Champaign
Gipson, Lillie F	Literature and science	Champaign
Halsted, Clara	Literature and science	Rantoul
Kyle, Fannie E	Literature and science	Urbana
Lindley, Allie V	Literature and science	Urbana
Lucas, Corda		Camargo
*Melendy, Ada L	Literature and science	Mt. Carroll
Pearman, Ida	Literature and science	Champaign
Patchen, Flora	Literature and science	West Bloomfield, N. Y.
Richardson, Laura		
Searle, Mary	Natural history	Osborn
Urie, Allie M	Literature and science	Aurora
Watson, Ella Maria	Literature and science	DeKalb

Names of Students—Continued.

PRELIMINARY YEAR.

GENTLEMEN.

Names.	Course.	Residence.
Anderson, William N.	Chemistry	Champaign
Armstrong, James Elder	Natural History	Seneca
Bellany, Albert	Literature and science	Girard
Benedict, John Downing	Literature and science	Rossville
Birney, Frank		Urbana
Bley, John Cornelius	Mechanical engineering	El Paso, Colorado
Blythe, Willis	Chemistry	Centralia
Bonfield, Thomas Eastman	Literature and science	Kankakee
Bothwell, James K.		Clay City
Brady, Clarence E.	Commercial	Hardin
Brereton, Edwin	Literature and science	Clement
Brewster, D. H.		Atlanta, Ga.
Brown, William Joseph	Literature and science	Bates
Chandler, John Miles		Richview
Chase, Frank L.		Buda
Churchill, Frank L.	Literature and science	Chenoa
Coddington, Archibald O.		Champaign
Coltin, Albin B.	Literature and science	Wataga
Colvin, Franklin	Literature and science	Mt. Palatine
Coudit, Edwin Smith		Centralia
Cooper, Charles H.		Urbana
Darnell, Samuel P.	Literature and science	Rantoul
Davis, Olney	Mechanical engineering	Waxahatchie, Texas
Davis, Oscar Harmon	Mechanical engineering	Champaign
Drum, Henry	Literature and science	Girard
Dunlap, Charles	Mechanical engineering	Urbana
Ellsworth, Spencer	Commercfal	Lacon
Ewalt, George W.		Champaign
Ford, William W		Buda
Funk, Edward Fillmore.	Elective	Decatur
Gay, Frank F.		Farmer City
Gillespie, Charles Smith	Commercial	Edwardsville
Gillespie, Frank Keys	Commercial	Edwardsville
Graham, James C.		Mahomet
Gulick, John Franklin	Literature and science	Champaign
Hallett, Willard D. E.	Commercial	Mt. Carroll
Hay, Lyman Trumbull		Centralia
Heidenheimer, Benjamin	Mechanical engineering	Chicago
Herrick, Morris M.	Literature and science	Kansas
Holbrook, Albert Jerome		Dixon
Hollister, Frank Charles	Agriculture	Grayville
Holt, Clarence	Literature and science	Kankakee
Horner, Joseph Smith	Commercial	Anna
Huckings, William Warren	Literature and science	Kankakee
Hullinger, Charles S	Mechanical engineering	Granville
Huntington, William	Mechanical engineering	Belvidere
Jones, Charles S.	Literature and science	Oglesby
Jones, Isaac	Literature and science	Sweetwater
Kutnewsky, John Knox	Literature and science	Groveland
Lee, Harry	Chemistry	DuQuoin
Lewis, Ralph D.	Literature and science	Utica
Litton, John		Winterset, Iowa
Lynch, Henry W.	Horticulture	Chenoa
Mason, William K.		Buda
McCormick, Newell Montague	Chemistry	Mattoon
McLaren, Thomas Franklin	Civil engineering	Astoria
McLean, John Barr	Commercial	Macomb
Miller, Aylett Percy	Civil engineering	Chicago
Miller, John H.	Agricultural	Sheridan
Newton, Edgar A.		Chippewa
Patterson, Walter Lewis	Literature and science	Curran
Patton, Charles D.		Paxton
Payne, Samuel K.		Bunker Hill
Philbrick, Ethan	Civil engineering	Baileyville
Porter, Edmund C.	Literature and science	Lewistown
Richmond, R. B.	Mechanical engineering	Macon
Roberts, John B.		Armington
Scholes, George		Henry
Scoggin, Charles Wesley	Mechanical engineering.	Champaign
Sisson, Monroe Grayson		Bunker Hill
Skevington, John W.		Albion

Names of Students—Continued.

Names.	Course.	Residence.
Smith, Henry Olney		Yorkville
Stewart, Walter Newton	Agricultural	Champaign
Thomas, Anson		Pleasant Valley
Thomas, Charles V	Agricultural	Kickapoo
Troup, Joseph A		Kankakee
Truman, John F		Urbana
Van Osdol, W. S. I	Natural history	Sterling
Walduck, Charles Webb		Bloomington
Weatherly, Edmund B	Chemistry	Spencer, Indiana
White, Menzo	Literature and science	Atlanta, Georgia
Winslow, Charles Kilhum	Mechanical engineerlng	Danville
Wray, Archie M		Richmond
Young, Sardius		Mason City

LADIES.

Ayres, Blanche A	Literature and science	Champaign
Ayres, Sigourney L	Literature and science	Urbana
Baker, Kittie	Literature and science	Champaign
Beggs, Dora A		Arcola
Brown, Mrs. M. M		Chicago
Carmack, Sarah		Camargo
Cheney, Flora A	Literature and science	Aurora
Cushman, Effie		Port Byron
Crandall, Ada		Loda
Earhart, Florence	Literature and science	Champaign
Earhart, Minnie	Literature and science	Champaign
Gilman, Bessie Abbie	Domestic science	Harristown
Harmon, Ada Douglass	Literature and science	Champaign
Hill, Helen M	Literature and science	Harristown
Howard, Mary M	Literature and science	Champaign
Hubbard, Minnie W		Urbana
Johnson, Grace A	Literature and science	Mahomet
Lawrence, Nettie E	Literature and science	Champaign
Macknet, Metta Mary I	Literature and science	Girard
Mersereau, Lillie V	Literature and science	Rantoul
Miller, Mary V		Champaign
Myres, Helen		Rantoul
Phillips, Sarah E		Rantoul
Richner, Maggie	Literature and science	Champaign
Savage, Alice Ellen	Literature and science	Girard
Scribner, Carrie Augusta		Bradford
Searle, Clara		Osborn
Somers Anna		Urbana
Trask, Emma C		Buda
Woodworth, A. Belle	Literature and science	Champaign

SPECIAL STUDENTS.

Spence, J	Hamilton
Johnson, Nettie	Champaign
Potter, Frank	Maroa

SUMMARY.

Resident Graduates:		
Gentlemen		3
Seniors:		
Gentlemen	29	
Ladies	13	
	—	42
Juniors:		
Gentlemen	45	
Ladies	11	
	—	56
Sophomores:		
Gentlemen	56	
Ladies	21	
	—	77
Freshmen:		
Gentlemen	77	
Ladies	16	
	—	93
Preliminary:		
Gentlemen	84	
Ladies	30	
	—	114
Special Students:		
Gentlemen	2	
Ladies	1	
	—	3
		388

ALUMNI ASSOCIATION.

CLASS OF 1872.

NAME.	POST-OFFICE.	OCCUPATION.
Burwash, M. B.	Champaign	Farming
Davis, J. J.	Freeport	"
Drewry, H. N.	Mason	Medicine
Flagg, A. M.	Siana Falls, Neb.	Law
Hatch, M. F.	Bliven's Mills	Farming
Hill, E. L.	Effingham	"
Lyman, G. H.	Cairo	Engineering
Mathews, J. N.	Mason	Medicine
Parker, C. E.	Urbana	Farming
Reiss, W. A.	St. Louis, Mo.	Engineering
Reynolds, S. A.	Rockford	Law
Rickard, T. E.	Springfield	Farming
Ricker, N. C.	Champaign	Teaching
Rolfe, C. W.	Aurora	"
Silver, H.	Urbana	Farming
Silver, C. W.	Chicago	Teaching
Teeple, J.	Detroit	U. S. Lake Survey
Wharton, J. N.	Champaign	Mechanic
Whitcomb, A.	Onarga	Medicine
Wood, R. O.	Woodstock	Farming

CLASS OF 1873.

Graham, C. P.	Champaign	Ministry
Hatch, F. L.	Bliven's Mills	Farming
Hays, C. I.	Champaign	Teaching
Hennessey, A. L.	LaSalle	"
Hook, S. H.	Urbana	Farming
Morrow, A. T.	Detroit, Mich.	U. S. Lake Survey
Ockerson, J. A.	Detroit	" "
Phillips, P. A.	Damascus	Farming
Platt, F. C.	Rockford	Law
Porterfield, E. N.	Sidney	Farming
Robbins H. E.	Wenona	Mechanic
Swarts, A. C.	Champaign	Teaching
Williams, L. E.	Montrose, Iowa	Farming

CLASS OF 1874.

Baker, I. O.	Urbana	Teaching
Campbell, J. P.	Georgetown	"
Drewry, E. L.	Mason	Farming
Eaton, H.	Philo	"
Ells, W. C.	Champaign	Engineering
Estep, H. C.	Rantoul	"
Foster, C. W.	England	Law
Grennadius, P.	Athens, Greece	Farming
Jeffers, C. P.	Boston, Mass.	Druggist
Pierce, J. L.	Champaign	Law
Pickrell, W.	Mechanicsburg	Farming
Reynolds, H. S.	Judsonia, Ark.	Teaching
Storey, C.	San Diego, Cal.	Farming
Smith, C. A.	Columbus, O.	Mechanic
Wharry, W. W.	Sycamore	Law
Watts, W.	Graham	Farming
Cheever, Alice	Champaign	Teaching
Potter, Adelia	Judsonia, Ark.	"

ALUMNI—*Continued.*

CLASS OF 1875.

NAME.	POST-OFFICE.	OCCUPATION.
Barnes, A. E.	Champaign	Teaching
Brown, D. S.	Genoa	Veterinary practice
Brown, R. L.	Tolono	Teaching
Coddington, V. W.	Champaign	Mechanic
Dobson, F. P.	Minonk	Engineering
Dunlap, Henry	Champaign	Farming
Dunlap, Burleigh A.	Savoy	"
Eaton, E.	Philo	"
Everhart, W. S.	Neoga	Law
Faulkner, J.	Bloomfield, Cal.	Teaching
Gridley, G. N.	Half Day	Farming
Kenower, G. F.	Clement	Teaching
Leflar, J. E.	Batavia	
Lyford, C C.	Montreal, Can.	Veterinary Institute
McCauley, J. C.	Lincoln	Teaching
Mueller, J.	Keokuk, Iowa	Medical College
Parks, J. H.	Tuscola	Editor
Parsons, F. A.	Champaign	Teaching
Patch, E.		
Pickrell, Watson	Mechanicsburg	Farming
Pollock, W. C.	Mt. Vernon	Law
Robinson, E. A.	Champaign	Mechanic
Scovell, M. A.	"	Teaching
Scudder, C. O.	Rochelle	"
Shawtan, G. R.	Mansfield	"
Tyndale, H. H.	Ithica, N. Y.	Cornell University
Warner, L. F.	California	Civil Engineering
Anderson, Laura	Champaign	
Campbell, Amanda	Philo	Teaching
Hullinger, Kate	Rock Falls	
Kellogg, Flora L.	Woodsville, Ohio	
Kariher, Kate		
Lee, Alice	Champaign	Teaching
Pierce, Fannie	"	
Stewart, Maggie E.	"	Teaching
Steele, Mary C.	Urbana	

CLASS OF 1876.

Ralph Allen	Delavan	Farming
Edward L. Ballou	Sherwood, Wis.	"
James W. Campbell	Philo	Teaching
William B. Chandler	Bourbon	Farming
Charles W. Clark	Champaign	"
James F. Drake	Belvidere	"
John D. Gill	Antwerp, N. Y.	Law
Simeon T. Gore	Ashley	
Charles E. Gregory	Rochelle	Commerce
Mattie G. Holton	Champaign	
Walter E. Knibloe	Gilman	Teaching
Daniel S. Mackay	Mt. Carroll	Farming
J. Henry Mackay	"	"
Wm. A. Mackay	"	"
Henry Weston Mahan	Champaign	Commerce
Frank I. Mann	Gilman	Journalist
Howard A. Mann	Batavia	Teaching
James R. Mann	Gilman	Journalist
Louis R. Noble	Mattoon	Engineering
Wm. F. Oliver	Ladoga	
Frank M. Palmer	Clinton	
Elon A. Pierce	Belmond, Iowa	Teaching
J. Frederick Rhodes	Dwight	
Artemas C. Scribner	Bradford	
Frank A. E. Starr	Elsah	Law
D. Wesley Stookey	Harristown	
Charles Weston	Champaign	Journalist
George A. Wild	Marengo	Naturalist

I. I. U. DIRECTORY.

Fall Term, 1876

STUDENTS' GOVERNMENT.

EXECUTIVE.

President,	M. J. Wright.
Vice-President,	Miss Nettie Adams.
Secretry,	H. B Sparks.
Treasurer,	W. Buckingham.
Marshal,	M. Sprague.

JUDICIARY.

Chief Justice,	S. A. Bullard.
Associate Justices,	H. Gilkerson, J. J. Seymour.
Pros. Attorney,	M. Savage.

LEGISLATIVE.

President,	C. L. Sim,
Vice President,	Miss Nettie Culver,
Secretary,	C. B. Taylor,
Assistant Secretary,	W. F. Spradling.

Members of Senate.

H. Beardsley,	Miss Emma Page,
E. Kays,	" E. Columbia,
C. G. Elliott,	" Emma C. Piatt,
C. L. Richards,	" Nannie Davis,
W. N. Butler,	" Carrie Victor,
C. B. Gibson,	" E. Skinner,
G. Warrington,	C. H. Barry,
W. J. Stewart,	F. A. Brown.

I. I. U. BATTALION.

Commander of Battalion,
Col. E. Snyder.
Adjutant—Capt. C. B. Gibson.
Co. A, Capt. R. F. Whitman.
Co. B, Capt. L. G. Clay.
Co. C, Capt. E. V. Lewis.
Co. D, Capt, C. H. Barry.
Co. E, Capt. C. H. Blackall.
Co. F, Capt. H. Gilkerson.
Co. G, Capt. I. J. Stoddard.

I. I. U. CORNET BAND.

Meets Monday and Thursday nights in Band Room—14 instruments.
J. A. McLane, Leader.

ILLINI.

Executive Committee—T. J. Burrill, C.L. Sim, C. Richards, C. G. Elliott, H. Beardsley.
Business Manager—R. D. Faulpner.
Office Superintendent—J. E. Bumstead.
Editor-in-Chief—C. G. Elliott.

ALETHENAI.

Young Ladies' Literary Society. Motto: "*Apo tou dunasthai, pros to einai.*" Organized October 4th, 1871; meets every Friday, at 7 P. M.
Miss M. E. Page, President.
Miss M. Larned, Secretary.

ADELPHIC.

Young Men's Literary Society. Motto: "*Ani mis opibusque parati.*" Organized March 7th, 1868; chartered December 7th, 1872; meets in Society's Hall every Friday, at 7 P. M.
W. P. Ward, President.
W. F. Spradling, Secretary.

PHILOMATHEAN.

Young Men's Literary Society. Motto: "*Come up Higher.*" Organized March 7th, 1868; meets in Society's Hall, at 7 P. M. every Friday.
J. E. Bumstead, President.
J. F. Moore, Secretary.

SCIENTIFIC ASSOCIATION.

Organized February 28th, 1871; meetings held in Society Hall every Friday, at 7 o'clock P. M.
C. H. Blackall, President.
W. P. Johnson, Secretary.

Y. M. C. A.

Room on first floor of Dormitory. Devotional meetings Wednesdays 6:30 P. M., and Sundays 9 A. M. All students are invited to attend.
I. O. Baker, President.
C. I. Hayes, Secretary.

I. I. U. TELEGRAPHIC ASSOCIATION.

Organized January 9th, 1874, for advancement in Telegraphy. Instruments now on line 25. Central office open for practice all hours of the day.

F. Barry,	President.
W. D. Rudy,	Secretary.
W. Morava,	Inspector.

GYMNASIUM.

Membership fee $1.

J. F. Jones,	Leader.
W. D. Rudy,	Treasurer.

ILLINOIS INDUSTRIAL UNIVERSITY.

HISTORY.

The Illinois Industrial University had its origin in a grand movement for the higher education of the industrial classes, begun in 1851, and resulting in the Congressional grant of lands for this purpose, made to the several States in 1862. The grant amounting in this State to 480,000 acres, having been accepted, the University was chartered in February, 1867, and publicly opened and and inuagurated in March, 1868. In addition to the endowment received from the land grant, over $400,000 were donated by Champaign County in bonds, buildings and farms. The State has also made large appropriations for fitting up and stocking the farms, for library and apparatus, and for buildings, including the large Main Building erected in 1872 and 1873, and the Mechanical Building and Drill Hall. Successive Colleges and Schools have been added as required, till four Colleges, including fourteen distinct Schools, have been organized.

The whole number matriculated as students since the opening is 1179. The number graduated from the several Colleges, including the class of 1877, is 160. In 1871 the University was opened for lady students, on the same terms as to gentlemen, and large numbers have availed themselves of the privileges offered. In 1874 a fine Art Gallery was established, containing a large collection of casts of celebrated statues and sculptures, and of engravings, autotypes, etc. The University has steadily advanced in standing and in public reputation, and now holds admitted rank among the first institutions of its class in this country.

LOCATION.

The University has a beautiful situation on the high grounds between the contiguous cities of Champaign and Urbana, and within the corporate limits of the latter. It is one hundred and twenty-eight miles south from Chicago, at the junction of the Illinois Central Railroad and the Indianapolis, Bloomington and Western Railway. The county is a region of beautiful rolling prairies, with large belts of timber along the streams, and is one of the richest farming districts in the State.

BUILDINGS AND GROUNDS.

The domain occupied by the University and its several departments embraces about 623 acres, including stock farm, experimental farm, orchards, gardens, nurseries, forest plantations, arboretum, botanical garden, ornamental grounds, and military parade ground.

The University buildings, fourteen in number, include a grand Main Building for public use, one large and two small Dormitory buildings, a large Mechanical and Drill Hall, a Veterinary Hall, a small Astronomical Observatory, three dwellings, two large barns and two green-houses.

The Mechanical Building and Drill Hall is of brick, 128 feet in length, by 88 feet in width. It contains a boiler, forge and tank room; a machine shop, furnished for practical use, with a steam engine, lathes and other machinery; a pattern and finishing shop; shops for carpentry and cabinet work, furnished with wood-working machinery; paint and draughting-rooms, and rooms for models, storage, etc. In the second story is the large Drill Hall, 120 by 60 feet, sufficient for the evolutions of a company of infantry, or a section of a battery of field artillery. One of the towers contains an armorer's shop and military model room, an artillery and a band room. The other contains a printing office and editor's room.

The large Dormitory Building is 125 feet in length and five stories in height. It affords 80 dormitory rooms for students. A wing of 40 by 80 feet contains the two chemical laboratories. Two smaller dormitory buildings contain eight rooms each.

PROPERTY AND FUNDS.

Besides the lands and buildings already described, which are, with furniture, library, etc., valued at $400,000, the University owns 25,000 acres of well selected lands in Minnesota and Nebraska. It has also endowment funds invested in State and county bonds amounting to $319.000, besides other property and avails, valued at $33,000. The State has appropriated $25,000 to the Agricultural Department for barns, tools, stock, etc.; $20,000 to the Horticultural Department for green-house, barns, drainage, tools, trees, etc; $25,000 for Mechanical and Military Building, etc.; $127,000 toward the erection of the Main Building, and furnishing the same; $10,500 to furnish the Chemical Laboratory; and $20,000 for Library and Apparatus; $4,000 for the apparatus of a Physical Laboratory; $3,000 for a Veterinary Hall, Stable and apparatus; besides smaller amounts for agricultural experiments, etc.

MUSEUM AND COLLECTIONS.

The collection of minerals, fossils, shells, birds, mammals, insects, plants, etc., have been made with much care and expense, and are steadily increasing. They are notably large in some departments and afford valuable facilities in the study of Natural History and Geology. The collection in Entomology is one of the largest in the West.

One of the Trustees has lately presented to the University the full series of celebrated casts of fossils made by Prof. H. A. Ward, of Rochester, N. Y. This collection embraces the most rare and valuable fossils of the British Museum and of other great European collections, as well as those of President Hitchcock and others in America.

FINE ART GALLERY.

This Gallery is one of the largest and finest in the country. It is the gift of citizens of Champaign and Urbana. A beautiful Hall, nearly 60 by 80 feet, has been fitted up as an Art Gallery, and the large and beautiful display of Art objects in it surprises and delights all visitors. Many have come from a distance to see it, and several High schools have made excursions to visit it. There is, perhaps, no collection in the West that equals it in the number and value of its specimens. Many of the great masterpieces of Sculpture are here exhibited in casts taken directly from the originals. The value of this splendid collection as a means of education is already exhibiting itself in the several departments of Drawing and Design at the University.

LIBRARY.

The Library, which has been carefully selected with reference to the scientific studies required in the several practical courses, includes now over 10,000 volumes. The large Library Hall is fitted up as a Reading Room, and is open throughout the day for study, reading and consultation of authorities. It is well provided with American, English, French and German papers and periodicals, embracing some of the most important scientific and art publications. The following is a list of the periodicals regularly received.

Agricultural and Horticultural—American Agriculturist, Cultivator and Country Gentleman, California Farmer, English Live Stock Journal, Journal d'Agriculture Pratique, Paris; New England Farmer, National Live Stock Journal, Prairie Farmer, Practical Farmer, Rural New Yorker, Western Farmer, Wallace's Monthly, Gardener's Chronicle, London Agricultural Gazette, Western Agriculturist, Western Rural, Williamette Farmer, Gardener's Monthly and Horticulturist, Revue Horticole, Paris; Kansas Farmer.

Engineering—Encyclopedie d'Architecture, Paris; Engineering, London; Architektonisches Skizzen-buch, Berlin; English Architect, Railroad Gazette, Scientific American, Scientific American Supplement, The Builder, London; The Workshop, Van Nostrand's Eclectic Engineering Magazine.

Literary—Edinburg Review, London Quarterly, The Nation, Educational Weekly, Library Journal, Legal Adviser, New Englander, Magazine of American History, Illini, North American Review, British Quarterly Review, Revue des Deux Mondes, Paris; Scribner's Magazine, Deutsche Rundschau, Berlin; Atlantic Monthly, International Review, New England Journal of Education, American Journal of Education.

Scientific—American Chemist, American Journal of Science, Grevillea, Polytechnisches Journal, Augsburg; Popular Science Monthly, Official Patent Office Gazette, Patent Right Gazette, Jahrbericht der Chemie, Geissen; Berichte der Deutschen Chemischen Gesellschaft, Berlin; Viehsucht, Berlin; American Naturalist, Annalen der Chemie, British Microscopic Journal, Comptes Rendus, Paris; Journal of the Franklin Institute, Nature, London.

News—Champaign County Gazette, Rantoul Journal, Champaign Union, Champaign Times Urbana Republican, Donglas County Review, Danville News.

ORGANIZATION OF THE UNIVERSITY.

I. THE COLLEGE OF AGRICULTURE.

School of Agriculture. School of Horticulture.

II. COLLEGE OF ENGINEERING.

School of Mechanical Engineering. School of Civil Engineering. School of Mining Engineering. School of Architecture.

III. THE COLLEGE OF NATURAL SCIENCE.

School of Chemistry. School of Natural History.

IV. THE COLLEGE OF LITERATURE AND SCIENCE.

School of English and Modern Languages. School of Ancient Languages.

V. ADDITIONAL SCHOOLS.

School of Military Science. School of Commerce. School of Domestic Science. School of Art and Design.

Vocal and Instrumental Music, Telegraphing and Photography are also taught, but not in regular courses.

CHOICE OF STUDIES.

It has been a favorite aim of the University, from the outset, to allow as much freedom as possible in the selection of studies.

The University was designed, not for children, but young men and women who may claim to know something of their wants, powers and tastes. It is not useful to require every student, without regard to his capacity or practical wants, to take entire some lengthened "course of study." Liberty everywhere has its risks and responsibilities as well as its benefits, in school as well as in society; but it is yet to be proved that compulsory scholarship is necessarily better, riper and more certain than that which is free and self-inspired. Each student is exhorted to weigh carefully his own powers and needs, to counsel freely with his teacher, to choose with serious and independent consideration the branches he may need to fit him for his chosen career, and then to pursue them with earnestness and perseverance, without faltering or fickleness.

It is necessarily required: 1st, That the student shall be thoroughly prepared to enter and keep pace with the classes in the chosen studies; and, 2d, That they shall take these studies in the terms in which they are taught.

It is expected that each student shall have three distinct studies, affording three class exercises each day. But on special request, the Faculty may allow less or more, to meet the exigencies of his course.

No change in studies can be made after the beginning of a term without permission of the Faculty.

It is recognized that students will often need advice in the selection of studies and the arrangement of a proper course. To meet this need, the Faculty have carefully arranged several courses of studies which are expected to be followed by those who have no special reason for diverging from them. See courses under the several schools.

Due care will be taken to prevent, as far as possible, all abuse of the liberty of choice. Students failing to pass satisfactory examinations in their chosen studies will not be permitted to remain and take other studies without a vote of the Faculty.

To secure the more certainly the diffusion of the sciences relating to the great industries, the State Legislature, in 1873, prescribed that each student should be taught some of those branches.

Under the present laws of the State, each student is required to study some of the branches relating to Agriculture and the Mechanic Arts.

The Trustees have accordingly made the following classification of studies, and require that each student shall take, each term, one study at least from the first class. His second study must be of either the first or second class, and his remaining studies from either of the three classes.

CLASS I. Physics, Chemistry, Mineralogy, Physical Geography, Anatomy and Physiology, Botany, Zoology, Geology, Entomology, Algebra, Geometry, Trigonometry, Calculus, Drawing, Surveying and Engineering, Mining and Metallurgy, Mechanics, Architecture, Principles of Mechanism, Hydraulics, Thermodynamics, Strength of Materials, Prime Movers, Mill Work, Machine Drawing, Origin and Treatment of Soils, Culture, etc., of Plants, Breeding of Domestic Animals, Veterinary Science, Farm Products and Manufactures, Roads and Railroads, Book-Keeping, Construction and Use of Machinery, Modeling and Patterns, Bridges, etc., Astronomy, Military Science and Domestic Science.

CLASS II. English Language and Literature, German Language and Literature, French Language and Literature, General History, U. S. History, Ancient History, Mediæval History, Modern History, Constitutional History, History of Civilization, Logic, Political Economy, History of Agriculture, Constitutional Law, International Law, Rhetoric and Oratory.

CLASS III. Any study taught in the University not enumerated in the first and second classes.

AIMS OF THE UNIVERSITY.

The University being both State and National in origin, its aims are defined by the following extracts from the laws of Congress and of the State Legislature:

"Its leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."—*Act of Congress, 1862, Sec. 4.*

"The Trustees shall have the power to provide the requisite buildings, apparatus, and conveniences, to fix the rates of tui ion, to appoint such professors and instructors, and establish and provide for the management of such model farms, model art, and other departments and professorships as may be required to teach, in the most thorough manner, such branches of learning as are related to agriculture and the mechanic arts, and military tactics, without excluding other scientific and classical studies."—*Act of General Assembly, 1867, Sec. 7.*

In accordance with the two acts above quoted, and under which the University is organized, it holds as its principal aim to offer freely the most thorough instruction which its means will provide, in all the branches of learning useful in the industrial arts, or necessary to "the liberal and practical education of the industrial classes, in the several pursuits and professions in life." It includes in this all useful learning—scientific and classical—all that belongs to sound and thorough scholarship.

PRELIMINARY YEAR.

The University has steadily refused till now to open any preparatory school. The preparatory work is well done in many excellent High Schools of the State, and the funds of the University ought not to be diverted from their proper uses, to provide instruction in merely Preparatory Studies. A needful advance in the standard for admission to the College courses, and the necessity of providing, temporarily at least, for those who will come from places where no good High Schools exist, have induced the trustees to provide for preparatory classes *in the Studies lying between the Common School Studies and the College courses.*

Candidates for these classes must be at least fifteen years old. They must also pass satisfactory examinations in Arithmetic, Geography, English Grammar, and History of the United States. The examination in these branches should be equal to that usually required for a Second Grade certificate for teachers. This examination may be made by county Superintendents. The Studies taught in the preliminary year are as follows:

First Term—Algebra (Olney's), Physiology (Dalton's), Book-keeping.

Second Term—Geometry (Olney's), English, Elements of Composition (Swinton's School Composition, or an equivalent), Orthoepy and Word Analysis (Introduction to Webster's Academic Dictionary), and Natural Philosophy (Peck's Ganot).

Third Term—Geometry completed; English (as in Second Term, with the addition of Goldsmith's Traveler, or an equivalent, which is read for analysis), and Botany (Gray's School and Field Book.)

For candidates for the Classical Course, the studies will be as follows:

First Term—Algebra, Latin (Caesar), Greek (Grammar and Reader).

Second Term—Geometry, Latin (Cicero),, Greek (Anabasis.)

Third Term—Geometry, Latin (Virgil), Greek (Anabasis.)

Students in the preparatory studies will not be matriculated as University Students. They will pay no entrance fee, but will be charged a tuition fee of TEN DOLLARS a term, and the usual incidental fee of FIVE DOLLARS a term. They will have all the privileges of the library and of the public lectures.

COLLEGE OF AGRICULTURE.

FACULTY.

THE REGENT,
PROFESSOR BURRILL,
PROFESSOR SHATTUCK,
PROFESSOR WEBER,
PROFESSOR MORROW,
PROFESSOR TAFT,
DOCTOR F. W. PRENTICE,
C. I. HAYS.

SCHOOLS.

SCHOOL OF AGRICULTURE, SCHOOL OF HORTICULTURE.

ADMISSION.

Candidates for admission to the College of Agriculture must be at least fifteen years of age, and must pass satisfactory examination in the common school branches and in the studies of the preliminary year (see page 30.) While, by law, students may be admitted at fifteen years of age, in general it is much better that they shall be eighteen or twenty. It will be well if candidates shall have pursued other studies, besides those required for admission. The better the preparation the more profitable the course.

SCHOOL OF AGRICULTURE.

OBJECT OF THE SCHOOL.

The aim of this school is to educate scientific agriculturists. The frequency with which this aim is misunderstood by the community at large, demands that it shall be fully explained. Many, who look upon agriculture as consisting merely in the manual work of plowing, planting, cultivating and harvesting, and in the care of stock, justly ridicule the idea of teaching these arts in a college. The practical farmer who has spent his life in farm labors, laughs at the notion of sending his son to learn these from a set of scientific professors. But all of this implies a gross misunderstanding of the real object of agricultural science. It is not simply to teach *how* to plow, but the reason for plowing at all—to teach the composition and nature of

soils, the philosophy of plowing, of manures, and the adaptation of the different soils to different crops and cultures. It is not simply to teach how to feed, but to show the composition, action and value of the several kinds of food, and the laws of feeding, fattening, and healthful growth. In short, it is the aim of the true Agricultural College to enable the student to understand thoroughly and profoundly, all that man can know about soils and seeds, plants and animals, and the influences of light, heat, and moisture on his fields, his crops, and his stock; so that he may both understand the reason of the processes he uses, and may intelligently work for the improvement of those processes. Not "book farming," but a knowledge of the real nature of all true farming—of the great natural laws of the farm and of all of its phenomena—this is the true aim of agricultural education. And when it is recollected that agriculture involves a larger number of sciences than any other human employment or profession, it will not be regarded as an unfit end of a sound collegiate training.

It has been the steady aim to give to the College of Agriculture the largest development practicable, and to meet the full demand of the country for Agricultural education, as fast as it shall arise. Agricultural students are specially invited.

Boards of Agriculture, and Agricultural Asssociations, State and County, are invited co-operate with the University in its efforts to awaken a more direct appreciation of the value of education, and to add, by the establishment of scholarships or other means, to the number of those who avail themselves of its facilities for instruction.

INSTRUCTION.

The instruction unites, as far as possible, theory and practice—theory explaining practice and practice illustrating theory. The technical studies are taught in connection with, or following instruction, in the sciences with which they are especially connected. The full course is designed to fit the student to be an intelligent man and citizen as well as a thoroughly trained specialist. The technical studies are mainly taught by lectures, with careful readings of standard agricultural books and periodicals, and frequent discussions, oral and written, by the students, of the principles taught. These are also illustrated by demonstrations and observations in the fields and stables, not only of the University, but of leading farmers and stock-growers in the vicinity.

After a year's study of Botany and Vegetable Physiology, and of Chemistry, the student begins the study, at the opening of the second year, of Soils—their origin, classification, chemical and mechanical elements and properties; also of the Atmosphere as related to plant nutrition; in the second term, this study is continued, especially with regard to the theory and effects of Tillage, the composition, preservation and application of Fertilizers, and their chemical and mechanical effects; the composition and qualities of Foods, etc. During this year one term's study is given to General Horticulture, especially the culture of orchard and small fruits; and one term to Practical Entomology.

In the first term of the third year, instruction is given in Agricultural Engineering and Architecture, including the selection and arrangement of the Farm; its improvement by mechanical means, as

Drainage and Irrigation; its divisions, fences, hedges, etc.; its water supply; the construction of Roads; arrangement, planning, and construction of Farm Buildings; the construction, selection, care, and use of Farm Implements and Machinery. In the second term, Animal Husbandry will be studied, including the principles of breeding and management of our domestic animals; with descriptions of all important breeds and varieties, giving their history and adaptations. Especial attention is given to Dairy Farming. In the third term instruction is given in Landscape Gardening and Forestry:

In the second term of the fourth year, Rural Economy is studied, including the relations of agriculture to other industries and to national prosperity; the influences which should determine the class of farming to be adopted; comparisons of special and general systems; the uniting of manufacturing with farming; and also the culture of the various farm crops, cereals, grasses, etc. In the third term of this year a course of lectures is given on the History and Present Condition of Agriculture in this and other countries; its literature and associations, and on legislation as affecting it. This is followed by a course of lectures on Rural Law, desisgned to familiarize the student with the general principles of business law—his liabilties, rights, and duties. During this term, special investigations are made by each student in the agricultural laboratory. A Thesis is required, embodying the results of these investigations.

VETERINARY SCIENCE.

In Veterinary Science the lectures are given by a graduate of the schools of veterinary science in both Edinburg and London. This science is taught during the third year. In the first term the Anatomy and Physiology of the domestic animals will be taught by lecturers, demonstrations and dissections. Post-mortems of healthy and diseased animals will be made, so that the student may become practically acquainted with the tissues in health and in disease. The first six weeks of the second term will be devoted to the study of veterinary medicines, their action and uses; the remainder of the term to lectures on the principles and practice of veterinary science. During the third term, practical instruction will be given in clinical work, as cases present themselves at the veterinary infirmary, where animals are treated or operated on free of charge for the instruction of the students. Lectures will also be given on Veterinary Sanitary Science, and the principles and practice of Veterinary Surgery.

For details as to the study of Botany, Chemistry, Zoology and Meteorology see statements in School of Natural Science.

APPARATUS.

The college has for the illustration of practical agriculture a stock farm of 410 acres, provided with a large stock barn fitted up with stables, pens, yards, cooking room, etc.; also, an experimental farm of 80 acres, thoroughly furnished with all necessary apparatus. It has also fine specimens of neat cattle, Short Horns and Jerseys. Also, several breeds of swine to illustrate the problems of breeding and feeding. The Experimental Department exhibits field experiments, in the testing of the different varieties and modes of culture of field crops, and in the comparison and treatment of soils. It includes, also,

experiments in agriculture and horticulture, under the direction of the Professors of Agriculture and Horticulture and of the Farm Superintendent, and experiments in feeding animals of different ages and devolopment, upon the various kinds of food. In common with similar departments in the several State Agricultural Colleges of the country, it attempts to create positive knowledge towards the development of an agricultural science.

The barn on stock farm has north and west fronts of 80 feet each. Each limb, or L, is 40 feet wide. It is of the kind known as side-hill barn.

The barn on experimental farm is of less size, but is fitted up with great convenience, and is supplied with a mill for grinding feed, run by a large wind-mill.

A veterinary hall and stable has been provided, and a clinic is held to illustrate the lectures on Veterinary Science. The department has *papier-mache* models of the foot and teeth of the horse at different ages. Dr. Auzoux' celebrated complete model of the horse, in 97 pieces, and exhibiting 3,000 details of structure, has been ordered from Paris.

Surveying and drainage are illustrated by field practice, with instruments and by models. Agricultural Chemistry is pursued in connection with laboratory practice in the analysis of soils, fertilizers, foods, &c. The college also has fine collections of soils, seeds, plants, implements, skeletons of domestic animals, plans, charts, and other apparatus, including a large number of models of agricultural machinery from the Patent Office.

AGRICULTURAL COURSE.

First Year—1. Botany, Chemistry, Trigonometry and Surveying, or Free Hand Drawing. 2. Botany, Chemistry, American Authors, or Free Hand Drawing. 3. Vegetable Physiology, Chemistry, Rhetoric.

Second Year—1. Agricultural Chemistry (soils and plants), General Horticulture, German. 2. Agricultural Chemistry (tillage, fertilizers, foods), Zoology, German. 3. Economic Entomology, Zoology, German.

Third Year—1. Agricultural Engineering and Architecture, Animal Anatomy and Physiology, Ancient History. 2. Animal Husbandry, Veterinary Science, Physics or Mediæval History. 3. Landscape Gardening, Veterinary Science, Physics or Modern History.

Fourth Year—1. Geology, Mental Science, History of Civilization. 2. Rural Economy, Meteorology and Physical Geography, Constitutional History. 3. History of Agriculture and Rural Law, Political Economy, Laboratory Work and Thesis.

FARMER'S COURSE.

To meet the wants of young farmers or others who feel they cannot give the time necessary for the completion of the full course, yet desire to better fit themselves to be successful, practical farmers, a special course has been arranged, the student in which gives his exclusive attention to the technical agricultural studies, including Veterinary Science, completing these in one year. Students will be admitted to this course on passing a satisfactory examination in the

common school branches, but they will receive greater benefit from it if they have made better preparation, especially if they have a good knowledge of Botany and Chemistry. They should not be less than eighteen years of age. The studies in this course are arranged in the following order:

1. Soils—Origin and Characteristics, Agricultural Engineering and Architecture, General Horticulture, or Animal Anatomy and Physiology. 2. Tillage and Fertilizers, Animal Husbandry, Rural Economy, or Veterinary Science. 3. History of Agriculture, Rural Law, Practical Entomology, Landscape Gardening, or Veterinary Science.

SCHOOL OF HORTICULTURE.

OBJECT OF THE SCHOOL.

The aim of this school is to afford a scientific and practical education especially adapted to the wants of those who cultivate garden and orchard plants, or wish to manage nurseries, parks and pleasure grounds.

INSTRUCTION.

The instruction is both theoretical and practical. The class room recitations and lectures are supplemented by instructive practice in the fields and plant-houses. The course which is recommended for those intending to prepare for the duties of the practical horticulturist, is given below.

The studies of the first year are mainly scientific, and are intended as a foundation for the technical branches which follow; but constant endeavor is made to render Botany, Zoology, Chemistry, etc., useful and practical without diminishing their scientific thoroughness and interest.

At the end of the course a Thesis is required upon some subject connected with Horticultural interests or pursuits. This must be the record of original experiment or research, with such deductions as the author may consider appropriate and correct. Suitable illustrations are to accompany the paper. All Theses will be deposited in the library of the school.

APPARATUS.

Ample provision is made for the practical illustration of the subjects taught. The cabinet contains among other things: a series of colored plaster-casts of fruits prepared at the University; *modeles clastiques* of fruits and flowers by Auzoux of Paris; collections of seeds of native and exotic plants; of specimens of native and foreign woods; of beneficial and injurous insects, and specimens showing their work; numerous dry and alcoholic specimens and preparations; maps, charts

diagrams, drawings, etc. The school is well supplied with compound microscopes and apparatus, and students have abundant opportunity to learn their use, and to make practical investigations with them. The herbarium is rich in specimens of useful and noxious plants, including many of the fungous parasites which cause disease to cultivated crops.

Upon the grounds devoted to the use of the school there are: 1. A very large specimen apple orchard planted in 1869, containing above 1000 varieties,—many varieties of pears, cherries, grapes and small fruits. 2. A nursery of young trees, in which students have regular work in propagation, etc. 3. A forest-tree plantation embracing the most useful kinds for timber. 4. An arboretum in which all hardy indigenous and exotic trees are planted as fast as they can be secured, and now containing nearly 100 varieties. The ornamental grounds, which surround the University building embrace about twenty acres, and are kept in a neat and attractive style. These, with all the adjuncts, of trees and flowering shrubs, lawn and beds of flowers and foliage plants, walks of different material and styles of laying out, give illustration to the class-room work in landscape gardening. A large green-house contains a collection of plants of great value for the classes in floriculture and landscape gardening, besides furnishing students with practice in all the details of hot-house and green-house management. The large library contains the best literature upon these subjects.

TECHNICAL STUDIES.

These include the first study mentioned in each term of the Horticultural course, together with General Horticulture of the second year and Laboratory work of the fourth year,—in all fourteen studies. Candidates for graduation from this course must pass satisfactory examinations in all of these studies, no others being accepted as substitutes; but students not proposing to graduate as Horticulturists may choose any part of these as of other studies.

For *Agricultural Chemistry* see School of Chemistry.

General Horticulture occupies fourteen weeks, and is intended as an introduction to the subjects which are presented in a comprehensive manner afterward, and to give the most possible information in regard to cultivated trees, fruits, vegetables, and flowers in the time devoted to it. The term's work is, therefore, well adapted to the requirements of general students and of those who have only a limited time at their disposal; instruction is mainly by lectures illustrated by specimens and drawings. The following topics are discussed: Orchard Sites, the Age of Trees to Plant, the Season to Plant, How to Plant, What to Plant, the Management of the Soil, Pruning and Care of Trees, Gathering and Preserving Fruit, Diseases and Injuries, the Nursery, Ornamental Trees and Shrubs, Flower Gardens, Vegetable Gardens, including Propagating Beds and Houses, the Vineyard and Small Fruits, and Timber Tree Plantations. Students have instruction and practice in grafting, budding, propagation by cuttings, etc. Each student has usually grafted from two hundred to one thousand root-grafts of apples.

Pomology and Forestry are studied fourteen weeks. Much of the first half of the term is spent in the orchards, nurseries and forests,

making observations and collections, and in laboratory work, determining species, varieties, etc. A large collection of apples, pears, grapes, peaches, etc., is made each year, and the chief characteristics of each pointed out. Practice is also had in making drawings and plaster casts. Written descriptions of the fruits are carefully made and compared with those given in the books, and systems of Analysis, and classification put to practical test. As fully as possible, students see and perform the skilled operations usually practiced in the propagation and growth of trees.

Pruning and training, by various methods, especially of grapes, are discussed in the class-room and illustrated upon the grounds.

Students also study the injurious insects and fungi which cause or accompany diseases of trees and fruits, and the methods of preventing or diminishing their ravages.

The native forests of the vicinity and of the country at large are first studied as a foundation for the lessons upon the influence and value of timber and other trees, and their artificial culture. For the latter, the forest-tree plantation on the University grounds, and the arboretum, afford practical illustration.

Downing's "Fruits and Fruit Trees of America;" Warder's "Pomology;" Thomas' "Fruit Culturist;" Grigor's "Arboriculture;" Brown's "The Forrester;" and Bryant's "Forrest Tree Culturist," are important books of reference.

Plant Houses and Management.—The work this term is upon garden and landscape architecture, the methods of construction, heating and ventilation and general management, so as to secure, under the different circumstances, the best plant growth. The class-room work consists of lectures and architectural designing and drawing. Illustration and practice are afforded by the plant-houses of the University, and by such others as can be reached by class excursions.

Landscape Gardening—Eleven weeks are devoted to this study. Lectures are given upon the general principles of the art, the history and styles, the kinds and use of trees, shrubs, grass and flowers, the introduction and management of water, the construction and laying out of drives and walks, fences, buildings, etc. The class draw first from copy, then, after the actual study of some locality with its environments, design and draw full plans for its improvement, indicating position of all prominent objects, including the kinds and groups of trees and other plants. These plans, with specifications, are to be deposited in the library of the school. Excursions are made as found practicable for the study of public and private grounds.

Important reference books are: Downing's "Landscape Gardening;" Weideman's "Beautifying Country Homes;" Robinson's "Parks, Promenades and Gardens of Paris."

Floriculture—Fourteen weeks are occupied in the study of the kinds, propagation, growth and care of flowering and other ornamental plants. Each student has practice in propagating by cuttings and otherwise, in potting and shifting, and care of plants requiring various treatments. Insects and diseases with the remedies are thoroughly treated, and the means of securing vigor of growth, or abundance of flowers, are studied and illustrated by practice.

Among the reference books the following are important: Henderson's "Practical Floriculture;" Loudon's "Encyclopedia of Plants;" Parkman's "Book of Roses."

For statement of studies in *Botany* and *Entomology* and for *Microscopy and Fungology*, see School of Natural History.

Horticultural History and Rural Law.—Ten weeks. This term's study nearly corresponds with that for the same time in the Agricultural course, and when alike the two classes are made one. Students of this course have special study of the history and literature of Horticulture, so far as these are distinct from that of Agriculture.

HORTICULTURAL COURSE.

1. *First Year*—Botany, Chemistry, Free Hand Drawing or Trigonometry and Surveying. 2. Botany, Chemistry, Free Hand Drawing or American Authors. 3. Vegetable Physiology, Chemistry, Rhetoric.

Second Year—1. Agricultural Chemistry, (Soils and Plants,) General Horticulture, German. 2. Agricultural Chemistry (Tillage and Fertilizers,) Zoology, German. 3. Economic Entomology, Zoology, German.

Third Year—1. Pomology and Forrestry, German, Ancient History. 2. Plant Structures and Management, Physics, Mediaeval History. 3. Landscape Gardening, Physics, Modern History.

Fourth Year—1. Floriculture, Geology, Mental Science. 2. Microscopy and Fungology, Meteorology and Physical Geography, Constitutional History. 3. Horticultural History and Rural Law, Political Economy, Laboratory Work, Thesis.

COLLEGE OF ENGINEERING.

Faculty—The Regent, Prof. Webb, Prof. Shattuck, Prof. Ricker, J. Kenis, Prof. Robinson, Prof. Weber, I. O. Baker, A. C. Swartz, Peter Roos.

Schools—Mechanical Engineering, Mining Engineering, Civil Engineering, Architecture.

ADMISSION.

Applicants should be at least eighteen years of age, and none will be admitted under fifteen. The requirements for admission embrace the common school branches and the studies of the preliminary year. (See page 30.) The examinations in Mathematics are most thorough. Full preparation is essential to success in the studies of the Engineer and Architect.

Those who will make further preparation than is required before entering, can make their courses more extensive and profitable. The following suggestions will be of use to such as wish to make

thorough work. One recitation a day is devoted to French and German, each of which is pursued at least one year. Some preparation in Latin will be of great assistance in these languages. The engineer and architect should be adepts in the various departments of drawing, and some previous study and practice of this branch will be of great advantage; "Warren's Draughting Instruments" may be used as a text-book, and the drawings made on smooth paper, each plate eight by ten inches.

REGULATION PAPER.

The following sizes and qualities of paper will be required in all the College exercises:

For manuscript and unimportant drawings, a heavy flat-cap paper, but slightly sized. For ordinary drawings, not colored, a heavy, first-quality, smooth drawing paper. For drawings finished in colors, the best Whatman's paper. For topographical and right-line drawings, and lettering, the best three-sheet Bristol board.

SIZES.

For Problems, Exercises, Vacation Journals, Lecture Notes, Theses and other Manuscripts, and for Geometrical, Projection, Topographical, Railroad, Typographical and Construction Drawings, paper 8x11½ in., the size of the plate being 8x10 with ½ added for binding. If Bristol board is used it must be cut 8x10 in., and the binding margin hinged on with muslin.

CONSTRUCTION.

Our friends and students are earnestly desired to send us specimens of material and manufactures, and drawings, models or photographs of machinery, bridges, and other engineering and architectural works. Finished and detailed working drawings, perhaps otherwise useless, would be of great value for purposes of instruction. Illustrated circulars and price lists of manufacturing firms are desired. Contributions will be labeled with the donors' names and placed in the cabinets of the College for the inspection of students, and the illustration of lectures.

SPECIAL EXERCISES, VACATION JOURNALS, AND MEMOIRS.

During the second and third vacations, Journals are required to be kept by each student of the College; and should contain accounts of matters pertaining to his chosen profession. These will be presented at the opening of the winter term, and will be read before the faculty and students of the College in evening sessions, held in the Physical Lecture-room; the reading being illustrated with blackboard sketches, drawings, photographs or specimens. The Journals should be pithy and concise, instead of voluminous.

The Journals should consist of illustrated descriptions of engineering and architectural subjects; such as important steam engines, water and gas works, mines and mining machinery and processes. Special methods in use of government and land surveys, make-up of parties; plans and ornamentation of important buildings; archi-

tectural style and details, stability, economy and novelty of construction of roof trusses, arches, bridges, canals and reservoirs, peculiar instruments, machinery for spinning metals, making gas pipes, saws, etc.

THESES.

In all the schools of this College a Thesis is required of those who graduate. It must be an original composition of suitable length, upon a subject appropriate to the school, and approved by the Professor in charge. The student must be prepared to read, explain and defend it before his class. It must be illustrated with such photographs, drawings and sketches as may be needed, and embellished with a title page neatly designed and printed with India ink, or colors. It must be upon Regulation Paper and securely bound. It will be prepared during the latter part of the fourth year and presented at the close of the course, after which it will be deposited in the Library of the College.

The Vacation Journals and Theses will be preserved in the cabinets of the respective schools for future reference. These papers, and also the practical exercises mentioned in each course will be credited upon the diploma, and no course of the College will be accepted as complete without them.

SCHOOL OF MECHANICAL ENGINEERING.

OBJECT OF THE SCHOOL.

This school seeks to prepare students for the Profession of Mechanial Engineering. It aims to fit them to invent, design, construct and manage machinery for any branch of manufactures or of industrial pursuits. The State has serious need of a class of men who, to a thorough knowledge of the principles of machinery and of the various motors, shall add the practical skill necessary to design and construct the machines by which these motors are made to do work. To supply such men is the leading aim of this school.

INSTRUCTION.

The instruction, while severely scientific, is thoroughly practical, aiming at a clear understanding and mastery of all mechanical principles and devices. Practice in the Mechanical Laboratory is combined with the theoretical training, and is counted as one of the studies of the course.

In PRINCIPLES, the knowledge is imparted in lectures, combined with the use of plates and illustrative models, and recitations are made from text-books. Numerous examples are also given, showing the application of the theories and principles taught. Experiments in the testing of machines and motors are undertaken by the student.

In PRACTICE, the instruction consists mainly in the execution of Projects, in which the student is required to construct machines, or parts thereof, of his own designing, and from his own working drawings. The students, in class exercise under competent teachers, use the machinery and tools of the Machine and Pattern Shops and Foundry, according to the most approved methods of modern practice.

The practical instruction is not intended merely to teach the trade, but is added as a necessary supplement to the theoretical training.

STUDIES.

The studies are given by the year and term in the tabular view of the course. The order of studies there indicated should be closely followed, that the student may avoid interference of his hours of recitation. The following is a detailed view:

PURE MATHEMATICS.

Advanced Geometry—Applications of Algebra to Geometry, Transversals, Harmonic Proportions, etc, *Trigonometry*—Analytical and Plane. Relations between the functions of an arc; Formation and use of tables; solution of plane triangles. *Analytical Geometry*—Construction of equation; Discussion, in a plane, of the point, right-line, circle, ellipse, parabola, and hyperbola; Higher plane curves, cycloid, cissoid of Diocles, etc. *Differential Calculus*—Differentials of algebraic and transcendental functions; Maclaurin's Theorem, Taylor's Theorem, Maxima and Minima of functions of one variable, Equation of Tangents, normals, sub-tangents, sub-normals, etc.; Differentials of lines, surfaces, and volumes. *Integral Calculus*—Integration of elementary forms and of rational fractions, Rectification of plane curves, quadrature of plane areas and surfaces of revolution, and cubature of solids of revolution.

Advanced Algebra—Binomial Theorem, Properties and summation of series; Exponential quantities, Logarithms; General theory and method of solving equations. *Analytical Geometry*—Loci in space; Surfaces of the second order. *Differential Calculus*—Differentials and Maxima and Minima of functions of two or more variables, Osculatory curves, Radius of curvature; Evolutes, involutes, envelopes; Discussion of algebraic and transcendental curves and surfaces; Tangent and normal plane, partial differentials of surfaces and volumes. *Integral Calculus*—Integration of transcendental and irrational differentials; Differentials of higher orders; Differential equations; Rectifications, quadrature and cubature in general. Spherical Trigonometry, General Formulas; Solution of Spherical Triangles. Calculus of Variations will be taught to advanced students.

PHYSICS.

The course in Physics is complete and thorough, embracing the four kinds of work following:

1. Recitation, four exercises a week, in which a text-book is used as a guide.
2. Physical experiments one day each week, in which the student uses the instruments in testing the principles taught.

3. Illustrated experiments one evening each week, in which the more costly apparatus is used before the whole class, in such experiments as are difficult to perform, and which are most effective when prepared for an audience.

4. The higher physical experiments by advanced classes, consisting either of researches, or of reviews of careful and elaborate experiments previously worked up by others.

To prepare for the last-named work, the student should have pursued Physical studies at least one term in the first three.

The department of physics is amply provided with illustrative apparatus for use in the lecture-room, and an extensive physical laboratory has been instituted in the New Building. The laboratory is adjacent to the physical lecture-room; connected by sliding doors, so that the apparatus is convenient, either for use in the lectures or for the laboratory work. The collection of instruments, costing over $5,000, embraces Acoustic apparatus from R. Koenig, of Paris; apparatus for Heat and Molecular physics from J. Salleron, of Paris; for Light, Optics, and Electricity from Stoehrer, of Leipsic, and Browning, and Newton, of London; Pneumatic and Electrical apparatus from E. S. Ritchie, Boston; and a large number of pieces prepared at the Mechanical Shops of the University. It includes, also, Browning's Electric Lamp; and from Elliott Bros., London, Resistance Coils, Galvanometers, etc., for higher researches in Electricity.

TECHNICAL STUDIES.

Cinematics, and Principles of Mechanics—Relative Motion of points in a system of connected pieces; Motion independent of Force; Velocity ratio; Investigation of Motion of elementary parts of machines, as Cams and Curves in sliding contact; Correct-working Gear Teeth; Gearing Chains; Escapement; Link-work.

Analytical Mechanics—Equations of Equilibrium; Moments; Virtual Velocities; Centers of Gravity; Mechanical Powers; Friction; Dynamics.

Hydraulics—Amount and Center of Pressure upon submerged surfaces; Flow of Liquids through orifices, Weirs, Pipes, and Channels; Distribution of Water in cities. Forms and arrangement of orifices for fountains.

Thermodynamics—The laws and complete theory of thermodynamics as required in the study of all kinds of heat engines, including the deportment of perfect gases during expansion, and also steam and other fluids not perfect gases; action of heat in changes of state, and in confined fluids.

Resistance of Materials—See School of Civil Engineering.

Prime Movers—The theory and useful effects of Turbine Waterwheels, and best form of the parts for high efficiency. Other Waterwheels and Wind-wheels. Application of Thermodynamics in the study of Heat Engines. Relative Economy of different engines.

MILL-WORK AND MACHINERY.

Trains of Mechanism, studied with reference to their Resistance and Efficiency. Best forms for transmission of power for short and great distances. Forms of the parts for securing desired results in power and velocity; Elastic and ultimate strength of parts.

Projection Drawing.—Use of Instruments in applying the Elements of Descriptive Geometry ; Use of Water Colors; Isometrical Drawing ; Shades and Shadows ; Perspective.

Free-Hand Drawing.—Sketches of Machinery ; Ornamentation ; Lettering.

Machine Drawing—Working Drawings of Original Designs ; Finishing in Water Colors, and in Line-shading ; Details for Shop Use according to the practice of leading manufacturers.

Projects and Practice.—The Shop Practice of the first year will consist of exercises aiming especially to acquaint the student with the use of tools, and the proper form of tools for best serving their purpose in filing, drilling, turning, planing, grinding, forging, etc. The second year drawing and practice will have for its object the production of some model or machine. The students, under the immediate direction of teachers, carefully determine the dimensions and shapes best suited for the parts of some machine, reduce them to neat and accurate working drawings and make tracings for shop use. No student will commence his advanced shop practice without working drawings. The designs are such as require execution in iron, brass and wood, for the purpose of giving breadth of practice. The student is required to make the patterns and castings, finish the parts, and put them together in accordance with the working drawings and the required standard of workmanship. This acquaints him with the manner in which the Mechanical Engineer carries his designs into execution, and teaches him to so shape, proportion and dispose the parts of a machine as to secure the greatest economy of construction and durability in use. The practice of the third year will include the careful construction of mechanical movements, strictly in accordance with the theoretical determination of the form of the parts.

Besides these practical exercises, students of sufficient skill are employed in the Commercial work which is undertaken by the shop. For this work they receive compensation. This work includes all kinds of machine building and repairing, and will serve to extend and confirm the practical experience of the student.

Experiments and Practical Problems.—Experiments in the testing of Prime Movers and other machines, are undertaken by each student. They take Indicator diagrams from the engine of the Mechanical Laboratory and in factories in the adjoining towns, and determine from them the power developed with different degrees of expansion, and the defects of valve movement in distribution of steam.

In the strength of materials the student determines the modulus of rupture and coefficient of elasticity of about six kinds of building material. In Hydraulics the flow of water through orifices of different form are studied experimentally. In Mechanism each student works out and reports on an original problem involving mechanical movements.

APPARATUS.

This school is provided with plates and a cabinet of models illustrating mechanical movements and elementary combinations of mechanism. This collection is rapidly increasing by our own manufacture, and by purchase from abroad. It includes many of Rigg's

models, and others from the celebrated manufactory of J. Schroeder, of Darmstadt, Germany. About two hundred valuable models from the United States Patent Office are also included in the cabinet.

The State has provided a large Mechanical Laboratory and Workshop.

The Pattern Shop is furnished with four complete sets of tools, benches and vises for pattern-makers. In a separate building are forges, a moulder's bench with sand, and brass and iron furnaces sufficient for the castings ordinarily required. Four additional sets of tools are provided for the special use of students in the shop practice classes.

MECHANICAL ENGINEERING COURSE.

First Year—1. Plane Trigonometry and Advanced Geometry; Projection Drawing; French. 2. Analytical Geometry; Descriptive Geometry and Drawing; French. 3. Calculus; Clay Modeling and Lettering: French.

Second Year—1. Designing and Construction of Machines; Advanced Algebra and Analytical Geometry; German. 2. Advanced Calculus Designing and Construction of Machines; German. 3. Advanced Calculus; Astronomy; German.

Third Year—1. Mechanism and Mechanical Laboratory; Advanced Descriptive Geometry; Chemistry and Laboratory Practice. 2. Analytical Mechanics and Mechanical Laboratory; Chemistry and Laboratory Practice; Physics. 3. Analytical Mechanics; Modern History; Physics.

Fourth Year—1. Resistance of Materials and Hydraulics; Geology; Thermodynamics, Pneumatics. 2. Prime Movers; Constitutional History; Construction Drawing. 3. Mill Work and Thesis; Designing and Laboratory Practice; Political Economy.

NOTE—Elementary Shop Practice, ten hours a week will be required during the third term of the first year in order to acquire skill in use of tools.

Advanced practice in the Mechanical Laboratory to the amount of ten hours a week for one term will be required during the first two terms of the third year.

SCHOOL OF CIVIL ENGINEERING.

OBJECT OF THE SCHOOL.

The School is designed to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice, which will enable students to enter intelligently upon the various and important duties of the engineer.

INSTRUCTION.

The student should lay a broad foundation in general culture, which will enable him to pursue his professional studies with greater ease

and advantage. With this view, the subjects peculiar to civil engineering are not introduced until the second year.

The instruction is given by lectures, text-books and reading, to which are added numerous problems and practical exercises, as serving best to completely explain subjects and fix them in the mind. Models and instruments are continually used, both in lectures and by the students themselves.

COURSE OF STUDIES.

The complete course occupies four years. The tabular view shows the arrangement of the subjects. The studies of the first three years will prepare students for undertaking many engineering operations, such as the building of railroads, canals, embankments, etc. The fourth year is intended to fit them for the higher engineering constructions, as the building of arches, trussed bridges, and supporting frames of all kinds.

Each year consists of thirty-six working weeks, divided into Fall, Winter and Spring terms. The four years are divided among the different branches nearly as follows: Languages, 360 recitations; Pure Mathematics, 369 recitations; Drawing of all kinds, 840 hours; Lectures, with Mathematical Analysis, 100 hours; Surveying, recitations, Drawing and field practice, 200 hours; Physics, Mechanics, Hydraulics, Astronomy, Geology, Chemistry, Mental Philosophy, Logic, Political Economy, History, altogether, 680 lectures, recitations and exercises; practice in the Chemical Laboratory, 110 hours; Engineering Projects, 240 hours. Besides the above there are various special exercises requiring time, the amount of which cannot be assigned. Each recitation requires one hour in the class-room, and to its preparation should be given an average time of three hours.

TECHNICAL STUDIES.

Mathematics—For a list of the principal subjects included under Pure Mathematics, see the school of Mechanical Engineering.

The following are those included in Applied Mathematics:

Descriptive Geometry—Problems on the Point, Right Line and Plane; Warped Surfaces; Perspective; Shades and Shadows; Practical Problems.

Analytical Mechanics and Hydraulics—See School of Mechanical Engineering.

Astronomy—The Observatory; Instruments and their adjustments; Determination of time, latitude and longitude; Practical exercises.

Geodesy—Figure of the Earth; Surveys of the Earth's Surface; Base Lines; Parallels and Meridians; Methods of the United States Surveys; Barometric Measurements.

Land Surveying—Areas; Distances; Omissions and Corrections; Standard Units; Metrical System; Refraction; Curvature of the Earth; Theories of Surveying Instruments; Adjustment of Instruments.

R. R. Surveying—Curves; Turnouts; Crossings; Obstructions; Slope Stakes; Earth-work; Grades; Curvature of Rails; Coning of Wheels; Calculation and use of Tables.

DRAWING.

Projection Drawing—Use of Instruments in applying the Elements of Descriptive Geometry ; Use of Water Colors ; Isometrical Drawing ; Shades ; Shadows and Perspective ; Drawings finished in colors and by right-line shading ; Bridges ; Right and and Oblique Arches. *Free-Hand*—Landscapes ; Buildings ; Lettering and Ornamental Work. *Topographical*—Sketching ; Ink Drawings ; Conventional Signs, etc. *Mapping*—Railroad and City and County Maps. *Architectural*—Designing and Drawing of Engineering Structures.

NATURAL SCIENCE.

Physics—See School of Mechanical Engineering. *Chemistry*—Inorganic Chemistry and Qualitative Analysis. *Geology*—Elements of Physiographic, Lithological, Historical and Dynamical Geology.

ASTRONOMY AND GEODESY.

Temporary arrangements have been made for Observatory Practice, by the erection of a small observatory and the mounting of instruments of convenient size for students' use. *Descriptive Astronomy* is given by lectures with a text-book. The Equatorial Telescope is in constant use during the favorable weather. *Practical Astronomy* is given by lectures and practical work with the Meridian Circle, Sextant, Theodolite, and Engineers' Transits adapted to Astronomical work ; and by Astronomical calculations. *Geodesy* is given by lectures, practice and calculations.

ENGINEERING.

Road Engineering—Location and Construction of Roads and Railroads ; Grades ; Gauges ; Tunnels, etc. *Resistance of Materials*—Elasticity ; Safe Limits ; Shearing Stress ; Flexure and Strength of Beams and Columns ; Practical Formulæ. *Trusses*—Analysis of a variety of Roofs and Frames, with methods of obtaining the strains. *Bridge Construction*—Warren's, Howe's and other Trusses ; Tubular and Suspension Bridges ; Arches, etc. *Stone work*—Stone ; Limes and Mortars ; Foundations, etc.

PROJECTS.

During the Spring Term of the second year an accurate Topographical Survey of a locality is made by the class, and instruction given in the use of the Level, preparatory to a project in Railroad Engineering, which is executed in the Fall Term of the next year. The Plane-table is used, as in the U. S. Surveys.

The Project consists of a Preliminary Survey, Locations, Drawings and Estimates.

The Preliminary Survey will consist in an examination of the locality, and in running tangent lines, with leveling and topographical sketching.

The Location will consist in running the line over the route decided upon, with all the necessary measurements and calculations for establishing the grade, setting slope stakes, determining the amount of earthwork, designing the buildings, bridges, culverts, etc.

The drawings will include Alignment, Profile, Plans and Sections.

The estimates will give the cost of ground, earth-work structures, rolling stock, etc.

A project in Geodsey, or Higher Engineering, will be executed during the Senior year.

APPARATUS.

The School is provided with both English and American Instruments for the different branches of Engineering Practice, and for the Astronomical work of Higher Surveying. It has numerous models for illustration of its specialties, and access to the cabinets of the other Schools. To facilitate the practice in Trigonometrical and Land Surveying, it has a specially prepared area, in which the difficulties of plane surveying are presented to the beginner as he is able to meet them, and where he is taught practical methods of overcoming them. This area is subdivided by a large number of lines, the positions of which are accurately known, but not by the student. He is then required to determine the position of the "corners" by various methods, and to calculate the enclosed areas. Other problems are given in detetermining inaccessible distances, passing obstacles, avoiding local attractions, etc., for which the ground is prepared. The number of divisions is so large that no two students need have the same problem, and so accurately laid out that the correctness of the student's work can at once be determined.

An Astronomical Observatory for meridian observations, and of suitable size for the practical exercises in Astronomy, has been erected and is in use. An Equatorial telescope has also been mounted for the use of the students. A set of Smithsonian Meteorological instruments has been procured, placed in suitable positions, and observations commenced. A Universal Instrument for Astronomical and Geodetic work is being made for the use of the Senior classes by Messrs. Ertel & Son, Munich. It will read to seconds of arc both in altitude and azimuth by four micrometers, and will in all respects be a superior instrument, adapted to the most accurate work.

CIVIL ENGINEERING COURSE.

First Year—1. Same as in Mechanical Engineering.

Second Year—1. Advanced Algebra and Analytical Geometry; Land Surveying; German. 2. Advanced Calculus; Drawing; German. 3. Advanced Calculus and Spherical Trigonometry; Topographical Surveying; German.

Third Year—1. Advanced Descriptive Geometry; Chemistry and Laboratory Practice; Railroad Surveying. 2. Analytical Mechanics; Chemistry and Laboratory Practice; Physics; Weekly Exercises in Practical Astronomy. 3. Analytical Mechanics; Astronomy; Physics; Weekly Exercises in Practical Astronomy.

Fourth Year—1. Resistance of Materials and Hydraulics; Geology; Geodesy. 2. Bridges; Constitutional History; Meteorology and Physical Geography. 3. Stone work; Physical Laboratory and Thesis; Political Economy.

SCHOOL OF MINING ENGINEERING.

OBJECT AND INSTRUCTION.

This School is intended to qualify the student for undertaking mining operations of all kinds. Its instruction consists of a thorough training in the principles of theoretical and applied chemistry, of chemical and blow-pipe analysis, of assaying and metallurgy, and of the engineering operations of mining.

STUDIES AND APPARATUS.

The course of studies embraces both the engineering and metallurgical studies, with practical exercises in analysis and assaying.

A large collection of models from a celebrated European manufactory, and costing over $2,000 has been provided for this school. The geological and mineralogical cabinets are well provided with specimens of minerals, ores, and rocks. In the plans of the new chemical laboratory provision is made for metallurgical and assaying laboratories, with stamp mill, furnaces, and other apparatuses required for practical instruction in this department.

COURSE IN MINING ENGINEERING.

First Year—1. Plane Trigonometry and Advanced Geometry; Projection Drawing; French 2. Analytical Geometry; Descriptive Geometry and Drawing; French. 3. Calculus; Clay Modeling and Lettering; French.

Second Year.—1. Advanced Algebra and Analytical Geometry; Chemistry and Laboratory Practice*; German. 2. Advanced Calculus; Chemistry and Laboratory Practice*; German. 3. Advanced Calculus and Spherical Trigonometry; Topographical Surveying; German.

Third Year.—1. Advanced Descriptive Geometry; Surveying; Mineralogy. 2. Analytical Mechanics; Physics; Chemical Laboratory. 3. Analytical Mechanics; Physics; Chemical Laboratory.*

Fourth Year.—1. Resistance of Materials and Hydraulics; Geology; Chemical Laboratory.* 2. Mining Engineering; Drawing or Constitutional History; Chemical Laboratory* and Metallurgy. 3. Chemical Laboratory;* Drawing; Political Economy.

*For explanation of Chemical Laboratory Practice, see courses of laboratory work in School of Chemistry.

SCHOOL OF ARCHITECTURE.

OBJECT OF THE SCHOOL.

The School seeks to prepare students for the profession of Architecture. For this a thorough knowledge of scientific principles applied to building, ability and correct taste in design, and some technical knowledge of the various building trades, with skill in the use of tools, are necessary, and are prominent features of the course of instruction.

INSTRUCTION.

The technical studies are chiefly given by lectures, illustrated by sketches, models or engravings, and a practical application is made by the student.

Drawing is practiced throughout the course, and, as far as possible, original work is executed. Drawing from casts and modeling in clay give facility in sketching details and correct knowledge of form.

In shop practice, designs are made by the student, and worked out in wood, to reduced scale, of roofs, stairs, etc.

The course in Mathematics, Mechanics, Physics, etc., is nearly identical with that in the other schools of Engineering.

TECHNICAL STUDIES.

Drawing from Casts—Outline sketches and finished drawings in pencil and crayon.

Modeling in Clay—From casts and original designs; weekly exercises in designing architectural ornaments.

Wood Construction and Drawing—Construction and finish of wooden buildings, roofs, ceilings, domes, towers, stairs, etc.

Iron, Brick, and Stone Construction, and Drawing—Buildings of brick, stone, and iron walls, arches, stone work, iron fronts, fire-proof floors, etc. Two lectures, eight hours' drawing weekly.

Shop Practice—Original design in wood construction.

Architectural Drawing—Preparation of full sets of finished drawings from sketches; weekly exercises in design of architectural details.

Architectural Designing—Working out of original design for specified project and preparation of complete finished drawings.

History of Architecture—Daily lecture on history of architectural style; the construction and decoration employed; most important examples; ideas applicable to American architecture.

Æsthetics of Architecture—Three lectures weekly on Æsthetics applied to architecture. Laying out grounds, planning buildings for various purposes, grouping their parts, external and internal decoration, harmonies of color. General principles of decoration by form and color, for wall paper, hangings, carpets, daily exercises, etc.

Estimates—Practice of measuring, valuing of materials and labor for all kinds of builders' works, and in making out full sets of estimates.

Agreements and Specifications—Lectures on and preparation of, complete sets.

Heating and Ventilating—The best modes of fuels, and motion of air in flues.

SPECIAL EXERCISES.

Specimen plates will be required of each student at the close of each term in drawing, to form a part of his record. Vacation journals will be required at the beginning of the winter term of third and fourth years; to be retained by the University. All such papers must be on paper of regulation size, except when otherwise directed.

SHOP PRACTICE.

To give a practical knowledge of various kinds of work, and the proper mode of doing them, a full course of instruction is arranged, of three terms, which all architectural students are required to pursue unless they already have equivalent practice. The system is similar to the Russian system, so much admired at the Centennial Exposition, but more comprehensive, and applied to building rather than Mechanical Engineering. Tools, material, and tuition free of charge.

First Term—Carpentery and Joinery.

Sharpening tools, planing flat surfaces at right angles, uniform width and thickness; framing with single tenons, double tenons, paneling, splices, dovetailing, sticking mouldings.

Second Term—Cabinet Making and Stair Building.

Paneling, chamfers, turning, setting locks and hinges, fret sawing, veneering, buhl, reissner and inlaid work, carving, stairs, hinges, strings, setting balusters, squaring and moulding rails.

Third Term—Miscellaneous.

Finishing in shellac, oil, wax and varnish; polishing, painting and ornamenting; gilding, metal work, filing, turning, drilling, cutting screws, ornamental work, casting soft metals, tempering.

Stone Work, in Plaster, Cutting Ashlar and Moulded Work, Rusticated Work, Venssotts for Arches, Domes, and Vaults, Carving, Relief and Incised.

APPARATUS.

A large collection of casts, donated by the Spanish government, and another of casts in plaster, of various architectural details, from Lehr of Berlin. Models in stone cutting, of Splices, Joints, etc., made by Schroeder of Darmstadt, belonging in Schools of Architecture and Designing, Models of roofs, trusses, stairs, etc.

The casts, photographs, etc., of the Art Gallery. A library containing many of the best English, German, French, and American Architectural works and periodicals, such as Daly's Motifs Historiques, Architecture Privee, Racinet Ornement Polychrome, Builder, Civil Engineer's and Architect's Journal, Workshop, Skizzenbuch, Encyclopedie d'Architecture, Penley's Water Color Painting, etc.

A large Carpenter and Cabinet shop containing full sets of tools, six sets of model-making tools, foot lathe with slide rest, chuck, drills, etc. Cross and splitting saws, planer, moulding and tenoning machine, lathe, whittler, etc.

BUILDER'S COURSE.

The Trustees allow persons desiring to fit themselves for Master Builders to take a course of a single year, pursuing such technical studies of the course in architecture as they may be prepared to enter upon with profit, and as will be most advantageous to them.

Candidates for the Builder's course must pass the examinations in the common branches, but need not pass in the Studies of the Preliminary Year unless they shall desire to pursue other studies than those marked in the following:

1. Wood Construction, 10; Projection Drawing, 10; Shop practice (Carpentery and Joinery), 10. 2. Stone, Brick and Metal Construc-

tion, 10; Architectural Drawing, 10; Shop practice (Stair Building), 10. 3. Agreements, Specifications, Estimates, Heating, and Ventilation, Architectural Designing, 10; Shop practice (Cabinet Making), 10.

ARCHITECTURAL COURSE.

First Year—1. Projection Drawing, 10; Plane Trigonometry and Advanced Geometry, 5; French, 5. 2. Descriptive Geometry and Drawing, 10; Analytical Geometry, 5; French, 5. 3. Drawing and Modeling, 10; Calculus, 5; French, 5.

Second Year—Wood Construction, 10; Advanced Algebra and Analytical Geometry, 5; Modeling, 10. 2. Stone, Brick and Metal Construction, 10; Advanced Calculus, Free Hand Drawing and Designing. 3. Shop Practice, Architectural Drawing, Modern History.

Third Year—1. Architectural Drawing, 10; Descriptive Geometry and Drawing, 10; Chemistry and Laboratory practice, 10; Vacation Journal. 2. History of Architecture, 5; Analytical Mechanics, 5; Physics, 5. 3. History of Architecture, 5; Architectural Designing, 10; Physics, 5. 4. Political Economy, 5; Physical Laboratory practice, 10; Thesis.

Fourth Year—1. Æsthetics of Architecture, 10; Resistance of Materials and Hydraulics, 5; Geology, 5; Vacation Journal. 2. Architectural Designing, 10; Constitutional History, 5; Water Color Sketching, 10. 3. Estimates, Agreements and Specifications, Heating and Ventilation, 10.

COLLEGE OF NATURAL SCIENCE.

FACULTY.

THE REGENT,
PROFESSOR BURRILL.
PROFESSOR S. W. ROBINSON.
C. I. HAYS,
M. A. SCOVELL.
PROFESSOR TAFT.
PROFESSOR WEBER.
I. O. BAKER.
A. E. BARNES.

SCHOOLS.

SCHOOL OF CHEMISTRY.
SCHOOL OF NATURAL HISTORY.

ADMISSION.

Candidates for admission to the College of Natural Science must be at least fifteen years of age, and must pass satisfactory examinations in the common school branches and in the studies of the Preliminary Year.

It is desirable that their preparation shall be specially good in the Scientific studies of the Preliminary Year. Some knowledge of drawing of natural objects will also greatly facilitate the student's proggress. A knowledge of the Latin language will be found a good preparation for the mastery of the scientific names which must be learned in this course.

SCHOOL OF CHEMISTRY.

OBJECT OF THE SCHOOL.

The object of this school is to impart such knowledge of Chemistry as will enable the student to apply the principles of the science to the related arts, and to fit him for the field of original research, and for the practical business of the Druggist, Pharmaceutist and Practical Chemist.

INSTRUCTION.

The instruction in the principles of Chemistry and Chemical Physics will occupy six weeks of the first term of the first year. For the remainder of the year the recitations will alternate with laboratory practice. During the remaining three years each student is expected to work two hours daily in the laboratory, five days in the week, and in order to graduate, each is expected, at the close of the course, to make an original investigation and to write a Thesis.

Students who pursue Chemistry as a part of other courses, will find it to their advantage to work at least two consecutive hours daily during such time as their specialty may require.

Text-Books—Roscoe's Chemistry, Douglas & Prescott's Analysis, Fresenius' Analysis, Miller's Chemistry, Rose's Analysis.

Books of Reference—Gmelin's Handbook of Chemistry, Graham-Otto's Ausfuehrliches Lehrbuch der Chemie, Watt's Dictionary of Chemistry, Lehmann's Physiological Chemistry, Percy's Metallurgy, Mitchell's Practical Assaying, Wormley's Micro-Chemistry of Poisons, Taylor on Poison.

Four courses of Laboratory work have been arranged as follows:

CHEMICAL COURSE.

First Year.—First Term—Qualitative Analysis, Tests and Separation of the Alkalies, Alkaline Earths, (N H 4) 2 S Group, and 1st and 2d Division of H 2 S Group. Second Term—Qualitative Analysis Completed, Tests, and Separation of 3d Division of H 2 S Group, and the Acids, Analysis of 20 Simple Salts and 20 Compound Substances. Third Term—Quantitative Analysis of Sodium Sulphate, Dolomite, Ammonium Alum, Potassium Chloride, Bone Ash, Iron Ore.

Second Year.—First Term—Quantitative Analysis of Calamine (zinc carbonate), Copper Pyrites, Galena, Spathic Iron Ore, Nickel Ore, Clay, Soil, Determination of Iron, Copper, &c., both volumetrically and gravimetrically. Second Term—Volumetric Analysis, Alkalimetry and Acidimetry, Preparation of Standard Solutions, Analysis of Sodium Carbonate, Sodium Hydroxide, Potassium Hydroxide, Pearl

Ash, Cream of Tartar, Sulphuric, Hydrochloric, Oxalic and Citric Acid, Analysis of Corn or other grain. Third Term—Preparation of Salts, Acids, etc., Electroplating with Silver, Gold, Copper, Nickel.

Third Year.—First Term—Ultimate Analysis, Determination of Carbon, Hydrogen, Oxygen, Nitrogen, Chlorine, Phosphorus and Sulpher, in Organic Compounds, Analysis of Urine. Second Term—Blow-pipe Analysis, Determination of a collection of Minerals representing over thirty of the metals. Assaying, in both the dry and wet way, of Gold, Silver and Lead Ores. Third Term—Photography, Preparation of Ether, Absolute Alcohol, Gun Cotton, Cadmium Iodide, Ammonium Iodide, Glacial Acetic Acid, Silver Nitrate, Collodion. Taking negatives, printing positives, toning and mounting.

Fourth Year.—First Term—Gas Analysis, Calibration of Eudiometers, Analysis of Air from Lungs, Atmospheric Air, Marsh Gas, Illuminating Gas and Crude Coal Gas, Analysis of Mineral Waters. Second Term—Toxicology, Micro-chemistry of Poisons, Testing for Mineral and Vegetable Poisons, Separation from Organic Mixtures. Third Term—Original Researches, Thesis.

PHARMACEUTICAL COURSE.

First Year.—Same as in Chemical course.

Second Year.—First Term—Quantitative Analysis of Commercial Drugs, White Lead, Red Led, Paris Green, Sodium Nitrate, Oxalic Acid, Tartar Emetic, Commercial Hydrochloric, Nitric and Sulphuric Acid. Second Term—Analysis of Mineral Waters, Preparation of Tinctures, Solid and Fluid Extracts, Reading and Compounding Prescriptions. Third Term—Isolation of Alkaloids, Atropine, Strychnine, Quinine, Nicotine, Aconitine, Morphine, Preparation of Salicylic Acid, Examination of Alcoholic Liquors, Reading and Compounding Prescriptions.

Third Year.—First Term—Same as second term, second year, of Chemical course. Second Term—Same as first term, third year of Chemical Course, without Analysis of Urine, Reading and Compounding Prescriptions. Third Term—Preparation of Salts, Perfumes, Flavoring Extracts, Cosmetics, Electroplating with Gold, Silver, Copper and Nickel.

Fourth Year—First Term—Same as second term, fourth year, of Chemical course. Second Term—Analysis of Urine, normal and pathological, Reading and Compounding Prescriptions. Third Term—Original Researches, Thesis.

AGRICULTURAL COURSE.

First Year.—Same as Chemical course.

Second Year.—First Term—Quantative Analysis of Feldspar, Soil, Ashes of Plants and Grains. Second Term—Analysis of Commercial Fertilizers, Manures and Minerals used for Fertilizers. Third Term—Preparation of Organic and Inorganic Salts, Starch from Potatoes, Corn, Wheat, etc., Sugar, Dextrine, Alcohol.

Third Year.—First Term—Same as in Chemical course. Second Term—Analysis of Milk, Corn, Wheat, Potatoes, Fruits, etc. Third Term—Silt Analysis of Soils, Analysis of Mineral Waters.

METALLURGICAL COURSE.

First Year.—Same as in Chemical course with the Quantitative Analysis of Brass, Solder and Type Metal in third term.

Second Year.—First Term—Same as in Chemical course. Second Term—Assaying of Gold, Silver and Lead Ores, both dry and wet way, Blowpipe Assaying. Third Term—Analysis of Malachite, Azurite, Cinnabar, Tin Ore, Cobalt and Nickel Ore containing Arsenic, Bog Manganese, Grey Antimony.

Third Year.—First Term—Analysis of Pig Iron, Wrought Iron, Steel, Furnace Slags, Rolling Mill Slags and Cinders. Second Term—Same as in Chemical course, with Analysis of Mineral Waters in place of Assaying. Third Term—Same as second term, fourth year, of Chemical course, with Analysis of Coal in place of Mineral Waters.

APPARATUS.

The facilities offered here for obtaining a practical knowledge of Chemistry are confidently believed to be unsurpassed by those of any other institution in the west. A second laboratory has recently been fitted up for advanced students in quantitative analysis. In addition to the usual apparatus found in every laboratory, is an extensive series of instruments recently purchased in Europe, including a large platinum retort for the preparation of hydrofluoric acid; a Dove's polarizer, with a complete suit of accompanying apparatus; a Geissler's mercurial air pump; Hoffman's apparatus for illustrating in the lecture-room the composition of compound gases; a Soliel-Scheibler's saccharimeter of the most recent and approved construction; an excellent set of areometers; a Hauy's goniometre; a camera with Ross' lenses; a Ruhmkorff's coil; galvanic batteries of Grove and Bunsen; also a potassium dichromate battery, a galvanometer and a thermo-electric pile; a spectroscope and a large binocular microscope; two additional chemical balances, peculiar in the shortness of their beams, and remarkable for the accuracy and rapidity with which weighing can be executed with them. An extensive set of metallurgical apparatus, consisting of models of furnaces, etc., have recently been received. A full set of photographic apparatus has been provided, and a large number of views have been taken.

The Library of the School is rich in complete sets of standard scientific works; the Annalen der Chemie und Pharmacie; the Jahresbericht ueber die Fortschritte der Chemie; Dingler's Polytechnic Journal; the Handwœrterbuch der Chemie; Percy's Metallurgy; Silliman's Journal. See Table of Contents for the list of periodicals taken.

SCHOOL OF CHEMISTRY COURSE.

First Year.—1. Chemistry and Laboratory Practice; Trigonometry and Advanced Geometry; British Authors. 2. Chemistry and Laboratory Practice; Analytical Geometry; American Authors. 3. Organic Chemistry and Laboratory Practice; Calculus; Rhetoric.

Second Year.—1. Laboratory Practice; Projection Drawing; German. 2. Laboratory Practice; Zoology; German. 3. Laboratory Practice; Zoology; German.

Third Year.—1. Laboratory Practice; Mineralogy; German or French. 2. Laboratory Practice; Physics; German or French. 3. Laboratory Practice; Physics; German or French.

Fourth Year.—1. Geology; Laboratory work; Mental Science. 2. Constitutional History; Meteorology and Physical Geography; Laboratory work. 3. Political Economy; Logic; Laboratory work and Thesis.

SCHOOL OF NATURAL HISTORY.

OBJECT OF THE SCHOOL.

The aim of this School is to educate practical geologists, collectors and curators of cabinets and museums of natural history, and superintendents of scientific explorations and surveys. It seeks to acquaint the student with the latest researches in respect to the structure of the earth, and to the origin and distribution of its organic products; to collect and preserve specimens and arrange them for study, and to conduct original investigations.

INSTRUCTION.

The instruction is given by lectures and text-books, and excursions, when practicable, made under charge of the professors.

Botany.—Candidates for admission to this School are examined upon Gray's "Lessons in Botany," or an equivalent, and are expected to be able to analyze, readily, common wild flowers. Beginning with the Fall Term of the first year, systematic and structural Botany is continued by illustrated lectures and practical laboratory work upon fresh, dried and alcoholic specimens. Students throughout the course are required to observe for themselves, and to make notes and drawings of their investigations. A series of these drawings, upon a uniform scale, together with the accompanying descriptions, are deposited in the library of the Laboratory.

Each student provides himself with suitable pencils, drawing pens and paper, needles in handles, glass slides for mounting objects, and razor for making thin sections. For the first term, a Manual of Botany (Gray's or Wood's) is required. Microscopes and other apparatus are furnished by the University, for which a deposit of three dollars is required, but no charge is made except for damage and material used.

The first six weeks are devoted to the study of the natural orders of flowering plants. About twelve lectures are given upon the chief characteristics of the prominent orders—their geographical distribution, importance, etc., together with the history of a few special plants and their products. During this time, two hours per day, three days per week, students analyze, in the Laboratory, flowering plants of the more difficult orders, Compositæ, Graminæ, etc., especially such as are best obtained in Autumn. The seventh week is devoted to practical instruction in the use of the compound microscope, and in the preparation of objects. For this, students are furnished with

printed directions, and have individual instruction. During the five weeks following, the general morphology of plants, including vegetable anatomy and histology, is studied, there being about ten lectures, and thirty hours of laboratory work. Tests are made from time to time, by the use of disguised vegetable substances. Two weeks are taken for review, finishing drawings and examination. The special morphology of the great divisions of Cryptogamic and Phænogamic plants, their chief characteristics, their classification, and the indentification of species of the Cryptogams, or flowerless plants, constitute the work of the second term. Special attention is given to injurious fungi, from specimens in the herbarium, or grown in the laboratory. Aquaria furnish numerous kinds of fresh water algæ, and the greenhouses supply specimens in nearly all the groups studied. During the term, there are about twenty lectures, and fifty-four hours of laboratory work, besides review and examination.

Vegetable Physiology is studied the third term. The botanical part of Johnson's "How Crops Grow" is made the basis of this work, supplemented by lectures and references to other publications, and experimental practice. Respiration, assimilation, the circulation of fluids, the influence of light and temperature, growth and reproduction, are some of the topics treated, and sufficiently show the magnitude and importance of the study. Throughout the course, the attempt is made to introduce the students to the literature of the various subjects, and to acquaint them with the authorities for the facts stated. The most important books of reference in the English language are Sach's "Text Book of Botany," Le Maout & Decaisne's "Botany," Gray's "Structural Botany," Lindley's "Introduction to Botany," Berkley's "Cryptogamic Botany and Fungology," Cooke's "Fungi," and "Handbook of British Fungi."

Anatomy and *Physiology.*—This study commences the first term of the second year, and the Anatomy is taught by lectures, aided by works of reference. The human skeleton and manikin are made the basis of comparison in the more extended Zoological researches. The Physiology is taught by means of Dalton's Unabridged Work, accompanied by familiar lectures, in which especial attention is given to the subjects of food, digestion, dress, circulation, respiration, ventilation, etc. The senses will be carefully studied, accompanied with suggestions for prolonging their greatest efficiency—the practical and useful always taking the precedence of the merely theoretical, that the controlable powers of the body may be preserved with their most efficient activities, to avoid preventable suffering and death, and secure vigor and happiness.

Zoology continues two terms. In the first, Invertebrate Zoology is studied, unfolding the cardinal facts exemplified in the Sub-Kingdoms, Protozoa, Cœlenterata, Anulodia, Anulosa and Mollusca, together with the general principles of respiration, circulation, special methods of reproduction and development; geographical and geological distribution; principles of natural classification, depending upon morphological type and specialization of the functions, etc.

Vertebrate Zoology follows, embracing embryology, modification of plan by which animals are adapted to the various conditions of existence, as manifest in their Comparative Anatomy; Systematic Zoo-

logy, so that the orders may be recognized at sight, etc. Nicholson's Manual of Zoology will be used as text-book.

Geology.—In Geology, Dana's Manual is used; commencing with Dynamical Geology, which explains the forces known to produce observed phenomena in the crust of the earth; as Life, in the formation of limestone, coal, peat; water, in eroding, transporting and depositing material for strata; heat, as manifested in consolidation, metamorphism and crystallization, as well as mountain folds on the surface of a shrinking globe.

Lithological Geology is the next term's work. This treats of the kinds, nature and material of rocks, stratified and unstratified; their mineral constituents; structure original or induced; concretions, veins, dykes, etc., methods of determining the chronological order of the strata. Also the historic development of the earth as revealed by *Paleontology*, or the entombed fossils of the previous inhabitants, through the Silurian and Devonian ages. The third term explains the Carboniferous age with its coal, the Reptilian and Mammalian ages, with their wonderful inhabitants; the Glacial period with its continent of ice, and through to the present time. Here also are discussed the elements of Time, the system of Life, the origin of Species, the climax in Man.

Physical Geography and Meteorology.—The principles of the phenomena manifest in the life of the earth bear the same relation to Geology that Physiology does to Anatomy. This subject, a result of the facts of Geology, with an application of the laws of Physics, is taught by lectures and works of reference. It explains how the solid earth, influenced by winds and waters, driven by heat and electricity, aided by light, constitutes a fit abode for man, the last link of terrestrial being.

Entomology.—The time given to this study is eleven weeks. After three or four introductory lectures upon the most useful literature, and the methods of collecting and preserving specimens, about five weeks are devoted to the special anatomy of insects and the outlines of classification,—four lectures and one review, or two hours of practical work per week. During this time students make collections as fast as possible, reserving, however, the determination of species until the last half of the term. During this latter portion of the term three lectures per week are given upon injurious and beneficial insects, methods of exterminating, etc., and four hours per week are taken for laboratory work, naming species, noting habits observed, making detailed descriptions, etc. A careful and complete description of some one species, illustrated by drawings of important parts, is made by each student and deposited in the library of the school. The large collection of named species, the ample reference library, the drawings and other illustrations to which students have access, are invaluable aids in the study. The most important reference books are Westwood's "Introduction to the Modern Classification of Insects," Packard's "Guide to the Study of Insects," Harris' "Insects Injurious to Vegetation," and the publications of the Smithsonian Institute, Entomological Societies and the reports of the State Entomologists.

Students are required to provide themselves with collecting nets and bottles, pins, and lined boxes, and book for notes. Microscopes and other required apparatus are furnished by the University.

Microscopy and Fungology.—Eleven weeks. Students have in this study further practice in the use of the compound microscope, the management of light for particular purposes, the testing of lenses, measurement of magnifying powers and angles of aperture, drawing and photographing objects, preparation and mounting of material, etc. The application, as indicated above, is mainly, but not exclusively, devoted to the minute fungi, including those of the different fermentations and putrefactions. Such fungi as are known or supposed to be injurious to plants or animals are studied as carefully and thoroughly as circumstances permit, cultures being made for the purpose, and specimens obtained from various sources.

APPARATUS.

In *Botany*, the School has a collection of about one thousand species of plants indigenous to the State of Illinois, including a very nearly complete set of the grasses; a collection of Rocky Mountain and Western plants; a collection of plants from Dr. Vasey, Botanist of the Department of Agriculture, Washington, D. C., and others obtained by exchange from various parts of the United States. A collection of the fungi of the vicinity has been begun and already contains numerous species. The green-houses and out-door plantations furnish a large amount of illustrative material for the classes. Enlarged *papier-mache* models of flowers and fruits, by Dr. Auzoux, exhibiting structure and development, are in the cabinet. Sections of wood from one hundred and seventy species of trees and shrubs indigenous in Illinois, were exhibited at the Centennial and exchanged for foreign specimens. The native specimens now largely duplicated are to be replaced as soon as possible.

In Entomology, numerous species have been contributed by the State Entomologist, who is required by law to deposit his first series of specimens in the cabinet of the University. Local collections and exchanges have further increased this number, amounting now to about three thousand species.

The University now has first-class microscopes of four different styles from European makers, one by a prominent American maker, and others of which the glasses were made to order in Europe, and the stands, a new pattern, manufactured in the shops of the University. These latter have a firm iron base with joint for inclining, coarse adjustment by rack and pinion (Jackson model), fine adjustment attached to stage, glass sliding stage and wide range of power.

In *Zoology*, the cabinets contain: a human skeleton, purchased in Paris, and a manikin, made by Dr. Auzoux; skeletons of the different orders of mammals, and of birds; stuffed preparations of a large number of birds, mammals, fishes, reptiles, etc., a dissected horse's leg and hoof, a dissected eye, trachea and vocal apparatus, in *papier-mache*, by Dr. Auzoux; collections of shells, fossils and insects.

The Geological Cabinet has been immensely improved the past year. In addition to the specimens from the State Geological Survey and other illustrative specimens, mineral and fossil, the cabinet has been the recipient of Professor Ward's celebrated college series of famous fossils, so essential in elucidating the various phases of life in Geological History. This set was the munificent donation of Emory Cobb, Esq., President of the Board of Trustees.

A valuable and extensive collection of the leads of the State, and accompanying mineral, was donated by Gen. J. C. Smith and other gentlemen, of Galena.

COURSE IN SCHOOL OF NATURAL HISTORY.

First Year.—1. Botany; Chemistry; Free Hand Drawing. 2. Botany; Chemistry; Free Hand Drawing. 3. Vegetable Physiology; Chemistry; Rhetoric.

Second Year.—1. Advanced Anatomy and Physiology; General Horticulture; German. 2. Zoology; German; Modeling. 3. Zoology; German, Economic Entomology.

Third Year.—1. Minerology; German; Ancient History. 2. Geology; German; Physics. 3. Geology; Physics. Modern History.

Fourth Year.—Geology; History of Civilization; Mental Science. 2. Meteorology and Physical Geography; Constitutional History; Microscopy and Fungology. 3. Political Economy; Logic; Laboratory Work, and Thesis.

COLLEGE OF LITERATURE AND SCIENCE.

FACULTY.

THE REGENT,
PROFESSOR SNYDER,
PROFESSOR WEBER,
PROFESSOR SHATTUCK,
PETER ROOS,
PROFESSOR PICKARD,
PROFESSOR CRAWFORD,
PROFESSOR BURRILL,
PROFESSOR TAFT,
J. KENIS.

SCHOOLS.

ENGLISH AND MODERN LANGUAGES.
ANCIENT LANGUAGES AND LITERATURE.

ADMISSION.

Candidates for admission to either of these schools must have the qualifications prescribed on page 30, and for the school of Ancient Languages and Literature, they will be examined in the following additional studies:

LATIN.

Latin Grammar including Prosody. (Harkness' or Allen and Greenough's). Latin prose composition. (Forty-four exercises to the passive voice, in Arnold's Latin Prose Composition, or parts one and two, to page 166, of Harkness' Introduction to Elementary Latin Prose Composition, or an equivalent in Allen and Greenough's Latin Composition), four books of Cæsar's Commentaries, six orations of Cicero, and six books of the Æneid. *Real equivalents* for any of the above mentioned works will be accepted. The so-called Roman method of pronunciation of Latin is recommended, as found in Allen and Greenough's, or in the last edition of Harkness's Grammar.

GREEK.

Greek Grammar (Goodwin's or Hadley's), Greek Prose Composition (Jones' exercises in Greek Prose Composition, or an equivalent in Arnold's), and four books of Xenophon's Anabasis. Writing Greek with the accents will be required. *The Greek Etymology must be thoroughly learned.*

The so-called Continental sound of the vowels and dipthongs and pronunciation according to accent are recommended.

OBJECT OF SCHOOLS.

The object of the schools in this college is to furnish a sound and liberal education to fit students for the general duties of life, and especially to prepare them for those business pursuits which require a large measure of literary and scientific knowledge and training. It is designed to meet the wants of those who wish to prepare themselves for the labors of the press as editors or publishers, for teachers in the higher institutions, or for the transaction of public business.

Students in the agricultural or other technical schools, desiring to educate themselves as teachers, writers, and professors, in their special departments, require a knowledge of the Ancient, as well as the Modern Languages, to give them full command of all the instruments and facilities required for the highest proficiency in their studies and proposed work. The University seeks through these schools to provide for this important part of its mission—the furnishing of teachers to the industrial schools of the country, and investigators and writers for the Arts. The large liberty allowed in the selection of the special studies of his course will permit the student to give such direction to his education as will fit him fully for any chosen sphere or pursuit.

INSTRUCTION.

The plan of instruction embraces, besides the ordinary text-book study, lectures and practical exercises in all the departments, including original researches, essays, criticism, proof reading, and other work intended to illustrate the studies pursued and exercise the student's own powers. It is designed to give to all the students voice culture and a training in elocutionary practice.

A prominent aim will be to teach the right use of books, and thus prepare the student for self-directed investigation and study, which will extend beyond the curriculum of his school and the period of his graduation. With this view, constant use of the already ample and continually enlarging stores of the Library will be required and encouraged. As a farther aid in this direction, members of the advanced English classes are expected to act as assistant librarians. In this service they are able to obtain much valuable knowledge of the various departments of English Literature, of prominent authors, and the extent and scope of their writings. Of special value as an incentive to, and the means of practice in English Composition should be mentioned THE ILLINI, a monthly paper edited and published by the students of the several colleges, each of which is appropriately represented in its columns. A printing office has been provided for in the Mechanical Building, and a press with the requisite supply of type.

The Library is well supplied with works illustrating the several periods of English, American, French, and German Literature, as also those of Ancient Literature. It contains at present over ten thousand well selected volumes, and is constantly growing by purchase at home and abroad. Valuable American and foreign periodicals are received regularly in the reading room, a list of which is given on page 18.

SCHOOL OF ENGLISH AND MODERN LANGUAGES.

ENGLISH LANGUAGE AND LITERATURE.

Studies of the School—In the arrangement of the studies the endeavor is to present a thorough and extended drill in grammatical and philological study, and in the authors and history of the English Language, affording a training equivalent to the ordinary studies of the classical language. This drill extends through three years of the course, but may be shortened according to the ability and preparation of the student.

The first two terms of the first year are given to a general survey of the whole field of British and American Literature from the middle of the sixteenth century to the present time. All the really representative writers come into notice, and representative specimens from the writings of each are carefully read in class. Moreover each student is required each term to read the entire work of some classic author, making choice from a prescribed list. Frequent exercises in writing abstracts or original compositions on themes assigned are also required. The study of Rhetoric occupies the third term.

During the second year some four or five of the great masters are studied, their work analyzed, the shaping forces of their times, and their influences upon succeeding times are investigated. Lectures are given from time to time on Poetry, Epic, Lyric, Dramatic, etc. Writing and reading required as in first year.

In the senior year attention is given to Old English; to the Anglo-Saxon, for which the way has been prepared by the study of both

English and German; to Philology; to the Philosophy of English Literature, and to Æsthetics. Essays, Forensics, and Orations are required.

French and German—The modern languages taught in this School are confined to one year of French and two years of German, but the student may, at his option, substitute a second year of French for one year of German. Abundant practical exercises are given both in composition and translation, and the diligent student gains the power to read with ease scientific and other works in these languages, and may, with a little practice, write and speak them with correctness. A constant attention is also given to the Etymologies common to these languages and the English, and thereby a large advantage is gained by the student in linguistic culture. "He who knows only one language," said Goethe, "knows not even that one properly."

In the first year, the student passes over a complete grammar and reader, acquiring a knowledge of the technicalities of the idiom, and a sufficient vocabulary for the use of the books of reference within the course. The second year is devoted to a critical study of the languages and philological analysis, and to a course of select classic reading, composition and conversation.

Mathematics, Physics and Astronomy.—For these studies, see School of Mechanical Engineering.

Natural Sciences.—See Schools of Chemistry and Natural History.

History and Social Science.—The historical studies are designed to afford a general view of the history, social organization and progress of the race. They embrace also the history of the Arts and Sciences, and of civilization, the principles of civil polity law, the philosophy of history, and the principles of political economy and constitutional law. The instruction is given chiefly by lectures, with readings of specified authors, and the study of historical geography and chronology.

The course occupies three terms in the third and fourth years of the University Courses.

Third Year.—Ancient History of Greece and Rome, with notices of other nations; Ancient Geography; Mediæval History; Modern History; general European History, European Geography.

Fourth Year.—Constitutional History of England and the United States, five lectures a week. History of Civilization, Analysis of Historical Forces and Phenomena, notices of the Arts and of the Inductive Sciences; Political Economy.

PHILOSOPHY AND LOGIC.

The studies of this department are taught chiefly by lectures, with readings of specified authors, and written essays. These studies require much maturity of powers, and are therefore confined to the fourth year of the course.

Mental Philosophy. Analysis and classification of mental phenomena; theories of perception, imagination, memory, judgment, reason. Mental Physiology, or connection of body and Mind, healthful conditions of thought, growth and decay of mental and moral powers. Philosophy of Education. Theory of Conscience; Nature of Moral obligation, Moral feeling. The Right. The Good. Practical Ethics; Duties. Formation of character. Ancient Schools of Philosophy.

Influence of philosophy on the progress of civilization, and on modern sciences and arts.

Principles of logic; conditions of valid thinking; forms of arguments; fallacies and their classification. Inductive and scientific reasoning; principles and methods of investigation. Practical applications of logic in the construction of argument, in the detection and answer of fallacies, and in the formation of habits of thinking, and the common judgments of life.

COURSE OF SCHOOL OF ENGLISH AND MODERN LANGUAGES.

First Year.—1. British Authors; French; Trigonometry and Advanced Geometry. 2. American Authors; French; Analytical Geometry. 3. Rhetoric; French; Calculus, or Drawing.

Second Year.—English Classics; German; Physiology. 2. English Classics; German; Zoology. 3. English Classics; German; Astronomy.

Third Year.—German; Chemistry; Ancient History. 2. German; Chemistry or Physics; Mediæval History. 3. German; Physics; Modern History.

Fourth Year.—1. Anglo-Saxon; Mental Science; History of Civilization. 2. English Literature; Constitutional History; Logic. 3. Æsthetics; Didactics or Geology; Political Economy; Thesis or Oration.

SCHOOL OF ANCIENT LANGUAGES AND LITERATURE.

In the School of Ancient Languages and Literature, the methods of instruction, without swerving from their proper aim, to impart a sufficiently full and critical knowledge of the Latin and Greek languages and writings, will make the study of these tongues subservient, in a more than usual degree, to a critical and correct use of the English. With this view, written translations, carefully prepared, with due attention to differences, equivalences and substitution of idioms, and the comparison and discrimination of synonyms, will form part of the entire course.

The study of Latin and Greek Composition will constitute a weekly exercise through the first year, and will be continued to some extent through the course. Essays, historical and critical, will be required from time to time, in connection with the works read, and a free use of the library is urged. It is intended that each student completing the course in Ancient Languages, shall have a clear knowledge of the history of Greek and Latin Literature, and of the principal authors in both languages. As an aid to the appreciation of the literature of the two peoples, Greek and Roman History will form an important part of the course, and will be taken up in the beginning of the course, illustrating the works read. In the first term of the third year, Ancient History is taken up as a separate study, and especial attention is then given to the history of Greece and Rome, and the nations with whom they came in contact. Classes will be formed for students who wish to carry their classical study farther than the prescribed course, and every assistance will be given them.

COURSE OF SCHOOL OF ANCIENT LANGUAGES.

First Year.—1. Cicero de Amicitia and prose composition; Iliad and prose composition; Trigonometry and Advanced Geometry. 2. Livy and prose composition; Boise and Freeman's selections from Greek authors and prose composition; Analytical Geometry. 3. Odes of Horace and prose composition; Memorabilia and prose composition; Calculus.

Second Year.—1. Satires of Horace; Thucydides or German; Physiology. 2. Terence; Sophocles or German; Zoology. 3. Tacitus; Demosthenes or German; Astronomy.

Third Year.—1. Juvenal or French; Chemistry; Ancient History. 2. Quintilian or French; Physics; Mediæval History. 3. De Officiis or French; Physics; Modern History.

Fourth Year.—1. History of Civilization; Mental Science; Geology. 2. Constitutional History; Meteorology and Physical Geography; Logic. 3. Æsthetics; Didactics or Plato; Political Economy; Oration or Thesis.

ADDITIONAL SCHOOLS.

NOT INCLUDED IN THE FOUR COLLEGES.

SCHOOL OF MILITARY SCIENCE.

By the law of Congress and of this State, the University is required to teach Military Tactics to its male students. All able-bodied male students of the College classes are enrolled in the companies of the University Battalion, and receive instruction according to the following programme, the exercises occupying one or two hours each week (see figures in programme).

The University Battalion is now ranked by the State authorities as the Sixth Regiment of Illinois State Guards.

PROGRAMME.

First Year.—Fall Term—School of Soldier, Manual of Arms, 2. Winter Term—School of Company, Firings, etc., 2. Spring Term—School of Battalion, 2.

Second Year.—Fall Term—Reviews of Company and Battalion Drill, 2. Winter Term—Bugle Calls and Skirmish Drill, 1. Spring Term—Skirmish Drill, and Battalion Evolutions, 2.

Third Year.—Fall Term—Review, Picket Duty, 1. Winter Term—Guard and Picket Duties, 1. Spring Term—Skirmish and Battalion Evolutions, 1 to 2.

Fourth Year.—Fall Term—Reviews, Bayonet Fencing, 1. Winter Term—Bayonet Fencing, 1. Spring Term—Battalion Evolutions, Target Practice, 1 to 2.

CLASS IN MILITARY SCIENCE.

A special class is taught in Military Science and Art, as far as is requisite for officers of the line. From the members of this class are selected the officers of the several companies, for which they act as drill sergeants and instructors in tactics.

No student is eligible to the military class till he has reached the winter term of the second or Sophomore year, and is in good standing in all his studies. The course of instruction is confined strictly to two yeers, terminating always with the first term of the fourth or Senior year. No student will be permitted to retain a command who does not maintain a good standing in conduct and scholarship.

The instruction and exercises occupy two hours each week, arranged, as far as possible, so as not to interfere with any other courses of study, to allow the members of other courses to enter this. Students must be careful, however, to ascertain before entering the military class that the proper studies and exercises of their chosen courses will not be interfered with.

Commissions.—The Governor of the State is accustomed to commission as Captains in the State militia, such students of the Military Class as may have completed the course thoroughly, and have obtained the necessary experience in command, and whom the faculty of the University may recommend for their high character both as students and as gentlemen.

University Uniforms.—Under the authority of the acts of incorporation the Trustees have prescribed that all the male students, after their first term, shall wear the University uniform. The University cap is to be worn from the first. This uniform consists of a suit of cadet grey-mixed cloth, of the same color and quality as that worn at West Point, and manfactured by the same establishment. Students can procure them ready-made on their arrival here. The University cap is of dark blue cloth, and is ornamented in front with the initials I. I. U., surrounded by a silver wreath. Students will always wear their uniforms on parade, but in their rooms and at recitations may wear other clothing.

The University Library contains books on Military Science, Military History and Engineering.

Telegraphy.—In connection with the Military Department there is a telegraph office in the new University building, with accommodations for learners, and connections with the Mechanical and Military building, the Dormitory and several private houses, making about three miles of telegraph lines. The students form an association or class, and the members join the University main line, using their own instruments in their rooms. The class appoint their own officers, inspectors, etc., and pay a small contribution for maintaining batteries, etc. At present there are twenty seven instruments on the line.

Second Year.—2. School of the Soldier and Company; Bayonet Fencing, 2. 3. School of Battalion; Ceremonies and Reviews; Skirmish Drill.

Third Year.—1 Brigade and Division Evolutions; Sword Fencing, 2. 2. Guard, Outpost and Picket Duty; Sword Fencing, 2. 3. Military Administration; Reports and Returns; Theory of Fire-arms; Target Practice, 2.

Fourth Year.—1. Organization, etc., of Armies; Art of War; Field Fortifications, 2.

SCHOOL OF COMMERCE.

The aim of this School is to teach those principles of business, and of accounts, which will enable the student to manage correctly his business affairs, to engage in the larger enterprises of trade and commerce, or to fit him for the work of a professional Book-keeper.

The course of instruction will occupy at least one year. In the first term will be taught the principles of book-keeping in general, and forms of business paper in general use. In the second term the student will learn the application of Book-keeping to special lines of business, and also special business forms and papers. The third term is devoted to Banking and the higher operations of the counting-house, commercial law, political economy and the principles of trade. The course is designed to be as comprehensive and thorough as that of the best of the Commercial Colleges, with advantages such as no mere Commercial College can give.

Students who wish to prepare for a Commercial career and to acquire the general education which such a career demands may and should extend this course of studies through two or more years, by adding such studies in mathematics, languages, literature and science as will give a more complete education and fit them for the higher walks of their chosen vocation.

Candidates for admission to this School, in full standing, must have the same preparation as that required for admission to the college of English and Modern Languages. But those who wish simply to take the year's course in book-keeping may pursue the study through the Preliminary Year, and in connection with the studies of that year, paying the fees required of preparatory students.

The full course of the school is as follows:

1. Book-keeping by Single and Double Entry, Theory of Mercantile Accounts, the Principal Books and Auxiliaries, Cash Book and Bill Book; Notes, Drafts, Bills of Exchange, and Accounts Current; Penmanship, Chemistry; British Authors. 2. Practical Business, Commission Business and Shipping, Importing and Jobbing; Invoice Book, Domestic and Foreign; Sales Book, Receiving Book, Commission Sales Book; Invoice, Account Sales, Business Correspondence, Commercial Calculations; Drawing; American Authors. 3. Banking; Forms of Legal Paper and Commercial Law; Rhetoric; Political Economy.

SCHOOL OF DOMESTIC SCIENCE AND ART.

This School was put into practical operation two years ago, under the chief instruction of Miss Lou C. Allen, late preceptress of the Peoria County Normal School. Classes have been taught through these years, and a full course of studies has been arranged.

This School proceeds upon the assumption that the house-keeper needs education as much as the house-builder, the nurse as well as the physician, the leaders of society as surely as the leaders of senates, the mother as much as the father, the woman as well as the man. We discard the old and absurd notion that education is a necessity to man, but only an ornament to woman. If ignorance is a weakness and a disaster in the places of business where the income is won, it is equally so in the places of living, where the income is expended. If science can aid agriculture and the mechanic arts to use more successfully nature's forces and to increase the amount and value of their products, it can equally aid the house-keeper in the finer and more complicated use of those forces and agencies, in the home where winter is to be changed into genial summer by artificial fires, and darkness into day by costly illumination; where the raw products of the fields are to be transformed into sweet and wholesome food by a chemistry finer than that of soils, and the products of a hundred manufactories are to be put to their final uses for the health and happiness of life.

It is the aim of the school to give to earnest and capable young women an education, not lacking in refinement, but which shall fit them for their great duties and trusts, making them the equals of their educated husbands and associates, and enabling them to bring the aids of science and culture to the all-important labors and vocations of womanhood.

The purpose is to provide a full course of instruction in the arts of the household, and the sciences relating thereto. No industry is more important to human happiness and well-being than that which makes the home. And this industry involves principles of science, as many and as profound as those which control any other human employment. It includes the architecture of the dwelling house, with the laws of heating and ventilation; the principles of physiology and hygiene, as applied to the sick and the well; the nature, uses, preservation and preparation of animal and vegetable food, for the healthful and for invalids; the chemistry of cooking; the uses, construction, material and hygiene of dress; the principles of taste, as applied to ornamentation, furniture, clothing and landscapes; horticulture and culture of both house and garden plants; the laws of markets; the usages of society, and the laws of etiquette and social life.

Drawing is taught by a skilled instructor; music can be had as an "extra." Vacation Journals will be required as in the other Schools.

HEALTH AND PHYSICAL TRAINING.

A spacious Gymnasium for young women has been fitted up in the library wing, and instruction in calisthenics is given to two or more classes daily. Lectures on health and its conditions, and on other

important topics, will be delivered to these classes at suitable intervals, and great pains will be taken to secure, to the utmost possible extent, physical vigor, robust health, and a graceful carriage, and to prepare young women to take enlightened care of their own health and of the health of others under their charge.

The materials for the calisthenic uniform must be made up under the direction of the Instructor in this department.

The Trustees desire that all female students shall participate in these exercises unless excused for good cause. They have been witnessed and heartily approved by some of the most eminent medical men in the State.

COURSE IN DOMESTIC SCIENCE AND ART.

First Year.—1. Chemistry; Botany; British Authors. 2. Chemistry; Botany; American Authors. 3. Designing and Drawing; Entomology or Vegetable Physiology; Rhetoric.

Second Year.—1. Designing and Drawing; Physiology; German. 2. Chemistry of Foods; Zoology; German. 3. Principles of Cooking; Architectural Drawing; German.

Third Year.—1. Domestic Hygiene; Ancient History; German or French. 2. Physics; Mediæval History; German or French. 3. Physics; Modern History; German or French.

Fourth Year.—1. Household Æsthetics; Mental Science; History of Civilization. 2. Household Science; Constitutional History; Home Architecture. 3. Domestic Economy; Usages of Society, etc.; Political Economy; Landscape Gardening.

SCHOOL OF ART AND DESIGN.

The somewhat extensive Department of Free Hand Drawing, Designing, etc., has been developed, by direction of the Trustees, into the School of Art and Design. Mr. Peter Roos, Principal of an Art Academy in Boston, and a pupil of Walter Smith, of the Normal Art School of Boston, has been placed at its head. Large classes have been organized and taught in Free Hand Drawing, from flat copies and dictation; in Perspective and Shaded Drawings, from models; in the Principles of Elementary Design, with plant forms; in Historical Ornament and Composition; in Sketching in Pencil and Water Colors; in Aerial Perspective; and in the study of the Harmony and Contrast of Colors. The instruction is by lectures and practical exercises.

Provision is made for instruction in Clay Modeling as an adjunct study in the Architectural Course. It is taught by Mons. J. Kenis, an educated Sculptor, a graduate of the Fine Art School of Louvain, in Belgium.

Lectures are given on the principles of Art and Designing, and the students have a thorough course in original exercises in Art Composition and Designing, and especially in Industrial Art. All the studies of a School of Design are pursued with appliances and facilities which few such schools yet possess this side of the Atlantic.

TECHNICAL STUDIES.

The following two years' Course in Elementary Free Hand Drawing and Designing is proposed for students not seeking a full professional training:

The Course is divided into four stages, A, B, C, and D.

Stage A.—Elements of Form, from the Blackboard, and Flat Examples; Elements of Historic Styles of Ornament; Practical Perspective, with Illustrations upon the blackboard; Elementary Designs.

Stage B.—Shading with different mediums, as Pencil, Chalk, Pen, Charcoal, Sepia, Monochrome and Distempera Color; Outline Perspective Drawing, from models and common objects; Elementary Design from Conventional plant-forms.

Stage C.—Shading from Models, and Casts of Ornaments; Outlines from Natural Foliage; Structural Botany, or Botany as applied to ornamentation; Harmony and Contrast, and Chemistry of Color; Original Compositions from the characteristic Elements of Historical Ornament.

Stage D.—Outline Drawing from Cast of Ornament; Sketching from Groups of Objects and Drapery, Applied Design, Ornamental and Pictorial Composition, etc., Historical Ornament continued.

Memory and Dictation Drawing will be performed through the whole Course.

Beginners may enter any of these classes after a satisfactory examination has been passed in the preceding stages.

ADVANCED COURSE IN PAINTING AND DESIGNING.

This Course is especially designed for those who wish to become thoroughly accomplished in Painting and Designing, as Teachers, Designers or Artists.

Permission to enter these classes will be granted to students showing a considerable amount of aptitude for Art, and who have attained a creditable standing in the Department of Elementary Drawing.

Instruction will be given in the following subjects:

Outline Studies—Human Figure from Cast; Plant-form, for the purpose of Design, from Nature; Animal form, from life; Blackboard and Dictation Exercises, with original description.

Studies in Oil and Water Color—Shading in Sepia, Monochrome, and Distempera, from Casts; Arabesque Painting; Flowers and Fruit, from Flat Examples, and from Nature; Compositions of Objects, Drapery, etc.; Drawing and Sketching from Life, in Pencil and Water Color, of Animals and Landscape, from Nature; Painting of Draped Human Figure, from Life, etc.

Original Design—Flat surface Decoration; Designs from written Descriptions; Designs for Furniture finished with Pen and Ink; Designs for Cast, Wrought, and Chased Metal Objects; Designs for Glass Ware; Designs for Terra Cotta, Clay or Porcelain.

Any one a member of the University, who can pass a satisfactory examination in the four grades of Elementary work, will be allowed to enter the Advanced Course.

MUSICAL DEPARTMENT.

UNDER CHARGE OF MISS CHARLOTTE E. PATCHIN.

COURSE OF INSTRUCTION.

Instruction Book; Clementi's Sonatines, Op. 36, 47, 38; Kohler's Studies, Op. 50, Books 1 and 2; Schmitt's Finger Exercises; Clementi's Sonaten Studien, Op. 165; Czernie's Op. 500, Grand Exercises of the Scales; Czernie's Op. 299, School of Velocity, Books 1, 2, 3, 4; Czernie's Op. 740, Fifty Finishing Studies, Books 1, 2, 3, 4, 5; Cramer's Studies, Book 1; Chopin's Op. 25; Thalberg's Studies, Op. 26; Clementi's Gradus ad Parnassum; Selections from Bach's Well Tempered Clavicord; Johnstone's Thorough Bass; Palmer's Harmony.

The pupils take, during the course, such pieces as are adapted to their advancement.

During the last year Beethoven's Sonates, and other classical compositions, are studied.

Besides the private lessons, every one is required to attend class meetings every week, at which the pupils play in the presence of each other and the teacher.

Blackboard exercises in the varieties of time, accent, scales, modulation and transposition are given to these classes, qualifying them to render and analyze music more intelligently.

The more advanced pupils have an opportunity to take part in public musical rehearsals, also in the public exercises given by the various societies connected with the University.

TUITION.

Piano and Cabinet Organ, per term of 20 lessons	$10 00
Practice on the Piano, per term	5 00
Harmony and Thorough Bass, in classes	5 00

Twenty-six lessons are required in the Fall Term, that the work in this study may correspond with that in the other departments.

Terms, strictly in advance.

MISCELLANY.

EXAMINATIONS.

Written examinations are held at the close of each term and whenever any study has been finally completed. Any student failing to answer correctly 75 per cent. of the questions proposed, loses all credit for that study, and is precluded from proceeding with any other studies without special permission.

A record is kept of each student's term work and standing, and from this his final certificate of graduation is made up.

CERTIFICATES.

Under the law. any one who remains a year at the University, and maintains a satisfactory standing in his studies and in character, is entitled on leaving, to a certificate of his studies and standing.

Full certificates will be given to those only who have satisfactorily completed a *four years'* course in some one of the colleges. Each certificate will state the course pursued, the studies taken, and the number of terms, with standing marked on a scale of 100.

EXAMINATION FOR ADMISSION.

To prevent loss to those who are not prepared to enter the University, but might come, hoping to pass the examinations for admission, the following arrangement has been made:

County Superintendents' Certificates. — County Superintendents of Schools will be furnished with questions and instructions for the examination of candidates in the four common branches, Arithmetic, Geography, English Grammar, and History of the United States; those who pass creditably will, when they present the Superintendent's certificate to that effect, be admitted to the Preliminary Classes.

Examining Schools. — The Trustees have authorized the Faculty to designate one or more High Schools in each county of the State, of sufficiently high grade and good reputation, whose certificates of examination, in the branches required of candidates for the University, may be received in lieu of the usual examination of the University.

These must be Graded, or High Schools of good reputation, and of sufficiently extended course to prepare students for the University. The principal teachers of the schools selected for this class will be authorized to prepare questions and conduct examinations of any of their students desirous of entering the University, but the papers must be sent to the University for final decision.

The following is a list of the Schools already accepted as Examining Schools:

Rockford, West High School	J. H. Blodgett,	Principal.
Salem High School	N. S. Scovell,	"
Tuscola " "	E. J. Hoenshee,	"
Buda " "	J. V. Wilkinson,	"
Kankakee " "	E. A. Rowell,	"
Champaign, West High School	W. H. Lanning,	"
Maplewood High School	S. F. Hall,	"
Sterling, 2d Ward High School	Alfred Bayliss,	"
Tolono High School	O. C. Palmer,	"
Decatur High School	E. A. Gastman,	Supt.
S. Belvidere High School	J. W. Gibson,	"
Geneseo High School	B. F. Barge,	"
Belvidere High School	——. Sherill,	"
Urbana High School	J. W. Hays,	"

Accredited High Schools.—In addition to the Examining Schools above mentioned, the Faculty are authorized, after personal examination, to appoint accredited High Schools, whose graduates may be admitted to the University without further examination. These must be schools of first-rate character, whose courses of instruction include

all the studies required for admission to any of the colleges of the University. On application, a member of the Faculty is sent to examine the school making the application, as to its facilities for teaching, its course and methods of instruction, and the general proficiency shown. If the report is favorable, the name of the school is entered on the published list of High Schools, accredited by the University. The graduates of these schools are admitted to any of the colleges for which their studies may have prepared them. The appointment continues as long as the work of the school is found satisfactory.

The Princeton High School has already been appointed, and several applications are now pending.

N. B.—Schools desiring to be placed on either of these lists will be furnished, on application, with the circular of instructions.

DORMITORIES AND BOARD.

There are in the University buildings about one hundred private rooms, which are rented to the students who first apply. Each room is of ample size for two students, and is without furniture.

There are many boarding houses near the University, where either table board, or board and rooms can be obtained, with the advantages of the family circle. Boarding clubs are also formed by the students, by which the cost of meals may be reduced to $2.25 per week. Many students prepare their own meals, and thus reduce expenses still farther.

Coal is purchased at wholesale and furnished to the students at cost.

For estimates of annual expenses, see page 73.

The Young Men's Christian Association of the University will aid new students in procuring rooms and boarding places.

LADIES' BOARDING HALL.

Until a proper University building can be devoted to the use of lady students, and to the School of Domestic Science, young ladies may find suitable accommodations and care at the Hall, which has been opened near the University. This Home furnishes about thirty rooms suitable for two students each—twelve on first floor, twelve on second floor, and six on third floor. The following prices are for rooms on the second floor. Rooms on the first floor will be from ten to fifteen per cent. higher, and rooms on third floor will be forty per cent. lower. Where a student desires room and furniture alone for herself, eighty per cent. will be added for the room and furniture. Tea and coffee are extra. Prices are as follows: monthly in advance for food only, per week, $2 50. For food with unfurnished rooms, $2 90. For food and room with wardrobe, bedstead, table, washstand, stove and two chairs, $3 30. Food and room furnished with bed and bedding, plain carpet, window curtains, looking-glass, wash bowl, pitcher and towels, $3 75. All rooms to be neatly cared for by the occupants. All articles broken to be paid for or replaced, and all rooms to be open for inspection and supervision by the Steward and Matron.

LABOR.

Labor is furnished, as far as possible, to all who desire it. It is classified into Educational and Remunerative labor.

Educational labor is designed as practical instruction, and constitutes a part of the course in several schools. Students are credited with their proficiency in it as in other studies. Nothing is paid for it.

Remunerative labor is prosecuted for its products, and students are paid what their work is worth. Those desiring employment must join the *Labor Classes*, which labor from two to four hours a day. The maximum rate paid for farm, garden and shop labor is *ten cents*, and for that about the buildings and ornamental grounds, *eight cents per hour*. Students who desire to earn more can often obtain work extra hours; or may be allowed to work by the piece or job, and thus by diligence or skill, secure more pay.

Some students, who have the requisite *skill*, *industry* and *economy*, pay their entire expenses by their labor; but, in general, young men cannot count upon doing this at first, without a capital to begin with, either of skill, or of money to serve them till a degree of skill is acquired.

STUDENTS' GOVERNMENT.

For several years an experiment has been in progress, in self-government of the students of the University. By permission of the Faculty, the general assembly of the students was organized, and a constitution adopted providing for the election of a President, Vice-President, Secretary, and Marshal; for a Senate of twenty-one members, a court consisting of a Chief Justice and two Associate Judges. Under this constitution, laws are enacted by the Senate, which become valid only when approved by the Regent of the University. All offences against these laws are tried before the Students' Court, and punished by fines according to the class of the offence. Cases which require the severer penalties of suspension or expulsion from the University are referred to the Faculty. Students refusing to pay the fines imposed by the Students' government are suspended from University privileges. The government has thus far rendered important aid in maintaining good order in the dormitories and grounds, in preserving public property, in preventing the visiting of saloons, and in other matters requiring the intervention of authority.

EXPENSES.

The tuition is free in all the University classes.

The matriculation fee entitles the student to membership in the University until he completes his studies, and must be paid before he enters. Amount..... $10 00

The term fee for incidental expenses is, for each student..... 5 00

Room rent in a University dormitory, each student per term..... $2 00 to 4 00

Each student in the Chemical and Physical Laboratories, and in the Draughting and Engineering Classes, is required to make a deposit varying from 50 cents to $8, to pay for chemicals and apparatus used, and for any breakages or damages.

All bills due the University *must be paid, and the receipt* of the Treasurer *shown* to the Regent *before the student can enter* the classes.

The following are the estimated maximum and minimum annual expenses, exclusive of books and clothing, of a residence of thirty-six weeks at the University:

	Min.	Max.
Term fees and room rent for each student	$21 00	$27 00
Table board in boarding houses and clubs	72 00	144 00
Fuel and light	10 00	15 00
Washing, at 75 cents per dozen	13 50	27 00
Total annual amount	$116 50	$213 00
Board and room in private houses, per week	4 00	6 00

FEES IN THE PRELIMINARY YEAR.

Tuition, per term	$10 00
Incidental fee, per term	5 00

CAUTION TO PARENTS—STUDENTS' FUNDS.

The Business Agent will receive on deposit any funds parents may desire to intrust to him to meet the expenses of their sons. *No greater error can be committed than to send boys from home with large amounts of spending money*, without the authoritative care of some prudent friend. Half the dissipation in Colleges springs from excessive allowances of money. Students have little real need for money beyond that required for fees, board bills and books.

CALENDAR FOR 1876.

Baccalaureate Address in University Chapel	June 4.
Third Term Examinations commence	June 2.
Senior Class Examinations	May 29.
Class Day	June 5.
Society Addresses	June 6.
Commencement Day, Wednesday	June 7.
Vacation of fourteen weeks.	
Examinations for Admission, Tuesday	September 12.
First or Fall Term begins, Tuesday	September 12.
First Term Examinations begin	December 19.
Closing of the First Term	December 22.
Vacation of two weeks.	

CALENDAR FOR 1877.

Examinations for Admission to Advanced Classes	January 2.
Opening of the Second or Winter Term, Tuesday	January 2.
Anniversary Day	March 11.
Second Term Examinations begin	March 19.
Second Term closes, Tuesday	March 20.
Third or Spring Term begins, Tuesday	March 20.
Third Term Examinations commence	June 1.
Baccalaureate Sermon in University Chapel	June 3.
Class Day	June 4.

Society Addresses.....June 5.
Commencement, Wednesday.....June 6.
Vacation of fourteen weeks.

CALENDAR FOR 1878.

Examination for Admission to Advanced Classes.....January 2.
Opening of Second or Winter Term.....January 2.
Anniversary Day.....March 11.
Second Term Examinations begin.....March 18.
Second Term closes, Tuesday.....March 19.
Third or Spring Term begins, Tuesday.....March 19.
Third Term Examinations commence.....May 31.
Baccalaureate Sermon in University Chapel.....June 2.
Class Day.....June 3.
Society Addresses.....June 4.
Commencement, Wednesday.....June 5.
Vacation of fourteen weeks.

PROCEEDINGS

OF THE

BOARD OF TRUSTEES

OF THE

ILLINOIS INDUSTRIAL UNIVERSITY,

FOR THE YEARS 1874, 1875, 1876.

QUARTERLY MEETINGS OF THE BOARD OF TRUSTEES.

SEPTEMBER 8, 1874.

The Board met at 4 P. M. in the new University building.

Present—Messrs. Emory Cobb, Gardner, Blackburn, Mason, Slade, Pickrell and Sabin.

Absent—Governor Beveridge, Messrs. Brown, Boyd and Reynolds.

A letter from Governor Beveridge was read, expressing his regrets at being unable to attend the meeting.

The minutes of the last meeting of the Board, June 10, also the meeting of the Executive Committee, August 11, 1874, were read and approved.

The Business Agent read his report, as follows :

HON. EMORY COBB, *President of the Board of Trustees of the Ill. Ind. University :*

SIR:—I have the honor to make the following report.

1st Paper A, showing the appropriations made in the past six months for the several departments of the University ; also the earnings and expenditures for the same to September 1, 1874.

2d Paper B, showing the condition of the State appropriations September 1, 1874.

3d Paper C, giving a list of bills presented to be audited.

4th, a general statement.

It is with pleasure that I call your attention to the good exhibit the Mechanical and Carpenter Departments make.

The Mechanical Department has spent in tools and cases for the Educational Classes, $156, besides adding to tools and fixtures for the commercial work to the amount of $90.

The Carpenter, or as it would seem better to style it, the Architectural Department, has expended in tools and cases for the Educational Classes, $170. 3,550 feet of black walnut lumber has been added to its stock, at a cost of $131 35 ; also other lumber as needed.

Lumber to the amount of $60 more will make the stock quite equal to that of last March.

I ask that the present credit balances of the two departments be appropriated for their use, as the Board may direct, and that —— dollars be appropriated for carrying on the Shop Educational Classes of the two departments.

The Horticultural and Experimental Departments also present good credit balances. Might not their credits also be appropriated to their use.

The Agricultural Department is in good condition, as the report of the Head Farmer will show, though there seems a heavy balance against it.

The two University buildings have been cleaned and generally repaired. A good three foot walk is needed from the main entrance of the grounds to the front door of the New University Building. One of brick will cost $75, or more, of one inch plank $40 to $50, one from the west entrance to the west door some $10, one on Springfield street in front of building recently repaired, to cost $8.

The walk on the west side of the University Parade Ground will also need some further attention. Some further repairs at Old Building and out houses will be needed, to cost say, $10.

The fence on the west side of the University Grounds between Green street and the Horse Railroad, will soon need attention. It might be well to have it put on the opposite side of the walk when re-built.

Several bills are offered at the end of the list of bills to be audited, which I have not signed as correct. Your attention is asked to them ; also the communication from Mrs. Chase in regard to fence. The fence referred to is the one between her house and the Old Mechanical building. The county surveyor says he believes the fence is about 14 feet over the line.

The Regent not returning for your meeting, I asked the several Professors and heads of departments to communicate to the Board the probable wants of the departments during the coming year. Several papers from this source I present herewith, others, no doubt, will be handed to you direct. Also a report from a committee appointed by the Faculty in regard to fees to be charged for the use of apparatus, etc.

In addition to what the Chemical Department has asked, it will need an appropriation for four large tables to accommodate twenty-four additional students by the Winter Term. This will cost about $240.

It was found that coloring the walls of the hall set aside for the Art Collection, of the desired color, would cost at least $125, hence it has not been done.

Respectfully submitted,

S. W. SHATTUCK, *Business Agent.*

The report was received.

The report of the Head Farmer, E. L. Lawrence, was read and accepted.

To the President of the Board of Trustees of the Illinois Industrial University:

I herewith present a statement of the financial condition of the Agricultural Department, showing the salable property on hand at this time, with an estimated valuation, as follows:

PROPERTY ON HAND SALABLE SEPTEMBER 1, 1874.

68 Steers (34 fat)		$4,000 00
1 Cow		60 00
1 Pair Colts (good ones)		300 00
1 Yearling Colt (pony)		30 00
95 Hogs		414 00
400 Bushels Wheat, @ $ .80		320 00
390 " Rye, " .70		273 00
300 " Oats, " .35		105 00
115 Acres Corn		1,500 00
4 Barrels Vinegar with 10 barrels		40 00
3 Acres Potatoes		75 00
¼ " Beets		10 00
⅛ " Parsnips		30 00
90 Tons Hay, @ $10 00		900 00
30 " Straw " 3 00		90 00
Total salable property		$8,147 00
Cash sales since March 1	$2,698 93	
Credits by other departments	759 23	
Six months' care and keep of blooded stock	500 00	
Total sales and credits		3,958 16
Permanent improvements (per statement)		568 34
Total		$12,673 50
Cash expenses since March 1	$4,587 23	
Accounts of other departments	957 95	
Receipts from blooded stock	260 50	
Inventory of March	3,896 26	
Total		9,701 94
Estimated profits for six months		$2,971 56

Valuation has been put on property, estimating by the standard of present current prices. Should prices become materially higher or lower, it would, of course, affect the receipts of the department for the next six months accordingly.

The amount charged to permanent improvements has all been laid out on what has heretofore been known as the Experimental Farm, in labor and material, and nothing is recorded for what has been done on the Stock Farm, though some improvements have been made there in setting and caring for old hedges. Some $40 has been laid out in seeding, and might be charged to improvements.

The tools, etc., on this farm were in bad shape, and out of repairs generally. Plows, harrows, cultivators, wagons, harness, and the mower had to be repaired before they were fit for profitable use. The two wagons have each received a new bed or box, and one new hay rack has been made, as well as other repairs. Twelve dollars was expended on the mower to make it fit for use. All these articles are worth more than at the commencement of the season, but nothing done here has been charged to improvements.

The land on the Experimental Farm having produced corn and nothing else, and that without manure, nature rebels and refuses to submit to such treatment. We have hauled out the last load of manure on both places, and are now hauling from the city.

I estimate the expenses for the next six months at $2,000, and the cash receipts and credits at $5,500, and hope to pay expenses and a little more, and make the profits of the year foot up $3,000.

All of which is respectfully submitted.

E. L. LAWRENCE, *Head Farmer.*

NOTE.—It will be seen that in case the Head Farmer's salary is increased to $1,500, a corresponding reduction will be made in the profits of the year. E. L. L.

The Board adjourned, to meet at 8 o'clock P. M.

EVENING SESSION.

The Board met as per adjournment.
The report of the Business Agent was taken up.
The following bills were audited and allowed:

No.	To whom.	For what.	Amount.
613	Lakeside Publishing Co	Printing catalogues	$224 50
614	Fuller & Fuller	Glass	20 18
615	Davis & Gue	Gravel	22 50
616	Dodson & Hodges	Hardware	58 58
617	Culver, Page, Hoyne & Co	Stationery	10 20
618	M. E. Lapam & Co	Lumber	50 66
619	Wm. Blair & Co	Wire and staples	18 81
620	Wm. Parks & Son	Lumber	124 25
621	H. Swannell	Brushes and mucilage	2 90
622	Champaign County Gazette	Printing	28 10
623	Nicolet & Schoff	Printing circulars	6 00
624	Webtser, Davis & Co	Lumber	25 85
625	Darling, Brown & Sharpe	Tools	56 10
626	Chas. Shober & Co	Letter paper	16 50
627	J. Bacon	Two tons nut coal	7 50
628	Enterprise Coal Co	One car of coal	7 00
629	N. A. Williams	Drain tile	5 10
630	M. Lukanitsch	Tools	40 20
631	Trevitt & Green	Hardware	33 57
632	Geo. W. Pitkin	Paint	31 13
633	W. S. Maxwell	Oil, glass and putty	36 33
634	Walker Bros	Lumber	26 70
635	John Miller	Glazing	30 50
636	S. W. Robinson	Sundry expenses, Phys. Laboratory	5 72
637	E. N. McAllister	Postage stamps and wraps	26 01
638	C. W. Anderson	Plastering	100 90
639	Allen & Kingsbury	Whitewashing and cleaning old build'g	150 00
640	E. L. Lawrence	Farm expense	464 32
641	S. W. Shattuck	Salary for June, July and August	180 00
642	W. C. Flagg	Salary for August, 1874	41 66
643	J. W. Bunn	Salary for 6 months ending Aug. 31	250 00
644	E. A. Robinson	Balance of salary for June	2 45
645	F. A. Parsons	Salary for August, 1874	40 00
646	H. A. Mann	" "	40 00
647	E. L. Lawrence	" "	100 00
648	T. J. Burrill	Salary for June, July and August, 1874	150 00
649	Larrabee & North	Hardware	202 35
650	Champaign County Gazette	Binding and repairing books	39 36
651	Julius Ranzi	Six dozen fencing sword blades	38 11
652	D. S. Covert	Locks	10 56
653	Illinois Central R. R. Donation	March to August, freight	412 74
654	Students' Pay Roll	March	548 49
655	S. W. Shattuck	Petty expenses to date	39 22
656	Carpenter Department	Work for other Departments	485 13
657	Mechanical Department	" " "	164 51
658	Agricultural Department	" " "	759 23
659	Experimental Department	Corn fed to stock	329 48
660	Horticultural Department	" "	590 21
661	J. W. Bunn	Payment of taxes on land	2,542 29
1874.			
91	Shumman } ordered	Apparatus	440 25
1	W. C. Burnett } to be	Half division fence on University lands	135 50
2	Prof. J. B. Webb } drawn.	Sundry expenses Eng. Department	14 15
3	Artana & Co. }	Maps	17 60

Mr. Peacock's bill of lumber was reported on by Mr. Gardner, but again referred for report.

The following resolution, offered by Mr. Pickrell, was passed:

Resolved,, That Messrs. Cobb and Gardner be appointed a committee, whose duty it shall be to see that the experiments begun on the Experimental Farm be continued, and that they be hereby authorized to employ additional help to conduct said experiments, and report upon them, if, in their judgment, such additional help be needed.

The Treasurer read his report of Receipts and Expenditures which was accepted as follows :

RECEIPTS.

1874. March 1...	To Balance on hand	$2,048 08
1874. Aug. 31...	" interest on Sangamon Co. bonds	2,250 00
" ...	" " " Champaign "	11,500 00
" ...	" " " Morgan "	2,500 00
" ...	" " " Putnam "	2,600 00
" ...	" " " Pike "	3,000 00
" ...	" " " Illinois 6 per cent. bonds	930 00
" ...	" " " Chicago Water bonds	875 00
" ...	" amount received from Agricultural Department	3,901 48
" ...	" " " " Horticultural "	1,637 23
" ...	" " " " Mechanical "	2,082 29
" ...	" " " " Carpenter "	1,215 05
" ...	" " " " Fees and Room Rents	1,782 00
" ...	" " " " Fuel and Lights	480 13
" ...	" " " on account of Building and Grounds.	43 46
" ...	" " " " Library	8 25
" ...	" " " " Salary account	24 75
" ...	" " " " Lands sold	1,857 28
"	" " " " Ill. Cent. R. R. donation	512 74
"	" " " from Prof. Stuart on ac't Chemical Department	489 92
"	" " " on account of Experimental Farm	329 48
"	" " " from State for experiments on farm	750 00
"	" " " " " for Taxes on Lands in Minn. & Neb.	2,542 29
	Total	$43,359 43

EXPENDITURES.

1874. Aug. 31...	By Board expense	$215 90
" ...	By amount paid Salaries	13,555 81
" ...	" " " Fuel and Lights	687 47
" ...	" " " Stationery, Printing and Advertising	462 70
" ...	" " " Building and Grounds	1,260 36
" ...	" " " Incidental Expenses	288 46
" ...	" " " Mechanical Department	1,958 46
" ...	" " " Carpenter "	1,257 30
" ...	" " " Horticultural "	1,387 44
" ...	" " " Agricultural "	5,550 35
" ...	" " " Chemical "	55 07
" ...	" " " Library and Cabinet	599 23
" ...	" " " Experimental Farm	281 88
" ...	" " " Military Gymnasium	115 76
" ...	" " " Expenses of Law Suits	85 05
" ...	" " " Repairs of Roof and Drill Hall	75 00
" ...	" " " Fitting Adelphic Hall	50 00
" ...	" " " Theses Papers and Covers	16 15
" ...	" " " E. F. Gehlman	130 00
" ...	" " " Miss Mary Gregory, Salary	120 00
" ...	" " " Taxes on Land in Minnesota and Nebraska	2,542 29
" ...	" Balance	$12,717 75
		$43,359 43

The Board adjourned to meet at 8 A. M., September 9.

SEPTEMBER 9, 1874.

—

The Board assembled as per adjournment.

The following report was accepted:

The committee instructed to secure an Instructor in Agricultural Chemistry, and also to engage an instructor in Chemistry, to succeed Prof. Stuart, beg leave to report that they have engaged Mr. H. A. Weber for Instructor in Chemistry, at $1,200 per annum, and Mr. Chas. W. Silver as Instructor in Agricultural Chemistry, at $1,000 per annum.

E. COBB,
D. GARDNER,
Committee.

The Business Agent's report was resumed.

Mr. Blackburn's resolution was adopted, as follows:

Resolved, That without relieving the Professor of Mechanical Engineering from any of the responsibilities of his department, we authorize him to employ necessary aid in the Mechanical Laboratory from the advanced students, at a compensation not exceeding 35 cents per hour for time employed, subject to the approval of the Executive Committee.

On motion of Mr. Sabin, a sidewalk was ordered to be put down in front of new University building, from north gate to the main entrance, to be made of two-inch plank, and four feet wide; also a sidewalk in front of the old Mechanical building, and the other sidewalks and fences to be repaired.

A communication from Mrs. Chase, in regard to moving a certain fence on lot 1, block 11, in Urbana, was referred to Mr. Gardner and the Business Agent, with power to act.

The request of the Chemical Department, for more working tables, to cost $240, was referred to the Executive Committee.

Prof. Burrill's report of the Horticultural Department was read.

A credit of $100 per annum for the use of the house occupied by the Head Farmer, was allowed to the Horticultural Department; also a credit of $72 42 for trees planted on the grounds about the new University building, the former to be charged to the Agricultural Department, the latter to Buildings and Grounds.

A request from Prof. Burrill, asking for an appropriation of $15 to furnish the room set apart for microscopical work, with an earthen tank, a bench vise, some chemicals, and a few pieces of small apparatus, was received, and the expenditure authorized.

Prof. Taft's request for an appropriation to supply the Department of Natural History with a set of simple rocks for the purpose of illustrating Geology, and with skeletons to illustrate each of the orders of Mammals, was received, and an appropriation of $500 granted.

The request for $2,000 for Ward's casts for Paleontology was referred to the Executive Committee.

At the request of Prof. Robinson, an appropriation of $80 was granted for the purpose of supplying necessary chemical and finishing additional apparatus for the Physical Laboratory.

The request of Professors Robinson and Webb, for an assistant in the Physical Laboratory and Civil Engineering Department was received and an appropriation of $40 per month allowed for that purpose.

The request of Messrs. H. A. Weber and C. W. Silver for an appropriation of $60 to make repairs and improvements in the Chemical Department, was allowed.

The request for an appropriation to purchase paper for use of students in Engineering and Architecture, was not granted.

At the request of Prof. Snyder an appropriation of $150 was made to meet the expenses of the University band, gymnasium, target practice, cleaning muskets, etc., etc. He reported 36 new breech-loading muskets and 2,000 rounds of ammunition for target practice, also 50 swords and belts for the officers of the Battalion received from the Rock Island arsenal.

The request for an appropriation to purchase a printing press and type for the use of students in publishing the college paper, was laid on the table for the present, and the University advertisement continued at $60 per annum.

The question of government in the Old University Building having come before the Board, it was referred to the Faculty for report at the next meeting.

Prof. Robinson's request for an appropriation of $90 to provide a case in the Mechanical Engineering room for holding the models of that department, was granted.

The recommendation from a committee of the Faculty for requiring of students fees for the use of apparatus belonging to the University, was received, and the following resolution passed:

Resolved, That we hold the heads of the respective departments responsible for the proper use and keeping of the implements, tools and apparatus belonging to the University, and that they are hereby authorized to adopt such measures as they may deem expedient for the proper care and safe return of all such articles used by students, provided that there be no actual charge for their proper use.

The Treasurer's report of probable receipts for the next six months was received, as follows:

Balance	$12,717 75
Interest on Sangamon County Bonds	2,250 00
" Illinois 6 per cent. "	930 00
" Chicago Water "	875 00
Fees	5,000 00
Freights	1,800 00
Rents and interest on land notes	1,500 00
Total	$25,072 75

The list of appropriations for the next six months reported by the Business Agent was accepted, as follows:

Board Expense		$300 00
Salaries—		
Regent	$2,000 00	
7 Professors	7,000 00	
1 Professor	600 00	
Agricultural Expert and Lecturer	1,000 00	
2 Instructors	1,200 00	
2 Instructors	1,600 00	
1 Tutor in Mathematics and Architecture	360 00	
1 Tutor in Mechanical and Civil Engineering	240 00	
2 Tutors in Chemistry	300 00	
1 Tutor in French and German	120 00	
1 Tutor in Mechanical Department	120 00	
2 Tutors in Military Department and Gymnasium	150 00	
1 Instructor in Drawing	300 00	
1 Tutor in Bookkeeping and Clerk in Business Office	240 00	
Library Assistants	100 00	
Treasurer	250 00	
Corresponding Secretary	250 00	
Business Agent	200 00	
Janitors	480 00	
Fireman	400 00	
		16,800 00
Fuel and lights		3,000 00
Stationery and printing—		
Current expenses	$200 00	
Advertising in "Illini"	60 00	
		260 00

Buildings and Grounds—		
Current expenses	$500 00	
Walks	168 00	
Repairs old sidewalks	20 00	
		688 00
Incidental expenses		300 00
Mechanical Department—		
Current expenses	$323 83	
Shop practice	90 00	
		413 83
Architectural Department—		
Current expenses	$357 75	
Shop practice	90 00	
		447 75
Agricultural Department		.....
Horticultural Department		499 70
Chemical Department		689 92
Military Department, Gymnasium and Telegraphy		150 00
Library and Apparatus		600 00
Cabinet		500 00
Sundries—		
Physical Laboratory	$80 00	
Botany and Microscopy	15 00	
Shumman, bill of mining apparatus	450 00	
C. W. Burnett, bill of division fence	133 50	
J. B. Webb, bill of expense Engineering Department	14 15	
Artaria & Co., map of Europe	17 60	
Model case, Mechanical Department	90 00	
		802 25
Total		$24,951 54

The following was passed:

In order to define more clearly the duties of the Business Agent, we would recommend the following statement of such duties:

1. He shall keep or cause to be kept the "books of accounts" of the several departments.
2. He shall keep all business books of the University and do its business correspondence.
3. He shall make all purchases for the University, but no purchases shall be made except upon requisition from the heads of departments, or such as may be authorized by the Trustees; *Provided, also*, that all purchases must first be authorized by the Trustees. In cases of necessity for immediate purchases, the Business Agent will make them, but within the limit of $50 for any one month, the same to be reported to the Trustees at their next meeting. Purchases of materials for commercial work of the machine shops may be made, if immediate returns are to be received, the same also to be reported at the next meeting of Trustees.
4. He shall aid the heads of the several departments in effecting such sales as may be authorized by the Trustees. He shall aid the Treasurer, when required by said Treasurer, in making collections of all fees, rents, and other dues or debts due the University, and attend to such other business as may from time to time be intrusted to him. He shall keep the President of the Board and the Trustees, and the Regent, when desired, informed as to the state of finances and business affairs of the University, presenting the Executive Committee a monthly statement of all collections and expenditures in the several departments.

The employment of a veterinary surgeon was referred to Mr. Gardner.

Prof. S. W. Shattuck was appointed Business Agent of this University for the next financial year, with a compensation of $400.

Resolved, That the Regent, Professors and Assistant Professors of this University are engaged for the whole year, and are to consider themselves on duty, except leave of absence be granted by this Board.

The report of the Committee on Agricultural Experiments, that Mr. B. F. Johnson had been engaged to superintend such experiments for the next six months, ending February 28, 1875, was adopted.

The Board then adjourned.

—7

DECEMBER 15, 1874.

—

The Board met at the University at 4:30 P. M.

Present—Messrs. Cobb, Brown, Blackburn, Gardner, Mason and Sabin.

Absent—Governor Beveridge, Pickrell, Slade and Boyd.

Letters from Governor Beveridge and Mr. Pickrell were read regretting their inability to attend this meeting.

The minutes of the last meeting of the Board and the meeting of the Executive Committee were read and approved.

The Business Agent then read his report, as follows:

HON. EMORY COBB, *President of the Board of Trustees of the Ill. Ind. University:*

SIR:—I have the honor to make herewith my report as Business Agent for the three months ending December 1, 1874.

Paper A gives statement of the current appropriations.

Paper B gives statement of the State appropriations.

Paper C gives a list of the University warrants drawn to date.

Paper D gives a list of unpaid bills presented for audit.

Judging from the unexpended balances the appropriations will not be overdrawn during the next three months unless a large amount is needed to enlarge the Chemical Laboratory.

"A."—*Statement of Appropriations for Current Expenses.*

November 30, 1874.	Appropriations.	Receipts.	Drawn.	Unexpen'd
Board expenses	$300 00		$102 05	$197 95
Salaries	16,300 00		7,677 20	8,622 80
Fuel and lights	3,000 00	$ 40	1,127 30	1,873 10
Stationery and printing	260 00		23 00	237 00
Buildings and grounds	688 00	75	292 41	396 34
Incidental expenses	300 00	29 00	50 68	278 32
Mechanical Department	413 83	638 57	844 50	207 90
Architectural "	447 75	70 50	210 66	307 59
Horticultural "	499 79	172 42	192 04	480 17
Chemical "	689 92		301 46	388 46
Military "	150 00		48 56	101 44
Library and apparatus	600 00		200 15	399 85
Cabinet	500 00			500 00
Sundries	802 25		335 23	467 02
Agricultural Department		3,288 73	1,249 54	2,039 19
Experimental Farm			145 63	
Sundries—Physical Laboratory	80 00			80 00
Botany and Microscopy	15 00			15 00
Shumman bill of mining app	450 00		154 89	295 11
Bill of division fence	135 50		135 50	
Bill of expense Engineering Department	14 15		14 15	
Map of Europe	17 60		17 60	
Model case, Mechanical Department	90 00		13 09	76 91
Fees and room rents		2,769 50		

"B."—*Statement of State Appropriations.*

November 30, 1874.	Appropriations.	Drawn.	Un'xpen'd
New University building	$15,000 00	$14,685 60	$314 40
Heating apparatus	18,000 00	14,326 90	3,673 10
Fitting and furnishing	7,350 00	7,271 17	78 83
Gas fixtures	1,200 00	1,200 00	
Physical laboratory	3,000 00	2,954 83	45 17
Taxes on lands	6,000 00	5,202 78	797 22
Agricultural experiments	1,500 00	684 57	815 43

S. W. SHATTUCK, *Business Agent,*

"C."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
1	W. C. Burnett	One-half division fence on University lands	$135 00
2	J. Burkitt Webb	Sundry expense in Engineering Department	14 15
3	Artaria & Co	Maps	17 60
4	James P. Slade	Expense to meeting	20 70
5	R. B. Mason	" "	6 00
6	A. Blackburn	" "	20 50
7	J. H. Pickrell	" "	13 30
8	D. D. Sabin	" "	24 05
9	Emory Cobb	" "	17 50
10	Horticultural Department	Rent of house and trees furnished	172 42
11	J. M. Gregory	Salary September, 1874	333 33
12	S. W. Robinson	" "	166 66
13	T. J. Burrill	" "	166 66
14	S. W. Shattuck	" "	200 00
15	E. Snyder	" "	166 66
16	D. C. Taft	" "	166 66
17	J. B. Webb	" "	166 66
18	J. C. Pickard	" "	166 66
19	N. C. Ricker	" "	100 00
20	J. D. Crawford	" "	100 00
21	H. H. Weber	" "	120 00
22	C. W. Silver	" "	100 00
23	W. C. Flagg	" "	41 66
24	B. F. Johnson	" "	41 66
25	Charlotte E. Patchen	" "	50 00
26	F. W. Prentice	" "	100 00
27	Lou C. Allen	" "	120 00
28	A. C. Swartz	" "	60 00
29	J. O. Baker	" "	25 00
30	F. A. Parsons	" "	40 00
31	E. A. Robinson	" "	7 00
32	M. A. Scovell	" "	25 00
33	A. E. Barnes	" "	25 00
34	H. A. Mann	" "	50 00
35	A. C. Scribner	" "	15 00
36	E. L. Lawrence	" "	100 00
37	Trevitt & Green	Hardware	29 05
38	William Price	Calcimining	29 90
39	O. V. Peterson	Tuning piano, and stationery	15 75
40	Hartnack & Prazmowski	Microscope, etc	100 14
41	M. Delenil	Chemical balance	99 26
42	John Weldon	Books	109 84
43	Fuller & Fuller	Glass	21 18
44	E. L. Lawrence	Farm expense, September, 1874	347 31
45	S. W. Shattuck	Petty expenses to date	15 95
46	Larrabee & North	Locks	4 75
47	Students' labor pay-rolls	September, 1874	388 40
48	E. N. McAllister	Postage	12 00
49	Dodson & Hodges	Hardware	41 07
50	A. Campbell	Iron	8 80
51	A. H. Hewes & Co	Hanging baskets	5 00
52	Sabin Bros	Coal	20 65
53	George Such	Plants	18 50
54	Enterprise Coal Company	Thirty cars coal	460 00
55	R. H. Allen	Grain and seed	8 85
56	R. S. Sutton	Brick for green-house	4 50
57	N. A. Williams	Drain tile	1 40
58	Wm. Lewis	Mason work on green-house	12 00
59	J. S. Searfoss	Carpenter work	36 87
60	Kimbark Bros. & Co	Bill of iron	16 69
61	Fuller & Fuller	Chemicals	59 36
62	Webster, Davies & Co	Lumber	72 62
63	James Vick	Plants	5 00
64	S. H. Gehlman	Work in finishing	Void.
65	J. M. Gregory	Salary for October, 1874	333 33
66	S. W. Robinson	" "	166 66
67	T. J. Burrill	" "	166 66
68	S. W. Shattuck	" "	200 00
69	E. Snyder	" "	166 66
70	D. C. Taft	" "	166 66
71	J. B. Webb	" "	166 66
72	J. C. Pickard	" "	166 66
73	N. C. Ricker	" "	100 00
74	J. D. Crawford	" "	100 00
75	H. A. Weber	" "	120 00
76	Chas. W. Silver	" "	100 00

"C."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
77	W. C. Flagg	Salary for October, 1874	$41 66
78	B. F. Johnson	" "	41 66
79	Charlotte E. Patchen	" "	60 00
80	Lou. C. Allen	" "	120 00
81	Fred. W. Prentice	" "	100 00
82	A. C. Swartz	" "	60 00
83	I. O. Baker	" "	50 00
84	F. A. Parsons	" "	40 00
85	E. A. Robinson	" "	15 40
86	M. A. Scovell	" "	25 00
87	A. E. Barnes	" "	25 00
88	H. A. Mann	" "	50 00
89	A. C. Scribner		31 00
90	E. L. Lawrence		100 00
91	Carl. Schumman	Mining models	154 89
92	Students' Pay-roll	October, 1874	362 25
93	E. L. Lawrence	Farm expense October, 1874	408 63
94	Hallock & Holmes	2 sides lace leather	7 00
95	Champaign Gas Company	Gas bill to November 1	66 00
96	I., B. & W. R. W.	Box of books freight	2 61
97	F. K. Phoenix	Plants	8 70
98	Fuller & Fuller	Freight on box from Europe	12 07
99	Thos. Nolan	Lumber for walks	27 75
100	Root's Steam Engine Co	5 doz. gas gets	4 50
101	Loche & Saxton	Bill of iron	15 50
102	Enterprise Coal Co	2 cars nut coal	14 00
103	Stillwell & Pierce Manufac'ng Co.	One heater back	10 00
104	Kimbark Bros. & Co.	Hardware	54 16
105	H. Dunlap	One E-flat horn for band	25 00
106	Larrabee & North	Hardware	12 70
107	A. M. Coffeen	Paper	4 95
108	Jas. Green	Maximum thermometer	7 00
109	Nicolet & Schoff	Printing	2 50
110	G. H. Bliss & Co.	Vitriol and wire	15 00
111	Harris Manufacturing Co.	Emery wheels	12 25
112	Drotz & Steinhauser	Files	45 35
113	John Muler	Glazing	14 35
114	F. I. Mann	Music for band	5 50
115	Crane, Breed & Co.	Fireman's salary October, 1874	44 25
116	S. W. Shattuck	Petty expense "	20 05
117	J. M. Gregory	Salary for November, 1874	333 33
118	S. W. Robinson	" "	166 66
119	T. J. Burrill	" "	166 66
120	S. W. Shattuck	" "	200 00
121	E. Snyder	" "	166 66
122	D. C. Taft	" "	166 66
123	J. B. Webb	" "	166 66
124	J. C. Pickard	" "	166 66
125	N. C. Ricker	" "	100 00
126	J. D. Crawford	" "	100 00
127	H. A. Weber	" "	120 00
128	C. W. Silver	" "	100 00
129	W. C. Flagg	" "	41 66
130	B. F. Johnson	" "	41 66
131	C. E. Patchen	" "	50 00
132	Lou. C. Allen	" "	120 00
133	F. W. Prentice	" "	100 00
134	A. C. Swartz	" "	60 00
135	I. O. Baker	" "	50 00
136	F. A. Parsons	" "	40 00
137	E. A. Robinson	" "	14 70
138	M. A. Sewell	" "	25 00
139	A. E. Barnes	" "	25 00
140	H. A. Mann	" "	50 00
141	A. C. Scribner	" "	30 00
142	E. L. Lawrence	" "	100 00
143	M. E. Lapham	Lumber	23 59
144	Fuller & Fuller	Glass, alcohol, etc	47 68
145	Johnes & Laughlins	Nails and iron	31 70
146	A. Snedaker	Castings	58 21
147	Wash. Anderson	Cleaning two wells	7 00
148	Kimbark Bros. & Co.	Hardware	19 64
149	Walker Bros.	Sawdust	2 50
150	Illinois Central R. R. Co	Freights, September and October, 1874	808 76

The walks and repairs authorized at your September meeting have been made, and other repairs as they were needed. The roof of the New Building and four of the down spouts, if not six, are not what are desirable. The roof in the last large snow storm leaked in many places and in all large rains the down spouts referred to do not seem to meet the demand.

The Old Mechanical Building which was repaired for a dormitory is fully occupied, but is not quite comfortable as the rain beats in at times. I recommend that that the building be weather boarded and painted. The expense of this is estimated at $150.

The Machine Shop has been profitably at work on custom work in greater part during the fall. It is now making a Thermometer Graduating Machine which is to be delivered by the 15th of Jan., 1875. It is for responsible parties with whom a written contract has been made. The price to be paid is $350.

The question has been raised as to the advisability of taking the Dry House of the Carpenter shop for a Blacksmith Shop for the Machine Shop, the present one being too small and inconvenient. I recommend that the change be made if the basis of it can be agreed upon by Profs. Robinson and Ricker.

ILLINOIS INDUSTRIAL UNIVERSITY, December 15, 1874.

The Honorable Board of Trustees:

GENTLEMEN—I respectfully ask that the Mechanical Department be allowed to make a change in the lumber dry-house and blacksmith shop arrangements.

The present dry-house proves too large for ordinary use, as I learn from Mr. Ricker, of the Architectural Department, who would prefer a smaller drying chamber. Also the smoke fumes from our forge and brass furnace which spread throughout the lower rooms of the building have *always* been a source of *great annoyance*, to say nothing of the greater danger from fire by having them in the Mechanical building.

Now if the present dry-house could be given to the purpose of a forge and brass furnace room, and a smaller and more serviceable drying chamber with dimensions, say 3x4x18 feet, placed close to the Mechanical building, on south side, between the two doors, both of these matters would be exceedingly more satisfactory. Hence the request above.

Estimated cost of these changes:

Lumber for dry-chamber, (1,024 feet,) oak and pine	$20 00
Nails, bolts, hinges, $4 25; felting, $2 00	6 25
Labor	14 75
Total	$41 50

If it should be thought necessary to tongue and groove the lining planks and batten same, this may cost, possibly $50.

Moving brass furnace	$8 00
Tiles for conducting air	2 00
Labor laying pipe and moving	3 00
Total	$13 00

The above figures will be, in effect, reduced by materials on hand in

Bolts, hinges and oak lumber, about	$12 00	
Pipe remaining by change from old to new dry house, about	15 00	
	$27 00	
Actual outlay		$13 00

Respectfully,

S. W. ROBINSON.

It is thought best to make a change in a partition in the Carpenter shop so as to have all of the machines in one room and most of the work benches in another.

The reasons for the change are to get more light at some of the machines and to make it possible to warm that part of the shop used for the Educational class. The estimated cost of the change is $45.

The Carpenter shop is now at work upon the tables for the Chemical Laboratory, which the Chemical Department desire to have completed as soon after the term as possible. I request that the two shops be permitted to continue their work into the vacation if necessary to complete the work engaged, or if profitable work presents itself.

The Recording Secretary has taken charge of the published annual reports of the University; shelving to cost $20 is needed for this purpose. A portion of the matting on the main stairway is badly worn, 64 sq. yards will be needed to replace it, to cost $40. A bell for the inside of the University Building is needed, the one in the tower not being heard often in the class-rooms. The cost of bell and placing it ready for use would be about $20.

The location of the small boiler used for pumping was found to be an inconvenient one in many respects. I engaged with Mr. Abbott of the Heating Company to change it to the boiler room at a cost of $45. The matter would have been laid before you for action before the change was made, except by having it done immediately considerable expense would be saved. The change will certainly be a good one and be the means of saving much dirt in the east part of the building. I trust it will be confirmed by you and the expense authorized. It can be met out of the State Appropriations. Prof. Webb requests fixtures in his recitation room to cost about $40. It is desirable to have them. The expense account handed in by him was necessary though not authorized, the same may be said of the bill for Chemical Apparatus handed in by Mr. Silver.

Your attention is called to the communication of Prof. Burrill stating the wants of the Horticultural Department for the next three months. I offer you also the Report made by the University to the State Board of Charities Sept. 10, 1874.

Respectfully submitted,

S. W. SHATTUCK,

Business Agent.

The report was laid on the table for the present. The Regent, Dr. Gregory, then read his report as follows.

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN—The unusual length of my homeward voyage prevented my being present at your September meeting and a communication, which I sent forward by mail, failed to reach you before your adjournment. I shall have, therefore, some matters to bring before you which should have been presented for your action at that time.

The term just closing has been as full of prosperity as any of its predecessors. The number of new students admitted is 106, and the average of their standing is somewhat higher than in former years. The whole number in attendance during the term is 350, which is a little less than the attendance of the corresponding term of last year. The financial panic, which began to affect educational institutions only after its influence had nearly expended its force on the business world, still lingers in the former, the difficulty of securing employment preventing many self-sustaining students from returning to study this year, and embarrassments of many families forbidding to send their sons. But these causes are already diminishing, and the indications now promise a larger attendance for the year, as a whole, than that of any former year. I count it as a certain fact that the numbers asking instruction here will steadily increase, as the rich facilities you have provided become more and more known till our utmost capacity is reached. Every visitor who comes to see us expresses his surprise at the extent and character of the institution, and often urges that a wider and fuller advertisement shall be made of the facts to the people of the State. The

SCHOOL OF DOMESTIC SCIENCE,

under Miss L. C. Allen, was opened, as you provided, at the beginning of this term and has already two classes of young ladies pursuing with much interest the special studies of the course. Miss Allen has also introduced some systematic physical and callisthenic exercises to promote the health of the female students, and is doing whatever she finds possible to secure to them "sound minds in sound bodies,"—a high and practical culture, in keeping with the high aims of the University, I lay before you, in paper marked "A," her request for additional apparatus for the Gymnasium, and for fitting up the toilet room, and cordially endorse them.

MECHANICAL DEPARTMENT.

I also commend to your favorable consideration the requests of Prof. Webber, for apparatus, to be found in paper "B;" also, for fitting up an additional laboratory room, paper marked "C." The work in this department is going forward with success, under the united charge of Professor Webber and C. W. Silver, teacher of Agricultural Chemistry. The need is becoming more and more apparent for a new laboratory building, which shall yield accommodations to the common Analytical Chemistry and to Agricultural Chemistry, to Metallurgy and to other technical applications of this broad and fundamental science. It ought to be kept steadily in view as one of the pressing wants of the University. Since your last meeting, a large amount of apparatus for the mining and metallurgical departments has been received from Germany, being a part of the apparatus ordered by you nearly two years ago. We have no room in the present laboratory for the accommodation and use of this apparatus.

THE VETERINARY STUDIES

Have been prosecuted under Dr. Prentiss, who was re-employed by your committee for this purpose. I present Dr. Prentiss' request—paper "D"—for a proper room for making directions and anatomical preparations of the domestic animals, and also from some stalls for animals to be received for treatment by the class. As the old veterinary building has been converted into dormitories, it seems necessary to erect a new and more convenient one, at some retired but convenient spot on the grounds, where the operations of this department may be carried on without annoyance to any one. A small building, with a single room, might be erected on the grounds, opposite the south dormitory buildings, for $150 or $200, with some stalls near at hand. If your funds will not admit the outlay, I believe an appeal to the legislature would be favorably received. A building for the permanent use of the department, with sufficient stalls, would cost from $500 to $1,000.

I also communicate Dr. P's request—"E"—for the purchase of one of Dr. Auzoux's celebrated *papier-mache* models of the horse, to be used in the study of veterinary science. To ascertain the cost more exactly of these models, I wrote to Dr. Auzoux, Paris, and a letter just received from him states that such are the demands upon him that he cannot furnish the model before next July, if ordered now, and that the price, including packing complete, 4,140 francs. This apparatus may seem expensive, but the importance of this department to our agricultural students and to the stock growing interests of our State will amply justify this expenditure. A model of this kind was one of the first purchases made for the veterinary department at Cornell University.

LIBRARY AND PERIODICALS.

I commnnicate a list of books made up from the several departments, to be purchased for the library. Many of them are needed at once and all are desirable at the earliest day practicable. The rich library of this University has been one of its most useful and most attractive features, and nothing would be more fatal to its future growth and prosperity than to let the library decline for lack of the fresh volumes which the active science and scholarship of the age is adding constantly to the stores of learning. Not less than $1,000 annually ought to be devoted to the purchase of books, exclusive of all other charges for library expenses.

Our subscriptions for periodicals is also just expiring and needs to be renewed. Paper marked "F" is the list of periodicals taken the past year with such changes as the professors in the several departments have desired.

WOOD CARVING.

The experiment in this branch oi art and industry made under your favor by Miss James, is meeting with a reasonable success. The teacher is paid entirely by fees paid by the class. The number of students in this class for the current term is four. A larger number have intimated

their desire to pursue it in coming terms. It is perhaps too early to judge of its full value either as an industry adapted to our circumstances or as a branch of education. Miss James proposes also to add water color painting the coming term, as there is a demand for this, and as it is a regular and necessaay part of the instruetion of the students of architecture. I submit whether some appropriation should not be made to promote this work as far at least as it is required by the students in regular courses now established.

THE ART GALLERY.

You are already aware that during the past vacation I visited Europe at my own expense, to make the purchases with the Fine Art fund so generously contributed by citizens of Champaign and Urbana. I am happy to inform you that my mission was even more successful than I had dared to hope, and that we are now in possession of one of the best collections of casts of celebrated statuary, and other sculptures, to be found in this country. A large part of these casts are now mounted in the nave which you consented to set aside for this purpose, and others are in New York on their way from Europe, while others are being manufactured for us at the government atelier of the Louvre in Paris. The entire collection will embrace more than 400 casts of all descriptions, including 13 large figures and groups of statuary, 30 reductions by machine of celebrated statues, 6 celebrated colossal heads and busts, 75 other busts ancient and modern, and a large number of bas-reliefs, alto-relievos, columns, architraves, pannels, and medallions, exhibiting ancient, mediæval and modern art by its greatest masters.

Besides these casts we have a large number of fine engravings, some of them very large, of celebrated paintings. Also nearly 100 large inalterable photographs from the noted establishment of Mr. Braun, of Dornach. These famous photographs are taken directly from the original paintings in the great national galleries, special permission having been given to Mr. Braun for this purpose.

This gallery, though still incomplete, and not open fully to the students or public, is beginning to excite much interest, and showing its power to influence all the departments of our work in which drawing is taught. The cost of the Gallery thus far is over $2,000, and this sum will be increased to nearly $2,500, all of which is to be credited to the liberality of the citizens of these cities, and may be taken as affording no doubtful evidence of the earnest good-will of the people of this county to the University itself. The Board of Trustees have not been asked for one dollar towards these purchases, but, as was proper, you provided for the necessary expenses of fitting up the hall itself for their reception. There remains a bill for a border paper, to put on the walls which I trust will be allowed; and, as I intimated to the Board at its spring meeting, we respectfully ask that the Board will meet the freights from New York, for which the donations by the citizens do not sufficiently provide. These freights thus far amount to $169 13. The freight of the boxes yet to come this winter will not exceed $50. If the donors give us $2,000 worth of art collections, delivered safe and free of charge in New York, it is not much for us to pay the freights from that point.

THE SCHOOL OF ARCHITECTURE,

Yet in its infancy, is attracting attention, and the number of students though still small is steadily increasing, and, if properly advertised, the school must ultimately become of great public value. The schools of this class in Europe have always in their course of instruction the modeling of architectural ornaments, etc., in clay. The exhibition of the modeling work of the polytechnic and art schools of Europe, at the World's Exposition, at Vienna, attracted a large amount of attention. The provision for instruction in this study can now be made without great difficulty in an experimental way, by a graduate of the Academy of Fine Arts, in Louvain, Belgium, now here, and ready to undertake this work on such terms as the trustees may propose. The importance of the work and the difficulty of obtaining at will a suitable teacher, render it extremely desirable that the qualifications of this gentleman be put to the test.

A SCHOOL OF DESIGNING OR OF INDUSTRIAL ART

Has been frequently mentioned in our reports and catalogues as one of the practical departments of our work, to be developed here at the earliest day practicable. The progress of our drawing classes, and the provisions already made for designing, in connection with other studies, as that of architecture and wood carving, and especially if this gentleman shall be employed, enable us at once to begin the work of this school. All that is required is the marking out a systematic course of study.

In this connection, I mention that we have received applications from several young men who are already experienced carpenters and mechanics, who desire to come here and take a special course in architectural drawing, to fit them to become more intelligent master builders. Their long absence from school will in most cases be found to have disqualified them for passing the ordinary examination even in the common branches. It is submitted whether the trustees may not authorize the introduction of a short builder's course in the School of Architecture, similar to that of the secondary Schools of Architecture or Builder's Academies, of Germany, with a lower grade of qualifications for admission than that required for a full course in architecture. No additional expense would be incurred by the introduction of this school.

THE SCHOOL OF AGRICULTURE

Has been reinforced by your appointment of C. W. Silver, a graduate of this University and of the Agricultural School of Halle, to fill the chair of Agricultural Chemistry. I have to report that the negotiations to secure the services of Dr. Miles for the chair of Agriculture again failed, though urgently pressed, and that chair is still left vacant. Mr. Silver, has, however, undertaken to give instruction also in the theory and practice of Agriculture, and thus to fill the gap for the time being, till a professor can be had.

Two measures are in your power which will add something to the efficiency of this important and leading department of the University:

1. To give to the Agricultural Chemist some means to institute and carry forward, under special scientific conditions, a series of carefully prepared experiments in his department, especially with fertilizers. These experiments would require some small plats of ground to be placed under his especial charge, and an appropriation from the Experiment fund for the purchase of such natural and artificial fertilizers as he might require. These experiments are of more purely scientific scope and character than the experimentation already provided for on the Experimental Farm.

2. The other measure is of a different, but scarcely less important character. It is to make provision for a regular course of lectures in Agriculture, to be given to the entire Senior Class of the University, male and female, partly by members of the Faculty and partly by distinguished Agriculturists and others. The almost universal extent of this great industry, the food-producing, life-sustaining industry of the world, will fully justify us in thus attempting to interest every graduate of the University, whatever their proposed business, in its grander facts and great leading principles. The course should aim to embrace a view of the fundamental facts and principles of Agriculture as a science and an art; of its great leading branches and their relations; of its larger public aspects as related to other industries and to national welfare, and of its history and foreign developments. The University will in this way multiply its influence over the agriculture of the country, and still more completely fulfill the grand purposes of the Congressional grant. A fund of $250 placed at my disposal for this purpose would probably enable me to secure the necessary outside aid for the course to the present Senior Class, embracing about 35 students.

In accordance with your instructions, I purchased in Paris, the past summer, for the Agricultural Chemist, a large and powerful microscope, and some fine balances, and they are already here, in good condition.

I lay before you a communication ("F") from Prof. Burrill respecting some additions to the cabinets and illustrative apparatus for the School of Horticulture. I know too well your desire to promote the interests of this department to feel any need of argument to induce you to give favorable consideration to this request.

And in this connection I take pleasure in laying before you a communication from Mr. Riley, State Entomologist of Missouri, whose services might now be obtained permanently for this institution. Mr. Riley has exhibited an industry and talent in his department which has won him, though still a young man, a most enviable reputation in his department.

LEGISLATIVE APPROPRIATIONS.

The State Board of Charities have asked your wishes in regard to appropriations to be asked from the coming Legislature. In the absence of any recommendations from you, I gave them the following:

1.	Taxes on lands	$6,000
2.	Agricultural and Horticultural experiments	3,000
3.	Library cases and additional furniture	2,500
4.	Geological cabinet and ores	2,500
5.	Physical Laboratory	1,000
6.	Art Museum	1,500
		$16,500

ELOCUTION.

The study of elocution is now pursued here by the efforts of a voluntary teacher paid by the fees she charges. This teacher, Miss Jennie Bryant, is proving a most excellent and popular teacher, and has inspired such an interest that she has five daily classes of voluntary students who pay for their instruction. The students of the third and fourth years are now required by the Faculty to deliver original orations at the morning chapel exercises, two each morning. I recommend that Miss Bryant be employed to train the students for these and other public elocutionary exercises required of them. The time demanded of her will be at least one hour a day for the ordinary daily work and something more for the training for commencements and other public occasions. $20 a month is suggested as such pay.

I must also beg your indulgence in bringing before you the labor system. You are already familiar with the history of this system. At an early day the compulsory labor was abandoned chiefly on account of the inability of the University to provide a sufficiency of employment for the increasing number of students. But still as much labor as possible was provided and the students were encouraged to join the labor classes. Goodly numbers have been found who desired employment for their leisure hours. Nearly all of the ordinary work about the building and grounds has been and is still performed by student labor, and many students thus pay their expenses in part or wholly. Many others find employment in the shops and thus pay their way. In addition to this paid labor, there has been introduced into several of the technical deparments, a system of educational labor, consisting of shop practice in the machine and carpenter shops, full practice in engineering and grafting, and nursery and greenhouse work in Horticulture. This work should be extended to other departments as fast as practicable.

Thus far labor has been maintained in its due place of honor here, and a sound and healthful public sentiment has existed among the students, recognizing its vast public necessity and utility, its importance as an element of personal success, health and happiness, and the great fact too often unknown or forgotten that its usefulness and nobleness are inherent, its degradation only accidental.

I urge your continued attention and fostering care to this feature of our plan, because it is evident that the constant tendency will be to drift away from labor both in sentiment and practice into old ruts and channels. I predict that whenever the trustees and officers of this University shall cease to give their active and hearty support to the right and just opinions and practice here, the false and pernicious views of the labor question which too largely possess society at large will also gain currency here, and will prove when they come a serious obstacle to the best success of our great special work.

Two main argumenis for a good labor system ought never to lose their force with ourselves or our successors:

1st. The powerful influence that actual labor will exercise over the practical departments, not only in giving interest, directness and practical force and value to the studies, but also in giving a notable prominence to these departments themselves which otherwise they may fail to hold in coming times.

2d. The value of a labor system as a means of bringing education within the reach of many worthy students who must win their education by their own efforts or go without it. We have always had an unusual number of such students here, and it has been our policy to afford them all the aid possible by giving them employment.

I see as yet no solution of the difficulty of providing a full supply of labor, but ought we not to hold this in view as one of the great ends to be attained in every arrangement for the work on our farms, gardens and grounds, and in our shops, buildings and everywhere? Doubtless the work

can usually be done most cheaply and successfully by regular laborers working continuously, and needing but little supervision, but I believe the legislature and people will prefer to see less profit from our various departments, and more employment of our students even at some sacrifice.

J. M. GREGORY, *Regent.*

The following bills were audited and allowed:

Table "D."

No.	To whom.	For what.	Amount.
151	Champaign & Urbana Gas Co	Gas bill for November, 1874	$94 00
152	G. W. Flynn & Co	1,000 programmes	10 00
153	H. Swannell	Chemicals	15 47
154	J. Müller	Glazing	6 75
155	Enterprise Coal and Coke Co	Thirteen cars coal	191 00
156	U. S. Patent Office	Patent Office reports	20 00
157	Crane, Breed & Co	Fireman's salary, November, 1874	51 40
158	Kimbark Bros. & Co	Hardware	5 98
159	Webster, Davies & Co	Lumber	28 05
160	A. Snidaker	Castings	43 32
161	Trevett & Green	Hardware	14 28
162	Dodson & Hodges	Hardware	63 26
163	E. L. Lawrence	Farm expense, November, 1874	224 28
164	A. Brown	Furnishing and plastering cistern	9 75
165	W. S. Maxwell	Paints, oils, etc	21 72
166	Allen Mackey & Co	Four yards velvet cuttings	5 55
167	Jones & Laughlins	Iron	22 90
168	Fuller & Fuller	Glass and chemicals	7 83
169	Fuller & Fuller	One barrel plaster paris	4 38
170	Illinois Central Railroad Co	Donation freights for November, 1874	253 80
171	S. W. Shattuck	Students' pay-roll for November, 1874	330 08
172	S. W. Shattuck	Petty expenses for November, 1874	17 98
173	E. N. McAllister	Postage	11 42
174	J. B. Webb	Expense for Engineering Department	15 14
171	Mechanical Department	Work for other departments	114 23
176	Architectural "	" " "	253 20
177	Agricultural "	" " "	458 91
178	Experimental Farm	Corn and potatoes for Agricultural Department	94 40
.....	Margnart & Co	Glass apparatus	7 58

The Business Agent's report was taken up. The matter of repairing the roof of the new building was referred to the executive committee with power to act, also that of side-boarding and painting the old mechanical building. Seventy-five dollars were appropriated for changing the old dry house into a forge furnace-room, and for a new smaller dry house; to be charged to the respective departments.

The proposed change of partition in carpenter shop was authorized, and $45 appropriated, chargable to the carpenter department. Matting for the halls was ordered to be purchased to the amount of $40—from incidental expense; also, $20 for a call bell in New University Building.

The action of the Business Agent, in regard to moving the small boiler, was approved. An appropriation of $15, for apple and pear stocks, and $20, for purchase of seeds and plants for spring, was granted, to be charged to the Horticultural Department.

A table was ordered to be purchased for the Regent's office, not to exceed $20. An appropriation was made for the Chemical Department of $123, for fitting up the old library for additional laboratory, and $146 80 for the purchase of chemicals.

The request of Dr. Prentice, for place for dissecting classes, was referred to Mr. Gardner and Business Agent.

Adjourned till 9 o'clock A. M., December 16, 1874.

DECEMBER 16, 1874.

The Board assembled at 9 o'clock.

Prof. Webb's request for sundry needs in the Engineering Department, was referred to the Regent and Business Agent, with power to act, and an appropriation of $20 was granted.

Mr. D. Gardner made a report in regard to certain bills to the amount of $140 72, due Mr. Peacock, of Champaign; in accordance with his recommendation the bill was audited and ordered to be paid.

The request of Judge Cunningham, for exchange of securities, not granted.

The account of Judge Cunningham for services, was referred to Mr. Gardner to settle.

The report of Head Farmer Lawrence was read and accepted. He was authorized to sell certain blooded stock recommended in his report.

To EMORY COBB, ESQ., *President of the Board of Trustees of the Illinois Industrial University:*

SIR—I herewith present a statement of the operations of the Agricultural Department for the nine months ending November 30, 1874. In doing this I find it necessary to pass over a report made Sept. 1, as at that time the crops were in such a state that it was necessary to make estimates, rather than to state facts, which could not be ascertained, and go back to the annual report of March 1.

It may be well, in passing, to state where the difference is which makes this statement of profits vary from the estimated profits of the last report.

In the report of September I estimated 68 steers to be worth $4,000. To make this amount, I allowed that 35 head then ready for market would bring 6¼ cents a pound in Chicago. The second week in September the cattle were ready and the price satisfactory, but as our county fair was in operation, I could not leave. The week after, desiring to go to the State fair, the cattle were neglected, and the next week the market broke and has not yet recovered. I sold, October 2, for 6 cents. This accounts for $110 of the difference. The remainder, $127 44 will have to be accounted for by the crop of corn not coming up to my expectations.

I am able to report a balance of profits on every crop raised, and on every operation except a loss of about $80 in grass seed sown, all of which was lost. This loss does not show itself in this report, but will have more of an influence on next year.

For an account of the expenses of the year, see paper marked "B." The item of "Cost of labor and board, $2,445 84." seems large, but nearly half that amount comes back in "Credits from other departments." For statements in detail of expenses, see vouchers on file in the Business Agent's office and numbered from 1 to inclusive.

For an account of sales and credits see paper marked "B." The credit from other departments has not all been audited by the Board, only that made up to Sept. 1. The items to make this amount will be laid before you.

In the report of September 1, permanent improvements were accounted for to the amount of $568 34. At that time a voucher for $59 80 was overlooked, this was for lumber. It is now added. For a description of improvements since added see paper marked "C." All the improvements have been made on the Experimental Farm. It will be seen that $75 is allowed for seeding pasture. Ordinarily this should come under the head of current expenses, but as there was no grass on the Experimental Farm, from which a profit could be made this year, a fair statement of the the year's profit could not be made by leaving this out. It must be classed the same as the fencing. The pasture was seeded in the spring to timothy and clover, which failed, in September timothy and rye were sown.

Nine hundred dollars is charged for care and keeping of the blooded stock. This is in accordance with an agreement made three years ago. That this stock was to be kept and the wages of one man allowed to care for them, and the department was to have credit for what they consumed, &c. $12 was paid for advertising the Ayrshires for sale, and about $6 for halters and bull rings. The receipts from the stock has been as follows:

From sale of Devon calf	$40 00
" Short-horn cow	200 00
" Ayrshires	250 00
From premiums	66 00
" Bull service, cash	36 50
" " " credits	150 00
Total	$742 50

Of this amount $592 50 has been received and paid over, but is charged back to the department in the account shown on the paper marked "A" and the amount of $150 is shown in the inventory on one side and charged back with the other.

The paper marked "D" shows the cost and value of the different crops.

The experiments directed by Mr. Flagg were all undertaken and carried out as near as the season would admit, together with a view suggested by myself, all of which will be shown in the report of Mr. Johnson, Superintendent of Experiments. I would call your attention to the fact that there has been no provisions made for giving the Agricultural Department credit for the time of the Head Farmer spent in superintending the field work of the experiments from March to September. Whether or not, a part of the salary paid the Head Farmer should be charged over to experiments, is not my province to decide. Had the season been such that we might have accomplished more, I could have with a better grace asked that this might be done. Considerable time was also spent in directing and assisting in the work of grading the grounds about the New University Building, for which no charge has been made.

At the close of last year there was found a balance in favor of the Stock Farm of $897 85, after paying all expenses and for all improvements. Taking this into the account and charging back to the farm the permanent improvements made the present year, gives a balance of $1,562 73 to be carried to next year. As will be seen from the following statement there is also a surplus of $1,340 in the present inventory above that of March 1st.

Total expenses including improvements	$7,018 57	
Cash and Credit by blooded stock	742 50	
Balance found (to go to next year)	1,562 73	
	$9,323 80	
Balance from last year		$897 85
Cash receipts and credits		7,525 95
Keeping blooded stock		900 00
		$9,323 80

REVIEW OF THE SEASON.

I took charge of the work on the Experimental Farm, by direction of the Board of Trustees March 16th. At this time the extra help needed was not engaged, and it was near the close of the month before the whole force was in working order. I had fears that we would be late with our work but spring proved so favorable that the lost time was soon gained. I think it a matter of vast importance to always be in season with all farm work, "drive the work" and not let the work drive you, is a good motto. We commenced planting corn May 1st and commenced haying June 18th and finished before any of the crop was too ripe. The rye, oats and wheat were cut early, thus giving the best quality of straw. The chinch bug injured some of the corn on the Experimental farm but none on the stock farm. I think the stocking of farms heavily, and giving cattle and horses the range of the whole farm in the fall and winter, will be found the best preventive of depredations of this pest. They will be eaten out of "house and home" and trodden to death in the bargain. In the four years that I have had charge of this farm chinch bugs have scarcely made a show, which I attribute to the fact that they have been kept in check by keeping the farm well stocked.

Taking all things into the account, I am gratified with the result of our labors during the past year. The land is in the best possible condition for the next crop. All the manure on both farms has been hauled out, and a large amount has been hauled from the city. More fall plowing has been done than formerly, and we have all the experience of former years, in failures as well as success, as reserve capital, to use as the case may demand.

In closing, I would express my appreciation of the interest taken by yourself and other members of the Board of Trustees in the welfare of the Agricultural Department.

All of which is respectfully submitted.

E. L. LAWRENCE,
Head Farmer Illinois Industrial University.

P. S.—Since the date of this report two Short-horn heifers have been purchased for $285. This purchase was made more as an investment from which to realize, than with a view of having something to show as a representative of the breed. The latter is still needed, and the fund set apart for that purpose is yet sufficient to purchase something more desirable. A yearling Ayrshire bull has been sold for $40, and a Jersey calf (bull) for $50. E. L. L.

INVENTORY OF SALABLE PROPERTY.

Dec. 1, 1874	33 steers, 35,530 lbs., 4c	$1,421 20
	46 hogs, 7,630 lbs., 6c	457 80
	30 shoats, $5	150 00
	9 breeding sows, $15	135 00
	28 pigs, $1,50	42 00
	1 boar	15 00
	1,100 bushels corn, 50c	550 00
	400 shocks corn, 75c	300 00
	60 " " 50c	30 00
	60 tons of hay, $11	660 00
	400 bushels of wheat, 80c	320 00
	20 tons of straw, $4	80 00
	3 tons of bran, $17	51 00
	3 tons of beets, $8	24 00
	⅛ acre of parsnips	30 00
	75 bushels of potatoes	75 00
	1 cow	60 00
	1 young colt	40 00
	10 acres of rye	30 00
	100 bushels of oats, 45c	45 00
	10 cider barrels	10 00
	1 pair of colts	300 00
	Accounts	410 26

1 short horn bull	200 00
1 Hereford bull	150 00
1 Jersey bull	100 00
1 Hereford cow	50 00
1 Devon cow	75 00
1 Devon calf	25 00
1 Jersey cow	150 00
1 Jersey heifer	125 00
1 Ayrshire bull	50 00
2 calves, Jersey and Ayrshire	80 00
	$6,241 26

Table "B."

AGRICULTURAL DEPARTMENT,

In Acct. with Illinois Industrial University.

1874	Dr.		
Dec. 1	To balance (inventory of March 1874.)	$3,896 26	
	" purchase of stock cattle	1,588 30	
	" " " lumber	284 95	
	" " " feed, bran, etc	137 24	
	" cost of labor and board	2,445 84	
	" " 1 set harness	37 00	
	" " 1 grass seed sower	3 00	
	" 1 horse hay-fork and pulleys	12 00	
	" 620 fence-posts	62 00	
	" cash for hardware	87 44	
	" " threshing	49 30	
	" oils, paints, drugs, glass, etc	12 94	
	" repairs and shoeing	106 17	
	" 5 bbls salt	12 15	
	" seed wheat and oats	57 47	
	" timothy and clover seed	47 95	
	" Illinois Central R. R., freight	98 77	
	" accounts of other departments	1,052 35	
	" sale of property not inventoried	78 00	
	" receipts from fine stock	592 50	
	" accounts " " "	150 00	
	" 9 months' salary	900 00	
	" unenumerated expenses	23 70	
		$11,735 33	
	Cr.		
	By sales of fat cattle		$4,033 25
	" " " corn		256 18
	" " " potatoes		15 75
	" " " pasture		85 00
	" " " hay		332 44
	" " " old horses		78 00
	" " " rye		257 68
	" " " oats		52 35
	" " " hogs		581 30
	" " " blooded stock		490 00
	" cash premiums		76 00
	" " for bull service		26 50
	" credits other departments		1,218 14
	" permanent improvements		807 24
	" care and keep of blooded stock		900 00
	" sale of unenumerated articles		13 36
	" inventory of property on hand		5,236 26
	Balance found	$2,734 12	
		$14,469 45	$14,469 45

"C."—PERMANENT IMPROVEMENTS.

Lumber for barn	$47 60
Nails "	4 50
Work—1 door, 4 bins and 500 feet sealing	20 00
Four days ditching, two men and team	17 00
Making road	9 00
Two days gathering stone	6 00
Seeding pasture	75 00
In last report	568 34
Added lumber voucher	59 80
Total	$807 24

"D."—STATEMENT OF COST AND VALUE OF FARM CROPS.

BEEF CATTLE.

To inventory of March 1, 1874	$2,393 26	
" cash paid for stockers	1,588 30	
" 940 bu. corn, 40 cents	376 00	
" 7 months pasture	493 50	
" 10 tons hay (old crop)	60 00	
" straw	20 00	
" labor (estimated)	50 00	
" freight	93 60	
Balance	379 79	
By cash sales		$4,033 25
" inventory December 1		1,421 20
	$5,454 45	$5,454 45

CORN.

To inventory March 1	$220 00	
" purchases	913 09	
" cost of 115 acres in crib	805 00	
Balance	750 00	
By corn on hand		$880 00
" sales for cash		256 18
" 940 bu. fed to steers, 40 cents		376 00
" amount fed teams		320 00
" " " hogs		656 91
" " " blooded stock		149 00
" value of stalk field		50 00
	$2,688 09	$2,688 09

25 ACRES RYE.

To harvesting, $3	$75 00	
" stacking, $1	25 00	
" threshing 390 bus., 10c	39 00	
" marketing	8 00	
Balance	122 48	
By 330 bus. sold		$257 68
" 45 bus. sowed, 78c		35 10
" 15 bus. ground and fed, 78c		11 70
" value of straw		40 00
	$344 48	$344 48

30 ACRES SPRING WHEAT.

To seed, 45 bus., $1	$45 00	
" putting in crop	60 00	
" harvesting	75 00	
" stacking	30 00	
" threshing 400 bus., 10c	40 00	
Profit	95 00	
By 400 bus. on hand, 80c		$320 00
" value of straw		25 00
	$345 00	$345 00

16 ACRES OATS.		
To cost	$136 00	
Profit	20 75	
By 100 bus. on hand		$45 00
" 114 bus. sold		52 35
" 86 bus. fed		34 40
" value of straw		25 00
	$156 75	$156 75
120 ACRES MEADOW.		
To hay as per inventory March 1	$179 00	
" cost of new crop	409 00	
Profit	759 44	
By amount on hand		$660 00
" sales (this includes $135 in item of accounts)		467 44
" fed stock		220 00
	$1,347 44	$1,347 44
HOG CROP.		
To inventory of March 1	$412 00	
" corn	656 91	
" pasture	20 00	
Profit	293 34	
By cash sales		$582 45
" inventory		799 80
	$1,382 25	$1,382 25
120 acres pasture	$528 00	
$1,218.14 outside work, 33⅓ per cent	406 04	
Keeping blooded stock	179 28	
Beets, potatoes, parsnips, etc., etc	100 00	
As before shown—Cattle	379 79	
" " Corn	750 00	
" " Rye	122 48	
" " Wheat	95 00	
" " Oats	20 75	
" " Hay	759 44	
" " Hogs	293 34	
Balance found, see statement "A"		$3,634 12
Salary of Head Farmer		900 00
	$3,634 12	$3,634 12

The representative of the firm of Crane, Breed & Co., presented his claim for balance of payment on heating apparatus, the time for testing having expired Dec. 22, 1874. After enquiring into the working qualities of the apparatus, and evidence having been presented of the full satisfactory working of same, it was voted that the retained 20 per cent. on contract amounting to $3,465 be paid, the apparatus be accepted, and warrant be drawn on State Treasurer for the amount.

Mr. B. F. Johnson in charge of agricultural experiments made his report of the experiments of last year, and the plan for continuing and enlarging the same for next year.

To EMERY COBB, ESQ., *President Board of Trustees, Illinois Industrial University:*

SIR—The undersigned having been put in charge of Farm Experiments, Sept. 1, 1874, found the following programme laid down by Mr. Flagg:

1st. To ascertain the comparative value of Plats, this being the fourth year, by planting corn on 72 plats, 2x4 rods each without manure; with a future view of testing fertilizers.
2nd. Planting 40 varieties of corn.
3rd. Testing the value of different depths of plowing and of no plowing.
4th. Testing comparative value of No. of stalks in a hill.
5th. Root pruning the corn crop, either by spade or plow.
6th. Common and extra collection.
7th. Different widths of rows in hills.
8th. Different widths of rows in drills.
9th. Planting varieties of potatoes.

In addition to these, Mr. Head Farmer Lawrence had made the following experiments:

1st. With Spring wheat. In the preparation of the seed, one-tenth of an acre for each test, the seed being prepared in the following manner: *a*, soaked in a strong solution of blue vitriol (sulphate of copper); *b*, seed moistened with water, and then rolled in plaster of Paris; *c*, soaked in a solution of common potash; *d*, soaked in a solution of common soda; *e*, soaked in manure water from barn yard: *f*, one barrel leached ashes applied to the land; *g*, no preparation in any way; *h*, one-half a bushel of salt sown broad cast on the plat; *i*, seed sown at the rate of one bushel to the acre, the other plats having been sown at the rate of one and one-half bushels.

2d. To try how much corn could be grown on an acre with extra preparation and cultivation.

The above embrace the experiment ordered by Mr. Flagg and undertaken by Mr. Lawrence.

I have, with the advice and assistance of Mr. Lawrence, put the following experiments in train:

1st. Sowing six varieties of winter wheat; one variety of winter rye, and one of rye and wheat mixed (*metis*).

2d. Fall planting of potatoes.

3d. Experiments in feeding stock. *a*, Feeding breeding sows and keeping an account of the food and the weight, both of the original stock and the increase, so as to ascertain the cost in corn from beginning to ending; *b*, to test the relative value of the fattening qualities of the different breeds; *c*, to test the relative value, on young cattle, of ear corn and wheat bran, fed with wheat and oat straw.

In addition to these experiments, something has been done in the way of fall plowing, and hauling manure from town to prepare for the coming spring.

The results of these different untertakings, so far as ascertained, have been as follows:

In regard to the corn experimeuts of Mr. Flagg, the excessive drought and chinch bugs rendered them almost valueless. Notwithstanding, it is thought best to report in detail, what the results were. For outcome of experiments with 72 plats, see table marked "A," attached to this report.

As for Experiment No. 2, "Varieties of Corn," from causes stated, no conclusion could be drawn as to value of different varieties.

Experiment No. 3. The comparative results of different depths of plowing, 100 being the unit, was found to affect the yield of corn per acre, as follows:

Not plowed	100
Plowed 3 inches	160
" 5 "	177
" 9 "	183
" 9 " and subsoiled to 16 inches	170

Experiments Nos. 5 and 6, relating to number of stalks in a hill and to root-pruning, might mislead if reported, on account of the disturbing causes above referred to.

The result of Experiment No. 6, as to comparative value of common and extra cultivation of the corn crop were as follows:

½ half acre cultivated 5 times, gave 715 lbs; ½ half acre cultivated 3 times, gave 562 lbs; the results being 22 per cent. in favor of extra cultivation.

The outcome of experiments No. 7 and No. 8 may be classed with Nos. 4 and 5.

For result of 9th experiment viz: planting varieties of potatoes, see table *B* attached to and made a part of this report.

Mr. Lawrence's experiments in preparing seed for sowing resulted as follows: At harvest the appearance of the plats were so nearly alike that three only were reserved and threshed specially. Plat *F*, "ashes applied," yielded at the rate of 10 50-100 bushels per acre. Plat *G*, "no preparation," gave 10 33-100 bushels per acre. Plat *I* "seed sown at rate of 1 bushel per acre," gave yield of 9 33-100 bushels.

In regard to experiment No. 2, as to "how much corn can be grown on an acre with extra preparation and cultivation," the following notes were made at the time by Mr. Lawrence. Previously let it be stated, however, that the land was tile drained, and heavily manured from the stable the previous winter: April 30, plowed 6 inches and harrowed; May 1, planted ½ bu. of Thomas corn in drills, north and south, four feet apart; May 9, harrowed; May 21, harrowed again; May 25, cultivated; May 27, hoed; June 5, thinned to from 8 to 12 inches in row, corn stands 1 foot high; June 17, hoed, corn stands 3 feet high; June 25, corn 5½ feet high, very dry; June 27, rows average 190 stalks to 166 feet; July 1, corn stands from 6½ to 7 feet, the uppermost blades and portions of the tassels are wilting and turning white; July 26, cultivated and laid bye, heat and drought excessive, and prospects discouraging; September 1, fully ripe and dry; September 20, gathered and found yield to be 41 bushels. Up to June 25, the prospect could not have been better. Though not too thickly seeded for a summer like that of 1872—in such a season as that of 1874, one-half the stand would have yielded considerably more.

Coming down to the operation of the undersigned, the experiments in sowing wheat and rye were as follows: Six varieties of winter wheat, consisting of Seneca or Clowsere, Drehl and Sappahannech, (white) and Treadwell and Fultz, (red) having been obtained from New York, together with one variety of swamp or Mediterranean, (red) from Indiana, and donated by Mr. James M. Parker, of Champaign, were one-half bushel each, sown on three-tenths of an acre of corn stubble, which had been cleaned off and thoroughly harrowed, but not plowed. It was sown in drills September 21st, immediately thereafter rolled, and notwithstanding attacks from Chinch bugs during dry and warm weather, in October, is looking promisingly at this date.

October 10—Experiments were made to arrest the ravages of this insect, by means of Paris Green, more with the expectation that its effects would show themselves during spring and summer growth, than that they would be immediately apparant.

The one-half bushel of rye sown was that known as White Rye, and obtained from abroad, partly for the purpose of securing a change of seed; and the sowing of the bushel of half and half, each of rye and white wheat, the gift of Mr. John Busey, of Champaign, was undertaken to show whether or not, as it has been frequently claimed, that under certain circumstances, both wheat and rye do better in each other's company, than either separately.

The experiment in "fall planting potatoes," was begun Nov. 17, on a few rods square only, the Early Rose and Peach Blow being the varieties planted. This experiment was undertaken for the purpose of testing, under our climate and on our soils, a method of cultivation much in use in continental Europe, and from which the best results have been obtained.

As to Experiment No. 3, "with breeding sows," no satisfactory result is expected to be obtained within the year.

One of the feeding experiments has resulted as follows: Two Poland Chinas and two Berkshires, a sow and farrow of each, were put into separate pens Oct. 1, 1874:

Weight October 1 of Polands.....185 lbs the pair.
" " " Berkshires.....183 " "
" December 1 of Polands.....220 " "
" " " Berkshires.....230 " "

Corn consumed in 61 days:

Poland Chinas.....8 13-100 bushels.
Berkshires.....3 89-100 "

Polands on 8 13-100 bushels made.....145 pounds.
Berkshires " 3 89-100 " " .....48 "

Polands 1 bushel of corn made.....17 83-100 pounds gross.
Berkshires " " " " .....12 34-100 " "

Polands farrowed.....May 8, 1874.
Berkshires " .....April 15, 1874.

These pigs were fed on corn of present year's crop, gathered October 1st. It was of average quality for the season, 80 pounds in the ear having been taken for a bushel, that being the market weight at the time. The corn was placed in separate bins for each pair—the Polands consuming the whole of theirs, and the Berkshires about one-half only, the balance uneaten being weighed back, after drying, at the rate of 75 pounds to the bushel.

The Poland barrow was killed and dressed December 1, having a live weight of 175 pounds, at 207 days old, and dressed 134 pounds, shrinking 41 pounds, or 23 4-10 per cent.

While it is the province of the persons in charge of experiments to state facts only, perhaps it may be well to caution the reader not to draw definite and final conclusions until this experiment, as well as others, has been repeated and extended.

The experiments projected for the coming year will be submitted in another report.

And now, then, this is respectfully submitted to the Board of Trustees.

B. F. JOHNSON,
In charge of experiments.

CHAMPAIGN, ILL., December 1, 1874.

Table A.

ROAD WAY.

	A	B	C	D	E	F		
13	115 24	80 22	75 29	70 28	50 18	60 14		Lbs. Stalks. " Corn.
12	157 59	160 56	125 52	105 38	180 45	100 36		Lbs. Stalks. " Corn.
11	168 76	170 89	192 76	180 62	105 60	130 47		Lbs. Stalks. " Corn.
10	168 69	207 67	175 61	165 65	180 48	120 41		Lbs. Stalks. " Corn.
9	175 68	145 56	165 56	175 64	200 59	130 51		Lbs. Stalks. " Corn.
8	150 53	160 53	150 50	215 57	135 48	100 38		Lbs. Stalks. " Corn.
7	153 55	110 32	120 51	140 35	130 44	170 30	ROAD.	Lbs. Stalks. " Corn.
6	160 53	125 46	150 52	145 31	115 32	140 28		Lbs. Stalks. " Corn.
5	125 48	130 41	115 37	120 41	115 38	90 29		Lbs. Stalks. " Corn.
4	127 40	122 38	70 17	90 26	100 37	110 33		Lbs. Stalks. " Corn.
3	125 47	100 40	90 28	95 30	100 26	145 41		Lbs. Stalks. " Corn.
2	110 28	95 31	95 26	100 37	98 36	135 36		Lbs. Stalks. " Corn.
1	105 35	90 38	140 31	125 42	120 38	135 52		Lbs. Stalks. " Corn.

Table B.

No.	Variety.	Part of an acre.	Yield.	
			Lbs.	Bushels per acre.
1	Peach Blow	1-100	16	26.66
2	Rough and Ready	"	28	46.66
3	Orono	"	23	38.33
4	Calico	"	18	30.00
5	Nameless No. 5	"	73	121.66
6	Snowball	"	12	20.00
7	Napoleon	"	24	40.00
8	Davis Seedling	"	5	8.33
9	Massasoit	"	22	36.66
10	Nameless No. 4	"	13	21.66
11	White Mountain	"	34	56.66
12	Early White	"	53	88.66
13	Nameless No. 2	"	27	45.00
14	Early Indiana	"	68	103.33
15	Nameless No. 1	"	33	55.00
16	Del Nel (?)	"	35	58.33
17	Early Goodrich	"	14	23.33
18	Flake	"	36	60.00
19	Early Doasman	1-200	14	46.66
20	Early Don	"	8	26.66
21	Seedling Rock	"	8	26.66
22	Early Sovereign	1-100	16	26.66
23	Nameless No. 3	"	25	41.66

The above 23 varieties were planted the 23d of May, on low, black prairie soil—were plowed three times, hoed once, and bugs kept off by Paris Green, applied twice. Distance of rows, three feet 10 inches, and 18 inches in the row. Two pieces were planted, of the usual size, in each hill. To the excessive heat and drought must be attributed the meagre yield.

FARM EXPERIMENTS.

To HON. EMORY COBB, *President of the Board of Trustees of the Illinois Industrial University:*

SIR—At your suggestion made at the last meeting of the Executive Committee, I have prepared an outline of a programme of farm experiments, together with an estimate of expenses for seeds and labor, with the expectation, however, that the Board of Trustees will alter and amend, and perhaps reduce both in number and extent.

Members of the Board should fully endorse the plan here laid down. It is quite probable that better advice and further information, together with season circumstances and accident, might absolutely require a material modification of it before the time had arrived to put it in operation.

I have put the Farm Experiments under seven heads, namely: 1, the Cereals; 2, the Clovers and Grasses; 3, the Industrial and Commercial Plants; 4, Roots; 5, Vegetables; 6, Manures and Fertilizers; 7, Feeding.

And first of the cereals, in the order of the alphabet, I name Barley.

Though grown far north in this country and much further south in southern Europe and northern Africa, as a winter crop, however, barley, in this latitude, is a very doubtful one.

Being the earliest of the Cereals, it is first attacked by chinch-bugs, and from some unexplained causes, on our rich soils, it is very liable to rust, blight, and fall down before maturity. For the purpose, then, of trying to succeed with Barley—and if we do not succed, to learn the reason why—I propose employing seed obtained from abroad to sow—

One acre 4-rowed Barley.

One acre 6-rowed Barley.

Buckwheat is also a very doubtful crop, partly, it is believed, because it is sown too late in the season to germinate successfully. It is proposed to try one acre each of two leading varieties, and anticipate the usual time of sowing by one or two weeks. I put down these—

One acre common Buckwheat.

One acre silver-hulled Buckwheat.

Next in order, but first in importance, is Corn, for which I have laid down the following rather liberal plan:

1. One-half an acre each of the large varieties from South America, introduced by the way of France—the Caragua and the Curco. The Caragua is quite unlike any variety we cultivate, and is, where known, greatly preferred for sailing. The Curco is a giant kind; and if we should succeed in crossing it with home grown ones we might invigorate and enlarge our own varieties by an infusion of new blood from abroad.

2. To obtain from a single acre the largest possible yield, and in order to do so, spare neither manure, labor, nor watchfulness.

3. In a patch of five acres, to give every alternate eight or ten rows deep and thorough cultivation from the start, to be continued up to full maturity of the plants, and giving the other alternate rows, of an equal number, the common cultivation of the country, and "laying by" at the

usual time. It is an unsettled question among farmers, whether corn should be laid by after two or three plowings, and before the ear and tassel begin to show, or whether cultivation should be continued through the whole growth of the plant. To help to settle this question this experiment is proposed.

4. Five acres to be laid off in alternate rows in a similar manner to the above, and one-half laid by with earth thrown to rows and roots, and a high ridge left in the middle, by use of a single-horse turning plow, or a large single shovel; and the surface of the other alternate rows left as smooth and level as possible.

5. Five acres more to be divided in a like manner, to one-half of which shall be applied deep and to the other half shallow cultivation during the season.

6. To plant 1½ acres more or less with four or five of the largest and best varieties, of as many kinds and colors, and from the product to select, for next year's seeding, the best and largest ears regardless of color or complexion; and continuing the experiment so as to ascertain, if possible, what the true tendency is in color, size, and quality, when nature makes the selection.

7. To plant one or more acres as remote as possible from other cornfields with one of the best kinds common to the country to test if it is possible to maintain one kind or variety in a pure state.

Why experiment should be made with one or more kinds of Spring Rye, two or more kinds of Spring Wheat, and twice that number of kinds of Oats, it is hardly necessary to give a reason for. Spring Rye, in this State, is rather a rare crop. Spring Wheat in Central Illinois, to say the least, is a doubtful one; while Oats are second only in importance to Corn. To render a rare crop more general, a doubtful crop more certain, and to attempt to improve a crop that is popular, general and profitable are certainly proper subjects for Farm Experiments.

Clover and Grasses. The drought of last summer taught us the imperative need there is of some one or more forage plants which will stand drought and furnish pasturage or green fodder during the extreme heat from July to September. Alfalfa and Lucerne clovers, for they are different, the first having been naturalized in Chile and introduced thence to California, and the other is from France and the south of Europe, promise better for the purpose than any I find recommended; and I therefore suggest trial be made, and alternate strips sown on the rye field southwest of the University. And in addition to these, the other grasses named below—

One acre (more or less) Alfalfa or Chile Clover.
One acre " " Lucerne or French Clover.
One acre " " Italian Ray Grass.
One acre " " Orchard Grass.

This rye field having a low and rich soil, which is at the same time well tile-drained, is recommended for these clovers and grasses, since those of them very tender while young would be less liable to burn out in summer and thaw out and chill out in winter than if sown on a higher and drier and less mellow rich soil.

The next in order is Commercial and Industrial Crops, and first among commercial plants is Cotton. Half a century ago it was considerably grown as far north as Sangamon county; but changes of climate and some other causes have rendered a crop always uncertain, still more so, and unless the seed of some unusually early variety be obtained, the experiment of growing it is not recommended. Nevertheless the cultivation of Cotton is slowly moving north, and if at the end of another half century Cotton growing is both common and profitable as far north as 40°, it would not be a surprising thing.

The growing of Flax for seed is increasing in Illinois, for this reason, that the cultivation is not difficult, the chances of success reasonable, and the cash returns for labor and money comes back in shorter time than from any other seed crop. But there is a great difference in the product of Flax, as well in yield of seed as good fibre. To embrace all these excellencies, special and otherwise, I advise—

One acre of White Flowering Flax,
One acre of Piermont French Flax,
One acre of Calcutta Flax,
One acre of Common Flax.

Hemp has pretty much gone out of fashion the last ten years in Illinois, not because the soil does not suit the crop, not because a successful return is not as certain, but mainly for the reason it has been found almost impossible to get the right kind of labor to harvest and cure it at the busiest and most trying time of the year. But the labor market is believed to be now so well supplied that, near towns, at least, there will be no difficulty in that direction for some years to come. Under such a condition of things then, with such a profitable crop as Hemp waiting to be tried, tested, and reported upon, I offer the following recommendations:

One acre of Pier mont French Hemp.
One acre Italian Hemp.
One acre Kentucky or Missouri Hemp.

Trials with Hops have, on the whole, resulted unprofitably in this neighborhood. Nevertheless there have been large yields harvested and profitable sales made. But the failures have been largely in excess of the successes. Whether it will be worth the while for the Experimental Department of the Illinois Industrial University to ascertain to what these failures are owing, is left to the judgment of the Board of Trustees.

The problem of the profitableness or unprofitableness of the culture of Tobacco on the prairies of Illinois is yet to be determined. There is now scarcely a limit to the demand for good qualities, and a constantly necessary one for all, even the poorest. Leaving out of view the moral side of the question which might lead to its rejection, as for the same cause Barley and Spring Rye would be rejected, since they are almost exclusively manufactured into beer and whisky. The undersigned offers the advice that trials of different kinds of Tobacco be made, namely:

One-eighth of an acre of White Ohio Tobacco.
" " " Common Seed Leaf.
" " " Cuba Tobacco.
" " " Kentucky or Missouri Tobacco.

For the other Industrial Plants named below, I make the suggestion that experimental trials be made with them, or as many of them, as when the time comes for it, the means, information and opportunities at hand will warrant the Experimental Department in undertaking. The list as made up reads as follows:

Castor-Oil Beans; Peanuts; Saffron; Teazles; Poppy, for Opium; Peppermint, for Oil; Sunflower.

Root Crop. The problem of the value of roots for cattle feeding as compared with corn and other grains, or as compared with each other, has never been determined for Illinois, notwithstanding the interest and importance of the question. To throw if possible some light on the subject, it is recommended that two or more acres be planted, as follows:

One ½ acre Lane's Improved Sugar Beet.
One ½ acre Large Turnip Carrot.
One ½ acre Large White Parsnip.
One ½ acre Mangold Wurtzel; and such other roots as may be thought worthy of trial.

Vegetables. I now come to vegetables, and first among them of importance as a crop ranks the potato. I think cultivators will admit that no general crop is more uncertain than this, in these latitudes, and they will agree to the proposition that to teach or to suggest how to grow it, under all reasonably fair condition of soil, situation and season, would be a valuable addition to our agricultural knowledge. For proof that this can be done I point to the fact that occasionally a farmer is to be found who seldom fails in securing a crop—while his neighbors, with the same means at hand and equally good inclinations, fail three times where they succeed once. For the purpose of throwing some light on the different ways and manners of cultivation, and the good or bad effects of manners and commercial fertilizers, I have laid down a pretty extensive programme for potatoes, as follows:

¼ of an acre of Early Rose.
¼ of an acre of Peach Blows.
¼ of an acre of Late Rose.
¼ of an acre of Extra Early Vermont; and experiments for the purpose of learning comparative value of kinds by trial on a small scale of 30 or 40 distinct varieties.

In order to determine which is the best summer and the best winter Cabbage among five or six of the leading kinds, and the cost and profitableness or unprofitableness of the Cabbage as a feed crop, and perhaps, going far enough to learn, if possible, the value of Cabbages, compared with oats, as cattle feed, it might be well to lay out—

One-eighth of an acre of Early Winningstadt.
One-eighth of an acre of Early Schweienfrutt.
One-eighth of an acre of Drumhead Savoy.
One-eighth of an acre of Marblehead Mammoth; and, perhaps,
One-quarter of an acre of some large forage kind.

With a respectful invitation to the Board of Trustees to make such additions, amendments and curtailments to these several lists as their judgment warrants, I pass on to experiments to be made with commercial and other fertilizers.

There is no question but Artificial Fertilizers will be called upon to play an important part in the agriculture of the future. They will, in the nature of things, be first used in the extensive culture of the neighborhood of cities and large towns—indeed they are now, to a much greater extent than is generally known. If then, in the judgment of the Board, tests of the value and comparative value of Fertilizers ought to be made, in advance of their general use, by the farmers of Illinois, I suggest the purchase of the following, or others which will answer the same purpose—

Two tons of Ground Bone Dust.
Two tons of Super Sulphate of Lime.
One ton of Peruvian Guano.
Two tons of Plaster of Paris.
Five hundred pounds of Crude Potash.
Leached and Unleached ashes.
Common Hard or Soft Coal Ashes.
Refuse Gas Lime and Amonia Water from Gas Works.
Stable Manure.

These are large quantities to be purchased, it is admitted, and perhaps the same is true of areas recommended for experimental crops. But to be of real value and to inform the public, trial crops and experiments with Fertilizers must be sufficiently broad, pronounced, and determined to show to the unassisted eye and judgment whether they are a success or a failure at a glance.

Moreover, nothing is more fallacious than to conclude that because one has succeeded or failed with a rod square of this, or two rods square of that, that therefore such a course is to be pursued and such another disallowed, when it is proposed to apply either to fixed crops. Because, in our circumstances, and under our climate, and on our soil, we cannot control absolutely the conditions, whether favorable or unfavorable, and therefore experiments on a very small scale are of little or no value. To extend the area of an experiment is to lesson the chances for disturbing causes, whether for or against success, and to secure, in the same ratio, a valuable and trustworthy result.

But it may be asked of me why I advise such extended experiments with Commercial and Industrial Crops, and Plants, Roots and Vegetables. I reply that it is possible that insects which have already entailed losses to the extent of many millions on the Cereals and Commerce Crops we grow, may develop into a plague of still more formidable dimensions, and compel a change in our whole system of Agriculture, as they have done and are now doing in Europe. But on this head let me borrow the words of a distinguished French Agriculturalist and public man, M. Drougn de Lhuys, to be found in an opening address delivered by him at the Wine Growers' Convention held at Montpelier, October 26, 1874.

"In contemplating the ravages caused by the destroyer of our vines, (the *phyllocera*,) our thoughts involuntarily turn to two analogous plagues—the silk-worm cholera in France, and the potato-rot in Ireland. The first broke out when our cocooneries had suddenly increased to an extent before unknown, and was especially severe at or near those places where great masses of silkworms had been brought together. Neither hygienic cures nor the most minute precautions succeeded in arresting it or causing it to disappear. It constantly reappeared wherever there were large numbers of silk-worms massed, and small colonies only, each remote from the other, escaped contagion.

In 1846 the potato had become the principal crop of Ireland. It took the most cool soil, which was at the same time sufficiently warm, marvelously. Potatoes were as abundant as they were incomparable in quality; they fed the whole population who had for them given up the cultivation of the cereals. All at once the famous Potato Rot broke out. You know the results, a famine and a vast exodus of the Irish population were the sad consequences. Since that time the potato has been cultivated as an accessory crop only—the cereals have taken possession of the soil of Ireland and the potato rot is losing little by little its intensity and virulence. In France the vine

occupied a year or two ago, five million acres—the whole southern portion of the Republic was about to become a vast vineyard. At this moment the *phyllocera* appeared. Investigating these terrible phenomena, have attributed to them a common origin—according to them an unknown mutual law of equilibrium, and opposed to the multiplication of species. to a limit equally unknown. From these hypothetical considerations we may draw the conclusion that it will be necessary to restrain the cultivation of the vines by banishing it from the plains and lowlands of France.

So much for unrestricted potato culture in Ireland, and the mania for silk-worm husbandry in France. An unknown law of nature seems to have stepped forth and proclaimed: "Thus far shalt thou go and no farther."

It is possible that insect domination may compel a change in our whole system of agriculture, perhaps given too much to the cereals, and if such should prove to be the case it would certainly be desirable to be prepared as well as may be for the change.

In regard to experiments in feeding hogs and cattle, it is proposed in addition to those described in a previous report, to feed a certain number of cattle out of doors, on shock corn, in the usual way; also to feed in the barn one on corn and clover hay, two on middling and clover hay cut up and mixed, and to carry out such other experiments as the Board of Trustees may suggest and direct, together with such a time fixed as opportunity may offer to the Superintendent of the Stock Department.

And now comes the question of cost and expense, which, with the assistance of Mr. Head Farmer Lawrence, who also agrees to the foregoing report and recommendation, I put down, as follows:

2	acres of	4 and 6 row barley	$20 00
2	"	buckwheat	20 00
20	"	corn	200 00
4	"	clovers and grasses	30 00
5	"	spring wheat and rye	50 00
4	"	flax	80 00
3	"	hemp	60 00
½	"	tobacco	30 00
2	"	other commercial crops	40 00
2	"	root crops	50 00
5	"	potatoes	100 00
1½	"	cabbages	50 00
5	"	special crops	150 00
			$880 00

*2 tons ground bone-dust	$64 00	
*2 tons superphosphate	70 00	
*1 ton peruvian guano	50 00	
*2 tons ground plaster	30 00	
*500 pounds potash cononees	35 00	
		$249 00
Hauling leached and unleached ashes, coal ashes, manure, refuse from gas works, etc		100 00
Cattle feeding		100 00
		$1,329 00

* Estimated at Chicago prices.

Concerning beginnings for the creation of an Agricultural Museum, the matter having been suggested, Mr. Gardner consenting, it was thought best to move at once in order to get the benefit of the annual collection made at county fairs. Circulars accompanied with sheet notes were accordingly sent to each secretary of a county society in the State, and also to members of the State Board of Agriculture and other prominent gentlemen. Responses from ten secretaries have been received, and packages from no more than *five*, though as many more are promised. It has been ascertained, and the same has been the experience of Mr. Garland, of the State Board of Agriculture, that while these gentlemen are quite ready to help us they do not feel called upon to go so far as not only to make collections, but to do the packing gratuituosly and at some expenditure of money.

A suggestion from the Board of Trustees might show the way out of the difficulty.

All of which is very respectfully submitted to the Board of Trustees,

B. F. JOHNSON,
In Charge of Experiments.

The report was accepted and approved, and $100 appropriated for purchase of certain seeds and grains, as recommended therein.

The Regent's report was now taken up.

The following appropriations were made, in accordance with the recommendations thereon: $20 for Calisthenic apparatus; $300 for periodicals, to be decided and ordered by the Faculty.

Mr. Kenis was employed to give instruction in modeling and composition to the class in Architecture, two hours per day, at $40 per month, for three months, during the winter term of 1875.

The Regent was authorized to provide for a certain recommended lecture course for the Senior class, and $250 was made the limit of expense to be incurred.

Prof. Burrill submitted his report of Horticultural expenses, which was accepted.

The Executive Committee and Regent were requested to memorialize the Legislature for the following wants of the University:

For taxes on lands	$6,000
" library cases and furniture	2,500
" cabinets, wards, Palæontology casts	2,500
" Physical Laboratory apparatus	1,000
" Agricultural Museum	1,500
" Agricultural and Horticultural experiments	3,000
" grounds around new building	2,000
" library, $1,000 per annum	2,000
" Geological Cabinet	2,500
	$23,000

The following resolutions were passed:

Resolved, That the Faculty be authorized to receive students for special studies in Architectural Drawing and similar practical branches, under such conditions as they may deem expedient; *Provided*, that the conditions of the law shall be observed, and that all students thus received be reported to the Board of Trustees.

Resolved, That the Corresponding Secretary be authorized to arrange for Farmers' Institutes, without expense to the University, and to call upon Professors of the University for such services as lecturers as they may be able to render without detriment to their work with their classes; *Provided*, that the traveling expenses of such Professors, and all lecturers, shall be paid by the localities benefited by such institutes, or without charge to the University.

The following, offered by Mr. Sabin, was passed:

WHEREAS, We have heard, with sincere sorrow, of the death of the late Hon. Ezra Cornell, of N. Y., the eminent philanthropist and founder of Cornell University; therefore,

Resolved, That we express, as Trustees of a kindred institution, our sense of the eminent services rendered by the deceased to the cause of education, and especially our appreciation of his wise and noble use of the great wealth which he possessed. When other men equally wealthy but less wise shall have been forgotten and their riches with them, the name of Ezra Cornell will be remembered with honor and gratitude, and the wealth he so generously gave to mankind will still remain a blessing to his country and his kind.

Resolved, That we tender to his bereaved family and friends, as also to the officers and friends of Cornell University, this expression of our sympathy with them in the irreparable loss which has fallen upon them.

Resolved, That copies of these resolutions be sent to the family of the deceased, and that they be published in the "Illini" and elsewhere.

Mr. Gardner was authorized to settle with Mr. Gehlman.

Mr. Gardner was authorized to sell the remaining 160 acres of the Griggs Farm, at $60 per acre.

Adjourned.

MARCH 9, 1875.

The Board met at the University parlor at 4 o'clock P. M.

Present: Messrs. Brown, Boyd, Blackburn, Gardner, Mason, Pickrell and Sabin.

Absent: Gov. Beveridge, Messrs. Cobb, Gillham and Slade.

In absence of the President, Mr. Brown was elected chairman.

Mr. Blackburn opened the session by offering prayer.

Letters from Gov. Beveridge, Mr. Cobb and Mr. Slade, expressing regrets at not being able to attend this meeting, were read.

After organizing, the Board took a recess to meet at 7:30 P. M., at the Doane House.

EVENING SESSION.

The Board reasembled at 7:30 P. M., as per adjournment.
The minutes of the last meeting were read and approved.
The Regent, Dr. Gregory, then read his report.

REGENT'S QUARTERLY REPORT.

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN—Although this remains the annual meeting as far as the election of officers is concerned, it is not the proper time for the annual report, since it occurs in the midst of one of our terms, and neither permits a summary of the year's work nor a completion of the statistics required by the State law. Reserving, therefore, the full showing of our labors and progress, till the proper close of the academic year, I shall only attempt to bring before you such statements a may be necessary to guide your action in providing for the present and the coming term.

Nothing has occurred since your quarterly meeting in December last to disturb the quiet or efficiency of the University. We have been visited by two committees of the General Assembly of the State, the members of which expressed their surprise at the unexpected grandeur and evident power and utility of the University and urged that more active measures be adopted to make known to the people at large the facilities provided here by the grants of Congress and of the State legislature. Our application for appropriations for the several objects determined on at your last meeting is still pending, and it is hoped that the most important askings will be met as you desire.

NUMBER OF STUDENTS.

The whole number of students in attendance this term is as follows:

Male students	251
Female "	80
Total	331

Whole number in attendance thus far during this year:

Male students	266
Female "	84
Total	350

Numbers in the several colleges and schools:

I have asked reports from the chief officers in the several schools, and these reports hereto appended will give you fuller statements of the actual work and wants of these schools. Knowing your disposition to give to every department of the University all the aid in your power, I need only commend these various requests to your consideration. The amounts asked are not large and I hope may all be granted.

The School of Chemistry urges afresh its need of more ample and more convenient laboratories, and as it is hoped the day is approaching when this necessity will be met, the Professors in this department have prepared a plan for a building such as they deem suitable. Unfortunately there are no laboratories in this country which can be of any special service in planning a new one. Most of American laboratories, like our own, consist of old buildings fitted up for the new purpose, or of small buildings built to serve temporarily or designed to be enlarged as the necessities grow. In the absence of any good models, it is desirable that steps be taken to perfect a plan here for a first class and extensive chemical laboratory, sufficient for all our work in that department,

The School of Architecture, though not yet large in numbers, is steadily increasing, and by the spirit manifested in it, gives promise of becoming one of our most useful and popular departments. The experiment made in clay modelling has been quite successful, and I earnestly recommend that the experiment be continued through another term to test still more fully the desirability of adding it as a permanent feature of the school.

The School of Agriculture has gained something in scope and thoroughness by the appointment of an Agricultural Chemist, but it will still require the services of a Professor of Agriculture as soon as a suitable man can be found for that place.

The report of the Head Farmer, which I herewith transmit, gives an encouraging view of his work and prospects. Allow me to emphasize the statement that we have no need of, nor any proper business with, a farm, except as a necessary part and facility of an agricultural college, as a means of experiment and illustration. It will need careful attention to this end to make as far as practicable a true means of teaching Agriculture to the young men who come here to study Agriculture. It is already demonstrated that the farm can be made to pay its way; but it must be expected that some departments maintained especially for purposes of instruction will not pay their way. We shall need to maintain some animals for the illustration of breeds, which will be kept, perhaps, at an expense above their profit. But to be without them will be a loss and damage. It was a matter of regret that we were obliged to part with some of our blooded stock. It has already called forth some criticism. I submit to you the propriety of replacing the stock sold by other and better animals as soon as convenient.

The Business Agent calls your attention to the condition of the tin roofs. These and the conducting spouts demand immediate attention, if our buildings are not to receive serious injury. The painting of our barns and other frame buildings ought to be provided for. Much of this work might, perhaps, be accomplished by the labor of students, if it can be done during the session of the University.

METEOROLOGICAL OBSERVATIONS.

It has been found difficult to keep up the meteorological observations without employment of some trustworthy and careful person to make the daily observations and record. Thse observations were recommended on the 1st of January, and have been regularly transmitted to the War Department at Washington. An appropriation of $10 a month, or perhaps of $100 a year, will be sufficient to secure their regular continuance.

AGRICULTURAL LECTURES.

Arrangements have been made for the course of Agricultural lectures to the Senior Class, provided for by your resolution of December last. The lectures will be delivered during the approaching term. If necessary, I ask that the appropriation for the same be renewed.

LIBRARY.

An appropriation has been asked from the legislature for the library. But as some time must elapse before this can be had, if at all, and as some books are needed at once, will it not be advisable to authorize the purchase of not exceeding $300 worth of books.

THE TEACHING FORCE

Now employed and under engagement for the remainder of the current year, is probably sufficient for the Spring Term, and the engagement of new teachers for another year may be left till your next meeting; but provision ought to be made in the annual appropriations for them.

THE CENTENNIAL.

In a former report, I called your attention to the great International Exhibition to be held at Philadelphia, in 1876. The indications already give assurance that this exhibition will be widely national in character, and twenty-two foreign governments have given notice of their purpose to participate. A movement is on foot, chiefly under the direction or with the concurrence of Gen. Eaton, the Commissioner of Education for the U. S., to secure a full exhibition of the educational institutions and work. It will be greatly to the advantage of the University to make a full exhibit of the work of the several departments. If this is to be done, it will be desirable to provide at once for materials for the work to be done in the shops to represent the schools of Mechanical Engineering and Architecture, and to authorize preparations in all other departments. It will cost from $300 to $500 to make such an exhibition, and it may be safely assumed that it will be worth all this as an advertisement.

CERTIFICATES.

The Faculty direct me to ask the Trustees to have prepared and engraved a suitable certificate for students who shall pass the full course of study in either of the Colleges, and also smaller certificates for those who may have pursued such partial courses as may entitle them to certificates under the law.

ADVERTISING.

I have already stated the opinion expressed by the legislative committee that the people of the State ought to be more thoroughly advertised of the real value of the facilities provided here by the grants of Congress and the Legislature. The justice and good policy of this must be apparent to all. It is a matter then both of duty and policy to give the University large, thorough and effective advertisement. This is the more necessary since for the past two years the advertisement has not been as much as was desirable.

I recommend that the Business agent be authorized to issue as soon as practicable an edition of the catalogue not exceeding 3,500 copies, and to issue such other circulars as may be necessary, Also to at once insert advertisements in such papers as may be selected, to an amount not exceeding $. In this connection I may also say that perhaps our most effective advertising has been done by the public addresses given by the Regent, and occasionally by other members of the faculty. It seems desirable therefore that we shall be at liberty make such addresses, even in term time, if it can be done without neglecting our work here and without expense to the Board. It is true that this liberty shall be carefully guarded against all possible abuses. I make this statement here not to ask special action, but simply to announce the policy which seems to me judicious.

REPORT OF E. L. LAWRENCE, HEAD FARMER.

To DR. J. M. GREGORY, *Regent Ill. Ind. University:*

At a meeting of the Board in September last, it was agreed that the year, as regards the Agricultural Department, should begin and end with December 1st, instead of March 1st, as heretofore. Accordingly at the time of the meeting in December last, I made a report detailing the operations of the department for the nine months then past. I herewith present a statement of the operations since that time, together with some suggestions with reference to the wants of the department; also recommendations for certain experiments in feeding stock.

The cash receipts for the last three months amount to $1,208 53; and credits from other departments to $225 45—total, $1,433 98. Of the cash receipts, $555 was for hogs, making the sales for the year, $1,136 30. I reported at the last meeting, $410 26 in accounts, the most of which has been paid. The remainder of the cash receipts was mostly from sales of hay. The accounts against other departments are made by hauling 22 cars of coal, feeding experiments, etc.

The total expenses for this time are $1,156 47; $162 78 was paid for bran and meal, mostly to be used in the experiments; $285 was paid for short-horn heifers; $18 for an old cow to feed, and the balance was for labor, incidental expenses and the Head Farmer's salary. As a detailed account of this will appear in the next annual report it is thought not necessary to be more minute at this time.

The feeding experiments are as follows:

1. Sixteen steers coming three years old are fed, 8 in the yard on shock corn, the usual way of feeding. These are pretty well sheltered from the wind by the barn and a high, tight board fence; 8 are fed in the barn, tied in stalls, 2 of which have corn in the ear, 2 corn meal fed dry, 2 corn meal mixed with cut straw wet, and 2 on middlings and cut straw—all (in the barn) having what clover they will eat, of the best quality. Those fed the cut straw requiring one-half the amount of the other.

2. Two yearling steers are fed in the barn. One has 12 lbs of corn in the ear, daily, and one same weight of wheat bran. Each having straw for roughness.

3. An old cow is fed on meal, beets and clover.

4. Comparing Berkshire and Poland China hogs. The first trial commenced October 1, and ended December 1, the result of which has been reported to Mr. Johnson, Superintendent of Experiments. Another was commenced March 1, the same trial as the first, together with a list of the value of grinding and feeding the meal dry.

5. To ascertain, in corn, the cost of raising hogs from first to last, as well as to learn what stage of growth costs least. This was commenced by taking two breeding sows at the time of breeding, and keeping weights. This, for reasons beyond our control, has been a failure.

I would recommend the continuation of the experiments enumerated above, with an addition in cattle feeding of a test in steaming the feed, substituting hay or straw for the corn stalks used in the experiment two years ago.

While it seems desirable to feed hogs high, so as to place them on the market as soon as possible, it is evident that the stock is being injured by the continued use of corn as feed, and nothing else. The result of this seems to be that the blood becomes degenerated and the constitution weak, terminating in disease, principally cholera. More than this, the concentrated nature of the food used is such that the stomach of the animal is reduced in size, so that but a small amount of food can be consumed, and in the end the practice defeats itself. I would recommend a continued trial of beets, fed with corn, and at times without, carefully noting the result. Beets thrive remarkably well in this soil, as we raised a fine crop last year, notwithstanding the drouth.

I think but few farmers appreciate the value of sour milk and kitchen slop, when fed to hogs; my own idea being, that the sour milk from a good cow will go a long way toward paying for the keep of the cow, as the hogs thus fed, when young, seem ever after to be better animals. I think a valuable experiment might be made with material we always have on hand, to prove or disprove these conclusions. Milk is the best preventive of hog cholera known, and I think a drink of new warm milk will go further toward curing a hog sick with this disease than all the poison drugs or any part of them, known.

In December last, as you are aware, but it has not been formally reported, I purchased two Short Horn heifers. While I think the investment a good one, we are in need of something better. I hope arrangements will be made for the early purchase of a cow or heifer, such as we need. The sales of stock made, that stands to the credit of this branch of the department, are as follows:

Short Horns, cow and bull calf	$350 00
Ayrshires, 2 cows, 2 calves, 2 bulls	350 00
Devon bull and calf	80 00
Jersey calf	50 00
Total cash sales	$830 00
Herreford cow and bull: Note payable November 10, 1875	240 00
Total sales	$1,070 00
Deducting the amount paid for the Short Horn heifers, leaves	$785 00

It has been suggest that the Short-horn bull might be sold and a younger animal purchased. He can be sold for a fair price, and the use of him retained as long as desired or till we have another of suitable age for service.

In conclusion, I will say that I share with others the "inspiration" that says we are to have the best season for crops and prices for several years. We have hauled out a large amount of manure, about 700 loads, covering about 18 acres, (about one-half of this has come from the city,) and the land is all in good shape. The good prospects we have, coupled with the faith and determination we have to succeed (no very small items) lead me to believe that you can safely count on the Agricultural Department for a good dividend for the coming year.

E. L. LAWRENCE,
Head Farmer.

URBANA, March 8, 1875.

REPORT OF PROF. T. J. BURRILL.

INDUSTRIAL UNIVERSITY,
URBANA, ILL. March 9, 1875.

DR. J. M. GREGORY, *Regent:*

The operations in the Horticultural Department since the last meeting of the Trustees, have been confined within doors—posting the books of record, grafting by the class, and the usual work in the greenhouse. The heating of the latter has been much more satisfactory than ever before. By a change made last summer in the setting of the boiler and the flue, the same apparatus heretofore in use has been much more effective with less consumption of coal. There has been a serious difficulty in regard to water supply the latter part of the winter. The plants are in good condition, showing better than words the efficiency of the student, R. H. Hannah, who has the care of them.

NEEDS OF THE DEPARTMENT.

The fences are in many places out of repair. We have always beeu troubled with inroads of cattle in the arboretum grounds. A change suggested by the Business Agent is hereby recommended, viz: throw outside the walk on the west, and the row of lots on the north. On the south side of the orchard and experimental farm the opening of a road calls for a fence the whole length. The hedge is sufficient a part of the way—on the east of forest and west of orchard

some repairs are required in connection with the hedges—on the north of forest and of that portion of the Experimental Farm, a hedge was set, but has been removed. It is deemed expedient to set a hedge, in connection with adjoining owner, if practicable, upon this line. I suggest that this whole matter be put in the charge of the head farmer.

In the fruit tree department of the nursery some seeds and stocks are required to keep up the amount and to secure materials for the practice of students. Including the purchase of some new varieties of small fruits, about twenty-five dollars are needed.

For hardy trees and shrubs for the ornamental grounds and arboretum, to be set in nursery, forty dollars may be judiciously expended. This amount can be readily realized in two or three years, from plants propagated from this stock, and to purchase the same now ready for the grounds would require many times the sum. But besides this, one hundred dollars is almost imperatively demanded for trees, shrubs and herbaceous plants, to be set this spring in arboretum and grounds about new building. Much more than this might be profitably used, but with the supply now ready in nursery, it is believed a good show for the year can be made with this sum.

For seeds, bulbs and small plants of many varieties for the green house, including small hardy roses, to be transferred to the ornamental grounds, when grown, the sum of thirty dollars is hereby requested.

Some additions to the forest-tree plantation should also be made. The arbor-vitæ secured for the forest two years ago, and set in nursery, have not been planted on account of the wetness of the location designed for them. This is now drained, but the trees are now so large and valuable for other planting that the purchase of small ones for the forest is advised. The chestnut before planted have entirely failed. Another trial is desirable.

The oaks have not been procured at all. If acorns can be obtained now, their purchase is recommended. It is considered desirable to try a large growing variety of apple-tree—probably Yellow Bellflower—in the forest. We can prepare the grafts of these at little cost. An estimated amount of thirty-five dollars is asked for these purposes.

On account of the number of trees we now have to move, an implement known as a tree-digger is greatly needed. It will save for us in labor this year more than its cost, which is estimated at twenty dollars. It can readily be made by the Mechanical Department, and may be for less than the amount stated, but a few spades will also be needed.

RECAPITULATION OF AMOUNTS STATED.

Fences	
Seeds and stocks (Fruit) for nursery	$25 00
Ornamental plants and kinds for collection in nursery	40 00
" " " " " on grounds	100 00
Green-house plants, &c	30 00
Forest	35 00
Implements, tree-digger, $20; spades, $6	26 00
	$256 00

If the unexpended balance of last year is renewed to us I think we can get along.

Our labor expense will be about the same as last year.

Respectfully submitted,

T. J. BURRILL,

Professor Horticulture.

CHEMICAL DEPARTMENT.

J. M. GREGORY, L. L. D., *Regent Illinois Industrial University:*

DEAR SIR—The undersigned begs leave to submit the following brief statement, showing the condition of the Chemical Department during the last and the present term:

The class in Elementary Chemistry for last fall term numbered 104. Of these 94 passed examination at the close of the term, the remainder having either changed their studies or left the institution before examinations commenced. The number of students being too large for a single class, two divisions were formed, each having five recitations per week. During the term the principles of Chemistry and Chemical nomenclature were taught, and the non-metals taken up in their turn and studied.

The class in Mineralogy numbered eight, seven of whom passed examination, one member being absent on account of sickness.

The whole number of students in the Laboratory last term was twenty-seven. Two of these began in qualitative analysis. The rest were advanced students, who made quantitative analyses of various kinds, as well as chemical preparations.

The number of students in Elementary Chemistry this term is fifty-three, reciting in two divisions. The work for the present term has been the chemistry of the metals. Particular attention was given to the different metallurgical processes of obtaining the metals from their ores, as well as to the commercial products obtained from them, and their use in the arts.

The whole number of students in the Laboratory this term is 85. Of these 62 are new students, who are now engaged in qualitative analysis, and occupy the lower room in the Laboratory.

Of the 23 advance students, who occupy the upper room, 5 are in the Agricultultural course; 3 are studying Toxicology and the Micro-Chemistry of Poisons; 2 are engaged in making chemical preparations, and the remainder assaying and analyzing various ores and minerals.

The want of a new Laboratory has been very seriously felt this winter. The freezing up of gas pipes and the water tank was a source of a great deal of annoyance and interfered materially with the progress of the work.

It is unnecessary to mention that by crowding 62 students into the lower room, conditions are brought about which are detrimental in a sanitary point of view, especially to the instructors and assistants, who are obliged to be present all day, not saying anything about having two students work at the same desk, which for a great many reasons is a very unsatisfactory arrangement.

According to your request, we have gotten up plans for a new Laboratory building. Mr. Ricker has kindly given us his assistance and completed the drawings, which we herewith submit to you.

Very respectfully,

H. A. WEBER.

DEPARTMENT OF EXPERIMENTS.

To EMERY COBB, ESQ., *President of the Board of Trustees Illinois Industrial University:*

SIR—I beg respectfully to submit the following short report of progress in Department of Experiments, since the meeting of the Board in December, 1874:

Referring to that portion of the action of the Board at that time, which adopted my programme of experiments, on condition that the necessary appropriation should be obtained from the Legislature, and appropriated $100 for the purpose of obtaining seeds from abroad, I have the honor to inform you that an order for seeds was sent to Paris, through a New York house, early in January; that the seeds arrived in New York on the 23d of February, were taken from the Custom House and given to the agents of the Union Fast Freight Line on the 27th, and that their arrival is daily expected. The following is a copy of the invoice received from the well known seedsmen of Paris, Messrs. Vilmorin, Andressy & Co.:

55 pounds Silver Grey Buckwheat.
6.60 pounds Caragua Maize.
11 pounds Lucerne Grass Seed.
10 pounds Italian Ray Grass.
55 pounds Spring, or March Rye.
35 pounds Summer Rye of Saxony.
2.20 pounds Broom Corn Seed.
2.20 pounds Sorghum Seed.
55 pounds Winter Oats (to be sown very early).
55 pounds Coulomnius Oats.
55 pounds Polish Oats.
55 pounds Blue-stem Spring Wheat.
55 pounds Samaue Spring Wheat.
55 pounds White Flowering Flax.
55 pounds Winter Flax (to be sown very early).
22 pounds Piermont Hemp Seed.
2.20 pounds Marigold Wertzel.
2.20 pounds Mangold Wertzel Globe (red).
2.20 pounds Mangold Wertzel Globe (yellow).
2.20 pounds Green-collared Sugar Beet.
4 ounces Forage Carrot Seed.
22 pounds Chardon Potato (late and large).
22 pounds Marjolin Potato (very early).
22 pounds Long Red Holland Potato, Prolific.

The explanation of the odd pounds and the decimals in the above is that the order was made to correspond with the *kilogram* of the French catalogues, which is 2.20 pounds nearly.

On the 12th of January a P.C.M.O. for $6 was sent to San Francisco, Cal., to Col. Warren, editor and proprietor of the California *Farmer*, for 25 pounds of Alfalfa, or Chile clover, to be sent by mail. No answer having been received up to the 20th of February, on the 22nd I wrote Col. Warren a second time. It is probable that the seed is in the mail, but detained *en route* by the long and severe snow blockade in the mountains.

To be sure of securing the specimens *in the ear* and of the best, on Feb. 11th I ordered from Plant Seed Company, St Louis:—half bush. Native Kentucky Hemp seed; 1 bush. Long John White Corn, *in the ear;* 1 bush. St. Charles White Corn, *in the ear;* 1 bush, Gold Dust Yellow Corn, *in the ear;* 1 bush. New Madrid Yellow Corn, *in the ear;* asking for acknowledgment of order I was informed it had never been received, so I duplicated the order on the 1st of March.

In addition to the above, one ounce each of 4 varieties of squashes and pumpkins, and as many of different kinds of cabbages has been added from Jas. J. W. Gregory, of Marblehead, Mass., and received in good order, at a cost of $3.65.

A great number of seed catalogues have been obtained and more or less carefully examined, and much information has been gathered as to kinds and prices of commercial fertilizers proper to be purchased; but negotiations for buying both seeds and manures have been delayed for the action of the General Assembly, or for further instructions of the Board of Trustees.

In regard to experiments in feeding (and this subject is just now attracting a great deal of attention), Mr. Lawrence will report to you what has been done, and at the same time suggest a programme for further efforts in this direction.

In conclusion, the undersigned, for himself and Mr. Head Farmer Lawrence as well, both in full accord on this business, hope, if instructed and directed to carry out the programme of experiments as reported to the Board in December, to be able to show by the time of the July meeting (God and the season favoring), growing crops the Trustees, Regent and Faculty of the Illinois Industrial University will be proud of.

Respectfully submitted.

BENJ. F. JOHNSON,
In Charge of Experiments.

CHAMPAIGN, March 9th, 1875.

BUSINESS AGENT.

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN—I have the honor to offer the following report as Business Agent of the University:

Paper "A" is a statement of the appropriations made the past six months.

The paper also includes the expenditures made under the several appropriations, and the receipts of the several departments.

Paper "B" gives the condition of the State appropriations at date; the balance for taxes is not considered available for the University.

Paper "C" is a list of the University warrants, with vouchers, drawn to date since the last meeting of the Board.

Several bills are added to the list that they may be brought before you.

Paper "D" gives in some detail the commercial working of the machine and carpenter shops. The work of the first has been mainly for outside parties, and though only a small balance of its credit with the University Treasurer is left, it has good bills, and is in such good working condition that its commercial work will need no appropriation but its balance.

A further appropriation for the educational classes will be needed. The foremen of the shops are two of the older students of the University, one receiving 35 cents per hour, the other 25 cents per hour.

The changes in the shops authorized by the Board at the December meeting, have, in part been made, and will soon be completed. They are considered to be of advantage to both shops.

It is desirable that the stock of lumber in the carpenter shop should be filled up. $100 will make good that used the last six months, not already replaced. The stock of bench tools is not at all complete. It would be a matter of great convenience if 12 full sets could be kept. Several of these sets would be for the general use of the shop-practice class. An important addition to the facilities of this class is a foot lathe, costing some $50. I respectfully request that the credit balances of the two shops be assigned for their use in making the appropriations for the next six months.

All the tin roofs of the University Buildings need repair. That of the Drill Hall and the New Buildings in particular.

The fences around the grounds of the two buildings, and the walk in part around the old one, also the gravel and cinder walks of the new grounds, will need additions and repairs.

The windows and doors of both of the main University buildings need overhauling before another winter.

An addition to the furniture in the way of chairs, tables, desks and matting is needed. Several tables have been made at the shop as required and old benches repaired.

The Janitor and Fireman of the new building has given good satisfaction during the past trying winter. I recommend that he be employed during the coming year at $1,000—eight months at $100, and four at $50. The duties require the work of two men most of the time, but can be carried on under one head.

The amount of expense for the Chemical Department was more than the expected amount, but seemed necessary for the good of the department. The collections for the department at the end of this term, will, I think, nearly cover the overdrawn amount.

It seems desirable that the appropriation for fuel and lights should be large enough to cover a supply of 300 tons of coal to be laid in in July and August.

Respectfully submitted,

S. W. SHATTUCK, *Business Agent.*

URBANA, March 9, 1875.

"B."—*Statement of State Appropriations, February 27, 1875.*

On account of	Appropriated.	Expended.	Unexpended.
New University building	$15,000 00	$15,000 00	.....
Heating apparatus	18,000 00	17,951 90	$48 10
Fitting and furnishing	7,350 00	7,271 17	78 83
Gas fixtures	1,200 00	1,200 00	.....
Physical laboratory	3,000 00	2,977 33	22 67
Taxes on lands	6,000 00	5,202 78	797 22
Agricultural experiments	1,500 00	1,178 29	321 71
	.....	.....	.....

S. W. SHATTUCK, *Business Agent.*

URBANA, March 9, 1875.

"C."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
151	Champaign Gas Co	Gas bill November, 1874	$94 00
152	G. W. Flynn & Co	1,000 programmes	10 00
153	H. Swannell	Chemicals	15 47
154	John Muller	Glazing	6 75
155	Enterprise Coal Company	18 cars coal	191 00
156	U. S. Patent Office	Report	20 00
157	Crane, Breed & Co	Fireman's salary November, 1874	51 40
158	Kimbark Bros. & Co	Hardware	5 98
159	Webster, Davies & Co	Lumber	28 05
160	A. Snedeker	Castings	43 33
161	Trevitt & Green	Hardware	14 28
162	Dodson & Hodges	"	63 26
163	A. Brown	Plastering cistern	9 75
164	E. L. Lawrence	Farm expense, November, 1874	224 28
165	W. S. Maxwell	Paint, oils, etc	21 72
166	Allen, McKay & Co	Velvet cuttings for erasers	5 55
167	Jones & Laughlin	Iron	22 90
168	Fuller & Fuller	Glass and chemicals	7 83
169	Fuller & Fuller	1 bbl. plaster paris	4 38
170	Ill. Cen. R. R.	Freights, November, 1874	253 80
171	Students' labor pay-roll	November, 1874	330 08
172	S. W. Shattuck	Petty expenses, November, 1874	17 98
173	E. N. McAllister	Postage	11 42
174	J. B. Webb	Expense in Eng. Department	15 14
175	Mechanical Department	Work for other departments	114 23
176	Architectural "	" " "	253 20
177	Agricultural "	" " "	458 91
178	Experimental Farm	Corn and potatoes to Agricultural Department	94 40
179	R. Peacock	Old bill of lumber	141 03
180	D. D. Sabin	Expense to meeting	21 75
181	R. B. Mason	" "	5 00
182	A. Blackburn	" "	17 50
183	Emory Cobb	" "	17 00
184	A. M. Brown	" "	25 50
185	M. Marquart	Chemical apparatus	
186	Carl Schunman	Mining models	206 20
187	J. M. Gregory	Salary December, 1874	333 33
188	S. W. Robinson	" "	166 66
189	T. J. Burrill	" "	166 66
190	S. W. Shattuck	" "	200 00
191	E. Snyder	" "	166 66
192	D. C. Taft	" "	166 66
193	J. Burkitt Webb	" "	166 66
194	J. C. Pickard	" "	166 66
195	N. C. Ricker	" "	100 00
196	J. D. Crawford	" "	100 00
197	H. H. Weber	" "	120 00
198	C. W. Silver	" "	100 00
199	E. L. Lawrence	" "	100 10
200	W. C. Flagg	" "	41 66
201	B. F. Johnson	" "	41 66
202	Charlotte E. Patchen	" "	50 00
203	F. E. Prentice	" "	100 00
204	Lou C. Allen	" "	120 00
205	A. C. Swartz	" "	60 00
206	J. O. Baker	" "	50 00
207	F. A. Parsons	" "	40 00
208	E. A. Robinson	" "	11 20
209	M. A. Scovell	" "	25 00
210	A. E. Barnes	" "	25 00
211	H. A. Mann	" "	50 00
212	A. C. Scribner	" "	31 00
213	F. P. Dobson	" fall term, 1874	20 00
214	W. S. Everhart	" "	20 00
215	D. E. Barnard	" "	40 00
216	S. E. Noble	Armorers work fall term, 1874	14 32
217	S. H. Gehlman	Claim on contract N. University	621 15
218	Editors "Illini"	Advertising	60 00
219	Alleck A. Ullrick	Hardware	11 56
220	Editors "Illini"	Subscription and advertising	26 00
221	Field, Leiter & Co	Matting	24 75
222	I., B. Railway	Freight	21 23
223	Crane Bro's Manufacturing Co	Hardware	22 40
224	Crane, Breed & Co	Salary fireman, December 16	27 40
225	Hallock, Holmes & Co	Belting and tubing	9 74
226	T. P. Dobson	Blank books, etc	3 25

"C."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
227	James McCorkle	Hardware	$56 86
228	H. K. Vickroy	Apple and pear seedlings	14 25
229	E. L. Lawrence	Farm expense December, 1874	546 26
230	I., B. & W. R. W.	Freight	6 97
231	Culver, Page, Hoyne & Co	Stationery	24 50
232	J. F. Wollensak	Shade fixtures	10 84
233	H. A. Ward	Collection of skeletons and rocks	452 00
234	Students' Pay-roll	December, 1874	385 94
235	Fuller & Fuller	Chemicals	12 41
236	J. Davis Wilder	Crayons	7 56
237	J. Searfoss	Fifty-two hours' carpenter work	13 00
238	Champaign Gas Company	Gas bill December, 1874	79 60
239	J. M. Gregory	Salary for January, 1875	333 33
240	S. W. Robinson	" "	166 66
241	T. J. Burrill	" "	166 66
242	S. W. Shattuck	" "	200 00
243	E. Snyder	" "	166 66
244	D. C. Taft	" "	166 66
245	J. B. Webb	" "	166 66
246	J. C. Pickard	" "	166 66
247	N. C. Ricker	" "	100 00
248	J. D. Crawford	" "	100 00
249	H. A. Weber	" "	120 00
250	C. W. Silver	" "	100 00
251	E. L. Lawrence	" "	100 00
252	W. C. Flagg	" "	41 66
253	B. F. Johnson	" "	41 66
254	Charlotte E. Patchen	" "	50 00
255	F. W. Prentice	" "	100 00
256	Lou. C. Allen	" "	120 00
257	A. C. Swartz	" "	60 00
258	I. O. Baker	" "	50.00
259	E. A. Robinson	" "	11 90
260	F. A. Parsons	" "	40 00
261	M. A. Scovell	" "	25 00
262	A. E. Barnes	" "	25 00
263	H. A. Mann	Salary janitor and fireman	103 14
264	A. C. Scribner	Salary January, 1875	31 00
265	S. W. Shattuck	Petty expenses December, 1874	30 54
266	H. A. Mann	Balance of fireman's salary, December 1874	25 74
267	Illinois Central R. R. Co	Advanced freight	16 80
268	Kimbark Bros. & Co.	Hardware	11 80
269	Chicago Terra Cotta Company	Three hundred barrels modeling clay	6 50
270	Little & Davies	Hardware	1 32
271	T. G. Lansden	Gas fixtures and fittings	21 90
272	Jones & Laughlin	Hardware	23 53
273	E. T. Benjamin	Chemical apparatus	116 58
274	Jennie C. Bryant	Salary January, 1875	20 00
275	J. Kennis	" "	40 00
276	E. L. Lawrence	Farm expense January, 1875	98 24
277	S. W. Shattuck	Students' pay-roll January, 1875	394 79
278	Austin & Boynton	Gymnastic apparatus	22 05
279	Enterprise Coal and Coke Co	Ten cars coal	126 00
280	S. D. Kimbark	Hardware	33 21
281	Cleveland Screw and Tap Co	Hardware	7 84
282	A. Snideker	Castings	74 36
283	Jones & Laughlin	Iron	11 50
284	J. T. Large & Son	Cutting figures	15 80
285	C. Kenicke & Co	Flower pots	5 42
286	S. S. Hook	Forging hay fork	27 75
287	Dodson & Hodges	Hardware and stoves	101 31
288	E. V. Peterson	Stationery	24 80
289	Champaign County Gazette	"	39 20
290	J. M. Gregory	Salary for February, 1875	333 33
291	S. W. Robinson	" "	166 66
292	T. J. Burrill	" "	166 66
293	S. W. Shattuck	" "	200 00
294	E. Snyder	" "	166 66
295	D. C. Taft	" "	166 66
296	J. B. Webb	" "	166 66
297	J. C. Pickard	" "	166 66
298	N. C. Ricker	" "	100 00
299	J. D. Crawford	" "	100 00
300	H. A. Weber	" "	120 00
301	Chas. W. Silver	" "	100 00
302	E. L. Lawrence	" "	100 00

"C."—*Abstract of Warrants*—Concluded.

No.	To whom.	For what.	Amount.
303	W. C. Flagg	Salary for February, 1875	$541 66
304	B. F. Johnson	" "	41 66
305	Charlotte E. Patchen	" "	50 00
306	F. W. Prentice	" "	100 00
307	Lou. C. Allen	" "	120 00
308	A. C. Swartz,	" "	60 00
309	J. O. Baker	" "	50 00
310	F. A. Parsons	" "	40 00
311	E. A. Robinson	" "	14 00
312	M. A. Scovell	" "	25 00
313	A. E. Barnes	" "	25 00
314	H. A. Mann	" "	98 00
315	A. C. Scribner	" "	20 00
316	Jennie C. Bryant	" "	20 00
317	J. Kennis	" "	40 00
318	Students Pay Roll	February, 1875	402 20
319	Butterfield & Mosier	1 bbl. modeling clay	5 00
320	J. M. Gregory	Freight on chemical cases for Paris	13 53
321	Champaign Times	50 copies paper	1 75
322	J. W. Dunlap	1 Self Oiler	15 00
323	Ills. Staats Zeitung	Weekly for 1875	3 00
324	Hosford & Speare	2 Lamps	3 50
325	T. G. Lansden	Pipe fittings and labor	83 05
326	L. Z. Taft	1,700 specimen trays	25 50
327	Locke & Saxton	Manilla paper, etc	3 75
328	Champaign Times	100 copies paper	3 50
329	I. B. & W. R. R. Co	Freights	2 30
330	Frank J. Mann	Copying music, etc., winter term	9 50
331	D. E. Barnard	Instruction in Gymnasium	40 00
332	E. L. Higgins	Freight on arms returned	8 47
333	D. & J. Brown	Blank receipt book	8 00
334	L. R. Noble	Work in armory, winter term	15 82
335	Sabin Bros.	50 feet tile	3 00
336	Crane Bros., Manufacturing Co	Hardware	10 32
337	Cleveland Screw & Top Co	"	9 07
338	J. D. McKinzie	Work and material on blacksmith shop	31 04
339	Enterprise Coal Co	10 case coal	142 00
340	S. W. Maxwell	Glass, putty, etc	8 62
341	Jno. Mueller	Glazing	6 04
342	A. Bridler	Lumber	18 71
343	Champaign & U. Gas Co	Gas bill Jan. & Feb., 1875	100 80
344	Goodwin & Whiteman	1 lathe	44 75
345	Dodson & Hodges	Hardware	15 57
346	Trevett & Green	Hardware and belting	66 70
347	Walker Bros	Knobs and Casters	1 90
348	M. E. Lapham	Lumber	82 43
349	E. N. McAllister	Postage, Dec,, 1874; Jan. and Feb., 1875	33 08
350	J. W. Bunn	Salary 6 months ending March 1st, 1875	251 00
351	S. W. Shattuck	Petty expenses Jan. & Feb	77 37
352	James Vick	Plants	7 45
353	F. P. Dobson	Salary assistant in Military Department	20 00
354	W. S. Everhart	" " " "	20 00
355	S. S. Hook	Forging hay forks	9 75
356	E. S. Lawrence	Farm expense February, 1875	188 52
357	Horticultural Department	Rent of rooms to Agricultural Department	36 00
358	Illinois Central R. R. Donation	Freight Dec , 1874; Jan. & Feb., 1875	449 75
359	Mechanical Department	Work for other departments	140 01
360	Agricultural "	" " "	225 45
361	Architectural "	" " "	345 80
362	T. G. Lunsden	Gas Fixtures	3 50
363	Wm. Parks	Lumber	63 86
364	Dr. Gregory	Expense to meetings	19 00
365	E. V. Peterson	Border for art gallery	27 75

"D."—*Financial Statement for six months, ending February 27, 1875.*

CARPENTER SHOP.		
Warrants drawn against shop	$739 02	
Material not replaced	100 00	
		$830 02
Credit warrants	$599 00	
Cash receipts	105 24	
Shop practice expense	90 00	
Toools and improvements	50 00	
		844 24
MACHINE SHOP.		
Warrants drawn against shop		$2,608 29
Credit warrants	$254 54	
Cash receipts	1,950 41	
Shop practice expense	90 00	
Tools and improvements	50 00	
Balance of good accounts	300 00	
		2,644 95

S. W. SHATTUCK, *Business Agent.*

URBANA, March 9, 1875.

The above reports were received and laid on the table.

The bills presented for payment were audited and allowed.

A letter from Judge J. O. Cunningham in regard to University Lands was received.

Mr. Gardner, from the committee on a certain bill for legal services by Cunningham & Webber, reported the account correct. The report was accepted and the bill allowed.

The Treasurer's report of receipts and expenditures from September 1, 1874, to February 28, 1875, was read and accepted.

JOHN W. BUNN, TREASURER,

In Acct. with Illinois Industrial University.

1874	DR.		
Sept. 1.....	To balance	$12,717 75	
1875.			
Feb. 27.....	" interest on bonds	4,055 00	
	" amount received on Burnett's notes for lands	2,150 00	
	" " " on J. O. Cunningham's notes for lands	1,600 00	
	" " " of " for interest	400 00	
	" " " of Burnett for interest	221 70	
	" " " for rent of lands	200 00	
	" " " for fees and room rents	5,070 50	
	" " " on account of Agricultural Department	5,491 77	
	" " " " " Horticultural "	389 24	
	" " " " " Mechanical "	2,202 95	
	" " " " " Architectural "	704 24	
	" " " " " Chemical "	104 40	
	" " " " " fuel and lights	341 06	
	" " " " " Ill. Central R. R. donation	1,512 31	
	" " " " " buildings and grounds	2 25	
	" " " " " incidentals	29 00	
	" " " " " experimental farm	94 40	
	" " " for old horse	66 00	
	" " " for old stove	7 00	
		$37,359 57	

	CR.		
By Board expense			$186 80
" salaries			16,127 37
" fuel and lights			2,528 18
" stationery and printing			222 50
" buildings and grounds			606 44
" buildings, fence, &c.	$762 18		621 15
" new University building			141 03
" fence on Griggs' farm			135 50
" incidental expenses			316 41
" Mechanical Department			2,608 29
" Architectural "			730 02
" Agricultural "			2,763 61
" Horticultural "			535 40
" Chemical "			1,163 47
" Military "			131 18
" library and apparatus			861 37
" cabinet			484 87
" physical laboratory			25 29
" experimental farm			493 72
" balance			6,676 97
		$37,359 57	$37,359 57

URBANA, March 10, 1875. JOHN W. BUNN, *Treasurer.*

Adjourned till 8:30, March 10.

MARCH 10, 1875.

The Board met at 8:30 A. M., per adjournment.

The Regent's report was taken up, and the following appropriations made:

For Chemical Department	$130 00
For architectural shop practice classes	45 00

It was ordered that the specimen orchard be seeded down, or such part of it as remains unseeded.

The Head Farmer was authorized to continue the experiments proposed in his reports.

The earnings of the Agricultural Department, $2,039 19 was left as an appropriation for the department.

The following resolution offered by Mr. Gardner was passed:

Resolved, That it should be and is the policy of the Board of Trustees to keep the leading breeds of domestic animals for the purpose of instruction to the students of Animal Husbandry, giving preference to those breeds which are of approved value in this State.

Resolved, That as soon as practicable, the Board will replace the breeds sold off on account of defects to the animals sold, or for other causes, with animals of the same breeds or others which may be judged more useful.

Recess was taken until 1:30 P. M.

ONE-THIRTY P. M.

Board met at 1:30 P. M.

The following appropriations were made for the six months, ending September 1, 1875:

Salaries—			
Regent		$2,000 00	
7 Professors		7,000 00	
Professor Ricker		600 00	
2 Instructors (Weber and Miss Allen)		960 00	
2 Instructors (Silver & Crawford)		800 00	
1 Instructor (Miss Patchin)		200 00	
Tutor Swartz		240 00	
Tutor Baker		200 00	
Chemistry		175 00	
Parsons (Bookkeeping)		160 00	
Robinson		50 00	
Military		30 00	
Library assistants		40 00	
Instructor in clay modeling		165 00	
Instructor in Elocution		20 00	
Instructor in Veterinary		300 00	
Agricultural lectures		250 00	
Treasurer		250 00	
Business Agent		200 00	
Superintendent of Experiments		250 00	
Fireman and janitors		500 00	
			$14,390 00
For Board expenses			250 00
" fuel and lights			300 00
" stationery and printing			500 00
" buildings and grounds			1,000 00
" incidental expense			300 00
" Mechanical Department—			
Balance		$10 49	
Shop practice		45 00	
			55 49
For Architectural Department—			
Balance		$421 97	
Shop practice		45 00	
			466 97
For Agricultural Department			2,039 19
" Horticultural Department			253 63
" Chemical Department			130 00
" Military Department			60 00
" Library			400 00
" Physical Laboratory –			
Sundries		$100 00	
Freight on mining apparatus		40 00	
Petty expenses in Civil Engineering Department		20 00	
Observatory	$50 00		
Case	35 00		
Tools	40 00		
Counter	25 00		
		150 00	
Mr. Seal's advertisement		15 00	
Ladies' Gymnasium		50 00	
Diploma rate		100 00	
			475 00

For unpaid bills—		
Lumber bill of Parks, 1873	$63 86	
Lamden's bill of gas fixtures, 1872	3 50	
Dr. Gregory's trip to Springfield	19 00	
Wall paper for Art Gallery	27 75	
Judge Cunningham's account	400 00	
		514 11
For material for Centennial Exhibition		50 00
Total		$21,184 39

It was voted that the location of the Astronomical Observatory be left with the committee, consisting of Mr. Gardner, Dr. Gregory and Professor Burrill.

The subject of farm experiments in Agricultural Chemistry was referred to the Executive Committee.

It was decided that the Geodesic Transit be ordered now for the Engineering Department, to be paid for and ready for use in September.

For certain improvements in the Mechanical Department, $70 was appropriated out of the earnings of the department.

The recommendations contained in the report of the Business Agent, in regard to roofs, removing fences, and repairing walks, were referred to a committee consisting of Mr. Gardner and Professor Shattuck.

The Business Agent was authorized to purchase lumber for the Architectural Department to the amount of $100.

Mr. Pickrell's motion was passed, as follows:

Resolved, That the Faculty be authorized to prepare and cause to be published, as soon as practicable, a new catalogue, with such modifications and additions to the courses of study as they may deem necessary.

Mr. Pickrell, chairman of a committee to define the duties of Regent and Professors of the University, made the following report:

The committee to whom was referred the question of defining the duties of the Regent and other employes of the University, beg leave to report that the by-laws be so amended as to make an additional article, which shall read as follows:

ARTICLE XI. Duties of Regent, Professors, etc. The Regent shall have general charge of the instruction and general business of the Institution, and report in writing in full the doings of the Faculty, the requirements for the future operations and running of the Institution in general. Such report to be placed in the hands of the President of the Board of Trustees, for its action at its final meeting of the regular session of the Board.

All Professors and Instructors shall report to the Regent at least five days before the regular meetings of the Board, (and at such other times as may be required,) the members of classes taught, and the number of students in each class, etc.; also state in writing what is actually needed to make their departments more effective in way of instruction.

The Professors of Agriculture and Horticulture and the Mechanic Arts shall have charge of the employes in such departments, and such employes shall report their doings to said Professors, who shall embody said report with their own to the Regent.

[Signed.]

J. H. PICKRELL,
D. D. SABIN,
D. GARDNER,
Committee.

The Board proceeded to the election of officers.

Dr. J. M. Gregory was elected Regent of the University.

Hon. Emory Cobb was elected President of the Board.

J. W. Bunn, Esq., was elected Treasurer.

Prof. E. Snyder was elected Recording Secretary.

Prof T. J. Burrill was elected Corresponding Secretary.

Messrs. Cobb, Gardner and Pickrell were elected the Executive Committee.

Col. Mason and Mr. Byrd were appointed a committee to inform Dr. Gregory of his unanimous election.

Part VI. of the by-laws was amended so as to make the clause read as follows: "He shall quarterly, and oftener when required, make a detailed report," etc.

Mr. Byrd here introduced the Regent, Dr. Gregory, who, in a few appropriate words thanked the Board for the confidence expressed by the election and kindness shown.

The request of Prof. Burrill for cases for Herbarium and object glasses for Microscope, was referred to the Executive Committee.

The Board adjourned.

JUNE 8, 1875.

The Board met at 4:30 P. M.

Present—Governor Beveridge, Messrs. Cobb, Blackburn, Macon, Slade, Sabin, Gillham and Gardner.

Absent—Messrs. Brown, Byrd and Pickrell.

President Cobb called the meeting to order and the minutes of the last meeting were read and approved.

Messrs. Cobb and Gardner having been re-appointed members of the Board, the oath of office was administered by J. H. Nees, Esq.

The Board took a recess to hear the lecture of Prof. Turner in the University Chapel.

The Board re-assembled at 5:30 P. M.

The President, Mr. Cobb, having been re-elected President of the Board, during a temporary absence in the South, now thanks the Board for the confidence placed in him.

The Treasurer's bond for $300,000 was received and approved, and the Recording Secretary was instructed to take charge of these and all similar documents.

The Board took a recess till 9 o'clock, P. M.

EVENING SESSION.

The Board met at the appointed time.

Dr. Mills was called before the Board and made a verbal report on the proposed course in Agriculture.

Full certificates of graduation were granted to the following students, on recommendation of the Faculty: Laura Anderson, Champaign, Ill.; Amanda Campbell, Philo, Ill.; D. E. Barnard, Manteno, Ill.; Flora L. Kellogg, Woodsville, Ohio; Alice Lee, Champaign, Ill.; Fanny Purce, Champaign, Ill.; Maggie E. Stewart, Champaign, Ill.; Mary C. Steele, Urbana, Ill.; Arthur E. Barnes, Champaign, Ill.; Dillon S. Brown, Genoa, Ill.; Ralph L. Brown, Marengo, Ill.; Vanlite W. Coddington, Menomonee, Wis.; Frank P. Dobson, Minonk, Ill.; Henry Dunlap, Champaign, Ill.; Burleigh A. Dunlap, Savoy, Ill.; James Faulkner, Clement, Ill.; Winfield S. Everhart, Neoga, Ill.; Ernest Eaton, Philo, Ill.; George N. Gredley, Half Day, Ill.; George F. Kenowell, Clement, Ill.; John E. Leflar, Batavia, Ill.; Charles C. Lyford,

Roscoe, Ill.; John C. McCanley, Defiance, Ohio; John Mueller, Wurtemberg, Germany; Fernando A. Parsons, Waterloo, Iowa; Emory Patch, Janesville, Wis.; Watson Pickrell, Mechanicsburg, Ill.; Wm. C. Pollock, Mt. Vernon, Ill.; Elna A. Robinson, Champaign, Ill.; Melville A. Scovell, Rantoul, Ill.; Clarence O. Scudder, Creston, Ill.; L. Fenn Warner, Rockford, Ill.

Partial certificates were granted to the following named students, on recommendation of the Faculty: Kate Hullinger, Rock Falls, Ill.; Kate Karcher, Champaign, Ill.; George R. Shawhan, Sidney, Ill.; Hector H. Tyndale, Springfield, Ill.; C. W. Lambert, Rantoul, Ill.

The Business Agent read his report.

REPORT OF BUSINESS AGENT.

HON. EMORY COBB, *President of the Board of Trustees of the Illinois Industrial University:*

SIR:—I have the honor to make the following report:

Paper A is a statement of the State appropriations at date, including those made by the last Legislature.

Paper B shows the condition of the current appropriations, expenditures and collections for the three months ending June 1, 1875.

Paper C is a list of warrants drawn since the March meeting of Trustees.

Paper D is a list of bills offered for auditing.

Paper E gives in a crude form, estimates for the repairs of roof, etc. of New Building.

In the same connection I will draw your attention to repairs required in the building. The main stairway needs attention; windows and doors need overhauling, especially the first named; a little plastering and painting are required; the boilers of the heating apparatus need overhauling, the tubes of one of them being in bad condition. Other parties I suppose will call your attention to the work which should be done upon the grounds. The Old Building will need its usual summer's cleansing and repairs. The outside wood work needs a coat of paint, and the windows, as a rule, better stops. The walk on the west side of the grounds your committee will, I suppose, have re-laid this summer.

As authorized, a new fence has been made on the north side of the arboretum, and the fence outside of the walk placed inside.

The Machine and Carpenter shops are in a satisfactory condition in most respects. The Board is requested to authorize their being run this summer, if it can be done without loss to the University. Such a course seems necessary in order to keep their custom.

It also seems desirable to have the work of the Veterinary buildings, if put up this summer, done by the carpenter shop. The tools authorized to be purchased for the latter shop will be got before September. Improvements in the machines of both shops have been made. It is desirable to complete the steam pump for the machine shop at once. The cost will be $30. All work possible it is best, certainly, to keep till term time. This seems an exception.

The dry chamber for the Carpenter shop is giving satisfaction, and is worked at far less expense than the old dry house.

Mr. Baldwin, whose agent placed a gas governor upon our meter a year ago, has not removed it, though I notified him that the Trustees refused to accept it.

The action of the Trustees is asked in regard to having the old building occupied during the vacation. If not otherwise directed it will be occupied only by two assistants of the University for better protection.

Also, as to what building of the ——, if any, may be occupied by students working for it during vacation.

I recommend that the present Foreman be retained for the shops, so far as their commercial work is concerned.

Respectfully submitted,

S. W. SHATTUCK, *Business Agent.*

"A"—*Statement of State Appropriations, June 5, 1875.*

On account of	Appropriated.	Expended.	Unexpended.
New University building	$15,000 00	$15,000 00	.....
Heating apparatus	18,000 00	17,972 94	$27 06
Fitting and furnishing	7,350 00	7,271 17	78 83
Gas fixtures	1,200 00	1,200 00	.....
Physical Laboratory	3,000 00	2,997 33	2 67
Taxes on lands	6,000 00	5,202 78	797 22
Agricultural experiments	1,500 00	1,442 69	57 31
Taxes for 1875 and 1876	$6,000 00		
Buildings and grounds	2,000 00		
Physical Laboratory	1,000 00		
Printing office	500 00		
Veterinary Department	2,000 00		
	.....	.....	.....

URBANA, June 8, 1875.

S. W. SHATTUCK, *Business Agent.*

"B."—*Statement of Current Appropriations, Expenditures and Collections, June 8, 1875.*

	Appropriations.	Receipts.	Drawn.	Unexpen'd
Board expenses	$250 00		133 50	$116 50
Salaries	14,390 00		7,970 37	6,419 63
Fuel and lights	300 00		195 80	104 20
Stationery and printing	500 00		75 25	424 75
Buildings and grounds	1,000 00		91 82	908 18
Incidental expenses	300 00	$ 8 59	39 82	268 77
Mechanical Department	55 49	547 79	531 34	71 94
Architectural "	466 97	78 57	170 26	375 28
Agricultural "	2,039 19	1,537 12	2,662 74	913 57
Horticultural "	253 63	362 25	248 97	366 91
Chemical "	130 00	206 54	161 57	175 27
Military "	60 00		10 68	49 32
Library and apparatus	400 00		293 61	106 39
Sundries—Civil Engineering Department	170 00		17 90	152 01
Diploma Plate	100 00			
Ladies Gymnasium	50 00		23 20	26 50
Freight on mining apparel	40 00			
Mr. Seal's advertisement	15 00		15 00	
Physical Laboratory	100 00		24 28	
Unpaid bills	514 11		514 11	
Centennial Exposition				
Special—Agricultural Experiments	1,039 11		264 40	
Fees and room rents		1,677 50		1,677 50
Coal Collections		148 40		148 40
Burnett, rent		731 15		731 15
Taxes on wild lands			3,007 00	
		$5,298 21	$16,451 71	

S. W. SHATTUCK, *Business Agent.*

URBANA, June 8th, 1875.

"D."—*Unaudited Bills.*

To whom.	For what.	Amount.
Cleveland Screw Tap Company	Hardware	$5 12
M. E. Lapham	Lumber	125 51
Illini	2,500 catalogues	260 00
Dr. Manly Miles	Fifteen lectures	200 00
H. Swannell	Chemicals	66 19
S. W. Robinson	Apparatus for Physical Laboratory	31 66
E. Satterthwart	One bush rose bulbs	5 00
James M. Ralph	Work on Observatory	27 12
Webster, Davies & Co	500 feet lumber	25 00
H. Peddicord	Pipe	5 00
W. T. Pratt	Repairing roof of Drill Hall	48 00
Joseph McCorkle	Hardware	13 15
J. B. Webb	Petty expenses of department. and work and matariel for Observatory	14 49
Enterprise Coal and Coke Company	Ten cars coal	124 00
W. M. Kennedy	Advertising	4 00
Locke & Saxton	Hardware	13 64
A. Snedaker	Castings	83 82
H. H. Chandler	Advertising	135 00
"Illinois Schoolmaster"	Advertising	15 00
E. N. McAllister	Postage	14 36
S. W. Shattuck	Pay-rolls May, 1875	412 58
Agricultural Department	Farm expense May, 1875	313 02
Mechanical "	Credits	71 23
Architectural "	"	144 22
Agricultural "	"	370 84
Illinois Central Railroad Company	Freights March, April and May, 1875	368 00
S. W. Shattuck	Petty expenses May, 1875	29 12

Correct.

S. W. SHATTUCK,
Business Agent.

"C." *Abstract of Warrants.*

No.	To whom.	For what.	Amount.
362	Wm. Parker	Lumber, old account	$63 86
363	T. G. Lansden	Gas fixtures	3 50
364	J. M. Gregory	Expense to Springfield	19 00
365	E. V. Peterson	Fresco border for cabinet	27 75
366	Cunningham & Webber	Legal services	400 00
367	J. M. Gregory	Salary, March, 1875	333 33
368	S. W. Robinson	" "	166 66
369	T. J. Burrill	" "	166 66
370	S. W. Shattuck	" "	200 00
371	E. Snyder	" "	166 66
372	D. C. Taft	" "	166 66
373	J. B. Webb	" "	166 66
374	J. C. Pickard	" "	166 66
375	N. C. Ricker	" "	100 00
376	J. D. Crawford	" "	100 00
377	H. A. Weber	" "	120 00
378	C. W. Silver	" "	100 00
379	E. L. Lawrence	" "	100 00
380	B. F. Johnson	" "	41 66
381	C. E. Patchen	" "	50 00
382	Lou. C. Allen	" "	120 00
383	F. W. Prentice	" "	100 00
384	A. C. Swartz	" "	60 00
385	J. O. Baker	" "	50 00
386	F. A. Parsons	" "	40 00
387	E. A. Robinson	" "	15 40
388	M. A. Scovell	" "	25 00
389	A. E. Barnes	" "	25 00
390	H. A. Mann	" "	100 00
391	J. Kenis	" "	40 00
392	James C. Bryant	" "	20 00
393	Crane Bro's Manufacturing Co	Boiler, pump and setters	29 02
394	Hallock, Holmes & Co	Rubber tubing	2 78
395	D. E. Barnard	Putting up skeleton W	10 28
396	D. Gardner	Expense to meeting	18 00
397	Lyon & Healy	1 doz. music racks for band	3 93
398	S. D. Kimbark	Steel	6 84
399	Williams, Donnelly & Co	Copy Lakeside Directory	4 00
400	J. A. Schaffer	28 lbs grass seed	6 00
401	Editors "Illini"	Printing	10 00
402	Davies, Turner & Co	Freight charges on chemical apparatus	32 35
403	Fuller & Fuller	Chemicals	33 68
404	Plant Seed Co	Seeds	10 80
405	Ill. Cent. R. R. Co	Freight	3 53
406	A. M. Brown	Expense to meeting	26 55
407	R. B. Mason	" "	5 00
408	J. J. Byrd	" "	18 20
409	A. Blackburn	" "	18 25
410	D. D. Sabin	" "	23 75
411	J. H. Pickrell	" "	11 00
412	H. Swannell	Chemicals	36 27
413	H. P. Sampers	Seeds	96 02
414	T. R. Seal	Advertising	15 00
415	C. Kinnike & Co	Flower-pots and vases	8 60
416	G. Denerlich	Periodicals	9 93
417	Fuller & Fuller	Chemicals	8 83
418	I., B. & W. R. W. Co	Freights	10 18
419	Jno. McGavick	Millet seed	8 10
420	Student Labor Pay-Roll	March, 1875	382 82
421	E. L. Lawrence	Farm expense	2,105 72
422	J. M. Gregory	Salary, April, 1875	333 33
423	S. W. Robinson	" "	166 66
424	T. J. Burrill	" "	166 66
425	S. W. Shattuck	" "	200 00
426	E. Snyder	" "	166 66
427	D. C. Taft	" "	166 66
428	J. B. Webb	" "	166 66
429	J. C. Pickard	" "	166 66
430	H. C. Ricker	" "	100 00
431	H. A. Weber	" "	120 00
432	J. D. Crawford	" "	100 00
433	C. W. Silver	" "	100 00
434	E. L. Lawrence	" "	100 00
435	B. F. Johnson	" "	41 66
436	C. E. Patchen	" "	50 00
437	Lou. C. Allen	" "	120 00

"C."—*Abstract of Warrnnts*—Continued.

No.	To whom.	For what.	Amount.
438	T. W. Prentice	Salary, April 1875	$100 00
439	A. C. Swartz	" " "	60 00
440	J. O. Baker	" " "	50 00
441	F. A. Parsons	" " "	40 00
442	E. A. Robinson	" " "	15 40
443	M. A. Scovell	" " "	25 00
444	A. E. Barnes	" " "	25 00
445	H. A. Mann	" " "	100 00
446	J. Kenis	" " "	50 00
447	Emory Cobb	Expense to meeting	12 75
448	New Eng. Journal of Education	Advertising	30 00
449	M. L. Dunlap & Sons	"	5 00
450	C. U. Gas Co	Bill for March	32 00
451	Editors "Illini,"	1100 Circulars	8 00
452	W. F. Pratt	Repairs on roof	7 00
453	E. J. Benjamin	Chemicals	62 21
454	Crane Bros. Mnfg Co	Cutting gears	3 30
455	Enterprise Coal Co	6 cars coal	74 00
456	T. G. Lansden	Gas fixtures	2 10
457	M. Miles	Lectures to Senior Class	30 00
458	R. S. Wilbur	Hauling 10 cars coal	40 00
459	Elmer Baldwin	Lecture to Senior Class	30 00
460	L. C. Allen	Gymnastic apparatus	16 00
461	I., B. & W. R. R. Co	Freights	2 17
462	E. L, Lawrence	Farm expense, April	255 44
463	A. S. Kissell	Books	3 00
464	Trevitt & Green	Hardware	37 26
465	Fuller & Fuller	Glass	16 88
466	Cleveland Screw Co	Hardware	12 77
467	H. K. Vickroy	Apple and pear seed	10 30
468	Joseph Nelson	Rent of building	30 00
469	Enterprise Coal Co	4 Cars coal	52 00
470	Hollister & Baker	Posts and frames	13 55
471	Geo. E. Morrow	Lectures to Seniors	25 00
472	W. C. Flagg	" "	55 00
473	L. W. Lawrence	" "	20 00
474	Student's labor pay roll	For April 1875	487 23
475	E. N. McAllister	Postage	22 25
476	S. W. Shattuck	Petty expenses, March	35 50
477	J. W. Shermerhorn	Gymnastic apparatus	7 20
478	R. M. Walker	Repairs of band instruments	3 75
479	O. M. Colman	Tree digger	20 00
480	Dodson & Hodge	Hardware	43 68
481	J. M. Gregory	Salary, May 1875	333 33
482	S. W. Robinson	" "	166 66
483	T. J. Burrill	" "	166 66
484	E. Snyder	" "	166 66
485	S. W. Shattuck	" "	200 00
486	D. C. Taft	" "	166 66
487	J. B. Webb	" "	166 66
488	J. C. Pickard	" "	166 66
489	N. C. Ricker	" "	100 00
490	J. D. Crawford	" "	100 00
491	H. A. Weber	" "	120 00
492	C. W. Silver	" "	100 00
493	E. L. Lawrence	" "	100 00
494	B. F. Johnson	" "	41 66
495	C. E. Patchin	" "	50 00
496	Lou C. Allen	" "	120 00
497	F. W. Prentice	" "	100 00
498	A. C. Swartz	" "	60 00
499	I. O. Baker	" "	50 00
500	F. A. Parson	" "	40 00
501	E. A. Robinson	" "	14 70
502	M. A. Scovell	" "	25 00
503	A. E. Barnes	" "	25 00
504	H. A. Mann	" "	50 00
505	J. Kenis	" "	50 00
506	A. H. Roffe	Periodicals, 1875	180 93
507	F. W. Christern	" "	40 10
508	James Green	2 Thermometers	12 00
509	W. F. Bliss	Lecture to Seniors	25 00
510	Geo. Luch	Plants	9 45
511	R. S. Wilbur	Hauling 10 cars coal	40 00
512	C. Kinnike	Flower pots	12 20
513	J. W. Bunn	Taxes	3,007 00

The bills presented for payment were audited and allowed.

The Executive Committee and Business Agent were authorized to have the necessary whitewashing, cleaning and repairs of buildings done.

Mr. Gardner and the Business Agent were authorized to direct the running of the Carpenter and Mechanical shops during the summer vacation, if it can be done without loss to the University.

The steam pump commenced at the Mechanical shop was ordered to be completed, the cost not to exceed $30.

Adjourned till 2 P. M., June 9.

AFTERNOON SESSION.

Board met as per adjournment.

The Regent, Dr. J. M. Gregory, presented his report, together with reports from the several Professors in charge of Departments.

REGENT'S REPORT.

To the Honorable Board of Trustees of the Illinois Industrial University:

GENTLEMEN—This quarterly report closes the work of this academic year; but as the reports of the several departments are not yet complete, I must defer till a later time the proper historical statements.

But as some action is required in view of the wants of the coming year, I offer for your consideration the following recommendations:

RECOMMENDATIONS.

I recommend that Professor Weber be advanced to the full Professorship of Chemistry. His first year's work with us has been satisfactory, and his previous rank and experience justifies him in the expectation that his rank here shall now be made equal to his position.

I recommend that Assistant Professor Ricker's rank be advanced to that of the full Professorship of Architecture.

Also that Instructor Crawford be made Assistant Professor of Ancient Languages and Literature, and that he still be charged with the duties heretofore devolved upon him of Chief Librarian.

I recommend that Mr. Parsons be employed as Instructor in Bookkeeping and Commercial Arts.

Also, that Mr. Kenis be continued for the coming year as Instructor in Ornamental Art and Designing, and in Clay Modeling. His work is new among us, and may need further trial as to its ultimate utility. But I ought, in justice to Mr. K., to testify to the valuable interest his instruction has created among the students.

I wish to recommend the re-employment for the coming year of Mr. Frantz as Assistant in Mathematics and Architecture, and Mr. Baker as Assistant in Engineering and Physics; also, of Messrs. Scovill and Barnes as Assistants in Chemistry, and of Mr. Robinson as Foreman of Machine shop and Instructor in Practical Mechanics.

I recommend the re-appointment of Dr. Prentiss, and of Miss Allen and Miss Patchen to the places already occupied by them.

After consulting with the Business Agent, I venture to recommend such increase of the salaries of the several Professors, Instructors and Assistants just named as your funds will allow and as they reasonably expect, as follows:

Prof. Webber, salary raised to	$1,600 00
Prof. Ricker, " "	1,500 00
Assistant Prof. Crawford, salary as Professor, $1,200	
" " " " Librarian, 300	1,500 00
Mr. Parsons, as Instructor. $50 a month	
" " Clerk, 20 "	70 00
Mr. Kenis, as Instructor	60 00
Mr. Baker, "	60 00
Mr. Swartz, "	75 00
Mr. Scovill, "	40 00
Mr. Barnes, "	40 00
Mr. Robinson, as Instructor, $1.000	$40 00 and
" as Foreman	60 00,

Conditional on the income from shop for 9 months, and $100 a month during vacations on same conditions. Dr. Prentiss $100 a month for time employed. Miss Patchen's services in the drawing classes are needed in my judgment at least four hours a day, with such compensation as is right.

Miss Allen's appointment ought now to be made permanent, and I owe it to her to remind you that when she was first appointed, her acceptance was accompanied with a request that the salary be made $1,500 after first year.

Only a very small appropriation was made for the Library at your last meeting, wholly inadequate to our needs; but it was hoped at that time to secure from the legislature an appropriation of $2.000 for the purchase of books. This having failed, I have to ask that the sum of $500 be set

apart for this purpose. The legislative appropriation of $1,000 for repairs, will enable you to make this provision for books. After a careful revision, in company with the librarian, of the list presented you in March, we find the books immediately wanted will amount to the sum of $500. As I am to visit New York City during the vacation, I will cheerfully undertake the purchase if desired, that the books may be here by the opening of the next term. One hundred and fifty dollars also asked for binding and repairs.

The music teacher asks for two music stools, and an additional piano. The stools are necessary and the piano ought to be had if your funds will permit.

The School of architecture asks appropriations amounting to $200, for materials for shop practice, for the coming year, and for desk and seat form for class room. The requests are reasonable and ought to be granted.

There are also needed for the Library, as shown by the librarian's report, seven additional tables for reading room, and a supply of chairs. All the chairs there now are needed for other rooms, and I suggest that 200 new chairs of a different color, so that they may be easily distinguished, be purchased.

The Professor of Architecture has prepared, at my request, plans for the new Veterinary building and stalls, and estimates for same. I present them for your inspection and approval. The appropriation made by the legislature for this building and for apparatus for the department is $2,000. I earnestly recommend the purchase of Dr. Angum's *papier-mache* preparation, *C cheval couplet*, for the department, as the most important and useful of the apparatus. The balance of the appropriation is needed for books.

Prof. Snyder reports a receipt by donation of the students of the pay given by the Government for services in Chicago at the time of the great fire, amounting to $453. This has been donated for the fitting up of the drill hall, and an additional amount is asked to carry it up to $600. An order to have the work done is also required.

The Professor of Chemistry presents a request for additional chemicals to keep up his supply. He also suggests the need of more desks, if money can be spared. I hope some additional desks, providing for twenty-four more students, may be ordered.

Fifty dollars were voted at the March meeting for materials to begin the preparation for the Centennial at Philadelphia.

I recommend that some appropriation be made for purchases to be made by Prof. Webb for his department, as requested by his report.

The use of one or two public rooms for the meeting of the School Principals' Association, to be held July 6, 7 and 8, is recommended.

The use of public rooms for the County Teachers' Institute from July 15 to August 25, or thereabout, is asked by the County Superintendent, provided the attendance is too large for the public school building.

I recommend that the Janitor be required to take the meteorological observations during the vacation.

J. M. GREGORY, *Regent.*

MILITARY DEPARTMENT.

URBANA, ILL., June 4, 1875.

DR. J. M. GREGORY, *Regent Illinois Industrial University:*

DEAR SIR—I have the honor to herewith lay before you the report of the work for the academic year 1874-75 done in the Military Department and School of Modern Languages.

Instruction in the Military Department was given in accordance with the published programme.

Number and organization of students was as follows:

	Fall Term.		Winter Term.		Spring Term.		
	Officers	Men.	Officers	Men.	Officers	Men.	
Staff	3	.....	3	.....	3	.....	
Company A	6	35	5	25	5	24	Senoirs.
" B	5	29	4	22	4	24	Juniors.
" C	5	38	5	28	5	22	Juniors.
" D	6	36	3	28	4	28	Sophomores.
" E	4	22	4	23	4	20	Freshmen.
" F	5	22	5	24	5	21	Freshmen.
" G	4	22	4	24	4	20	Freshmen.
" H	5	23	5	23	5	23	Freshmen.
Band and music	1	10	1	14	1	12	
Total	44	247	39	211	40	194	

The plan and programme of instruction for the next year has been somewhat modified, using the experience had during the past two years with a view mainly to occupy a minimum of time and still give a sufficiency and variety, also perfect gradations of subjects of instruction, placing them also in those seasons where they can be most advantageously practiced.

The entire time given to Military exercise during the four years of the Academic course contemplates 150 to 180 drills of one hour each.

The class in Military Science, in which the officers of the Battalion are taught, has done good work this year. Sword fencing has been added to the exercises of the class.

Attendance has been as follows:

	Fall Term.	Winter Term.	Spring Term.
Senior Class	16	14	17
Junior "	27	26	23

The instruction in Modern Languages has been given in two classes in French and three in German. The beginning class in German being too large in numbers had to be divided.
The class rolls were as follows:

	Fall Term.	Winter Term.	Spring Term.
Advanced French	11	9	7
Beginning French	33	23	19
Advanced German	29	23	18
Beginning German	55	51	46

Good work has been done in the classes. Students seem more to appreciate the fact, that besides the practical utility of the acquisition of the idiom, a good deal of linguistic general drill may be given in the study of these languages—and willing to do thorough work.

I would also respectfully report that by an act of the General Assembly of the State of Illinois, a compensation had been voted for the services of the I. I, U. Battalion at the Chicago fire, in 1871. The students, all but 19 of whom had graduated and left, were written to and apprised of the fact, and have most all donated the amounts coming to them to the Military Department, to be expended in the fitting and fixing up of the University Drill Hall.

(Resolution passed and subscribed enclosed.)

I have drawn on my Pay Roll from the State Treasury the awarded amount, $4.00 each, for myself and 122 students actually on duty (23 students could not be found, and 3 had died, for whom nothing can be drawn) together $492. After remitting to the ten who had called for their amounts, I hold the sum of $453 for the purpose aforesaid.

The drill hall has been left with bare walls and rafters, when the Mechanical and Military Building was furnished, owing to the insufficient amount of the State appropriation, and the paramount necessity to furnish fully the machine shops.

It answers its purpose as it is, but I believe that appearance and neatness of a place has a great deal of influence upon young men, and would have asked and intended to ask several times for appropriation for plastering and painting, had not the funds been in so great demand always and for purposes more needed than this.

The generosity of my former pupils has thus made possible a wish long entertained by me, and I respectfully ask that the Board of Trustees fill the amount donated by the students to $600 with and within which sum I will have the hall painted, fitted up, etc., during the coming vacation.

Very respectfully,
E. SNYDER,
Col. Commanding I. I. U. Batt.

ENGLISH LITERATURE.

CHAMPAIGN, June 2, 1875.

HON. J. M. GREGORY, *Regent:*

In compliance with the rule of the Board of Trustees, the following report is respectfully submitted:

The course of instruction in English Literature during the past year has been substantially that laid down in the catalogue.

Whole number of pupils taught.....200
Average " " " 145

By terms and classes as follows:

	Freshmen. A.	Freshmen. B.	Sophomores.	Juniors.
First term	48	52	55	16
Second term	38	46	50	20
Third term	33	43	30	11

The Freshman class was so large that it recited in two divisions, so that my recitation hours have been four daily, as shown above.

Essays germane to the course have been required frequently, especially of the Freshman class.

Almost without exception my pupils have been diligent and interested in their work; and fair progress has been made by the several classes. Their great regularity in attendance has been to me a source of much satisfaction.

Three of the classes have been so large, the most of the year, that our work has been less efficient than it would otherwise have been. Moreover, some who were admitted proved to be quite inadequately prepared.

More books of reference are greatly needed, in addition to those reported last winter (of which none have as yet been purchased). I could now add the *Bible*, with *Apocrypha* and *Concordance*, and Ellis' Early English Pronunciation.

J. C PICKARD.

REPORT OF THE SCHOOL OF CIVIL ENGINEERING.

To EMERY COBB, ESQ., *President Board of Trustees, Illinois Industrial University:*

SIR—The past year has been a successful one. A few of the classes have not been so largely attended as in previous years, owing to the decreased demand for railroad work, in consequence of the panic. During the Spring term, however, the classes were full, some fuller than usual, and the prospect is for large classes next year. Six from the Sophomore and Junior classes have been appointed to positions on the lake survey, in place of one last year, and others have obtained profitable employment. I have confidence in all these, that they will do themselves and their University credit and give satisfaction to their employers. The graduates have usually found satisfactory employment. Of the present class of three Seniors, one goes on the Central Pacific Railway, and the others expect employment on lines nearer home. In consequence of the assistance given by Mr. Baker the work has been better done this year than before, and some classes which could not be held in previous years have been taught this year, viz: the class in Engineering and Drawing and two classes in Astronomical Field Practice. Two other classes will probably be necessary next year, and it will soon be necessary to have an Assistant who will devote his whole time to the work in this school.

I have been gratified with the increased attention and interest shown in some of the classes. The class just completed in Mechanics has been practically satisfactory.

During this spring term classes have been taught in "Stone Cutting," "Analytical Mechanics (Dynamics)," Practical Astronomy (Latitude)," "Topographical Surveying," "Architectural and Farm Surveying," "Descriptive Astronomy." The number in each class has already been reported, and, as far as they have been examined, the results are satisfactory.

Special circumstances and arrangements, and your kindness, has made it possible for me to start on my European trip at this time (May 22d) without interfering with the work due to the classes under my instruction, and I desire to thank you for the privilege of so doing, feeling that the information which I shall collect on subjects connected with every department will be of advantage to my future classes. To make it possible for me to leave before the end of the term, I told my classes that I wanted them to work hard and get through before Wednesday last (May 12) if possible. The work in "Dynamics" does not usually require the whole term, and the students finish with a short course in Descriptive Astronomy, and the seniors are always expected to finish a week or two before the end of the term, so that it was quite possible for the classes to get through as I wished.

The students worked well, and the class in Dynamics (Mechanics) got through with the subject, which is more than any previous class has accomplished. The classes finished their work and were examined Friday, May 14 1875. I also arranged that Mr. Swartz, Assistant in Architecture, who was anxious to take the class, should teach the Architectural and Farm Surveying, which relieved Mr. Baker, so that he will not be overtasked with the extra work put upon him by my absence. Mr. Baker will therefore complete the class in Descriptive Astronomy which I should otherwise have taught personally.

I have to thank you also for the appropriations made for the School of Civil Engineering, at your last meeting. On arrival in London, I expect to make final arrangements for the University instrument, and hope to get it completed in time for October use. Mr. Ricker has engaged to make the case for the amount appropriated, but the counter will cost from $10 to $15 more, for which some provision will be needed. The observatory is in its new position, and the brick and stone pier ready for mounting the instrument next fall, when the mortar and grout will be hard enough to do further work upon it.

The pier and foundation, with removal of building, will probably come inside of appropriation of $50, but owing to the position selected for it, there being no suitable high ground on which to place it, more embankment will be needed than was expected, for which $50 will not pay.

Respectfully,

J. B. WEBB.

March 21, 1875.

To the President and Board of Trustees:

GENTLEMEN:—There are several things needed for our department which I can best secure by personal selection in Europe. Among them are: a high power eye piece for equatorial telescope; a part set of models in plaster, etc., of arches and bridges; a French surveying chain, and standard metre such as are ordinarily in use in France; a set of small topographical plates; one copy of Vegas' 10 figure logarithmic table, etc., etc.

I respectfully request that if the above meets your approval, that I be authorized to expend for the department an amount not to exceed one hundred dollars.

Respectfully, J. B. WEBB.

LIBRARY.

LIBRARY, June 3, 1875.

HON. J. M. GREGORY, *Regent:*

There have been added to the Library since my report in March seventy-three volumes, making the total for the college year one hundred and ninety-two volumes.

I have but one book to ask for in addition to the list already presented to the Trustees—that is a Bible. It is needed frequently for reference, and I would suggest that one should be bought before any other books, and that it contain the Apocrypha and a Concordance.

I have found that more than two hundred books in the Library have no labels, and the stock has been exhausted; so I would ask that that a supply of labels may be printed.

There are in the Library unbound periodicals of several years, enough to make about two hundred bound volumes. Some of these are made use of frequently for study and reference, and need to be bound that they may be preserved. The periodicals of each year would make about eighty volumes, which ought to be bound, if the means were available.

Some repairing is necessary every year on account of the wear of books by ordinary use. I mention these points more particularly that I may call the attention of the Trustees to the subject of establishing a book bindery at the University, in connection with the printing office, a matter which has been agitated somewhat already.

I would call attention again to the suggestion made in my report in March, as to the need of more tables and chairs in the Library. There is enough room for seven more tables of the size of those already in use, and I think as many as that will be needed. During the fall and winter terms of this year there were more students in the Library every day than could be accommodated with the chairs and tables now here, and it is not possible to preserve the order and quiet necessary to the Library, under such circumstances. I think 200 chairs, at least, are needed, and it might be well if they were all of the same pattern, and so marked that they would be known to belong to the Library.

The casings of all the windows need repairing. When the wind blows from the south and west in winter it is not possible to keep the Library warm, since there are cracks in every casing. In the summer the dust comes in in such quantities as to cover the floor, and more injury is done to the books in this way than by all the wear of ordinary use.

The fastenings of the iron shutters on the east side of the Library are so weak that it is not safe to open them when there is any wind. There is not light enough on a cloudy day if the shutters are closed, so that it would seem some fastening should be devised which would be safe. In the Third Annual Report of the Trustees, the catalogue of the Library was printed. Since then the Library has been increased threefold, and there is no printed list of the books. I would suggest that the catalogue of the Library be printed in the next report of the Trustees.

There are about twenty books that need repairs, and as they are books in common use, it would be well if the work could be done during the vacation.

Very respectfully,

J. D. CRAWFORD, *Librarian.*

CHEMICAL DEPARTMENT.

J. M. GREGORY, L. L. D., *Regent Ill. Ind. University:*

DEAR SIR:—The undersigned begs leave to submit the following report, showing in brief terms the condition of and the work done in the Chemical Department for the past year. In the fall term the class in Elementary Chemistry opened with one hundred and four students, and was divided into two sections, each of which recited daily. The work done in this term embraced the study of chemical physics, the principals of chemical nomenclature, and the chemistry of the non-metals. Ninety-four of this class were present at the examination at the close of the term.

There was also taught in this term a class in Mineralogy, numbering eight students, seven of whom were present at examination. The class had three recitations a week, and the minerals constituting the cabinet of the University were determined.

The class in the Chemical Laboratory numbered twenty-nine students, four of whom commenced in Qualitative Analysis. Of the advanced students three were in the agricultural course, the rest were engaged in making analysis of soils, mineral waters, iron, zinc, lead and copper ores, assaying of gold and silver ores, organic analysis and the preparation of chemicals.

In the winter term the class in elementary chemistry numbered fifty-three students, and was again taught in two divisions. The work done in this term embraced the chemicals of metals, special attention being given to its application to the arts and manufactures.

The whole number of students in the Laboratory this term was eighty-four, twenty of whom were advanced students, and occupied the room which had recently been fitted up. Five of these were in the agricultural course, of the remainder three were engaged in the study of poisons and the rest in alalysis of various ores and other minerals, electroplating and preparing chemicals.

The class in elementary chemistry for the present term numbers thirty students; the whole term has been given to the study of Organic Chemistry. The whole number of students in the Chemical Laboratory is sixty. Of these, four are in the agricultural course. Of the remainder, two have been engaged in making the various preparations of the veterinary materia medica, one has been preparing tinctures and extracts with a view of going into the drug business, and the rest have been engaged in making general analyses, electroplating, etc.

ASSISTANTS.

During the whole year this department has received the constant and able assistance of Messrs. A. E. Barnes and M. A. Scovell, both of whom cannot be too highly recommended for the situations they are occupying. The teaching in the Laboratory must all be done individually, and at the opening of the winter term we found that with our help it was impossible to give the large number of students proper attention. Two of the more advanced students, Messrs. J. N. Stayman and W. Stull, were therefore taken as volunteer assistants, the former of whom has acted in the same capacity during the present term, and has rendered the department valuable aid.

With the prospects of an increased attendance in the Laboratory next fall, the number of assistants would have to be increased, and should it meet your views, and those of the Honorable Board, the undersigned would respectfully recommend the appointment of Messrs. Barnes and Scovell, at the salary agreed upon with you, as well as that of Mr. Stayman, with such little compensation as may seem fit.

It might also be well to state that if the class in Chemistry will be as large next fall as it was last, the lower room will by no means accommodate all who will work in the Laboratory. If it should be thought desirable, the old recitation room could be fitted up with desks.

Very respectfully,

H. A. WEBBER.

June 3, 1875.

J. M. Gregory, L.L.D., Regent Illinois Industrial University:

DEAR SIR—The undersigned begs leave to submit the following list of Chemicals and apparatus needed for the progress of work in Chemical Laboratory next fall. The estimate of Chemicals have been based upon the wants of the Laboratory for the whole coming year, since wholesale prices can be obtained if the Chemicals be purchased in the following quantities:

10 lbs	Potassium carbonate	$2 50
2 "	" hydroxide	1 50
5 "	" chlorate	2 00
2 "	" ferricyanide	2 00
5 "	" ferrocyanide	2 50
10 "	" dichromate	2 50
1 "	"	4 50
1 "	" bromide	1 00
5 "	" cyanide	4 00
5 "	Sodium phosphate	1 50
10 "	" sulphate	50
5 "	" bicarbonate	40
5 "	" borate	1 50
10 "	" acetate	5 00
20 "	" hyposulphite	2 00
1 keg	" carbonate (com)	3 50
1 carboy	Ammonia	10 00
8 lbs.	Ammonia C. P.	2 00
20 "	Ammonium carb.	2 00
20 "	" chloride	2 00
2 "	Barium nitrate	1 50
2 "	" chloride	2 00
10 "	" carbonate	2 50
2 "	Strontium chloride	2 00
2 "	" nitrate	1 00
10 "	" sulphate	2 50
10 "	Alum	80
2 "	Chrome alum	2 00
5 oz.	Nickel sulphate	5 00
1 lb.	Metallic nickel	5 00
5 oz.	Cobalt nitrate	5 00
10 lbs.	Copper sulphate	1 50
50 "	Iron sulphide	15 00
5 "	Copper carb	4 00
2 "	" acetate	2 00
2 oz.	Cadinium	1 00
½ lb.	Bismuth sub-nitrate	3 00
5 lbs.	Lead acetate	1 25
2 "	Red oxide	60
1 "	Mercuric chloride	2 25
1 "	Silver nitrate	15 00
2 "	Tartar emetic	2 00
5 "	Arsenious acid	1 50
1 carboy	Sulphuric acid	7 50
1 "	Nitric "	20 00
1 "	Hydrochloric acid	7 00
60 lbs	" C. P.	18 00
5 "	Tartaric acid	3 25
30 "	Acetic "	6 00
5 gals.	Alcohol	12 50
30 nests of	Beakers	33 00
20 "	" Large Beakers	46 00
10 lbs	Glass Tubing	7 50
1 doz.	Funnels	5 60
	Total	$307 65

Very respectfully,

H. A. WEBBER.

June 3, 1875.

SCHOOL OF ARCHITECTURE.

CHAMPAIGN, June 3, 1875.

To the Regent and Board of Trustees of the Illinois Industrial University:

GENTLEMEN:—I beg leave to submit the following report in behalf of the School of Architecture for the collegiate year just ending:

The present number of students taking full courses in Architecture, is fifteen, fourteen gentlemen and one lady; one senior, two juniors, three sophomores, and nine freshmen. Besides these, several from the schools have pursued special studies in Architecture, especially drawing.

During the term just past classes have been taught in these practices, four members, Architectural Surveying; five members, Architectural Designing; two, Architectural Drawing for Architects; four for Engineers; and also a class in Drawing for Gardening, of five members, for two weeks only, the allotted time. All the studies prescribed in the course of study for last year have been taught when desired by the students. In some, nearly all fourth year studies, there were no students, but there will be required during the next school year, so that the full course of instruction now required will be taught for the first time.

During this year, a year's course in the practice, of ten hours per week, has been pursued by several freshmen, thus being qualified to work in the shops next year, and to produce better work than most students have heretofore been able to do. The practice is very beneficial, but much experience and thought are necessary to direct the energies of the students so as to make the

utmost progress in the least time. From the work of this class the school may expect to attain a good collection of models of construction at a very small cost, greatly needed to illustrate lectures on construction, as very few large structures are accessible here to students, during their erection, and the models can be made to embrace all the latest experiments, thus being much more valuable than those purchased in Europe at a greater expense. The last term has been directed exclusively to stair building, as well as the shop practice of the advanced classes in construction. It is intended to make the theory and practice of stair building one of the prominent specialties of the school, as it is very valuable to mechanics, and is, I believe, taught nowhere else, at present, in the United States.

For the first time, too, in this school, the theory of Stair Building has been fully given, and applied to the difficult cases, in which all the necessary drawings were made by the class.

I propose to make the instruction in architecture during the next school year as full and thorough as given anywhere else in the United States, even where apparatus and advantages are far superior, and to make it the best in time.

Herewith I also submit a design and estimates for a veterinary hospital, which consists of a building 17x24 ; consulting office, 10½x11 ; closet for medicines, 5x8 ; stable with two box stalls, 12x12 ; and forage room, 10½x12, and a yard 36 feet square for performing operations. The building is to be sided with common thin siding ; plastered inside, two coats, to have sink with faucets to tank in attic, which is supplied by a force pump from well. The stalls to be floored with 2 inch oak plank, laid close on sleepers which are on cinders, sloping to the west side of stable. Each stall to have hay rack, manger and a water basin ; which are to be supplied for forage room. Sides of stalls sheathed 5 feet high with 2 inch oak plank.

The outside of the whole and the inside finish, and dissecting room to receive two coats of good paint.

Estimated at Champaign prices for work and material, the whole amounts to $1,101 00, but by buying at wholesale rates in Chicago, I believe the entire cost could be reduced to $1,000 00, which would be covered by the State appropriation for Veterinary Department.

I make the following requests as being necessary for the school for the next year :

1. An appropriation of $10 for drawing paper for making drawings for the shops and for classes in this practice.
2. An appropriation for expenses of, and material used by classes in shop practice during the next school year, of $15 per month for the fall and spring terms, and $25 per month for the winter term. During the winter term there are two distinct classes. Most of this is required for heating and power.
3. An appropriation of $25 for materials for construction of apparatus needed to illustrate lectures on heating and ventilation, next year. I propose to make most of it myself during this summer vacation.
4. An appropriation of $20 for a suitable desk and platform for the Architectural lecture room.
5. That Professor Shattuck be authorized to expend $16 and express charges, of the previous appropriation for expenses in this practice, in the purchase of a small chuck and tools for turning metal, for the small lathe purchased last winter for the class.
6. That Professor Shattuck be authorized to expend $10 for cherry lumber for models, of appropriation requested for class in this practice next year, immediately, so that it may be perfectly dry at beginning of fall term.

I also request that an additional room be assigned to the School of Architecture, for a lecture and recitation room, as but one is occupied by the school at present, and is full of drawing students and tables, so that a second room is absolutely necessary.

I also further recommend that Mr. Kenis be continued as Instructor in Modeling and Ornament, Mr. Swarts as Assistant in Architecture and Instructor in Mechanical Drawing, and Mr. Codington as foreman of the carpenter shops, as these gentleman are all able instructors, know their duties from experience, and are therefore much more valuable to the University than new men would be.

Mr. Kenis has made his classes in Modeling and Ornamental Drawing very useful and very practical.

Respectfully submitted,

N. CLIFFORD RICKER,

Assistant Professor of Architecture.

DEPARTMENT OF FARM EXPERIMENTS.

EMORY COBB, *President of the Board of Trustees of the Ill. Ind. University :*

SIR:—I beg herewith to respectfully submit this, a brief report of progress in Department of Farm Experiments :

Of the six varieties of wheat and two of rye, with which these experiments were begun last September, I have to report that four kinds of wheat were winter-killed and that two have partially succeeded, and that the rye is coming on and promises to come out splendidly. The two varieties of winter wheat which have proved their hardiness, under the assaults of a winter which destroyed the wheat crops of the country, are known the one, as the Treadwell, and the other, as the Senaca or Clowson.

Of the spring grain, of which two varieties of rye, three of spring wheat, and five of oats, were tried, the results (except in the case of the oats, where the frost killed part of the seed in process of germination, and made them thin on the ground) have been very satisfactory indeed. It may be too soon to come to a final conclusion, but at present I see nothing in the soil or climate of Central Illinois that would or should interfere with the successful growing of the whole line of spring grains. Wheat, barley, rye and oats, always provide a clean soil, and early seeding and careful cultivation are provided and attended to

There are four fields of corn averaging about four acres each, on which different kinds of cultivation are to be tried, according to previous prepared programme. Having been seeded early in May, three of the fields had to be replanted, and the stand is not as good as it would have been. The conditi n of the plats is very fair, however, and it is hoped that the future and different kinds of cultivation to be applied, may teach some valuable lessons.

Ten from New York, 3 from France, and 6 obtained at home, of varieties of Potatoes have been planted side by side and are coming on prosperously, the soil and the season having been exceedingly favorable. It is expected some trustworthy information as to value and comparative value in the matter of hardiness, yield, earliness, etc., may be obtained at the outsend of the experiments.

An attempt has been made to ascertain how much Indian Corn can be grown on an acre, and an acre has been devoted to that purpose. A good stand has been obtained, and at present the growth of the young plants is considerably in advance of any within my observation.

In addition to the above, there are under cultivation plats and patches of one variety of Sugar, and three of Field Beets, and one each of Carrots, Caragua, and California and Cuba Cane, Sorghum, Brown Cereo Cabbages, Field Squashes and Pumpkins, and Germania Millet—with other German Millet and Buckwheat yet to be sown.

The stand of Lucern Clere or Alfalfa, seems to be unexpectedly good, and that of the Cichard Grass and the Italian Ray Grass are both admirable. There does not seem to be anything now in the way of success with these plants, unless it be the sun-scald which may injure them when the grain which occupies the ground with them is removed at harvest.

The Flax experiments have failed, of which five acres were sown with three varieties. The patches were seeded early in April, but the very unusual freezing of the ground about the middle of the month froze and rotted the seed just at the period of germination, and not more than a fifth of a stand was obtained. Under these circumstances the ground has been broken up and will be given over to buckwheat and German millet.

For further information, and in order to give the Board an opportunity to judge of the appearance of the experimental grounds, and of the manner of cultivating and handling, I invite the members of the Board to make an inspection of the growing crops in the fields.

And in conclusion, and with considerable diffidence, I ask for the purpose of making the experiment with the single acre of corn, in foreign corn, the root crop, cabbages and potatoes, the purchase of the following fertilizers. which may be had here in the city at the prices named.

Two barrels, or 600 lbs. super-phosphated lime, at 2.15c per lb ..	$12 90
One barrel, or 300 lbs., of nitrate of soda, 4½c per lb.....	13 50
Two barrels, or 600 lbs., of ground gypsum, $3 per barrel.....	6 00
	$32 40

B. F. JOHNSON,
In Charge of Experiments.

CHAMPAIGN, ILL., June 7, 1875.

EXPERIMENTS IN CATTLE FEEDING.

To DR. J. M. GREGORY, *Regent Illinois Industrial University:*

I herewith present tables showing the result of two experiments in cattle feeding as well as two in feeding hogs, with accompanying explanations.

I am also making an experiment of rearing and feeding hogs, to ascertain the cost from first to last in corn and pasture. The design in these experiments is to make them practical by feeding and caring for the animal in the same manner as is practiced by different practical feeders, and comparing one with another. It is not claimed that we can improve on the methods of feeding as practiced by good feeders, but we may ascertain the relative value of each.

We are grazing on the stock farm 66 steers, and have large and small, about 100 hogs.

The crops in process of growth includirg the experimental plate, cousist of 170 acres corn, 30 acres oats, 110 acres timothy meadow, 12 acres clover, 150 acres pasture, as well as some small pieces of rye, spring wheat, etc. While I expect an estimate of the efficiency of the work done on the farms will be made from the amount of dividends turned over and the condition of the land for another crop, yet it would be gratifying to have yourself and the Board of Trustees make a more extended examination of my work.

I would call your attention to the fact that the house and barn on the Experimental Farm are in great need of repair, principally painting. The painting should be done immediately, both as a matter of economy and for the sake of appearances.

Respectfully submitted, E. L. LAWRENCE.

CHAMPAIGN, June 1, 1875.

The reader will remember the details of several experiments in cattle feeding, conducted by Mr. E. L. Lawrence, the manager of the farm at the Illinois Industrial University, heretofore described in these columns. In this connection the following accounts of later experiments conducted by the same gentleman will be found of great interest and value:

No.	Weight.		Gain, 90 Days	Grain Consumed.		Conditions.
	Dec. 24.	May 24.		Total...	Per day	
1	1070	1320	250	2090	23.2	Ear Corn and Clover—in barn.
2	1390	1545	155	2090	23.2	" " " "
3	1360	1435	75	1430	15.9	Corn Meal and Clover—in barn.
4	1130	1230	100	1430	15.9	" " " "
5	1200	1265	65	1368	15.2	Corn Meal, Cut Straw and Clover—in barn.
6	1360	1470	110	1367	15.2	Middlings, Cut Straw and Clover—in barn.
7	1220	1395	175	1367	15.2	" " " " "
8	1220	1395	175	*2160	24.	Shock Corn—in yard.
9	1100	1305	205	*2160	24.	" "
10	1130	1345	215	*2160	24.	" "
11	1150	1275	225	*2160	24.	" "
12	1060	1375	215	*2160	24.	" "
13	1130	1375	240	*2160	24.	" "
14	1190	1405	215	*2160	24.	" "

* Estimated.

Average daily gains for 90 days: Nos. 1 and 2, 223 lbs.; Nos. 3 and 4, 97 lbs.: No. 5, 72 lbs.; Nos. 6 and 7, 158 lbs.

7	steers in the barn averaged	145 lbs. daily.
7	" yard "	236 "
14	steers averaged	190 "

At the commencement, seven steers put in the barn averaged, 1,247 lbs; seven steers in the yard averaged, 1,140 lbs.

The cattle were of the common stock of the country, all showing more or less improved breeding. From one to seven, inclusive, were fed in the barn in stalls, and fastened by chains about the neck. The stalls were cleaned once a day and kept littered. The grain was weighed into separate bins, two animals being fed from each bin, except in the case of No. 5—fed alone. After the second week all had what they would eat; no steer was cloyed or ate enough to cause sickness. Nos. 1, 2, 3 and 4 had each, with the feed of grain, 5 lbs. of clover hay (10 lbs. daily) of the best quality. Nos. 5, 6 and 7 had, morning and evening, a feed of grain mixed with 2½ lbs. cut rye straw, wet, (5 lbs. daily) and 5 lbs. clover hay at noon. They were not removed from the stalls during the time of feeding. Water was offered twice a day; they usually drank freely in the morning, and lightly or not at all in the evening.

Nos. 8 to 14 were fed in the yard, a sheltered place by the barn, and had, morning and evening, a small shock of corn.

After the first week, 35 pounds ear corn was added, fed at noon. After the second week this was increased to 70 pounds. By husking and averaging several shocks, it was thought that the average feed amounted to 24 pounds daily; corn of medium quality for the season; compared with other years, it would be called small, though ripe. Of large and hard corn, cattle would not eat this amount.

As has been seen, the cattle in the barn, when put up, averaged 107 pounds more than those in the yard. This was accidental, and unfortunate. Some difficulty was experienced in getting them in the barn, as they were wild. In driving the lot to the door, the heavier ones went in first. The cattle were not bought with a view to make the experiment, and were not as even a lot as could be desired. In this respect they were inferior to those fed the two preceding winters. Again, as compared with the former experiments, they were thinner in flesh, on account of the drought, and consequent shortness of pasture, and, for this reason, gave better gains.

In an experiment like this there will always be found much that must be explained by the experimenter. By closely studying this experiment, as well as the two former ones made on the farm, I will venture a few observations.

To explain the difference in the gains of Nos. 1 and 2, I would say that No. 1 was the thinnest in flesh of any in the barn; Nos. 2 and 3 were the fattest. These (2 and 3) were wintered on the farm; the rest were bought the last of July, '74. These had better kept, and may have been some months older, both of which would tend to make the gains less. No. 4 should have made a better gain. About the middle of the feeding this one bloated badly for four different times during a period of two weeks, before it was discovered that the cause was lying against the chain that fastened him. It is thought that fifty or more pounds was lost by this. No. 5 was a smooth, fine steer that was in good fix when first put up and fat when he came out, but did not grow at all. It will be observed that the large steer, No. 6, fed with No. 7, gained 65 pounds less: they resembled each other in every particular except size, and were probably closely related to each other. Those out of doors need no explanation.

As to general observations, I may be allowed to make the following: A poor steer (in flesh) will gain more than a fat one; a young steer more than an older one, and this will hold good from birth to four years of age. Growth and fat must be made at the same time. A wild steer will do no good, especially in the barn. Cattle should be removed from the stalls for exercise and water.

As to methods of feeding and feed, I am satisfied that in this climate, and with the cattle we buy here—never having been handled—that the best and cheapest mode of feeding is to feed shock corn, in a sheltered yard. Three things are essential: Good cattle to feed, plenty of food and water, and a place to lie down, out of wind and snow; neglect either of these, and the result will not be satisfactory.

Since writing the preceding, another experiment has been completed, as follows: Two grade steers, raised on the farm, and on the same cow till weaned at six months of age, were sixteen months old December 1, 1874. They had often been weighed, giving always about the same increase or growth, and had always been fed alike. The following table will show weights and gains:

	Weight Dec. 1.	Weight Feb. 1.	Weight April 1.	Total Gain.	Gain per day.
No. 1	830	970	1,090	260	2.16
No. 2	860	970	1,070	210	1.75

No. 1 was fed daily 12 pounds corn in the ear. No. 2 was fed daily 12 pounds wheat bran. Both had for roughness good wheat straw. They were fed in stalls to which they were accustomed, and removed daily for water. There is no need of explanation as between the different kinds of feed; this is about what might have been expected.

Something may be learned by comparing No. 1 with the 14 in the former experiment, as regards breeding first; age second; and previous handling third. He was sired by the short-horn bull, Baron Louaufe, and from a grade cow, thus having an advantage of better breeding than the others; was only half the age, and was used to being handled. On the other hand, the grain was only half that fed the others, and the roughness half in value.

By comparison, we have the following: This steer gained, per day, 2.16 lbs; seven steers fed in barn, gained, per day, 1.45 lbs. Seven steers fed in yard, gained, per day, 2.36 lbs. Fourteen steers gained, per day, 1.90 lbs.

This is not given as showing a remarkable gain, but as being good for the feed consumed. He would probably have consumed 18 lbs. of corn daily, and this 6 lbs. added would have been the most profitable, had he been fed for immediate market. I will state that the cattle fed in the yard paid a fair profit, though fed on 60 cent corn. They were all sold, March 24th, for $5 80 per hundred weight, at the barn.

Herewith is a table showing the conditions and the average daily gains, in the three experiments made on the farm, all of which seem to point to the correctness of the premises before assumed.

Grain fed.	First. Time 105 Days.	First. No. fed.	Second. Time 119 Days.	Second. No. fed.	Third. Time 90 Days.	Third. No. fed.	Where fed.
Mixed meal cooked	.74 lbs.	2					
Mixed meal					.72 lbs.	1	Barn.
Dry meal	1.17 lbs.	2	1.60 lbs.	1	.97 "	2	Barn.
Corn in ear	1.43 "	2	1.76 "	2	2.23 "	2	Barn.
Mixed middlings					1.58 "	2	Barn.
1 meal, 2 and 3 corn	1.68 lbs.	2	1.83 lbs.	2	2.36 "	7	Shed.
Ear corn	1.21 "	3	1.76 "	6			Yard.
Roughness fed	Cut corn-stalks.		Clover		Clov'r in b'rn; corn-fodder in shed and yard.		

E. L. LAWRENCE,
Head Farmer Illinois Industrial University.

1.—PIG FEEDING EXPERIMENT.

Pigs—2 of each breed.	October 1st. Age, days.	October 1st. Weight, lbs.	Dec. 10. Weight, lbs.	Gain	Corn fed Bushels.	One bushel corn made lbs. growth.
Poland Chinas	145	185	320	145	8.13	17.83
Berkshires	168	182	230	48	3.89	12.34

2—PIG FEEDING EXPERIMENT.

Pigs—Four in each pen.	March 1st. Age, days.	March 1st. Weight, lbs.	Feed	May 1st. Weight, lbs.	Gain	Corn fed Bushels.	One bushel corn made lbs. growth.
Poland China	235	740	Corn.	1,060	320	29.46	10.86
Berkshire	258	545	Corn.	775	235	24.40	9.63
Berkshire	258	595	Meal.	760	165	23.43	7.04

The object of these experiments is to show the relative value of the differ nt breeds for fattening when put up in the pen and fed nothing but corn; and in the second experiment to test the value of grinding; as well as comparing pigs of different ages, by comparing the 1st and 2d experiments with each other.

In the way of explanation, I would say, that in the lot fed meal, one of the pigs did not appear to be healthy, and ate scarcely anything, and just about held his own, so that what he ate was a complete loss. Another thing noted was, that in feeding a full feed of meal there was more waste than in feeding corn. The meal was fed dry.

The pigs were fed in pens 8 by 16 feet, on plank floors, one-half of the pen covered.

This experiment should be repeated, and some tests of the relative value of different breeds when put on clover pasture, as it is here that the Berkshire seem to excel all others.

E. L. LAWRENCE,
Head Farmer I. I. U.

FREE HAND AND CAST DRAWING.

To the Hon. Regent of the Illinois Industrial University:

Report of the Departments of Free Hand and Cast Drawing Enrolled for Year 1875.

	Fall.	Winter.	Spring.
Music	30	32	35
Free Hand Drawing	65	82	60
Cast Drawing	10	8	8

I would suggest that it would be a great benefit to the class in Cast Drawing if a few easy models could be secured. The casts from the Art Gallery are too difficult for beginners to copy with profit. Also, I would respectfully suggest that one more hour per day be given to the class in Cast Drawing. We have only one at present making it impossible for pupils to take it except as a half study. There will be a large class next year. If provision can be made for them I am confident that the progress in that department will be as great as it has been in that of the Free Hand Drawing. My advanced pupils in music are perfectly competent to assist in the music classes, thus making it possible for me to devote more time to the drawing.

In the Musical Department a good piano seems to be in absolute necessity. Music must be provided for all the numerous public occasions. It is impossible to present it with satisfaction to the performers, credit to the teacher or acceptance to the audience on an inferior instrument.

Two new music stools are indispensable.

This report is respectfully submitted hoping it may meet with approval.

C. E. PATCHEN.

DOMESTIC SCIENCE AND ART.

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN:—I am glad to be able to report at the close of the year that the Department of Domestic Science and Art seems to be gaining in favor faster than I had even hoped. During the year I have given instruction to four classes in this department—two during the fall term and one each ensuing term.

I have mapped out a course in Domestic Science and Art, published in the new catalogue, to which I would respectfully call your attention, as setting forth our ideas of what the department is to embrace.

Each term during the year I have taught one or two classes in light gymnastics, using dumb-bells, wands, etc. Although fifty is the greatest number of pupils enrolled in these classes at any one time, and the average attendance has been much less, yet I feel assured that the work done has been sufficient to establish the value of physical education, which will insure larger classes in the future.

In addition to my regular work during the past term, I have taught two classes in Botany, the two together numbering fifty-six pupils.

Our dressing-room accommodations are quite insufficient for the number of young women we have had this year, and, as we are expecting a fuller attendance next year, I would suggest the necessity of making additional provisions for them.

Respectfully,

LOU. C. ALLEN.

SCHOOL OF COMMERCE.

J. M. GREGORY, L. L. D., *Regent Illinois Industrial University:*

DEAR SIR—I respectfully submit the following report of classes in the School of Commerce for the past academic year. Two classes have been taught each term, as follows:

	Fall Term.	Winter Term.	Spring Term.
Number of students in advanced division	21	38	23
" " commencing the Course	47	41	15

To complete the Course in the time specified (one year) it seems necessary to have the time of class exercises extended to two hours each.

Instruction could be made more effective if a "Practical Business" department were established in this School.

Very respectfully,

F. A. PARSONS, *Teacher.*

Mr. H. A. Weber was appointed to the Chair of Chemistry with $1,600 salary per year.

Mr. N. C. Ricker was appointed Professor of Architecture with a salary of $1,500 per year.

Mr. J. D. Crawford was appointed Assistant Professor of Ancient Languages at $1,200 per annum, and Librarian of the University at $300 per annum.

Mr. F. A. Parsons was appointed Instructor of Book-keeping at a salary of $50 per month for teaching and $20 per month for services as Business Agent's clerk.

Mr. J. Kenis was appointed Instructor in Modeling and Designing at a monthly salary of $60.

Mr. A. C. Swartz was appointed Assistant in Mathematics and Architecture at $75 per month.

Mr. J. Baker was appointed Assistant in Civil and Mechanical Engineering at a salary of $60 per month.

Messrs. Scovell and Barnes were appointed Assistants in Chemistry at $40 per month.

Mr. E. A. Robinson was appointed Instructor of practical Mechanics and Foreman of Machine Shops at $1,000 per year.

Dr. Prentice was employed as Veterinarian at a salary of $1,000 per ten months.

Miss Patchen was employed as Teacher in Free Hand Drawing, for four hours each day, at $50 per month.

Miss Allen was employed as Instructor in Domestic Science, for the next year, at $1,200.

Adjourned till 7:30 P. M.

EVENING SESSION.

The Board met as per adjournment.

Leave of absence was granted to—

Prof. J. B. Webb for a visit to Europe during the vacation.

Prof. J. C. Pickard to visit Madison, Wisconsin, and the remainder of his salary for the academic year was ordered to be drawn.

Prof. Shattuck, Business Agent, for three weeks.

Dr. Gregory, for the month of July.

Prof. Crawford, from the 14th of June.

The Treasurer then read his report, which was accepted.

JOHN W. BUNN, TREASURER,

In Acct. with Illinois Industrial University.

1875.	DR.		
Mar. 1	To balance		$6,676 97
" 16	" amount received of Burnett for interest		86 00
Apr. 1	" interest on Sangamon county bonds		2,250 00
" 1	" E. C. Hamburgher—cost refunded		46 50
" 7	" interest on Putnam county bonds		1,300 00
" 21	" " Kankakee " "		6,450 00
May 14	" " Champaign " "		11,500 00
" 14	" amount received on account of fees and rent	$387 00	
" 14	" " " of Burton—bal. of fees and rent '72, '73	631 15	
" 29	To amount received on acc't. fuel—coal collections	61 09	
" 29			$1,079 24
" 29			
" 29	" " " on account of Agricultural Department	$1,236 67	
" 31	To amount received Mechanical Department	76 87	
" 31	" " " Horticultural "	39 40	
" 31	" " " incidental expense	8 59	
" 31			$1,361 53
" 31			
" 31	" " " for fees and room rents	$1,290 50	
" 31	" " " for fuel and light—coal col	87 31	
	" " " for rent of Burton	100 00	
	" " " Agricultural Department	300 45	
	" " " Mechanical "	470 92	
	" " " Horticultural "	322 85	
	" " " Chemical "	206 54	
	" " " Architectural "	78 57	
			$2,857 14

	CR.		
	By amount paid on account of salaries		$7,970 37
	" " " " board expense		133 50
	" " " " fuel and lights		195 80
	" " " " stationery and printing		75 25
	" " " " buildings and grounds		91 82
	" " " " incidental expense		39 82
	" " " Mechanical Department		531 34
	" " " Architectural "		170 26
	" " " Agricultural "		2,662 74
	" " " Horticultural "		248 97
	" " " Chemical "		161 57
	" " " Military "		10 68
	" " " library and apparatus		293 61
	" " " civil engineering		17 97
	" " " ladies gymnasium		23 35
	" " " unpaid bills		529 11
	" " " physical laboratory		24 28
	" " " agricultural experiments		264 40
	" " " taxes on lands in Nebraska and Minnesota		3,007 00
	" balance		17,155 67
		$33,607 38	$33,607 38
1875.			
June 1	To balance	$17,155 67	

URBANA, June 9, 1875. JOHN W. BUNN, *Treasurer.*

Dr. Gregory was authorized to purchase books for the Library to the amount of $500.

One hundred and fifty dollars were appropriated for binding periodicals and repairing books.

Two music stools were ordered to be purchased, and $200 were appropriated to purchase additional chairs and tables for the use of the Library.

The plans and specifications for a veterinary stable submitted by Prof. Ricker and Dr. Prentice were adopted, and the Executive Com-

mittee was authorized to make such changes in the plans as they may deem necessary, and locate and erect said building.

An amount of $150 was granted to Col. E. Snyder in addition to the sum of $450 donated by the students of the Illinois Industrial University for fitting, plastering and painting the Drill Hall.

The following resolution, offered by Mr. Blackburn, was passed:

Resolved, That the hearty thanks of the Board are hereby presented to the students of the Illinois Industrial University for their generous donation of $450, the pay allowed them by the State for military service rendered the city of Chicago at its first great fire, in 1871.

An amount of $250 was appropriated for purchases in the Chemical Department.

The use of rooms in the University was granted for a meeting of the Principals of the High Schools.

The application of the County Superintendent for the use of the building for the County Teachers' Institute was not granted.

Action in regard to painting the Farm House was deferred until the fall meeting.

President Cobb, as Chairman of the Executive Committee, made the following report in regard to the employment of Dr. Miles:

Gentlemen of the Board of Trustees:

Soon after my return from the South an Executive Meeting was called to consider especially the appointment of Dr. Miles to the Chair of Agriculture. At said meeting letters from nearly all the members of the Board were read in answer to one sent them by Dr. Gregory. Copy of which is hereby submitted (inclosure I. and II.) The Executive Committee, in view of the salary named, and other prudential reasons, concluded to postpone definite action until the full meeting of the Board at this time. Upon Dr. Miles' assurance that he was seriously considering the acceptance of offers from other State Institutions, the Executive Committee signified their willingness to recommend his appointment to the Chair of Agriculture and Professoship of Agricultural Chemistry, provided that he, with the Regent and Faculty, in the meantime would carefully review, if such revision is found necessary, the Agricultural course to present to us for our consideration and adoption.

We deemed this necessary in order that, as far as possible, the work of the Professor of Agriculture should be especially set forth. I presume such report will be presented by the Regent.

The resignation of Mr. C. W. Silver, Instructor of Agricultural Chemistry, is herewith presented, and acceptance of the same recommended. (Inclosure III.)

Mr. Gardner moved that Prof. Manly Mills be appointed to the Chair of Agriculture at a salary of $2,000, and Instructor in Agricultural Chemistry with $1,000 additional compensation. The motion was carried and his engagement fixed for the first of July. The Secretary was instructed to lay before the Board a report from the Faculty in regard to the Student's Government and general discipline which was called for at the September meeting of this Board.

The request of Miss Allen for an additional dressing room for the ladies was referred to Mr. Gardner and the Business Agent.

The President made the following report in regard to State Appropriations:

1. For the payment of taxes occurring in the years 1874 and 1875 on lands owned by the University in the States of Nebraska and Minnesota the sum of three thousand dollars per annum, or so much thereof as may be necessary.
2. For the purchase and manufacture of apparatus for the Physical Laboratory one thousand dollars.
3. For building, apparatus and books for the Veterinary Department, two thousand dollars.
4. For additional mat rial for the printing office, five hundred dollars.
5. For repairs on University building and improvements on grounds the sum of one thousand dollars.

Respectfully, (Signed) EMORY COBB.
President.

On motion of Mr. Sabin, it was resolved that the President and Corresponding Secretary be authorized to sign an order directed to the Auditor of Public Accounts of the State for the moneys appropriated to the University during the session of the last General Assembly.

Adjourned.

SEPTEMBER, 14, 1875.

—

The Board met in the reception room of the new University building at 4 o'clock P. M.

Present: Messrs. Cobb, Brown, Blackburn, Gardner, Mason, and Sabin.

Absent: Gov. Beveridge, Messrs. Gillham, Pickrell, and Slade.

The Regent, Dr. J. M. Gregory, then read his report on the condition, wants, and progress of the University, submitting therewith reports of the different departments from members of the Faculty:

A. Horticultural Department, Prof. Burrill.
B. Architectural Department, Prof. Ricker.
C. Cabinet Department, Prof. Taft.
D. Mechanical Department, Prof. Robinson.
E. Library Department, Prof. Crawford.
F. Chemical Department, Prof. Weber.
G. Military Department, Prof. Snyder.
H. Agricultural Department, Prof. Miles.

REGENT'S REPORT.

GENTLEMEN:—Since your last quarterly meeting at the close of the last term the University has been in vacation. The work on the farms and horticultural grounds and in the shops has gone on as usual and will be reported to you by the Business Agent and by the Professors in charge, which I have the honor herewith to transmit.

The more extended advertisement of the University provided for by you has been effected and the result is already seen in the large numbers of students who are to-day entering. I sent to the County Superintendents during the summer a circular with questions for examinations and many of these officers have kindly examined the candidates presenting themselves, and have thus saved many the expense and trouble of a journey to the University for their examinations Many of the students entering to-day bring with them certificates from these Superintendents.

GENERAL WANTS.

Accompanying the report of Prof. Burrill is a paper containing several requests which I recommend to your attention as reasonable and just. If your funds will permit, I trust the wants of this department will be fully met.

Prof. Ricker also presents some requests for further facilities for the School of Architecture, which I cordially endorse. This school is attaining a growth which must prove gratifying to you.

I also commend to you Prof. Robinson's request for the Mechanical Department and Physical Laboratory. I believe that I may affirm that for a much less cost than in some similar institutions, the success of our School of Mechanical Engineering stands unrivaled on this continent. Its success and importance entitles it to a much more generous support than it has heretofore received from the State.

Prof. Snyder will lay before you a proposition to change, in some respects, the military uniform. If this change can be made without materially increasing the cost it will doubtless add something to the beauty and, of course, to the efficiency of our military drill.

The moneys voted for the library were expended by me in the purchase of the books selected by the several Professors The purchases exceed slightly the amount appropriated, though they still fall short of the lists asked for. I would ask a further appropriation to meet the balance of the bills and to cover some additional purchases of books to be received from Europe. One hundred dollars will cover the whole demand.

Dr. Miles, the new Professor of Agriculture, entered upon his duties July 1st, and has been busily employed in the practical work of his Department. His reports, which I have the pleasure now to transmit, will give you information of his work and wants.

COLLEGE GOVERNMENT.

By a resolution of the Board, the Regent and Faculty are instructed to report to the Trustees upon the government exercised in the University by the organization called "the Student's Government."

In obedience to that resolution and in the absence of the Faculty, (it being vacation,) I communicate herewith a copy of the constitution of the said government and of such laws as are in print.

These documents, might, perhaps, sufficiently answer the inquiries of the board, but the interest that has been expressed in many quarters in regard to this experiment in College government, leads me to present a fuller account of the origin, progress, and results of it thus far.

In the term of 1870, after much reflection, and with the concurrence of the Faculty, I determined to make the experiment to test the power and willingness of the students to constitute and administer a government over the dormitory building. I knew that such an experiment had been successful in several schools in Europe and in this country, though these were all family or boarding schools in which all the pupils lived under the same roof, and were generally of younger age than our students.

At the time mentioned the number of students attending the University was about and a majority roomed in the Dormitory Building where also all the recitations were held. These students averaged perhaps about 20 years of age.

One morning in chapel a short address was given to the students, tendering the opportunity to organize a government for their own control. They were reminded that as citizens of a country boasting self government, it was peculiarly important to them to learn to govern themselves: that they were as much concerned in the good order of the University as were the Trustees or Faculty; that they could often detect and prevent or punish mischief more easily than any College Faculty could do the same; that it would be a great honor and advantage to them to carry on this government if it succeeded. They were also reminded that it would cost time, thought, and no little backbone and perseveranee to carry this business through; that it was too important a matter to allow any child's play either in assuming or perpetuating this government. They were then invited to take the matter into consideration and talk it over carefully among themselves for a few days when a vote would be taken upon the question. A few mornings later the vote was taken and showed a unanimous desire to undertake the proposed responsibility. A committee was appointed to draft a constitution and some laws. These were finally adopted and the government went into active operation under a President and Council. All laws were to be voted by the General Assembly of the students.

The government was, on the whole, a success. Much of manliness and good sense was exhibted by the leading students, and comparative good order prevailed. It was, however, not without opposition and occasional failures. Sometimes the officers chosen were destitute of the needful ability or grew negligent in their duties, but a few words of reminder or encouragement spoken in chapel usually served to rouse them, and the government thus reinforced went on again. The only penalties administered were fines, and only twice before the last term were the Faculty obliged to interfere, and to tell delinquents they must pay their fines or leave the University.

Once or twice serious collisions were threatened between the Students' Government and the Faculty on some question of conflicting authority, but a candid appeal to common sense composed the trouble and left the two parties good friends.

When the new building was opened and a large increase of students appeared, it was found inconvenient to discuss all proposed laws before the General Assembly, and a new Constitution was adopted providing for a Senate of 21 members, to whom all legislative power was committed, subject to the veto of the Regent. The framing of the Constitution was not without difficulties. It involved a large extension of the territory and scope of the Government, and was preceded by a carefully prepared resolution of the Faculty formally delegating the power of Government to the students, but reserving the right to resume it whenever the students should fail to exercise it wisely and satisfactorily. A few students were disposed to resist this necessary provision, and to demand full and irrevocable authority, but the wiser ones easily saw that the Faculty could have no right thus to make a final abdication of the powers and duties conferred upon it by the Trustees.

With the new constitution, the Students' Government gained a large increase of dignity and influence. Its elections, conducted with regular polls and printed ballots, have been spirited and have generally resulted in the choice of good and efficient officers. Its Senate has occupied much less time than many an older legislature in mere partisan and useless debate, and have conducted their law-making not only with Parliamentary order, but with a general, wholesome regard to the public good. Only in two instances has the Regent been obliged to interpose his veto. The court consisting of a Chief Judge and two associates, has managed its administration of justice with much dignity and with a fairness which has left little ground of complaint with its decisions.

Looking at the general result, the experiment has proved successful. It is not meant by this, that it has, in all cases and to the fullest extent, answered its ends. No human government does. There have been occasional violations of its laws left unpunished, and breaches of good order, which it has either not detected or not suppressed, incompetency and unwisdom have sometimes got into office, and fickleness and favoritism have sometimes been shown in administration. But these have been the exceptions, not the rule. Few colleges can show a record of more uniform good order, and none can show a body of students among whom self-respect and a general regard for the public good and for the honor and prosperity of the institution more largely prevail. Few college faculties would have managed affairs more wisely, and none, perhaps, more successfully.

It is not denied that the plan has its dangers and defects. Sometimes the spirit of independence and the love of power tend to excess, and would if unchecked usurp the proper work and authority of the faculty, and sometimes the machinery seems cumbrous, occupying the time of many to do in a formal and tardy maner some act of justice which a single ruler would finish with a word. In other terms the government would sometimes seem in the way of some sharp, energetic and despotic President or Professor. But if the training of the students in the principles and practice of public justice, in the duties of citizenship and in self-government, is of any value, then evils and defects of this government may easily be tolerated in consideration of the advantages gained.

I may add that a somewhat wide spread interest has been excited among educators by this experiment and its results are watched for with some solicitude. With a continued care and attention on the part of the authority, and a generous encouragement of the efforts of the students, I have full confidence in its success.

J. M. GREGORY,
Regent.

DEPARTMENT OF HORTICULTURE.

To DR. J. M. GREGORY, *Regent Ill. Ind. University:*

SIR:—I submit the following as the report from the Department of Horticulture for the six months ending September 1, 1875:

Nothing new has been attempted, the entire energies being devoted to the preservation of plants on hand, and the prosecution of plans previously done. All kinds of trees and other plants have made a remarkable growth, but the records for the season have not yet been made up. Almost every tree transplanted has lived, and the most of them are now in good condition. The fruit crops have been very light as they have been throughout our section of the country, yet quite a number of varieties of strawberries, raspberries, grapes and apples have borne some fruit. Agreeable to instructions of the Board of Trustees, the south half of the apple orchard has been replowed, so as to level the ground formerly thrown into ridges. The trees have undoubtedly suffered some by so doing, but the wet season has been very favorable for them. The land was planted with corn. Quite a number of trees from the low and wet places were taken up and those seemingly worth it were transplanted in the old rows where trees were missing. The borers (Chrysobothus femorata) have done some damage in spite of efforts to prevent them, but though the beetles were more numerous this year than ever before, their attacks have been much less destructive than last year, owing to the vigor of the trees. The forest-tree plantation is in fair condition.

The weeds have been excessively hard to keep down, and some of the young trees on the wettest ground have been injured. No planting was done this year. The measurements of growths have not yet been made. The small fruit plantations are in just about the condition of last year, but not what they should be. Here more especially is felt the need of closer and more persistent care and cultivation. An extension of the plantation of varieties of strawberries is the only addition that has been made. The nursery is in a more satisfactory condition, the young trees having made a good season's growth. A collection of seedling forest trees were received from Arthur Bryant, Jr, as a donation, and are doing well. Grafts of apple and pear made by the students during the winter, were set in the spring, the former doing well, the latter not. Several kinds of cions were donated by Mr. B. O. Curtiss, of Paris, Ill., and Dr. Hull, of Alton, Ill. These were properly grafted and set in the nursery. About twenty kinds of forest trees were set in the arboretum, and are generally living. The ground is seeded with clover. I again recommend the purchase of a large collection of small trees, to be grown some years in nursery, for these grounds. Some of large size should be planted this fall. The greenhouse and ornamental grounds have not been kept quite up to their former state, but are now in pretty good condition. The woodwork in the north half of the greenhouse was found too rotten for repairs and has been removed, and concrete walks substituted, the plants to be set upon the earth without staging.

For the financial condition of the Department, I respectfully refer to the report of Business Agent.

Respectfully submitted,

T. J. BURRILL.

SCHOOL OF ARCHITECTURE.

To the Regent and Board of Trustees of the Illinois Industrial University:

GENTLEMEN—I respectfully request that:

1. The former appropriation of $15 per month for expenses of classes in Architectural shop practice be continued during the current school year.
2. An appropriation of $25 be made for apparatus needed for class in Heating and Ventilation.
3. An appropriation of $25 be made for a suitable desk and platform for Architectural lecture-room.
4. That the room adjacent to the Architectural room be assigned to the School of Architecture as a lecture and recitation-room. It is now vacant, the Bookkeeping classes taking another room. The room is absolutely necessary, especially for recitations in Geometrical Drawing.

CENTENNIAL EXPOSITION 1876.

I propose to send principally models and drawings In models, one complete of a grand suspension staircase, ⅛ or 1/16 full size, in pine and walnut. Also a model of ——, as they are little known in the Eastern States, or in Europe.

In drawings, the best sets made during the next two terms, instead of merely —— specimens, as affording a better idea of the work done in the school And also briefs of lectures, written out by students and bound up in uniform style.

General drawings or photographs will be necessary to properly represent the University at the Exposition. As it is probable that I will be expected to prepare most of those required, I would suggest that the cheapest and most effective way will be to have photographs taken of the buildings instead of making perspectives, and the plans and exterior views be drawn in ink and these photographed, as they can then be reduced in size and made very sharp and clear. Then the whole can be neatly bound, forming a nice volume.

I believe that I can find time to prepare the necessary views and plans, so that the principal cost will be that of making the photographs and binding. I add a list of those most necessary, amounting to twenty-three. Mr. Naughton once offered to make them for $3 each, and would probably do so now.

The photographs would cost $69 and the binding $8 or $10 more if in good style. Several leaves may also be added with photopraphs of Trustees and Faculty.

Another mode would be to prepare views in shade or full color, plans and interiors, &c., and either bind them, or making them of small ——, arrange them in a single large sheet to be framed and placed above or behind the other objects exhibited by the University. But the extra labor required for the drawings would cost considerably more than that of making the photographs.

Whatever be done should be decided upon now, so that it can be begun at once.

Respectfully submitted.

N. CLIFFORD RICKER,
Professor of Architecture.

LIST OF VIEWS, PLANS, ETC.

1. Northeast view of University building.
2. Northwest " " "
3. Plan of Ground floor of University building.
4. " First " " "
5. " Second " " "
6. " Third " " "
7. " Fourth " " "
8. Grounds of University building.
9. Interior of Chapel.
10. " Library.
11. " Museum.
12. " Art Gallery.
13. " Main hall and staircase.
14. View of Stock Farm barn.
15. " Experimental Farm House and barn.
16. " University Shops and Drill Hall.
17. Plan of First floor of " "
18. " Second " " "
19. Interior of Wood working shops.
20. " Iron " "
21. View of Dormitory building.
22. " Conservatory.
23. " Grounds of Dormitory building.

CABINET.

To the Regent and Honorable Board of Trustees:

We ask, with your approval:

1st. The casing of at least the east side of our Cabinet; many specimens having to lie shut up in boxes for want of room.

ESTIMATED EXPENSE.

2d. Twelve dozen specimen jars for preserved specimens. There is not one, and specimens in old castor oil bottles and pickle jars, are unworthy the dignity of a great institution. Estimates, $6 per dozen.

3d. One barrel of alcohol. This, for scientific purposes, can be obtained from the warehouse free of government tax, thereby costing half or less than half its normal price.

Prof. Burrill also needs this preserving fluid. Estimates, $25.

We believe these requests are of essential importance to our department, and of great general importance to the institution.

D. C. TAFT.

COLLEGE OF MECHANICAL ENGINEERING.

To the Regent of Illinois Industrial University:

SIR—I respectfully offer the following report for the last six months and estimates for the next half year for the College of Mechanical Engineering and for Physics.

The class in Shop practice was unusually large during the whole year—the number in the spring term, 10, remaining in larger proportions to the number at beginning of the year than usual. The class appeared to take more interest in the work than usual, which is probably owing to the fact that machines instead of models were largely chosen for the work. The machines worked at were a boiler feed-pump for hot and cold water, a set of planer centers, and a speed lathe, all intended for the shop.

The class in Physics fell off greatly at beginning of Spring term, the class numbering only 7.

The class in Experimental Physics numbered four in the Spring term. The evening physical experiments, kept up for once each week during the last two terms of the year, consumed much time and labor in preparation. Often in this instruction, instruments which are too cheap to be found in the markets, but which are effectual in the experiments, have to be devised and used. In fact, this may be done to the consumption of all the spare time which may be found for it. In this, and in the act of making the exhibits, an experienced assistant is found indispensable. In this, and in my everyday class experiments, my Assistant, Mr. J. O. Baker, proved extremely serviceable, and for the ability with which he performed this service he deserves much credit.

To carry on the shop practice instruction for the next six months there will be needed, for the power and heating, an appropriation of at least $8 per month for two hours per day, five days in a week. In case the class numbers over about seven it should be divided into two sections, each of two hours, in which case the appropriation should be $15 dollars per month. Six is the largest number one teacher can do justice to and prevent an account of the want of experience on the part of the student. For this reason a division of the class is recommended if exceeding seven.

For this year I advise the continuation of work on the speed lathe, commenced last year, and also the beginning of an upright drill for the shop, and of a themometer graduater for the Centennial Exposition. For this an allowance of $30 should be made, for material. This will be mostly required for the bed plate for the lathe.

For the physical laboratory there will be needed materials for the experimental work, not classed as instruments, mostly chemicals, and which probably cannot consistently be taken from the State appropriation. About $25 should be allowed for this.

I therefore ask for the Mechanical Department, $120; Physical Laboratory, $25.

LIBRARY.

HON. J. M. GREGORY, *Regent:*

I present herewith the report of the Library since the meeting of the Trustees in June.

There have been added to the Library during the time, two hundred and seven (207) volumes, at a cost of about four hundred and sixty dollars ($460).

There have been bound ninety-six (96) periodicals, and fourteen (14) volumes of old books have been rebound or repaired, at a cost of one hundred and twenty-six dollars and fifteen cts. ($126.15).

Twelve dozen chairs have been bought, and six tables are being made, which I think will fully accommodate all students. There are in the Library a number of duplicates which are not used and occupy space needed for other books. I enclose the list, suggesting that the Business Agent be authorized to dispose of the books, and to use the money so obtained by further purchases for the Library. Most of these duplicates have been on hand several years.

If it should be the desire of the Trustees that the Catalogue of the Library should be published in their next report, I will endeavor to have it ready in time. Very respectfully,

J. D. CRAWFORD,
Librarian.

CHEMICAL DEPARTMENT.

To J. M. GREGORY, LL. D, *Regent Illinois Industrial Universtty:*

DEAR SIR—The undersigned respectfully solicits you to call the attention of the honorable Board of Trustees to the necessity of making provisions for new desks in the Chemical Laboratory. The class in Chemistry, from all appearances, will be much larger this term than we can accommodate in the Laboratory with our present number of desks. The new desks will be needed about the middle of this term.

In order to represent the Chemical Department at the Centennial, it has been thought best to have the students working in the Laboratory prepare chemicals and have these preparations properly bottled and labeled. The expense of materials and bottles has been estimated at about $200, a sum which could be taken out of the Laboratory fund if the honorable Board should see fit to appropriate it for that purpose.

Respectfully yours,

H. A. WEBER.

MILITARY DEPARTMENT.

DR. J. M. GREGORY, *Regent Illinois Industrial University:*

SIR:—I have the honor to respectfully report that I have completed the following improvements in the University Drill Hall:

I. Painting roof and trusses, 2,421 square yards.
II. Stuccoing walls, 3 coats, 750 square yards.
III. Altering musket racks and varnishing same.
IV. Stuccoing walls and painting band rooms, making and painting music stands and settee.
V. Stuccoing and painting gymnasium dressing-room, making benches and wardrobe hooks.
VI. Repairs of accoutrements, including purchase of 30 new belts and plates.
VII. Repairs and cleaning of muskets, purchase of music for band, etc.

For the above there were in my hands $469, donation of students, for the purpose; of an appropriation of $150 from the Board of Trustees, and an unexpended balance of the current appropriation for the Military Department of $26 73; total, $645 73.

When I began to make estimates of the work to do, I found that the painting alone, 2 coats, 2,421 square yards, being all roof and necessitating scaffolding, etc., would cost me nearly $570, thus absorbing the whole amount nearly, if let out by contract.

I therefore concluded to do it myself, and engaging the services of three of our students for nearly all their vacation, I succeeded, by strict economy and attention in person, to do all the work above mentioned for $620 95, leaving a balance of $24 78.

This I intend to put into enlarging the main stair-case, the present condition of which admits the passing of only two men, whereas for tactical purposes I want the files of fours to pass unbroken. It will cost about $30.

The necessary expenses for the Military Department for the six months ending February 28, 1875, are estimated as follows:

Gymnasium, pay of instructor	$100 00
Band, instrument and repairs, music, light, etc	50 00
Armory, repairs and cleaning of 304 stands of arms, etc	50 00
For target practice and fencing	50 00
Telegraph line, keeping up batteries and line in University building	15 00
	$265 00

Very respectfully,

E. SNYDER,
Colonel Commanding I. I. U. Batt.

AGRICULTURAL DEPARTMENT.

To the Regent of the Illinois Industrial University:

The financial condition of the Department of Agriculture at the present date is shown by the report of Head Farmer Lawrence, which is herewith submitted. It is as follows:

Balance due the Department on account from March 1, 1871 to date	$12 70
Property subject to sale (estimated)	11,085 00
Total	$11,097 70
If from this is deducted the amount of the inventory of Dec. 1, 1874, charged against the Department,	6,241 46
There remains the sum of	$4,856 44

That can soon be made available for the future development of the Department.

It is estimated that the proceeds of the crops in the Experimental Department will be sufficient to meet the ordinary current expenses of this department for the year.

Alterations are being made in the internal arrangements of the Experimental barn, so as to give increased accommodations for animals and secure a greater economy of labor in the care of them.

The labor has been entirely performed by the ordinary farm force, which if paid for at current rates would amount to $103. There has likewise been expended, for lumber $95 05 and for hardware $32 41.

It is estimated that lumber to the amount of $45, and hardware to the amount of $15 will be still required to complete the contemplated changes.

Attention is respectfully called to the present inconvenient relations of the Horticultural and Experimental Departments in the boundaries assigned them on the experimental farm. It is believed that changes could readily be made that would be mutually advantageous.

I present herewith a plan for the reconstruction of the stock farm, which is believed to be necessary for the economical management of stock. Provision should also be made for conducting a series of experiments for the promotion of agriculture. A foreman of the Experimental Farm is very much needed, as it is impossible for the present head farmer to perform the duties now devolving upon him.

Some kind of power is required at the Experimental Farm for grinding and cutting feed, and threshing grain, &c. A windmill will undoubtedly be found to be most economical. The estimated cost of a suitable mill and machinery for grinding would be about $550.

The farm buildings need painting, as they are very much weathered and need protection.

It is believed that the receipts of the farm will be sufficient to defray all expenses connected with the above recommendations, and authority is asked to proceed with them as far as the income from the farm will admit.

Respectfully submitted.

M. MILES,
Professor of Agriculture.

The report was received. The workings of the student's government was deemed satisfactory and the system approved.

The Business Agent was authorized to dispose of all duplicate volumes in the Library.

The Librarian was instructed to make out a catalogue of Library for the next annual report.

BUSINESS AGENT.

To HON. EMORY COBB, *President of the Board of Trustees of the Illinois Industrial University:*

SIR—As Business Agent of the University, I have the honor to make the following report:

Paper A. is a statement of the appropriations made March 10, and since; the latter are given in red ink. Collections made by me are given in connection with the the respective appropriations.

At the bottom of the sheet is a statement of the State appropriations.

Paper B. is a list of warrants drawn since June 8,—from 666 to 713, inclusive, have not been audited.

Four of the appropriations have been overdrawn, or will be, if the above-named warrants are allowed. In case of Fuel and Lights, it was necessary, in order to put the heating apparatus in order, and to lay in a stock of coal at low prices.

The blank books required by the Recording Secretary and Business Agent and, a little extra advertising causes the stationery and printing account to be overdrawn.

The purchase of larger stock of lumber than used, some 6,000 feet; $125 00 worth of tools, and $40 worth of oil, with the non-collection of a $165 account, which is good, causes the Architectural Department to overrun.

The amount overdrawn might be collected, if thought best, from the department in the next six months.

The carpenter shop has been at work on the Veterinary building most of the season. This is about completed. The doors and sash were made at the University shop. It is now at work upon the library tables and civil engineering case and counter authorized by the Board. Re-appropriations should be made for these.

The machine shop has done custom work when offered during the summer, which was not more than half of the time. The steam pump started by the Shop Practice Class, was completed at a cost of $107; it is considered worth $280.

The entire salary of the foreman has been taken from the earnings of the shop during the summer. I suppose not more than half of it should be so taken during term time.

The Foreman has given a portion of his time in preparing for the manufacture of a graduating machine for the Centennial Exposition. An appropriation of at least $200 would be required in addition to the labor which might be given if such a machine was manufactured. Other appropriations for several of the Departments will be required if the University is to be represented at the exposition.

The Mechanical and Architectural Departments will require appropriations on account of the educational classes; $20 a month for each can be used to advantage; this pays for the heating power and material used.

Considerable work has been done on the grounds.

The roofs and waterspouts of both of the main University buildings have been thoroughly repaired, and all the buildings cleaned and repaired. The heating apparatus has also been put into good condition. The season has been so wet that nothing has been done with the doors and windows of the main building. It is proposed to put outside sash upon several of the north windows before cold weather. These can be made by the University shop.

Twelve dozen chairs for the library were purchased at an expense of $84.

The large southwest basement room has been assigned to the young ladies as a gymnasium, etc. It has been cleared and cleaned but will need some further preparations, such as a dressing-room, etc.

It is proposed to make a small house over the east well if such a course meets with approbation; also to re-lay a portion of the walk on the west side of the parade grounds. Oak joists for this purpose have been purchased—the labor has been held for the students. In the early part of June the east tower of the main building was struck by lightning, shattering one side of it to quite an extent. This was repaired at an expense of $33 17. At a cost of some $15 for each tower, lightning rods could be applied. By a law passed by the last Legislature the financial report of the University is made September 30 in place of September 1, as formerly. The library has duplicates of books which in some cases could be sold or exchanged to advantage to the University. Authority for such sale and exchange is asked.

Respectfully submitted,

S. W. SHATTUCK, *Business Agent.*

"A."—*Statement of Current Appropriations and Collections.*

	Appropriations.	Receipts.	Expended.	Unexpen'd
Board expenses	$250 00		$255 55	$5 55
Salaries	14,390 00		14,705 26	184 74
Fuel and lights	300 00	$205 53	967 65	462 12
Stationery and printing	500 00		924 02	424 02
Buildings and grounds	1,000 00		905 09	94 91
Incidental expenses	300 00	8 59	210 70	97 89
Mechanical Department	55 49	1,836 78	1,861 86	60 41
Architectural "	466 97	1,283 11	1,931 63	181 55
Horticultural "	253 63	802 60	919 39	136 84
Agricultural "	2,039 19	2,847 47	4,740 14	146 52
Chemical "	130 00	472 78	553 01	49 77
Military "	60 00	36 80	245 85	95
Library and apparatus	400 00		1,051 74	198 26
Sundries—Civil Engineering Department	170 00		158 14	23 86
Diploma Plate	100 00			100 00
Ladies Gymnasium	50 00		23 20	26 80
Freight on mining apparel	40 00			40 00
Mr. Seal's advertisement	15 00		15 00	
Physical Laboratory	100 00		98 33	1 67
Unpaid bills	514 11		514 11	
Centennial Exposition	50 00		50 00	
Special—Agricultural Experiments	321 71		916 50	594 79
Fees and room rents		1,677 50		1,677 50
Freight		602 65		602 65
Burnett, rent		731 15		731 15

Statement of Current Appropriations and Collections.

On account of	Appropriated.	Receipts.	Expended.	Unexpended.
State taxes on lands		$3,000 00	$3,007 00	$7 00
Buildings and grounds		1,000 00	680 99	319 01
Physical laboratory		1,000 00	85 45	914 55
Printing office		500 00	417 22	82 78
Veterinary Department		2,000 00	911 98	1,088 02

August 31, 1875.

"B."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
514	J. C. Pickard	Salary, September 1, 1875	$500 00
515	Students' labor	Pay-roll May, 1875	457 58
516	E. L. Lawrence	Farm expense, May, 1875	313 02
517	M Miles	15 lectures	200 00
518	S. E. Noble	Work in armory	5 00
519	A. Snedeker	Castings	83 02
520	M. E. Lapham	Lumber	125 51
521	Cleveland Screw and Tap Co	Hardware	5 12
522	H. Swannell	Chemicals, etc	66 19
523	Jas. M. Ralphe	Foundation of observatory	27 12
524	Webster, Davies & Co	Lumber	25 00
525	H. Peddicord	Drain pipe	5 00
526	N. F. Pratt	Repairing roof of Mechanical Hall	48 00
527	Joseph McCorkle	Hardware	13 15
528	Enterprise Coal Company	10 cars coal	124 00
529	Wm. M. Kennedy	Advertising	4 00
530	Locke & Saxton	Hardware and paper	13 64
531	Illinois Schoolmaster	Advertising	15 00
532	S. W. Shattuck	Petty expense, May, 1875	29 12
533	E. A. Robinson	Apparatus for Physical Laboratory	31 66
534	J. B. Webb	Material and work on observatory	14 49
535	Publishers "Illini"	2,500 catalogues	260 00
536	E. N. McAllister	Postage	14 36
537	H. H. Chandler	Advertising	135 00
538	John Muller	Glazing	10 37
539	Fuller & Fuller	Oil, glass and glue	90 97
540	E. Miller	2 door mats	5 25
541	W. B. Keen, Cook & Co	Seals, ink, etc	5 30
542	G. A. Wild	Ornithological specimens	20 00
543	J. B. Turner	Expense to lecture	15 90
544	Crane Bro's Manufacturing Co	Hardware	10 45
545	Ludington, Wells & Van Schuk	Lumber	416 45
546	Alexander A. Ullrich	Hardware	66 44
547	D. B. Gillham	Expense to meeting	16 20
548	D. D. Sabin	" "	22 25
549	A. Blackburn	" "	18 00
550	J. P. Slade	" "	21 80
551	R. B. Mason	" "	9 00
552	D. Gardner	" "	15 00
553	Monroe & Lindley	Hotel bill Gov. Beveridge	2 50
554	W. P. Jefferson	Teaming	11 25
555	J. M. Gregory	Salary June, 1875	333 33
556	S. W. Robinson	" "	166 66
557	T. J. Burrill	" "	166 66
558	S. W. Shattuck	" "	200 00
559	E. Snyder	" "	166 66
560	D. C. Taft	" "	166 66
561	J. Burkitt Webb	" "	166 66
562	N. C. Ricker	" "	100 00
563	J. D. Crawford	" "	100 00
564	H. H. Weber	" "	120 00
565	E. L. Lawrence	" "	100 00
566	Charlotte E. Patchen	" "	50 00
567	Lou C. Allen	" "	120 00
568	A. C. Swartz	" "	60 00
569	J. O. Baker	" "	50 00
570	F. A. Parsons	" "	40 00
571	M. A. Scovell	" "	12 50
572	A. E. Barnes	" "	12 50
573	H. A. Mann	" "	50 00
574	J. Kenis	" "	25 00
575	W. S. Everhart	" spring term, 1875	15 00
576	F. P. Dobson	" "	15 00
577	F. W. Prentice	" June, 1875	100 00
578	Mechanical Department	Work for other departments	71 23
579	Architectural "	" " "	144 22
580	Agricultural "	" " "	370 84
581	Publishers "Illini"	Printing programmes and labels	20 00
582	F. J. Mann	Copying music for band	5 00
583	H. H. Holden	Bill of hardware	30 75
584	Bliss & Sons'	Seeds	15 50
585	Students' pay-roll	June, 1875	415 61
586	Sabin Bros.	Hungarian grass seed	6 00
587	H. Peddicord	Plaster	3 50
588	E. L. Lawrence	Farm expense, June, 1875	459 80
589	Fairbanks, Morse & Co	Letter scales	9 35

"B."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
590	Fuller & Fuller	Glass	$16 91
591	Marder, Luse & Co	Type, etc	231 55
592	H. K. Vickroy	800 pear seedlings	11 20
593	E. Satterthwait	Bulbs	5 00
594	Hallock, Holmes & Co	Rubber bands	2 11
595	Crane Bros. Manufacturing Co	Pipe flanges	11 65
596	Champaign Gas Company	April & May, '75	120 00
597	J. M. Gregory	Salary for July, 1875	333 33
598	S. W. Robinson	" "	166 66
599	T. J. Burrill	" "	166 66
600	S. W. Shattuck	" "	200 00
601	E. Snyder	" "	166 66
602	D. C. Taft	" "	166 66
603	J. B. Webb	" "	166 66
604	N. C. Ricker	" "	100 00
605	E. L. Lawrence	" "	100 00
606	H. A. Mann	" "	50 00
607	B. F. Johnson	" for June and July	83 33
608	Manly Miles	" for July	250 00
609	S. W. Shattuck	Petty expenses June and July	28 98
610	Wm. Price	Paint, oils, etc	131 95
611	Thos. Franks	Plants	7 90
612	Fuller & Fuller	Glass and paint	12 75
613	Weeks Bros	Hauling	11 35
614	Marder, Luse & Co	Type and leads	58 36
615	H. Chandler	Advertising	109 20
616	Biedler & Co	Lumber	29 50
617	Jones & Laughlin	Nails	25 50
618	A. Snedeker	Castings	42 91
619	E. N. McAllister	Postage	13 62
620	E. A. Robinson	Salary June and July, 1875	166 66
621	Goodnow & Wightman	Tools	182 96
622	Marder, Luse & Co	Paper cutter and type	66 50
623	Illinois Printing Office	3,000 circulars	25 00
624	Crane Bros. Manf. Co	Hardware	5 61
625	Jas. Vick	Plants	3 30
626	Cairo Box & Basket Co	2,000 boxes and crates	12 20
627	S. J. Surdam & Co	Hardware	23 58
628	C. L. Kingsbury	Work on University grounds	31 35
629	E. L. Lawrence	Farm expense July, 1875	544 22
630	S. W. Shattuck	Petty expenses July, 1875	34 20
631	Students' Pay-roll	July 1870	346 06
632	Illinois Central R. R. Co	Freight, July, 1875	15 98
633	J. M. Gregory	Salary, August, 1875	333 33
634	S. W. Robinson	" "	166 66
635	T. J. Burrill	" "	166 66
636	S. W. Shattuck	" "	200 00
637	E. Snyder	" "	166 66
638	D. C. Taft	" "	166 66
639	J. B. Webb	" "	166 66
640	M. Miles	" "	250 00
641	N. C. Ricker	" "	100 00
642	E. L. Lawrence	" "	100 00
643	B. F. Johnson	" "	41 66
644	H. A. Mann	" "	50 00
645	Champaign County Gazette	Binding, printing and advertising	187 40
646	Illinois Printing Office	Printing circulars	8 25
647	Fuller & Fuller	Chemicals, paints	239 48
648	S. J. Surdam & Co	Sink and mangers	17 28
649	N. A. Williams	Fire clay and brick	5 00
650	Crane, Breed & Co	Grate bars, arch fire brick	121 09
651	Walker Bros	12 doz chairs	84 00
652	N. N. T. Lewis	Advertising	51 20
653	M. J. Lawrence	"	40 00
654	R. S. Willbur	Hauling car coal	4 00
655	Henry Kimpton	Books	5 95
656	C. & U. Gas Co	Gas bill July, 1875	15 20
657	L. Tucker & Son	Advertising	38 40
658	I., B. & W. R. W.	Freight	12 96
659	Jas. Watson	5½ days' work training	15 75
660	Students pay-roll	August, 1875	271 80
661	Prairie Farmer Co	Advertising	52 80
662	Beach & Condit	Blossburg coal and reaper sections	9 25
663	E. L. Lawrence	Farm expense August, 1875	427 79
664	Burt & Smith	2½ doz brooms	10 50
665	E. L. Lawrence	Cash paid to strawberry pickers	21 23

"B."—*Abstract of Warrants*—Concluded.

No.	To whom.	For what.	Amount.
666	Heisler & Caster	5,000 feet of oak lumber	$115 00
667	Benerman & Wilson	20 lantern slides	17 50
668	Benerman & Wilson	1 gasbag	11 70
669	I., B. & W. R. W. Co	Freight	1 70
670	H. Peddicord	Cement, lime and pipe	46 70
671	T. Butterworth	Advertising	5 00
672	H. Swannell	Chemicals	2 00
673	U. S. Patent Office	Binding reports	22 70
674	Harvey & Co	10 lbs soap	1 50
675	Crane Bro's Manufacturing Co	Hardware	3 07
676	Dodson & Hodges	"	17 87
677	Enterprise Coal Co	6 cars coal	62 00
678	Dodson & Hodges	Repairs on roof, etc	108 75
679	H. Swannell	Paint, oil, turpentine, etc	35 21
680	W. T. Pratt	Material and repairs on new building	405 12
681	Legatt Bros	Books	434 19
682	A. Brown	Work and material laying pipe	38 40
683	Fuller & Fuller	Glass	12 26
684	Walker Bros	Hard oil finish	8 25
685	J. Nelson	1⅓ months' rent of stable	22 50
686	Illinois Central R. R. Co	Advanced freight	3 98
687	C. Henley	Painting	2 88
688	W. S. Maxwell	Paints, oils, etc	9 30
689	Trevett & Green	Hardware	31 26
690	Locke & Saxton	Paper	4 44
691	Ill. Cen. R. R. Co	Freight from March 1, to Sept. 1	602 65
692	Fuller & Fuller	Chemicals	78 94
693	E. A. Robinson	Salary as Asst. Mech. Eng., Aug. 1875	83 33
694	J. W. Bunn	" Treasurer 6 mos. to Sept. 1	250 00
695	Mechanical Department	Air compresser	56 25
696	James Rolph	Work and material, Veterinary Hospital	134 53
697	Jno. Mueller	Painting and glazing	52 32
698	Mechanical Department	Power attachment "Tilini" printing office	60 81
699	Architectural "	Work and material, Veterinary Hospital	701 90
700	Chemical "	" " on acct. Centennial	25 00
701	James Rolph	" in Drill Hall	2 25
702	Architectural Department	Intercharge	74 95
703	Mechanical "	"	296 16
704	Military "	"	36 80
705	John Muller	Painting and glazing	63 27
706	S. W. Shattuck	Petty expenses Aug. 1875	19 91
707	E. N. McAllister	Postage	10 00
708	Horticultural Department	Rent of house	18 00
709	Agricultural "	Intercharges	530 50
710	C. S. Kingsbury	Work on grounds	18 75
711	S. W. Shattuck	Whitewashing and cleaning Dormitory	173 07
712	A. Squire	Music books for band	6 75
713	G. E. Hessel	Repairs of accoutrements	23 40

S. W. SHATTUCK, *Business Agent.*

URBANA, Sept. 10, 1875.

The bills presented for payment were audited and allowed.
Adjourned to meet at 8 P. M.

EVENING SESSION.

The Board reassembled as per adjournment.

The Regent made an additional report in regard to representing the University at the Centennial Exposition in Philadelphia, as follows:

To the Honorable Board of Trustees of the Illinois Industrial University:

GENTLEMEN—Our preparations are already begun for the Centennial Exposition at Philadelphia, but some additional appropriations will be needed to carry them forward. There will be needed for this purpose—

1. For chemical manufacture and bottles $200 00
2. Views of buildings, interiors, etc.; photographs, maps, etc 100 00
3. Cases for Entomological and Botanical and other collections 100 00
4. Materials and labor for new mechanical models, etc 100 00
5. Portfolio and stationery, etc., to be used in several departments 50 00

It must be remembered that these articles will all be valuable acquisitions to our cabinets, and therefore these appropriations may be regarded as made to the cabinets.

The amounts named may not all be required, and only a small part will be needed immediately, but the vote of appropriation seems necessary in order to authorize us to enter upon the the preparations contemplated.

The occasion certainly demands some corresponding efforts on the part of American Universities, and our highest interests lie in the direction of patriotic duty.

J. M. GREGORY.

Treasurer J. W. Bunn then read his report of receipts and expenditures during the current quarter, which was accepted.

The following appropriations were made for the half year ending February 29, 1876:

Salaries—		
Regent	$2,000 00	
7 Professors	7,000 00	
1 Professor	1,500 00	
1 Professor	750 00	
1 Professor	800 00	
1 Assistant Professor	750 00	
Veterinary	600 00	
Mrs. Allen	720 00	
Parsons	420 00	
Swartz	450 00	
Baker	360 00	
Kenis	360 00	
Scovell & Barnes	480 00	
Miss Patchen	300 00	
Robinson	240 00	
Assistant Librarian	90 00	
Janitor and fireman	780 00	
Treasurer	250 00	
Business Agent	200 00	
Military Assistant	70 00	
		$18,120 00
For Board expenses		230 00
" fuel and lights		2,500 00
" buildings and grounds		3,000 00
" stationery and printing		300 00
" incidental expense		300 00
" Mechanical Department		180 41
" Architectural Department		120 00
" Agricultural Department, balance		146 52
" Chemical Department—		
Balance	$49 77	
Desks	180 00	
		229 77
" Military Department and Gymnasium		255 08
" Library and apparatus		500 00
" Horticultural Department		136 84
" Physical Laboratory, State and current		950 00
" Veterinary Department, State		1,088 02
" Printing Office, State		87 78
Sundries—		
Library tables	$116 00	
Engineering Department case	60 00	
Engineering transit	550 00	
Chicago Exposition	50 00	
Kenis, one-half salary June	25 00	
Centennial Exposition	20 00	
Microscope, Botanical	200 00	
Architectural model for ventilation	35 00	
Bottles and alcohol for cabinets	75 00	
		1,211 00
Total		$26,860 84

On motion of Judge Brown, the amount of $50 was appropriated, to be used under the direction of Dr. Gregory, to represent the University at the Chicago Exposition.

Mr. Gardner, Professors Miles and Burrill, were appointed a committee to arrange the relation and local boundaries of the Agricultural and Horticultural Departments.

Prof. Miles' plan for altering the stock barn was approved, and the Professor authorized to do the work.

Prof. Shattuck was continued as Business Agent.

The request for an assistant in Experimental Department, the request for steam power for Agricultural Department, and the matter of painting the farm building, were referred to the Executive Committee.

Miss Patchin's services were reduced to three hours daily instead of four.

The model for students' uniforms from Devlin & Co., presented by Colonel Snyder, was adopted for use at the University, and all new uniforms required to be made in accordance with the model.

Adjourned.

DECEMBER 14, 1875.

The Board met at the University parlor at 3 o'clock P. M.

Present—Messrs. Blackburn, Byrd, Gilham, Gardner, Flagg, Mason and Sabin; President Cobb in the chair.

Absent—Governor Beveridge and Mr. Brown.

The Board then took a recess till 7 o'clock P. M. in order to inspect the University Farm and orchards, and to witness the exhibition of the class in Calesthenics.

EVENING SESSION.

The Board met according to adjournment.

The records of the September meeting of the Board, also of the meeting of the Executive Committee, were read and approved.

The Regent, Dr. J. N. Gregory, then read his report.

REGENT'S REPORT.

To the Board of Trustees of the Illinois Industrial University:

The recurrence of your quarterly meeting makes it again my duty to report to you the conditions and progress of the University under your charge. The first term of the year now drawing to a close, has been characterized, like so many of its predecessors, by steady work, good progress, and pleasant relationships between the Faculty and the students.

The number of new students who have entered the term is:

Males	—
Females	—
	—11

Of this number, 20 have entered the College of Agriculture; 17 have entered the College of Engineering, in some of its several schools, and 6 have entered the schools in Chemistry or Natural History. The remainder entered the courses in Literature and Science, or special courses of study. The whole number of students in attendance during this term is:

Males	264
Females	68
Total	332

There have been employed in the teaching force:

The Regent and Professors	12-13
Instructors in charge of departments	6-4
Assistants	8-8
Foremen in shops, farms and gardens	4-4

No especial changes have been made in the courses of instruction, except that the entrance upon service of Dr. Miles as Professor of Agriculture has given something more of regularity to the instruction in that department, and the erection of the new veterinary building has enabled the students in veterinary science to do regular work in the direction of domestic animals. I believe the Board will be gratified with the changes introduced by Mr. Miles in the barns and in the general management. I feel a new encouragement in my hopes for the final triumph of an elevated and systematic agricultural education.

The enlargement of the capacity of the Chemical Laboratory was found to be none too soon to accommodate the incoming number of students in Laboratory practice. The number in attendance in the two Laboratories this term has been ——. The necessity for a new Laboratory is becoming constantly more pressing, and I would recommend that inquiries be instituted to lay before the next Legislature plans and estimates for such a Laboratory as the wants of the institution will ultimately demand.

The work in both shops has been carried on with a good degree of effectiveness.

During most of the term there has been a full supply of labor in the Machine shop, part of the time crowding it to its full capacity. The other shop has also been able to furnish labor to most of those who have desired it.

It is gratifying, certainly, that both the farms and the shops are paying their own way, but I trust that if at any time this shall not continue true of any of our practical departments, their value as means of instruction will secure for them whatever appropriations may be necessary to keep them in operation. Were they not needed for educational uses, you would not support them at all.

Having these uses they should receive such generous treatment as will give them the highest efficiency. To this end skillful and efficient foremen are absolutely essential and they must be had, even if their wages shall exceed all the income of their work. I would insist upon the closest economy, but I would insist, also, upon the highest efficiency.

THE CHICAGO EXHIBITION.

In accordance with the vote of the Board, we prepared and sent to the Inter-State Exhibition of Chicago, a variety of articles from our shops, laboratories and class rooms, illustrating the work of the University. The space occupied in the Exhibition was about 12 by 19 feet. The exhibit attracted much attention, and I believe that it was fully worth its cost as an effective advertisement.

THE CENTENNIAL.

The preparations authorized by you for the University exhibit at the coming Centennial at Philadelphia, are already in active progress. It having become necessary to send in our application for space, I made such application for an area of 20 by 40 or 800 square feet of floor space. It is understood that the University exhibit will be made a part of the educational exhibit of the State, and the Superintendent of Public Instruction, actively aided by the leading educators of the State, is engaged in collecting funds and making arrangements for such an exhibition as shall be worthy the fourth State in the Union.

Our Chemical Laboratory has already completed sixty out of the one hundred specimens of chemical manufactures proposed to be shown by them.

In the machine shops one of Professor Robinson's thermometer graduating machines is in a good state of forwardness, and it is proposed to add to this twenty-four models of machines and mechanical devices.

The Architectural Department will prepare a model of a grand stair-case, and several other models, including casts in plaster of capitals and other architectural ornaments, designed by the students and modeled by them in clay.

The School of Architects is also preparing portfolios of drawings, designs, and plans of buildings, as also drawings of our own buildings, showing ground plans, perspectives and interiors.

The School of Civil Engineers are preparing specimens of their work, including well executed drawings and plans, etc, in all departments of engineering work. They are also busy preparing maps of our grounds and farms, besides a relief map or plan of the grounds about the new building.

All the other departments are also busy in arranging to present portfolios of students' work, together with specimens or drawings of whatever practical work is usually executed by students in that department.

The Agricultural Department will exhibit, besides its specimens of agricultural products, a set of casts in plaster, illustrating ancient and modern plows and agricultural machines.

We have also been asked by the State Commissioners to undertake to make an exhibit of the woods and minerals of the State and some progress has already been made in the collection required for this exhibition.

Generous offers of gratuitous aid in making these collections have been made by Gen. J. C. Smith, of the State Commission, Hon. Peter Dagey, Land Commissioner of the Illinois Central Railroad Company, and Robert Douglas, the eminent nurseryman of Waukegan; and Mr. Walker, of Champaign, has generously offered a collection of valuable woods already polished, and other important assistance in preparing the exhibition.

I trust that the work already done will meet your hearty approval, and the funds necessary for carrying out the exhibition will quickly be afforded.

In the history of institutions, as in that of men and nature, there are tendencies and undercurrents which, in the course of years may, if they are not watched, carry it quite out of its original course and encumber it with unnecessary and hurtful growths. Emergencies arise which must be met by some temporary provision, and this temporary provision, not unfrequently, is continued until it becomes a permanent part of the institution itself. Thus a temporary usage rises into a fixed law; a temporary teacher an established member of the Faculty; a temporary study becomes a settled part of the course; the temporary demands of a department tend to become the settled law for that department, and so in time these temporary growths come to distort the general harmony or the plan and to disturb the progress of affairs.

To prevent this drift and distortion, the institution should be often looked at as a whole, its various departments taken into account together, their relative claims adjusted, and the revenue of the University duly apportioned, so that none may suffer from neglect, and none may assume more than their own due importance.

Such a review is becoming the more important because of the imminent danger of financial embarrassment which threatens the University. Already our operations tax to the utmost the income of the institution, and the necessity will soon be upon us to retrench in some directions, that we may meet the absolutely vital demands of others. And the difficulty is increased by the fact that we must contemplate an early and serious shrinkage of our annual income by the exchange of our 10 per cent. investments for those bearing a less rate of interest.

Relief must be looked for in two directions; first, in the increase of endowments, and, second, in the retrenchment of expenses. In only three directions can the Trustees look for an increase of revenue:

First, by a sale of lands. The 25,000 acres of University land lying in Minnesota and Nebraska ought to bring, at least, $100,000, above all expenses of sales, and good judges say that the time is at hand when they can be successfully placed on the market. Beside these, the University has a remaining 160 acres of the Gregg farm, and if the necessities compel it, the Stock Farm of 140 acres should be sacrificed before the University should be crippled in its interior work. There would still remain nearly 225 acres, which are enough for the really important practical work experiments. But, I would not recommend this sale till the legislature itself shall require it to be made.

Secondly, legislative aid may be reasonably asked. At least $65,000 of your endowment, used in the completion of the main building, in anticipation of the appropriation promised by the Legislature, but never given, ought to be restored, with interest, and such I doubt not will be the decision of some future Legislature.

Thirdly, as a last resort and to be avoided to the last. the fees charged students may be increased. Cornell University, with a much larger endowment than ours, raised its fees to $45 a year, at an early day. Let a sufficiency of free scholarships be established for indigent and self-supporting students, and the increase of fees would prove burthensome to none, and would be far better than to cripple the University by any serious reduction of its force.

But as I have intimated, some retrenchment may be found possible. Where this can be made, with safety, it ought always to be done as a duty. Library and cabinets, and apparatus, always need replenishing, and every unnecessary expenditure or mere incidentals, is at the expense of these important facilities of instruction. I would suggest that a committee of the Trustees be appointed to confer with the Regent and Faculty, and report in full at your spring meeting on these questions I have just laid before you. They demand a more careful and protracted consideration than the Board can give them at a single meeting.

RECOMMENDATIONS.

I have to ask your attention to the request of the Librarian for the purchase of new cyclopedias and the filling up certain broken series or sets now in the library. Besides these there are other demands for new and important scientific works which have recently appeared. I also lay before you a bill for some books which were offered us at a favorable rate, and which, being needful, I ventured to purchase and hold them subject to your decision.

I lay before you also statement of E. L. Lawrence, Head Farmer, of his claim for a balance of salary due him for his first year after taking charge of Experimental Farm. I believe his statement to be true and the claim a just one. It is only for that one year that the additional salary is claimed.

A communication from foreman E. A. Robinson is also herewith submitted. It is due to Mr. R. to say that he has shown himself a competent and faithful officer, and the best testimony we could have to the value of his services are the repeated offers of his former employers to give him much more than we are paying him, to return as foreman of their shops.

The report of Dr. Miles, Professor of Agriculture, with the report and statement of the Head Farmer, contain much interesting information concerning the condition of the farms, the progress in their improvement, with the new experiments proposed. I ask attention, also, to his suggestions in regard to a museum for the illustration of agriculture and agricultural science.

The report of the Chemical Laboratory, you will find eminently satisfactory. Never before have so many students been found engaged at the same time in the important study. Prof. Webber's request for bottles and materials for the additional chemical manufactures will doubtless receive favorable attention,

In connection with the report of the Mechanical Department you will find Prof. Robinson's request for a continuation of the appropriations for that department.

The preparations for the Centennial Exhibition at Philadelphia will demand some share of your attention.

The work in that Department, as I have already stated, has already made much progress, and some of the additional appropriations already contemplated by the Board will need to be made at this time to enable the work to go forward. At the request of the State Commissioners we have undertaken to make a collection of the woods and minerals of the State, and Profs. Burrill and Taft, who have matters in charge, are already in correspondence with many prominent gentlemen through the State, who promise action, co-operation and assistance. These collections, once made, will be a very valuable addition to our cabinets, after they have served their purpose at Philadelphia. I suggest that some circulars be authorized to be issued to aid in securing contributions to these collections. Some of the officers of the I. C. R. R. have promised to aid in making collection, and they have issued passes to Profs. Burrill and Taft to visit such points as they

may wish along the line of their road to look personally after collections. These passes are made good for sixty days. I suggest that these Professors be authorized to make the trip at such times as they may have without detriment to their classes. There will be needed a small appropriation to cover the expenses of these collections.

I also present the request of Profs. Robinson and Webb for seats for ther draughting rooms, and of Prof. Webb for several additions to his apparatus and other things needed in his department.

The new apparatus for the Physical Laboratory, provided for by State appropriation, is needed as soon as it can be obtained. Prof. Robinson has made a selection of such apparatus to the amount of $600 or $700, and as it is to be obtained chiefly from Europe, I asked the members of the Board, by letter, to allow the order to be made. A letter has just been received from an importing house in this country offering to import it for us on favorable terms.

I call attention to the Free Hand Drawing. Miss Patchen is employed three hours a day in this department. Some of her advanced students desire to be taught crayon drawing and shading from casts; but I can not recommend that any part of the three hours be abstracted from the large classes of common free hand. As this advanced drawing is of the nature of an accomplishment, why may it not be taught as music is taught, at the expense of the pupils taking it? Miss P. might be authorized to instruct such a class and charge a fee for the same.

A case has arisen calling up the question whether students may be excused from drill on account of the conscientious convictions of themselves or of their parents. We have one student who was admitted and excused on full showing that his father and himself are members of a reiigious body opposed to war, and forbidden by their principles to engage in military service. As he has entered and paid his matriculation fee on this understanding, it seems just that he shall still be excused. But it is desirable that the Trustees shall adopt some fixed rule for the guidance of the Faculty in such cases.

Respectfully submitted,

J. M. GREGORY,

FARM DEPARTMENT.

DR. J. M. GREGORY, *Regent Illinois Industrial University:*

The following report of the present condition of the Farm Department is presented, together with an outline of plans for future operations.

The accounts for the year ending December 1, 1875, as rendered by Mr. Lawrence, copies of which are herewith submitted, show that the cash receipts for the year (including credits from other departments) were $7,094 06, while the expenditures for the same period were $8,563 55, or the sum of $1,469 49 in excess of receipts. This excess of expenditures is derived from previous profits of the farm.

The value of salable property belonging to the department at the beginning of the year (December 1, 1874), as shown by inventory, was $6,241 26, and at the close of the year (December 1, 1875), it amounted to $10,383 60, an increase in value of salable property during the year of $4,142 34.

If to this we add the value of permanent improvements made during the year, ($543 79) and deduct the excess of expenditures over receipts, ($1,469 49) as stated above, the sum of $3,216 64 remains as the profits of the department for the year.

The resources of the department that may be made immediately available, are as follows:

Credits as per account of Business Agent	$303 19
16 fat steers, average 1,400 lbs., at $4 75	1,064 00
12 fat hogs	156 00
100 tons of hay, at $10	1,000 00
300 bushel potatoes, at 25 cents	75 00
400 bushel wheat	400 00
256 bushel rye, at 65 cents	166 40
65 bushel Hungarian seed, at 50 cents	32 50
Or a total of about	$3,197 09

Since my last report the repairs on the experimental farm have been completed, so that the animals now belonging to the department are in comfortable quarters. The cost of the repairs has been as follows:

Lumber	$146 25
Hardware	45 24
Labor	160 25
Total	$351 74

The barn and house of the experimental farm have been painted with two coats, of cottage colors, for which the following expenditures have been made:

Paints and oil	$145 55
Labor	66 00
Total	$211 55

Of this $59.90 has been charged to the house and $151.65 to the barn.

The main avenue from the University building to the experimental barn and house has been graded in accordance with instructions of Mr. Gardner, at an expense of $37, of which amount $13.75 has been charged to Horticultural Department, $15 to Buildings and Grounds, and $8.25 to Experimental Farm.

Grading around the experimental barn has been done, at an expense of $38.

During the months of August and September observations were made for the purpose of determining the physical properties of the prairie soils, on the Experimental Farm, so far as temperature is concerned; but the apparatus at command was not sufficient to give satisfactory results. With suitable means of investigation, it is believed that observations in this direction will prove of great value from a scientific standpoint, and they may result in discoveries of practical importance.

For the purpose of testing in this climate the merits of green corn fodder in a fermented state for winter feeding, several pits were filled and covered in on the 22d to the 25th of September, which will be opened the present month.

For several years past in France and Germany, this system of preserving green feed for winter consumption has been successfully practiced, and there appears to be no good reason why it should not succeed here. A full report of the experiment will be given when the pits are opened, and the details of the process given in full.

FUTURE OPERATIONS.

STOCK FARM.

The stock farm should be managed solely with reference to immediate profits, in accordance with the prevailing system on prairie farms—the leading interests being, corn-growing and cattle-feeding.

While anything like an exact system of experiments cannot be practiced without materially diminishing the profits of the farm to the great disadvantage of the department, it is however proposed to continue the rough comparative trials in feeding that have been made in previous years, and to keep as full accounts of expenses in all operations as can be readily made, for the purpose of obtaining approximate data for estimating the profits of the system.

EXPERIMENTAL FARM.

While it is admitted that all operations on the Experimental Farm are conducted with the strictest economy, we should not lose sight of the fact that the leading object should be to add to our knowledge of agricultural facts and principles by a system of accurately conducted experiments.

From the very nature of the investigations it is desirable to make, and the precautions required to secure accuracy in the results, it will be readily seen that the necessary expenditures will largely exceed the value of the products of the farm.

As the boundaries of the Experimental Farm have not yet been defined, and the facilities for experiments in animal feeding have not been provided, a detailed plan of proposed experiments has not been attempted.

I can only indicate in general terms the character of the experiments it would be desirable to undertake.

FIELD EXPERIMENTS.

The influence of atmospheric changes upon the condition of the soil, involving temperature at various depths, amount of moisture, and the evaporation from the surface under various conditions, should be determined.

The absorptive properties of soils and their power to retain the materials of plant growth when applied in the form of manures.

As Indian Corn is one of the staples of this State, a permanent series of plats should be devoted to the growth of this crop for a series of years for the purpose of ascertaining the influence of thorough cultivation, the effect of deep tillage, and the relative value of natural and artificial fertilizers. From two to five acres of uniform character would probably be sufficient for this purpose.

Another series of plats might be devoted to the cultivation of new varieties or kinds of crops not in common cultivation.

The larger portion of the farm should be cultivated with a variety of crops in rotation to illustrate as far as practicable the advantages of high tillage and thorough manuring. The advantages of a systematic alternation of crops should also be determined.

FEEDING EXPERIMENTS.

Experiments should be made with swine and cattle to determine the feeding value of our farm crops under the most favorable conditions, and to illustrate the economy of cutting, grinding and cooking food.

The advantages of mixed foods in comparison with a single article of diet, should also be investigated.

In order to conduct the experiments above indicated in a satisfactory manner, additional facilities must be provided to those now at the command of the department.

For feeding swine, pens should be made so that the feed cannot be wasted, and convenient arrangements should be made for weighing each animal at short intervals.

Standard thermometers for testing the temperature of the soil, hygrometers, scales, standard measures and delicate balances are required to make the investigations what they should be, and give results that will reflect credit upon the institution.

A large outlay could be profitably made for those purposes, but a moderate appropriation may be sufficient to provide for what is absolutely needed for a beginning.

With care in selecting indispensable articles and the erection of temporary structures for feeding purposes, the sum of from $300 to $500 would, perhaps, be sufficient.

MUSEUM.

As a means of instruction and to illustrate the progress of the art of Agriculture some suitable provision should be made for the nucleus of an Agricultural Museum.

Quite a collection of specimens have already been obtained and desirable additions can readily be made if the necessary cases are provided for their preservation.

Museums are of slow growth and their development involves an expenditure of both labor and money. Time is also required to secure anything like a complete series of objects to illustrate any one Department.

The importance of an early beginning in this direction cannot be too strongly urged as the opportunities for obtaining valuable specimens and objects will thereby be very much increased.

One of the most important means of increasing collections, is the exchange of duplicate specimens with other institutions. To provide for such exchanges, a room should be provided for stor-

ing duplicates, and it would also serve as a work-room in which articles intended for the permanent collection can be suitably mounted for exhibition.

If these facilities are furnished, it is believed that a valuable museum may soon be secured, with but a moderate outlay of money.

Respectfully submitted.

M. MILES,
Professor of Agriculture.

December 1, 1875.

REPORT OF HEAD FARMER.

To M. MILES, *Professor of Agriculture Ill. Ind. University:*

I herewith present a statement showing the operations and accounts of the farm for the year ending December 1, 1875. The crops raised have been as follows:

Corn	153 acres.
Oats	22 "
Pasture	150 "
Meadow	130 "
Potatoes	4 "
Rye	6 "
Total	465 "

There has also been raised for the experimental department, as follows:

Corn	17 acres.
Rye	2 "
Spring wheat	3 "
Winter "	2 "
Oats	4 "
Pumpkins and squashes	1 acre.
Potatoes	1 "
Beets	1 "
Broom corn	1 "
Hungarian and Millet	7 acres.
Total	39 "
Grand total	504 "

The 170 acres of corn gave a total yield of 8,370 bushels, 48 8-10 bushels per acre. That on the Stock Farm gave from 50 bushels, the lowest, to 60 bushels, the highest. On the experimental farm, from 85 bushels on the experimental acre, to 30 bushels in the orchard.

Oats, on account of excessive rains, were nearly a failure.

On account of the drought of last year and the lateness of the spring causing late pasture, cattle had to be fed on 70 cent corn and $15 hay till into May, and did not thrive till the middle of June; since then pasture has been good.

The meadows yielded well, and notwithstanding the almost daily rains from beginning to ending of haying, the crop was saved in good order. Some has been sold in Washington City, Baltimore, Wheeling, &c., and bringing the first price.

For an account of the sales and credits, see paper accompanying this report marked "A." For details of the account of credits from other Departments see papers on file in the office of the Business Agent.

For a showing of the account of permanent improvements, see paper marked "B." This has been made from actual cost of material and labor, all the work having been done without the employment of a mechanic, and charging my own work with the rest, at $1.50 per day. The painting of the buildings, amounting to $220, has been classed as ordinary expenses. The painting of the house was charged over to the Agricultural Department.

Enough new tools have been added, together with repairs of old ones, to make the stock of wagons, plows, tools, etc., as good as at the beginning of the year.

For inventory of salable property, see paper marked "C."

For showing of expense account, see paper marked "D."

Vouchers covering this account are on file in the Business Agent's office numbered from 1 to 96.

Over one-half of the item of Labor and Board is compensated for in the item of Credits from other Departments, which is largely made for Farm and other Labor.

By comparing the Expense Account with Receipts and Credits, charging the inventory of one year ago and giving credit for the present inventory and for Permanent Improvements a balance of profits is found of $3,216 64. At the meeting of the Trustees in March last, the balance due the Farm amounted to $2,039 19, together with the earnings of the Farm, was appropriated for the use of the Department. This gives us a present credit, from that date, of $7,709 57, and a debit of $7,407 08, and a balance of $303 19. At the beginning of the old year, March 1, 1873, the salable property was inventoried at $1,225 82, and a loan was made to stock the Farm. Since then this loan has been paid and the inventory increased to $10,383 60. An increase of $6,157 78. Then there was a balance on account against us of $328 19. Now there is one in our favor of $303 19, a difference of $631 38, which, if added to the increase of inventory, would make a total increase of assets of $6,789 16. The improvements made on the Stock Farm have paid for themselves, (except the engine and boiler) but about $1,200 00 has been expended on the Experimental Farm from which but little returns have been as yet made. Taking all things into consideration, I am gratified with the advance that has been made.

Respectfully submitted.

E. L. LAWRENCE,
Head Farmer.

URBANA, Dec. 1, 1875.

"A."—*Agricultural Department Account for the Year ending Dec. 1, 1875.*

1875.	Cr.		
December 1	By sales of hay	$961 77	
	" " hogs	1,217 25	
	" " fat cattle	2,211 22	
	" " Herreford cattle	240 00	
	" " Ayishire "	100 00	
	" " Jersey calf	50 00	
	" " potatoes	74 01	
	" " straw	5 25	
	" " parsnips	35 40	
	" " vinegar	38 60	
	" " rye	10 50	
	" " corn	13 92	
	" " apples	50 23	
	" cash for pasture	42 81	
	" " service of bulls	210 25	
	" " premiums	87 00	
	" " work	23 00	
	" " other sales	41 21	
	" " " departments	1,681 64	
	" " permanent improvements	543 79	
	" " present inventory	10,383 60	
			$18,021 45

"B."—*Cost of Permanent Improvements for the Year Ending Dec. 1, 1875.*

Barn on Experimental Farm—		
Lumber	$146 25	
Labor	160 25	
Hardware	45 24	
		$351 74
Barn on Stock Farm—		
Material	14 00	
Labor	61 75	
		75 75
Cattle Yards—		
Lumber	28 80	
Labor	8 00	
		36 80
Grading—		
Around Barn and Crib	38 00	
Share of road	8 25	
		46 25
Other Improvements—		
Work on growing hedge	10 00	
Raising Corn Crib	7 25	
Ditching	10 00	
Setting Trees	6 00	
		33 25
Total		$543 79

"C."—*Inventory of Salable Property.*

1875.			
Dec. 1	16 fat steers, av. 1,400, 4¾c	$1,064 00	
	14 stockers, 12,750 lbs., 3½c	446 25	
	36 feeders, 44,480 lbs., 4c	1,779 20	
	12 fat hogs	156 00	
	87 shoats, $5	435 00	
	14 breeders, $15	210 00	
	1 boar	15 00	
	1 pair horses, (raised on the farm)	300 00	
	1 short-horn bull	200 00	
	1 " cow	300 00	
	1 " heifer	150 00	
	1 Jersey bull	100 00	
	2 " cows	300 00	
	2 " heifers	150 00	
	1 Devon cow	75 00	
	1 cross-bred yearling	50 00	
	1 " calf	25 00	
	5,175 bu. corn, 35c	1,811 25	
	650 shocks corn, 2 bu., 90c	595 00	
	230 " " 1½ bu,, 60c.	138 00	
	100 tons hay in barns	1,000 00	
	24 " " in stacks	120 00	
	40 " straw, $2	80 00	
	300 bushel potatoes, 25c	75 00	
	200 " beets, 10c	20 00	
	400 " wheat	400 00	
	256 " rye, 65c	166 40	
	300 " oats, 30c	90 00	
	65 " Hungarian seed, 50c	32 50	
	Private accounts less debts	40 00	
	1 milch cow	60 00	
			$10,383 60

"D."—*Agricultural Department, Account for the Year ending Dec. 1, 1875.*

1875.	Dr.		
December 1	To cash for stock cattle	$2,216 12	
	" " " hogs	113 17	
	" " corn and feed	542 09	
	" " labor and board	2,888 70	
	" " hardware	100 27	
	" " harness repairs	18 25	
	" " reaper and mower repairs	22 65	
	" " plow "	19 75	
	" " wagon "	18 55	
	" " new plow	18 35	
	" " " cultivator	25 00	
	" " " iron pump	15 00	
	" " salt	12 55	
	" " shoeing and blacksmithing	25 95	
	" " short horn heifers	285 00	
	" " lumber	194 94	
	" Head Farmer's salary	1,200 00	
	" freight	59 38	
	" Horticultural Department account	102 00	
	" Experimental " " (produce)	395 90	
	" Architectural " "	6 26	
	" Mechanical " "	10 33	
	" cash for grass seed	68 95	
	" account for paint	165 55	
	" cash for unenumerated articles	38 84	
	" inventory of Dec. 1, 1874	6,241 26	
	" balance, profits of the year	3,216 64	
			$18,021 45

The report of the Business Agent was then read and accepted.

REPORT OF BUSINESS AGENT.

URBANA, December 14, 1875.

To EMERY COBB, ESQ., *President Board of Trustees, Illinois Industrial University:*

SIR—I have the honor to make the following report as Business Agent, for the three months ending December 1, 1875:

Of the enclosed papers, "A" shows the present condition of the appropriations made on September 14.

"B" is a list of the warrants issued under them.

"C" is a list of unaudited bills presented.

"D" is a classification of such bills, showing the appropriations under which they will come.

The expenditures for buildings and grounds have been heavy, but seemed necessary. The walk on the west side of the parade ground has been put in good condition. The roof, chimneys and water conductors of the old building have been thoroughly repaired. The large southwest basement room of new building has been fitted up for a gymnasium. Double windows made for three of the rooms of the new building, besides the usual repairs. It will be necessary to increase this appropriation for the next three months.

I recommend that the $181 55 which the Architectural Department had overdrawn at the September meeting be now placed to the credit of B. & G., the same being charged against the Department.

The cash collections for the Architectural and Mechanical Departments have not been as large as usual, but the amount of the work done is quite equal to that of the past. Both of the Departments have good bills on which I expect to make collections in January. Both Departments have credits under their appropriations, if the credit warrants are considered.

The Machine Shop has given 2,101½ hours labor to the students at a cost to the University for wages of $319 14.

The Carpenter Shop has given 2,103½ hours labor at a cost for wages of $379 72. In case of the Machine Shop the Foreman's pay is not included in the above statement, and hence the seeming lower rates for that shop. Both shops run four hours each day for commercial work.

The receipts of the Horticultural Department are so small that it will be necessary to overdraw its credit if Mr. Hay's salary is charged against it. Prof. Burrill will present the matter to the Trustees.

In this connection I wish to inform you that the department has two notes overdue by a year or more, on which small amounts have been paid, but that it seems impossible to collect the balance by asking. The notes are from, 1st, M. L. Dunlap & Sons, for $140 84, on which has been paid $30; 2d, J. N. Green, for $45, on which has been paid $10. I wish instructions in the matter.

Mr. Mann, our janitor and heating engineer of the new building for the last two years, left the first part of the present month. His brother has the positfon for the present, but it is expected other arrangements will be required at the end of the term. The pay given for the services will command a good man, I believe.

It seems desirable that we should be better quartered against fire than at present. I recommend that the purchase of 150 feet of 1 inch rubber hose be authorized. This attached to the water pipe from the water tanks, would enable a person to get water upon a fire in any of the rooms in the new building. I would also recommend the purchase from the Illini of two fire extinguishers at $30 each, it being a discount of one-half. One of these I would place in the machine shops and one in the chemical laboratory. The required amount to carry out the above recommendations can be had from the fuel and light appropriations. Several questions as to repairs and changes in society halls in the University, have come up. It might be well for the Trustees to settle it in as definite a manner as possible the conditions under which these halls are occupied.

Respectfully submitted

S. W. SHATTUCK, *Business Agent.*

"A."—*Statement of Current Expenses and Receipts, November 30, 1875.*

		Appropriated.	Receipts.	Expended.	Unexpen'd
Board expenses		$230 00		$65 20	$164 80
Salaries—					
Regent	$2,000 00				
7 Professors	7,000 00				
1 Professor	1,500 00				
1 Professor	750 00				
1 Professor	800 00				
1 Assistant Professor	750 00				
Veterinary	600 00				
Miss Allen	720 00				
Parsons	420 00				
Swartz	450 00				
Baker	360 00				
Robinson	240 00				
Assistant Librarian	90 00				
Janitor and fireman	780 00				
Treasurer	250 00				
Business Agent	200 00				
Military assistants	70 00				
		18,120 00		8,847 12	9,272 88
Fuel and lights		2,500 00	$54 53	266 68	2,287 85
Buildings and grounds		500 00	26 05	267 22	258 83
Stationery and printing		300 00		41 74	258 26
Incidental expenses		300 00	7 50	47 34	260 16
Mechanical Department		180 41	223 22	393 93	9 70
Architectural Department		120 00	100 41	422 11	
Agricultural Department balance		146 52	2,268 06	1,738 87	675 71
Chemical Department—					
Balance	$49 77				
Desks	180 00				
		229 77	15 82	131 78	113 81
Military and Gymnastics		265 00		36 60	228 40
Library and apparatus		500 00		155 05	344 95
Horticultural Department		136 84	60 74	224 36	
Physical Laboratory		950 00		25 84	924 16
Veterinary Department, State		1,088 02		98 76	989 26
Printing Office, State		82 78		22 15	60 63
Sundries—					
Library tables		116 00			116 00
Engineering cases		60 00			60 00
Engineering transit		550 00			550 00
Chicago Exposition		50 00		43 35	6 65
Kenis, one-half salary June		25 00		25 00	
Centennial Exposition		200 00			200 00
Microscope, botanical		100 00		10 00	90 00
Architectural model of ventilator		35 00			35 00
Bottles, etc., cabinet		75 00			75 00
Salary C. C. Silver				100 00	
Fees and room rents			2,912 00		2,912 00
		$26,860 34	$5,668 33	$12,963 10	

"B."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
1	J. M. Gregory	Salary, September 1875	$333 33
2	S. W. Robinson	" "	166 66
3	T. J. Burrill	" "	166 66
4	S. W. Shattuck	" "	200 00
5	E. Snyder	" "	166 66
6	D. C. Taft	" "	166 66
7	J. B. Webb	" "	166 66
8	J. C. Pickard	" "	166 66
9	M. Miles	" "	250 00
10	N. C. Ricker	" "	125 00
11	J. D. Crawford	" "	125 00
12	H. A. Weber	" "	133 33
13	E. L. Lawrence	" "	100 00
14	C. E. Patchin	" "	50 00
15	Lou C. Allen	" "	120 00
16	F. W. Prentice	" "	100 00
17	A. C. Swartz	" "	75 00
18	I. O. Baker	" "	60 00
19	F. A. Parson	" "	70 00
20	E. A. Robinson	" "	83 33
21	M. A. Scovell	" "	40 00
22	A. E. Barnes	" "	40 00
23	J. Kenis	" "	60 00
24	C. I. Hays	" "	50 00
25	H. A. Mann	" "	100 00
26	A. Blackburn	Expense to September meeting	17 25
27	R. B. Mason	" " "	5 00
28	A. M. Brown	" " "	22 10
29	D. D. Sabin	" " "	20 85
30	E. T. Benjamin	Chemical apparatus	97 52
31	Fuller & Fuller	Window glass	12 92
32	J. Kenis	One-half salary for June, 1875	25 00
33	S. W. Robinson	Expenses to Chicago	27 30
34	Webster, Davis & Co	1 bbl cement	3 50
35	Burgess, Willows & Francis	Apparatus	40 16
36	J. W. Keys	Painting muslin sign	2 75
37	J. M. Gregory	Books, etc	28 00
38	Sterns & Co	1 bbl. stucco	4 00
39	Joseph McCorkle	96 lbs. felt paper	6 00
40	Enterprise Coal Co	11 cars coal	124 00
41	J. D. Weeks	Gravel and sand	33 43
42	A. J. Bicknell	Manilla paper	9 00
43	E. L. Lawrence	Farm expense September, 1875	918 78
44	S. W. Shattuck	Students' pay-roll	234 91
45	R. A. Sutton	825 brick	6 60
46	S. W. Shattuck	Petty expenses September	13 42
47	E. N. McAllister	Postage July and September	18 62
48	A. Brown	Repairing furnace, etc	47 31
49	W. F. Pratt	" roof of building	138 57
50	H. Swannell	Books	8 00
51	J. M. Gregory	Salary for October, 1875	333 33
52	T. J. Burrill	" "	166 66
53	S. W. Robinson	" "	166 66
54	S. W. Shattuck	" "	200 00
55	E. Snyder	" "	166 66
56	D. C. Taft	" "	166 66
57	J. B. Webb	" "	166 66
58	J. C. Pickard	" "	166 66
59	M. Miles	" "	250 00
60	H. C. Ricker	" "	125 00
61	J. D. Crawford	" "	125 00
62	H. A. Weber	" "	133 33
63	E. L. Lawrence	" "	100 00
64	C. E. Patchen	" "	50 00
65	Lou. C. Allen	" "	120 00
66	F. W. Prentice	" "	100 00
67	A. C. Swartz	" "	75 00
68	J. O. Baker	" "	60 00
69	F. A. Parsons	" "	70 00
70	E. A. Robinson	" "	83 33
71	M. A. Scovell	" "	40 00
72	A. E. Barnes	" "	40 00
73	J. Kenis	" "	60 00
74	C. I. Hays	" "	50 00
75	H. A. Mann	" "	100 00
76	Champaign & U. Gas Co	Gas bill Jan. 1, to Oct. 1	52 00

"B."—*Abstract of Warrants*—Concluded.

No.	To whom.	For what.	Amount.
77	L. W. Morris	Freight and charges on apparatus from Europe...	$19 40
78	Manspeaker & Camp	Broms, pails, etc	3 40
79	F. W. Christern	Books	60 10
80	J. W. Butler	Paper	22 15
81	Alex. A. Ulrich	Hardware	11 87
82	Fuller & Fuller	Chemicals	7 39
83	Jones & Laughlin	Iron	7 70
84	C. Kinnecke & Co	Flower pots	10 75
85	Jansen McClurg & Co	Books	7 20
86	H. W. Sawyer	Tuning two pianos	9 00
87	S. W. Robinson	Expenses to Chicago	11 80
88	Western Elect. Manufacturing Co.	Wire and Insulators	8 40
89	George P. Christie	B-trombone, second-hand	10 00
90	John Muller	Painting and glazing	8 60
91	Jansen, McClurg & Co	Chauveau's Anatomy	9 60
92	Torrey & Bradley	Dissecting instruments	14 40
93	Champaign County Gazette	Warrant book and printing	17 00
94	Enterprise Coal Co	5 cars coal	78 00
95	Ludington, Wells & Van Schack	Lumber	85 00
96	G. Denerlich	Book and periodicals	47 40
97	Crane Bro's Manufacturing Co	Hardware	34 34
98	Fuller & Fuller	Tubing and paints	147 28
99	Hallock, Holmes & Co	Lace leather packing, &c	12 11
100	Agricultural Department	Expenses for October, '75	373 33
101	Students labor	Pay-roll October, 1875	366 63
102	Walker Bros	Fencing guns	8 65
103	M. E. Lapham	Lumber	54 63
104	C. W. Silver	Salary June, 1875	100 00
105	J. W. Shuck	Picture frames	2 75
106	Fulks & Parker	Pump	6 90
107	Illinois Central R. R. Co	Freights	1 62
108	J. M. Gregory	Salary November, '75	333 33
109	S. W. Robinson	" "	166 66
110	T. J. Burrill	" "	166 66
111	S. W. Shattuck	" "	200 00
112	E. Snyder	" "	166 66
113	D. C. Taft	" "	166 66
114	J. Burkitt Webb	" "	166 66
115	J. C. Pickard	" "	166 66
116	Manly Miles	" "	250 00
117	N. C. Ricker	" "	125 00
118	J. D. Crawford	" "	125 00
119	H. H. Weber	" "	133 33
120	E. L. Lawrence	" "	100 00
121	Charlotte E. Patchen	" "	50 00
122	Lou C. Allen	" "	120 00
123	F. W. Prentice	" "	100 00
124	A. C. Swartz	" "	75 00
125	J. O. Baker	" "	60 00
126	F. A. Parsons	" "	70 00
127	E. A. Robinson	" "	83 33
128	M. A. Scovell	" "	40 00
129	A. E. Barnes	" "	40 00
130	J. Kenis	" "	60 00
131	C. J. Hays	" "	50 00
132	H. A. Mann	" "	100 00
133	Joe Ness	" "	20 00
134	J. E. Bumstead	" "	10 00
135	G. B. Cooper	Collection of insects	10 00
136	Nicolet & Schoff	Printing labels	2 25
137	S. W. Shattuck	Petty expense, October	32 30
138	Chas Hurdy	Calsomining, painting	33 12
139	E. N. McAllister	Postage, October, '75	10 24
140	Benneman & Wilson	photographic apparatus	8 55
141	" "	" "	17 29

"C."—*Unaudited Bills.*

No.	To whom.	For what.	Amount.
142	L. R. Noble	Work and expense in armory	14 75
143	A. M. Coffern	Books	5 10
144	Dodson & Hodges	Hardware	45 46
145	E. V. Peterson	Books and stationery, etc	24 95
146	G. A. Wild	Birds	67 83
147	S. W. Shattuck	Petty expenses, November, 1875	9 50
148	A. S. Barnes	Freight charges on box from Paris	11 96
149	Walter P. Ward	Glazing	2 90
150	A. Snedeker	Castings	39 35
151	H. Swannell	Chemicals, books, etc	16 80
152	Fuller & Fuller	Glass	33 50
153	N. C. Thayer	Chemicals	4 60
154	J. W. Butler	Paper	14 65
155	E. N. McAllister	Postage, November, 1875	5 25
156	Illinois Central R. R. Co	Advanced freight	11 66
157	Stearns & Co	1 bbl. stucco	4 00
158	Crane Bro's Manufacturing Co	Hardware	5 90
159	Lyon & Healy	1 calf head	4 75
160	Crane, Breed & Co	Hardware	13 62
161	Ill. Cent. R. R. Co	Freight for Sept., Oct., Nov., 1875	395 10
162	Students' pay rolls	November, 1875	272 68
163	Mechanical Department	Work for other departments	84 28
164	Architectural "	" " "	624 82
165	Experimental "	Produce to Agricultural Department	395 90
166	Agricultural "	Farm expense, November, 1875	411 80
167	Agricultural "	Work for other departments	554 85
168	Trevett & Green	Hardware	60 70
169	Illini	Advertising	60 00
170	Horticultural Department	Work for buildings and grounds	97 90

S. W. SHATTUCK, *Business Agent.*

Table "D."

	Cr. Warrants.	Unaudited.
Chemical Department		$195 16
Fuel and lights		391 49
Buildings and grounds		33 50 371 93 1 90
Stationery and printing		86 60
Incidentals		20 38
Mechanical Department	$84 28	209 46
Architectural "	624 42	215 59
Agricultural "	554 85	84 00 878 21
Military "		36 32
Library and apparatus		95 66
Horticultural Department	97 90	237 96
Physical laboratory		13 31
Veterinary Department		153 30
Printing office		14 65
Lund's—library tables		96 00
" Civil Engineering Department		2 40
" Chicago Exposition		18 01
" Centennial "		4 60
" Cabinet		4 10
" Experimental farm	395 90	118 03
Room rents from Horticultural rooms		12 00

The bills presented for payment were audited and allowed.
Adjourned to meet at 8 A. M. December 15.

DECEMBER 15, 1875.

—

The Board reasembled at 8:30 A. M., as per adjournment.

Dr. Gregory's, and the special reports of the Professors in charge of Departments, were taken up.

The report of a Special Committee in reference to Mr. Hume was taken up.

To the Honorable Board of Trustees:

Your committee to whom was referred the question of engaging Mr. Hume to assist Dr. Miles in Experimental and other farming, make the following report: After giving the subject careful consideration, we find Mr. Hume wants a salary of Nine Hundred Dollars a year for his services. As the position was a new one and somewhat expensive, your Committee thought best to employ Mr. Hume only until the present time, and submit the question of permanent employment to a full Board. All of which is respectfully submitted,

D. GARDNER,
J. H. PICKRELL.

Pending explanations by Dr. Miles, the Board took a recess to attend Chapel service.

Dr. Miles then continued his explanations in regard to the manner and practical aims of experiments.

Mr. Byrd moved that the report of the committee be received and approved.

Carried.

Mr. Blackburn offered the following resolution, in reference to the employment of Mr. Lawrence and Mr. Hume, and appropriations for experiments:

Resolved, That we consider the general management and superintendence of the agricultural interest, including the farm, to be under the care and belonging to the department of the Professor of Agriculture, and that we appoint E. L. Lawrence under said Professor, to remain on the Stock Farm at a salary of nine hundred dollars per annum, with use of dwelling house and cow and other privileges heretofore enjoyed; and we also appoint E. H. Hume as like foreman on Experimental Farm, with an annual salary of nine hundred dollars; also, that we appropriate for experiments, &c., in agriculture, as asked by the Professor, four hundred dollars, from farm account.

The resolution was carried.

Mr. Mason moved that the application of Mr. Lawrence for $300 00 additional salary be not granted. The motion was laid on the table.

The motion of Mr. Blackburn that the request of Mr. E. A. Robinson for an increase of salary be refused, was lost. The matter was referred to the executive committee with power to act.

The Treasurer, J. W. Bunn, then read his report for the quarter, which was accepted.

TREASURER'S REPORT.

JOHN W. BUNN, TREASURER,

In Acct. with Illinois Industrial University.

1875.			
	DR.		
Sept. 1	To balance		$17,439 62
" 8	" amount received on Burnett's notes for land		750 00
Oct. 1	" interest on Sangamon county bonds		2,250 00
" 6	" amount received of J. O. Cunningham for lands		700 50
Nov. 30	" " " on account of Agricultural Department	$2,268 06	
" 30	" " " " " Chemical "	15 82	
" 30	" " " " " Horticultural "	60 74	
" 30	" " " " " Architectural "	100 41	
" 30	" " " " " Mechanical "	223 22	
" 30	" " " " " fees and room rents	2,912 00	
" 30	" " " " " fuel and light	54 53	
" 30	" " " " " buildings and grounds	26 05	
" 30	" " " " " incidental expense	7 50	
			5,668 38
			$26,808 45
	CR.		
Nov. 30	By amount paid on account of Agricultural Department	$1,738 87	
" 30	" " " " " Chemical "	131 78	
" 30	" " " " " Military "	36 60	
" 30	" " " " " Horticultural "	224 36	
" 30	" " " " " Mechanical "	393 93	
" 30	" " " " " Architectural "	422 11	
" 30	" " " " " Veterinary "	98 76	
" 30	" " " " " Printing office	22 15	
" 30	" " " " " Physical Laboratory	25 84	
" 30	" " " " " Library and Apparatus	165 05	
" 30	" " " " " Salaries	8,972 12	
" 30	" " " " " board expense	65 20	
" 30	" " " " " fuel and lights	438 37	
" 30	" " " " " buildings and grounds	95 53	
" 30	" " " " " stationery and printing	41 74	
" 30	" " " " " incidental expense	47 34	
" 30	" " " " " Chicago Exposition	43 35	
			$12,963 10
			$13,845 35

URBANA, Dec. 15, 1875. JOHN W. BUNN, *Treasurer.*

The Faculty was authorized to excuse students from Military Drill on account of conscientious scruples.

An appropriation of $50 was made for the Chemical Department on account of the Centennial Exposition, also $150 for the purchase of chemicals to be used in the department.

One hundred and fifty dollars were appropriated for a Thermometer Graduating machine for the Centennial Exposition.

Five dollars were appropriated for printing circulars on account of Centennial Exposition, also the following appropriations were made for the Civil Engineering Department :—For 18 stools at $1 each, $18; for the completion of desk now being made, $25; for tools, etc., $15; for incidentals, winter term, $10—Total $68.

Adjourned to 2 o'clock.

AFTERNOON SESSION.

The Board met as per adjournment.

The question of ordering apparatus for Physical Laboratory was referred to Mr. Gardner, the Regent, and Business Agent, for action.

The question of allowing Miss Patchen to teach crayon drawing and charge a fee for the same was referred to the Executive Committee.

The collection of notes against M. L. Dunlap and son, and J. N. Green, was referred to Mr. Gardner.

The employment of a Janitor and Heating Engineer was referred to Mr. Gardner and the Business Agent.

The purchase of 150 feet of rubber hose, not to exceed $75 in cost, was authorized, the amount to be charged to Fuel and Lights; also the purchase of two fire extinguishers at $30 each, to be charged to the same account.

The petition of the Adelphic Society for additional gas fixtures was referred to Mr. Gardner and the Business Agent.

It was also voted that the policy of the Trustees is that the Societies are expected to keep their rooms in repair.

The following resolution, by Mr. Flagg, was adopted:

Resolved, That the Secretary be instructed to procure the opinion of the Attorney General as to the annual report required by act of Congress and prohibited by Illinois statute; and that the Executive Committee be instructed to make such report as shall to them seem best after procuring the Attorney General's opinion.

The following report was adopted:

To the Honorable Board of Trustees of the Illinois Industrial University:

Your Committee to whom was referred the question of division of lands between the Agricultural and Horticultural Departments submit the following report:

That the Horticultural Department occupy and use the grounds north of line between section and section going as far north as they are now used and occupied with trees and shrubbery; and further, the orchard and trees shall be in charge of the Professor of Horticulture. The tillage of the ground in the orchard shall be under the control of the Professor of Agriculture, and all the buildings on the premises, south of line between sections and shall be considered as belonging to or for the use of the Agricultural Department until further ordered.

All of which is respectfully submitted.

(Signed,) D. GARDNER.

Leave of absence was granted to Professor Burrill, to go to Quincy to attend the meeting of the State Horticultural Society.

Messrs. Gardner, Flagg and Brown were appointed a committee to consider the condition and affairs of the University, and report at the March meeting, 1876, as asked for, and for the purposes indicated by the Regent in his report.

Adjourned to meet at Doane House at 7 o'clock.

EVENING SESSION.

The Board met as per adjournment.

A letter from Mr. Slade, of Belleville, was read and placed on file.

Mr. C. J. Hayes was employed as University Florist at $58 per month.

One hundred dollars were appropriated for stands for microscopes for the Botanical classes, and $50 for the Ladies' Gymnasium.

It was resolved that the fourth year students be excused from changing their uniforms.

In consideration of a past misunderstanding, about salary, between Mr. Lawrence and this Board, $25 additional per month were allowed to him for the next year.

Adjourned December 15, 1875.

MARCH 14, 1876.

The Board met at the University parlor on Tuesday, March 14, 1876, at 4 o'clock, P. M.

Present—Governor Beveridge, Messrs. Blackburn, Mason, Flagg, Pickrell, Sabin, Brown, Cobb and Gardner.

The President, Mr. Cobb, in the chair. A portion of the scriptures were read by Dr. Gregory and prayer offered by Mr. Blackburn.

The record of the December meeting was read and adopted.

The report of the Business Agent was received as follows:

EMORY COBB, ESQ., *President of the Board of Trustees of the Illinois Industrial University:*

SIR—I have the honor to make the following report as Business Agent of the University:

Paper *A* gives the receipts and expenditures, so far as warrants have been drawn, for the six months ending February 29, 1876.

Paper *B* is a list of warrants drawn since the last Board meeting.

Paper "C" is a list of unaudited bills.

Paper "D" is a statement of these bills classified under their proper appropriations.

Three of the appropriations will be overdrawn, if the bills offered are audited, viz.: The Horticultural, Chemical, and Library and Apparatus.

The last results from the expense of apparatus from Europe, which had not been provided for; the Chemical from the fact that the collections of the term are not deducted; they will be some $300.

That of the Horticultural was caused by placing Mr. Hay's salary against the department.

The fire hose authorized at your last meeting was purchased, and adjustments made within the limit of the appropriation, $75.

The fire extinguishers were not purchased, as the parties did not wish to furnish them at the price named, $30.

It was found necessary to repair the brick work of one of the boilers the past month; that of the other should be attended to before next fall. The one repaired is now in better condition than ever before, cost of repairs about $75.

The condition of the young men's water closets is not satisfactory. Greater care of them is required than the Janitor can seem to give; the sewer may need overhauling, and more convenient urinals might help the matter.

On account of many losses occurring, it has been proposed that the young men be provided with means to have their caps, coats, etc., cared for in the dressing-room by the payment of a small fee each term. The cost of a proposed counter for the purpose is given in Paper E., $31 72. I recommend that it be allowed.

The shops have been run as in the past, one-half day for educational purposes, one-half day for commercial purposes, and show small balances.

The matting throughout the building has become worn, the original cost was some $450. It seems desirable to replace that in the Library at least, which would cost about $90.

Mr. Van Osdell, at a recent visit to the University, said it would be well to run two supporting columns from the basement to the third floor as supports to the main stairway. I have had small ones put on the first floor, which seems to answer at that place for the present. Your attention is drawn to the matter.

I wish instruction from the Board in regard to the Matriculation Fees, which are deposited by the students upon entering the University. In cases where the Matriculation paper is not taken out, my custom has been to return the fee if the student left in a few days, or in the term, in case of illness. But there are students who have not taken their Matriculation papers, not having passed their conditions, who have been here two or more terms.

Respectfully submitted,

S. W. SHATTUCK,
Business Agent.

"A."—*Statement of Current Appropriations and Receipts.*

	Appropriated.	Receipts.	Expended.	Unexpen'd
Salaries—Hayes and Robinson	$180 00			
Salaries	18,120 00		18,176 28	123 72
Board expenses	230 00		202 25	27 75
Fuel and lights	2,500 00	234 00	1,177 39	1,556 61
Stationery and printing	300 00		162 88	137 12
St. & C			205 09	
Buildings and grounds	500 00	26 05	494 75	73 89
Incidental expenses	300 00	1 07	114 54	186 53
Centennial	150 00			
Mechanical Department	180 41	892 50	1,055 99	166 92
Architectural "	120 00	854 79	861 21	113 58
Agricultural "	146 52	4,635 35	4,173 84	608 03
" " Centennial	50 00			
Chemical "	229 77	333 98	653 28	60 57
Military and Gymnasium	265 00		81 22	183 78
Library and apparatus	500 00	5 10	305 63	199 47
Horticultural Department	136 84	250 09	485 96	101 03
Lt. & Current			36 80	
Physical Laboratory	950 00		18 41	894 79
Veterinare Department, St.	1,088 02		252 06	835 96
Printing Offices St	82 78		36 80	45 58
Sundries—Library tables	116 00		96 00	20 00
Sundries	68 00		20 00	
Civil Engineers Department—				
Case	60 00			108 00
Transit	550 00			550 00
Chicago Exposition	50 00		61 36	11 36
Kenis, ½ June salary	25 00		25 00	
Centennial Exposition	200 00		12 85	187 15
Stands	100 00			
Microscope, &c	100 00			200 00
Architectural model and table	35 00			35 00
Cabinet, bottles and Alcohol	75 00			75 00
Ladies Gymnasium	50 00		8 30	41 70
Silver's salary	100 00		100 00	
Insects for cabinets	10 00		10 00	
Engravings for reports	10 00			10 00
Experimental Farm		395 90	118 03	276 87

"B."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
142	L. R. Noble	Work in armory fall term, 1875	$14 75
143	A. M. Coffeen	Books	5 10
144	Dodson & Hodges	Hardware	45 46
145	E. V. Peterson	Stationery and books	24 95
146	G. A. Wild	Birds for cabinet	67 83
147	S. W. Shattuck	Petty expenses November, 1875	9 50
148	A. S. Barnes	Freight on box from Paris	11 96
149	W. P. Ward	Glazing	2 90
150	A. Snedaker	Castings	39 35
151	H. Swannell	Chemicals, blank books, etc	16 80
152	Fuller & Fuller	Glass	33 50
153	A. C. Taylor & Co	Chemicals	4 60
154	J. W. Butler & Co	Paper	14 65
155	E. N. McAllister	Postage, November, 1875	5 25
156	Ill. Cen. R. R. Co	Freight advanced	11 66
157	Stearns & Co	Hardware	4 00
158	Crane Bros. Manufacturing Co	1 bbl. stucco	5 90
159	Lyon & Healy	1 base drum-head	4 75
160	Crane Bros., Manufacturing Co	Pipe for boiler	13 12
161	Illinois Central Railroad Co	Freight for Sept., Oct., and Nov	395 10
162	Students' Pay-roll	November, 1875	272 68
163	Mechanical Department	Work for other departments	84 28
164	Architectural "	" " "	624 42
165	Experimental farm	Produce	395 90
166	E. L. Lawrence	Farm expense, November, 1875	411 80
167	Agricultural Department	Work for other departments	554 85
168	Trevett & Green	Hardware	60 70
169	Illini	Advertising for 1875-6	60 00
170	Horticultural Department	Rent of house	85 90
171	D. B. Gillham	Board expense	20 50
172	Emory Cobb	Expense to Sept., Oct., and Dec. meeting	16 00
173	R. B. Mason	" December "	6 50
174	W. C. Flagg	" " "	16 50
175	J. H. Pickrell	" " "	14 50
176	D. D. Sabin	" " "	21 35
177	A. Blackburn	" " "	22 20
178	J. J. Bird	" " "	17 00
179	J. M. Gregory	Salary, December, 1875	333 33
180	S. W. Robinson	" "	166 66
181	T. J. Burrill	" "	166 66
182	S. W. Shattuck	" "	200 00
183	E. Snyder	" "	166 66
184	D. C. Taft	" "	166 66
185	J. B. Webb	" "	166 66
186	J. C. Pickard	" "	166 66
187	M. Miles	" "	250 00
188	N. C. Ricker	" "	125 00
189	J. D. Crawford	" "	125 00
190	H. A. Weber	" "	133 33
191	E. L. Lawrence	" "	100 00
192	C. E. Patchen	" "	50 00
193	Lou. C. Allen	" "	120 00
194	F. W. Prentice	" "	100 00
195	A. C. Swartz	" "	75 00
196	J. O. Baker	" "	60 00
197	F. A. Parsons	" "	70 00
198	E. A. Robinson	" "	100 00
199	M. A. Scovell	" "	40 00
200	A. E. Barnes	" "	40 00
201	J. Kenis	" "	60 00
202	C. J. Hays	" "	50 00
203	F. M. Palmer	" fall term, 1875	35 00
204	J. R. Mann	" " "	40 00
205	Thos. Naughton	3 1-5 Geo. glass	3 60
206	James Green	Thermometers and rain guage	11 00
207	W. B. Keen, Cooke & Co	Stationery	9 07
208	Joe Ness	Janitor service to Jan. 1, 1876	20 00
209	A. A. Ullrich & Co	Hardware	13 01
210	A. B. Baker	Janitor service to Dec. 31, 1875	29 16
211	J. J. McAllister	Team work	2 00
212	John Wood	Copying record	2 40
213	Fuller & Fuller	Chemicals	46 35
214	T. G. Lansden	Gas Fixtures	5 75
215	Walker Bros	9 set castors	5 40
216	Wm. Nash	Cutting trees	2 00
217	Larrabee & North	Hardware	7 95

"B."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
218			
219	J. W. Dunlap	1 cylinder oil cup	$14 00
220	S. J. Sindam & Co	Hardware	5 84
221	Frank I. Man	Repairs of base of Institution	2 30
222	Benjamin & Wilson	Photographic apparatus	4 69
223	E. Miller	Oil cloth rug	2 00
224	Chicago Screw Co	Machine screws	2 64
225	Crane Bros., Manufacturing Co	Hardware	5 96
226	Abendroth & Roat, " "	26 lbs gaskets	26 00
227	Students Pay Roll	Dec., 1875	169 26
228	Walter P. Ward	Glazing	1 40
229	I., B. & W. R. W. Co	Freight	5 93
230	Specialty Manufacturing Co	1 windmill	550 00
231	A. H. Andrews & Co	16 stools	17 60
232	E. N. McAllister	Postage, Dec., 1875	7 00
233	S. W. Shattuck	Petty expense	25 51
234	J. M. Gregory	Salaary, January, 1876	333 33
235	S. W. Robinson	" " "	166 66
236	T. J. Burrill	" " "	166 66
237	S. W. Shattuck	" " "	200 00
238	E. Snyder	" " "	166 66
239	D. C. Taft	" " "	166 66
240	J. B. Webb	" " "	166 66
241	J. C. Pickard	" " "	166 66
242	M. Miles	" " "	250 00
243	N. C. Ricker	" " "	125 00
244	J. D. Crawford	" " "	125 00
245	H. A. Weber	" " "	133 33
246	E. L. Lawrence	" " "	100 00
247	Charlotte E. Patchin	" " "	50 00
248	Lou. C. Allen	" " "	120 00
249	F. W. Prentice	" " "	100 00
250	A. C. Swartz	" " "	75 00
251	J. O. Baker	" " "	60 00
252	F. A. Parsons	" " "	70 00
253	E. A. Robinson	" " "	100 00
254	M. A. Scovell	" " "	40 00
255	A. E. Barnes	" " "	40 00
256	J. Kenis	" " "	60 00
257	C. J. Hays	" " "	50 00
258	A. B. Baker	" " "	90 00
259	Joe Ness	" " "	20 00
260	J. E. Bumsted,	" " "	10 00
261	E. Hume	" " "	75 00
262	Enterprise Coal Co	10 cars coal	151 60
263	N. C. Thayer	Chemicals	8 25
264	A. C. Swartz	1 qr. crayon paper	3 60
265	Fuller & Fuller	Chemicals	21 43
266	Agricultural Department	Farm expense Dec., 1875	127 97
267	C. and U. Gas Co	Gas bill Oct., Nov. & Dec.	247 80
268	E. B. Benjamin	Chemicals and apparatus	131 49
269	Crane Bros., Manufacturing Co	Hardware	62 78
270	Edwin H. Hume	Salary from Nov. 4 to Dec. 31, 1875	140 00
271	J. M. Gregory	Salary for February, 1876	333 33
272	S. W. Robinson	" " "	166 66
273	T. J. Burrill	" " "	166 66
274	S. W. Shattuck	" " "	200 00
275	E. Snyder	" " "	166 66
276	D. C. Taft	" " "	166 66
277	J. B. Webb	" " "	166 66
278	J. C. Pickard	" " "	166 66
279	M. Miles	" " "	250 00
280	N. C. Ricker	" " "	125 00
281	J. D. Crawford	" " "	125 00
282	H. A. Weber	" " "	133 33
283	E. L. Lawrence	" " "	100 00
284	C. E. Patchin	" " "	50 00
285	Lou. C. Allen	" " "	120 00
286	F. W. Prentice	" " "	100 00
287	A. C. Swartz	" " "	75 00
288	J. O. Baker	" " "	60 00
289	F. A. Parsons	" " "	70 00
290	E. A. Robinson	" " "	100 00
291	M. A. Scovell	" " "	40 00
292	A. E. Barnes	" " "	40 00
293	J. Kenis	" " "	60 00
294	C. J. Hays	" " "	50 00
	A. B. Baker	" " "	90 00

"B."—*Abstract of Warrants*—Concluded.

No.	To whom.	For what.	Amount.
295	Joe Ness	Salary for February, 1876	$20 00
296	J. E. Bumsted	" "	10 00
297	E. H. Hume	" "	75 00
298	Stearns & Co	2 barrels stucco	7 00
299	C. E. Mann	Services as janitor and fireman	70 84
300	Crane & Bros.' Manufacturing Co	Cutting geers and hardware	35 74
301	Yale Lock Manufacturing Co	One-half dozen locks	4 95
302	J. Munsell	Books	14 00
303	Jones & Laughlin	Hardware	8 46
304	Enterprise Coal Company	10 cars coal	160 50
305	E. N. McAllister	Postage for January	16 67
306	Trevett & Green	Hardware	6 20
307	Goodnow & Wightman	Hardware	15 66
308	Thomas Naughton	Glass for photographs	1 00
309	M. E. Lapham	Lumber	6 83
310	Weeks Bros	Moving lumber	2 00
312	H. R. Cabrey	2 pair sample chevrons	2 25
313	Western Electric Manufactur'g Co.	25 pounds line wire No. 12	3 75
315	Agricultural Department	Farm expense January	202 54
316	Students' pay-roll	January, 1876	244 82
317	S. W. Shattuck	Petty expense January	16 10
311	Lou C. Allen	Expenses for Ladies' Gymnasium	8 30
314	Fuller & Fuller	Tilters	30 00
318	A. H. Andrews	3 dozen lineal measure pointers	8 10
319	J. W. Bunn	Salary for six months	250 00

S. W. SHATTUCK, *Business Agent*,

URBANA, March 14, 1876.

"C."—*Unaudited Bills.*

No.	To whom.	For what.	Amount.
319	S W. Shattuck	Petty expense	$17 38
320	Civil Engineering Dept.	Hardware	14 75
321	Illinois Central Railroad	Freight for Dec., Jan. and Feb	627 90
322	J. W. Bunn	Salary as Treasurer for six months	250 00
323	C. & U. Gas Co	Gas bill January and February	207 28
324	A. Swannell	Stationery, chemicals, &c	27 17
325	Enterprise Coal Co.	Ten cars of Coal	143 00
326	J. S. Pickard	3,000 sheets of paper	9 00
327	Wensel Morava	Service in Armory, winter term	7 26
328	F. M. Palmer	Service as Adjutant, winter term	30 00
329	F. I. Mann	Three band instruments	5 75
330	J. R. Mann	Service as Leader of Gymnasium, winter term	30 00
331	L. Taft	Work on plaster bracket for Armory	15 00
332	Straiton & Stoven	One bale of stems	5 00
333	Fuller & Fuller	Chemicals	14 90
334	Geo. W. Call	Plow beam, handles, &c	7 75
335	Leuborns & Secretan	Apparatus	10 44
336	Bent & Smith	Six brooms	3 00
337	Champaign Co. Gazette	Stationery, advertising, etc	39 05
338	Fuller & Fuller	Glass	8 48
339	New England Subscription Agen'y	Periodicals	99 20
340	Zell & Francis	Two barrels of Alcohol	46 00
341	J. B. Roberts & Co.	One Scroptican	25 00
342	Jonce & Laughlins	Hardware	6 46
343	Horticultural Department	Work for other departments	3 63
344	A. Binder	Cleaning 10 chimneys	7 50
345	Crane Bros. Manufacturing Co.	Hardware	2 47
346	Trewett & Green	Hardware	3 10
347	A. Brown	Cutting door in wall	6 25
348	T. Doty & Co.	Coal	18 00
349	Elliott Bros.	Physical apparatus	400 00
350	J. M. Gregory	Freight on apparatus from Europe	12 50
351	J. B. Webb	Expense Engineering Department	8 93
352	Dodson & Hodges	Hardware	13 11
353	A. Snideker	Castings	35 33
354	Benerman & Wilson	Photo apparatus	7 92
355	Jno. R. Barrett	Fifty book binders	10 00
356	Agricultural Department	Farm expense, Feb	571 25
357	E. N. McAllister	Postage	14 59
358	Carl Schuman	Apparatus	38 00
359	I., B. & W. R. R.	Freight	45 76
360	Students' Pay-Roll	February, 1876	234 25
361	D. O. Butterfield	One barrel of prepared clay	5 00
362	Mechanical Department	Work for other departments	182 22
363	Architectural Department	Work for other departments	382 07
364	Buildings and Grounds	Transfer credit	181 55
365	Chemical Department	Chemicals for Physical Laboratory	116 04
356	Chemical Department	Apparatus for " "	13 99
367	Mechanical Department	Work for " "	84 64
368	Agricultural Department	Work for other departments	138 45

The bills presented for payment were audited and allowed.

The Board adjourned to meet at the Doane House at 7:30 P. M.

EVENING SESSION, 7:30 P. M.

The Board met as per adjournment.

The report of the Business Agent was taken up. An appropriation of $35 was made for counters for the young men's dressing rooms.

The matter of putting in supporting columns for the center stairway, was referred to the executive committee.

It was resolved that the deposit of $10 for matriculation fee by such students as are admitted on conditions is not to be returned except in case a student leaving for sickness during the first term. The Regent, Dr. J. M. Gregory, then read his report.

REPORT OF REGENT.

To the Board of Trustees of the Illinois Industrial University:

With this meeting opens the tenth year since the first Board of Trustees of the University met and organized at Springfield. Eight years of actual work as a university have been completed, and the measure of success attained affords the most gratifying evidence of the soundness of the ideas on which the university was founded, and gives the most certain assurance of the large success which awaits it. The records show the following attendance in the several years:

For term closing June		1868	77
For year	" "	1869	112
"	" "	1870	180
"	" "	1871	278
"	" "	1872	381
"	" "	1873	400
"	" "	1874	406
"	" "	1875	374
"	to March	1876	385

It will be observed that the increase was regular and rapid up to the year 1873-4, when the great financial panic which struck the country began to make its influence felt on all the higher institutions of learning, our own as well as others. But the present year, though the hard times still continue, begins again to show increase, and the outlook promises a much more rapid enlargement in the years immediately to come, provided the institution shall continue to deserve and retain the public confidence.

It is gratifying to know that the University has at last surmounted the hostile and injurious criticism which so hotly assailed it in its earlier years, and did so much to injure its proper growth. Not a single paper in the State, so far as I know, now holds a hostile attitude, nor a single writer, unless it may be some one or two disappointed men, who can find little good in those who failed to find the required good in them. Nor is this triumph of the University merely negative—the simple cessation of complaints. The University has been visited by large numbers of intelligent observers, men of all classes, and large public bodies, Legislative committees, Educational and Medical conventions, and the State Grange of the Patrons of Husbandry. And from all parties, without exception, there have come nothing but expressions of surprise at the extent and power of the University, and approbation of its plans and methods. I shall have the pleasure to lay before you the resolutions of the Wayne County Grange based upon the reports carried home to them by their delegates to the State Grange, at their late meeting in this city. Our last catalogue contains a letter signed by the members of the Legislative committees sent to inspect the institution, and commending it in strong terms to the confidence and patronage of the citizens of the State. From newspaper articles in my possession, written by regular correspondents who have visited us, I might quote to you additional testimony to the high position the University has come to hold in the public esteem. I recall now their favorable judgments, not because of the personal satisfaction they may afford the Trustees or myself, but as indications of the progress made, and as sure promises and precursors of the rapid growth to come.

But our success has not been simply that of large numbers and public approval. Our plans and methods of instruction have worked out valuable results. Obliged, like all other young institutions, to receive a large part of its students with a low grade of preparation, the University has succeeded in imparting to these students a degree of scholarship and culture which, while differing in kind, falls but little if any short of that given to their more thoroughly prepared matriculants by the oldest and best institutions of the country. Our commencements and frequent public exercises in which the students have borne part, have, in the judgment of good critics, and I must add in my own, exhibited a scope of information, a power of thought and expression, and a justness of taste rarely surpassed in the American Colleges. And our students coming into contact with the students of other colleges, in their inter-collegiate conventions, have shown a mastery of business and a readiness and power in debate which commanded the respect of their associates. Nor ought I to forget to mention that it was one of our students who took the first prize for oratory in the last inter-collegiate contest. It is too soon, our graduates are all too recently at work, to tell how their education will stand the sterner tests of practical life; but if the zeal with which they pursued their studies here, and the rate of progress which they showed do not fail them, we may look confidently for the riper results. As to the special aims of their study, as Agriculture, Engineering, &c., we must probably wait still longer to test the final success of our methods. Our several schools of Agriculture, Horticulture, Mechanical and Civil Engineering, Architecture and Chemistry will exhibit at Philadelphia students' work of which they need not be ashamed. Many of our students of Agriculture have gone back to their farms. Several of our young Civil Engineers hold responsible places on the Lake Survey and on Western railroads; one, at least, of our Architects has won a separate place among the Architects of Chicago, while a good number of Mechanical Engineers and Chemists are pursuing their proper work in their own or other people's establishments. But, doubtlesss, as always with the graduates who have their own capital to collect, many have gone temporarily to other employments than those for which they were educated, and which offered them a readier pathway to their goal; while some, using the freedom which our country allows its children, have sought in the Teacher's calling or other professional careers the needful daily bread and the possible emoluments and honors which we all covet and catch when we can.

As was to be expected, our graduates have not yet become numerous in proportion to our attendance. In all higher institutions, and in young ones more than in the old, many students drop out of their classes by the way and fail to complete their course. In these eight years we have matriculated 1,098 students, and graduated (including present graduating class) only 116; but our

graduating classes annually increase, and when we can secure a better preparation in those who come, we may hope for greater perseverance in their studies. Nor ought we to regard our work as wasted on those who stay but a year and fail to finish any course of studies. They may fail to reflect honor on the University, as the full graduate can, but their lives will be the brighter and their work the better for the studies they have taken.

To sum up the results thus far attained, we may count the verdict on the side of industrial education. Its feasiblity and value are more firmly established; its true methods are becoming better known.

I hand the Board herewith the reports of the several chief instructors, of the work of the term.

I need not occupy your time at this meeting, which occurs in the midst of the year, with any detailed statement of our several colleges and Schools. At the close of the year, I may more appropriately offer my suggestions.

THE CATALOGUE.

The unusual demand for our annual catalogues exhausted, several weeks ago, the supply and the new one should be issued as soon as practicable. As it is the Centennial year, and our exhibition at Philadelphia will create an unusual demand, and afford a favorable opportunity for the distribution of catalogues and circulars, will it not be wise to publish a much larger number than in other years, and if necessary, diminish for the time our advertisements through other mediums? I would suggest, also, the propriety of adding to the illustrations a full-page engraving, on which may be grouped all the College edifices of all sorts.

PRELIMINARY YEAR OF STUDIES.

After careful consideration, the Faculty have concurred in asking the Board to provide for a year of preliminary studies, to be required of all students before entering any of the Colleges. It is recommended that this course consist of the scientific studies and Algebra, now required for admission, and of the Geometry and two terms of English now making a part of the first year; these studies to be arranged as follows:

First Term—Algebra, Bookkeeping, Physiology.

Second Term—Algebra and Geometry, English, Natural Philosophy.

Third Term—Geometry, English, Botany.

I recommend the addition or substitution in place of the last studies mentioned in each term, preparatory studies in Latin and Greek for those students who are candidates for the College of Literature and Arts.

The Faculty also recommended, as will be seen by reference to their resolution herewith communicated, that no student be matriculated without passing an examination in the studies of this year, and that an extra charge be made for instruction in these studies, sufficient to defray all the expense thereof.

The adoption of this year will accomplish three desirable objects. First, it will give some much-needed facilities to students who come to us unprepared for our higher studies. Secondly, it will raise the standard of admission to our proper college courses, and give to those courses much more of completeness and value. Thirdly, it will relieve our already overloaded funds from the burthen of providing free instruction in elementary studies, which ought to be taken in the High Schools of the State. The students of this year would pay no matriculation fee till they were prepared to enter some one of the colleges, and a tuition fee of $15 the term would cover the expense of instruction. The measure, for these and other reasons, seems to me evidently wise and timely

COURSE OF STUDY.

The Faculty have spent much time over a revision of the several courses of study, to accommodate them to the proposed preliminary course and to remove some other discrepancies which had crept in the successive publications of our annual catalogues. These revisions I have sought to embody in the scheme of courses I herewith present, with some slight modifications which seem to me necessary to meet the declared and settled aims of the institution. The course in Agriculture is not yet agreed upon. I recommend that three courses be adopted and ordered printed in the new catalogue.

WANTS.

I communicate herewith, reports from several of the professors asking appropriations for the wants of their several departments. I need not enumerate these here, but submit them with a recommendation that you give them liberal consideration. If all cannot be granted, a wise discrimination may be made in favor of departments which have shared least in your former appropriations.

THE CENTENNIAL.

Since your last meeting much progress has been made in our preparations to take part in the great Centennial Exhibition. At the request of the Superintendent of Public Instruction and the State Commissioners, I have consented, in your absence, that our exhibition should be made in company with that of the general educational exhibit. As the educators of the State have undertaken to raise the necessary funds to transport and care for the State exhibit, it relieves us from the necessity of sending a special agent with our material, and remove some of the solicitude we might feel for the loss of articles we shall exhibit. Additional appropriations will be needed to complete our preparations and furnish some of the frames and fixtures for the exhibit. I recommend that you authorize the Regent and Faculty to select the articles to be sent. In some cases there should be included some of the apparatus of instruction, as illustrating our methods. As the State exhibit is to be under the constant care of a special agent on the ground, this apparatus will be entirely safe from injury.

ART GALLERY.

The last purchases for the Art Gallery are now on their way from New York, having recently arrived from Paris. When these are in place, the work I undertook will be complete and the University will be in possession of an Art collection which has few equals on this continent, and

which is already proving not only its attractive power, but is exerting an influence upon the spirit and culture of our students of no mean quality or importance. The collection has been made with no expense to your funds except that of fitting up the room, and a small allowance of freights, I am making a final effort to properly frame the valuable photographs which would otherwise soon be ruined. I have raised some funds for this purpose, but as the amount is still insufficient, I would respectfully ask an appropriation, not exceeding $80, for this use. A part of this sum is already due to the shop for some swinging frames for which I am responsible unless the Board choose to assume it. As the collection is now the property of the University, it seems just then that it shall be preserved from harm and loss.

The reports I transmit give so full a statement of our wants that I need not detain you to argue them separately.

Before closing this report there remains to me one more duty to perform. It is to announce to you my fixed purpose to offer you my resignation at the close of this college year in June next. I owe it to you and to the University to give you this timely notice of my intention that you may have ample time to provide for the emergency that will then arise. I am happy in the belief that our beloved University has reached a point in its history when no one man can be necessary to its prosperity, and that I am permitted to close my long and difficult labors in the midst of an outlook of coming good so full of brightness. No one of you can feel the pain that I shall in severing the ties which have grown through these long years of hard but happy toil, but I shall quit the post to which your kindness raised me with the best wishes for all connected with the institution and a humble prayer to Almighty God for its continued success and usefulness.

J. M. GREGORY,
Regent.

The report was received.

On motion, Judge Brown, Messrs. Flagg, Gardner, and Blackburn were appointed a committee to which was referred the opening and closing portions of the Regent's report.

The Board adjourned, to meet at 8 o'clock A. M., March 15, 1876.

MARCH 15, 1876.

The Board met at the University at 9 o'clock A. M.

Mr. Gardner, from the Committee on University Development reported progress. More time was granted to said committee to report in full.

The report of the Regent was taken up.

The Preliminary Course of study was considered. Judge Brown offered the following resolution:

Resolved, That the recommendation by the Regent and Faculty of the establishment of a Preliminary or Preparatory Department is approved by the Board, and the Executive Committee and the Regent are hereby directed to take the necessary steps for the organization of such department, upon the plan and in accordance with the views expressed on the subject in the Regent's report.

Mr. Blackburn offered the following amendment, which was lost:

Provided, That no tuition fees be charged in the Preparatory Course; and that it be effected at as small expense to the University as possible, not involving an additional Professor.

On motion of Mr. Gardner, Judge Brown's resolution was made the special order for the evening meeting.

The Board adjourned to 1:30 P. M.

ONE-THIRTY P. M.

The Board convened at 2 o'clock P. M.

Prof. Burrill's report was read as follows:

DEPARTMENT OF HORTICULTURE.

To DR. J. M. GREGORY, *Regent Ill. Ind. University:*

I respectfully submit the following report of the condition and wants of the Horticultural Department.

ARBORETUM.

The Arboretum now contains the following species of trees and shrubs, with the number of each that are intended to remain: American or White Elm, 12; Europeau Larch, 6; American Arbor Vitæ, 3; Irish Juniper, 1; Box Elder, 6; White Ash, 6; Norway Spruce, 6; Osage, 1; Hazelnut, 6; Butternut, 6; Sycamore, 2; Blue Ash, 6; Willows of numerous species, 44; Hard Maple, 6; Austrian Pine, 2; Scotch Pine, 2; Red Bud, 2; Coffee Nut, 4; Honey Locust, 4; Cottonwood, 4; Dogwood (*Cornus Sericea*), 2; Button Bush, 2; Crab Apple, 1; Plum, 1; Wild Cherry, 1; Sumach, 2; Linn, 4; Thorn (*Crataegus Coccinea and Tomentosa*), 6; Mulberry, 4; Whahoo, 3; Prickley Ash, 2; Iron Wood, 5. Besides these, a considerable number of Silver-leafed Maple and Catalpa trees were planted in the spring and fall of 1875, for present effect and to afford shelter for those kinds which are too tender to withstand the rigors of the open field, at least while young. Of the latter there are many varieties which can be successfully grown, with a slight protection, and which, after a time, afford sufficient shelter for themselves; but which it would be impossible to start in the open ground. To this end it seems to me advisable to plant many more of such common kinds as we have on hand. I would also again urge the purchase of a large number of kinds of young trees for this plantation.

Thomas Mehan, of the Germantown Nurseries, Penn., then offered to let the University have a collection of such young trees, for twenty-five cents apiece—two each, or two hundred species, four hundred plants, for one hundred dollars, all of these to be different from those we have or can readily obtain near home. This offer is probably still good, and may be the best that can be done. Such trees would require setting in the nursery for a few years, after which time the arboretum, if planted now, as suggested, would be better fitted to receive them. The common trees planted for temporary use can be removed as necessary, at little cost.

Heretofore, owing to travel across the grounds by men and teams, other property being inclosed in the same lot, and the sidewalk upon the west being inside of the fence, necessitating stiles or gates frequently out of order, great annoyance and no little damage has been done by the droves of town cows which are nearly always hanging about, winter and summer. It has also been very difficult to make workmen understand the value of trees, or careful enough to save them from injury by their teams while plowing, cultivating, etc. These causes, combined with the excessive drought of the summers preceding the last, have retarded the progress expected upon these grounds. The dangers are not yet fully passed, but very much lessened. Constant watchfulness by interested persons can only fully avoid them, yet the conditions are very much improved. Clover was sown last spring, and has now obtained an excellent footing, now appearing thick and fresh.

GREEN HOUSE.

As things now are it would be much better in every way if the green house was near the new university building. When a Chemical Laboratory is erected a Botanical Laboratory comprising plant structures and class work rooms ought to be connected with it. If there is no prospect of this it seems to me the best thing that can be done for real usefulness is to connect a low propagating house with the south end of the east or west wing of the main building, using a portion of the basement room for the class work room. Besides the inconvenience of transporting specimens the use of many of them in the lecture room keeps it in a constant litter. Botany and horticulture may be taught, after a fashion, from books and by words alone, but it certainly is not the best way. An abundance of stems, leaves, buds, flowers, &c., &c., to be dissected and examined microscopically and otherwise with facilities for recording observations by words and drawings, are necessities in teaching, properly, these subjects. Tables are needed and a few instruments with drawers for keeping them, and the drawings made or in progress are also required. Thus it will be seen a common recitation or lecture room can not well be used for its own purpose and for that of a work and laboratory room as well. The recitations might about as well be held in the chemical laboratory. Adopting the plan suggested, a plant house made for use, not for ornament, sunk to the eaves in the ground, could be heated by a steam coil from the boilers now used to heat the building by adding a common stove to be used when the boilers were not in use Sundays, &c. For the stove one of the back flues would answer. The glass, sash, &c., for such a structure are already on hand, so that but a small outlay would be required, according to the size of the house—say from $100 to $300, or even a less sum if positively necessary. I believe such a house could be cared for with very little expense, students in their class exercises doing most of the work. For experimental purposes an arrangement for a platform on wheels to be run out on pleasant days would be a great advantage. In this way plants in pots could be grown, each having its special soil, fertilizers, &c., and many facts ascertained. It is the method followed with best results at the experimental stations in the old world.

This house would be altogether different from the one we now have, and would be used for an entirely different purpose. In the one, small plants only could be grown; in the other, such large plants as we now have; the one for practical use especially, the other for show and illustration of tropical and other plants. The low house would be needed whether the other is moved or not, but more if it was not.

The old house is badly out of repair. One floor was taken out last autumn, and the other will have to be this summer. The putty is almost all loose, and some of the glass broken. A partition wall is rotten and liable to fall. The brick work about the furnace has been patched until there is little of mending further without considerable pulling down. If the winter had been severe we should have had much trouble to get through safely. It will probably cost $100 to repair properly, perhaps $150. Would it not be better to move it during the summer, letting this sum go towards the expense? I am not competent to say how much the moving would cost; perhaps $400. Its care would be rather less when moved, for the reasons given before.

The decision in regard to both of these structures given now would permit full and matured plans for the June meeting, and action then would be time enough for the actual beginning of the work.

Shall the small house be ordered south of and adjoining the main building? Shall the present greenhouse be moved?

Shall the planting of common trees be continued, and shall others be purchased? Some kinds from the home forests have died; these may be replaced from the same source.

ORNAMENTAL GROUNDS.

The changes consequent upon moving the main portions of the school work to the new building, lessening the importance of and interest in the old building and grounds induces me to recommend the abandonment of the floral display in these beds. The premises being almost deserted during the long summer vacation serious depredations are made by people of low class who make the place a rendezvous, and by rowdy boys incited to mischief by the opportunity presented. Beds are tramped, flowers plucked, plants stolen and carried away, and other annoyances of similar kind.

Anticipating the sanction of the Trustees the beds have been sown with blue-grass because it was considered hazardous to wait until after the meeting for such sowing. This grass will, however, give little or no trouble should the ground be cultivated as heretofore.

The same attention to floriculture transferred to the new grounds will have much better effect and be free in the main from the evils mentioned.

Considerable labor and expense have been laid out upon the grounds upon which the new building stands, but the appearance is not yet what it should be. No one, so far as I know, has been specially charged with this work. There has been an understanding that a committee had the direction of affairs, but just who constitute that committee I cannot say, neither do I know the duties and powers of it or them. Sometimes the work has been ordered by one, sometimes by another, and it would seem, sometimes not ordered at all. If a committee can have meetings and full consultations, their plans will probably be better than those of a single individual, but even then the execution of these plans should be in the hands of one person. Certainly the best results cannot be expected from the individual and independent orders and acts of several authorities. If the general plans can be formed and a special appropriation be made for it, one man ought to be able to manage the rest.

Probably the first question to settle is the amount of money to be expended. It is not how much will do, for any amount, small or great, will answer, according to the style adopted. To keep the grounds in as good condition as the old ones have usually been, will require, upon an average, about $50 a month for six months in the year for labor, and as much more for plants and materials, new walks, fences, large trees, etc., extra. This will permit, besides keeping the walks, trees and grass in good order, a considerable floral display, but will exclude the formation of many or large beds, the introduction of any but the more common or less expensive bedding and flowering plants, and most of the other objects and materials used by landscape gardeners. This sum ($600) is estimated for our average seasons, but will vary with the conditions of the summer. From two to ten times the amount could be advantageously employed. Without a seeming, and certainly without a real extravagance, $500 might be carefully expended in fitting the bed before the front door, the erection of a small fountain with water supply from the tanks in the building, vases and fittings for choice plants, etc. There is a well near the front gate east of the walk. For this, and may be for the one east of the building, an ornamental inclosure or cover would add to the attractiveness of the grounds, besides being of real use. Two cisterns also in front might be fitted as aquaria, and at no great cost be made pleasant and instructive features. A good general collection of roses, arranged in a tasteful manner in a special bed of large size, would, perhaps, be still more appropriate and desirable. And so of many other things it would be easy to mention. But all these and similar adornments cost money and labor, both for the beginning and for the after care.

The question returns and will return as often as an attempt is made to settle what shall be done: "How much money can be spared?" In the above estimate for plants and materials ($300 00) the outlay of money directly for them is not contemplated, but the probable cost to the University with the stock on hand and to be obtained by exchange, with the greenhouse kept in use for other purposes as well. Instead of paying the money directly for most of the plants used, it would be paid for the labor of growing them as heretofore.

These things appear to me important—

1. Fixing as near as may be the expenditure.
2. Determining in a general way the work to be undertaken, by a special committee or by the Board in session, but in any case to be done at once and for the year.
3. Placing some one and one alone in charge.

For the same reason as given above these grounds have been resown with blue grass, in front, and with timothy, in the rear, within the last two weeks. This was done upon the authority of the Business Agent, the Head Farmer and myself, and I hope it may meet with approval. The drain tile laid in the ditch in the rear is stopped with silt, commencing it is believed at the bridge. Will it not be advisable to refer this to the Professor of Agriculture, with instructions to repair as needed. The drain seems to be in good order above the bridge, but in times of heavy rain there is much surface washing. If a larger tile was laid this might be avoided, and would be, doubtless, the best in the end; but a very shallow open drain seeded with grass would also, I think, answer the purpose. In this case nothing but a slight depression of the surface, so as not to interfere with travel and cultivation, is all that would seem needful or tolerable.

ORCHARD AND NURSERY AND FRUIT PLANTATIONS.

Nothing has been done upon these grounds during the winter, except arrangements for the sale of nursery stock. The older apple-trees were "cut" last fall with the "tree digger," in an excellent manner and will be largely disposed of during the spring sales. Some of this stock will be sold to customers who come for it, but the greater part is taken by Mr. J. C. Staggs, who has been engaged in taking orders during the winter, as is customary among nurserymen. Last year, he disposed of about $400 worth and paid for it, as the money was collected by him. The same arrangement is made again, and all things considered, it is believed the best that could or can be done, though not what could be wished. His orders now are greater than those of last year. I

know of no chance, nor probability of a chance, to wholesale the lot for cash. The same man buys of other nurserymen in the same way, things we do not have. If the trees were my own, and I no more able than now to attend to the sale, the same arrangement would be made, but I cannot hold myself financially responsible for the value of the stock. No additions are expected to be made to the nursery this year unless for the Arboretum as indicated and for the forest-tree plantation. The Horticultural plants, (as grapevines, small fruits, etc.,) are to be moved to the newly assigned territory as rapidly as practicable.

FOREST-TREE PLANTATION.

The following kinds are now growing in this plantation: European Larch, Osage Orange, White Pine, White Ash, Austrial Pine, Green Ash, Norway Spruce, White Sugar Maple, Silver-leaf Maple, White Willow (?), Black Walnut, Butternut, White Elm and Catalfa. Some of these require thinning out this spring. Some of the larger Ash trees may be sold. An order for 400, two inches in diameter, to be sent to Chicago, is now in hand, but prices not fixed. The demand for large-sized forest trees appears to be great, and prices above most nursery stock. The Larch thinnings may be planted again next those standing. The planting has not been completed as designed, so that some irregular spaces and blocks are vacant. These should be filled. The only trees directed to be planted which we have had on hand and not set were Arbor Vitae, and these were intended to be placed where it has been too wet to plant.

In the meantime the young trees were becoming so crowded in the nursery that they were sold or used for other purposes. I recommend planting what Tulip trees we have, and a thousand or more Apple trees from the nursery. Planted close together, these trees (Apple) make an upright growth, with clean trunks like other forest trees, and produce very valuable wood. Some Oaks ought to be tried, but seedlings cannot be had without great cost. It has seemed hard to get acorns, they being closely picked up by boys in the woods near us. If they can be purchased, several bushels might be obtained now. The Chestnuts planted some years ago all died, yet a few left in the nursery among other trees are still living and doing well. Shall another attempt be made? Seedlings can be obtained at $10 per thousand.

Very respectfully submitted,

T. J. BURRILL.

The special order, Judge Brown's resolution, was taken up by consent, and passed as above.

The course of study was referred to Messrs. Gardner, Brown and Flagg, with power to act.

The following report was received, and the resolutions contained therein adopted:

Your committee to whom was referred the matter of the intended resignation of our Regent, expressed in the conclusion of his report, respectfully submit the following resolutions as expressive of the sentiments of the Board:

Resolved, That we have heard with deep regret of the intention of the Regent to resign his position at the close of the academic year.

Resolved, That we believe the successful inauguration and management of the Illinois Industrial University up to its present condition of usefulness, influence and promise, is in large part due to his distinguished ability, earnestness and faithfulness; and that the thanks and gratitude of the trustees of the University and of the people of the State are due for his accomplishment of this great and arduous work.

Resolved, That we profoundly regret the prospect of a severing of his relations with this institution, as we feel that his place will be difficult if not impossible to fill; and that we trust considerations may be presented that will induce him to reconsider his determination to resign.

A. M. BROWN,
W. C. FLAGG,
ALEX. BLACKBURN,
D. GARDNER,
} Committee.

RECEIPTS AND EXPENDITURES.

The Treasurer and Business Agent presented estimates of receipts and expenditures for the six months ending August 31, 1876, which were adopted, as follows:

RECEIPTS.

April 1	Interest on Sangamon county bonds		$2,250 00
"	" Pulaski " "		1,300 00
May 1	" Champaign " "		11,500 00
June 15	" Morgan " "		2,500 00
July 1	" Pike " "		3,000 00
"	" Kankakee " "		3,000 00
"	" Chicago water "		875 00
"	" Illinois 6 per cent. "		930 00
State appropriation for buildings and grounds			1,000 00
Fees and room rent			1,600 00
Illinois Central Railrord freights			500 00
			$28,455 00
			4,800 00
			$33,250 00

The above interest, except on Chicago, Illinois 6 per cent., and Sangamon county bonds, is annual, and should be extended over the year.

EXPENDITURES.

Board expense		$250 00
Salaries—		
Regent	$2,000 00	
7 Professors	7,000 00	
1 Professor	1,500 00	
1 Professor	750 00	
1 Professor	800 00	
1 Professor and Librarian	750 00	
1 Veterinary Lecturer	400 00	
Parsons	280 00	
Swartz	300 00	
Baker	240 00	
Kenis	240 00	
Scovell	160 00	
Barnes	160 00	
Robinson	200 00	
Hays	300 00	
Miss Allen	480 00	
Miss Patchen	200 00	
Janitors	400 00	
Assistant Librarian	50 00	
Treasurer	250 00	
Business Agent	200 00	
		$16,660 00
Fuel and lights		500 00
Stationery and printing, $200; catalogues, $400		600 00
Buildings and grounds, $886 18; State, $113 82		1,000 00
Incidental expense		300 00
Library and apparatus		500 00
Mechanical Department—		
Balance	$33 07	
Shop practice	60 00	
		93 07
Architectural Department—		
Balance	$134 01	
Shop practice	60 00	
		194 01
Agricultural Department		142 26
Military and Gymnasium, balance		86 02
State appropriations—.		
Printing Office, balance		45 98
Veterinary Department, balance		825 19
Physical Laboratory, $300.62; current, $43.62		344 24
Sundries—		
Microscope stands	$194 99	
Architectural model	25 00	
Ladies' Gymnasium	41 70	
Civil Engineering transit, $550; additional, $48	598 00	
Cabinet bottles	52 00	
Special trees for Arboretum	50 00	
Picture frames for Art Gallery	80 00	
Centennial Exposition	500 00	
		1,541 69
Fixtures and furniture—		
Counters in dressing room	$35 00	
Case for Agricultural Museum	175 00	
Case for Professor Taft's room	50 00	
		260 00
Total		$23,342 46

On motion of Mr. Flagg, it was voted to publish an edition of 5,000 copies of catalogues for 1876–77.

On motion of Mr. Mason, it was carried, the cost of the edition, including the new cut of the University building, was not to exceed $400.

The Board took a recess till 7 o'clock P. M.

The committee appointed by the Chair to examine the Treasurer's books, reported as follows:

We have compared the warrants drawn upon the Treasurer from March 1, 1874, to September 1, 1874, being numbered from 368 to 661 inclusive, and warrants drawn from September, 1874, to September 1, 1875, being No, 1 to 713 inclusive, and warrants from September 1, 1875, to March 1, 1876, being No. 1 to 368 inclusive, and find that all of said warrants correspond with the Treasurer's books.

D. D. SABIN,
R. B. MASON.

The following motion of Mr. Flagg was carried:

Resolved, That Mr. Hays, heretofore appointed Florist, is hereby recognized as the assistant o Professor Burrill, in the Department of Botany and Horticulture.

Treasurer, J. W. Bunn, then read his report of receipts and expenditures for the quarter ending March 1, 1876, which was received.

TREASURER'S REPORT.

ILLINOIS INDUSTRIAL UNIVERSITY,

In acct. with John W. Bunn, Treasurer.

1875	DR.		
December 1	To Balance	$13,845 35	
1876			
Febr'ary 29	To interest on Chicago city bonds	875 00	
" "	" Illinois 6 per cent bonds	930 00	
" amount received on account of	Agricultural Department	2,505 74	
" " " "	Horticultural "	192 98	
" " " "	Architectural "	1,136 45	
" " " "	Mechanical "	936 14	
" " " "	Chemical "	448 19	
" " " "	Experimental Farm	395 90	
" " " "	fees and room rents	2,133 75	
" " " "	fuel and lights	179 47	
" " " "	buildings and grounds	181 55	
" " " "	Ill. Cent. R. R. donation	1,023 00	
" " " "	library and apparatus	5 10	
" " " "	incidentals	1 07	
		$24,789 69	
	CR.		
By amount paid	salaries		$9,329 86
" " "	for buildings and grounds		672 25
" " "	fuel and lights		1,740 98
" " "	stationery and binding		150 13
" " "	board expense		137 05
" " "	Mechanical Department		1,062 67
" " "	Architectural "		800 74
" " "	Agricultural "		3,038 79
" " "	Horticultural "		281 69
" " "	Chemical "		656 75
" " "	Military "		142 38
" " "	library and apparatus		535 16
" " "	incidental expense		117 52
" " "	Physical Laboratory		32 83
" " "	Experimental Farm		125 78
" " "	Centennial		215 24
" " "	Chicago Exposition		18 01
" " "	Engineering Department		128 00
" " "	Ladies' Gymnasium		8 30
" " "	Physical Laboratory (State appropriation)		588 09
" " "	Veterinary Department " "		164 07
" " "	printing office " "		14 65
" Balance			4,828 75
			$24,789 69

URBANA, ILL., June 4, 1876.

JOHN W. BUNN, TREASURER.

Mr. Blackburn presented the following which was adopted:

Resolved, That the Professor of Horticulture and D. Gardner be directed to make all proper efforts o enlarge and complete the collection of trees in the Arboretum, and that that the sum of $50 be ppropriated to procure such as thev cannot procure by exchange or donation.

An amount of $600 was appropriated for tree planting and other improvements on grounds around New University Building to be expended under the direction of Mr. Gardner, Prof. Burrill, and Business Agent.

The subject of certain drains was referred to Prof. Miles with instructions to report to Executive Committee.

The propositions made in Prof. Burrill's report in regard to sale of trees were approved, also his recommendations in regard to tree planting were adopted.

The request of Mr. Parsons for certain fixtures for the book-keeping room was postponed to the June meeting.

The location of the experimental pig stable was referred to Mr. Gardner and Professor Miles.

The purchase of certain herd books for the Agricultural Department was ordered.

Authority was given to sell two Jersey heifers.

Mr. Gardner was appointed a committee to rent certain lands and collect rentals.

The following resolution, presented by Mr. Flagg, was adopted:

Resolved, That the Board of Trustees have witnessed, with much gratification, the calesthenic exercises of the young ladies, under the instruction of Miss Allen, and that they strongly recommend that all the female pupils participate in these exercises.

An amount of $2.50 for piano rent for use of class in calisthenics, was ordered to be paid.

Adjourned.

FARM DEPARTMENT.

DR. J. M. GREGORY, *Regent Illinois Industrial University:*

The following statement of transactions in the Farm Department for the quarter ending February 29, 1876, is respectfully presented. The financial condition of the department is as follows:

Balance due as per books of Business Agent	$317 76
Receipts from sales of cattle, hay, hogs, etc	1,950 89
Total resources	$2,268 65
Expenditures:	
Paid for wind-mill	$550 00
Paid for stock cutter	441 70
Barn improvements, (materials)	54 08
Current expenses, (salaries and labor)	1,061 11
	$2,106 89
Balance due the department	$161 76

During the next quarter, sales may be made as follows: 33 fat steers; 50 fat hogs; 75 tons of hay; 250 bushels of rye; 250 bushels of oats; 400 bushels of wheat; 2,000 bushels of corn. One or two Jersey heifers may also be spared, and 40 or 50 Berkshire and Poland-China pigs. It is proposed to purchase one more car load of stock cattle for summer feeding.

Considerable progress is being made in the collection of suitable specimens for an Agricultural Museum.

Samples of corn have been procured from the different States and the Canadian Provinces to illustrate the influence of climate on varieties. The collection thus far promises to be of great interest and it is believed that no other collection will present so wide a range of localities and varieties.

Quite a number of models have been made to illustrate the history of the plow.

Hand huskers have been collected in considerable variety and it is hoped the collection may be still further extended.

Samples of grains and other objects of interest have also been secured, thus forming a nucleus for an Agricultural Museum that should be made a prominent feature of the University.

For the preservation of the specimens on hand cases with glass doors are needed.

I would recommend that cases be made on the west and south sides of the agricultural class room and also on the east side as far as the chimney.

Estimates of the cost of the cases will be submitted.

Out of the appropriation of $400, already made by the Board of Trustees for experimental purposes, I recommend the purchase of two Fairbanks scales, graduated on the metric system, at a cost of about $60; a set of standard thermometers, for soil experiments, at a cost of about $50, and the erection of a plain board building, with board roof, for experimental pig feeding at a cost of $150 to $175.

For convenience of reference in the library the 14th and 15th volumes of the American Short Horn Herd Book; the 2nd and 3rd volumes of the Jersey Cattle Register, and the four volumes of the Short Horn Record are very much needed.

The library is not well provided with the standard works on agriculture and the students are thus unable to avail themselves of an important means of instruction.

M. MILES,
Superintendent of Farm Department.

My class exercises the present term embraces a course of lectures (daily), to a class of sixteen, on the general principles of farm management.

Have missed one exercise on account of "no fire" to warm the room.

MILITARY DEPARTMENT.

J. M. GREGORY, L. L. D., *Regent Illinois Industrial University:*

SIR—I have the honor to respectfully report that the attendance of my classes during winter term, 1876, was as follows:

Two years French	12
One year French	24
Two years German	23
One year German (2 Recit.)	45
Military Science (3 Classes)	52

The University Battalion under my command was of the following strength:

Troop.	Captain.	Lieuten't	Sergeant.	Privates.	Excused.	Total.
Staff	1					1
Company A	1	1	2	27		31
" B	1	1	3	27	1	33
" C	1	1	3	20		25
" D	1	1	3	25		30
" E	1	1	3	22	3	30
" F	1	1	3	27		31
" G	1	1	4	27		33
" H	1	1	3	26	1	32
Band				11		11
Total						257

In all the classes and military exercises the catalogue programme has been fully carried out.

Under General Order No. 3, Adjutant General's Office, the University Battalion has been incorporated into the Illinois Militia, to constitute the Sixth Regiment Illinois State Guards. In the same order the commanding officers of regiments are appointed a committee to confer with Adjutant General H. Hillard in regard to a visit to the Centennial Exposition, at Philadelphia, on or before the fourth of July, 1876. In accordance with the above order I have corresponded with the Adjutant General of the State, the Central Commissioner of Illinois, Dr. F. L. Mathews, Gen. Hawley, of the central committee on military, the railroads, &c., but affairs are not as yet in a presentable condition.

I have been told that most of our students would eagerly avail themselves of such an opportunity if within the reach of their means. I think that such a visit of a number of our students to the Centennial, would be extremely beneficial to them individually, and a credit to the University; and have concluded to accept this task of responsibility and work—if the total expense per individual student could be brought within the sum of $40. I think that at a much higher figure we could not obtain a sufficient number to make a good appearance, and make it worth the trouble of extra drill and preparation.

There will be needed some pecuniary aid from the University—perhaps not very much—to fit up accoutrements, arms, and for the purchase of knapsacks for the number going. I desire to make economy a prominent point, both for students and University, but would respectfully ask you to obtain from the Board of Trustees an expression of approval or disapproval of the movement, and also what aid I might expect. Since action will have to be taken before the Board meets again, I would respectfully suggest that the matter be referred to the Executive Committee.

For the defraying of expenses in the Military Department, Armory and Gymnasium, I would ask that the unexpended balance of $....., (as per report of Business Agent) be re-assigned to the department for the next semester.

Very respectfully, your obedient servant,

E. SNYDER,
Colonel 6th Ills. S. I. Univ. Batt.

JUNE 6, 1876.

The Board met in the University Parlor at 4:15 P. M.

Present: Messrs. Brown, Cobb, Flagg, Gillham, Gardner, Pickrell, and Sabin.

Absent: Gov. Beveridge, Messrs. Blackburn, Byrd, and Mason.

A recess of half an hour was taken to attend the Alumni session in the Chapel.

FOUR FORTY-FIVE P. M.

The Board reassembled at 4:45 P. M.
The minutes of the last meeting were read and approved.
The report of the Business Agent was read and accepted, as follows:

To HON. EMORY COBB, *President of the Board of Trustees of the Illinois Industrial University:*

SIR:—I have the honor to make the following report as Business Agent, for the three months, ending June 1st, 1876:

Paper *A* gives a list of the appropriations made March 14, and the expenditures under the same, also the collections passing through my hands for the three months

Paper *B* is a list of the warrants drawn since the March meeting.

Paper *C* is a list of the bills presented for auditing.

The collections, both on account of the shops and term fees have been slow. Those for the machine shop have not been equal to the expenses, but in the carpenter shop will show a good balance when a collection of $450 is made from the State Centennial Committee, which will be at an early day.

The deficiency in the Mechanical Department is owing to the manufacture of the graduating machine for the Centennial Exposition, and a large lathe intended for the shop. If the graduating machine should be sold for what the one made before it was, the shop account would be made good. The question of running the shops, or shop, during the vacation is presented for your consideration. Some custom work will present itself, but not enough, I think, to run three or four hands the full time. There is also some work for the University which it is desirable to have ready at the opening of the next year. If both shops could be placed under one direction for the summer, when run, it might be more profitable to the University.

Mr. Robinson is a valuable foreman in the iron working shop and I trust will be retained.

The usual amount of repairs and cleaning of building will be needed this summer. I believe the main stairway should be attended to, certainly, the end one will need strengthening In several of the large rooms the plaster is being pushed from the timbers which support the floors above, and needs attention.

Caps should be placed on the top of the ventilating flues, those which were there having been torn off by the wind. The ventilation of the building at present is bad. The second boiler should be overhauled—the material for the work is now on hand.

The Dormitory building has not been well occupied the past year, and I raise the question of making some changes in the rooms, making a portion of them better than they now are, and charging higher rates; also charging lower rates for some of the present ones—charging for the room the same whether there are two students or one in it. The best rooms often have but one student in each. Several students have applied for permission to room in the building during the whole or part of the vacation. Will the Trustees express their wishes in the matter.

Mr. Baker, the present janitor and fire engineer of the new building, asks for a re-engagement of one year, at about $900 for the year. Several students also have applied for the position. If it was not thought best to have a family in the building, the work could be done as well as it now is for less money, by taking responsible students.

I request that Mr. Parsons be retained as Business Agent's clerk, at $20 per month, in addition to his pay as Instructor in Bookkeeping.

I also request a leave of absence from the University for three weeks during such time in the vacation as my duties will allow.

Respectfully submitted. S. W. SHATTUCK, *Business Agent.*

URBANA, June 6, 1876.

The bills presented for payment were audited and allowed:
The Regent then presented his report, as follows:

REGENT'S REPORT.

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN—The work of another academic year in the University is closed. Instruction has been given during the year to 386 students. The numbers in the several Colleges and unattached Schools were as follows:

College of Agriculture	45
" Engineers	72
" Natural Science	34
" Literature and Art	193
School of Domestic Science	6
" Commerce	24
" Military Science	65
Elective	5

It will be observed that in some cases students belong to more than one School. Those in Military Science are always attached to other Schools. The numbers in the College of Literature and Art are swelled by the fact that most of the female students are found in that College.

The teaching force employed during the year includes—

Regent and Professors	13
Instructors	5
Lecturer	1

Besides these regularly employed teachers, instruction has been given in the University to private pupils or classes, with the consent of the Regent and Faculty, as follows: In vocal music, by

Professor Marshall; in voice culture, by Mrs. F. Hollister; in preparatory studies, by students Campbell and Kingsbury.

The new catalogue, now passing through the press, will give you the names of the students with their distribution, and a general view of the work of the year. And the term reports of the several teachers, which, by my request, contain statements of the work of the entire year, will afford you a view of all the classes taught, and the numbers in each. I need not at this time give you again a separate statement of the progress and condition of each department of the University, as this will be brought before you more fully in the special reports of the officers in charge of these departments.

Looking at the University as a whole, although it falls short of our ideal and our earnest wishes, I believe it realizes in some fair degree the aim of Congress and of the State Legislature, as a school of scientific and industrial learning. If the numbers of students in the technical schools are not yet so large as we desire, they are far from being discouraging. The great technical and agricultural schools in Europe did not for many years show the numbers that we have here already. The work already done can not be without its effects on the agriculture and manufactures of the State, when time is given for the influence of the hundreds of our students who have returned to the farms, to take effect. It took more than a quarter of the century for the polytechnic schools of Europe to show their beneficial influence on European manufactures; but no intelligent man to-day denies that influence. We can afford to watch and wait for the rich harvest of public good which will certainly come from our seed sowing.

I do not know what we could have done more than we have done to increase the numbers of agricultural students. The Agricultural College has always been placed at the front and kept at the front in every catalogue, circular and advertisement which we have issued, from the outset. You have expended more money on this college than upon any other, more teachers have been employed in it than in any other, and every effort has been made to recommend it to the people at large, and to the students who have come herefor study. The efforts made for it have been hearty, earnest and unceasing. And if they have failed thus far to secure all the results desired, it has been from external influences beyond our control. Nor is it difficult to discern the causes of this partial failure. The entire traditional feeling of this country is in favor of the old classical college education. The old and venerable colleges and their thousands of graduates, the great bulk of the educated men of the country, have possession of the public ear, and attract especially the attention of our young men who are seeking the higher education. The learned professions, and particularly the law and medicine, are the most common attractions of our ambitious youth, and both are counted as requiring a regular college education. All these attractions lie on the one side, while on the other nothing but ignorance, uncertainty and distrust hang around the new education—ignorance of its real aims, uncertainty as to its success, and serious distrust of its utility. But against all odds it is winning its way. The practical character of the age favors it, and the advance of Science and Arts make its final triumph certain.

I have recited these facts, not as an apology for our plans, but to encourage perseverance in them. You will be assailed by temptations to change the character of the institution, and may feel, through some temporary discouragement, to allow it to drift into the well-worn channels of a more popular education. I have known even prominent teachers of Agricultural education urge that the chief aim should be to give the farmers' boys a good disciplinary education with a little of agriculture mixed in. This is a betrayal of the very conception of an Agricultural College, and leaves it no right to exist. A little agricultural science could easily be injected into the course of a regular Classical College. It is the claim of the new education, not that a liberal culture will prove useful to the farmer and mechanic—no reasonable man ever doubted that—but it is claimed that the thorough study of the branches of learning which relate to agriculture and the mechanic arts will give as liberal education as any other, and will fit the agriculturist and mechanician for their business far better than any other. I venture in this my last official paper to emphasize all this, because I believe in our ideas and in their final success. That mighty exposition of human arts now in progress in Philadelphia, is full of instruction and encouragement for the friends of industrial education, and it is no time to talk of retreat in this hour of triumph. I predict that from the date of this Centennial exhibition the cause of industrial education, in all its depatments, will take a new impulse and go on to a grander growth. And this University ought to bear a part in this.

RECOMMENDATIONS.

I condense as much as possible my recommendations:

1. There remains unexpended of the Veterinary appropriation about $700. The committee charged with its expenditure, believe that it ought to go towards the purchase of the Auzoux model of the horse, for which it was partly asked. But this purchase would require an additional appropriation of $200, which I would advise.

2. It is probably already known to you that Mr. Cobb has generously donated to the University a set of Ward's celebrated casts of fossils. A part of these are already here, and the remainder, now on exhibition in Philadelphia, will be received here in the autumn. An appropriation will be needed to supply the necessary cases and supports.

3. In this connection I would advise that the windows looking upon the court, both from the museum and the library, be bricked up. They are found unnecessary for lighting, and the strong eddies of wind in the court make it almost impossible to exclude the dust, which seriously injures the books and collections.

4. The preliminary year decided upon at your last meeting has been duly advertised. Some additional teaching force will be needed to carry it into effect, but until the question of the re-employment of the present assistants and the assignments of their labors be settled, it seems unwise to make further engagements, and I recommend that this matter be referred to a proper committee to distribute the work and select new teachers if needed. If a careful adjustment be made I believe that not more than one additional assistant will be required.

5. Of the assistants now employed several are expecting to be re-employed. It should be kept in mind that our general policy has been to employ such graduates as have been found worthy and, who, wishing to protract their stay at the University for a year or two, were willing to stay for the small compensation your funds will afford. This gives to worthy young men the benefits of the English fellowships, in enabling them to prolong their studies. It also gives them an introduction to the teacher's profession and aids them in obtaining afterward desirable positions. It is

obvious that it will be impossible to you to retain these young men here for the moderate salary paid, and equally impossible that you shall continue to advance all of them year after year to higher rank and higher compensation. Will it not be wise to adopt some settled rules in these cases, fixing the limits of compensation to be allowed? Taking the past year as a guide, the salary of such assistants might be fixed at $40 a month, or $400 a year for the first year; $60 a month, or $600 a year for the second year, and $75 a month, or $750 per annum for the third and any subsequent year; the appointments in all cases being made from year to year. There will arise occasional instances where one of these assistants will be elected to fill a higher vacancy in the Faculty, but these cases will necessarily be rare.

6. Some of our Professors will naturally ask for an increase of their salaries, as their appointment to full prefessorships seems to carry with it the reasonable expectation of the regular salary paid to others of the same grade.

7. The employment of teachers without salary, who receive fees from those whom they instruct, has already engaged your attention. There have been in the University this year, from teachers of this class: Miss Patchen, teacher of instrumental music; Mr. Marshall, teacher of vocal music; Miss Bryant, teacher of elocution; and Mrs. Hollister, teacher of voice culture and vocal music. Some such system seems necessary in all branches where the instruction must be to a large extent individual, and cannot, therefore, be made free to all. It might be extended to include painting in oil and water colors, and in such branches of drawing as are sought simply as accomplishments. It is evident, however, that some stricter rules should be adopted in regard to the employment of such teachers. I would advise that they receive regular appointment by the Board, and that their fees be fixed by the Board; and as you furnish the rooms and fuel and furniture, it seems but just that a per centage of the fees, at least after a certain amount shall be paid into your funds. Such is the usage at other institutions.

The importance and excellence of our drawing departments have steadily increased. In industrial education no department is more valuable and none is receiving more attention both in this country and in Europe. The addition of our Art Gallery, and the introduction of cast drawing and designing and clay modeling have given to this side of our work an impulse whose importance can not be over estimated. I suggest that the work in this department be organized into a separate School of Design, and that some appropriation be made to secure additional models especially in the department of Architecture. If the large hall over the Art Gallery could be fitted up with sky lights it would be of great advantage to the classes in cast drawing who need a strong steady light to make the shadows on their models fixed and distinct. If the University is to pursue steadily its course as an institution of industrial learning, and maintain its ground among its eager and richly endowed competitors in other States, it must not neglect this fundamental part of its work. I recommend also the reappointment of Mons. J. Kenis, who is proving himself a thorough instructor, with a salary more commensurate with his merits and his work.

I am requested by the Faculty to lay before you the facts in regard to a secret society whose existence in the University has become fully known during this year, and which has been made the occasion of unwonted disturbance and strife. At the outset of our career, and during each successive year, I warned the students faithfully against the introduction of these pests of our American colleges, but several years ago, as it now appears, some young men disregarding my counsels and wishes, yielded to the temptation offered from some other college, and organized secretly a chapter of one of the secret societies known elsewhere. Its existence has been studiously concealed by its members for several years, though suspected by other students. Its more open discovery has produced the natural effect to awaken suspicions as to its aims, jealousy of its movements, and intense dislike of its presence. Its members are very probably free from the motives and acts attributed to them, and think themselves but followers of the innocent, if not praiseworthy example set them by older institutions, but by the necessities of the case and the fixed principles of human nature, their organization is felt as an insult and injury to the general community in whose midst they exist as a separate growth, and they therefore lead naturally and necessarily to perpetual ill-will, jealousy and strife.

The difficulty of their abolishment lies in their wide diffusion, and in an absurd claim to reverence which their bad antiquity gives them. They owed their origin, or more probably their organic impulse, to those secret societies which the tyrannies of Europe compelled if they did not justify among the artisans and students of an earlier and more barbarous age. Their existence in a country so free and intelligent as ours is an absurd anachronism which ought to shame them out of existence. They exist in numbers in all the older Colleges of the country, generally in spite of the protest of Trustees and Faculties, who almost uniformly disapprove them. Their pretence of secrecy is a silly sham which serves only to tickle the fancy of the members and to attract through their curiosity the fresh comers to college life. The secrets they guard are nothing but a name and some awkward grasp of the hand of no consequence to anybody but themselves, and as far as their constitution and purpose are concerned they are simple literary clubs of far less merit than the ordinary college literary societies. If through their concealment from observation they come to have other secrets, they are almost certain to be of a bad kind. It is one of the most serious charges against them, that their secrecy often leads their members to forbidden dissipations, just as darkness always suggests the bad deeds it promises to hide.

Some of these societies have become notorious, if not infamous, for the corrupt influences they exert over their young and inexperienced members. Fortunately there are but few as yet of this class; but if any are allowed to exist, the bad must be tolerated with the good, since their secrecy forbids to separate them. Their existence in this university seems to me especially undesirable, since we are trying here the new experiment of self-government by the students, a government which seems to demand that all the members of the little community shall stand on common ground, and above all, that there shall be no parties hidden under the veil of secrecy, and constantly by this fact filling the public mind with rumors and suspicions of unfair conspiracy. It is my present judgment that the students' government cannot long be maintained if this secret society continues to exist, and still more certainly if its existence invites as it will, the organization of others. The events of the year have forced this conviction upon the minds of the students themselves, and they have recently sent in a petition to the Faculty, signed by more than 100 names, including the most mature and thoughtful men among them, asking that measures be taken to repress the evil. In addition to this, the students' senate have just passed an act recommending an amendment to the constitution, requiring all officers before taking office to swear or affirm that they are not members of any secret organization or fraternity existing in this University. It is chiefly on account of this action of the students that the Faculty desire this matter to come before you, that you may decide upon the steps to be taken to guard against a growing evil

and a possible greater damage. It seems like training a monitor's great guns on a cockle shell, but since what might be otherwise treated as a youthful fancy or folly has a sort of dignity lent to it by their foreign relationships, and since it may come to injure the more important public interests of the University itself, it may be wise for you to provide a remedy. I had hoped that this new institution, with its grand public aims and its high purpose might escape the incension of three effete follies of the older colleges, and that our students would prove too manly to be caught by these traditional tinsels of a more barbarous time. Nor am I now without hope that a simple resolution of disapproval passed by you, and a request to the society to throw away its mask or its charter, may awaken the more manly impulses of our western young men, and lead them to discard this tattered toggery of the college lads of the older States.

The Calisthenic classes, under Miss Allen, have more and more demonstrated their utility as a means of physical culture, and of maintaining that health without which young women can not safely pursue long and severe courses of study. These exercises were witnessed during this past term by the members of the State Medical Society, and a warm and hearty approval accorded to them. I believe there is no longer any objection to the passage of such a rule as Miss Allen desires, that all female students shall take part in these exercises, unless excused by the proper authority for cause. Great care, it is true, will be needed, and will doubtless be had, not to compel into these exercises those whose physical condition will be injured rather than benefited by the drill.

10. The exhibit of the University for the International Exhibition at Philadelphia was duly forwarded and is now in place. I believe it will be found true that no other single institution in this country makes so large and varied an exhibit, and I trust that in most respects its excellency will compare favorably with that of others, both American and foreign.

The preparations for this exhibition have been more expensive than was anticipated, and the labor of putting it in place largely exceeded our expectations. Mr. Coddington, our foreman, was sent down to aid in erecting the cases, his expenses being defrayed by the Teachers' Centennial Fund. It seems but just that his wages for the time employed shall be paid by the University, which shares so largely in the State Exhibit.

The large and costly cases made at our shops for this exhibition will of course be for sale at its close, and must be disposed of for what they will bring. Some of the Faculty have expressed desires that one or more of these cases may be secured for permanent use here.

It is already known to you that I was elected by the United States Centennial Commission to serve as one of the judges in the International Exhibition now in progress. Supposing that I was to be at leisure during the summer, and after consulting with the President and such members of the Board as I found time to reach, I accepted the important trust, and on the 24th of May went to Philadelphia to meet with my fellow judges from Europe and America, who assembled on that day. I ought to say that by extra hours of labor I completed more than the usual term work in my class, and provided for my short absence, so that nothing was left undone of my ordinary duties here. If my resignation is accepted, I shall be at liberty to return at once to Philadelphia to resume my duties there.

Respectfully submitted,

J. M. GREGORY.

The Regent submitted with the above, reports from Professors and Instructors of classes, and of departments in charge.

The Regent's report, with the enclosures, was received.

The Board adjourned to meet at8 P. M.

EVENING SESSION.

The Board met as per adjournment.

Leave of absence was granted, as requested, to Profs. Webber, Pickard, Crawford, Shattuck, Taft, Robinson, Burrill and Ricker; also, to Mr. Hays.

Prof. Pickard's request for advance of vacation salary was granted.

The recommendations of the Regent were taken up.

The closing of the windows looking upon the court from the Museum and Library was referred to the Executive Committee with power to act.

The Executive Committee were authorized to employ, on the nomination of the Regent, an additional instructor or tutor in connection with the Preparatory Department.

The Committee on Course of Studies made the following report, which was adopted:

To the Honorable Board of Trustees of the Illinois Industrial University:

Your Committee to whom was referred the examination and revision of Course of Studies for the coming year, beg leave to report that, after examining the courses submitted by the Regent and Professor of Agriculture and consulting the Regent and members of the Faculty, we approved and presented the course submitted by the Regent, with some changes.

All of which is respectfully submitted.

D. GARDNER,
W. C. FLAGG,
Committee.

The Board adjourned to 8 o'clock of the following morning.

JUNE 7, 1876.

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The Board met as per adjournment.

The Regent, Dr. Gregory, submitted the following letter:

To the Board of Trustees of the Illinois Industrial University:

GENTLEMEN:—I regret to be obliged to ask to be excused from meeting you this morning to give you a final answer in regard to the withdrawal of my resignation now virtually before you. I cannot decide a question so momentous to myself and the University without further reflection. I will endeavor to give a definite answer at your evening meeting. In order that the Board may feel no embarrassment in its course, please consider this as a formal tender of my resignation, to take effect after the close of this day's duties.

With expressions of profoundest respect, gentlemen, I remain

Your obedient servant,

J. M. GREGORY.

Mr. Flagg offered amendments to By-Laws, which were referred to a committee of three with instructions to embody their substance in a report.

The following resolution concerning secret societies was adopted:

Resolved, That the Board condemn the formation and perpetuation of secret societies in the University as detrimental to the scheme of self-government attempted by its students; and that we trust a due regard to the best interests of the institution will induce our students to disband and discountenance such organizations.

The Treasurer read his report.

TREASURER'S REPORT.

ILLINOIS INDUSTRIAL UNIVERSITY,
In account with John W. Bunn, Treasurer.

1876.	CR.		
March 15...	By balance	.....	$4,828 75
April 1.....	" interest on Sangamon county bonds	.....	2,250 00
April 5.....	" " Kankakee " "	.....	3,133 50
May 2.....	" " Putnam " "	.....	1,300 00
	" " Champaign " "	.....	11,500 00
	" J. O. Cunningham	.....	250 00
May 31.....	" amount received on account of Agricultural Department...	$1,622 12	
	" " " " Architectural " ...	964 97	
	" " " " Horticultural " ...	362 28	
	" " " " Mechanical " ...	516 01	
	" " " " Chemical " ...	309 62	
	" " " " Military " ...	88	
	" " " " Fees and room rents.....	1,731 50	
	" " " " Fuel and lights.....	115 42	
	" " " " Buildings and grounds	32 15	
	" " " " Library and Apparatus	14 10	
	" " " " Physical Laboratory.....	5 37	
	" " " " Art Gallery.....	10 62	
	" " " " Incidentals	1 80	
	" " " " Ill. Cent. R. R. donation.....	259 80	
			5,946 64
			$29,208 89

	DR.		
	To amount paid salaries	$9,142 30	
	" " " on account of buildings and grounds.....	289 90	
	" " " " fuel and lights	527 08	
	" " " for stationery and printing.....	407 06	
	" " " Library and apparatus	135 67	
	" " " Agricultural Department.....	1,842 06	
	" " " Horticultural "	366 43	
	" " " Architectural "	978 44	
	" " " Mechanical "	873 41	
	" " " Chemical "	247 92	
	" " " Military "	13 30	
	" " " incidental expense.....	82 47	
	" " " Board expense.....	114 40	
	" " " Centennial	212 49	
	" " " Civil Engineering.....	20 85	
	" " " Ladies' Gymnasium.....	34 53	
	" " " Cabinet.....	63 20	
	" " " Art Gallery.....	102 54	
	" " " Physical Laboratory.....	1 21	
			$15,455 26
	" " " taxes on lands in Neb. and Minn	$2,145 67	
	" " " Physical Laboratory.....	289 66	
	" " " Veterinary Department.....	25 99	
	" " " Printing office.....	45 98	
			2,507 30
			$17,962 56
	Balance		11,246 33
			$29,208 8

JOHN W. BUNN, *Treasurer.*

URBANA, June 6, 1876.

"B."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
369	J. M. Gregory	Salary for March, 1876	$333 33
370	S. W. Robinson	" " "	166 66
371	T. J. Burrill	" " "	166 66
372	S. W. Shattuck	" " "	200 00
373	E. Snyder	" " "	166 66
374	D. C. Taft	" " "	166 66
375	J. B. Webb	" " "	166 66
376	J. C. Pickard	" " "	166 66
377	M. Miles	" " "	250 00
378	N. C. Ricker	" " "	125 00
379	I. D. Crawford	" " "	125 00
380	H. A. Webber	" " "	133 33
381	E. L. Lawrence	" " "	100 00
382	C. E. Patchen	" " "	50 00
383	L. C. Allen	" " "	120 00
384	F. W. Prentice	" " "	100 00
385	A. C. Swartz	" " "	75 00
386	J. O. Baker	" " "	60 00
387	F. A. Parsons	" " "	70 00
388	E. A. Robinson	" " "	100 00
389	M. H. Scovell	" " "	40 00
390	A. E. Barnes	" " "	40 00
391	J. Kenis	" " "	60 00
392	C. I. Hays	" " "	50 00
393	A. B. Baker	" " "	90 00
394	Joe Ness	" " "	20 00
395	J. E. Bumsted	" " "	10 00
396	E. Hume	" " "	75 00
397	W. C. Flagg	Expense to meeting	23 00
399	A. Blackburn	" " "	17 75
396	D. D. Sabin	" " "	20 65
400	R. B. Mason	" " "	15 00
401	A. M. Brown	" " "	28 00
402	Agricultural Department	Cattle purchased	530 00
403	New England Glass Co	Bottles for cabinet	22 01
404	Crane Bros. Manufacturing Co	Hardware	13 51
405	E. V. Peterson	Organ repairs, frames, &c	6 87
406	Publishers "Illini"	Twelve copies one year	10 00
407	Lou. C. Allen	Piano rent for ladies' gymnasium	2 50
408	A. B. Baker	Two barrels of cement and sand	16 50
409	I., B. & W. R. R	Freights	1 63
410	Fuller & Fuller	Chemicals and Glass	41 99
411	R. Taft	Casting eight model plows	4 00
412	M. Miles	Expense on Centennial collection	32 90
413	Agricultural Department	Expense for March, 1876	229 41
414	American Short Horn Record	Four volumes of Record	18 30
415	American Jersey Cattle Club	Two volumes of Herd Register	10 88
416	Burt & Smith	Two dozen brooms	3 75
417	J. W. Butler & Co	Two reams of paper	32 50
418	E. V. Peterson	Six sheets of drawing paper	1 20
419	E. B. Benjamin	Chemical apparatus	49 42
420	Crane Bros. Manufacturing Co	Hardware and gymnasium	51 95
421	John R. Barrett & Co	Labels and binders	18 40
422	Fuller & Fuller	Chemicals and glass	26 92
423	G. S. Maxwell	Six 4 gallon jars	3 00
424	A. Grooves	Cutting 74 figure dies	15 00
425	G. Deuerlich	German periodicals	15 15
426	Students' Pay-Roll	March, 1876	386 87
427	J. M. Gregory	Salary for April, 1876	333 33
428	S. W. Robinson	" " "	166 66
429	T. J. Burrill	" " "	166 66
430	S. W. Shattuck	" " "	200 00
431	E. Snyder	" " "	166 66
432	D. C. Taft	" " "	166 66
433	J. B. Webb	" " "	166 66
434	J. C. Pickard	" " "	166 66
435	M. Miles	" " "	250 00
436	N. C. Ricker	" " "	125 00
437	H. A. Webber	" " "	133 33
438	E. A. Lawrence	" " "	100 00
439	C. E. Patchen	" " "	50 00
440	L. Catherin Allen	" " "	120 00
441	F. W. Prentice	" " "	100 00
442	A. C Swartz	" " "	75 00
443	J. D. Crawford	" " "	125 00
444	J. O. Baker	" " "	60 00

"B."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
445	F. A. Parsons	Salary for April, 1876	$70 00
446	E. A. Robinson	" "	100 00
447	M. A. Scovell	" "	40 00
448	A. E. Barnes	" "	40 00
449	J. Kenis	" "	60 00
450	C. I. Hays	" "	50 00
451	A. B. Baker	" "	80 00
452	Joe Ness	" "	20 00
453	J. E. Bumsted	" "	10 00
454	E. Hume	" "	75 00
455	N. C. Thayer & Co	Paper and bottles	5 05
456	Benerman & Wilson	Cardboard and paper	37 00
457	James Rolph	Repairing boiler and chimney	97 50
458	D. C. Taft	Centennial Exposition express	6 18
459	Jones & Laughlins	Hardware	25 42
460	J. M. Stayman	Service in Chemical Laboratory	45 00
461	C. & U. Gas Co	Gas bill for March, 1876	60 55
462	E. L. Lawrence	Farm expense, April	279 91
463	Crane Bros. Manufacturing Co	Hardware	22 80
464	I., B. & W. R. W. Co	Freight	2 05
465	The "Nation"	Subscription, 1876	5 20
466	Trevett & Green	Hardware	1 24
467	Walker Bros	Black walnut	3 85
468	Dodson & Hodges	Hardware	5 75
469	Fuller & Fuller	Glass	125 40
470	W. G. Parr	Hauling 9 cords wood	36 00
471	Stearns & Co	2 bbls. stucco	7 00
472	W. F. Hardy	Pump	9 90
473	Am. Mer. Union Express Co	Express for package chemicals	6 75
474	Students' pay-roll	April, 1876	645 26
475	J. M. Gregory	Salary for May, 1876	333 33
476	S. W. Robinson	" "	166 66
477	T. J. Burrill	" "	166 66
478	S. W. Shattuck	" "	200 00
479	E. Snyder	" "	166 66
480	D. C. Taft	" "	166 66
481	J. B. Webb	" "	166 66
482	J. C. Pickard	" "	166 66
483	M. Miles	" "	250 00
484	N. C. Ricker	" "	125 00
485	J. D. Crawford	" "	125 00
486	H. A. Weber	" "	133 33
487	E. L. Lawrence	" "	100 00
488	C. E. Patchin	" "	50 00
489	L. C. Allen	" "	120 00
490	F. W. Prentice	" "	100 00
491	A. C. Swartz	" "	75 00
492	I. O. Baker	" "	60 00
493	F. A. Parsons	" "	70 00
494	M. A. Scovell	" "	40 00
495	A. E. Barnes	" "	40 00
496	J. Kenis	" "	60 00
497	C. I. Hays	" "	50 00
498	A. B. Baker	" "	70 00
499	J. Ness	" "	20 00
500	J. E. Bumsted	" "	10 00
501	E. Hume	" "	75 00
502	E. A. Robinson	" "	100 00
503	Crane Bros. Manufacturing Co	Hardware	5 89
504	Fuller & Fuller	Chemicals and fertilizers	22 79
505	Brown, Holdoway & Co	Books	18 50
506	P. Smith	Work on grounds	27 00
507	U. S. Patent Office	Printing reports	20 10
508	Jones & Laughlins	Hardware	10 46
509	M. E. Lapham	Lumber	102 36
510	New England Glass Co	Cabinet bottles	20 35
511	Benerman & Wilson	Physical apparatus	84 44
512	Manspeaker & Camp	Pail and pot	1 75
513	Champaign & Urbana Gas Co	Gas bill for April	60 55
514	Theo. E. Wormley	Books	10 00
515	S. Stanton	Physical apparatus	170 84
516	Rhodes & Kennedy	Work on map, etc	10 00
517	F. M. Palmer	Services as Adjutant spring term	30 00
518	J. R. Mann	Instruction in gymnas spring term	15 00
519	M. Morava	Cleaning muskets, etc	11 75
520	E. N. McAllister	Postage	8 06

"B."—*Abstract of Warrants*—Concluded.

No.	To whom	For what.	Amount.
521	James Green	6 thermometers	$18 00
522	I. B. Folks	Pump and fixtures	8 50
523	J. B. Butler & Co.	Paper	13 48
524	Fuller & Fuller	Glass for cabinet	59
525	M. Miles	Expense for Centennial collection	6 40

The action of the Treasurer in regard to the exchange of Morgan County Bonds was approved and such action was ordered to be reported to the Legislature.

A recess was taken until 11 o'clock.

After recess the Committee on By-laws was named by the President and Messrs. Flagg, Brown and Gardner were appointed.

The following report from the Committee on By-laws was adopted:

BY-LAWS.

I—*Meeting of the Board.*

SECTION 1.—All meetings of the Board of Trustees shall be held at the University Building in Champaign county, and a majority of the Board shall constitute a quorum.

SEC. 2.—The Board shall hold an annual meeting the second Tuesday of March, and other meetings as often as once in three months, at such times as the Board may designate.

SEC. 3. Special meetings may be called, whenever necessary, by the President or any other member of the Board, by mailing to each member of the Board, at least 5 days before the meeting, a notice of the call; *Provided*, that in such notice the business to be attended to at such meeting shall be specified.

II.—*Order of Business.*

SECTION 1. The order of business at each annual meeting of the Board shall be.

1. Reading of the Scripture and Prayer.
2. Calling the Roll of Members.
3. Reading, corrections and approval of the Minutes of last Meeting.
4. Reports of Officers.
5. Reports of Committees.
6. Unfinished and New Business.

III.—*Rules of Debate.*

SECTION 1. In the discussion and the disposal of business, the Board shall be governed by the parliamentary rules and usages usually governing deliberative bodies.

SEC. 2. Every resolution offered shall be reduced to writing and sent to the Secretary's table.

IV.—*Officers and Appointees.*

The officers of the Board shall consist of a President, Treasurer, Corresponding and Recording Secretary; and the Board may from time to time, on the nomination of the Regent, appoint such Professors, Tutors or Instructors, and such subordinate officers and employees as they may deem necessary to carry on the Institution.

No member of the Faculty shall be employed as Treasurer, Corresponding Secretary, Recording Secretary or Business Agent.

V.—*Term of Office.*

SECTION 1. The Regent and and Treasurer shall be elected at each biennial meeting and shall hold their offices for two years, and until their successors are elected and qualified.

SEC. 2. The Corresponding and Recording Secretaries shall be elected at the annual meeting and hold their offices for one year, and until their successors are elected and qualified.

SEC. 3. Professors and other officers and employees, shall be appointed at such time, in such manner, and for such term as the Board shall, by resolution in each case direct, and be subject to removal at the pleasure of the Board.

SEC. 4. The Regent, Professors and Assistant Professors of the University are engaged for the whole year, and are to consider themselves on duty except leave of absence be granted, provided, that the Regent in his discretion may, when he believes the interest of the University will be promoted thereby, visit other parts of the State or country in pursuance of that object.

VI.—*Treasurer.*

The Treasurer shall give bonds with approved security, in the sum of three hundred thousand dollars. He shall be custodian of all moneys and securities belonging to the University, except such as are, by law, placed in the custody of the State, and of the land scrip, until the same shall be sold or located. He shall invest the funds of the University as directed by the Board. and he

shall pay no money out of the treasury, except upon a warrant of the President of the Board countersigned by the Recording Secretary. He shall also, annually and oftener when required, make a detailed report to the Board of all the receipts and disbursements, since making his last report.

VII.—*Corresponding Secretary.*

The Corresponding Secretary shall perform the duties indicated and required by the act creating his office. He shall hold his office in the University building.

VIII.—*Recording Secretary.*

SECTION 1. The Recording Secretary shall perform the duties required of him by law, and usually appertaining to his office. He shall keep the books and papers belonging to his office at the University building, at Urbana, and the same shall be open to inspection by any member of the Board or officer of the University. He shall be clerk of the Executive Committee, and reside at or near the University.

SEC. 2. He shall countersign all warrants on the Treasurer and note on each the appropriation of the Board or Executive Committee authorizing the issue of the same.

IX.—*President, Regent and Professors.*

It shall be the duty of the President to preside at all meetings of the Board and of the Executive Committee, sign warrants for all accounts properly audited and allowed, and to communicate to the Regent all votes, orders or resolutions of the Board in reference to the management and control of the University.

The Regent shall be charged with the supervision of the educational facilities and interests of the University, and to that end shall nominate all Professors, Instructors and Assistants of the institution that may from time to time be found needful; shall have under the direction of the Board or its Executive Committee, general supervision and control of all such subordinate officers, and shall report in full, in writing, to each meeting of the Board of Trustees, the action of himself and subordinates in all the departments since the last meeting of the Board, together with such statements and recommendations as to the future requirements of the University as may seem needful.

The Business Agent shall report to the Regent five days before the meeting, and at such other times as he may require, the financial condition of the University.

All Professors and Instructors shall report, in writing, to the Regent, at least five days before the regular meeting of the Board, and at such other times as may be required, the number of classes taught and the number of students in each class, etc.; also state in writing, what is actually needed to make their departments more effective in the way of instruction.

The Professors of Agriculture and Horticulture and the mechanic arts shall have charge of the employees in such departments, and said employees shall report their doings to said Professors, who shall embody said report with their own to the Regent.

X.—*Business Agent.*

The Business Agent shall keep all business books of the University, and do its business correspondence. He shall keep or cause to be kept, the books of accounts of the several departments. He shall make all purchases for the University but no purchases shall be made except upon requisition from the heads of the departments, or such as may be ordered by the Trustees, provided, also that all purchases must first be authorized by the Trustees.

In case of necessity for immediate purchases, the Business Agent will make them, but within the limit of $50 for any one month, the same to be reported to the Trustees at their next meeting. Purchases of material for commercial work of the machine shops may be made if immediate returns are to be received, the same also, to be reported at the next meeting of the Trustees.

He shall aid the heads of Departments in effecting such sales as may be authorized by the Trustees. He shall aid the Treasurer, when required by said Treasurer, in making collections of all fees, rents and other dues or debts due the University, and do such other business as may from time to time be entrusted to him.

He shall keep the President of the Board and the Trustees and the Regent informed as to the state of finances and business affairs of the University, presenting the Executive Committee a monthly statement of all collections and expenditures in the several departments.

XI.—*Salaries.*

The salary of each officer, professor, instructor, or other employe of the University, shall be fixed by resolution at the time the appointment is made, subject to alteration in the discretion of the Board. and a warrant shall be drawn for the same according to law, on the Treasurer, as the same shall fall due; *Provided,* there are funds in the treasury to pay the same. Salaries shall be payable monthly.

XII.—*Duties of Executive Committee.*

SECTION 1. The Executive Committee shall meet whenever they shall find it necessary for the transaction of any business necessary to be done in the vacation of the Board.

SEC. 2. The Executive Committee shall, for the purposes for which they were appointed, possess all powers of the Board; *Provided,* that they shall not revise or change the acts of the Board; nor act upon matters referred to any Committee of the Board that may be entrusted with any special business; shall not purchase or sell real estate, nor the land scrip, nor bonds belonging to the University, without the consent, in writing, of a majority of all the members of the Board, and shall be strictly confined to such business as cannot be left till the quarterly meetings of the Board.

SEC. 3. The Committee shall hold their office till the annual meeting next after their appointment; and they shall submit the minutes of their proceedings, or make a report through their Chairman, to every meeting of the Board of all their transactions since the last meeting of the Board.

SEC. 4. These By-Laws may be repealed or amended at any meeting of the Board, by a vote of a majority of all the members of the Board.

On motion of Mr. Pickrell, a committee was appointed to confer with the Regent in reference to his letter in regard to his resignation, and to submit the by-laws to him as amended. Messrs. Pickrell, Flagg and Sabin were appointed said committee.

The Board adjourned till 3 o'clock P. M.

The following motion of Mr. Gillham was passed:

Resolved, That from the beginning of the next academic year, all young ladies not excused for cause, by the instructor, shall be requested to participate in the calisthenic exercises.

The matter of working the shops was referred to Mr. Gardner and Business Agent.

The repair and cleaning of buildings was referred to Mr. Gardner and Business Agent, and an appropriation of $300 was assigned.

For strengthening of stairway, closing of windows in the west wing, and repair of flues, $350 was appropriated.

Ten rooms were ordered to be changed into double rooms, and $5 were appropriated.

The following special appropriations were also made:

Purchase of lumber for Architectural Department	$300 00
Six tables and one rack	55 00
Purchase of specimens for cabinet	200 00
Binding for Library	150 00
Purchase of Chemicals	217 75
Entomological and Botanical collections	50 00

The occupation of rooms during vacation, by students, was referred to Mr. Gardner and Business Agent.

The report of Professor Burrill, in regard to removal of greenhouse, was received and placed on file.

Mr. Pickrell asked leave of absence, which was granted.

Recess was taken till 8 P. M.

The following request, from the Y. M. C. A. of the University, was granted:

To the Board of Trustees:

The Young Men's Christian Association, of the University, respectfully ask that Room 3 of the Dormitory be granted them as an assembly and devotional hall, and hereby agree that when occasion demands, it shall be used for the purpose for which it is now reserved. Respectfully,

C. J. HAYS, *Com.*

The following resolution was adopted:

Resolved, That the Board of Trustees have been much gratified by the presence of Gen. Arthur C. Ducat and staff at the University, and by the encouragement his inspection afforded to its students forming the Sixth Regiment of Illinois State Guards.

The Executive Committee were authorized to negotiate for a model of the horse of Dr. Auzoux, and complete the purchase in their discretion.

Mr. A. B. Baker was re-employed at a salary of $900 per annum, as follows: Four months $100, four months $75 and four months $50 per month.

Mr. C. J. Hays was employed as University Florist and Assistant in Horticulture at $900 per annum.

Prof. Weber's salary was raised to $1,800 per annum.

The following instructors were re-employed for the next ten months, commencing September 1, 1876: J. O. Baker, at $65 per month; F. A. Parsons, at $75 per month; J. Kenis, at $70 per month; Dr. Prentice, at $1,000 per annum; A. C. Swartz, at $75 per month.

Judge Brown offered the following resolution which was adopted:

WHEREAS, The condition of the funds of the University are such that the strictest economy in all expenses consistent with the efficient work of instruction is necessary,

Resolved, That the Regent, Professors and Instructors take notice that at the close of the coming academic year they may expect a reduction of at least ten per cent. in their salaries.

On motion of Mr. Sabin the following students were declared entitled to certificates of graduation:

Full Certificates—Class of 1876.

No.	Name.	Post office.	Course.
1	Ralph Allen	Delevan, Ills	Agriculture.
2	Edward S. Ballou	Sherwood, Wis	Agriculture.
3	James W. Campbell	Philo, Ills	Literature and Science.
4	William B. Chandler	Bourbon, Ills	Literature and Science.
5	Charles W. Clark	Champaign, Ills	Civil Engineering.
6	James F. Drake	Belvidere, Ills	Literature and Science.
7	John D. Gill	Antwerp, N. Y	Literature and Science.
8	Simon T. Gore	Ashley, Ills	Architecture.
9	Charles E. Gregory	Rockford, Ills	Lit. and Science and Military.
10	Mattie G. Holton	Champaign, Ills	Literature and Science.
11	Walter E. Knibloe	Gilman, Ills	Natural History.
12	J. Henry Mackay	Mount Carroll, Ills	Literature and Science.
13	Daniel S. Mackay	Mount Carroll, Ills	Literature and Science.
14	William A. Mackay	Mount Carroll, Ills	Lit. and Science and Military.
15	H. Weston Mahan	Champaign, Ills	Lit. and Science and Military.
16	Frank I. Mann	Gilman, Ills	Lit. and Science and Military.
17	James R. Mann	Gilman, Ills	Lit. and Science and Military.
18	Howard A. Mann	Batavia, Ills	Natural History.
19	Louis R. Noble	Mattoon, Ills	Mech. Eng. and Military.
20	W Forrest Oliver	Ladogo, Ind	Lit. and Science and Military.
21	Ebon A. Pierce	Belmond, Iowa	Agriculture.
22	Frank M. Palmer	Clinton, Ills	Agriculture and Military.
23	James F. Rhodes	Dwight, Ills	Lit. and Science and Military.
24	A. C. Scribner	Bradford, Ills	Agriculture.
25	Frank A. E. Starr	Elsha, Ills	Lit. and Science and Military.
26	D. Wesley Stackey	Harristown, Ills	Mechanical Engineering.
27	Charles Weston	Champaign, Ills	Literature and Science
28	George A. Wild	Marengo, Ills	Civil Eng. and Military.
29	Frederic L. Wood	Chicago, Ills	Lit. and Science and Military.

Partial Certificates were Granted to the Following Students.

No.	Names.	Residence.	Time.	Course.
1	Frank E. Ballard	Chicago, Ills	2 years	Architecture
2	Denis J. Brannen	Savoy, Ills	2 "	Commerce
3	James E. Bumstead	Marengo, Ills	3 "	Literature and Science
4	Frank S. Coffin	Taylorville, Ills	2 "	" " "
5	D. Frank Hallett	Mount Carrol, Ill	3 "	" " "
6	Chas. S. Kingsbury	Medway, Mass	4 "	" " "
7	Eddy O. Lee	Mount Carroll, Ills	3 "	" " "
8	Joseph Ness	Rossville, Ills	3 "	" " "
9	Hamlin W. Sawyer	Godfrey, Ills	2 "	" " "
10	William Stull	Marengo, Ills	3 "	" " "
11	T. T. Williams	Sterling, Ills	4 "	" " "

The following resolution, offered by Judge Brown, was adopted:

Resolved, That the employment of Dr. Manly Miles, as Professor of Agriculture in the University, shall terminate on the first day of September next.

The matter of the appointment of a Business Agent was referred to the Executive Committee.

Adjourned.

SEPTEMBER 12, 1876.

—

The Board assembled in the University parlor at 4 o'clock P. M., and was called to order by the President.

Present—Messrs. Byrd, Cobb, Gardner, Mason, and Pickrell.

Absent—Governor Beveridge, Messrs. Blackburn, Brown, Flagg, Gillham, and Sabin.

The Board then took a recess to attend Chapel exercises.

The minutes of the last meeting were read and the following corrections made in the By-Laws then adopted:

Article XI. "Quarterly," changed to "monthly."

Article XII. Section 1, Omit the words: "At the seat of the College at least quarterly, or."

Article XII. Section 4 was struck out.

Thus corrected the minutes were approved.

The record of the meeting of the Executive Committee, was also read and approved.

The reports of the Regent and the Business Agent were next read and received.

REGENT'S REPORT.

To the Honorable Board of Trustees of the Illinois Industrial University:

GENTLEMEN—In meeting you again, I owe it as a duty to you and to myself to announce to you formally my answer to your urgent request to me to withdraw the resignation which I placed in your hands at your last meeting. Your somewhat hasty adjournment prevented any reply at that meeting.

The desire which had been growing in my mind for several years, to be released from so heavy a burden, and to be left free to complete some long-cherished plans of literary labor, caused me to feel an intense reluctance to resume cares and responsibilities which, heavy in themselves, had been rendered far heavier by an unjust and often ignorant newspaper criticism. But the almost unprecedented unanimity and extraordinary urgency with which the faculty, the alumni, and the students of the University, and the people of this county, and to some extent of the State at large, and last, but not least, the Board of Trustees, asked my continuance, scarcely left me any liberty of choice. Your own prompt and kindly action removed the more immediate difficulties in my way, and I consented, though with a somewhat painful hesitation, to take up again the office I had laid down.

The grandeur of this great public interest, its importance to the State and to the always sacred cause of education, will not allow me to make my new term of service any less earnest and hearty than the past. I can only hope that the public concern so unexpectedly shown may portend for the University a future growth commensurate with the greatness of the interests at stake.

In resuming my work let me state briefly some of the principles which have guided me hitherto, and which must still guide me in the future:

When I accepted, at the outset, the position so suddenly and unexpectedly offered me, I was sustained by the belief that I knew and could use the chief agencies for success. I had watched for years the progress and growth of American colleges, and especially those in the west. I had seen them languish through a feeble infancy for lack of that public sympathy which their Presidents and Faculties took too little care to win, and I determined that this University should not be allowed to suffer from this source, so far as my own efforts could prevent it. I accepted, therefore, eagerly every, fit opportunity to meet the great public. I visited and addressed agricultural and horticultural societies, teachers' conventions and institutes, religious and social gatherings. I spoke at State and county fairs, delivered lectures, preached sermons, wrote articles, and met the people in their homes, schools, churches, and other assemblies. Everywhere I laid before them the great and noble public aims which filled my own mind, and which I believed ought to influence theirs.

I have no doubt that these labors contributed largely to the early success of the University; I only wish that my strength would permit me to continue these public efforts, but they are too hard and exhausting to be endured by any one for a long period. During the first year or two the Trustees paid my traveling expenses, since that time I have made no charge; usually, but not always, receiving enough to cover all expenses. I mention this because it has been published that I was away lecturing, etc., for my own profit, to the neglect of my duties at home. I have, not unfrequeutly, taken the cars after my work was done for the day, gone to a distant town, lectured and returned the same night to be at my post the next day. Frequently I have been left to pay my own bills, and in many other cases I have given the proceeds to the University. In this way I earned, alone, the money to buy the organ used in our Chapel, and some of the means for our Art Gallery was raised in the same way. During the past vacation I have made ten public ad-

dresses before teachers' institutes, and as far as my health will allow, I hope to continue to do both the University and public service in this way. I need not assure you that no such labors will be permitted to interfere with my duties to the University.

It is the common usage of the College Presidents of this country to attend and aid the great national societies of an educational and scientific character. It is regarded as a proper contribution to the public good, and as reflecting beneficially upon the institutions thus represented. I have not deemed it fit that a great State institution like this should fail in its duty to the public, though I have been obliged to decline more invitations of this sort than I have accepted. I believe that in all this I have acted in accordance with your judgment as well as my own.

Very respectfully, J. M. GREGORY, *Regent.*

REPORT OF BUSINESS AGENT.

To EMERY COBB, ESQ., *President Board of Trustees, Illinois Industrial University:*

SIR—I have the honor to make herewith the usual report as Business Agent, for the six months ending September 1, 1876.

Paper "A" shows the appropriations and expenditures under the same for the six months. It also shows the collections made by the Business Agent in that time.

Paper "B" is a statement of the State appropriations.

Paper "C" gives a list of bills presented for auditing, and the warrants drawn since the June meeting.

There is an unsettled account with Carl Schuman, resulting from an order made in 1871 for mining models, which order he claims is not yet filled. Paper "D" is his statement of the case. Dr. Gregory informs me that he thinks the original order amounted to over $1,000; $848.13 has been paid by the University, and a balance of 38 thalers audited. With the last bill, he sent a list of apparatus which he intended to manufacture, costing 480 thalers

The University machine shop was in operation in the months of June and July, with fair results.

The carpenter shop was closed for the vacation. Both shops have a good amount of stock and tools, though the blackwalnut, the purchase of which was authorized at your last meeting, should be got at an early day. One carload of pine lumber was purchased last month.

The University dormitories have been put in better condition than usual. Under the authority given at the June meeting, 10 rooms in the main dormitory were made into double rooms, and with the advice of Dr. Gregory and Mr. Gardner, 10 additional ones were changed in the same manner. In all of these 20 rooms one of each suit formed had not been chosen for the present year. It seems necessary that the prices of the rooms throughout should be determined at an early day so that when charges are made the University should have the advantage of the improvements made, etc.

The windows on the court in the Library and Cabinet have been stopped with a nine-inch brick wall at a cost of $12 per window. The stairway has been supported from the ground, so that it is considered perfectly secure.

Arrangements have been made for closing the grating in the baseboards where the cold air comes through them.

The second furnace has been reset in the most thorough manner. The heating apparatus is now in better condition than ever before.

A counter with 100 boxes for coats, etc., has been made in the young men's dressing room, and 200 brass checks have been purchased for use in connection. The water closets have been overhauled and it is thought the ventilation of them improved. Your attention is asked to the communication of the Marshal of Urbana, in regard to sidewalks—paper "E." The walk referred to has been repaired every year, but the plank are many of them pulled up and carried away. I have had them all taken up since the receipt of the Marshal's letter.

The Janitor tells me that with heavy rains the double spouts on the west side of the building are not sufficient, that they seem clear but do not take the water fast enough. The drain from the spout is a six inch one, which is quite large enough.

At the request of Dr. Gregory, some 34 photographic views of the University departments have been framed, with the intention of placing them in the Chicago Exposition. The secretary has assigned the University a very good space for the purpose. The cost of getting them in place and having the property returned may be $20, and it may be much less. In the same connection, a large number of catalogues could be distributed.

I transmitted to Mr. Hume, late of the Agricultural Department, $25, allowed him by the Trustees for services in June. I received in place of a receipt asked for, the letter marked "F," of this report.

In closing this, my last report, as Business Agent of the University, allow me to offer you and the members of the Board of Trustees, my thanks for the confidence placed in me during the three years I have acted as such.

Respectfully submitted,

S. W. SHATTUCK.

Recess taken till 8 P. M.

EVENING SESSION.

After re-assembling, the bills presented were audited and allowed.

The action of the Business Agent in regard to discontinuing the order for mining models was confirmed.

The question of prices for students' rooms was referred to a committee consisting of the Regent and Mr. Gardner.

It was voted that Mr. Peter Roos be employed as Teacher of Industrial Drawing and Designing at a salary of $75 per month, for twelve months.

Adjourned to 8:30 A. M.

SEPTEMBER 13, 1876.

SECOND DAY'S SESSION.

Board met as per adjournment.

Mr. Blackburn, having been delayed by missing connection of trains, was present with the Board.

Mr. Pickrell was granted leave of absence on urgent business.

The Regent nominated Prof. G. E. Morrow to the Chair of Agriculture, who, at the motion of Mr. Gardner, was appointed to fill said chair, to commence January 1, 1877, at a salary of $2,000 per annum.

The Treasurer then read his report, which was received.

JOHN W. BUNN, TREASURER,
In Acct. with Illinois Industrial University.

1876.	DR.		
June 7	To balance	$11,246 33	
" 15	" interest on Morgan county bonds	2,500 00	
July 1	" " Pike " "	3,000 00	
"	" " Kankakee " "	3,000 00	
"	" " Illinois 6 per cent "	930 00	
"	" " Chicago 7 " "	875 00	
"	" amount received from State for taxes on lands in Nebraska and Minnesota	2,145 67	
"	" amount received from State for University Building	1,000 00	
Aug 15	" " " on Burnett's note	200 00	
31	" " " on account Agricultural Department	3,360 47	
"	" " " " Horticultural "	475 36	
"	" " " " Chemical "	213 66	
"	" " " " Architectural "	609 52	
"	" " " " Mechanical "	799 58	
"	" " " " Cabinet	100 00	
"	" " " " fees and room rent	107 50	
"	" " " " fuel and lights	15 46	
"	" " " " buildings and grounds	10 85	
"	" " " " physical laboratory	4 00	
"	" " " " Illinois Central R.R. freights	352 72	

1876.	CR.		
Aug 31	By amount paid on salaries		$7,871 62
"	" " " for board expense		119 20
"	" " " " fuel and lights		435 18
"	" " " " stationery and printing		144 32
"	" " " " buildings and grounds		848 51
"	" " " " incidental expenses		115 15
"	" " " " library and apparatus		291 73
"	" " " " Mechanical Department		642 68
"	" " " " Architectural "		268 44
"	" " " " Agricultural "		1,959 71
"	" " " " Horticultural "		400 53
"	" " " " Chemical "		183 25
"	" " " " Military "		49 09
"	" " " " fixtures and furniture		11 32
"	" " " " Centennial expenses		73 99
"	" " " " Civil Engineering Department		44 61
"	" " " " cabinet		149 74
"	" " " " microscope, &c		178 75
"	State appropriations, amount paid for Veterinary Department		2 26
"	" " " " physical laboratory		58 04
"	" " " " buildings and grounds		506 12
			$14,354 24
	By balance		16.591 89
		$30,946 13	$30,946 13

URBANA, September 12th, 1876. JOHN W. BUNN, *Treasurer.*

Authority was given to the Regent and Mr. Gardener to employ an assistant teacher in English and Ancient Languages.

Prof. Ricker's request for a foreman of carpenter shop was referred to the Regent and Mr. Gardner, with power to act.

It was voted to authorize the study of Industrial Drawing and designing as an optional study in place of Mathematics, in the course of English and Modern Languages.

The fitting up of rooms for the janitor and Ladies' Gymnasium was referred to the Regent and Mr. Gardner, with power to act.

It was voted that Miss A. E. Patchen be reappointed teacher of Instrumental Music, to be paid by the fees received for same, and that she be required to report the work and receipts in her department.

The Regent was requested to make application to the War Department for specimens of missiles; also to the Smithsonian Institute for specimens in Natural History.

The following special appropriations and assignments from general appropriations were made:

Fund	To what applied.	Amount.
Incidental Expenses	For expense of Chicago exposition	$20 00
Buildings	" repairs and cleaning of Mechanical shops, to be expended under superintendence of the Regent and foreman	50 00
Special	" a desk for Regent's office	100 00
Buildings	" temporary shelving in library	10 00
Library and Apparatus	" purchase of books and binding of periodicals	125 00
Architectural Department	" tables, desk and paper racks	55 00
" "	" stools in Architecturanl Department	12 00
Stationary and printing	" payment in full to Illini for publishing catalogue for 1876	40 00
Special	" completion of repairs in greenhouse	88 00
Special	" completion of microscopes—$60 of the amount to be collected from parties indebted to this fund	82 00
Special	" cabinets and case in Prof. Taft's recitation room	200 00

The following general appropriations were made for the six months ending February 28, 1877:

Board expense			$250 00
Salaries			18,073 33
Fuel and light			2,500 00
Stationery and printing			300 00
Buildings and grounds			400 00
Incidental expenses			300 00
Library and apparatus			500 00
Mechanical Department	(balance , practice 120)		120 00
Architectural "	(balance 546 62, practice 120)		666 62
Horticultural "	(balance 70 68)		70 78
Chemical "	balance		92 11
Military "	gymnasium and telegraph, (balance 24 51, appropriation 56 00		80 51
Agricultural "	balance		1,328 08
State appropriation balances—			
Veterinary Department			796 94
Building repairs			607 70
Sundries—			
Regent's desk		100 00	
Greenhouse		88 00	
Microscope		82 00	
Cabinet and case for Prof. Taft		200 00	
Engineering transit		550 00	
			$1,020 00
Total			$27,000 97

The Board then adjourned to meet for the next quarterly meeting on Tuesday, December 5th, 1876, or at the call of the President.

"C."—*Abstract of Warrants.*

No.	To whom.	For what.	Amount.
548	J. C. Pickard	Salary July and August	$333 33
549	Board expense	June meeting, 1876	119 20
550	J. M. Gregory	Salary for June, 1876	333 33
551	S. W. Robinson	" "	166 66
552	T. J. Burrill	" "	166 66
553	S. W. Shattuck	" "	200 00
554	E. Snyder	" "	166 66
555	D. C. Taft	" "	166 66
556	J. B. Webb	" "	166 66
557	J. C. Pickard	" "	166 66
558	M. Miles	" "	250 00
559	N. C. Ricker	" "	125 00
560	J. D. Crawford	" "	125 00
561	H. A. Weber	" "	133 33
562	E. L. Lawrence	" "	100 00
563	C. E. Patchin	" "	50 00
564	Lou C. Allen	" "	120 00
565	F. W. Prentice	" "	100 00
566	A. C. Swartz	" "	75 00
567	I. O. Baker	" "	60 00
568	F. A. Parson	" "	70 00
569	M. A. Scovell	" "	40 00
570	A. E. Barnes	" "	40 00
571	J. Kenis	" "	60 00
572	C. I. Hays	" "	50 00
573	E. Hume	" "	75 00
574	Walter P. Ward	Glazing	15 30
575	T. J. Winkler	Tuning pianos, commencement	3 00
576	Chicago Screw Company	Hardware	1 00
577	Dodson & Hodges	Hardware	4 10
578	J. B. Webb	Bristol board, Centennial	3 51
579	G. A. Wild	Mounting birds	9 65
580	Crane Bros. Manufacturing Co	Gymnastic apparatus	7 40
581	A. J. Wilkinson & Co	Hardware	3 61
582	Joe Ness	Janitor to June 10	6 75
583	S. W. Robinson	Apparatus for Physical Laboratory	5 50
584	I., B. & W. R. R. Co	Freight	2 33
585	D. C. Taft	Purchase of Zoological specimens	100 00
586	U. P Brown	Maple trees	6 40
587	T. J. Burrill	Expressage on wood specimens	5 25
588	H. W. Rokker	Treasurer's cash book	8 00
589	B. P. Mann	Four thousand insect pins	5 80
590	Walker Bros.	Chemical fertilizers	60 49
591	Champaign & Urbana Gas Co	Gas bill for May, 1876	47 95
592	L. Moeller	Microscropes and lenses	160 75
593	A. B. Baker	Salary June, 1876	60 00
594	E. A. Robinson	" "	100 00
595	James Green	One thermometer	3 00
596	H. Evans	Herd book	8 00
597	U. S. Patent Office	Bound reports	15 60
598	Goodnow & Wightman	Hardware	1 50
599	American Express Company	Expressage on catalogues, Centennial	5 35
600	Wm. W. Clark	One wall duster	1 80
601	Students' labor pay-roll	June, 1876	207 21
602	Agricultural Department	Expense June, 1876	466 83
603	S. W. Shattuck	Petty expense June, 1876	23 39
604	J. M. Gregory	Salary for June, 1876	333 33
605	S. W. Robinson	" "	166 66
606	T. J. Burrill	" "	166 66
607	S. W. Shattuck	" "	200 00
608	E. Snyder	" "	166 66
609	D. C. Taft	" "	166 66
610	J B. Webb	" "	166 66
611	M. Miles	" "	250 00
612	H. C. Ricker	" "	125 00
613	J. D. Crawford	" "	125 00
614	H. A. Weber	" "	133 33
615	E. L. Lawrence	" "	100 00
616	C. I. Hays	" "	75 00
617	E. A. Robinson	" "	100 00
618	A. B. Baker	" "	50 00
619	Beach & Condit	One-half ton Blossburg coal	5 50
620	Crane Bros. Manufacturing Co	Hardware	28 77
621	F. W. Chirstem	Foreign periodicals	73 10
622	Smith, Vail & Co	Packing and rubbers	1 00
623	Jones & Laughiin	Iron	5 20

"C."—*Abstract of Warrants*—Continued.

No.	To whom.	For what.	Amount.
624	Agricultural Department	Expense of farm, July	$639 2
625	Walker Bros	Fruit boxes	2 50
626	N. B. Coffmann	Work on entomological cases	18 00
627	J. Furst	Team work on grounds	4 5
628	J. Watson	Gas fitting	1 85
629	A. Snedecker	Castings	61 19
630	Enterprise Coal Co	1 car coal	8 40
631	Students' pay-roll	July, 1876	182 72
632	E. N. McAllister	Postage, May and June	25 36
633	S. W. Shattuck	Pay-roll for work on grounds	95 97
634	John Wheldon	Books	20 99
635	Manly Miles	Salary, August, 1876	250 00
636	J. M. Gregory	" "	333 33
637	S. W. Robinson	" "	166 66
638	T. J. Burrill	" "	166 66
639	S. W. Shattuck	" "	200 00
640	E. Snyder	" "	166 66
641	D. C. Taft	" "	166 66
642	J. Burkitt Webb	" "	166 66
643	N. C. Ricker	" "	125 00
644	J. D. Crawford	" "	125 00
645	H. H. Weber	" "	133 33
646	E. L. Lawrence	" "	100 00
647	C. J. Hays	" "	75 00
648	E. A. Robinson	" "	100 00
649	A. B. Baker	" "	50 00
650	Goodnow & Wightman	Hardware and tools	23 92
651	Albert Levi	12 photographs	8 02
652	Oehlrichs & Co	Freight and charges on apparatus from Europe	15 51
653	Agricultural Department	Farm expense, August, 1876	291 31
654	Fuller & Fuller	Paints and glass	40 43
655	Locke & Saxton	Paper	5 95
656	L. G. Clay	Labor, June, July and August	111 00
657	F. Doty	Coal for shops	16 50
658	I., B. & W. R. Co	Freight	90
659	M. E. Lapham	Lumber	38 65
660	R. S. Wilbur	Hauling coal and apparatus	8 00
661	Luddington, Wells & Van Schak	Lumber	121 81
662	L. V. Manspeaker	Soda, soap, brushes, etc	18 86
663	Union Atlas Co	Atlas of Illinois	15 00
664	Ill. Cent. R. R. Co	Freight	5 43
665	Jas. Robertson	800 brick	6 40
666	Prairie Farmer Co	Advertising	11 20
667	Tribune Company	"	8 61
668	C. & N. Gas Co	Gas bill for June and July	31 15
669	E. L. Lawrence	Expense Horticultural Department	12 39
670	Sabin Bros	Bluegrass seed and coal	16 13
671	M. Miles	3 Yale locks	6 00
672	Ill. Cent. R. R. Co	Freight	2 53
673	J. A. Conklin	Labor and plastering	83 77
674	W. Morava	Labor	57 80
675	N. E. Journal of Education	Advertising	15 00
676	H. Swannell	Paint, oil, etc	20 25
677	A. C. Scribner	Work	6 30
678	Cameron, Amberg & Co	Paper	3 75
679	Agricultural Department	Work for other departments	468 43
680	Dodson & Hodges	Hardware	9 75
681	Jas. Ralph	Mason work bricking up windows	177 75
682	W. S. Maxwell	Brushes, ink, putty, etc	8 18
683	Trevett & Green	Hardware	18 82
684	J. A. Conklin	Mortar and sand	3 00
685	Champaign Gazette	Binding, printing and advertising	166 90
686	Walker Bros	Wood specimens, Centennial	27 25
687	G. M. Savage	1 month's work	18 00
688	H. Peddicord	Plaster and lime	46 80
689	American Journal of Education	Advertising	1 00
690	Physical Laboratory	Mercury	4 00
691	Wensel Morava	Work in armory	31 27
692	E. V. Peterson	Frames and cords	19 30
693	E. N. McAllister	Postage	13 35
694	L. Baldwin	Whitewashing	29 00
695	J. W. Bunn	Six months salary	250 00
696	Mechanical Department	Work for other departments	128 70
697	Architectural "	" " "	98 32
698	S. W. Shattuck	Students' pay-roll	72 95
699	S. W. Shattuck	Outside "	106 82

"C."—*Abstract of Warrants*—Concluded.

No.	To whom.	For what.	Amount.
700	Illinois Central R. R. Co	Freight, June, July and August	$352 72
701	Fuller & Fuller	Paint and glass	23 70
702	Western Farm Journal	Advertising	5 40
703	H. H. Andrews & Co	Blackboards and erasers	13 10
704	Am. Express Company	Express on eng. app. for Philadelphia	9 20
705	H. Swannel	Putty and oil	4 15
706	A. Snedeker	Castings from gymnasium	2 10
707	Western Rural	Advertising	6 00
708	Enterprise Coal Co	10 cars coal	147 00
709	J. F. Wolensak	Hardware	12 91
710	W. B. Keene Cooke & Co	Ink	1 50
711	E. B. Benjamin	Chemical apparatus	154 47
712	S. W. Shattuck	Petty expense July and August	57 11
713	E. A. Robinson	Tools	5 00
714	Mechanical Department	Files, rod iron, etc	2 10
715	J. D. Perkins	1 load sand	1 50
716	N. B. Coffman	Work on Entomological Cabinet	15 00
717	Horticultural Department	Labor, etc., and trees	182 94
718	A. B. Baker	Plaster and work	8 50
719	J. B. Webb	Chronometer repaired	14 85

HORTICULTURAL DEPARTMENT.

Dr. J. M. Gregory, Regent:

SIR—I very respectfully submit the following report from the Department of Horticulture:

THE ORCHARD.

The apple orchard has attracted considerable attention during the summer from the number of trees in fruit. Most of the trees upon the dry ground are in fine condition, having recovered from the severe trial of the winter of 1872-3. Those planted on low, wet ground have usually died or are now diseased and worthless. The north side of the east and west road appears better than the south side, owing, it is thought, to the difference in treatment. Previous to the spring of 1873 the cultivation for both was the same, but at this date clover was sown upon the north side and corn grown again upon the south. The following spring (1874) clover was sown upon all not previously seeded, but the stand being poor the land was again plowed in 1875 and corn planted. So for 1876, objections having been made to the ridges upon which the trees were planted the earth was thrown by the plow away from them and the two summers proving wet the trees suffered. More of these have been injured by the wind than elsewhere, the roots having little hold upon the ground.

So far as examinations have been made most of those fruiting prove true to name. Some kinds not generally cultivated in the vicinity give promise of much value, but the most of those unknown to fruit growers seem to be unworthy of extensive planting. Quite a number of kinds show twig blight this season, and many of the apples are scabby from a fungus. But these troubles may not occur during dryer summers. Records of the earlier varieties have not been fully kept this year from, in part, the centennial visits and from the pilfering of vistors to the orchard. Unless something can be done to stop this petty thieving the value of the experimental orchard will be greatly diminished. On September 8th there were 340 trees in fruit, embracing about 300 different varieties. The latter number is an estimate only, the figures not having been made out yet.

Apples are the only orchard fruits we have had. A few plum trees fruited heavily, but the curculio quickly destroyed the crop. The Wild Goose variety, said, by some, to be curculio-proof, was stripped like the others. No measures were taken to prevent the ravages of this insect, the number of fruiting trees not being enough to warrant the attempt. Of the large number of kinds of pears planted during the last four years, few are now living. Some investigations were made during the summer upon the so-called "fire blight," revealing, perhaps, nothing new, but enough to stimulate further labor. The sap of the newly blighted limbs, especially in the young cells between the wood and bark swarms with minute living particles, visible only with high powers of the microscope, resembling the *spermatia* (supposed male element) of funchi and lichens. The motion of these particles is a sort of uneasy vibration, as if they were attached by a short thread and were endeavoring to escape. They are found in greatest numbers where the inner bark shows, by discoloration, the recent progress of the disease, but in some cases could be traced two or three inches below the discolored portions. Not uncommonly a thick, slimy fluid escapes from small holes in the bark and sometimes in quantities sufficient to run down the limb several inches. This is almost wholly made up of these oscillating corpuscles and when fresh presents an amazing sight under a high power of the microscope. On some limbs, but not on all, two days after evidence of the attack of the blight, the outer bark becomes roughened with myriads of tiny pustules bursting outward from within. Similar pustules, caused by well-known microscopic fungi, are common enough upon almost all dead twigs, but the very sudden appearance of this one, together with the similarity of minute moving bodies produced, seems to connect it with the disease in question. No indications are yet observed as to the origin of the first-named vibrating particles.

When this is determined, something definite, and it may be, very important, will be accomplished. Some attempts at innoculation with the diseased sap and with spores from the bark pustules seem to fail entirely. A slight slit was made in the bark of a healthy tree and the materials introduced after the manner of budding. Ten or twelve trials were made with no observed results. The wounds healed nominally, and the trees continued, to all appearances, healthy. This was unlooked for, as the statement is often made that the disease is communicated in this way. But more experiments are needed before anything can be predicated as to results. The leaves, though assuming a peculiar blackish tint and often giving the first notice of the disease, do not seem to be the seat of the difficulty, nothing abnormal being found in or on them. The Siberian crabs often blighted nearly as bad as the pear. The "twig blight" of the apple appears identical with the more destructive "fire blight" of the pear. Two years ago the flat-headed wood borer, (*Chrysobothris femorata*,) was exceedingly destructive upon the apple, elm, sycamore, and hard and soft maple trees, and last year (1875) the adult insects were more numerous than ever before. One man caught over 200 of the winged beetles upon the trees near the University building in one day and nearly as many each succeeding day for a week or more. The trees were also washed with crude potash several times during the summer. Whatever may have been the effect of these measures, the insects did but little damage last year, and during this season scarcely one has been seen in any form. Doubtless the change in the summers from dry to wet had much to do in their disappearance. In general, insect pests have not been very injurious during the year now closing to our horticultural productions.

FOREST-TREE PLANTATION.

The accompanying table shows the average height and size of the trees in this plantation, the growth during the summers of 1875 and 1876, and the cost of cultivation, together with the total cost of each kind and the whole plantation from the commencement. With the exception of the chestnut all the kinds planted are now represented by nearly their full numbers except as removed for thinning, and all are in a healthy, vigorous condition. In 1875 a peculiar blight affected the young leaves and shoots of the sugar maple, but its cause was not ascertained. It has not appeared this year and the trees have recovered. A fungus leaf parasite has made its appearance upon the silver-leaf maple, forming black shining patches or scabs sometimes an inch across and often several of them upon a leaf. It does not appear to be very destructive, but evidently reduces the thriftiness of the tree. The disease is by no means new elsewhere, being widely disseminated east and west, preying upon the maples and sycamores, but not found, to my knowledge, in this vicinity before. No remedy is known to me except the (all but impracticable) one of gathering the fallen leaves and burning. From the nature of the parasite this must be a specific where possible to make use of it. The scientific name of the fungus is ————. The plantation has been remarkably free from insect depredations. Several leaf-eating caterpillars have worked upon the elms and walnuts, but not so as to do serious damage. The larva of a butterfly (Grapta interrogationis) has defoliated very injuriously the elm trees planted singly, as along streets and on the ornamental grounds, and a sphinx larva in like manner the ash, but upon trees in masses they do not appear to work much.

The ground the last two summers has been so wet that the plantation could not be cultivated at the proper times, so that more weeds have been allowed among the smaller trees than otherwise would have been. Visitors not acquainted with the peculiarity of these two seasons would get a wrong impression without these explanations.

The only addition made since the last report is a quarter of an acre of apple, planted four by four feet. The tulip trees which we intended to set last spring have been root pruned preparatory to removal next season. We hope to secure a collection of acorns this autumn, to fill up the portion designed for Oaks. I recommend also the addition of Box Elder and Honey Locust, the plants to be grown from seed, which can be obtained at little or no cost. The measurements of a few Box Elder are given in the table for 1875. They were planted by chance with the White Ash and were then of the same age and size as the latter; but at the date given the average height of the Box Elder was 15 feet 7 inches, against 11 feet 10 inches for the Ash, and the diameter of trunk one foot from the ground, 3⅜ to 1 3-5 inches.

By the showing of the table, the Willow is now making the most rapid growth, having gained in average height, six feet in 1876. Next comes in order the Soft Maple (*Acer Dasycarprun*), four feet six inches; the Catalpa and Osage Orange, each, four feet, and the White Ash and European Larch, each, three feet four inches. The two first do not furnish very valuable timber, while that of the four following are exceedingly useful. From the most reliable information, we know the wood of both the Osage and the Catalpa is almost proof against decay—the dead logs in their native places lie for ages upon the damp ground, hard and sound, while generations of human beings come and go—a log of Catalpa certainly known to have lain upon the earth in the wet woods of Pulaski county, Ills, during the whole century of our republic, was sawed into boards and one of them, perfectly sound and receiving a high polish, helped form the collection sent by this University to Philadelphia; a piece cut from the plantation, nearly four inches in diameter, also went with the collection. This was from seed sown in 1869. The Osage Orange wood, perhaps, is still more valuable, while that of the Ash and Larch is highly esteemed. Upon very extended inquiry during the last winter, in connection with the centennial wood collection, it was found that the price of wood as fuel had not increased during the last ten years in our State, and that in more than half of the timbered regions the growth was estimated to be fully equal to the destruction. With our immense supplies of coal, it is doubtful if wood can, for many years to come, be profitably grown for fuel; but the finer and better varieties of trees, such as are named above, may yield a handsome profit, while natural forests are burned to clear the ground.

The coniferæ, as indicated by the figures, are growing rapidly—the White Pine being first for the last year; the Scotch and Austrian for the year before. The growth of these trees should not be compared with that of the deciduous leafed ones, because of the natural slowness of their growth while young. In after years they will overtake their present rivals. The proportionately great expense of the Larch, Walnut and Butternut, for 1876, is due to extra work, pruning and transplanting.

Forest Tree Plantation.

Varieties.	1875. Height. Ft.	In.	Growth. Ft.	In.	Diameter In.	Cost.	Acres.....	1876. Height. Ft.	In.	Growth. Ft.	In.	Diameter	Cost.	Cost from beginning.
Norway Spruce	2	8	.....	8	.....	$2 55	¼	4	3	1	6		$1 75	$66 31
White Pine	2	8	.....	11	.....	5 95	1	4	.....	2	.....	1¼	5 75	362 79
Austrian Pine	2	8	1	2	.....	2 55	¼	4	8	1	6	2	1 80	99 76½
Scotch Pine	3	8	1	2	.....	2 55	¼	5	.....	1	8	2	1 80	77 39
White Ash	11	10	3	2	1 3-5	6 50	2¾	15	8	3	4	1 3-5	5 40	253 46
Green Ash	15	.....	2	8	1 9-10	00 00	¼	17	6	3	.....	1 9-10	80	46 69½
Catalpa	12	.....	2	6	2	1 15	¼	16	.....	4	.....	2¼	80	39 09½
American Elm	12	.....	3	.....	2	50	⅛	13	6	2	.....	2	50	18 10
European Larch	8	.....	3	4	1 2-5	3 50	2	10	.....	3	4	1¾	21 80	246 24
Osage Orange	10	6	3	.....	1¼	1 25	¼	13	6	4	.....	1½	1 25	21 96½
Butternut	8	6	3	.....	.....	1 05	¼	10	6	1	.....	1½	5 50	43 06
Black Walnut	9	2	2	9	1¾	1 05	¼	12	.....	2	6	2	10 60	18 14
White Willow	12	7	3	7	1 3-5	3 50	¼	20	.....	6	.....	2	6 20	38 16½
Soft Maple	17	8	1	9	2⅓	55	⅛	21	.....	4	6	2¾	45	25 42½
Sugar Maple	3	.....		7	.....	4 25	¼	.....	.....	.....	.....	.....	3 75	40 86
Chestnut	All	de	ad	..	.....	.....	.....	.....	.....	.....	.....	.....	.....	41 59½
Box Elder	15	7	3	6	3⅜	But	few	tr	ees.	.....	.....	.....	.....	.....
Apple { Planting	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25 20	.....
Apple { Cultivating	.....	.....	.....	.....	.....	.....	⅛	7	6	1	.....	¾	1 75	26 95
Total cost	.....	.....	.....	.....	.....	$36 90	.....	.....	.....	.....	.....	.....	$95 10	
Total c'st fr'm beg'ng	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$1,424 41

GREEN HOUSE.

From the report on file concerning the moving of the green house, it is seen that an estimate of $1,000 would be required to place it as it now is on the grounds near the new building. But for our purpose the structure can be very greatly improved at no great additional expense. We need a portion higher than the present roof for large size plants, some of which have been growing from our beginning, and are yearly becoming more valuable, and a portion with low roof for propagation. Attached to the green house a botanical laboratory is also very greatly needed. It is impossible to do such practical work as the times demand in teaching and in original investigations upon plants and their physiology without an appropriate place to work. I therefore beg leave to ask that steps be taken to secure from the State Legislature the required amount. Without having fully matured plans, and without estimates by skilled workmen, I venture to name $4,000 for the buildings and equipments. This contemplates a plain structure of brick, one story high, and the use of the green house material on hand, the required tables and apparatus for cultures, dissections, analysis, etc. An ornamental building would cost more according to the plans adopted.

T. J. BURRILL,
Prof. Botany and Horticulture.

UNIVERSITY FARM.

To DR. J. M. GREGORY, *Regent Illinois Industrial University:*

I herewith present a summary of operations of the farm since the last quarterly report. The account stands as follows:

By cash sales	$2,842 04
By credit Horticultural Department	361 80
By credit other departments	106 63
Total sales and credits for three months	$3,310 47
To cash expenses	$1,722 74
To Illinois Central, freight	101 72
To department charges (Mechanical)	22 12
Total expenses and charges	$1,846 58
Three months balance	1,463 89
	$3,310 47

I make the following estimate for the balance of the year, to be sold and collected :

Two cars cattle now ready	$2,000 00
Hogs, ($100 now received)	150 00
Hay	200 00
Corn	200 00
Note for short-horn bull	150 00
Other sales and receipts	200 00
Total estimated receipts	$2,900 00
Ordinary expenses 3 months, $400 per month	$1,200 00
For purchase of stock cattle	500 00
Estimated balance, 3 months	1,200 00
	$2,900 00
There was a balance due the farm Dec. 1, of	$317 76
Accumulated balance in 9 months	1,050 45
Estimated balance for next 3 months	1,200 00
Total estimated and found balance	$2,568 21

I think the profits of the year will be something near this amount, perhaps less. This is something less than has been made for the past two years. While crops are equally as good, the depreciation in prices since one year ago will make the difference. By the system of taking inventories at the close of the year, that has been practiced on the farms, any rise or fall in prices of farm products, will show doubly in the returns of the year. Thus, there has been a large falling off in the price of cattle, hay, wheat, etc., and having a stock on hand at the beginning of the year, we lose on that as well as the present crop.

I ask leave to invest the $500, mentioned above in stock cattle, and also that measures be taken to procure a young short-horn bull to take the place of the one recently sold, as well as a short-horn cow or heifer, that I think was promised a year or so ago.

In my estimation, at no distant day measures should be taken to establish a dairy and make butter on the farm as a means of revenue, as well as to set off the farm to advantage. We can raise good hogs, cattle and corn, but no better than our neighbors. I believe with a good milk house and other accommodations, we could demonsttate what I believe to be a fact: that this country cannot be excelled anywhere as a dairy country, and would be willing to go still further and attempt to show that short-horn cows or short-horn grades, when reared for the purpose, make the best general-purpose dairy cows in the world. While I am not prepared to recommend such a course more unqualifiedly, I make the suggestion for your consideration.

E. L. LAWRENCE, *Head Farmer.*

EXECUTIVE COMMITTEE MEETINGS.

DECEMBER 6, 1874.

The Executive Committee met at University building at 10 o'clock A. M.

Present, Messrs. Cobb and Gardner; absent, Mr. Pickrell.

The record of the last Board meeting was read. The committee then proceeded to inspect the report of this Institution for the current year to the State Board of Charities, prepared by the Business Agent and the several professors in charge of departments.

The report was approved, ordered to be copied and forwarded to the Secretary of the State Board of Charities.

The Businces Agent was allowed to expend $200 for stationery.

Two dozen blackboard erasers were ordered to be manufactured in University shops, and $8 00 appropriated for the purpose.

Chemical Laboratory desks were ordered to be constructed to accommodate twenty-five more students.

A stove was ordered to be purchased for Laboratory to cost $35 00.

Mr. Gardner reported that Dr. F. W. Prentice was employed as instructor in Veterinary science, at $100 00 per mouth.

Adjourned.

JANUARY 6, 1875.

The Executive Committee met at the Treasurer's office, in Springfield, Ill., at 10 o'clock A. M.

Present, Messrs. Cobb, Gardner and Pickrell.

On motion of Mr. Pickrell, Mr. E. L. Lawrence was employed as Head Farmer for the year 1875, on same terms as for 1874.

On motion, it was decided that $500 be asked of the legislature for additional material for University printing office; also, that $1,500 be asked for building stalls and apparatus for Veterinary Department.

Adjourned.

OCTOBER 27, 1875.

The Executive Committee met in the University parlor at 10 o'clock A. M.

Present—Messrs. Cobb, Gardner, and Pickrell.

A communication from Mr. E. A. Robinson, foreman of machine shops, was received and discussed. The committee expressed satisfaction with Mr. Robinson's services, but not prepared to take action in the matter.

The use of the University building was tendered to the State Grange for their annual meeting this fall.

The request of the State Medical Society for the use of the University for its meetings in June next, was referred to the Regent and Mr. Gardner.

The request of a number ot students to procure human subjects for dissection, was laid on the table.

The Regent and Business Agent were authorized to procure $15 worth of standard music books for University choir.

Prof. Miles' request for an assistant foreman was referred to Messrs. Gardner and Pickrell, with power to appoint one, if desirable, or defer to next meeting of the Board.

Mr. Gardner, the Business Agent and Prof. Miles were appointed a committee to have a wind mill put up on the barn of Experimental Farm, expenses not to exceed $550.

The Business Agent was directed to have a door inserted between rooms G and H, first floor new University building. $250 were set aside for the periodicals of 1876, from current appropriations for library and apparatus.

The Business Agent was authorized to purchase matting for stairs in the new building for $50. Prof. Burrill was allowed $10 for purchase of certain collections of insects for cabinets. A balance of salary due Mr. C. W. Silver was ordered to be paid.

Adjourned.

DECEMBER 5, 1875.

The Executive Committee met in the University parlor, all members present, at 10 o'clock A. M.

It was voted that E. A. Robinson, foreman of machine shop, be paid $100 per month for the six months ending June 1, 1876.

Adjourned.

AUGUST 3, 1876.

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The Executive Committee met at the call of the chairman, at 4 P. M., in the University parlor.

Present—Messrs. Cobb and Gardner.

Absent—Mr. Pickrell, who telegraphed that sickness in his family prevented attending.

The salary of Mr. I. O. Baker was increased to $75 per month.

Messrs. A. E. Barnes and M. A. Scovell were re-appointed assistants in the Chemical Laboratory, and teachers in preliminary year, at a salary of $60 per month.

It was ordered that a separate account be kept of funds received for tuition in the preliminary department; also that the following parts of salaries of instructors in that department be paid out of said fund, viz:

A. C. Swartz	$20	per	month.
I. O. Baker	20	"	"
A. E. Barnes	20	"	"
M. A. Scovell	20	"	"
C. I. Hayes	10	"	"

Advertisements for the fall opening of the University were ordered to be inserted in the following papers:

Prairie Farmer, Chicago, Ills., four times.

Rural World, St. Louis, Mo., four times.

Western Farm Journal, Des Moines, Ia., four times.

Western Agriculturist, Quincy, Ills., one time.

Seventy-five dollars were assigned for the purpose.

A request from Dr. F. W. Prentice for purchase of Lupton's Anatomical Charts was referred to Mr. Gardner.

It was resolved that the teaching in elocution during the coming year be confined to the winter and spring terms.

Mr. E. Hume was allowed $25 for services in June, 1876, in full of account.

One hundred dollars were appropriated for purchase of apparatus of instruction from Centennial Exposition under direction of the Regent.

The report of the Business Agent was then received. The bills submitted for audit were referred to the full meeting of the Board.

Adjourned.

CONDITIONS OF SUCCESS IN AGRICULTURE.

BY ELMER BALDWIN.

In remarking upon the condition necessary to success in agriculture, it must be apparent that in the time allotted me, I can only touch upon the most salient points. An exhaustive dissertation on this subject would fill a volume, and in selecting my topics I shall doubtless leave others equally important untouched.

Agriculture is both a science and an art. As a science it embraces much of the subject matter of all the natural sciences. Most men now admit that the world is governed by laws fixed and immutable. The most minute operation in the laboratory of nature is governed by laws as fixed and certain as those that guide the planets in their orbits.

The heat of the sun's rays lifts the vapor from the ocean's surface. The same force puts the air currents in motion which bears the vapor over the continents, and meeting cooler currents or impinging against the mountain crests, descend in dews and rain, clothing with verdure the otherwise barren lands, penetrates the earth, issues in springs and streams which descend from every hill and table land and flows in mighty Mississippis and Amazons back to the ocean to be again sent on its endless round of life-giving usefulness. How nicely balanced and connected are the laws that produce such wonderful and beneficent effects; strike out any one of the series and the whole is destroyed.

"From nature's chain whatever link you strike
Tenth or ten-thousandth breaks the chain alike."

These considerations can but impress us with the truth that in dealing with nature as the farmer does he should know her behests and not violate her laws. So far as we have ascertained the laws that govern the production from the soil of what is needed to supply the wants of man, or in other words the conditions necessary for their production, we have a science of agriculture. Beyond and deeper lie the other truths that when ascertained and arranged will perfect a science yet in its infancy. The laws that lie at the foundation of this or any other true science are inexorable and any attempt at agricultural production in violation of those laws will prove a failure.

But the disturbing causes are so numerous, the combination of climate, of soils, of seasons, the varied changes of culture adapted to each of those as well as to the numerous varieties of crops are so many considerations that ramify and spread almost infinitely, that

an incalculable amount of study and investigation will be required by the greatest minds to master it all. But we cannot doubt that truth lies at the bottom and that it will be reached.

From the earliest period of our earth existence, through all the periods of geology time, cause and effect has followed in regular succession and will continue to do so till time shall cease. Knowing the needed cause the desired effect can be readily reached.

The first requisite for agricultural success is to know nature's requirements and to conform to her imperious demands. Because we cannot know all the truth is no good reason why we should not conform to and use that we do know. Science has taught us much but practical experience has taught us more.

The magnitude and importance of scientific agricultural education has not been properly appreciated, but cannot be overrated. Science has taken immense strides in some directions, but has only partially investigated this branch of her wide domain, one that more than all others supports and sustains the world. One that is destined in its development to produce with more certainty and in greater variety and profusion all that supplies the physical wants of the world and is also destined to lift a burden from the necks of the toiling millions. In all the professional and mechanical pursuits a thorough knowledge of the science and mysteries of the calling is justly deemed essential to success. And a like preparation is more essential in the farmer's calling, for agriculture embraces more of science and more of nature. By the investigation of laws which forms the foundation of his pursuit, and viewing the wonder-working powers by which nature works out her designs, he will learn that his pursuit is the noblest of earth, that among all the pursuits of men the farmer lives closest in communion with nature; his whole life is an effort to meet her demands. And when as a class he shall become thoroughly educated and divested of the superstition and absurd traditions inherited from ages of ignorance, and with enlarged capacity and the eye of a philosopher gaze on the panorama of wonders which nature's laboratory constantly unfolds to his view in the pursuits of his occupation, he will respect himself and love his calling, two most important elements of success.

For the purpose of showing the importance of a knowledge of scientific truth, and also the prevalence of crude and uncertain theories acted upon even in the most rudimentary processes of agriculture, I will refer to one or two subjects only.

It is a generally admitted truth that to prepare the soil for a cereal or other crop it should always be plowed or otherwise mellowed, yet there are soils that would be injured by plowing. When the waters have receded from the delta of the Nile the seed is cast upon the still wet and oozy surface and a luxuriant crop is reaped. Notwithstanding such exceptions the necessity for plowing is almost universal. But how deep to plow is a question that has never been settled, and never can be except in its application to each particular soil. The sweeping theory that for a century has been advanced by most writers on agriculture that deep plowing was essential to success is almost universally discredited. A soil exhausted by continual cropping, that has a subsoil rich in marl, alkali or other mineral fertilizers, would be benefited by deep plowing to bring them to the surface

and make them available. Our common prairie soil is found to be seriously injured by too deep plowing, bringing dead and inert soil to the surface and throwing the rich surface soil pulverized by the rains and frosts, aerated by the atmosphere, and rich in humors from decayed vegetation, to the bottom of a deep furrow where the roots of the crop seldom reach it. And here we may well start the question whether most soils are not injured by inversion as with the common plow, and whether it is not better as many gardeners and amateur cul turists now practice, to stir and pulverize the rich surface soil and leave it there to support the delicate germs and rootlets of the springing plants.

Agricultural authorities tell us to cut wheat when it is in the milk (a very dangerous doctrine); now this is a very indefinite time. At one stage the kernal contains a thin milky fluid, a few days later it contains a milky colored paste, and later still it contains flour. If cut when in the first named condition the yield of flour will be lessened from one-third to two-thirds; in the second the loss will be less but still considerable, and if cut in the third condition a full yield in quality and quantity. There is nothing lost by letting it ripen fully, except the straw is more bulky and harsh to handle, and the grain scatters some in handling. Now scientific analysis of the surface and subsoil and clear observation will determine the depth to plow any soil, and an analysis of wheat cut at different stages would determine its value at each stage. Such truths once established would be a better condition of success than hearsay or tradition. Agriculture is also an art. Manual dexterity that can only be obtained by long practice, is as essential in this as any other pursuit. The old time sickle, scythe and cradle were nearly useless in the hand of a novice. The Yankee axe that in the hands of experts has led the way in the civilization of a continent is an awkward and clumsy instrument in an inexperienced hand. The hand that scatters the various seeds, that guides the plow, the cultivator, the reaper and even the fork and hoe, must not only be guided by intelligence, but needs that dexterity learned only by years of practice.

The pruning of fruit trees, gathering and curing of crops, garden and fruit culture, rearing and fattening of animals, can only be successfully done by a practiced and experienced hand. I am aware it has been said, and often with truth, that a ritual merchant, mechanic, or professional man make quite successful farmers. If they do they are careful to copy after and imitate some able and experienced farmer who possesses the requisite knowledge and experience.

A physician of my acquaintance presented his bill to a farmer and among other items were several charges for medical advice. The farmer also presented his account with several charges for advice in farming, although regarded as a joke it was really a proper offset to the charges. Knowledge of farming costs as much and it is as valuable as other knowledge. It has always been admitted that a diversified agriculture could not be successfully prosecuted by the labor of slaves; intelligence not only must direct but must wield the implements.

To be successful the farmer should thoroughly know his calling scientifically and practically.

It is true many successful farmers know nothing of science but rely upon traditional knowledge, yet that knowledge is science, as is shown by its success. It matters little how a truth is learned if we know it to be truth—there is, however, this difference: science tells you a truth and tells you why—tradition never assigns a reason, or if it does, a very uncertain one. Superstition and absurdity are more or less mingled with all traditional knowledge.

And I may as well here as elsewhere refer to a disturbing element that has even stood in the way of agricultural improvement and has prevented the formation of a reliable science, and entails immense losses upon the world. The dark cloud of ignorance, which through the long ages of the past has rested like a pall on the tillers of the soil, has not all been dissipated by the light of modern intelligence. Absurd theories of supernatural stellar or luna influences still usurp the place of true knowledge, and prevent the discovery and reception of truth.

I will name a few of those which for the honor of our common humanity I could wish did not exist. I knew a man of full average intelligence who invariably caused his seed corn to be passed through a knot hole in a board to prevent the grubs from eating his growing corn. I have known him to keep his hands idle for hours on a pleasant working day while his son was putting the seed corn through that important process.

I was once planting my potatoes at the first opportunity after the ground was in fit condition in the spring, (which in our dry climate is the best time) when a neighbor remonstrated and said my crop would be a failure; he should not plant his for three weeks, as that would be the proper time in the moon's age. He did so, and in the fall bought his potatoes of me, as I had a good crop and he had none. The succeeding season he did the same with the like result, and yet he persistently insisted that his rule was the best.

In conversation with a neighbor, and viewing the new moon, he says the horns point upward, they will hold water, it will be a very wet moon. I said, do you believe it? He replied, yes, I have observed it for forty years and never knew it to fail.

The next evening in conversation with another neighbor, he said the horns point upward, they will hold all the water, it will be a very dry moon, that he had observed it for forty years and never knew it to fail. Here were two honest, truthful men who permitted an absurd superstition to have more influence than the evidence of their own senses. Both believed their respective theories, and I have no doubt one was just as true as the other. It is said pork butchered in the new of the moon will smell when cooking, but butchered in the old of the moon will shrink.

Fruit trees will be as many years coming to bearing as the moon is days old when they are set.

Manure spread on meadows in the new of the moon or when the horns point upward, will rise with the growing grass and be on top at mowing time, but spread when the moon's horns point down it will remain close to the ground. Such notions are not confined to the ignorant. I heard one of the wealthiest farmers in Illinois, and one who occupies a high social position, say that corn planted in the new of the moon would have few ears but large stalks, but planted in the

old of the moon would yield heavily even if the stalks were small. These examples might be multiplied almost indefinitely. The season and condition of the soil indicates the time to plant. This is the golden opportunity, and the improvement of that opportunity is the condition of success. If that is permitted to pass unimproved, waiting for the occult influence of some sign of the zodiac—pointing of the moon's horns, the result of a conclave among the Gods of Mount Olympus, as indicated by the entrail of some beast, the whispering of Ossian's ghosts, or the motion of a cat's paw in wiping her face—failure of or diminished success must be the result.

Where the cause is unknown the result is ever ascribed to some imaginary one by fallible human judgment. Such has been the case through all time.

Collumella, a Roman writer upon agriculture, directs that when oxen return weary and heated from the field, a little wine should be poured down their throats, and if they refuse to drink, the boy that drives them should whistle, and after a reasonable time they will drink. Now, there is some correct reasoning in this. If wine is good for a man it is safe to infer it is good for an ox, and as the instincts of the ox will never permit him to drink water when heated, time must be given him to get cool and the whistling will do no hurt. The error is in ascribing such influence to the boy's whistling. The old deacon when his oxen refused to pull got in a passion and used his gad unmercifully, finally went aside and prayed for half an hour, and then spoke kindly to his team and they took the load along promptly. The praying was good, but like the boy's whistling, it gave time for the passions of both the deacon and his oxen to cool off.

There is no pursuit in civilized society that requires more diversified knowledge, more science, more practical experience and observation, or more sound judgment than that of the farmer. There is no other pursuit that has so many branches or is so diversified in its details. No individual can expect to master all its branches and comprehend all the details of each. In fact it calls for a knowledge of the great arcana of nature. The germ, the birth, the growth development and maturity, the reproduction, succession and full natural history of both animal and vegetable life. The genius that can measure the parallax of a fixed stone or weigh the comet's substance, can here find fit subject for its powers. Yet fools confidently step in where angels fear to tread.

It becomes a necessity that to be succcessful the farmer must select a reasonable number of the multitude of branches or pursuits embraced under the pursuit of agriculture. To make one or two branches a speciality has not generally proved successful unless some peculiar local condition require it, but a reasonably diversified industry is doubtless the best, and in selecting reference should first be had to the necessary connection or dependence of them upon each other. The production of the cereals should be counted with annual husbandry. The straw, corn and stubble can be utilized to feed the stock while the manure from the stock is a necessity to sustain the fertility of the soil. The dairy is a natural aid to the pork crop. Sheep of all animals are the best fertilizers. Another object in selecting should be to distribute the labor of the farm through the year

so as not to require extra help at one time and be out of business at another.

Another important consideration is to produce articles fitted to the market. If the market is distant coarse grains and heavy bulky articles should not be raised except for consumption on the farm. All such can be converted into beef, pork and wool or something that will not be absorbed in the cost of transit. But the most important matter is to adopt a rotation of crops in connection with animal husbandry that will preserve the fertility of the soil. The soil is the farmer's bank and if he does not keep his deposit account good his drafts will not be honored. The cereals and all crops that mature the seed are exhausting crops and if constantly raised without manure or rotation with crops not exhausting will deteriorate and ruin any soil. The yield of corn on the prairie farms of Illinois has been reduced by forty years of constant production fully fifty per cent. Another term of like duration and like practice will render the soil nearly worthless for the production of corn. Crops which do not mature the seed, as the root crops and grasses, are the renovating crops, and with the manure made on the farm should preserve the fertility of the soil. It costs no more to raise a good crop than a poor one and the balance sheet of a farm in a high condition of fertility will show a marked contrast with one from an exhausted one.

A recent English writer on political economy kindly volunteers the advice that as this country has a rich virgin soil we should do nothing but raise the cereals, export them and let England do the manufacturing. When our farmers understand that when they do nothing but raise and export corn and wheat they are selling the realty of the farm and reducing themselves and their country to poverty, they will be slow in taking the Englishman's advice. If such a course is pursued the rich soil of the prairie region, like the cotton fields of the south, must eventually be abandoned for some other virgin soil, if such can be found. One of the most vital questions in farm economy, and one of all others not to be disregarded, is the preservation of the fertility of the soil.

There are many minor branches of farm production that, though small in amount individually, yet in the aggregate constitute an important element of success. The garden, the dairy, the fruit, the poultry, with many others can be more or less pursued according to the number, ages and circumstances of the family. Each individual should have their appropriate department and be held responsible for its proper care. Such care becomes a most excellent discipline and calculation of the young, and it is from those thus trained our most successful agriculturists are produced. These considerations apply with equal force to both sexes, and the farmer's daughter who is reared without such discipline, without business care and neither learns nor practices any branch of farm or household duties, should never aspire to the honorable position of a farmer's wife; in fact such a one is unfit to be any one's wife. Those minor pursuits can be made to pay the family and farm expenses and thereby save intact the avails of the staple crops. But if the grain, beef, pork, wool or other staple crops are to be drawn upon for all the necessaries and little luxuries which persons living in idleness are ever aspiring to,

the amount will soon be exhausted and the year's earnings spent in the getting.

Having determined upon the branches of agriculture to be pursued, let the plan adopted be strictly adhered to; it may be true that a change in one of the number may be found desirable, but without good apparent reasons it should not be done. There is scarcely any policy more fatal to success in farming than continual change in the branches pursued. Prices of particular productions may vary from year to year and some one may bring but a meagre price, but this fact of itself will cause it to bring a higher and perhaps a high price the next or some succeeding year. The time of low prices of stock or any article is the best time to invest, and the average price of an article is better than can be got by changing for another. Those who change their business on account of the prices of produce are pretty sure to be in the market when prices are low; present high prices, stimulate production, and bring down prices for the succeeding crop. The farmer should keep a steady hand and learn to labor and to wait; a persevering persistent course is what wins; the steady constant growth of his crops, his stock, his timber, his fruit are all so much profit not handled now in cash but equally valuable, as are all valuable permanent improvements on his estate.

The best breeds of stock are most profitable. It costs no more to keep a good animal than a poor one and the returns are much greater. A herd may be rapidly and cheaply improved by introducing from the best herds of cattle, hogs or sheep, thoroughbred males, and by breeding from no others in a few years the herd will be practically pure blood. Farmers of moderate means may combine for such a purpose. Whatever breed is selected should be continued; continual crossing is bad policy.

Dealing in fancy stock at fancy prices had better be left to men of means and experience and if they can sell to each other and all get rich no one will complain, but it should not be regarded as legitimate farming.

The wilder the speculation the more certainty of the introduction of improved animals, and the greater benefit to the public, though present prices must ultimately burn some of their fingers or all former experience tells for naught.

Having provided for the improvement of the herd, keep only as many as can be well kept. A poor animal is always unprofitable, and a fat one is not always profitable, that depends on the cost; judicious feeding is that which produces the best results at the least cost. There is no branch of farming requiring more thorough practical experience and careful attention than this.

The immense improvement in farm machinery during the last quarter of a century, marks an era in agricultural progress.

It is only at a comparatively modern date that the forces of nature have been substituted for human muscle—the drippings from the steam pipe for the sweat from the human brow. The force of a matchless power now bears the deeply freighted steamboat against the current of the Mississippi, where men once toiled for weeks to force the little flatboat against that river's almost resistless flow.

The spinning jenny and the power loom have taken the distaff and shuttle from the hands of the toiling matrons, and have attired the world in cheap clothing.

And finally in the progress of time the almost forgotten tillers of the soil have been reached—the scythe, the cradle, and the flail have dropped from the farmer's hand, and machinery moved by animal or steam power supplies their place.

None but those whose lives were spent in wielding the discarded implements can appreciate the change or duly estimate the amount of hard grinding toil once the farmer's lot. Those achievements are the triumph of mind over matter and the greatest glory of our age.

Nor is the end reached yet. Other and greater labor-saving inventions are sure to follow in quick succession till the farmer's occupation will consist in directing with an enlightened intellect and a practiced hand, these automaton laborers rather than in the old time unending toil. This will be a glorious consummation when mind and not muscle alone shall be the presiding duty of the farmer's life.

The noble horse will look with complacency on the laboring engine as it assumes his former duties in bearing to a distant market the products of the soil. While he assumes the performance of the labor hitherto done by human hands, a higher position and a nobler destiny will then be the farmer's lot.

The purchase and use of the best labor-saving implements has become a necessity and a most important condition of success to every farmer. Yet here as elsewhere we ever find along the pathway of life wrecks that mark the rocks on which others have stranded. It would take untold thousands of dollars to pay for discarded and worthless implements purchased by the farmers of Illinois. And a like amount to represent the cost of valuable machinery that has rotted on Illinois farms within the last twenty-five years for want of care. Practical experience and a careful discrimination is as requisite here as elsewhere, and care, continuous unremitting care, the talisman word of the farmer's calling. Financially, the farmer must depend for success more upon saving than getting. While he adopts his pursuits and directs his efforts to make his receipts as great as possible, yet he can never make his business a success, financially, unless he reduces his expenses to the minimum. His occupation naturally supplies most of his wants. Nearly all the necessaries and most of the luxuries of his table can be produced by his own culture, and he should make it a rule to supply as many as possible; and the farmer who aspires to use the extreme of city fashions in his table, clothing, and equipage, will find them fatal to his success. Of all things he should learn that our actual wants are few, but imaginary ones have no end.

The vital question of farm and household expenses is the rock on which the fond hopes of many an industrious and honest farmer has been wrecked. Franklin's proverb, that "many an estate is spent in the getting," forcibly enunciates a truism only believed by many when too late.

It should ever be borne in mind that the gains of the farmer are small but constant. The spring or tiny rivulet if conducted into a tight receiver will swell to a fountain, the ultimate amount of which can scarcely be realized, but if left to spread over a dry and

absorbent soil will rapidly and forever disappear. So the small, various, but sure gains of the industrious farmer may be made to swell to competence, affluence and respectability, or be swallowed by the endless, unnecessary, and perhaps hurtful little expenses when left to fancy, caprice, or reckless supervision; and the income of the best cultivated farms will disappear, scarcely leaving a memento that it ever existed.

Financial embarrassment cramps and emasculates the efforts of the farm, and is the upas tree of his calling.

Books, periodicals and every available conduct of intelligence, are not needless luxuries but are as necessary and useful to our pursuit as to any other. Three 10-cent cigars per day will purchase over one hundred dollars worth of books per year, and a fine meerschaum pipe one-tenth as many more. The books will enlarge and improve the mind while the others will deteriorate and ruin it.

Time is the expressed vital element of many business contracts; so time is a necessary condition of agricultural success. The irrevocable decree of nature's laws has ordered that the season of seed time, of growth and harvest, shall succeed each other in regular succession; and each is indelibly marked on the dial of time, not exactly by days or months but by the signs of nature's own efforts.

The swelling bud, the awakening vegetation and expanding leaf, tell that the season has come, that nature is ready for her reproductive efforts. There is then no time to be lost; it is the critical period, and those who wait upon nature must leave to her autocratic choice the time for her productive efforts.

As the full blown fragrant beauty of the flower marks the time when the pollen should be applied to the forming germ of the future fruit, so does the springing green of the fields and woods mark the seed time of the year, and no superstition or legends of pagan mythology, moon or stars, should be allowed to give the lie to nature's call or gainsay the fiat of omnipotence expressed in the springing vernal beauties of the year.

The seasons of culture and of harvest are equally important. The farmer must be prepared to attend at the allotted time and not attempt to vary or change where he has no power to control.

The daily routine of farm life should be regular and periodic. The feeding and care of animals should be done at regular and stated times, as much so as the meals and rest of the family. All nature moves in periodic times; the planet's revolutions, diurnal and annual, are counted to seconds of time; the seasons come and go with nearly the same precision. The vegetation of seeds, maturing of crops, the periods of gestation and incubation of animals, are all marked in time's record by fate's unerring hand.

Moving in a periodic world, drawing from periodic nature the reward of his toil, he too must conform and move in harmony with all around him. The slatternly out-of-season farmer is not the successful one.

Much has been said and written as to the daily time an industrious business farmer should devote to labor, and a variety of wise saws have been current enforcing the idea that the man who most abuses his physical and mental powers and was really the most abject slave, was a fit example to follow.

It was claimed that when the tired laborer was sufficiently rested to turn over in bed it was time to turn out. I have known several who followed that rule and each of them became insane as might be expected. A pursuit that requires its followers to rise before daylight and to labor till after dark; to deprive themselves of needed rest, recreation and time for mental and physical recuperation and improvement, is one that all sensible persons should avoid. I do not believe that any man was any more successful as a farmer who persisted in laboring out of season or compelled his hired help to do so. But my observation convinces me that the reverse is the fact. A man that labors ten hours in the field per day will do more labor in a season than he would when compelled to labor more hours, and I am not certain but this time might be slightly reduced with profit.

The human organism is not an engine made of iron, nor a brute beast, valuable only for muscular strength, but a combination of muscular power, nervous energy and mental, social and moral intelligence, and deprived of the exercise of any of these lessens his efficiency. When overtasked, jaded and depressed, he is not half as valuable as when in the full possession of all his faculties. All the duties of the farm laborer needs to be directed by intelligence, and when exhausted by the day's toil he needs a time for social, mental and physical recreation, and all the rest his feelings call for. Thus refreshed he comes to his duties fresh and vigorous; with all his faculties in the best condition, he will do more and better work, his feelings are more kindly towards all around him, he is a better master, a better servant and more successful in all his efforts. But deprived of rest and all enjoyment he is but a slave everywhere, his hand will paralyze all it touches.

It is this ceaseless round of toil, "to eat, to sleep, to work," unenlivened by mental or social enjoyment that has made most of the agricultural class that stupid, listless, unthinking people they have been. I do not ask that the laborer shall be released from the full and reasonable performance of all his duties, but I ask that the laws that made our natures and demands their proper discipline as a condition of health, enjoyment, and efficiency, shall be obeyed. And here as elsewhere I insist that compliance with all of nature's laws is the summit of human wisdom. The farmer that pays his help full wages, keeps them comfortable, makes them happy and cheerful and pays them promptly, will as a rule find them interested in his business, careful of his interests and trustworthy—most important aids to success.

The pursuit of agriculture in its diversified branches requires the existence of the household.

It is strictly a domestic institution. The influence and governing power over all the interests must radiate from a common center, and the gains must be collected and cared for at that center. The domestic animals need to know it, and these, with barns, out-buildings, yards, gardens, fruit orchards, all so constantly require the supervision of some one interested, that a well organized household becomes a necessity in this pursuit.

Adam would have made but poor headway among the bowers of Eden without his Eve.

The ancient patriarchs always took a helpmeet before they commenced keeping flocks and herds. Modern farming is but a continuation and modification of the patriarchal institution.

It is the natural pursuit of man and the foundation of the world's support.

It is the proper nursery of men, and of physical and mental vigor and virtue, and destined to be of intelligence. The recent efforts for agricultural education; the general discrimination of agricultural literature, and the uprising among the dry bones of agricultural stolidity, all point to a future promise. But the most significant sign in that direction is the advance in female education.

The introduction into this institution of the farmer's daughters by the side of their sons, is an acknowledgment that the farmer's household is as important as the management of the farm. As much intelligence is needed and is as useful in the qualification of the mistress as of the master. The orderly, neat and able management of the farmer's home is like the balance wheel of a watch, a proper regulator and starting point of all its movements.

The old homely and trite saying, that of the income of the farm the wife could throw out of the window with a spoon as fast as the husband could throw in the door with a shovel, has really as much truth as fiction. And not only the household matters distinctively, but the poultry, the dairy, the young animals, the yards and the garden are the care, the delight, and the pride of the thrifty housewife. But more than this, her intelligent and practiced eye can oversee the more important business of the farm and the conduct of the help during the absence or disability of her husband, and she can be at all times the confidential counsellor and assistant.

It was said by David O'Connell, the great Irish agitator, that he could stand without injury the wild buffetings of his political opponents, he could grapple with his enemies and the enemies of his country and maintain his equanimity of temper and unflinching fortitude, if he had a quiet and comfortable nest at home. The genial smile, the kind word of encouragement, the unfaltering faith in his mission, and the tender care of his wife, was a panacea for all the ills of his stormy life. Many a humble farmer with his sons and hired help have, like O'Connell, found all their toil rewarded by the kindly care and influence of a model matron.

Wordsworth has beautifully described the pleasure with which, when returned thirsty and wearied from the field, he sipped the cooling draught from the "moss covered bucket." He might have described with equal pathos the soothing rejuvenating influence of the kindly housewife as she welcomed the laborers from the heat and dust of the field to the shade, the quiet and the homely but luscious meal of their rural home.

With what tender recollection in imagination we go back to our boyhood days on the old homestead, the dearest spot on earth. The morning sun is greeted by the cackling of the poultry, the bleating of the lambs and calves, lowing of the herds, singing of the birds, the fragrance from the flowers of the yard and garden, and the cheerful greeting of the well ordered quiet family as they care for all these numerous dependents, cheered by the model concert of nature's music, and then with stout hearts and willing hands went to the wel-

come labor of the field. How we listened with anxious, expectant ear for the call to the noonday meals, sure that the hand that was catering for our wants was guided by a skill, kindness and care that knew no failure; how that hand bathed the aching brow, bound up the lacerated limb, and whose frugal skill made old clothes look almost as well as the new.

How sweet we slept on the couch smoothed by her magic hand. In fine, a kind appreciative young farmer need never expect to get nearer paradise here below than to have a helpmeet possessed of all the excellence our boyish fancy endowed our matron mothers in the days of long ago. With such a mistress to preside over the household, and with a keen active perception, take in and scan all the operations of the farm, in and of her misnamed "better half," and if that half is any thing more than half a man in his calling there need be no fears of failure.

But the world is progressive. If to the domestic skill, care, economy and thrift of the agricultural women of the past, shall be added the aid of a scientific education as broad, deep and practical as will be allotted to the other sex, then will her influence, heretofore so valuable, be immensely increased.

With a thorough knowledge of the orders, classes and natural history of plants, their natural habits and requirements, she can direct the culture and care of the lawn, the garden, and the fruit orchard, and make them a thing of beauty and profit. Here is her natural sphere, and we cannot overestimate the success of her efforts when aided by that liberal education which she so rightfully claims.

No eye like hers can trace all the wonderful transformation of the tiny insect, learn to know all its secret history, and thus be prepared to ward off its destructive attacks upon her flowers, her vegetables and fruit.

Her knowledge of physiology, hygiene and the laws of health, will best preserve the family in health and comfort. To her care is necessarily entrusted the care of the dwelling and its surroundings, the heating, ventilation and living habits of the inmates on which their health depends. There is nothing more fatal to farm success than continued sickness in the family, and most men have learned to know that disease does not come usually from providence or fate. Decaying vegetables in the cellar, a pest hole from the sink spout under the kitchen window, a decaying manure heap near the dwelling, or miasma from the hen roost or pig pen, has entailed a season of sickness and suffering on many a farmer's family, and perhaps sent some of their number over the dark water.

Breathing the pure air of the country, sufficiently removed from families to be exempt from contagious or other disease from that source, the agricultural population, where they do not inherit a diseased organism, ought to be exempt from serious disease through a reasonably long life. Their food coming direct from nature's hand, and if properly selected and prepared, will not induce disease. Their labor if not in excess is healthful and invigorating, and with proper rest and needed recreation and amusement, and free from those vices so common in our cities, they might send most of the country physicians to the towns and cities, or compel them to follow some other calling.

This department calls for constant care and the exercise of a sound judgment and skill, and entails a fearful responsibility on the mistress of every farmer's household.

I might enumerate almost indefinitely the condition necessary to success in the farmer's pursuit, but there is one more only that I will name, one that is requisite to success in all other pursuits as well as this, that is business capacity and economy.

There are men who can never succeed in any business; their efforts are always abortive and lamentable failures and no amount of direction or instruction would change the result, while others have that sound practical common sense that never fails—and between the two are all grades of business talent. Many of the latter class will be much benefited by specific direction in their calling, but the first described never will. Where nature's handiwork is a failure, man's efforts will avail little.

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