



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

Transactions of the Northern Wisconsin Agricultural and Mechanical Association, including a full report of the industrial and state horticultural convention, held at Waupaca, Wisconsin, February, 1884...

Northern Wisconsin Agricultural and Mechanical Association
Madison, Wisconsin: Democrat Printing Company, State Printers,
1884

<https://digital.library.wisc.edu/1711.dl/TOAOZVH6T7ILQ9D>

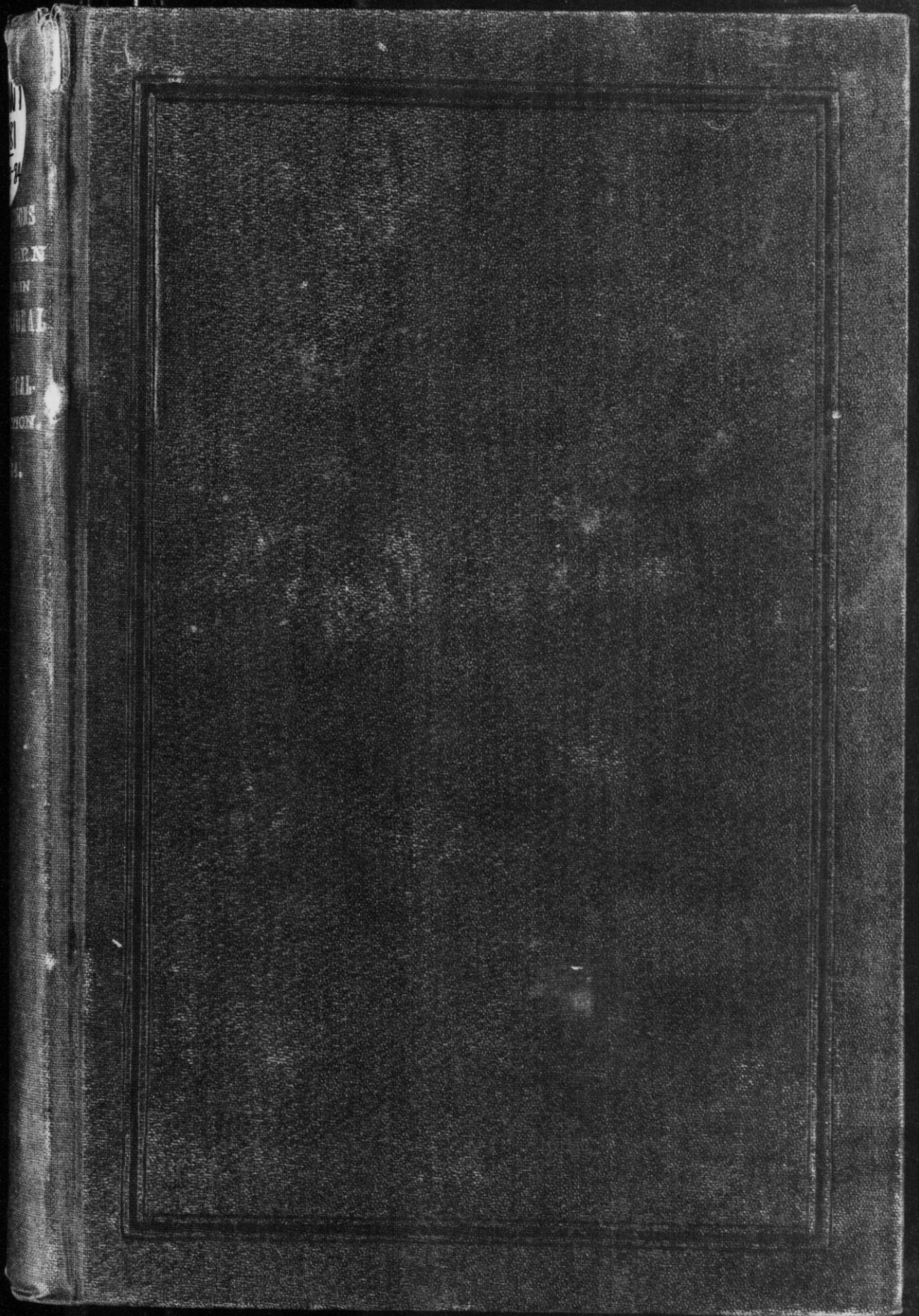
Based on date of publication, this material is presumed to be in the public domain.

For information on re-use, see

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.



THE
HISTORY
OF
THE
CITY
OF
LONDON
FROM
THE
FIRST
SETTLING
OF
THE
SAME
BY
MERCATOR
UNTO
THE
PRESENT
STATE
OF
THE
SAME
BY
JOHN
STEVENS
1725

LIBRARY
OF THE
UNIVERSITY OF WISCONSIN
No 17940

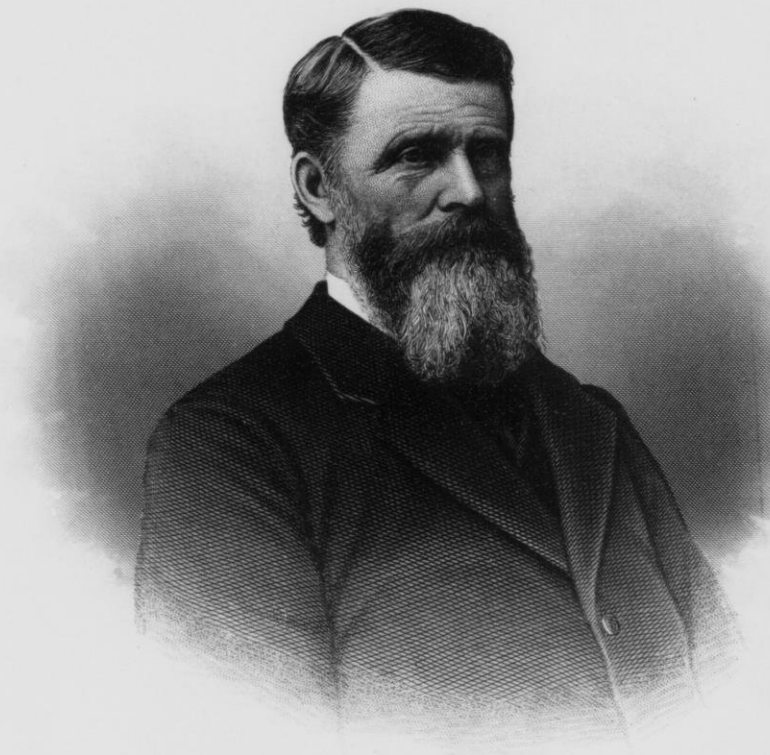
**University of Wisconsin
LIBRARY**

Class

Book

AGRICULTURAL
Experiment Station,

MADISON, - WIS.



Yours. Respectfully
Chester Hazen

PRESIDENT OF THE
NORTHERN WIS. AGRICULTURAL AND MECHANICAL ASSOCIATION.

TRANSACTIONS
OF THE
NORTHERN WISCONSIN
Agricultural and Mechanical Association,

INCLUDING A FULL REPORT OF THE INDUSTRIAL AND STATE
HORTICULTURAL CONVENTION, HELD AT WAUPACA,
WISCONSIN, FEBRUARY, 1884,

TOGETHER WITH

Proceedings of the Association for 1883, to January 1, '84.

VOL X. 1883 to JANUARY, 1884.



MADISON, WIS.:
DEMOCRAT PRINTING CO., STATE PRINTERS.
1884.

COMPILED AND ARRANGED BY

A. C. AUSTIN, SECRETARY.

OFFICERS FOR 1883.

<i>President</i> — C. HAZEN.....	LADOGA
<i>Secretary</i> — A. C. AUSTIN.....	OSHKOSH
<i>Treasurer</i> — E. W. VIAL.....	OSHKOSH

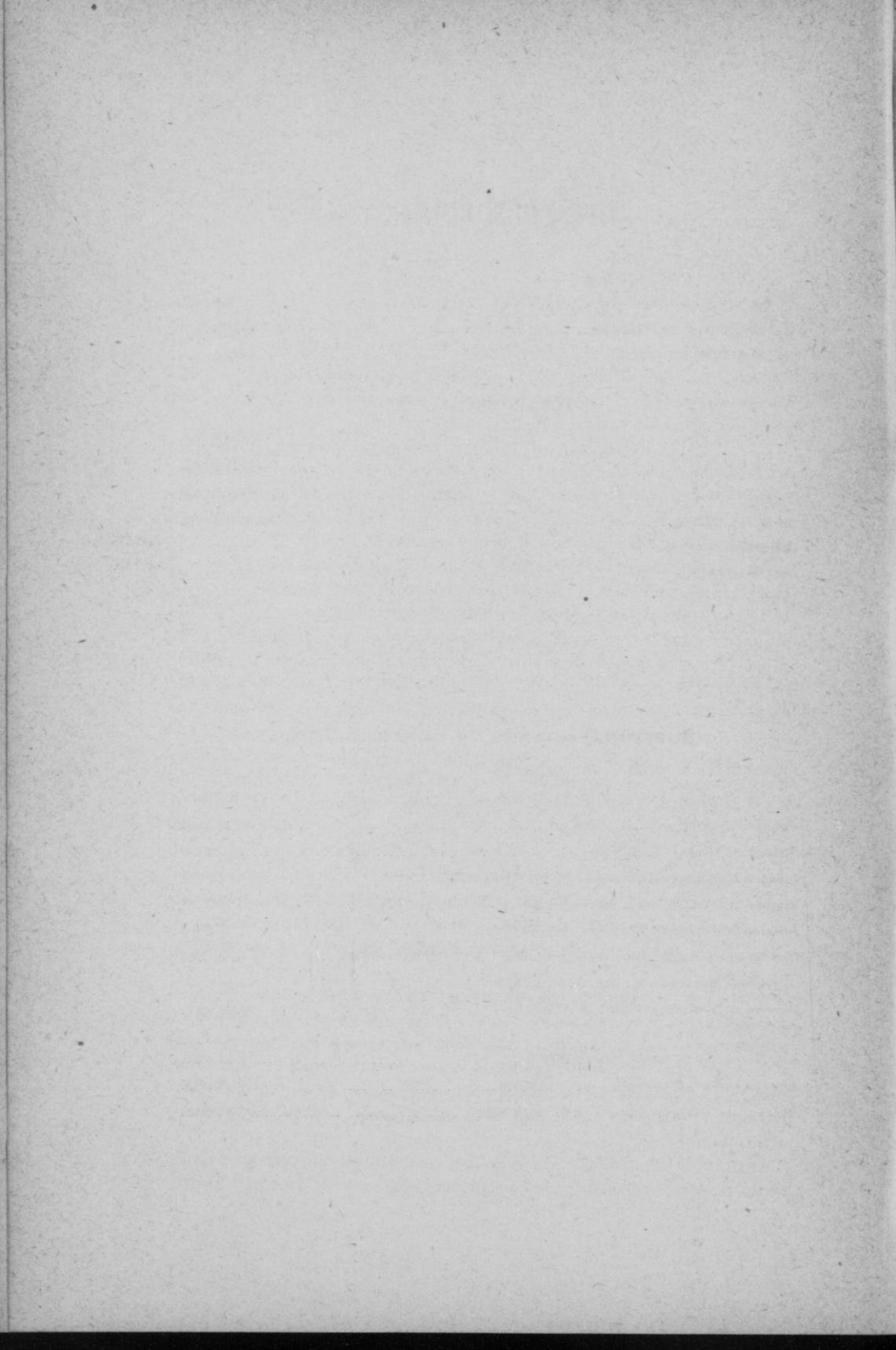
VICE-PRESIDENTS.

D. HUNTLEY.....	APPLETON
A. A. LOPER.....	RIPON
W. H. COOK.....	STOCKBRIDGE
GEO. HARDING.....	WAUKESHA
C. D. McCONNELL.....	BERLIN
GEO. F. STROUD.....	OSHKOSH
R. N. ROBERTS.....	WAUPACA
E. P. FINCH.....	OSHKOSH
J. L. FISKE.....	OMRO
B. T. PHILLIPS.....	MARINETTE

SUPERINTENDENTS OF DEPARTMENTS.

<i>Division A, Stock Horses</i> — GEO. HARDING.....	WAUKESHA
<i>Division B, Speed Horses</i> — C. D. McCONNELL.....	BERLIN
<i>Division C, Cattle</i> — W. H. COOK.....	STOCKBRIDGE
<i>Division D, Sheep</i> — E. R. MARTIN.....	OMRO
<i>Division E, Swine and Poultry</i> — H. W. WOLCOTT.....	RIPON
<i>Division F, Field, Garden, Dairy and Household</i> — D. HUNTLEY.....	APPLETON
<i>Division G, Fruit and Flowers</i> — J. L. FISKE.....	OMRO
<i>Division H, Domestic Mfrs., Fine Arts, Etc.</i> — K. M. HUTCHINSON.....	OSHKOSH
<i>Division I, Manufactures</i> — R. N. ROBERTS.....	WAUPACA
<i>Division J, Machinery</i> — GEO. F. STROUD.....	OSHKOSH

<i>Superintendent of Gates</i> — A. A. LOPER.....	RIPON
<i>Superintendent of Grounds</i> — J. J. MOORE.....	OSHKOSH
<i>Marshal and Chief of Police</i> — F. M. POWERS.....	OSHKOSH



CONSTITUTION OF THE SOCIETY.

ARTICLE 1. The name of this Society shall be the Northern Wisconsin Agricultural and Mechanical Association. Its object shall be the promotion of Agricultural, Mechanical and Household Arts.

ARTICLE 2. *Membership*—This Association shall consist of the life members of the same and the Presidents of all agricultural, horticultural and stock growers' associations within its jurisdiction.

ARTICLE 3. *Life Membership*—Any person may become a life member by the payment to the Secretary of the sum of \$25, receiving from him a certificate of such membership, which shall not be transferable, but which shall entitle the person to whom issued, his wife and minor children to free admission to all the fairs and exhibitions of the Society.

ARTICLE 4. *Officers*—The officers of the Association shall be a President, eight Vice-Presidents, a Secretary and Treasurer, who shall be elected by ballot at the annual election, and who must be life members of the Association, and all of whom shall constitute and be designated *The Executive Board*, a majority of which shall constitute a quorum, and the officers named in this article shall hold their offices for one year from and after January first next succeeding their election, and until their successors are elected and qualified.

ARTICLE 5. *President*—The President shall be *ex-officio* a member of the Executive Board; shall preside at all meetings of the Association and of the Executive Board (but in case of absence or inability, one of the Vice-Presidents shall act as President and discharge all the duties of that office). He shall sign all contracts or other instruments of writing which have first been approved by the Executive Board. He shall sign all warrants drawn on the Treasurer (the account for which the same is drawn having been first approved by the Board); he shall have the casting vote in all cases of a tie, and may call a special meeting whenever he may deem it necessary.

ARTICLE 6. *Treasurer*—The Treasurer shall have charge of the funds of the Association, and pay the same out only on the order of the President, countersigned by the Secretary. He shall attend all fairs of the Association, receive the entrance or admission fee, keep a correct account of all receipts and disbursements, and perform such duties as a majority of the Executive Board may direct, and give bonds for the faithful performance of his duties.

ARTICLE 7. *Secretary*—The Secretary shall do all the correspondence of the Society, keep a record of its proceedings and of Executive Board,

and prepare the same for publication. He shall collect all moneys due the Society from any source, including receipts from grand stand (except fees for admission to fairs), and pay the same over to the treasurer, taking his receipt therefor; keep proper account books, and discharge such other duties as pertain to his office, or as a majority of the Executive Board may direct. He shall also give bonds for the faithful accounting of all moneys which may come into his hands belonging to the Association.

ARTICLE 8. *Executive Board* — The Executive Board shall have full power to manage the affairs of the Association. They shall fill all vacancies, except that superintendents of departments may appoint judges by and with their consent, arising from inability to serve; fix compensation of all officers of the Association, appoint and remove at pleasure all appointed officers, agents and employes, prescribe their duties and fix their compensation; also to make rules and regulations for the guidance of the officers in the discharge of their duties; they shall classify by department, group and class, all articles likely to be entered for exhibition; appoint the time for opening and closing the annual fair; to prescribe and publish, at least by the 15th of June of each year, a schedule of premiums to be awarded; to fix the price of entries and admission; to appoint appropriate committees to superintend and to make awards in the several departments; to determine upon and fix up proper grounds and place of meeting or exhibition, and to provide rules and regulations governing the same. They shall audit all bills and accounts, and cause to be kept a complete and correct record of all their proceedings, and to allow no moneys or disbursements of funds of the Society, or any improvement of the property of the same to be made, without the recorded approval of a majority of the Board. They shall, as soon after the annual fair as practicable, pay to the exhibitors premiums which have been awarded, from surplus funds of the Association, and shall, within sixty days after the close of the annual fair, publish a full report of their proceedings and a complete detailed statement of the condition of the affairs of the Association.

ARTICLE 9. *Annual Meeting* — The annual meeting of the Association shall be held on Thursday of fair week, at 7:30 o'clock P. M., at such a place as a quorum of the Executive Board may direct. At such annual meeting each life member present shall be entitled to one vote, and each agricultural, mechanical, horticultural and stock growers' association within the jurisdiction of the Association shall be entitled to three delegates, who shall be entitled to one vote each, when present, in the election of officers and the transaction of any other business proper to be done at such a meeting.

ARTICLE 10. This Constitution may be altered or amended at any annual meeting of the Association, by a majority vote.

PRESIDENT HAZEN.

CHESTER HAZEN, whose portrait adorns the front page of this volume, was born in Copenhagen, Lewis county, New York, January 31, 1824; lived on a farm until fourteen years of age, when his father died, leaving a family of nine boys (of whom Chester was the eighth) to provide for themselves. He felt the weight of the responsibility which he was called upon to assume, and at once decided to learn the moulder's trade, engaging to work in a foundry one year, with the privilege of attending school three months in the winter, doing chores night and morning to pay for his board. For this year's services he received the liberal sum of fifty dollars. For the second year he received seven dollars a month, and for the third year ten dollars a month, after which he received mechanic's wages. The small wages received during our young moulder's apprenticeship was the means of instilling into the mind of Chester the value and necessity of rigid economy. Although those three years in the early history of the life of the subject of this sketch were fraught with much toil and some dark forebodings, little recreation and no spending money except for the purchase of the actual necessities of life, and yet this frugal beginning was the laying of the corner stone on which was to be erected a useful, happy and prosperous career.

In the spring of 1844, Mr. Hazen decided to try his luck in the west, and July 2d of the same year he landed in Milwaukee. Our young mechanic was now imbued with a strong desire to become a farmer. He had heard of the natural resources and beauties of Fond du Lac county, and started at once for the city of Fond du Lac. *The walking being good*, he made the trip in two days. He secured a piece of government land in the town of Oakfield, which he sold the following spring, and in June of the same year, pre-empted a quarter section in the town of Springvale, where he now lives. Mr. Hazen is one of the pioneer dairymen of Northern Wisconsin. As early as 1850, with a herd of twenty cows, he commenced the manufacture of cheese, and built the first cheese factory built west of Lake Michigan. In 1868 helped organize in Fond du Lac county the first Dairymen's Association organized in the state. In 1869 shipped to New York city a car load of cheese, which was the first car load ever shipped from Wisconsin by the manufacturer. Was eighteen years a member of the Fond du Lac County Agricultural Society. Helped to organize and was President three years of the Wisconsin Dairymen's Association. Has been a member of the Wisconsin State Agricultural Society ten years, a member of the executive board five years, and for twelve years a member of

the Northern Wisconsin Agricultural and Mechanical Association. Has been President of this association for several years, which position he has filled with marked ability.

Mr. Hazen is one of the most active farmers in the state. He is a firm believer in progression, and acting in accordance with his convictions, he keeps pace with the times. His interest in the cheese business since 1850, which then was the manufacture of the product of twenty cows, has exceeded by far his most sanguine expectations. In 1884 he will control many factories, and manufacture the products of thousands of cows. Hazen's cheese has long been classed with the best cheese in the west. Mr. H. does not stop with the production of first class cheese, but breeds pure bred Ayrshire and Friesian cattle. He has this year, 1884, added to his stock two imported stallions, one a Cleveland Bay, the other a Clydesdale. The writer has seen them and pronounces them noble representatives of their respective families.

Mr. Hazen is a western man, with strong western characteristics, has long been identified with the Agricultural interests of the state, has got lots of push and vim, is now just in the prime of life with a competency already secured. May he still remain one of the main spokes in the wheel of progress for many years to come, and when his wheel shall have made its last revolution, he may lay aside the cares of life with the proud satisfaction that he has done his duty, and contributed much towards developing and building up the agricultural interests of northern Wisconsin.

LIFE MEMBERS.

<i>Names.</i>	<i>Post Office.</i>	<i>Names.</i>	<i>Post Office.</i>
Abrams, Mrs. Wm.	Oshkosh.	Cross, J. W	Algoma.
Athearn, John	Oshkosh.	Chase, Jas.	Oshkosh.
Allan, Albert	Oshkosh.	Clapp, E. S.	Winneconne.
Allan, Nelson	Oshkosh.	Clough, W	Oshkosh.
Austin, A. C.	Oshkosh.	Chase, O. F.	Oshkosh.
Athearn, G. W.	Oshkosh.	Cronkhite, F	Neenah.
Arnold, Joseph	Oshkosh.	Campbell, Robt.	Oshkosh.
Amos, Frank	Oshkosh.	Cameron, Geo.	Oshkosh.
Ayres, Raymond	Oshkosh.	Campbell, R. C.	Oshkosh.
Allan, J. R.	Butte des Morts.	Calkins, W. G.	Winneconne.
Brainerd, Jas.	Oshkosh.	Church, Geo. S.	Neenah.
Brainerd, C. M.	Oshkosh.	Carter, B. F.	Sherwood.
Brainerd, A. M.	Oshkosh.	Crary, O. F.	Oshkosh.
Badger, Geo.	Oshkosh.	Cronkhite, Geo. P.	Neenah.
Beals, P.	Oshkosh.	Cross, J. S.	Butte des Morts.
Beardmore, Geo. M.	Vinland.	Cox, R. B.	Oshkosh.
Babcock, H. A.	Neenah.	Champion, Jas.	Winneconne.
Ball, J. M.	Oshkosh.	Cook, W. H.	Stockbridge.
Barber, Chas.	Oshkosh.	Conlee, G. W.	Oshkosh.
Bray, J. M.	Oshkosh.	Conlee, E. N.	Oshkosh.
Beckwith, S.	Oshkosh.	Cook, O.	Oshkosh.
Buckstaff, Geo. H.	Oshkosh.	Daubner, G. H.	Brookfield.
Battis, M. T.	Oshkosh.	Dale, H. B.	Oshkosh.
Bauman, Geo.	Oshkosh.	Dake, J. W.	Omro.
Beadmore, J. B.	Clamanville.	Davis, J. B.	Oshkosh.
Bowers, A.	Clamanville.	Dobson, J.	Oshkosh.
Beach, O.	Oshkosh.	Duane, T. J.	Milwaukee.
Bentzel, E.	Oshkosh.	Doughty, Jas.	Oshkosh.
Brockway, J. C.	Oshkosh.	Doughty, Benj.	Oshkosh.
Barnett, R.	Oshkosh.	Eaton, Jeff.	Oshkosh.
Burgess, W. R.	Oshkosh.	Eastman, G. F.	Oshkosh.
Brown, W. S.	Oshkosh.	Ely, Cork	Oshkosh.
Bouck, Gabe	Oshkosh.	Eaton, M. H.	Oshkosh.
Bemis, L. B.	Clamanville.	Eaton, I.	Winnebago.
Buckstaff, J.	Oshkosh.	Ellsworth, W. T.	Oshkosh.
Bemis, L. C.	Clamanville.	Foster, Carlton	Oshkosh.
Barnett, J. T.	Omro.	Freeborn, J.	Oshkosh.
Boss, C.	Clamanville.	Floyd, H.	Berlin.
Bennett, R. E.	Oshkosh.	Finch, E. P.	Oshkosh.
Bauman, Gustav	Oshkosh.	Forbes, D. H.	Oshkosh.
Brown, R. C.	Oshkosh.	Felker, C. W.	Oshkosh.
Choate, L.	Oshkosh.	Fraker, J. S.	Oshkosh.
Colvin, W.	Oshkosh.	Ford, Milan	Nekimi.
Catlin, W. S.	Elo.	Felker, W. B.	Oshkosh.
Cotton, M. C.	Oshkosh.	Fitzgerald, M.	Oshkosh.
Chase, L. S.	Omro.	Freeman, D. G.	Oshkosh.
Cone, C. G.	Chilton.	Fisk, J. L.	Omro.
Cheney, Thos.	Oshkosh.		

<i>Names.</i>	<i>Post Office.</i>	<i>Names.</i>	<i>Post Office.</i>
Goe, T. R.	Oshkosh.	Lafin, J. W.	Oshkosh.
Gordinier, John ...	Little Wolf.	Laabs, J.	Oshkosh.
Green, M. B.	Oshkosh.	Lawrence, S. B. ...	Oshkosh.
Gillingham, Frank.	Vinland.	Lane, Wm.	Oshkosh.
Gove, John M.	Winneconne.	Lawrence, Thad. .	Oshkosh.
Gustavus, H. C.	Oshkosh.	Loademan, R.	Oshkosh.
Gould, J. P.	Oshkosh.	Ladd, J. W.	Oshkosh.
Glass, J. H.	Oshkosh.		
Grimmer, T. D.	Oshkosh.	Mearns, Mrs. J. W.	Vinland.
Goodfellow, T. M. .	Oshkosh.	Mayhew, L.	Greenbush.
Gillingham, T. J. . .	Neenah.	Martin, E. R. . . .	Omro.
Gary, George.	Oshkosh.	Meyer, C.	Applet on.
Gilky, G. F.	Oshkosh.	Miles, Isaac.	Oshkosh.
		Moore, J. J.	Oshkosh.
Hicks, J. H.	Oshkosh.	Miller, L. M.	Oshkosh.
Hawley, A. W.	Waukau.	McConnell, W. M.	Bluffton.
Heath, Erwin.	Oshkosh.	McDougall, G. W.	Madison.
Hunley D.	Apple on.	Morgan, F. B.	Oshkosh.
Hart, A. H.	Appleton.	Miracle, Joseph. .	Oshkosh.
Hall, Wm.	Medina.	Morrill, S. R.	Neenah.
Hubbard, A.	Oshkosh.	Minckler, G. W. . .	Oshkosh.
Hoaglin, J. N.	Oshkosh.	McMillan, R.	Oshkosh.
Ham, J. D.	Clemensville.	McCoanell, J. C. .	Dartford.
Hutchinson, K. M. .	Oshkosh.	Met'am, Edward . .	Omro.
Harding, Geo.	Waukesha.	McWilliams, J.	Oshkosh.
Hazen, Chester. . .	Ladoga.	Morrison, James. .	Oshkosh.
Hughes, H. F.	Oshkosh.	McConnell, C. D. .	Ripon.
Hall, Elihu.	Algoma.	Monahan, John. . .	New London.
Houghton, C. P. . .	Oshkosh.	Musser, B. J.	Chicago.
Huxley, H. E.	Neenah.	Morgan, John.	Oshkosh.
Harmon, L. D.	Oshkosh.	McNair, John.	Oshkosh.
Heath, C. D.	Oshkosh.	Morse, J. F.	Oshkosh.
Hollster, S. W.	Oshkosh.	McCorison, O.	Oshkosh.
Harshaw, H. B.	Oshkosh.	McNair, James. . .	Oshkosh.
Hoernig, J.	Oshkosh.		
Hume, J. W.	Oshkosh.	Nelson, J.	Oshkosh.
Hale, A. M.	Oshkosh.		
Hollister, Asa.	Oshkosh.	O'Brien, Mrs. J. . .	Nekmi.
Hall, W. S.	Neenah.	O-born, A. K.	Oshkosh.
Hay, S. M.	Oshkosh.	Olcott, J. B.	Oshkosh.
Hart, Isaac.		Ostertag, S.	Oshkosh.
Jennings, W. J.	Rosendale.	Phillips, B. J.	Marinette.
Jackson, H. B.	Oshkosh.	Paddleford, S. D. .	Omro.
Jackson, F. J.	Oshkosh.	Pinning, Bar.	Oshkosh.
Jewell, H. A.	Oshkosh.	Pairsh, P. T.	Appleton.
Jones, J. V.	Oshkosh.	Paine, E. L.	Oshkosh.
Johnson, C. A.	Oshkosh.	Paddleford, J. R. .	Omro.
Johnston, N.	Oshkosh.	Pilgrim, D. T.	West Granville.
		Peck, O. D.	Oshkosh.
Keys, George.	Empire.	Paige, J. A.	Oshkosh.
Kerzertee, Ira.	Oshkosh.	Pratt, G. W.	Oshkosh.
Kennedy, J. B.	Oshkosh.	Paine, G. M.	Oshkosh.
Knapp, L. E.	Oshkosh.	Peffer, Kate. . . .	Pewaukee.
		Paige, Mrs. S. B. . .	Davenport, Ia.
Loper, J. R.	Oshkosh.	Powers, F. M.	Oshkosh.
Lane, Gib.	Oshkosh.	Paige, C. C.	Oshkosh.
Lampard, G. R.	Oshkosh.	Parkinson, M. B. .	Oshkosh.
Loper, A. A.	Ripon.	Parson, J. G.	Oshkosh.
Lewis James.	Winnebago.	Porter, A. K.	Shawano.
Libbey, D. L.	Oshkosh.	Pierson, Joseph. . .	Oshkosh.

<i>Names.</i>	<i>Post Office.</i>
Ransom, E. B.	Fiskes.
Reed, Jas. S.	Vinland.
Russell, T. P.	Oshkosh.
Rice, H. M.	Oshkosh.
Rogers, A.	Berlin.
Rogers, Geo.	Oshkosh.
Robinson, C. D.	Green Bay.
Rollins, J. M.	Oshkosh.
Rublee, J. S.	Clayton.
Roe, J. P.	Oshkosh.
Russell, R. C.	Oshkosh.
Rockwell, A. G.	Oshkosh.
Roby, A. F.	Neenah.
Roberts, R. N.	Waupaca.
Robie, Rufus	Neenah.
Rumery, L. O.	Oshkosh.
Rich, Walter	Oshkosh.
Robbins, A. J.	Oshkosh.
Radford, S.	Oshkosh.
Radford, W.	Oshkosh.
Stilson, Eli	Oshkosh.
Sherwood, J. C.	Dartford.
Snydam, Fred.	Oshkosh.
Saunders, E. W.	Oshkosh.
Stoddard, J.	Greenbush.
Smith, J. M.	Green Bay.
Stephenson, Isaac.	Marinette.
Stilson, Edgar	Oshkosh.
Sawyer, P.	Oshkosh.
Servis, Wm.	Sheboygan Falls
Sturtevant, N. G.	Oshkosh.
Stroud, Geo. F.	Oshkosh.
Scribner, Joseph.	Oshkosh.
Sawyer, E. P.	Oshkosh.
Sarau, C.	Oshkosh.
Sanford, A.	Oshkosh.
Scott, Geo. E.	Neenah.
Simons, Wm.	Oshkosh.
Seeley, Eli.	Oshkosh.
Smith, C. R.	Oshkosh.

<i>Names.</i>	<i>Post Office.</i>
Schomer, Frank.	Oshkosh.
Sherman, H. B.	Burnett Junct'n.
Scoville, Geo.	Oshkosh.
Sheldon, Wm.	Oshkosh.
Soper, B. H.	Oshkosh.
Streeter, G. B.	Oshkosh.
Stevens, W. O.	Oshkosh.
Streith, Gabe.	Oshkosh.
Sawtell, H. C.	Oshkosh.
Torrey, R. D.	Milwaukee.
Thompson, L. F.	Oshkosh.
Terrell, J. K.	Omro.
Thomas, H. B.	Oshkosh.
Thayer, P. S.	Oshkosh.
Thompson, J. R.	Fond du Lac.
Thurston, C. W.	Stockbridge.
Thompson, Jud.	Neenah.
Thompson, A. E.	Oshkosh.
Vosburg, J.	Oshkosh.
Vosburg, C. C.	Oshkosh.
Vosburg, G. H.	Clemensville.
Viall, E. W.	Oshkosh.
Wilson, M. C.	Oshkosh.
Wade, A. B.	Algoma.
Weyerhost, F.	Black Wolf.
Wakefield, G. M.	Oshkosh.
Woodward, W. W.	Port Hope.
Weston, C. S.	Oshkosh.
Weed, J. H.	Oshkosh.
Whitney, S. L.	Ripon.
Wolcott, H. W.	Ripon.
Wood, S. E.	Oshkosh.
Wetherby, D.	Oshkosh.
Wright, W. W.	Oshkosh.
Washburn, J. R.	Oshkosh.
Washburn, G. W.	Oshkosh.
Waite, F. E.	Oshkosh.

BOARD MEETINGS.

TREMONT HOUSE, OSHKOSH,

September 17, 1883.

Board Meeting. Members present, Chester Hazen, A. A. Loper, C. D. McConnell, W. H. Cook, Geo. Harding, D. Huntley, and A. C. Austin.

Motion by A. A. Loper that the time for receiving entries be extended to 12 o'clock, noon, of Tuesday, September 18th. Carried. There being no further business the meeting adjourned.

COUNCIL ROOM, OSHKOSH,

September, 20, 1883.

Meeting of life members for the purpose of electing officers for the ensuing year. Meeting called to order by the president, Chester Hazen. Motion by D. Huntley to proceed to vote for President carried. Result of ballot:

Chester Hazen received	42 ballots
E. P. Finch received	1 ballot
A. A. Loper received	1 ballot
S. M. Hay received	1 ballot
H. A. Jewell received	1 ballot
Blank	2 ballots

Chester Hazen was then declared the unanimous choice of the meeting. Ballot was then taken for Secretary:

A. C. Austin received	48 votes
C. Vosburg received	1 vote
Edgar Stilson received	1 vote
R. D. Torrey received	1 vote
H. A. Jewell received	3 votes
Blank	1 vote

A. C. Austin was declared the unanimous choice of the meeting.

The ballot for treasurer resulted as follows:

E. W. Viall received	27 ballots
E. P. Sawyer received	28 ballots
K. M. Hutchison received.....	1 ballot
A. A. Loper.....	1 ballot

No choice.

Motion by O. Beach that E. P. Sawyer be declared elected.
Amended by E. P. Finch by calling for a second ballot.
Carried. Result.

E. P. Sawyer received.....	34 votes
E. W. Viall received	24 votes

E. P. Sawyer was then declared the unanimous choice of the meeting.

Mr. Sawyer positively refused to serve as Treasurer, and at a subsequent meeting of the board Mr. E. W. Viall was re-elected.

Motion by Mr. Jas. Brainerd, that the President appoint a committee of five, who shall retire to the ante-room and agree upon the names of ten gentlemen as candidates for vice-presidents. Carried.

The President appointed the following named gentlemen: D. Huntley, H. A. Babcock, F. M. Powers and Geo. W. Pratt, who reported as follows: D. Huntley, A. A. Loper, W. H. Cook, Geo. Harding, C. D. McConnell, Geo. F. Stroud, R. N. Roberts, E. P. Finch, J. L. Fiske and Dr. B. T. Phillips.

Secretary was instructed to cast the ballot for the above named gentlemen which he did.

Meeting then adjourned.

TREMONT HOUSE, OSHKOSH.

FRIDAY EVENING, September 21st, 1883.

President Hazen in the chair.

Motion by Mr. Finch, that the secretary be instructed to draw an order on the treasurer to pay an outstanding note against the officers of this association.

Mr. Loper offered an amendment to postpone action in regard to said note until next meeting. Carried.

Adjourned.

TREMONT HOUSE, OSHKOSH.

October 1st, 1883.

President Hazen in the chair. The following protest was presented:

We hereby protest against the award of first premium on three farm and dairy cheese, Division F, Class 43, for the reason that the cheeses to whom said first premium was awarded are factory cheese and are not entitled to a premium as such, and we further protest against such award for the reason that said cheese were made at a factory on the days when all the patrons of said factory did not bring their milk.

(Signed.) J. F. BARNETT,
 MRS. ED. THRALL.

Motion that said protest be sustained. Motion prevailed.

Motion by Mr. Viall, that the president and secretary be instructed to draw an order on the treasurer to pay note given by the officers of this association, and now amounting to about thirty-eight hundred dollars. Carried.

Meeting adjourned.

TREMONT HOUSE, OSHKOSH,

January 4, 1884.

Annual meeting of Executive Board.

Members present — Chester Hazen, A. A. Loper, D. Huntley, R. N. Roberts, C. D. McConnell, J. L. Fiske, Geo. F. Stroud, E. W. Viall and A. C. Austin.

A. A. Loper and R. N. Roberts were appointed to settle with E. W. Viall, Treasurer. After going over the accounts they report that they find the Treasurer's accounts correct, with a balance of five hundred and ninety-seven and 2-100 dollars in the hands of the Treasurer.

Motion by Mr. Huntley, that the "State Horticultural Society" be invited to hold their Annual Convention in conjunction with the Northern Wisconsin Agricultural and Mechanical Association Convention.

Motion prevailed.

JANUARY 4th.

Members present—C Hazen, A. A. Loper, C. D. McConnell, D. Huntley, R. N. Roberts, J. L. Fiske, Geo. F. Stroud and A. C. Austin. All the forenoon devoted to the revision of premium list.

Mr. E. P. Sawyer notified the Board that he could not accept the position to which he had been elected as Treasurer. Whereupon the office of treasurer was declared vacant.

Moved by Mr. Stroud that the Board proceed to vote for Treasurer, which was done, and resulted in the election of Mr. E. W. Viall.

Hon. E. P. Finch tendered his resignation as Vice-President, which was accepted.

Motion by Mr. Stroud that Mr. Seymour Hollister be elected to fill the office made vacant by Mr. Finch's resignation. Carried, and Mr. Hollister was declared elected.

The Board then proceeded to elect Superintendents of the various departments, which resulted as follows:

Horse Department, Geo. Harding, with one assistant at \$2.00 per day.

Speed Horses, C. D. McConnell, no assistant.

Cattle, H. W. Wolcott, with one assistant at \$2.00 per day.

Sheep Department, E. R. Martin, no assistant.

Swine and Poultry, W. H. Cook, one assistant at \$2.00 per day.

Field, Garden and Dairy, D. Huntley, one assistant at \$2.00 per day.

Fruits and Flowers, J. L. Fiske, one assistant at \$2.00 and two at \$1.00 per day.

Fine Art Department, K. N. Hutchinson, three assistants at \$2.00 per day.

Manufactures, R. N. Roberts, no assistant.

Machinery, Geo. F. Stroud, no assistant.

Superintendent of Gates, A. A. Loper; Superintendent of Grounds, J. H. Mears; Marshal and Chief of Police, Seymour Hollister, with one assistant at \$2.00 per day.

Moved and carried, that the Secretary be and is hereby instructed to accept of the offer Allen & Hicks, to pay forty dollars (\$40.00) for the privilege of printing the premium list.

Voted to put \$1,500 into speed purses.

McConnell, Hollister and Austin appointed to arrange speed purses.

C. Hazen, Stroud and Austin instructed to procure such special attractions as they deem expedient.

Decided to hold Annual Convention at Waupaca, February 19th, 20th and 21st.

All business having been disposed of, meeting adjourned.

A. C. AUSTIN,
Secretary.

SECRETARY'S WARRANT ACCOUNT.

FOR THE YEAR 1883.

No.	To whom and for what.	Amount
1	A. C. Austin, on account, salary	\$25 00
2	Clara Staunason, premium, 1882	2 00
3	E. W. Viall, treasurer, balance on settlement	27 00
4	A. C. Austin, secretary, expenses four trips to Madison	39 00
5	A. C. Austin, secretary, salary to April 30, 1883, (6 months.)..	500 00
6	Thos. J. Vail, secretary National Trotting Association	56 25
7	S. D. Macomber, premium, 1882	15 00
8	Ben. Hooper, cost of suit.....	6 00
9	George H. Read, premium, 1882	50
	Stock Growers' Association, rent of grounds, 1882.....	325 16
	Robert Carnathan, purse.....	100 00
10	I. D. Rhoda, purse.....	125 00
11	I. D. Rhoda, purse.....	45 00
12	Chet Clark, purse ..	75 00
13	M. Boorham, purse.....	150 00
14	M. Boorham, purse	50 00
16	M. Boorham, money refunded.....	200 00
17	P. H. Butler, for lady riders.....	900 00
18	A. C. Austin, secretary, quarter's salary, to August 1st, 1883...	250 00
19	S. Blowers, services.....	13 25
20	Fernandez & Bright, posters, advertising, etc.....	150 00
21	D. Huntley, services as superintendent	27 50
22	A. A. Looper, services as superintendent	28 95
23	W. H. Cook, services as superintendent and expenses.....	49 50
24	J. L. Fisk, services as superintendent.....	52 75
25	J. H. Hicks, services as superintendent.....	24 00
26	J. H. Hicks, services.....	8 00
27	E. H. Hicks, assistant superintendent	8 00
28	John F. Morse, use of shafting and power.....	101 00
29	Edgar Tilson, for straw.....	90 00
30	J. O'Rourke, watchman.....	8 00
31	W. W. Waterhouse, assistant secretary.....	22 50
32	Chas. Emery, assisting treasurer.....	10 00
33	J. McKean, premiums.....	25 75
34	Roesner & Schmidt, bill posting.....	23 70
35	A. T. Stillia, services at grand stand.....	8 00
36	Arion Cornet Band.....	150 00
37	Fernandez & Bright, printing.....	81 60
38	F. M. Powers, marshal.....	25 00
39	R. J. Derby, police.....	13 00
40	J. H. Meaas, superintendent.....	21 00
41	M. E. church for dinner tickets.....	79 60
42	C. P. Houghton, assistant superintendent.....	14 00
43	V. Potter, assistant superintendent grounds.....	16 87
44	A. F. West, carpenter.....	3 00
45	Young & Dorsey, cleaning walk.....	15 00
46	Gus Lewis, carpenter	6 00
47	H. Van Volkenburg, carpenter.....	12 00

No.	To whom and for what.	Amount.
48	G. H. Hawks, assistant secretary	\$17 50
49	G. M. Hasbrouck, assistant superintendent	10 00
50	Peter Fider, carpenter	9 00
51	Mrs. O. Juno, premium	75
52	Mrs. W. D. Sherwood and Minnie Goe, premiums	12 00
53	K. M. Hutchinson, superintendent and assistants	85 74
54	A. P. & M. Howlett, premiums	3 75
55	P. Baker, watchman	12 50
56	A. P. Grady, Watchman	6 75
57	J. Clements, carting	2 90
58	Mrs. H. Morley, premium	5 00
59	J. P. Roe, premiums	15 75
60	E. R. Martin, assistant superintendent	18 00
61	E. R. Martin, premiums	15 27
62	Telephone Co.	10 00
63	W. Ramsey, premiums	7 50
64	Allan & Hicks, printing	116 70
65	Mercantile Ins. Co.	45 00
66	A. A. Hobart, assistant secretary	30 00
67	T. Thomas, premiums	11 50
68	S. E. Wood, police	8 00
69	Peter Austin, carpenter	3 00
70	M. P. Pock, carpenter	12 50
71	A. L. Osborn, clerk of races	8 00
72	Clara Coffin, premium	00
73	Mrs. G. A. Bryant, premium	1 50
74	F. E. Morehouse, premiums	7 50
75	Mary Osterhaus, premiums	12 00
76	E. Osterhaus, premiums	18 00
77	Hans Jansen, premiums	1 50
78	Mrs. L. M. Taylor, premiums	2 00
79	E. R. Shirley & Co., premiums	2 50
80	J. W. Hursh, carpenter	7 70
81	W. Diacon, sawdust	5 00
82	David Chapman, laborer	18 75
83	E. S. Hayden, assistant superintendent	10 00
84	John Athearn, premiums	18 00
85	Miss G. A. Sanford, premium	50
86	J. B. Everett, police	10 00
87	E. W. Daniels, premiums	3 00
88	A. C. Rasmusson, police	10 00
89	P. Baker, watchman	12 50
90	James Nagle, police	4 50
91	M. B. Green, premiums	20 50
92	J. Nelson, premiums	26 75
93	J. Weidner, printing	12 05
94	G. J. Lewis, premiums	4 75
95	Chas. Kohlman, printing	18 00
96	Mrs. Rollins, waiter	8 10
97	W. F. Pierce, premium	20 50
98	Mrs. K. E. Barber, premiums	1 75
99	Mrs. H. C. Ferguson, premiums	75
100	H. H. Clemens & Co., premium	50
101	M. Wolverton, carpenter	17 50
102	Mrs. L. Raddortz, premiums	1 00
103	Phoenix Insurance Co.	45 00
104		
105	Commercial Insurance Co.	90 00
106	C. E. Angell, premiums	13 00
107	Newton and Nellie Wright, premiums	2 00
108	C. C. Vosburg, assistant marshal	20 00

No.	To whom and for what.	Amount.
109	Hobart, & Holmes, band wagon.....	\$5 00
110	Winnebago Ice Company, ice.....	5 00
111	G. Robbins, carpenter.....	6 00
112	J. Robbins, carpenter.....	6 00
113	R. Robbins, carpenter.....	2 75
114	John Haines, gate tender.....	10 00
115	Jas. Brainerd, premiums.....	8 50
116	Mary Shields, premiums.....	75
117	Mrs. V. Potter, premium.....	75
118	Pardon Austin, carpenter.....	5 50
119	G. P. Pepper, premiums.....	26 50
120	Mrs. I. Evans and Mrs. G. Ward, premiums.....	5 50
121	Standard Fire Insurance Company.....	49 76
122	T. Neville, premiums.....	10 50
123	Koch & Co., prem ums.....	50
124	Jas. Daugherty, premiums.....	1 00
125	Wm. Glidden, watchman.....	6 37
126	Mrs. L. O'Brien, premium.....	25
127	Carl and Alma Derber, premium.....	2 00
128	E. W. Sanders, premium.....	1 50
129	Mrs E. W Sanders, premium.....	11 75
130	E. W Sanders, premium.....	1 50
131	Jas. Morrison, premiums.....	1 50
132	Western Insurance Company.....	45 00
133	Matie Campbell, premium.....	50
134	E. D. Lewis, premiums.....	3 50
135	J. R. Paddleford, premiums.....	14 00
136	Jennie Daggett, premium.....	1 00
137	Noble Doughe ty, premium.....	34 75
138	E. Lynass, premium.....	4 00
139	Morgan Bros., Lumber.....	264 69
140	Chas. Bowers, hauling water.....	10 00
141	P. A. Dale, assistant superintendent.....	21 00
142	E. W. Viall, treasurer, postage and express.....	63 10
143	E. W. Viall, treasurer, clerk hire.....	29 00
144	O. McCo rison, premium.....	3 00
145	M s. T. Grubie, premium.....	3 50
146	Mrs. F. A. Grannhagen, premium.....	1 50
147	Carrie Swasey, pr-mi-um.....	50
148	Thos. Brannan, pr mium.....	5 00
149	Mrs. E. A. Thrall, premium.....	4 77
150	Ed. Brainerd, premium.....	8 00
151	C. D. Bittar, prem um.....	3 50
152	John Hudson, watchman.....	10 00
153	M. L. Lassyoung, watchman.....	6 00
154	W. Morse, carpenter.....	2 25
155	J. J. Moore, superintendent grounds.....	31 50
156	W. Dowling, carting.....	25
157	D. D. Whitney, watchman.....	9 10
158	D Huntley, premiums.....	29 50
159	D. Huntley, premiums.....	7 50
160	Geo. Harding, serving as superintendent and premiums.....	113 00
161	M. J. Regan, assistant superintendent.....	10 00
162	C. B. W. Ryckman, assistant secretary.....	15 00
163	W. N. Webster, premium.....	5 00
164	Louisa and Nellie Mears, premiums.....	2 00
165	Wm. Hill & Co, ribbons.....	20 25
166	W. F. Wyman, premium.....	1 00
167	Miss S. Linde, premium.....	1 50
168	R. H. Sawyer, printing.....	11 00
169	T. D. Plumb & Son, advert.ing.....	20 00

No.	To whom and for what.	Amount.
170	Mrs. L. Spoor, premiums.....	\$1 75
171	A. B. Wade, premiums and services.....	19 00
172	N. N. Palmer, premiums.....	30 50
173	C. M. Clark, premiums.....	9 50
174	F. N. Appleyard, premiums.....	8 50
175	Joel Johnson, premiums.....	6 25
176	S. H. & A. E. Joiner, premiums.....	29 00
177	E. I. Austin, premiums.....	20 50
178	Strang & Wells, premiums.....	17 50
179	S. H. Mantor, premiums.....	7 50
180	F. G. & J. S. Cross, premiums.....	6 50
181	Mrs. Ed. Kent, premiums.....	3 75
182	Mrs. C. H. Root, premiums.....	9 00
183	E. W. Daniels, premiums.....	16 00
184	George Baker & Son, premiums.....	76 50
185	J. C. Kiser, premiums.....	91 50
186	Ed. Ross, hay.....	327 29
187	R. H. Smith, premiums.....	14 00
188	C. A. Davenport, premiums.....	12 50
189	John Dobson, mowing weeds and carting.....	10 00
190	Mary Shields, premiums.....	2 75
191	F. Weyerhorst, premiums.....	9 50
192	John Neiss, premiums.....	1 50
193	E. R. Bement, premiums.....	23 50
194	E. S. Clapp, premiums.....	5 04
195	Isaac and Anna Miles.....	27 12
196	Geo. Harding, premiums.....	14 50
197	A. D. Converse, premiums.....	36 50
198	John W. Morse & Son, premiums.....	61 50
199	A. M. Brainerd, superintendent grand stand.....	10 00
200	D. L. Cornell, premiums.....	4 00
201	Fred N. Lang, premium.....	2 00
202	A. H. Cross, carting.....	50
203	H. W. Wolcott, superintendent.....	21 00
204	S. W. Mead, premium.....	12 50
205	James Fitzgerald, premium.....	2 50
206	M. McCarty, police.....	8 00
207	O. McDonald premium.....	50
208	Galbraith Bros., premiums.....	46 00
209	Eckstein, Illarick & Scheiber, premiums.....	5 00
210	Mrs. M. J. Smith, premium.....	5 52
211	Win Wakemann, Jr., water bbls.....	4 50
212	E. G. Stone, premiums.....	12 50
213	Miss Eliza Stone, premiums.....	4 25
214	Mr. and Mrs. Ed. Stead, premiums.....	18 02
215	Joseph Kerwin, premiums.....	1 00
216	B. H. Soper, premiums.....	10 00
217	Robt. B. Clark, premiums.....	15 75
218	Eliza A. Conklin, premiums.....	50
219	S. D. Macomber, premiums.....	15 00
220	Porter Osborn, premiums.....	14 00
221	F. K. Gillet, premiums.....	79 50
222	Mrs. W. F. Levings, premium.....	50
223	Geo. M. Boardmore, premiums.....	3 00
224	Geo. M. Boardmore, premiums.....	3 50
225	H. B. Thomas & Son, premiums.....	12 50
226	Mrs. J. K. Terrell, premiums.....	1 00
227	T. R. Allen, premiums.....	12 14
228	S. S. Kaase, premiums.....	4 00
229	C. N. Paine & Co., lumber.....	12 68
230	Mrs. E. A. Webster, premium.....	50

No.	<i>To whom and for what.</i>	<i>Amount.</i>
231	W. N. McConnell, premiums	\$63 50
232	Mrs. H. M. Quick, premiums	7 25
232	G. W. Washburn, premiums	32 50
233	Allen & Hicks, premiums ..	6 00
234	Geo. H. Daubner, premiums ..	45 00
235	Isaac Anthony, premiums	5 00
236	Philo Root, premiums	12 50
237	Mrs. C. Mayer, premiums	2 50
238	Ida Klinforth, p emium	50
239	John O'Brien, premium	2 00
240	H. W. Kellogg, premiums	4 54
241	Welcome Hyde, premiums	23 50
242	C. W. Crowall, premiums	4 00
243	J. N. Hoaglin, premiums	30 52
244	P. C. Gallup, premiums	2 25
245	Mrs. Eliza Washburn, premiums	11 50
246	Cook Ely, premiums	6 00
247	I. W. Rhodes, premiums	6 77
248	H. A. Babcock, premiums	39 00
249	H. Stiles, pr mium	3 00
250	Mi s Bannan, premium	1 25
251	John T. Lewellyn, premium	1 00
252	C. H. Blanchard, premium	50
253	G. Gramske, premium	2 50
254	R. H. Fi-her, premium	2 00
255	Emil Schmito, premium	2 00
256	H. C. Gustavus, premium	3 50
257	Geo. S. Church, premium	7 50
258	S. Hinm n, premium	11 50
259	A. Streich Bros., premium	2 50
260	Miss C. M. Bower, premium	1 50
261	Samuel A. Jonas, premium	4 00
262	Miss Etta Ransom, premium	2 75
263	Miss Holmes, premium	75
264	Geo. Bauman, chemicals	1 20
265	Mrs. J. F. Morse, premium	75
266	John S. Holmes, premium	10 00
267	L. J. Silverthorn, premiums	1 50
268	Gillingham & Son, premiums	2 00
269	Thomas Davies, premiums	10 50
270	Mrs. F. Badger, premiums	5 38
271	T. F. & C. D. McConnell, premiums	13 50
272	C. D. McConnell, suprrintendent	21 00
273	C. H. Hamilton, assista t superintendent	10 00
274	C. F. Stanton, p emium	2 50
275	C. Hazen, premiums and services	148 21
276	Smail Bros., premiums	5 00
277	J. F. W. Decker, premium	4 30
278	A. T. Sanders, premium	50
279	Miss Mo ehouse, assistant superintendent	10 00
280	James P. Gould, lumber	8 58
281	Freight on transactions	17 94
282	R. D. Torrey, final settlement	71 91
283	E. W. Viall, treasurer, services	30 00
284	H. Floyd, premiums	16 25
285	Note, First National Bank	3,826 88
286	Webb & Brooks, premium	2 50
287	Geo. Y. Knapp, p emium	1 00
288	C. Foster & Co., premium and lumber	6 23
289	I. B. Knapp, premium	5 00
290	Uriah Wood, pr mium	9 00

No.	To whom and for what.	Amount.
291	J. B. Roberts, premium.....	\$0 50
292	Ben. Hooper, judgment.....	88 10
293	D. H. Hillman, premium.....	16 50
294	Dr. H. B. Dale, premium.....	2 50
295	Barber Randall, premium.....	22 00
296	C. W. Harrington, premium.....	50
297	H. P. Ings, prem um.....	1 00
298	W. R. Prime, premium.....	2 00
299	Geo. F. Eastman, rubber bands.....	2 25
300	Henry Hugill, premium.....	3 00
301	E. W. Viall, scale weights.....	1 35

SPEED HORSES.

C. D. McCONNELL, SUPERINTENDENT.

2:30 Class—Trotting Race—Purse \$250.00.

Winning horses were:

Billy R. br. g. Owner, T. D. Rhoda, first.....	\$125 00
Kitty Fisher, br. m. Owner, Chet Clark, second.....	60 00
Bay Prince, b. g. Owner, Wm. Diamond, third.....	40 00

Time: 2:38½, 2:41½, 2:35½.

Judges—H. A. Babcock, G. W. Turner, J. Dobson.

3:00 Class—Trotting Race—Purse \$200.00.

Mollie R., blk. m. Owner, M. J. Regan,.....1, 5, 5,....Dis.	
Fox Lake Boy, b. s. Owner, A. J. Hammond,.....0, 4, 4,....D s.	
William S., b. g. Owner, Wm. Stannard.....0, 1, 1, 1, wins	100 00
St. Elmo, br. s. Owner, — Campbell.....0, 2, 3,....Dis.	
Geo. R. Owner, M. Boorham,.....3, 3, 2, 2, wins	50 00

Time: 2:54½, 2:47, 2:46½, 2:44½.

Judges—A. Selleck, R. N. Roberts, A. Taylor.

Free-for-all Trotting Race—Purse \$300.00.

Billy R., b. g. Owner, T. D. Rhoda,.....3, 3, 3, 2, wins	45 00
Kitty Fisher, b. m. Owner, Chet Clark,.....1, 2, 2, 3, wins	75 00
Mollie Middleton. b. m. Owner, M. Boorham,.....2, 1, 1, 1, wins	150 00

Time: 2:30½, 2:29½, 2:30, 2:29½.

Judges—A. Selleck, R. N. Roberts, A. Taylor.

PREMIUMS AWARDED.

DIVISION A — HORSES.

A. A. LOPER, SUPERINTENDENT.

CLASS 1 — *Roadsters.*

Best stallion, 4 years old or over, J. S. Holman	\$10 00
Second best, Porter Osborn	5 00
Best stallion, 3 years old and under 4, M. H. Munter	7 50
Second best	
Best stallion, 2 years old and under 3, F. G. Cross	5 00
Second best, Sam'l Atkins	2 50
Best stallion, 1 year old and under 2, S. D. Macomber	4 00
Best sucking stallion foal, Porter Osborn	2 00
Second best, C. W. Crowell	1 00
Best brood mare, 4 years old or over, with foal, Porter Osborn	6 00
Second best, C. W. Crowell	3 00
Best filly, 3 years old, D. L. Cornell	4 00
Second best, Fred Bunker	2 00
Best filly, 2 years old, S. D. Macomber	3 00
Second best, James Morrison	1 50
Best filly, 1 year old, John O'Brien	2 00
Second best, Porter Osborn	1 00
Best filly foal, E. W. Saunders	1 00
Second best, S. D. Macomber	50

CLASS 2 — *Horses for all Work.*

Best stallion, 4 years old and over, Isaac Anthony	\$5 00
Second best, C. F. Stan on	2 50
Best stallion, 3 years old, J. R. Paddleford	4 00
Best stallion foal, John Swans	1 00
Second best, John Athearn	50
Best brood mare, 4 years old or over, with colt, Thos. Brennan	4 00
Second best, Henry Hugill	2 00
Best filly, 3 years old, Geo. W. Beardmore	3 00
Second best, J. R. Paddleford	1 50
Best filly, 2 years old, J. R. Paddleford	2 00
Second best, G. Knapp	1 00
Best filly, 1 year old, F. N. Appleyard	1 00
Second best, J. R. Paddleford	50
Best filly foal, Henry Hugill	1 00
Second best, S. S. Keese	50

CLASS 3 — *Imported and Pure Bred Norman and other French Draft Horses.*

Best stallion 4 years old or over, H. A. Babcock.....	\$10 00
Second best, H. A. Babcock.....	5 00
Best stallion foal, H. A. Babcock.....	2 00
Best brood mare with colt, H. A. Babcock.....	6 00
Second best, H. A. Babcock.....	3 00
Best filly 3 years old, H. A. Babcock.....	3 00
Best filly foal, H. A. Babcock.....	1 00

CLASS 4 — *Grade Draft Horses.*

Best stallion 4 years or over, R. H. Smith.....	\$5 00
Second best, F. N. Appleyard.....	2 50
Best stallion 3 years old, R. H. Smith.....	4 00
Second best, J. R. Paddleford.....	2 00
Best stallion 2 years old, F. N. Appleyard.....	3 00
Best stallion 1 year old, F. N. Appleyard.....	2 00
Best stallion foal, Thos. Bennan.....	1 00
Second best, Lawrence Barkley.....	50
Best brood mare 4 years or over with colt, Edward Lyness.....	4 00
Second best, Z. D. Lewis.....	2 00
Best filly 3 years old, Welcome Hyde.....	3 00
Second best, Welcome Hyde.....	1 50
Best filly 2 years old, J. R. Mart n.....	2 00
Second best, J. R. Paddleford.....	1 00
Best filly foal, Z. D. Lewis.....	1 00
Second best, Z. D. Lewis.....	50
Best filly 1 year old, J. R. Paddleford.....	1 00

CLASS 5 — *Imported and Native Pure Bred Clydesdale and other English Draft Breeds.*

Best Stallion 4 years old and over, Galbraith Bros.....	10 00
Second best, Smail Bros.....	5 00
Best Stallion 3 years old and under 4, Galbraith Bros.....	7 50
Best Stallion 2 years old, Galbraith Bros.....	5 00
Second best, Geo. Stroup.....	2 50
Best Stallion 1 year old, Galbraith Bros.....	4 00
Second best, Welcome Hyde.....	2 00
Best Stallion foal, Welcome Hyde.....	2 00
Second best, Geo. Stroup.....	1 00
Best Brood mare 4 years old and over, with foal, W. Hyde.....	6 00
Second best, Geo. Stroup.....	3 00
Best Filly 3 years old, Galbraith Bros.....	4 00
Best Filly 2 years old, Galbraith Bros.....	3 00
Second best, Galbraith Bros.....	1 50
Best Filly 1 year old, Galbraith Bros.....	2 00

*

CLASS 6 — *Roadster Sweepstakes.*

Best stallion, any age, B. B. Randall.....	\$5 00
Best mare, any age, M. J. Regan.....	4 00

CLASS 7—*Horses of all work—Sweepstakes.*

Best stallion any age, R. H. Smith.....	\$5 00
Best mare any age, Welcome Hyde.....	4 00

CLASS 8—*Norman and other French Draft Breeds—Sweepstakes.*

Best stallion any age, H. A. Babcock.....	\$5 00
Best mare, any age, H. A. Babcock.....	4 00

CLASS 9—*Clydesdale and other English Draft Breeds—Sweepstakes.*

Best stallion any age, Galbraith Bros.....	\$5 00
Best mare any age, Galbraith Bros.....	4 00

CLASS 10—*Farm Team in heavy harness.*

Best farm team, Welcome Hyde.....	\$5 00
Second best, James Fitzgerald.....	2 50

CLASS 18—*Carriage Team, matched and single.*

Best matched carriage team, S. D. Macomber.....	\$7 50
Second best, H. C. Gustavus.....	3 50
Best single horse, George M. Beardmore.....	3 50
Second best, Dr. H. B. Dale.....	2 50

DIVISION B.—CATTLE.

SUPERINTENDENT W. H. COOK, STOCKBRIDGE.

CLASS 12—*Short Horns.*

Best bull 3 years old and over, J. C. Kiser.....	\$12 50
Second best, J. C. Kiser.....	7 50
Best bull, 2 years old and under 3, H. B. Thomas & Son.....	10 00
Second best, George Harding.....	6 00
Best bull, 1 year old and under 2, J. C. Kiser.....	7 50
Second best, George Harding.....	4 00
Best bull calf, George Harding.....	5 00
Second best, H. B. Thomas & Son.....	2 50
Best cow, 3 years old and over, J. C. Kiser.....	10 00
Second best, D. H. Hillman.....	7 50
Best heifer, 2 years old and under 3, J. C. Kiser.....	7 50
Second best, J. C. Kiser.....	5 00
Best heifer, 1 year old and under 2, J. C. Kiser.....	5 00
Second best J. C. Kiser.....	3 00
Best heifer calf, George Harding.....	5 00
Second best, D. H. Hillman.....	2 50

CLASS 13 — *Ayrshires.*

Best bull, 3 years old and over, C. Hazen	\$12 50
Second best, A. D. Converse	7 50
Best bull 2 years old and under 3, D. Huntley	10 00
Best bull 1 year old and under 2, C. Hazen	7 50
Second best, A. D. Converse	4 00
Best bull calf, D. Huntley	5 00
Best cow, 3 years old and over, C. Hazen	10 00
Second best, C. Hazen	6 00
Best heifer, 2 years old and under 3; A. D. Converse	7 50
Second best, C. Hazen	5 00
Best heifer 1 year old and under 2, D. Huntley	5 00
Second best, C. Hazen	3 00
Best heifer calf, D. Huntley	5 00
Second best, A. D. Converse	2 50

CLASS 14 — *Jerseys.*

Best bull 3 years old and over, G. W. Washburn	\$12 50
Second best, N. N. Palm r.	7 50
Best bull 2 years old and under 3, W. N. McConnell	10 00
Second best, E. R. Martin	6 00
Best bull calf, G. W. Washburn	5 00
Second best, N. N. Palmer	2 50
Best cow, 3 years old and over, N. N. Palmer	10 00
Second best, W. N. McConnell	6 00
Best heifer, 2 years old and under 3, W. N. McConnell	7 50
Second best, W. N. McConnell	5 00
Best heifer, 1 year old and under 2, W. N. McConnell	5 00
Second best, N. N. Palmer	3 00
Best heifer calf, G. W. Washburn	5 00
Second best, W. N. McConnell	2 50

CLASS 15 — *Herefords.*

Best bull, 3 years old and over, S. W. Meade	12 50
--	-------

CLASS 16 — *Holsteins.*

Best bull 3 years old and over, C. A. Davenport	\$12 50
Second best, F. K. Gillett	7 50
Best bull 2 years old and under 3, F. K. Gillett	10 00
Best bull calf, F. K. Gillett	5 00
Second best, C. Hazen	2 50
Best cow 3 years old and over, Strang & Wells	10 00
Second best, C. Hazen	6 00
Best heifer 2 years old and under 3, F. K. Gillett	7 50
Second best, F. K. Gillett	5 00
Best heifer 1 year old and under 2, F. K. Gillett	5 00
Second best, F. K. Gillett	3 00
Best heifer calf, C. Hazen	5 00
Second best, F. K. Gillett	2 50

CLASS 17 — *Devons.*

Best bull, 3 years old and over, Philo Root	\$12 50
Second best, J. W. Morse & Son	7 50
Best bull, 2 years old and under 3, Geo. Baker & Son	10 00
Second best, J. W. Morse & Son	6 00
Best bull, 1 year old and under 2, Geo. Baker & Son	7 50
Second best, Geo. Baker & Son	4 00
Best bull calf, J. W. Morse & Son	5 00
Second best, J. W. Morse & Son	2 50
Best cow, 3 years old and over, Geo. Baker & Son	10 00
Second best, J. W. Morse & Son	6 00
Best heifer, 2 years old and under 3, J. W. Morse & Son	7 50
Second best, Geo. Baker & Son	5 00
Best heifer 1 year old and under 2, Geo. Baker & Son	5 00
Second best, J. W. Morse & Son	3 00
Best heifer calf, J. W. Morse & Son	5 00
Second best, Geo. Baker & Son	2 50

CLASS 18 — *Polled Cattle.*

Best bull, 1 year old and under 2, E. G. Stone	\$7 50
Best heifer, 1 year old and under 2, E. G. Stone	5 09

CLASS 19 — *Herd Premiums — Short Horns.*

Best bull and 4 heifers, 2 years and over, J. C. Kiser	\$15 00
Second best, Geo. Harding	10 00

CLASS 20 — *Herd Premiums — Ayrshires.*

Best bull and 4 heifers, 2 years and over, A. D. Converse	\$15 00
Second best, C. Hazen	10 00

CLASS 21 — *Herd Premiums — Jerseys.*

Best bull and 4 heifers, 2 years or over, W. N. McConnell	\$15 00
Second best, G. W. Washburn	10 00

CLASS 23 — *Herd Premiums — Holsteins.*

Best bull and 4 heifers, 2 years or over, F. K. Gillett	\$15 00
Second best, F. K. Gillett	10 00

CLASS 23½ — *Herd Premiums — Devons.*

Best bull 2 years and over and 4 females, Geo. Baker & Son	\$15 00
Second best, J. W. Morse & Son	10 00

CLASS 24—*Short Horns—Young Herd.*

Best bull and 4 heifers, under 2 yrs, J. C. Kiser	\$12 50
Second best, Geo. Harding.....	7 50

CLASS 26—*Ayrshires—Young Herd.*

Best bull and 4 heifers under 2 yrs, Chester Hazen.....	\$12 50
Second best, D. Huntley.....	7 50

CLASS 27—*Jerseys—Young Herd.*

Best bull and 4 heifers under 2 yrs, W. N. McConnell.....	\$12 50
Second best, N. N. Palmer.....	7 50

CLASS 29—*Holsteins—Young Herd.*

Best bull and 4 heifers under 2 yrs, F. K. Gillett.....	\$12 50
---	---------

CLASS 30—*Devons—Young Herd.*

Best bull and 4 heifer under 2 yrs, Geo. Baker & Son.....	\$12 50
Second best, John Morse & Son.....	7 50

DIVISION D—SHEEP.

SUPERINTENDENT E. R. MARTIN, OMRO.

CLASS 31—*Registered American Merino Sheep.*

Best ram, 2 years old and over, John Paul.....	\$5 00
Second best, T. F. & C. D. McConnell	3 00
Best ram, 1 year old and under 2, U. Wood	4 00
Second best, C. M. Clark	2 50
Best pen of three ram lambs, S. A. Jonas	4 00
Second best, John Paul.....	2 00
Best pen of three ewes, 2 years old, O. B. Knapp	5 00
Second best, C. M. Clark	3 00
Best pen of 3 ewes, 3 years old, C. M. Clark	4 00
Second best, Geo. Baker & Son.....	2 50
Best pen of 3 ewe lambs, Geo. Baker & Son.....	2 50
Second best, John Paul.....	1 50

CLASS 32 — *Pure Bred Downs.*

Best ram, 2 years and over, Geo. H. Daubner	\$5 00
Second best, Geo. H. Daubner	3 00
Best ram, 1 year and under 2, Geo. H. Daubner	4 00
Second best, Geo. H. Daubner	2 50
Best pen of 3 ewe lambs, Geo. H. Daubner	4 00
Second best	2 00
Best pen 3 ewes, 2 years and over, Geo. H. Daubner	5 00
Second best, Geo. H. Daubner	3 00
Best pen of 3 ewes, 1 year old, Geo. H. Daubner	4 00
Second best, Geo. H. Daubner	2 50

CLASS 33 — *Pure Bred Long Wool Sheep.*

Best ram 2 years old, Geo. Harding	\$5 00
Second best, J. M. Hoaglin	3 00
Best ram 1 year old, Geo. Harding	4 00
Second best, Geo. Harding	2 50
Best pen 3 ram lambs, Geo. Harding	4 00
Second best, Geo. Harding	2 00
Best pen 3 ewes 2 years old, Geo. Harding	5 00
Second best, Geo. Harding	3 00
Best pen 3 ewes 1 year old, Geo. Harding	4 00
Best pen 3 ewe lambs, Geo. Harding	2 50
Second best, Geo. Harding	1 50

CLASS 34 — *Sweepstakes — Registered American Merino Sheep.*

Best ram and 10 of his get, T. F. and C. D. McConnell	\$10 00
Second best, U. Wood	5 00

CLASS 35 — *Sweepstakes — Pure Bred Downs.*

Best ram and 10 of his get, Geo. H. Daubner	\$10 00
---	---------

CLASS 36 — *Sweepstakes — Pure Bred Long Wool Sheep.*

Best ram and 10 of his get, Geo. Harding	\$10 00
--	---------

DIVISION E.—SWINE AND POULTRY.

SUPERINTENDENT, H. W. WOLCOTT, RIPON.

CLASS 37—*Swine, Large Breed Poland China.*

Best Boar 2 year old and over, E. I. Austin.....	\$5 00
Best Boar 1 year old and under 2, J. Athearn.....	4 00
Second best, E. I. Austin.....	2 00
Best Breeding sow 2 years old, E. I. Austin.....	5 00
Best Breeding sow 1 year or under 2, E. I. Austin..	4 00
Second best, A. B. Wade.....	2 00
Best Breeding sow with litter of pigs, John Athearn.....	6 00
Second best, H. Stile	3 00
Best Boar pig over 6 months and under 1 year, E. R. Martin.....	3 00
Second best, E. I. Austin.....	1 50
Best Sow pig over 6 months and under one year, E. R. Martin...	3 00
Second best, A. B. Wade.....	1 50
Best Sow pig under 6 months, E. I. Austin.....	2 00
Second best, E. R. Martin.....	1 00
Best Boar pig under 6 months, John Athearn.....	2 00
Second best, E. I. Austin.....	1 00

CLASS 38—*Swine; Berkshires and other Medium-Size Breeds.*

Best Boar 2 years and over, B. B. Randall.....	\$5 00
Second best, Thos. Davis.....	2 50
Best Boar 1 year and under 2, Noble Dougherty.....	4 00
Second best.....	
Best Breeding sow 2 years and over, E. R. Bement.....	5 00
Second best, B. B. Randall.....	2 50
Best Breeding sow with pigs.....	
Best Breeding sow 1 year and under, E. R. Bement.....	4 00
Best Boar pig over 6 months and under 1 year, B. B. Randall.....	3 00
Second best, B. B. Randall.....	1 50
Best Sow pig over 6 months and under 1 year, B. B. Randall.....	3 00
Second best.....	
Best Boar pig under 6 months	
Second best.....	
Best Sow pig under 6 months, B. B. Randall.....	2 00
Second best, Thos. Davis.....	1 00

CLASS 39—*Swine. Essex, Suffolk and other small breeds.*

Best boar, 2 years old and over, S. H. & A. E. Joiner	\$5 00
Second best, D. H. Hillman	2 50
Best boar, 1 year old and under 2, S. H. & A. E. Joiner	4 00
Second best, J. R. Paddleford	2 00
Best breeding sow, 2 years old, S. H. & A. E. Joiner	5 00
Second best, John Athearn.....	2 50
Best breeding sow, 1 year old, S. H. & A. E. Joiner.....	4 00
Second best, D. H. Hillman.....	2 00

Best breeding sow, with pigs, S. H. & A. E. Joiner.....	\$6 00
Second best, Thomas Davis	3 00
Best boar, under 1 year, S. H. & A. E. Joiner.....	3 00
Second best, D. H. Hillman	1 50
Best sow, under 1 year, John Athearn.....	3 00
Second best, S.S. Keese.....	1 50
Best boar, under 6 months, D. H. Hillman.....	2 00
Second best, S. H. & A. E. Joiner	1 00
Best sow, under 6 months, S. S. Keese.....	2 00
Second best, S. H. & A. E. Joiner.....	1 00

CLASS 40 — *Swine. Chester Whites and other large breeds.*

Best boar, 2 years and over
Best boar, 1 year and under 2, E. R. Bement.....	\$4 00
Second best, M. B. Green	2 00
Best breeding sow, 2 years old, E. R. Bement	5 00
Second best, M. B. Green	2 50
Best breeding sow, with pigs, R. B. Clark.....	6 00
Second best, M. B. Green.....	3 00
Best boar, over 6 months, R. B. Clark.....	3 00
Second best, John Morse & Son	1 50
Best sow, over 6 months, M. B. Green.....	3 00
Second best, E. R. Bement	1 50
Best boar, under 6 months, M. B. Green.....	2 00
Second best, E. R. Bement.....	1 00
Best sow, under 6 months, M. B. Green.....	2 00
Second best, E. R. Bement.....	1 00

CLASS 41 — *Poultry — Asiatics.*

Best trio Light Brahma fowls, J. McKean	\$1 00
Second best, Noble Dougherty	50
Best trio Light Brahma chicks, J. McKean.....	50
Second best, R. B. Clark.....	25
Best trio Dark Brahma fowls, Noble Dougherty	1 00
Second best, A. B. Wade.....	50
Best trio Dark Brahma chicks, Noble Dougherty	50
Best trio White Coch'in fowls, J. McKean.....	1 00
Best trio White Coch'in chicks, J. McKean.....	50
Best trio Black Coch'in fowls, J. McKean.....	1 00
Second best, R. B. Clark	50
Best trio Black Coch'in chicks, J. McKean.....	50
Second best, J. McKean.....	25
Best trio Partridge Coch'in fowls, A. B. Wade	1 00
Second best, J. McKean	50
Best trio Partridge Coch'in chicks, J. McKean.....	50
Second best, A. B. Wade.....	25
Best trio Buff Coch'in fowls, J. McKean.....	1 00
Second best, Noble Dougherty.....	50
Best trio Buff Coch'in chicks, J. McKean	50
Second best, J. McKean	25
Best trio Plymouth Rock fowls, Ed. Stead.....	1 00
Second best, R. B. Clark	50
Best trio Plymouth Rock chicks, J. McKean.....	50
Second best, Ed. Stead.....	25

French Fowls.

Best trio Dominique fowls, J. McKeen	\$1 00
Best trio Dominique chicks, J. McKeen	50
Best trio Houdan fowls, J. McKeen	1 00
Second best, Noble Dougherty	50
Best trio Houdan chicks, J. McKeen	50
Second best, Noble Dougherty	25

Spanish.

Best trio White Leghorn fowls, Joel Johnson	\$1 00
Second best, Noble Dougherty	50
Best trio White Leghorn chicks, R. B. Clark	50
Second best, Noble Dougherty	25
Best trio Brown Leghorn fowls, R. B. Clark	1 00
Second best, J. McKeen	50
Best trio Brown Leghorn chicks, J. McKeen	50
Second best, J. McKeen	25

Dorkings.

Best trio Silver Gray chicks, J. McKeen	\$ 50
Best trio White fowls, J. McKeen	1 00

Game Chickens.

Best trio B. B. Red Game fowls, J. S. Cross	\$1 00
Second best, R. B. Clark	50
Best trio B. B. Red Game chicks, J. S. Cross	50
Second best, Joel Johnson	25

Game Bantams.

Best trio Silver Duckwing Game Bantams, J. McKeen	50
Second best, J. McKeen	25
Best trio Silver Duckwing Game Bantams, chicks, J. McKeen	50

Turkeys.

Best pair Narragansett Turkeys, Ed. Stead	\$1 50
Best pair Bronze Turkeys, Noble Dougherty	1 50
Second best, Noble Dougherty	50
Best pair Black Turkeys, Ed. Stead	1 50
Best pair White Holland Turkeys, J. McKeen	1 50
Second best, Ed. Stead	50

Geese.

Best pair Bremen Geese, Noble Dougherty	\$1 50
Second best, Ed. Stead	50
Best pair Toulouse Geese, Joel Johnson	1 50
Second best, Joel Johnson	50

Ducks.

Best pair Pekin Ducks, R. B. Clark	\$1 00
Second best, J. McKeen	50
Best pair Aylesbury Ducks, D. H. Hillman	1 00
Second best, Joel Johnson	50
Best pair Rouen Ducks, Joel Johnson	1 00
Second best, J. McKeen	50

Polish.

Best trio Golden Polish fowls, J. McKeen	\$1 00
Second best, Joel Johnson	50
Best trio Golden Polish chicks, R. B. Clark	50
Best trio White Crested black fowls, Joel Johnson	1 00

Hamburgs.

Best trio Golden Hamburg fowls, J. McKeen	\$1 00
Best trio Golden Hamburg chicks, J. McKeen	50
Second best, J. McKeen	25
Best trio Silver Spangled Hamburg fowls, E. W. Saunders	1 00
Second best, Noble Dougherty	50
Best trio Silver Spangled Hamburg chicks, E. W. Saunders	50

Pea Fowls.

Best pair Pearl pea fowls, Noble Dougherty	\$1 00
Second best, J. McKeen	50
Best and largest collection of poultry, J. McKeen	2 50
Second best, Noble Dougherty	1 50

Grain and Seeds.

Best display white dent corn, F. Weyerhorst	\$1 00
Second best, J. P. Roe	50
Best display yellow dent corn, A. B. Wade	1 00
Second best, P. C. Gallup	50
Best display white flint corn, J. T. Lewellyn	1 00
Second best, A. T. Sanders	50
Best display Canada sweet corn, L. J. Silverthorn	1 00
Best display sweet corn, J. N. Hoaglin	1 00
Best display pop corn, J. P. Roe	1 00
Best bushel timothy seed, C. E. Angell	2 00
Second best, A. B. Wade	1 00
Best bushel red top seed, C. E. Angell	1 00
Best bushel clover seed, C. E. Angell	2 00
Second best, A. B. Wade	1 00
Best bushel flax seed, J. N. Hoaglin	1 00
Second best, C. E. Angell	50
Best six samples corn on stalk, Noble Dougherty	50
Second best, A. B. Wade	25
Best half bushel peas, C. E. Angell	1 00
Second best, E. W. Sanders	50
Best sample amber cane syrup, A. Stead	1 50
Second best, O. B. Ramsom	1 00
Third best, S. D. Paddleford	50

DIVISION F—GRAIN AND SEED, DAIRY AND PANTRY, APIARY, VEGETABLES AND COOKING.

SUPERINTENDENT, D. HUNTLEY, APPLETON.

CLASS 42—*Grain and Seeds.*

Best bushel red winter wheat, C. E. Angell.....	\$1 00
Best bushel white winter wheat, C. E. Angell.....	1 00
Second best, J. N. Hoaglin.....	50
Best bushel spring wheat, hard, Henry Johnson.....	1 00
Second best, F. Weyerhorst.....	50
Best bushel spring wheat, medium, A. B. Wade.....	1 00
Second best, C. E. Angell.....	50
Best bushel spring wheat, soft, F. Weyerhorst.....	1 00
Second best, C. E. Angell.....	50
Best bushel winter rye, C. E. Angell.....	1 00
Second best, Noble Dougherty.....	50
Best bushel spring rye, C. E. Angell.....	1 00
Second best, J. N. Hoaglin.....	50
Best bushel navy beans, J. N. Hoaglin.....	1 00
Second best, Noble Dougherty.....	50
Best bushel beans other than navy, N. Dougherty.....	1 00
Second best, Noble Dougherty.....	50
Best bushel barley, Noble Dougherty.....	1 00
Second best, L. J. Silverthorn.....	50
Best bushel white oats, J. N. Hoaglin.....	1 00
Second best, C. E. Angell.....	50
Best bushel yellow oats, J. N. Hoaglin.....	1 00
Second best, F. Weyerhorst.....	50
Best bushel buckwheat, C. E. Angell.....	1 00
Second best, A. B. Wade.....	50
Best display Yellow flint seed corn, R. B. Clark.....	1 00
Second best, R. B. Clark.....	50

CLASS 43—*Dairy and Pantry.*

Best plate 5 pound roll of butter, E. Stead.....	\$1 50
Second best, J. N. Hoaglin.....	1 00
Best 3 farm and dairy cheese, J. F. Barnett.....	1 00

Cheese—Sweepstakes.

Best factory or dairy cheese of 150 pounds, J. R. Allen.....	\$5 00
Cheese, scale premium, C. D. Bitten.....	3 57
Cheese, scale premium, J. R. Allen.....	3 57
Cheese, scale premium, J. R. Allen.....	3 57
Cheese, scale premium, Louis Perrot.....	3 57

Butter — Pro Rata Premium.

Butter scaling 43 points in a possible scale of 50 points, Edward Thrall	\$2 27
Butter scaling 42 points in a possible scale of 50 points, Mrs. M. J. Smith	2 27
Butter scaling 42 points in a possible scale of 50 points, E. R. Martin	2 27
Butter scaling 42 points in a possible scale of 50, Jas. Treleven....	2 27
Butter scaling 42 points in a possible scale of 50, J. N. Hoaglin....	2 27
Butter scaling 42 points in a possible scale of 50, H. W. Kellogg....	2 27

Special on Butter.

Cornish & Curtis, Fort Atkinson.

Best package farm made butter, H. W. Kellogg, one No. 1 Lever Butter Worker, worth	\$6 50
Second best, J. W. Rhodes, Box Churn, worth.....	9 00

CLASS 44 — The Apiary.

Best swarm catcher, J. W. Bailey.....	Diploma
Bees in hive or case, R. H. Fisher.....	\$2 00
Bee hive, R. H. Fisher.....	Diploma
Largest product extracted honey from one swarm bees, George S. Church.....	\$2 00
Largest product box honey, Geo. S. Church.....	1 50
Best practical hive for profit, Geo. S. Church.....	1 00
Best sample box honey, Geo. S. Church.....	1 50
Best sample extract honey, Geo. S. Church.....	1 50

Vegetables.

Best $\frac{1}{2}$ bushel early Gilmore potatoes, W. F. Pierce.....	\$1 00
Second best, Noble Dougherty.....	50
Best $\frac{1}{2}$ bushel-early Ohio potatoes, Noble Dougherty.....	1 00
Second best, H. M. Quick.....	50
Best $\frac{1}{2}$ bushel early Burbank seedling potatoes, P. C. Gallop.....	1 00
Second best, Noble Dougherty.....	50
Best $\frac{1}{2}$ bushel Jordan's Prolific potato, Noble Dougherty.....	1 00
Best $\frac{1}{2}$ bushel Early Rose potatoes, Ed. Shrall.....	1 00
Second best, W. F. Pierce.....	50
Best $\frac{1}{2}$ bushel Trophy tomatoes, Noble Dougherty.....	1 00
Second best, Geo J. Lewis.....	50
Best $\frac{1}{2}$ bushel flat turnips, El za Washburn.....	1 00
Second best, W. F. Pierce.....	50
Best $\frac{1}{2}$ bushel rutabagas, A. B. Wade.....	1 00
Second best, W. F. Pierce.....	50
Best $\frac{1}{2}$ bushel parsnips, Jas Dougherty.....	1 00
Second best, Geo. J. Lewis.....	50
Best $\frac{1}{2}$ bushel Yellow Danvers onions, Isaac Miles.....	1 00
Second best, J. P. Roe.....	50
Best $\frac{1}{2}$ bushel other variety onions, Isaac Miles.....	1 00
Second best, Geo. J. Lewis.....	50

Best $\frac{1}{2}$ bushel Short Horn carrots, J. N. Hoaglin.....	\$1 00
Second best, Carl Derber.....	50
Best $\frac{1}{2}$ bushel new variety (Bell) potatoes.....	
Second best, W. F. Pierce.....	50
Best 2 quarts Lima beans, W. F. Pierce.....	50
Second best, Geo. J. Lewis.....	25
Best $\frac{1}{2}$ bushel white sugar beet, W. F. Pierce.....	1 00
Second best, J. N. Hoaglin.....	50

Vegetables.

Best 3 Drumhead cabbages, W. F. Pierce.....	\$1 00
Second best, John Nelson.....	50
Best 3 cauliflower, W. F. Pierce.....	1 00
Second best, John Nelson.....	50
Best half bushel Red Globe onions, Geo. J. Lewis.....	1 00
Second best, W. F. Pierce.....	50
Best half bushel white onions, W. F. Pierce.....	1 00
Second best, John Nelson.....	50
Best show red peppers, W. F. Pierce.....	50
Best two fall squash, W. F. Pierce.....	1 00
Second best, Geo. J. Lewis.....	50
Best 5 stools celery, Joseph Kluwin.....	1 00
Second best, J. N. Hoaglin.....	50
Best 2 Hubbard squash, Fred N. Lang.....	1 00
Second best, George J. Lewis.....	50
Best Marblehead squash.....	
Second best, W. T. Pierce.....	50
Best watermelon, J. K. Terrell.....	50
Second best, J. N. Hoaglin.....	25
Best muskmelon, J. N. Hoaglin.....	50
Second best, P. C. Gallup.....	25
Best egg plant, John Nelson.....	50
Second best, J. N. Hoaglin.....	25
Largest squash, F. N. Lang.....	1 00
Second best, J. N. Hoaglin.....	50
Best salsify, J. P. Roe.....	1 00
Second best, J. N. Hoaglin.....	50
Largest show vegetables, W. T. Pierce.....	6 00
Second best, Noble Dougherty.....	3 00
Best half bushel Blood Turnip beets, Geo. J. Lewis.....	1 00
Second best, Noble Dougherty.....	50
Best half bushel Long Blood beets, Noble Dougherty.....	1 00
Second best, W. F. Pierce.....	50
Best half bushel Mangel-Wurzel-Mammoth Red beets, W. F. Pierce.....	1 00
Second best, Noble Dougherty.....	50
Best half bushel Mangel-Wurzel Yellow Red beets.....	
Second best, Noble Dougherty.....	50
Best half bushel Laines' Imperial Mangel-Wurzel beets, W. F. Pierce.....	1 00
Second best, Noble Dougherty.....	50
Best half bushel Yellow Globe beets, Noble Dougherty.....	1 00
Second best, W. F. Pierce.....	50
Best three Winningstead cabbage, Noble Dougherty.....	1 00
Second best, J. P. Roe.....	50
Best half bushel Long Orange carrots, John Nelson.....	1 00
Second best, Noble Dougherty.....	50
Best half bushel half Long Orange carrots, Noble Dougherty.....	1 00
Second best, J. N. Hoaglin.....	50
Best Citron Melon, J. N. Hoaglin.....	50
Second best, Noble Dougherty.....	25

Best half bushel Mammoth Pearl Potatoes, Noble Dougherty	1 00
Second best, W. F. Pierce.....	50
Best half bushel Beauty Hebron potatoes, E. W. Daniels.....	1 00
Second best, Noble Dougherty.....	50
Best half bushel Clark potatoes, W. F. Pierce.....	1 00
Second best, Noble Dougherty	50
Best half bushel Snow Flake potatoes, Ed. Thrall	1 00
Second best, H. M. Quick.....	50

Special premiums for cake made with C. E. Andrews' Pearl Baking Powder.

W. H. Boyd.

Best corn starch cake, Mrs. E. B. Hoaglin.....	\$10 00
Second best, S. A. Van Valkenburg	5 00
Best hash cake, Mrs. E. B. Hoaglin	10 00
Second best, Marcia Howlett.....	5 00
Best snow flake cake, Mrs. E. B. Hoaglin.....	10 00
Second best, Emily Booth.....	5 00
Best white cake, girl under 16, Gertie Russell.....	10 00
Second Best, Nina Wilson.....	7 00
Best Delicate cake, Gertie Russell.....	10 00

Special Crop Premiums.

Hiram Sibley & Co.

Largest and best display flowers, grown from Hiram Sibley & Cos' seeds, Mrs. Marcia Howlett Lawn Mower.

DIVISION G — FRUIT AND FLOWERS.

SUPERINTENDENT — J. L. FISKE, OMRO.

CLASS 46 — Apples — Professional List.

Best and greatest variety apples, G. P. Peffer.....	\$4 00
Second best, H. Floyd.....	2 00
Third best, E. W. Daniels	1 00
Best 10 varieties adapted to northwest, H. Floyd.....	2 00
Second best, E. W. Daniels.....	1 00
Third best, G. P. Peffer.....	50
Best 5 varieties adapted to northwest, H. Floyd.....	2 00
Second best, E. W. Daniels.....	1 00
Best and largest variety winter apples, H. Floyd	2 00
Second best, E. W. Daniels	1 00
Third best, J. P. Roe	50

Best 5 varieties winter apples, E. W. Daniels	\$2 00
Second best, J. P. Roe.....	1 00
Best 10 varieties without regard to adaptation, E. W. Daniels.....	2 00
Second best, H. Floyd	1 00
Best and largest variety autumn, G. P. Peffer	2 00
Second best, H. Floyd	1 00
Third best, J. P. Roe	50
Best 5 varieties autumn, E. W. Daniels	2 00
Second best, H. Floyd.....	1 00

Plates of not less than three apples.

Best plate Red Astrachan, H. Floyd	50
Second best, J. P. Roe.....	25
Best plate Duchess Oldenburg, H. Floyd	50
Second best, J. P. Roe	25
Best plate St. Lawrence, H. Floyd.....	50
Second best, E. W. Daniels.....	25
Best plate of Fameuse, H. Floyd.....	50
Second best, E. W. Daniels.....	25
Best plate of Plumb's Cider, H. Floyd.....	50
Second best, J. P. Roe.....	25
Best plate of Seek-no-further, H. Floyd.....	55
Second best, G. P. Peffer.....	20
Best plate Willow Twig, J. P. Roe.....	50
Best plate Ben Davis, G. P. Peffer.....	50
Best plate Tallman Sweet, ———	
Second best, J. P. Roe.....	25
Best plate Golden Russett, H. Floyd	50
Second best, G. P. Peffer	25
Best plate Pewaukee, E. W. Daniels.....	50
Second best, G. P. Peffer.....	25
Best plate Alexander, G. P. Peffer.....	50
Second best, H. Floyd	25
Largest apple, G. P. Peffer.....	50
Second best, E. W. Daniels.....	25
Best plate Grimes' Golden, H. Floyd	50
Second best, G. P. Peffer	25
Best plate Perry Russett, H. Floyd	50
Second best, J. P. Roe.....	25
Best plate Tetofsky, H. Floyd.....	50
Best plate Wealthy, G. P. Peffer.....	50
Best plate Bailey's Sweet, E. W. Daniels.....	50
Second best, J. P. Roe.....	25

Pears—Professional List.

Best six varieties, G. P. Peffer.....	\$1 50
Best single variety, quality to rule, G. P. Peffer	50

Plums—Professional.

Best exhibition, E. W. Daniels.....	\$1 50
Second best, G. P. Peffer.....	1 00

Grapes—Professional.

Best show 10 varieties grapes, J. P. Roe	\$2 50
Second best, G. P. Peffer	1 50
Best show 6 varieties grapes, G. P. Peffer	1 50
Second best, J. P. Roe.....	50
Second best, E. W. Daniels	1 50
Best show 5 varieties adapted to N. W., G. P. Peffer	1 50
Second best, J. P. Roe.....	1 00
Third best, E. W. Daniels.....	50
Best show 2 varieties adapted to N. W., G. P. Peffer.....	50
Second best, E. W. Daniels.....	25
Best show 1 variety adapted to N. W., G. P. Peffer	1 00
Second best, J. P. Roe.....	50
Best 3 clusters on one cane — Concord — E. W. Daniels	1 00
Second best, G. P. Peffer.....	50
Best 3 clusters on one cane — Janesville — E. W. Daniels.....	1 00
Second best, G. P. Peffer	50
Best 3 clusters on one cane — No. 9 — E. W. Daniels.....	1 00
Best 3 clusters on one cane — Worden's — G. P. Peffer.....	1 00
Second best, E. W. Daniels	50

Crab Apples—Professional.

Greatest variety crab apples, G. P. Peffer.....	\$1 00
Second best, E. W. Daniels.....	50
Best single variety crabs, G. P. Peffer	50
Second best, J. P. Roe	25

Apples — Non-Professional.

Greatest variety apples, W. Rumery.....	\$4 00
Second best, T. Thomas.....	2 00
Best 10 varieties apples, adapted to N. W., S. Hinman.....	2 00
Second best, D. Huntley	1 00
Third best, W. Rumery.....	50
Best 5 varieties apples, adapted to N. W., S. Hinman.....	2 00
Second best, D. Huntley	1 00
Largest variety winter apples, T. Thomas	2 00
Second best, S. Hinman.....	1 00
Best 5 varieties winter apples, S. Hinman	2 00
Second best, W. Rumery	1 00
Best 10 varieties, without regard to adaptation, S. Hinman.....	2 00
Second best, T. Thomas	1 00
Largest variety autumn apples, T. Thomas	2 00
Second best, S. Hinman.....	1 00
Best 5 varieties autumn apples, T. Thomas	2 00
Second best, W. Rumery	1 00

Plates of apples of not less than 3 specimens — Non-Professionals.

Best plate of Red Astrachan, S. Hinman.....	\$0 50
Best plate of Dutchess of Oldenburg, Mrs. J. K. Terrell.....	50
Best plate of St. Lawrence, Mrs. M. J. Smith.....	50
Best plate of Fameuse, D. Huntley	50

Best plate of Uppers, F. Weyerhorst.....	\$0 50
Best plate of Plumb's Cider, T. Thomas.....	50
Best plate of Seek-no-further, S. Hinman.....	50
Best plate of Willow Twig, T. Thomas.....	50
Best plate of Ben Davis, D. Huntley.....	50
Best plate of Tallman Sweet, S. Hinman.....	50
Best plate of Walbridge, T. Thomas.....	50
Best plate of Golden Russett, D. Huntley.....	50
Best plate of Pewaukee, T. Thomas.....	50
Best plate of Alexander, Newton Wright.....	50
Best plate of Bailey, D. Huntley.....	50
Best and largest apple, Mrs. E. S. Clapp.....	50

Grapes— Non-Professional.

Best show of not less than twelve varieties, Jas. Brainerd.....	\$2 50
Second best, J. N. Hoaglin.....	1 50
Third best, D. Huntley.....	1 00
Best six varieties, Jas. Brainerd.....	1 50
Second best, J. N. Hoaglin.....	1 00
Best 5 varieties, Jas. Brainerd.....	1 00
Second best, J. N. Hoaglin.....	75
Third best, F. Weyerhorst.....	50
Best 3 varieties, F. Weyerhorst.....	1 00
Second best, J. N. Hoaglin.....	50
Best 2 varieties, F. Weyerhorst.....	50
Second best, J. N. Hoaglin.....	25
Best one variety, F. Weyerhorst.....	1 00
Best 3 clusters on one cane, Concord, J. N. Hoaglin.....	1 00
Second best, J. Brainerd.....	50
Best 3 clusters on one cane, Delaware, J. N. Hoaglin.....	1 00
Second best, Jas. Brainerd.....	50
Best 3 clusters on one cane, Janesville, J. N. Hoaglin.....	1 00
Second best, Newton Wright.....	50
Best 3 clusters, No. 4, J. N. Hoaglin.....	1 00
Second best, Jas. Brainerd.....	50
Best 3 clusters, No. 9, J. N. Hoaglin.....	1 00
Best 3 clusters, No. 10, Jas. Brainerd.....	1 00
Best 3 clusters, No. 15, F. Weyerhorst.....	1 00
Best 3 clusters, No. 19, Jas. Brainerd.....	1 00
Second best, J. N. Hoaglin.....	50
Best 3 clusters, No. 22, J. N. Hoaglin.....	1 00
Best single variety quality to rule, H. F. Hughes.....	1 00
Second best, F. Weyerhorst.....	50

Non-Professional— Crab Apples.

Best exhibition 5 varieties, W. Rumery.....	\$1 00
Second best, T. Thomas.....	50
Best single variety, T. W. Rhodes.....	50
Second best, Newton Wright.....	25

CLASS 47— Bread and Cakes.

Best 2 loaves Graham bread, Mrs. Irene Evans.....	\$0 50
Second best, Mrs. Marcia Howlett.....	25
Best 2 loaves white bread, hop yeast, Mrs. Irene Evans.....	50
Second best, Mrs. Geo. Badger.....	25

Best 2 loaves white bread, milk yeast, Debby Loper.....	\$0 50
Second best, Eliza Washburn.....	25
Best 2 loaves Indian bread, Miss Etta Ransom.....	50
Second best, Miss Etta Ransom.....	25
Best sponge cake, Eliza Washburn.....	50
Best pound cake,.....	
Best jelly cake, Mrs. Irene Evans.....	50
Second best, Mrs. Theo. Grube.....	25
Best gold cake, Eliza Washburn.....	50
Second best, Mrs. Irene Evans.....	25
Best silver cake, Mrs. Marcia Howlett.....	50
Best coconut cake, Mrs. Irene Evans.....	50
Best chocolate cake, Mrs. Irene Evans.....	50
Best delicate cake, Mrs. Theo. Grube.....	50
Best basket fancy cake, Mrs. C. Bower.....	50
Best coffee cake, Mrs. Irene Evans.....	50
Second best, Mrs. Theo. Grube.....	25

Bread and Cake.

Best spiced cake, Mrs. Marcia Howlett.....	50
Best marble cake, Mrs. C. Bower.....	50
Second best, Mrs. Marcia Howlett.....	25
Best basket cookies, Mrs. C. Stead.....	50
Second best, Mrs. M. B. Green.....	25
Best basket doughnuts, Mrs. E. Stead.....	50
Best fig cake, Mrs. Irene Evans.....	50
Best hickory-nut cake, Mrs. Theo. Grube.....	50
Best corn starch cake, Mrs. Irene Evans.....	50
Best orange cake, Mrs. Theo. Grube.....	50
Best cream cake, Mrs. C. Bower.....	50
Best cup cake, Mrs. Theo. Grube.....	50
Largest exhibition cake, Mrs. Irene Evans.....	50

CLASS 48 — *Delicacies and Preserves.*

Best collection preserved fruits, Mrs. Eliza Washburn.....	\$1 50
Second best, Mrs. C. H. Root.....	1 00
Best sample preserved pears, Mrs. H. M. Quick.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved peaches, Mrs. Eliza Washburn.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved plums, Mrs. C. H. Root.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved cherries, Mrs. Eliza Washburn.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved strawberries, Mrs. Eliza Washburn.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved blackberries, Mrs. H. M. Quick.....	50
Second best, Mrs. Eliza Washburn.....	25
Best sample preserved cranberries, Mrs. H. M. Quick.....	50
Second best, Mrs. Eliza Washburn.....	25
Best sample preserved crab apples, Mrs. H. M. Quick.....	50
Second best, Mrs. Eliza Washburn.....	25
Best sample preserved raspberries, Mrs. H. M. Quick.....	50
Second best, Mrs. H. M. Quick.....	25
Best sample preserved currants, Mrs. Eliza Washburn.....	50
Second best.....	

Best sample pre-erved gooseberries, Mrs. H. M. Quick	\$0 50
Second best, Mrs. H. M. Quick	25
Best sample preserved grapes, Mrs. H. M. Quick	50
Second best, Mrs. Eliza Washburn	25
Best sample preserved tomatoes, Mrs. Eliza Washburn	50
Second best, Mrs. H. M. Quick	25
Best sample preserved blackberries, Mrs. C. H. Root	25
Best sample of canned crab apples, Mrs. E. W. Sanders	50
Second best, Mrs. E. W. Sanders	25
Best sample of canned strawberries, Mrs. J. N. Hoaglin	50
Second best, Mrs. E. Stead	25
Best sample of canned blackberries, Mrs. C. H. Root	50
Second best	
Best sample canned gooseberries, Mrs. J. N. Hoaglin	50
Second best, Mrs. C. H. Root	25
Best sample canned currants, Mrs. E. W. Sanders	50
Second best	
Best sample of canned grapes, Mrs. J. N. Hoaglin	50
Second best, Mrs. J. N. Hoaglin	25
Best sample of canned tomatoes, Mrs. E. Stead	50
Second best, Mrs. E. Stead	25
Best sample of canned corn, Mrs. J. N. Hoaglin	50
Second best, Mrs. C. H. Root	25
Best sample of canned peas, Mrs. J. N. Hoaglin	50
Best sample of canned white currants, Mrs. C. H. Root	50
Best collection of jellies, Mrs. Eliza Washburn	50
Second best, Mrs. C. H. Root	25
Best sample of currant jellies, Mrs. C. H. Root	50
Second best, Mrs. Eliza Washburn	25
Best sample of apple jelly, Mrs. Eliza Washburn	50
Second best, Mrs. E. Stead	25
Best sample of crab-apple jelly, Mrs. C. H. Root	50
Second best, Mrs. Eliza Washburn	25
Best sample of grape jelly, Mrs. C. H. Root	50
Second best, Mrs. Eliza Washburn	25
Best sample of raspberry jelly, Mrs. Eliza Washburn	50
Second best, Mrs. E. Stead	
Best sample of blackberry jelly, Mrs. C. H. Root	50
Second best, Mrs. Eliza Washburn	25
Best sample of apple butter, Mrs. C. H. Root	50
Second best, Mrs. H. M. Quick	25

Pickles.

Greatest variety not less than 6, Mrs. Eliza Washburn	\$1 50
second best, Mrs. H. M. Quick ..	1 00

Canned Fruits.

Best collection of canned fruits, Mrs. C. H. Root	\$1 50
Second best, Mrs. E. Stead	1 00
Best sample of canned huckleberries, Mrs. E. Stead	50
Second best, Mrs. C. H. Root	25
Best sample of canned pears, Mrs. E. Stead	50
Second best, Mrs. J. N. Hoaglin	25
Best sample of canned pared peaches, Mrs. E. Stead	50
Second best, Mrs. J. N. Hoaglin	25
Best sample of canned plums, Mrs. E. Stead	50
Second best, Mrs. Marcia Howlett	25
Best sample of canned cherries, Mrs. E. Stead	50
Second best, Mrs. E. W. Sanders	25

CLASS 49 — *Plants and Cut Flowers—Professional List.*

Best floral ornament, Isaac Miles	\$1 50
Second best, John Nelson	1 00
Best basket or vase of cut flowers, John Nelson	1 00
Second best, Isaac Miles	50
Best collection of dahlias, Isaac Miles	50
Second best, John Nelson	25
Best collection of roses, Isaac Miles	50
Best collection of pansies, John Nelson	50
Best collection of verbenas, Isaac Miles	50
Second best, John Nelson	25
Best collection of asters, Isaac Miles	50
Best collection of balsams, Isaac Miles	25
Best collection of gladiolas, John Nelson	50
Second best, Isaac Miles	25
Best variety of cut flowers, Isaac Miles	50
Second best, John Nelson	25
Best round bouquet, Isaac Miles	50
Second best, John Nelson	25
Best flat bouquet, John Nelson	50
Second best, Isaac Miles	25

CLASS 50 — *Cut Flowers—Amateur List.*

Best collection immortelles, Mrs. Marcia Howlett	50
Second best, Carl Derber	25
Best floral ornament, Mr. J. P. Roe	1 50
Second best, Mrs. C. H. Root	1 00
Best basket cut flowers, Mrs. C. H. Root	1 50
Second best, Miss K. F. Peffer	1 00
Best collection Dahlias, Miss K. F. Peffer	50
Second best, Carl Derber	25
Best collection pansies, Mrs. C. H. Root	50
Second best, Carl Derber	25
Best collection verbenas, Mrs. C. H. Root	50
Second best, Carl Derber	25
Best collection asters, Mrs. C. H. Root	50
Second best, Carl Derber	25
Best collection balsams	50
Best collection gladiolas, Mrs. J. P. Roe	25
Second best, Miss K. F. Peffer	50
Best collection coxcombs, F. Weyerhorst	25
Second best, Eliza Washburn	50
Best collection roses, Mrs. J. P. Roe	1 00
Best variety cut flowers, Mrs. J. P. Roe	50
Second best, Mrs. C. H. Root	50
Best bouquet, Mrs. C. H. Root	50
Best bouquet, Mrs. W. D. Sherwood	50
Second best, Miss K. F. Peffer	50

CLASS 51 — *Plants in Pots and Urns—Professional List.*

Best collection of green-house plants, Isaac Miles	\$2 50
Second best, John Nelson	1 50
Best collection foliage plants, John Nelson	1 50
Second best, Isaac Miles	1 00
Best collection geraniums, Isaac Miles	1 00
Second best, John Nelson	50

Best collection geraniums, zonale varieties, John Nelson	\$1 00
Second best Isaac Miles	50
Best collection double geraniums, John Nelson	1 00
Second best, Isaac Miles	50
Best collection single geraniums, John Nelson	50
Second best, Isaac Miles	25
Best oleander in bloom, Isaac Miles	50
Second best, John Nelson	25
Best display of euonymus, John Nelson	50
Second best, Isaac Miles	25
Best display of fragrant geraniums, Isaac Miles	50
Second best, John Nelson	25
Best single specimen geraniums, Isaac Miles	50
Second best, John Nelson	25
Best variety of fuchsias in bloom, John Nelson	1 00
Second best, Isaac Miles	50
Best display of roses Isaac Miles	1 00
Second best, John Nelson	50
Best single specimen of roses in bloom, Isaac Miles	50
Second best, John Nelson	25
Best display of abutilan, Isaac Miles	50
Second best, John Nelson	25
Best display maranta, Isaac Miles	50
Best display bouvarda, Isaac Miles	50
Second best, John Nelson	25
Best display latanus, John Nelson	50
Second best, Isaac Miles	25
Best display of ferns, John Nelson	50
Second best, Isaac Miles	25
Best variety carnations, John Nelson ..	50
Second best, Isaac Miles	25
Best display double petunias, John Nelson	50
Second best, Isaac Miles	25
Best display single petunias, John Nelson	37
Best hanging basket with growing plants, John Nelson	50
Second best, Isaac Miles	25
Best display cacti in variety, Isaac Miles ..	1 00
Second best, Isaac Miles	37
Best display begonias in variety, John Nelson	1 00
Second best, Isaac Miles	25
Best single specimen begonias, Isaac Miles	25
Best display stock in bloom, John Nelson	25
Second best, Isaac Miles	12
Best display English ivy on trellis, Isaac Miles	50
Second best, John Nelson	37
Best display tube roses, Isaac Miles	1 00
Second best, John Nelson	50
Best display poinsetta, Isaac Miles	50
Second best, John Nelson	25
Best calla lily in bloom, John Nelson	50
Best display caladiums, John Nelson	1 00
Second best, Isaac Miles	50
Best smilax on trellis, John Nelson	50
Second best, Isaac Miles	25
Best Fernery, John Nelson	1 00
Second best, Isaac Miles	50
Best single specimen house plant, Isaac Miles	1 00
Second best, John Nelson	50
Best floral display of pot plants and cut flowers, Isaac Miles	75
Second best, John Nelson	50
Best single specimen fuchsias in bloom, John Nelson	50

CLASS 52 — *Plants in Pots, Amateur Lists.*

Best collection greenhouse plants, Mrs. E. W. Sanders	\$1 50
Second best, F. Weyerhorst	1 00
Best display fragrant geraniums, Mrs. M. B. Green	50
Second best, Mrs. E. W. Sanders	25
Best display double geraniums in bloom, Mrs. M. B. Green	50
Second best, Mrs. E. W. Sanders	25
Best single specimen geranium, Mrs. E. W. Sanders	50
Second best, F. Weyerhorst	25
Best variety of fuchsias in bloom, Mrs. E. W. Sanders	1 50
Second best, F. Weyerhorst	50
Best single specimen fuchsia in bloom, Mrs. E. W. Sanders	50
Second best, F. Weyerhorst	25
Best display roses, Mrs. E. W. Sanders	1 00
Second best
Best variety carnations, Mrs. E. W. Sanders	50
Best display petunias, Mrs. C. H. Blanchard	50
Second best, Mrs. E. W. Sanders	25
Best hanging basket with growing plants, F. Weyerhorst	50
Second best, Mrs. F. Badger	25
Best display cacti, in variety, Mrs. G. Badger	1 00
Second best, Mrs. E. W. Sanders	50
Best single specimen cactus, Mrs. F. Badger	37
Second best, Alice Howlett	25
Best specimen ornamented foliage plant, Mrs. C. Meyer	50
Second best, Mrs. F. Badger	25
Best display begonias, Mrs. C. Meyer	1 00
Second best, Mrs. E. W. Sanders	50
Third best, F. Weyerhorst	25
Best single specimen begonia, Alice Howlett	25
Best display santanas, Mrs. E. W. Sanders	50
Best display roses, Mrs. E. W. Sanders	1 00
Best calla lily in bloom, Mrs. E. W. Sanders	50
Second best, Mrs. M. B. Green	25
Best fernery, F. Weyerhorst	1 00
Second best, Mrs. F. Badger	50
Best single specimen house plant, Mrs. F. Badger	50
Second best, F. Weyerhorst	50
Best display ononymus, Mrs. E. W. Sanders	50
Best collection foliage plants, Mrs. F. Badger	1 00
Best single specimen house plant, Mrs. L. Raddatz	1 00

DIVISION H—DOMESTIC MANUFACTURES, FINE ARTS, ETC.

SUPERINTENDENT, K. M. HUTCHINSON, Oshkosh.

CLASS 53 — *Cabinet Work.*

Best bedstead, O. McCorrison	\$0 50
Best sofa, spring seat, B. H. Soper & Co.	50
Best dressing bureau, O. McCorrison	50
Best writing desk, B. H. Soper & Co	50
Best spring bed, O. McCorrison	50
Best hat rack, B. H. Soper & Co.	50
Best set cane seat chairs, O. McCorrison	50

Best set chamber furniture, B. H. Soper & Co.....	\$2 50
Second best, B. H. Soper & Co	1 00
Best set parlor furniture, B. H. Soper & Co.....	2 50
Second best, O. McCarrison	1 00
Best center table, B. H. Soper & Co.....	50
Best easy chair, B. H. Soper & Co.....	50
Best mirror, B. H. Soper & Co.....	1 00

CLASS 54—*Bookbinders, Paper-Makers and Printers' Work.*

Best card printing, Mrs. Geo. A. Bryant.....	\$ 50
Best ledger, Allen & Hicks	50
Best record book, Allen & Hicks.....	50
Best specimen fancy binding, Allen & Hicks	50
Best set books for farmers, Allen & Hicks.....	50
Best book printing, Allen & Hicks.....	50
Best ornamental printing, Allen & Hicks.....	50
Best poster printing, Allen & Hicks.....	50
Greatest variety from one office, Allen & Hicks.....	1 50
Best general account books, Allen & Hicks.....	1 00

CLASS 55—*Staple Goods, Household Manufacture.*

Best rag carpet, John Neis.....	\$1 50
Second best, John Neis	50
Best rag rug, Mrs. J. L. Fiske.....	50
Second best, Mrs. Irene Evans	25
Best plain cotton knitting, Mrs. L. Sporr.....	50
Second best, Mrs. Esther Ward	25
Best woolen knitting, Mrs. Chas. Oellerich	50
Second best, Mrs. F. A. Gruenhagen.....	25
Best fancy knitting, Mrs. V. Potter	50
Second best, Mrs. F. A. Gruenhagen.....	25
Best fine shirt, machine made, Mrs. Ed. Kent	50
Second best, Mrs. Ed. Kent	25
Best door mat, Miss Eliza Stone.....	50
Best wool yarn, home-made, Mrs. Ed. Thrall.....	50
Second best, Mrs. F. A. Gruenhagen.....	25
Best woolen mittens, Mrs. F. Badger	50
Second best, Mrs. L. Sporr.....	25
Best man's woollen socks, Mrs. L. Sporr.....	50
Second best, Mrs. R. W. Holmes.....	25
Best woman's wool stockings, Mrs. L. Sporr.....	50
Second best, Irene Evans.....	25
Best yarn rug, Miss Eliza Stone.....	50
Second best, Mrs. F. A. Gruenhagen.....	25

CLASS 50—*Quilts.*

Best silk crazy quilt, Mrs. E. A. Bishop	50
Best silk quilt, Mrs. O. Cook.....	50
Second best, Mrs. L. O'Brien.....	25
Best log cabin quilt, Mrs. E. A. Webster.....	50
Second best, C. W. Harrington	25
Best cotton patch-work quilt, Eliza A. Conlin.....	50
Second best, Mrs. C. W. Harrington.....	25

Best quilt made by a lady 50 years of age, Mrs. L. M. Taylor.....	\$0 50
Best crochet spread, Mrs. F. A. Gruenhagen.....	50
Best knitted spread, Mrs. Elizabeth Juna.....	50
Second best, Mrs. Elizabeth Juna.....	25
Best silk crazy sofa cushion, F. Weyerhorst.....	50
Best cotton crib quilt, Mrs. M. J. Smith.....	50
Second best, Mrs. M. J. Smith.....	25
Best ancient quilt, worsted patchwork, Mrs. G. A. Arnold.....	50
Best cotton quilt, Jacob's ladder, Mrs. G. A. Arnold.....	25

CLASS 57 — *Embroidery.*

Best silk embroidered child's dress, Mrs. W. D. Sherwood.....	\$0 50
Best silk embroidered cushion, Mrs. F. Weyerhorst.....	50
Second best, Mrs. C. Boss.....	25
Best silk embroidered lambrequin, Mrs. Chas. Ollerich.....	50
Second best, Mrs. F. Weyerhorst.....	25
Best raised worsted embroidered sofa pillow, Miss Eliza Stone.....	50
Best plain worsted embroidered slippers, Mrs. M. J. Smith.....	50
Best plain worsted embroidered sofa pillow, Miss Eliza Stone.....	50
Second best, Mrs. H. C. Ferguson.....	25
Best worsted canvas embroidery, Mrs. Gus. Metz.....	1 25
Second best, Mrs. C. Boss.....	50
Best chenille embroidered cushion, Grace Wells.....	1 25
Second best, Miss Tony Eckstein.....	50
Best chenille embroidered lambrequin, Mrs. W. D. Sherwood.....	50
Second best, Miss Emma Beauman.....	25
Best embroidered table scarf, Miss Tony Eckstein.....	50
Best slipper case, Miss Emma Beauman.....	50
Second best, Mrs. Chas. Ollerich.....	25
Best silk embroidered child's quilt.....	25
Second best, Miss Tony Eckstein.....	50
Best fancy knit silk mit, Mrs. L. Mayer.....	50
Second best, Mrs. R. W. Holmes.....	25
Best plain embroidered lambrequin, Miss Eliza Stone.....	50
Best plain embroidered foot-rest, Miss Eliza Stone.....	50
Second best, Miss Eliza Stone.....	25
Best worsted silk embroidered cushion, Miss Eliza Stone.....	50
Best worsted silk embroidered sofa pillow, Miss Eliza Stone.....	50
Best silk embroidered fire screen, Mrs. K. E. Barber.....	1 00

CLASS 58 — *Cotton Embroidery, Laces, Braid and Transfer Work.*

Best Java canvas tidy, Carrie Swasey.....	50
Second best, Miss Etta Ransom.....	25
Best honey comb tidy, Miss Etta Ransom.....	50
Second best, Miss Etta Ransom.....	25
Best cotton embroidered pillow sham, Mrs. G. A. Arnold.....	50
Second best, Anna Miles.....	25
Best applique work, Miss G. H. Sanford.....	50
Second best, Mrs. L. M. Taylor.....	25
Best Christmas card album, Mrs. G. A. Bryant.....	50
Second best, Mrs. F. Badger.....	25
Best Point Honiton lace fichu, Miss Tony Eckstein.....	50
Best Point Honiton lace handkerchiefs, Miss Tony Eckstein.....	50
Best Point Honiton lace bibs, Miss Tony Eckstein.....	50

Best raised embroidery in chenille, Miss Tony Eckstein.....	\$0 50
Best outline work figures, Mrs. K. E. Barber.....	50
Second best, Mrs. L. M. Taylor.....	25
Best card board letter case, Mrs. L. M. Taylor.....	50
Best raised embroidered floss, Mrs. W. D. Sherwood.....	50
Best braided pillow and sheet sham, Mrs. Dr. Rowland.....	50
Second best, Mrs. F. Badger.....	25
Best Kensington raised embroidery in floss, Nellie Wright.....	50
Best Kensington embroidery in crewels, Clara Coffin.....	50
Second best, Mrs. Dr. Rowland.....	25
Best Point Honiton lace tie ends, Fannie Lombard.....	50
Best Kensington raised embroidery in chenille, Nellie Wright....	25
Best Ocetonne Applique work, Mrs. F. Badger.....	50

CLASS 59 — *Crochet and Tatting Work, Afghans, etc.*

Best tatted collar, Mrs. Theo. Grube.....	50
Best tatted edging, Mrs. Theo. Grube.....	50
Best crochet tidy, worsted, Mrs. F. Badger.....	50
Second best, Anna Miles.....	25
Best carriage afghan, Ida Bauman.....	50
Second best, Mrs. K. E. Barber.....	25
Best child's carriage afghan, Mrs. H. C. Furgerson.....	50
Second best, Lizzie Holmes.....	25
Best crochet tidy, cotton, Mrs. F. Badger.....	50
Second best, Mrs. V. Potter.....	25
Best crochet inserting without braid, Ida Klieforth.....	25
Best crochet edging without braid, Ida Klieforth.....	25
Best crochet shawl, Mrs. Ed. Kent.....	50

CLASS 60 — *Fancy and Ornamental Goods.*

Best work in autumn leaves, Mrs. Marcia Howlett.....	50
Best spatter work, Mrs. Marcia Howlett.....	50
Best Macrama game bag, Mrs. C. D. McConnell.....	50
Best wax fruit, Mrs. W. F. Larings.....	50
Best wax flowers, Mrs. J. F. Morse.....	50
Second best, Mrs. J. F. Norse.....	25

CLASS 61 — *Misses Department.*

Best hemmed handkerchiefs, Alma Derber.....	50
Best flower painting in oil, Jennie Daggett.....	50
Best painting on plaque, Matie Campbell.....	50
Best specimen of patchwork, Nellie Mears.....	50
Neatest darned stockings, Jennie Daggett.....	50
Best crochet work, M. B. Green.....	50

CLASS 62 — *Boys' Department.*

Best picture frame, Geo. Harding.....	50
Best wall pocket, Geo. Harding.....	50
Best animal drawing, Geo. Harding.....	50
Best pencil drawing, Geo. Harding.....	50
Best crayon drawing, Geo. Harding.....	50
Best map drawing, Geo. Harding.....	50
Best exhibition fret sawing, Geo. Harding.....	1 50

CLASS 63—*Natural History.*

Best collection conchology, Mrs. E. W. Sanders \$1 00

CLASS 64—*Works of Art.*

Best and largest collection oil paintings, Ed. Osthaus.....	\$2 50
Best Wisconsin landscape, Ed. Osthaus	1 50
Second best, Ed. Osthaus	1 00
Best original design, Ed. Osthaus	1 50
Second best, Ed. Osthaus	1 00
Best portrait in oil, Ed. Osthaus	1 00
Second best, Ed. Osthaus	50
Best animal picture, Ed. Osthaus	1 00
Second best, Mrs. T. M. Davis.....	50
Best Indian ink portrait, Cook Ely.....	1 50
Second best, Edmund Osthaus.....	1 00
Best portrait in water colors, Edmund Osthaus.....	1 50
Largest collection crayon work, Edmund Osthaus	2 50
Best pastel portrait, Edmund Osthaus	1 00
Best animal picture, crayon, Ed. Osthaus.....	1 00
Best and largest collection oil paintings, Mary Osthaus	5 00
Best painting on silk, water colors, Mary Osthaus.....	1 00
Best painting on satin, in oil, Mary Osthaus.....	50
Second best, Mrs. Ed. Kent	25
Best painting on china, flowers, Mary Osthaus	50
Second best, Mary Osthaus	25
Best painting on wood, Mary Osthaus.....	50
Second best, Mary Osthaus	25
Best fruit pictures, Mary Osthaus	1 00
Second best, Mary Osthaus	50
Best original painting on panel, Mary Osthaus.....	1 00
Best flower painting in water colors, Mary Osthaus.....	1 50
Second best, Mrs. Ed. Kent.....	1 50
Best pencil drawing, Mary Shields	1 00
Second best, Katie Otell.....	50
Best collection pencil drawings, Hans Jensen	1 00
Best collection stamps, A. B. Hooper	50
Largest collection crayons, Louisa Mears	1 50
Best painting on satin, water colors	50
Second best, Mrs. T. M. Davis.....	50
Best copied landscape, Miss Sarah Lunde	1 50
Second best, Mary Shields.....	1 00
Best portraits on china, Mary Shields.....	50
Second best, Mary Shields	25
Best moulding in clay, Nellie Mears	50
Second best, Mary Shields.....	25
Best crayon animal picture, Mary Shields	50
Best painting on plush, Mrs. Ed. Kent.....	25
Second best, Mrs. Ed. Kent.....	25
Best painting on placque, Mrs. Ed. Kent.....	50
Best exhibition sun pictures, Cook Ely.....	1 50
Best sun photograph, Cook Ely.....	1 00
Second best, Cook Ely.....	50
Largest collection water color paintings, Cook Ely.....	1 50
Second best, Mary Osthaus	1 00

CLASS 65—*Textile Fabrics.*

Best exhibition fur goods, C. H. Curtis.....	\$1 50
Best exhibition men's clothing, New York and Oshkosh Clothing Store.....	1 00
Best assortment machine knit goods, J. Bowen.....	1 00
Best piece of doeskin, Wm. Leard.....	1 00
Best piece of cassimere, Wm. Leard.....	1 00
Best piece of satinnet, Wm. Leard.....	1 00
Best display woolen goods, Wm. Leard.....	1 50
Best display men's and boys' hats and caps, _____	1 00
Best display ladies' clothing, _____	1 00

CLASS 66—*Manufactures.*

Best parlor stove, H. Krippene.....	\$1 00
Best set trotting horse shoes, W. R. Prine.....	1 00
Second best, W. F. Wyman.....	50
Best wood and coal furnace, Ruby No. 11, Webb & Brooks.....	1 00
Best set road horse shoes, W. R. Prine.....	1 00
Second best, W. F. Wyman.....	50
Best cook stove furniture, Emil Schmidt.....	1 00
Best office wood stove, Emil Schmidt.....	1 00

CLASS 67—*Leather Manufacture.*

Best leather belting, E. R. Shirly.....	Dip.
Best rubber belting, E. R. Shirly.....	Dip.
Best assortment India rubber goods, E. R. Shirly.....	Dip. and \$1 00
Best other kinds of leather.....	50
Best display rubber stamps.....	1 00
Best single harness, A. Lobdell.....	1 00
Best assortment traveling trunks, Schmidt Bros.....	1 00
Best assortment ladies satchels, Schmidt Bros.....	50
Best assortment gents' traveling bags, Schmidt Bros.....	50
Best pair gents' summer boots, Chas. Haase.....	50
Best pair gents' winter boots, Chas. Haase.....	50
Best pair cowhide boots, Chas. Haase.....	50
Best pair ladies' summer walking shoes, Chas. Haase.....	50
Best pair ladies' winter shoes, Chas. Haase.....	50
Best pair gents' slippers, Chas. Haase.....	50
Best pair ladies' slippers, Chas. Haase.....	50
Best piece sole leather, Chas. Haase.....	1 00
Best calf skin, Chas. Haase.....	50

CLASS 68—*Wagons and Carriages.*

Best logging sled, Gillingham & Son.....	\$1 00
Second best, R. Hackett.....	50
Best 1 seat cutter wood work, T. Neville.....	1 00
Second best, H. H. Clemons & Co.....	50
Best 2 seat top family carriage, T. Neville.....	2 50
Second best, J. L. Clark & Son.....	1 50

Best single top buggy side bar, J. L. Clark & Son.....	\$2 00
Second best, T. Neville.....	1 00
Best single open buggy, J. L. Clark & Son.....	1 00
Second best, T. Neville.....	1 00
Best speeding buggy, Oshkosh Carriage Works.....	1 50
Second best, T. Neville.....	1 00
Best two seat cutter, T. Neville.....	2 00
Second best, Henry P. Ings.....	1 00
Best display of carriages, Oshkosh Carriage Works.....	2 50
Second best, T. Neville.....	1 50
Best single cutter finished, T. Neville.....	1 00
Second best, D. Miers & Co.....	50
Best single top buggy end spring, J. L. Clark & Son.....	2 00
Second best, Oshkosh Carriage Works ..	1 00
Best single top buggy not painted nor trimmed, Oshkosh Carriage Works ..	1 00
Second best, J. L. Clark & Son.....	50
Best single phaeton, Oshkosh Carriage Co ..	2 00
Second best, J. L. Clark & Son.....	1 00
Best combination spring wagon, Geo. F. Thompson.....	2 50
Second best, Oshkosh Carriage Works.....	1 50
Best business spring wagon, A. Streich & Bros.....	1 50
Best three lumber wagons. A. Streich & Bros.....	1 00

CLASS 69 — *Farmers' and Mechanics' Tools.*

One half dozen hoes, Ashtabula Tool Co.....	\$1 00
One half dozen hay forks, Ashtabula Tool Co ..	1 00
One half dozen manure forks, Ashtabula Tool Co ..	1 00
One half dozen potato forks, Ashtabula Tool Co.....	1 00

CLASS 70 — *Carpenters' and Coopers' Work.*

Three light casks and barrels, Koch & Co.....	\$0 50
Plain panel door, C. Foster & Co ..	1 00
Ornamental panel door, C. Foster & Co.....	1 00
Window sash, 1 dozen, C. Foster & Co.....	1 50
Window blinds, 1 dozen, C. Foster & Co.....	1 00

CLASS 71 — *Bells, Stoves Copper and Tinware.*

Door bell and hangings, O. McDonald ..	\$0 50
Cooking range, Webb & Brooks ..	1 50
Coal stove, Emil Schmit.....	1 00

CLASS 72 — *Household.*

Revolving churns, Cornish & Curtis ..	\$0 50
Butter Workers, Cornish & Curtis.....	50
Best ironing board, J. B. Roberts.....	50

CLASS 73 — *Miscellaneous.*

Largest display of woods of Wisconsin, F. E. Morehouse ..	\$7 50
Collection Indian relics, W. N. Webster.....	5 00
Largest and best collection of minerals, Minnie E. Goe.....	10 00
Second best, Mrs. H. Morley.....	5 00

DEPARTMENT J — MACHINERY.

SUPERINTENDENT, GEO. F. STROUD.

This department is one of the most attractive features of our Fair. Farm machinery of every conceivable nature showing what wonderful strides are being made in the way of perfecting labor-saving machines.

Knowlton Manufacturing Company, Rockford, Illinois — One Mower, two Riding Cultivators, two Sulky Hay Rakes.

Charles Silberzhan, West Bend — Four Feed Cutters, one Horse Power.

D. S. Morgan & Co., Chicago — One Triumph Reaper, one Clipper Mower, Reaves & Co., Columbus, Indiana — One Straw Stackers.

G. H. Pounder, Fort Atkinson — Pounder Self-adjusting Harrow, Pounder Adjustable Harrow.

Wm. Deering, Chicago — One Deering Twine Binder, one Deering Mower, one Warrior Mower.

Appleton Manufacturing Company, Appleton, Wis. — One Badger Seeder, one Badger Corn Sheller, one Rowell Elevator and Carrier, one Badger Hay Fork.

S. Halverson, Winchester — One Skid and one Harrow.

Robert Redford, Oshkosh — One Patent Carriage Jack.

G. A. Paddock, Beaver Dam — One Grain Drill.

James Little & Son, Menasha — Three Feed Cutters, two feed mills, one Horse Power.

A. Streitch & Bro., Oshkosh — Two Hand Plows, one Seeder.

W. Clough & Co., Oshkosh — six No. 2 Wrought Iron Pumps, six No. 1 Pumps, four No. 5 Pumps, four 3-4 Suction Hose, Six Pump Cylinders, Drive Points.

P. P. Mast & Co., Springfield, Ill. — One Broadcast Seeder, one Single Tooth Cultivator, one Shovel Cultivator.

Springfield Thresher Co. — One Threshing Machine.

Eagle Fork Co., Appleton, Wis. — One Hay Fork, one Hay Carrier.

J. P. Philips, Milwaukee — One Portable Engine, one Victor Clover Huler.

Bell City Manufacturing Co., Racine — One Feed and Ensilage Cutter.

Frank H. Packard, Oshkosh — Wood and Iron Pumps, Wind Engines.

Frick & Co., Wanesborough, Pa. — Self Propeller and Thresher.

S. H. Thomas & Son, Springfield, O. — One Thomas Rake, one Champion Self-Dumping Rake, one Mudgett Hay Tedder.

John Platten — One Pennock Road Machine.

Wheel and Seeder Co., Fond du Lac — One Seeder, one Seed Drill, one Sulky Cultivator, one Harrow, one Hay Fork, one Hay Carrier.

Barrett & Heath, Casimoria, N. Y. — One Hay Knife,

S. Hazen & Son, Ripon — Windmill Shifting Foot Harrow.

Baily & Cork, Oshkosh — One Bullard Tedder, one Thompson Tedder, one Van Brunt seeder, one Van Brunt hay rake, one Buford sulky plow two Eau Claire hand plows, one Racine ranning mill, one Cornell corn sheller.

Geo. Esterly & Son, Watewater — One twine binder.

Baily & Cork, Oshkosh — One Meadow King Mower,

Janesville Machine Co. — One reaper, one mower, one drill and one seeder.

Pearless Reaper Co., Milwaukee — Four reapers.

Jason Walker, Oshkosh — One cord binder, one reaper, one new mower, one light mower.

C. Fackler & Bros., Dubuque — One Clipper Press grain drill.

Emerson, Talcott & Co., Rockford, Ill. — One Standard iron cultivator, one Standard mower, one Standard corn planter, one Marsh Whitney Platform binder.

Gregg & Co., New York — One Meadow King mower, one Gregg reaper, one W. A. Wood mower.

W. P. Smith, Clintonville — One Jackson adjustable harrow.

L. H. Champlin, Nepeuskun — One farm gate.

J. W. Stoddard, Dayton, Ohio — one Triumph Seeder, one Tiger hay rake, one F. hay rake, one new Hollingsworth hay rake, one Randall disk harrow.

TREASURER'S STATEMENT.

E. W. Viall, treasurer in account with Northern Wisconsin Agricultural and Mechanical Association:

DR.

To balance in treasury at last settlement.....	\$99 20
Received from M. Boorhem.....	200 00
Received from State Treasurer.....	2,000 00
Received from Secretary Austin, entrance fees, etc.....	1,006 15
Received from J. J. Moore, ground rents.....	961 00
Received from gate receipts.....	5,484 45
Received from directors and citizens note.....	3,000 00
Received from citizens subscription.....	1,025 00
	\$13,775 80

CR.

By orders paid to January 3, 1884.....	\$13,178 98
Balance on hand.....	\$596 82

THE NORTHERN FAIR.

[As published in the Oshkosh Northwestern.]

FIRST DAY.

FORMALLY OPENED.

At one o'clock this afternoon the exposition was formally thrown open to the public by president Hazen, in a brief address. President Hazen's address was as follows:

Ladies and Gentlemen, Members and Patrons of the Northern Wisconsin Agricultural and Mechanical Association — Custom has made it the duty, and our secretary has so announced it, of the President to formally declare the opening of the fair, and I suppose the people here assembled expect to hear some remarks, in the way of an opening address at the fourteenth exhibition of this society, by its President. Agricultural societies and fairs are about what the people of the towns and cities in the section in which they are held make them. When we consider the fact that northeastern Wisconsin has more natural advantages, in its fertile soils its valuable timber, its abundant water power, its inexhaustible supply of copper and iron ores, its healthy climate, we have good reasons to be proud of our country. I believe it excels any section of country between the Atlantic and Pacific, of the same latitude. The steady and increasing development which has already been accomplished by the energy and perseverance of its people, are but a guarantee of what may be expected in the future. We have good reasons to expect that an industrial exposition, located in its center here in Oshkosh, will be a grand success. The liberal patronage and increased interest that has been taken by the people of northern Wisconsin in the fairs held by

this society since its organization seem to be in proportion to the development of the country.

All that is necessary to impress the most skeptical is, to look over the different departments and give them a thorough inspection, to convince them that this is far the largest fair we have yet had. The different departments, especially the live stock, represent animals and articles superior to any exhibition ever held in Northern Wisconsin. Our stalls and pens were insufficient to accommodate the horses, cattle, sheep and swine, and our exhibition building is well filled. In our machinery department can be seen samples of the most useful and latest improved farm machinery and implements. The sharp competition in nearly all lines of trades and the lowest prices of farm produce, that are likely to be received for the present crop ought to be sufficient to stimulate at least the manufacturers and farmers to take all the advantage possible in the line of adopting the cheapest and best implements and machinery. Select and breed the best live stock that can be found, for the purposes which they are intended. And I know of no place where so much useful information can be attained in so short a time, as by attending our fair. The improvements made in our live stock in the last decade are of incalculable value to the western farmers, and but a small portion of our Wisconsin farmers are yet taking the interest, I think, they ought in the improvement in their farm stock. Much of the improvement already attained is due to the influence of our agricultural fairs; much more can be expected in the near future. In fact I believe no farmer within reasonable distance can afford to stay away from the fair. It can be made a source of great benefit to all who attend, in the way of gaining much practical information; and it affords an opportunity for a little recreation and social time with friends and co-laborers in the various industries of the country.

These fairs ought to be looked upon as annual reunions of the industrial classes of our country. Many do improve these opportunities, and meet and greet many old and true friends, which, perhaps, they have an opportunity of doing but once a year. I think many more ought to do likewise.

Fellow citizens, I take great pleasure in announcing to you that the largest and most successful exhibition ever held by the Northern Wisconsin Agricultural and Mechanical Society is now open for your inspection.

SECOND DAY.

THE SCENES AT THE FAIR GROUNDS TO-DAY.

The unpropitious weather of last week, which was too warm and clear to afford any prospect of its continuance through fair week, provoked many predictions of a fatal dampness during the exposition. Sunday morning a drizzling rain fell with a pertinacity that boded no good to the remainder of the week. By noon, however, the sun had conquered in its struggle with the sombre sky, and this morning brought to dispondent exhibitors as much exhilaration as the ozone of the brightest, clearest and most glorious of autumn days could create.

AT THE FAIR GROUND

all was life and bustle at an early hour. Every stall had been already engaged, and stock came in steadily to fill those which the numerous arrivals of the previous day had left vacant. Much credit is given the various railroad companies for the extremely liberal treatment they have accorded exhibitors, and which has done as much to make the fair a success as the labor of the gentlemen who for the past twelvemonth have been assiduous in laying the foundations for this busy week. There were few entries in place in the exposition building at the opening hour this morning, except in the department of wagons and carriages, which is unusually full, but as the morning wore away large quantities of goods were brought in and arranged. Some elegant furniture is entered by parties in this city and elsewhere. The showing of horses and cattle is extraordinarily fine. In Short Horns, Ayrshires and Devons especially there is nothing left to be wished for. There are also some magnificent specimens of imported Clydesdale horses.

In the sheep department there were not many arrivals this morning, but a large number of Long Wools and pure-bred Downs are expected from various parts of the state.

In swine and poultry the entries are very numerous; the latter department is full to overflowing and is extremely interesting, there being many fine fowls exhibited.

In the department of vegetables the entries had but commenced to arrive; those that were placed were very superior, and this class will show up far better than in any previous year, the entries being very numerous.

Large quantities of farm machinery and agricultural implements are expected from Chicago, Appleton, Ripon and elsewhere.

The equestriennes, the Misses Cook and Williams, arrived to-day and will add not a little to the attractions of the track. This, after yesterday's shower, is in excellent condition and the races promise to be unusually interesting.

H. B. Varnum, of Marshall, Iowa, exhibits his gigantic steers, weighing respectively 3,000 and 3,400 pounds. This exhibit is in the nature of a side-show, as there is no class in which it could compete for a premium, and the owner is compelled to ask a small admission fee to meet the expense of bringing them here from Milwaukee.

The work of erecting sheds for machinery has progressed rapidly all day, and by to-morrow noon, when the fair is formally opened, everything will be in smooth running order. Everybody seems satisfied that it will be a glittering success, and this feeling will do much to make it so. Large entries are being made by the successful competitors at the State fair at Madison, and these will ensure a close competition here.

THIS AFTERNOON

matters were more lively, there being a steady procession of wagon loads of stock, machinery and manufactures. To-morrow will be a still busier day for the entry clerks, though how they can do more than they have done to-day is something no fellow can find out.

FAIR NOTES.

The unusual number of entries of stock at the fair has compelled the management to erect a hundred new stalls.

President Hazen was the only officer on the fair grounds to-day who was not too busy to talk.

There were over two thousand people on the grounds yesterday afternoon. This morning there were but few aside from those connected with the fair.

Chief Casey says the pickpockets and such small deer will be prevalent during fair week. They are already pervading the town and are extremely difficult to deal with.

So many entries have been made to-day by mail and telegraph that it is thought the extra hundred stalls now in process of construction will be insufficient to accommodate all the expected arrivals.

W. H. Cook, superintendent of cattte, has been exercised all day in keeping open a carriage way between the stalls and the straw-piles.

Superintendent Martin has enjoyed the soft cushion of a phaeton in the shade of the barn, the sheep being dilatory in arriving.

TO-MORROW'S PROGRAMME.

Articles for exhibition will be received up to noon to-morrow. The exhibition will be formally opened by President Hazen at 1 P. M., in a brief address in the exposition building. In the afternoon the 2:30 race will take place, also a race between Misses Williams and Cook, mile heats, best two in three.

 THIRD DAY.

TO-DAY'S PROCEEDINGS.

The exposition building this morning presented a scene of business, bustle and excitement that must have been a gratifying spectacle to him who had leisure to contemplate the panorama, with no anxious cares to distract his mind.

Everything was still in the inchoate stage. The sound of the saw and hammer arose above the neighing of horses, the cackling of hens and the thousand minor noises that filled the air with confusion. Superintendent Harding was constructing an extra fifty stalls for the accommodation of the fresh arrivals of horses, and these were all pre-engaged.

In the department of farm machinery there was much anxiety to secure space, and every variety of implements lay around promiscuously among those that were already set up and in running order. Exhibitors were exercising splendid animals, and a continuous throng of blooded stock filled the alleys and passages. The mammoth steers were quietly chewing the cud in the seclusion of their tent, and resting themselves in preparation for the arduous duties of the afternoon. The Arion band arrived on the grounds at nine o'clock, and discoursed music to the gathering assemblage. The secretary and his assistants were put on their mettle, booking entries and answering questions that fell thick and fast, while in the exposition building order was gradually taking the place of chaos and confusion. Mountains of fruit and confectionery were arranged in the booths at the north end of the building and the dulcet accents of the vendors of lemonade and soda harmonized with the jocund notes emanating from the adjacent poultry coops.

At the gates there was much interchange of repartee between the guardians of the portal and the people whose tickets were not comprehensive enough to admit themselves and a whole train of relatives, a team and a load of goods. In all the turmoil, and in the thickest of the contest, there was not one who had lost his temper; every one seemed at peace with himself and all the remaining inhabitants of the footstool—the result of a clear conscience, in combination with an unclouded sky and prospect of a brilliant week.

The arrangements of exhibits in the hall are very tasteful, and the general appearance is picturesque and attractive. Some of the contrivances for the better display of goods are very ingenious and curious.

The sheep department, which yesterday morning dragged wearily, is filled with a large number of superior animals.

the largest showing being in Downs and pure bred Long Wools.

In the cattle department the number of entries is unprecedented and unexpected; so much so that the utmost exertion has been required to provide for their accommodation. the animals in this division form, without doubt, the finest collection of the kind ever seen in Wisconsin.

In the department of household and dairy products there are far more and better specimens than have been hitherto shown at Oshkosh. The display of preserves, pickles and canned fruit is excellent, and there is an immense variety of woven goods, crochet work, afghans and the like.

The velocipede is prominent and the wheelwright's work in all branches, is well represented.

The showing of vegetables is very good, but there is a remarkable absence of the big pumpkin, and squashes are not numerous.

Texas Maid will be exhibited on the race track in sulky and harness to-morrow afternoon, at three o'clock, to show her speed and gait.

In the fine art department is exhibited a very curious bed quilt, which was made two hundred years ago. It belongs to Mrs. G. A. Arnold, and was made by her mother's great-grandmother. It is made of very curious cloth, a fabric not now known to the dry goods trade, apparently woven by hand. It has a peculiar gloss and seems as stiff and hard as when made, and is very little worn. One peculiarity about it is the quilting of it. It is back-stitched all over, much like Barnum's tattooed man, with figures of various descriptions, such as fruits, flowers, reptiles, etc.

A somewhat curious quilt on exhibition is one of white cloth quilted into square blocks, in the centers of which are names of people written in indelible ink. In the center of the quilt is a larger block in which is written, "Presented to Mrs. B. L. Prescott by ladies of Ladies' Aid Society of F. W. B. Church, Winneconne, August 7, 1883." It is stated that in making the quilt each person whose name appears in it paid ten cents towards the quilt. There are 480 names on the quilt.

Sheep continued to rush in until late this afternoon.

A pair of youthful sports endeavored to get up a slugging match in the cattle grounds this afternoon, which enterprise was promptly nipped in the bud by a watchful officer.

The class-books were made up and delivered to the judges this afternoon.

The fakirs do a good business at the fair, but the fortune-telling canaries find but few patrons.

FOURTH DAY.

THE CARRIAGE DISPLAY.

The display of carriages is the finest by all odds ever witnessed in the exposition building. The display occupies the entire north gallery of the building, and each manufacturer has put his best efforts forward to make an exhibition that would not only do himself credit, but fully represent this growing industry in Oshkosh. Beginning at the west gallery the exhibitors come in the order given below:

Thomas Neville, whose motto "Quality not Quantity," is ever conspicuous in his advertisements, has a display of ten carriages and three sleighs. Mr. Neville's large order trade the past season has been so great that he had no time to prepare anything especially for the fair, and took to the fair such jobs as were on hand awaiting delivery, and yet his exhibit is a very fine one. The jobs he exhibits are as follows: Extension top family carriage, canopy top phaeton, French platform spring phaeton, two-spring city phaeton, champion spring top buggy, light driving Storm spring top buggy, full sized Storm spring top buggy, two speeding buggies, light open business buggy, two-seated family swell body sleigh, single seat Portland sleigh, one unfinished Portland body sleigh. All the buggies are provided with the Kritsch self lubricating axles. Mr. Neville's display is very creditable and attracts much attention.

J. L. Clark & Son come next in order on that side of the building. The detailed report of their display will be found in another place under an exclusive heading.

The Oshkosh Carriage Company exhibit 20 jobs, occupying nearly the whole eastern portion of the north gallery. The jobs shown are as follows: A canopy top surrey, two seated barouche, two dog carts, one open and one with canopy top, very handsome and stylish, one top buggy in the white with the new P. & C. patent fifth wheel, end spring phaeton, two speeding buggies, one of which weighs only 125 pounds, end spring top buggy, Storm spring side bar with white upholstering, a bronzed gear speeding buggy, very flashy, a McIntyre side spring buggy, Timkin side spring "model" buggy, and one with top, two "model" side spring buggies, with top and open, handsome buck-board, a Parson's two seated wagon with platform springs, a Brewster spring top buggy, Storm spring top buggy. The display is very interesting to carriage men.

George F. Thompson exhibits several of his two seated climax spring wagons with his patent oscillator, which is a good thing for this style of vehicle.

H. H. Clemons the body maker exhibits an unfinished cutter in the white, and a handsomely upholstered Russian two seated sleigh is exhibited by Henry Ings, employed in Clark & Son's factory, which he made during his leisure hours.

A. Lobdell of Racine, in this connection, has a large display of hand and machine made harnesses of all kinds, and a fine assortment of lap robes, dusters, whips, etc.

SWINE.

A. B. Wade, Algoma, has six entries of Poland Chinas.

S. H. and A. E. Joiner, Janesville, enter 31 head of Suffolks, comprising 15 entries.

E. D. Austin, Beloit, has 14 entries of Poland Chinas, showing the largest on the grounds, weighing 800 pounds.

Robert B. Clark shows 6 entries of Chester Whites, some being very fine.

J. W. Morse & Sons, Verona, Dane county, exhibit 4 entries of Chester White hogs.

D. H. Hillman, Brandon, shows 11 entries of Essex hogs.

J. N. Hoaglin, Oshkosh, has 3 entries of Berkshires.

S. S. Keese, Oshkosh, enters 2 classes of Essex hogs.

Noble Dougherty, Omro, enters 6 pens of Berkshires and Poland Chinas.

B. Randall, Hustisford, has 12 entries of Berkshires.

M. B. Green, Oshkosh, shows nine entries of Chester Whites.

H. Stiles, of Utica, Winnebago bounty, enters 4 pens of Poland Chinas.

E. R. Bement, Oregon, Dane county, enters 15 pens Chester Whites and Berkshires, and makes a fine showing.

John Athearn, Oshkosh, has 12 entries of Poland China and Essex hogs.

J. R. Padelford, Oshkosh, exhibits 10 pens of Essex hogs.

Thomas Davis, Algona, shows 6 pens of Berkshire and Essex hogs, comprising 11 excellent entries.

Total entries in swine division about 275 head.

FIELD, GARDEN AND DAIRY.

J. T. Lewellyn, Utica; Mrs. Ed. Thrall, city; Mrs. E. S. Clapp, city; E. R. Martin, Omro, and Mrs. Joseph Treleven Omro, enter for best butter package

J. W. Bailey, Ripon, enters swarm catcher.

R. H. Fisher, city, enters beehives and sample honey.

Geo. S. Church, Allenville, enters hives and honey, extracted and in comb, and has a fine display. He shows 259 pounds in 19 boxes, the product from one swarm.

Mrs. Marcia Howlett enters vegetables.

Mason Campbell enters vegetables.

James Dougherty, city, celery and other vegetables.

Isaac Miles, city, enters vegetables.

A. B. Wade, city, rutabagas.

Carl Derber, city, carrots and tomatoes.

Alice Lewis, Oshkosh, exhibits some fine vegetables.

W. F. Pierce has a very large showing of vegetables.

Ed. Thrall, Omro, potatoes.

L. J. Silverthorn, Omro, potatoes.

S. D. Padelford, Omro, potatoes.

Joseph Klurwin, Oshkosh, cabbage and potatoes.

W. A. Boyd, Black Wolf, potatoes.

Geo. J. Lewis, Oshkosh, array of vegetables.

- Mrs. J. K. Terell, Oshkosh, watermelon.
 Fred. N. Lang, Baraboo, enters large exhibit of vegetables.
 E. W. Daniels, Baraboo, enters potatoes.
 H. T. Hughes, Baraboo, carrots.
 J. P. Roe enters a large variety of vegetables.
 John Nelson, city, has a large show of vegetables.
 Noble Dougherty, city, has an excellent show of seeds, grains and vegetables, the latter being very large.
 E. Stead, Fisk's Corners, shows samples of cane syrup and butter.
 Ed. Thrall, city, has barley, cheese and butter, also exhibits a variety of potatoes.
 Eliza Washburn, Elo, exhibits corn and vegetables.
 Henry Johnson, Algoma, shows wheat.
 S. W. Padelford, has cane and Syrup.
 F. Weyerhorst, enters grain, syrup and butter.
 A. B. Wade, city, exhibits grain.
 W. T. Pierce, shows corn.
 Louis Perrott, city, shows wheat, oats and cheese.
 L. J. Silverthorne, Omro, exhibits wheat and corn.
 J. T. Llewellyn, Utica, has grain, cane and vegetables.
 E. B. Ransom, Fisk's Corner's, shows cane, syrup and wheat.
 W. C. Hubbard, city, shows peas.
 A. T. Sanders, Fisk's, corn.
 R. B. Clark, Ryson, corn.
 C. E. Angell, Oshkosh, has a large exhibit of grains and seeds.
 E. W. Sanders, city, peas.
 P. C. Gallup shows corn.
 J. N. Hoaglin, enters for the best display of grain and seeds; also enters butter and large exhibit of vegetables.
 Fred. N. Laing, Baraboo, oats and corn.
 H. W. Kellogg, Ripon, enters one tub butter.
 H. B. Thomas & Son, Berlin, enters 100 pounds butter, sweepstakes
 Mrs. E. S. Clapp, Winneconne, enters two tubs butter.
 T. W. Rhodes, Weyauwega, shows 100 pounds butter, sweepstakes.

- Mrs. Theo. Grube, city, enters one tub butter.
 Miss Etta Ransom, city, shows 5 pounds print butter.
 Mrs. F. A. Gruenhagen, city, enters one tub butter.
 Chester Hazen, Ladoga, has a large exhibit of cheese.
 E. Stead, Fisk's Corners, enters butter.
 Carl Derber, Nekimi, shows print and roll butter.
 H. M. Quick, Elo, butter and vegetables.
 Mrs. M. J. Smith, city, shows butter.
 E. R. Martin, Omro, butter.
 H. T. Hughes, city, butter.
 J. T. Barnett, Omro, cheese.
 C. D. Bitter, city, cheeses.
 Joseph Treleven, Omro, butter and cheese.
 M. B. Green, Omro, butter.
 T. R. Allen, Vinland, fine show of cheese.
 H. W. Kellogg, Greenville, enters butter.
 Thomas W. Rhodes, Weyauwega; Mrs. M. J. Smith, Oshkosh; H. W. Kellogg, Ripon.

CUT FLOWERS.

In the professional list are:

Isaac Miles, city, has 11 entries and 36 entries of plants in pots.

- John Nelson 12 entries.
 F. Weyerhorst, has 14 entries.
 H. F. Hughes, 1 entry.
 John Nelson, 35 entries.
 E. W. Daniels 2 entries.

In the amateur list are the following:

- Mrs. Marcia Howlett has 6 entries.
 Eliza Washburn, Elo, 1 entry.
 Carl Derber, Nekimi, 6 entries.
 Katie F. Peffer, 12 entries.
 Alice P. Howlett, 1 entry.
 Mrs. W. D. Sherwood, bouquet.
 Mrs. E. W. Sanders, 3 entries.
 Mrs. C. H. Root, 1 entry.
 Mrs. J. P. Roe, 7 entries.

PLANTS IN POTS.

In the amateur list are:

Mrs. Marcia Howlett, 2 entries.

Alice Howlett, 1 entry.

E. Stead, 1 entry.

Eliza Washburn, 1 entry.

Mrs. C. Meyer, 12 entries.

Mrs. L. Raddatz, 1 entry.

M. B. Green, 6 entries.

J. T. Llewellyn, 1 entry.

Mrs. C. H. Blanchard, 2 entries.

Mrs. E. W. Sanders, 19 entries.

Mrs. F. Badger, 7 entries.

Mrs. W. F. Webster, 1 entry.

F. Weyerhorst, 9 entries.

Alice P. Howlett, 1 entry.

D. Huntley 1 entry.

E. W. Sanders, foliage plants.

F. Weyerhorst, geraniums.

DELICACIES AND PRESERVES.

Mrs. Marcia Howlett, 2 entries.

Mrs. Theo. Grube, 10 entries.

E. Stead, Fisk's Corners, 33 entries.

Eliza Washburn, Elo, 46 entries.

H. M. Quick, Elo, 31 entries.

Mrs. C. H. Root, Ripon, 49 entries.

Mrs. J. R. Terrell, 1 entry.

E. W. Sanders, 9 entries.

J. N. Hoaglin, 22 entries.

TAKE THE CAKE.

The following compete for the cake premiums: Mrs Marcia Howlett, Mrs. Kittie Jount, Emma Olcott, Mrs. E. B. Hoaglin, Mrs. W. L. Jours, Addie Olcott, Carrie Wakeman, Mrs. G. A. Arnold, Mrs. R. S. Dale, Edna Dale, Mattie Daggett, Mrs. W. C. Brackney, S. A. Van Valkenburg, M. McCarrison, Corrice Perry, Nettie Curtis, Frances Brown, Sarah A. Mulvey, Ella L. Mulvey, Carrie R. Libbey, Minnie Lieber, Gracie

Harper Bishop, Leafy P. Paige, Lutie T. Stickney, Mamie Goss, Miss Emma Reich, Nina Bower, C. M. Bower, Alice M. Redford, Hattie Jenkins, Annie Lewis, Mrs. J. T. Morse, Gertie Russell, Mrs. E. S. Hayden, Nina Wilson, Ina Finney, Lulu Peck, Mrs. J. Walker, Edith Morehouse, Mary Clark and Millie Booth.

FRUITS.

Mrs. E. S. Clapp, Winneconne, enters Alexander Apples.

Thos. W. Rhodes, Weyauwega, enters Duchess apples.

F. Weyerhorst, city, shows a large exhibit, comprising 12 entries.

Mrs. M. J. Smith, Oshkosh, shows seven entries of apples.

J. T. Lewellyn has 6 entries of apples and crabs.

W. Rumery, Oshkosh, exhibits 17 entries and for greatest variety of apples.

T. Thomas, city, shows 24 entries, apples and crabs.

H. Floyd, Berlin, (professional) makes 26 entries.

Mrs. J. K. Terrell, 4 entries, grapes and crabs.

C. W. Harrington, 2 entries apples.

Newton Wright, Oshkosh, 5 entries apples, grapes and crab apples.

S. Hinman, 16 entries apples.

J. N. Hoaglin, 18 entries grapes.

D. Huntley, Appleton, 17 entries grapes and apples.

E. W. Daniels, Auroraville (professional), 33 entries, apples, plums, grapes and crab apples.

James Brainard, 7 entries grapes.

H. F. Hughes, 7 entries grapes.

J. P. Roe (professional), 40 entries, apples, grapes and crabs.

G. P. Pepper (professional), 36 entries, apples, pears, crabs and grapes.

BREAD AND CAKE.

In bread and cake the competitors are as follows: Mrs. Marcia Howlett, 8 entries; Mrs. Theo. Grube, 10 entries; Miss Etta Ransom, 4 entries; E. Stead, Fisk Corners, 5 entries; M. B. Green, 1 entry; Eliza Washburn, Elo, 6 entries; George Badger, 1 entry; Mrs. G. A. Arnold, 2 entries; Mrs. Irene

Evans, 11 entries; Debby Soper, 1 entry; C. M. Bower, 3 entries; Mrs. F. Hughes, 1 entry.

IN THE EXPOSITION BUILDING.

Within the exposition building, especially the northern portion of the building, the displays are largely those of merchants and manufacturers, who exhibit the products of their handiwork not only as a matter of interest to others but as an advertisement for themselves. This creates an inducement to make the display as attractive as possible, to please the eye and direct attention. It is this which makes such displays the most attractive of any at the fair. Taste in arrangement is exercised, and the result is a fine appearance to the interior of our exposition building taken as a whole. A view from the gallery down upon the pyramids and blocks of exhibits, with the crowd swaying back and forth among them is a most interesting one. The many colored exhibits, flanked on every side by the bright habiliments of the ladies in their latest fashions, form a kaleidoscopic picture that is enticing to view.

MANUFACTURERS.

Beginning at the north end of the Exposition building the displays of merchants and manufacturers extend southward in about the following order: Clough & Co. have a large exhibition of their wrought iron pumps. A display of the Kelly barbed wire and the Glidden barbed wire occupy a corner.

H. Kreppene has a display of Argand round coal stoves, Century square coal stoves, and furnaces and cook stoves.

Webb & Brooks display round and square coal stoves, ranges and the Ruby furnace.

Emil Schmidt has a large display of stoves, coal, wood, cooking and ranges.

L. Dimpsey exhibits an array of square and round coal stoves and the Boynton furnace.

The Kellogg creamery is exhibited and E. Schmidt also exhibits a cooler and creamery.

Fargo & Co., exhibit the Golden butter color, and Cor-

nish & Curtis of Ft. Atkinson, have a large display of their square churns and butter workers.

Koch, Fisher & Co., Oshkosh show samples of cooperage. The Ashtabula Tool Co., exhibit hay forks, hoes, etc.

J. E. Williamson, Berlin, exhibits a patent grocers' bag holder.

W. R. Pryne, the artistic blacksmith exhibits a case of fine horse shoes.

Carlton Foster shows samples of sash, doors and blinds and shingles.

Cook, Brown & Co., occupy a big square with pyramids of drain tile, both porous and glazed.

Schmidt Bros., makes a very fine exhibit of trunks, traveling goods, satchels, etc.

E. R. Shirley exhibits rubber goods, belting, etc.

The St. Paul, Minneapolis & Manitoba railroad land departments makes a fine exhibition of grain grown on the lands of that company.

Wm. Dichman has an elaborate display of Coin Baking Powder and flavoring extracts, and also of Kingsford's starch, the latter display being superintended by Geo. S. Terry, agent. A show case filled with cakes made from Coin Baking Powder is exhibited.

The display of Pearl Baking Powder is very elaborate. A miniature house is built of cans of this powder. Henry Boyd presides and two cooks bake biscuits and deal out hot biscuits and butter and coffee as a free lunch to the crowds. The cake competing for Boyd's special premiums are arranged opposite in terraced form. There are about one hundred exhibits for these premiums.

The Horsford's baking powder display is opposite and biscuits are also baked on the spot and dealt out as samples to the ladies.

Chas. Haase has a very large display of boots and shoes rising in a pyramid high in the center.

The New York & Oshkosh Clothing House has a fine and extensive display of ready made clothing and gents furnishing goods.

Wm. Leard makes his usual large display of clothing.

Adolph VonKaas has a well, *a la* Rebecca, backed by barrels of Bethesda water on draught, which is dispensed to the thirsty multitude gratis.

The Appleton Manufacturing Company makes a fine display of boy's sleds.

J. B. Roberts, Oshkosh, shows a new patent ironing board.

A most elaborate display of fur goods is made by C. H. Curtis, including ladies' cloaks, overcoats, etc.

The White & American sewing machines are exhibited by T. A. Coleman, the agent here.

G. R. Lampard has a fine exhibit of Kimball organs and pianos, Emerson pianos and musical merchandise.

Hough & Topliff show a case of zephyrs, laces and stamping designs.

Allen & Hicks exhibit a case of bound books and fancy stationery, also a large chunk of petrified tree sent here from Gladstone, D. T., by J. M. Little.

The Oshkosh Plating Works makes an elaborate display of plated ware of all descriptions from knives and forks to large water and tea sets.

F. B. Claggett has an extensive exhibit of wall paper.

The Ripon Knitting works, represented by E. B. Morley, makes a splendid display of stockings, socks, and other knit goods, and has two knitting machines in working operation.

O. McCorrison occupies an attractive square with a fine display of upholstered furniture, chamber sets, etc.

J. A. Hinman exhibits several Columbia bicycles and all kinds of bicycle goods, which is quite interesting to young people. Also a Jeffrey railway velocipede.

K. M. Hutchinson has on exhibition a large case of mineral specimens from his extensive cabinet.

Dr. Decker exhibits a show case filled with artificial teeth and all the goods that are appurtenant to that branch of the dental art.

S. N. Bridge & Son have a very beautiful display of pianos, organs and musical implements, and goods of all kinds.

B. H. Soper & Co. show an elegant array of household

furniture, among which may be specified particularly a set beautifully upholstered in crimson plush.

FANCY WORK.

Of fancy work there is a pre-eminently fine display, the exhibits being wholly new and of a quality and interest that exceeds all former exhibitions in this department. Of quilts there are 29 exhibits. The entries of embroidery number 44, Mrs. Eliza Stone leading in the number of entries. In cotton embroidery, laces and braid, there are 45 entries. There are 26 entries in crochet and tatting. In fancy work there are but 7 entries, but Mrs. Marcia Howlett, Mrs. W. F. Levings, and Mrs. J. F. Morse make a fine display of spatter work and wax flowers and fruit. There are 21 entries in the Misses department which is very creditable to the exhibitors. The boys' department is represented by a single exhibit of 8 entries.

In Natural History Mrs. E. A. Sanders shows one entry, collection Conchology. In works of art the entries are 155. They are as follows: Mrs. Marcia Howlett, 1 entry; Kate O'Dell, 10 entries; Edmund Osthaus, 31 entries; Mary Osthaus, 51 entries; Hans Jensen, 2 entries; Mrs. Ed. Kent, 8 entries; Cook Ely, 6 entries; F. Weyorhorst, 1 entry; Mary Schrieber, 1 entry; Mrs. G. M. Davis, 6 entries; A. B. Hooper, 1 entry; Louisa Mears, 6 entries; Mrs. H. C. Ferguson, 1 entry; Miss Sarah Linde, 6 entries; Lizzie Holmes, 1 entry; Mary Shields, 4 entries.

CATTLE DEPARTMENT.

Joseph C. Kiser, Oregon enters 14 head Short Horns.

H. B. Thomas & Son, Berlin, enters 13 head Short Horns.

D. H. Hilman, Brandon, enters 9 head Short Horns.

John W. Morse & Son, Verona, Dane Co., enters 18 head Devons.

George Baker & Son, Hustisford, show 16 head Devons.

Chester Hazen enters 14 head of Ayrshires and 5 head of Holsteins.

A. D. Converse, Whitewater, enters 16 head Ayrshires.

S. M. Paddleford, Omro, 2 head Holsteins.

T. W. Laramy, enters 13 head Holsteins.

S. M. Mead, Onion River, 1 Hereford bull.
 F. Root enters 1 Devon bull.
 N. N. Palmer, Broadhead, enters 16 head Jerseys.
 E. R. Martin, omro, enters 1 Jersey bull.
 D. Huntley, Appleton, enters 13 head Ayrshires.
 G. W. Washburn, Oshkosh, enters 12 head Jerseys.
 Wells & Strang, Auroraville, enter 3 head Holsteins.
 Davis & Davenport, Auroraville, 3 head Holsteins.
 B. Randall, Hustisford, enters 3 head Holsteins.
 Gillett & Moore, Springvale, have 19 head Holsteins.
 W. N. McConnell, 16 head of Jerseys.
 E. G. Stone, Fisk's Corners, 2 head Polled cattle.
 Mr. Root, Medina, enters a splendid Durham bull.

THE SHEEP DEPARTMENT.

Geo. C. Harding, Waukesha, 26 Cotswold sheep.
 Geo. H. Daubner, Brookfield, Waukesha county, 24 head of
 Downs.
 J. N. Hoaglin, Oshkosh, one long wool ram.
 Russell Rich, Nepeuskun, 12 head Merinos. Mr. Rich also
 shows some fine samples of wool.
 Geo. Baker, 24 head of American Merino sheep.
 John H. Paul, Genessee, 33 registered Merino sheep.
 C. M. Clark, Whitewater, 32 head registered Spanish
 Merinos.
 T. F. & C. D. McConnell, 37 registered Spanish Merinos.
 O. B. Knapp, Brandon, 6 American Merinos.
 Uriah Wood, Brandon, 12 head American Merinos.
 S. A. Jones, Hustisford, Dodge county, 25 head American
 Merinos, registered.

POULTRY.

Robert B. Clark, Beloit, has 24 entries of chickens com-
 prising 21 coops. Among these are some fine Plymouth
 Rocks.
 J. McKeen, Omro, has 44 entries, making the largest display
 of Wyandottes, Silver Seabright Bantams, Golden Ham-
 burgs, Black-red Bantams and Silver Duckwing game ban-
 tams.

Edward Stead enters some fine Plymouth Rocks and game bantams and white Bremen geese.

Noble Dougherty shows an extraordinary fine pair of Bremen geese, and about 10 entries of White Leghorns, Plymouth Rocks, Buff Cochins, Dark Brahmas, Wyandottes and fine trio of Silver Spangled fowls, together with white Holland and bronze turkeys.

Joel Johnson, Oshkosh, shows Toulous geese, black Polands, Plymouth Rocks and Golden Polands.

Mr. Clark also shows white Leghorns and Silver Hamburgs, with Pea Fowls and Black-bronze turkeys.

D. H. Hillman of Brandon, shows two coops of Aylesbury ducks.

Master Edwards, Oshkosh, has three trios of game bantams.

Nelson Hoaglin has one of Bantams and two of Houdans.

B. T. Higgins, Greenbush, exhibits White Leghorns, Houdans and Plymouth Rocks.

Jones Bros., of Hustisford, show a pair of bronze turkeys, and four trios of Plymouth Rocks.

THE CLOSING DAY.

THE FAIR AT AN END.

Despite the torrents of rain that fell yesterday morning and the angry sky that threatened pleasure-seekers all the remainder of the day, both the fair grounds and the streets were fairly filled during the afternoon. The rainfall soaked the ground thoroughly, and as the crowds of people passed to and fro they thoroughly mixed the mass until the surface resembled a vast mortar-bed. A few planks were laid between the gates and the doors of the exposition, but in a short time these were as slippery as if they had been covered with soft-soap. and the danger of accidents being imminent, recourse was had to sundry wagon-loads of shingle shavings. By the middle of the afternoon the footing in the building began to be somewhat precarious; from a

condition consequent upon the crush of people, dirt had been "tracked in," to use the vernacular of tidy housewives; circulars, handbills, newspapers, dodgers peach-pits, apple-cores, date-pips, cigar stumps and all the et ceteras, of debris made heavy going. In the neighborhood of the baking powder exhibits, the crowd at times was unable to overcome the inertia and remained helplessly fixed on the spot. Again a spasmodic movement would pass through the throng, but like the deceptive undulations of the ocean billows, the alternate ebb and flow of the laughing, chattering tide left the pilgrim precisely in statu quo. Then a mighty effort by a dozen bucolic parties, and a movement would begin in a right line. So, in time the grand round was made, and everyone viewed the whole exhibit with many interjections of surprise and admiration.

At three o'clock the president and the superintendent of speed horses waded across the track to their stand and, by turns, labored at the gong. In a short time the grand stand, the fences and the grassy sides of the track were filled with spectators, while the peddlers of beer in the booths below were energetic in their entreaties to the crowd to "cut themselves loose." After some delay the ladies began their five-mile ride over the heavy track, which must have been intolerable alike to horse and rider. Miss Williams again won the race, making the five miles in 13:27 $\frac{3}{4}$. The track was in terrible condition for a race, but as there was a big crowd present and something had to be done to amuse them in the line of races, the ladies consented to run the five-mile race that afternoon instead of the twelve-mile race that had been advertised. The attendance at the stand and along the track was about as large as it is on the big race days of fair week usually.

Considerable speculation was indulged in regarding the size of the crowd on the grounds. It was not estimated under eight thousand and some claimed from that to twelve thousand. It was surprising to find so many people out in such weather, and the fact only seems to indicate that there would have been from eighteen to twenty thousand people

on the grounds had the good weather of the first three days continued.

THE WIND UP.

To-day opened bright, following considerable rain during the night, but the big day of the week had passed, and there being no chance for any trotting races there was nothing to attract a very big crowd on the grounds. The attendance in the forenoon was rather slim and some exhibitors who were anxious to get their stock to the trains began packing up, ready to leave in the afternoon. Directly after noon the exhibits began to leave the ground, but only such as implements and stock which had to be loaded on trains.

This afternoon there was quite a good sized crowd on the grounds, many towns-people who were prevented by the rain from attending yesterday, taking this last opportunity to attend.

HUMOROUS PHASES.

When twelve thousand people crowd toward some central point of attraction, the various phases of human nature presented to the attention of the observant spectator are at once amusing and abstruse. The youth who insists upon clinging to the side of a street car, though he can scarcely find rest for the sole of his foot and is in imminent peril from dassing vehicles, is a conundrum for the moralists. He beguiles the tedium of his constrained position by heaping invectives upon the other passengers who have already occupied all the available space within the car, which he evidently deems his by divine right, and by disjointed and blasphemous apostrophes to the car company. By such means and by dint of puffing energetically at a partially villainous cigar he manages to make the whole passage a source of much enjoyment to himself and of moral and physical asphyxia to his companions.

The beautiful girl from the fields of Nepenskin, who with the greatest nonchalance commits esthetic suicide, destroying the glamour of her bright Grecian face and glorious blonde tresses by masticating huge mouthfuls of popcorn without consideration of its effect upon the throng; the ab-

straction of the young man from just beyond the city limits, who, wrapped up in the ecstasy of adoration of the fair girl at his side, and bewildered by the kaleidoscopic scene before his eyes, drives his buggy over the hitching posts; the *elan* of the half dozen high school girls, who, hand in hand, charge down the passage in exposition hall, cutting down the defenseless matrons in their determined — and successful — endeavor to capture an incredible number of Horsford's baking powder plaques; the chronic "kicker" who assails the secretary's office with complaints that the judges in his department do not know Silver Sebright Bantams from Southdowns or Chester Whites — all these are as good as a play and there is no waiting for the curtain to rise; they all perform their parts to life, and though no criticism can reach them, read their lines conscientiously.

FAIR NOTES.

The large number of fine animals on the ground excited general interest in these departments. A beautiful Norman stallion belonging to J. R. Paddleford, of Omro, was perhaps the most conspicuous of the horses. This splendid grey is seven years old, and is deep-chested and cleaner of limb than is usual with his species; his great glory lies in a full, heavy mane, which catches the eye over the entire length of the ground, measuring over six feet in length. Padelford has also many fine Clydesdales.

"Texas Maid," so-called, is a colt only a few months old, from a Texas pony belonging to a son of Mr. Lutz. The boy has broken the colt perfectly, had a miniature sulky, made and drives the diminutive animal about in regular jockey fashion. The exhibition given at the fair grounds pleased the little folks very much.

There is seven or eight hundred dollars subscribed by citizens to make up for the one thousand dollars which the association was deprived of by letting the wheel of fortune go. Some of it is subscribed conditionally.

An allusion to the excellent display of J. F. W. Decker was omitted in its proper place. Mr. Decker occupied quite a large space in the exposition building with a beautiful dis-

play of china ware, showing some very handsome sets and pieces of the latest design in ornament, and fine in texture and finish.

An extension table made by A. Mors is quite a curiosity. It was made by hand and inlaid, legs and all, with different kinds of wood.

A very interesting cabinet of Indian curiosities is exhibited in the gallery. There is no name attached to it, but is stated to belong to Wm. N. Webster.

A display of Wisconsin woods near the art gallery was quite interesting.

Much merriment and quite a crowd attended the auction of the premium cakes for the benefit of the Ladies' Aid Society.

The equestriennes rode 12 miles over a track neither much better nor worse than yesterday's, Miss Williams again winning the race.

The usual hectoring of officers by dissatisfied competitors made much labor for the secretary's clerks.

This has been pre-eminently children's day, there being hundreds of them in attendance.

The ground, cut up by thousands of feet, looks as though it had been plowed and badly harrowed.

NORTHERN WISCONSIN AGRICULTURAL CONVENTION.

Held at Waupaca, February 19th to 21st, 1884.

The convention met, and was called to order by President Hazen, who spoke as follows:

This meeting is called in the interest of the Northern Wisconsin Mechanical and Agricultural Society. A little mistake has been made in the name, which should be Industrial. The society embraces the industries of Northern Wisconsin. We hold these meetings annually in different sections of the country, and upon invitation of your citizen, Mr. Roberts, a member of the board, we came here. The object of the meetings is to diffuse what knowledge we can for the interests of all classes of industries of this part of the state. The Northern Wisconsin Society is a district society. Sometimes in holding our meetings we do not have the attendance that is desired until the meetings are partially over. It is a common thing for them to say when the meeting is pretty nearly over, that they are sorry they did not come before. We have some excellent papers on different subjects, which will be read, from men who are well posted in their line of business, and we hope the people in Waupaca and the surrounding country will come forward and help keep up the interest in the meeting. Those papers are gotten up for the purpose of diffusing knowledge, and for the purpose of discussion of the ideas as presented by them. A great deal of information is received from the farmer in the discussions. We hope all present will feel an interest in them and feel at home, and express their opinion, and give us all the information they can. I come to these meetings to learn all I can, and if I know anything that is of benefit to other parties, I will impart it to them. The State Horticultural Society was invited to take part here, and their President, J. M. Smith, is present. I will now introduce Mr. Smith.

Mr. Smith — *Mr. President, Ladies and Gentlemen* — I told Mr. Hazen that I could not talk on any subject unless I had written it out; yet he calls upon me to say something. I have attended a great many conventions. I do not know that I ever attended one where I regretted the time and money that it cost me. I presume I shall not regret attending this one. I know of no reason why we should not have a good convention here. There are parties here from outside who know a great deal. If you want to know how to make good cheese call on my friend Hazen. If you want to know how to make good butter or how to get good cows to make good butter, call on my friend Huntley and Randall from Appleton. If you want to know how to grow fruit, call on Mr. Roe from Oshkosh. If you want to know how to behave well, call on Mr. Torrey who is from Oshkosh and still can behave if he tries hard for a short time. A few men coming here from outside cannot make a first rate convention. They do not know just what you want. The farmers must turn out and talk themselves. I attended a convention last week in the western part of the state where, for the first day, we could not get the farmers to talk. They woke up on the morning of the second day, and we had one of the finest conventions that I have ever attended, and I know that I speak the sentiments of all who came from outside when I say to you that all of us want you to talk, and if there are any points in any of the papers that you do not understand, ask questions about them and get the information you want, also give us information. You know a great many things about the peculiarities of your soil, the peculiarities about the farms about here that we do not know. We can't get the information if you don't give it to us. In these conventions the discussions go into the volume of proceedings that this Society will issue. They will need the results of your experience. This county and one or two adjoining counties are recommended as the finest potato district in the state, and perhaps in the northwest. If some of your experience in regard to the best methods of raising potatoes are discussed here, and could go into this volume, it would be worth a great deal. There are no men in the

state that know more about growing potatoes than the farmers of this section. We are all of us farmers, none of us orators; we do not pretend to be, and if we did, you would very soon find out we were not. Let us have a convention of men and women. Last week, at Arcadia and Whitehall, there were ladies that talked in the convention. They often asked questions and in a number of cases made some very instructive remarks. Let us hear from ladies and gentlemen both. I know in giving this invitation I only echo the sentiments of the people from outside.

Mr. Hazen — It is the usual custom in holding conventions like this to have some remarks from a citizen. I believe your citizens have selected Mr. McCormick from your town. I will now introduce Mr. McCormick. Mr. McCormick then spoke as follows:

Mr. President and Members of the Northern Agricultural Society, and of the State Horticultural Society — I feel a little as if I were an interloper on this occasion from the fact that my name is not upon the programme, but the local committee of arrangements seem to feel that some expression of welcome and appreciation was needed toward you who come to us with your counsel and advice and sympathy. With this feeling I have consented to say a few words. It seems to me, that with this storm to-night, the attendance augurs well for your convention and for the feeling of our people toward such meetings. Our people appreciate and thank all who come to them with lessons of instruction and it seems to me that they have special reason to extend their warmest welcome to you gentlemen and to the ladies who are upon your programme, at this time, for the reason that you come to aid them in the solution of the problem upon which they are now engaged in the most practical manner, that is to say you come to suggest new and improved methods of agriculture and horticulture. It has only been a few years since the land in this region was valuable chiefly for the pine timber that grew upon it, and when that pine timber was removed the land in large part was suffered to go to waste and hundreds of acres might have been found throughout

this section a few years ago that were untilled, uncared for and considered almost valueless, but when this source of revenue failed, and with the increase of population there was a necessity placed upon the people to try and get something more out of the soil. The old adage that "necessity is the mother of invention" was again fulfilled. Men began to reason about the soil, and out of the scientific facts that are involved in the relation of clover seed to this soil and its peculiarities, out of the application of that single scientific truth has grown a large increase in the value of the soil of this country. It was found that clover seed was a valuable crop and could be successfully raised. It was found also that the land was greatly assisted against drought which was one of the evils that the people of this region had to contend with. So I say our people have already started with this problem and they are engaged in the practical solution of the question of intelligent farming, and I am sure you will find no disposition on the part of our people to sneer at scientific methods of farming. I think I hazard nothing in saying that our people have learned that thought rules in agriculture as it does everywhere else.

How easy to illustrate this truth. Take the steam engine, where one man does the work of a hundred or a thousand, simply by applying an invention of a man of genius, of water. Our people should welcome you here and should be glad of your presence, and should listen to your counsels; and I am sure if it were not for the storm this hall would have been well filled to hear the first paper read, and to participate in the first discussion that was had. It seems to me that your work tends to build up and establish this truth, that industry is more than physical activity; that it involves mental activity as well; and this is one of the great lessons to be taught in our time, one of the pressing necessities of our time, I mean to say. Your meeting will emphasize this truth, that while nature stands ready with all her infinite resources to assist man with her endeavors, she makes this condition, that in order to receive her benefits man must think. Nature could just as well cause biscuits to grow on wheat stalks as the heads of wheat, and loaves already

baked on the cornstalks, as well as ears of corn; and houses to spring up out of the ground ready furnished to live in, as well as trees; but if she did that of what use would man be, what would there be to develop his thinking powers, his inventive genius? Nature does not make houses, she furnishes the material, and she makes the condition upon which man shall have the benefit of those materials, that he shall think and study the laws of relation and adaptation. There is another reason that gives emphasis to your work, a thing that seems to me to demand the most serious attention, and that is calculated to excite the most serious apprehension, and that is the results it will have to overcome the tendency of the young men of our country to leave the farm. Of the fact there is no question. The young men do become dissatisfied with the farm and farm life, and that there is a tendency of the young men to desert the agricultural pursuits, as to destroy, or at least seriously to interfere with that balance that should exist between the producing and consuming classes, I think there can be no question. We hear this spoken of, we hear this tendency deplored. Now there are some causes for this. This is no whim. It is something that has come about by the nature of things. It has come out of facts that have an existence in society. What are they? Why do the young men wish to leave the farm, so many of them, and seek the excitement of city life? It is not, I am sure, from a candid and intelligent comparison of the two modes of life. If the young men on the farm, with the opportunities and possibilities that are opened out before them, really understood what kind of drudgery nine out of ten business men and professional men in the city go through with every day of their lives, that would tend to correct this tendency. They do not understand it. They think there are advantages in this direction, but that is a mistake; that is a misapprehension, as those who have experience in both modes of life can testify; but there is a reason that is founded on fact, and I have tried to solve this question for myself, and that fact is, that the real foundation of this tendency is, that whatever the real merits or demerits of these different modes of life, that there is this fact remains, that there

is a larger degree of mental activity among those who live in the city than there is among those who live in the country.

I have lived in the country, I was brought up on a farm. I think, perhaps, I know more about farming than I do about anything else ; but I am certain of this truth, that if you strike the average, not to say that there are not men who live on farms who are as active mentally as anybody, men who keep posted and abreast of the times, but take the average in the city and on the farm and there is a greater degree of intellectual activity in the city. One reason of this is, it is absolutely required of men in the city to exercise their intellect and wit to a larger degree than it is required to do in the country. Now, an ambitious, pushing, enterprising young man, who feels throbbing within him the possibilities of greatness, who feels the ability to achieve fame for himself, naturally and inevitably will tend to that position in life that will call forth the greatest amount of intellectual activity. Now you can by this time see the application of the work of an organization like this to overcome this tendency. I understand it to be your purpose to stimulate thought among the farming classes of our community. You have got hold of this truth that there is no profession that naturally connects itself with so many branches of knowledge as professional farming. See how it connects itself with the varied of the most important and far-reaching comprehensive sciences, chemistry. Almost the whole field of chemistry is involved in intelligent farming. I have given you an illustration of this in the reference I made to it in regard to its application to this soil. It is a chemical fact. It is a scientific fact belonging to the realm of chemistry. See how it connects itself with meteorology, the science of the weather, and I would rather today rely upon the prediction of the old farmers than all the Vennors I ever heard of, and they have hit it closer in their predictions of what the weather will be in the course of the season because their occupation naturally brings them in a better position for observation. How intimately farming is connected with commerce. The farmer is as well posted in the prices as the merchant is. It has been the complaint of

the merchants here that the farmers knew the prices as well as they did and so they had to pay them about Chicago prices for their produce. So I might go on. I speak of this field of science that practically comes within the range of a farmer's observations and so it seems to me, Mr. President and members of this association, that our people would always be glad to have any one come into their meetings with a lesson of instruction. In this case they have special reasons for extending to you their warmest welcome, and speaking for them to you, allow me to hope in conclusion that your stay in Waupaca will be as pleasant to yourselves as I am sure it will be profitable to us.

Mr. Hazen—I will call upon R. D. Torrey to respond to the welcome address. R. D. Torrey was secretary of our association for many years and now resides in Milwaukee.

R. D. Torrey—*Mr. President, Ladies and Gentlemen*—While the remarks of Mr. McCormick were being made, I could but think of this fact that there is law enough in the world to completely save it, to prevent all manner of crime, if enforced; there is education enough in the world so that there need not be a single mistake made, a serious mistake, if that education is properly applied. If it is studiously sought after and then faithfully applied, error will take its flight with crime under the full enforcement of the law. I think of all men in the world the farmer receives more advice than any other class. For instance, I myself never see a farmer but I want to advise him to do something. Whether the advice is good or not is no matter. Conventions are being held all over the country, and notably in Wisconsin, for the purpose and the sole purpose of meeting together on one common level, of talking up questions of interest to every calling, whether it is the lawyer or the minister, or farmer, or what calling. It is all industry, as our friend Mr. McCormick very aptly said, it is all industry, mental or physical, and there is not a lawyer in the city of Waupaca but has a direct interest in this convention; there is not a minister or physician, or a merchant or tradesman, but has a di-

rect interest in this convention. Why? One reason is, the old one of course, we all depend upon the farmers. That is, indirectly. There will be thought advanced in this convention that has a direct bearing upon almost every calling or profession that is represented in this city. It is open to all interests. No interest will be in this convention misrepresented or thrown out. This is the ninth convention that has been held by this society. Wisconsin, I think, led in the organization or institution of agricultural conventions. It has come to this that agricultural societies recognize the fact that there is something more than simply holding an agricultural fair each year, for fairs are not essentials. They are not the valuable point connected with an agricultural society. They are simply the result, or ought to be the result, of meetings of this kind where practical thought is thrown out and profited by, by the men who attend them. They go to their farms, they go to their workshops, and practically illustrate whatever they may gain in thought of this character, so that they have come to be almost schools for every man. I do not come from Milwaukee to idle away my time, I don't come up here to instruct anybody. I come here for the purpose of learning something, and I know I shall learn something. I know this will be a profitable meeting to me because they always have been. Let me repeat what the president has said that the meeting is not for the men who come here from Milwaukee, or Green Bay, or Appleton, or Oshkosh. It is for everybody, and speaking for the representatives of these two societies, allow me to say that there is not a man or woman who shall come into these associations but ought to feel perfectly at liberty, as much as they would around the home circle, to talk, ask questions, debate and take an active part in the meeting. We are not all orators. It is not expected that we are going to deliver beautiful speeches. That is not what we are here for. We are here for profit and to talk upon questions of interest. I could go into some of the history of the Northern Agricultural Society, and I will for a moment, and say that since 1870, in March, when it was organized, that it has fought more battles and won more victories than any other society

that I ever knew anything about. It has had more downright opposition than any other one society I knew anything about. It has successfully competed with and is to-day recognized as one of the standard societies in the northwest. Exhibits come from all over the country to its fairs and I bespeak for it your heartiest support in all the enterprises that are calculated of themselves to be a benefit to mankind and to the industries and interest of this portion of the state. In conclusion, Mr. McCormick, allow me to thank you in behalf of these two societies for your hearty and generous welcome to this city, and during our stay we are certain to enjoy ourselves and be profited by our journey to your town.

THE IMPORTANCE OF ORGANIZATION.

By DR. R. J. WILCOX.

When we look over the pages of the Book of Nature, to learn therefrom some of the many lessons of Divine wisdom, we are not surprised the sage has proclaimed that Order is the first law of nature.

But a more careful inspection, gives the first place to organization. It preceded order. It defines arrangement; provides a place for things, and reveals the fitness and relation of parts whose difference is so wide, their affinity would otherwise never be suggested.

Unorganized, the world even, was declared, "without form and void, and darkness was upon the face of the deep."

In the *material* world nothing exists without organization. Nothing is useful — value is a phantom — and even order is an incongruous jumble. The stone that obstructs the plow share, or gives value to the quarry — the soil whose productiveness inspires the farmer's labor with joy — the air which breathes stimulus to life, the water, whether wafted in the clouds to scatter freshness over the land, or tossed in the billows bearing the treasures of commerce, are all examples of

that Divine law of the fitting combination of parts which is known to us as the expression of organization.

But when we rise above these inert combinations of substance, we find a more complex organization essential to the condition of life, whether typified in the vegetable and some of the crude beginnings of animal life, by a mere expanding change of form or by the animal which changes both form and place, the same Divine law of organization gives uniformity of character and purpose to its creations. But with life comes a new element to its existence, not of independence among individuals, whether of the vegetable or animal kingdom, but of a mutual dependence one upon another, as the only condition whereby the Divine purpose of their existence can be consummated.

Still further, as we ascend the scale of complicated organisms, till the animal assumes the crown of intelligence, and intellect becomes the throne of that Divine spark, we call the soul, more and more expansive becomes the condition of mutual dependence.

It is mankind, who in this world represents this highest type of organization. With him arise new developments of this Divine law, assuming in its broadest sense, the social aspect, first grouped in the family, the families expand to the tribe, the tribes to the nation, till it was written that "of one blood made He all the nations of the earth."

Coming down the page of history, we may trace the hand of Wisdom, commingling races, and leading the nations in the attainment of knowledge, through the centuries of conflict and destruction, through the overthrow of empires and thrones, through the civilizations, whose light perished in the barbarism of superstition and ignorance; through the dawn of hope and good will from above to man, through the light of revelation and science, till the day begins to beam with the glory of a community of interest which is encircling the world, a community of thought and intelligence, which is advancing and elevating the nations, assimilating character and placing upon all mankind the stamp of unity of thought, of hope, of purpose and destination; with all this advance of intelligence, with all the revelations

of science, with all the benefactions of invention, with all the possibilities of achievement, which are looming up in the near future, no lesson is more impressively taught than that of our mutual dependence.

In the combinations for great things, individual effort is weakness. We are taught the folly of ignoring our relations to those about us, the poverty of accomplishment without organization. On every hand it is the watchword of to-day. It gives us a place as a town or village; a city, a county, a state, a nation. It directs us in our religious thought and worship. It gives us the school, the college, the university. It gives us law and order, protects us in our varied avocations, guarantees to us the enjoyment of the fruits of our labors, gives us the power of defense when assailed, it commands respect and claims attention when selfishness and injustice would oppress. It gives character to enterprise, success to business and makes available for the benefit of many, the talents of genius and execution, possessed only by few.

Organization in all social or business relations includes co-operation. Like the substance and the shadow they are inseparable, and co-operation is only a shadow without organization. They make tangible and embody for usefulness, the great thoughts of genius.

Organization and co-operation are the expanding genii whose forms are filling the earth, whose power is making realities of the stories of Aladin's lamp, whose progress is unhindered by obstacles, whether in piercing a pathway through mountains, or burrowing a passage under the channels of the sea, or dividing continents that the wheels of commerce may tread the oceans. Beneath their influence, on every hand, a new era is developing in the world. Science does not advance into the field of discovery single-handed and alone. Her hosts are combined and push by many well defined paths into the arcana of creation.

Commerce no longer interchanges the wealth of nations through the uncertain medium of wind and tide, nor measures her cargoes in shallows, but plows both land and sea by steam — counts her burdens by the thousands of tons — gives

her messages to the lightning — voices her commands across continents, and achieves in a day with few men the task which a hundred years ago would have required months and the labor of hundreds. Capital is combined — interest, enterprise, knowledge and talent are combined, till they express a power portentous of evil in its strength and capability, unless restrained by principles of right and justice to all on the one hand, or inflexible law and penalty on the other.

The music of the spinning-wheel has ceased to be the accompaniment of the housewife's daily toil — the loom no longer remains an indispensable article of furniture in the thrifty farm house — the spectacled grandame, seated with her half-knitted stocking in the chimney corner, the click of whose needles was so familiar to our youthful ears, is almost a picture of the past. The wool carded by hand, spun by hand, woven by hand, cut and fashioned at home for service at home or abroad, is a story of times which are gone. The traveling cobbler — the handy craftsman, skillful in the construction of tools — the village foundry and its cast iron plows, together with many other industries which afforded bread to the village shopman, are now becoming absorbed by larger institutions of their kind. Capital has combined talent with machinery and skilled labor to provide for the masses of our land comforts and conveniences in a thousand directions unthought of by our grandsires.

Capital is ever watchful of the advance of science and invention, ever ready to enter any new field of discovery and draw from it new contributions. It is ever seeking large fields wherein to spread its strength and monopolize the resources which in times past were divided among many, who found them fruitful for the satisfaction of moderate wants. It has gathered for its own use the most intelligent labor, it has concentrated skill by assigning the production of single parts to the workman, instead of to the whole; it gathers artisans around the centers of manufacture, discriminates in wages, and introduces little economies into a thousand manipulations, till the single-handed efforts of the individual are paralyzed by the competition. It has

even entered the domain of agriculture, and concentrating labor and skill under the superintending control of one, garners the crops from its thousands of acres, transports them by the loaded train, ships them by the cargo, establishes its own grade, finds its most profitable market, and saves for itself the several commissions levied upon the crops of the ordinary farmer. It has gathered its herds and flocks till they are numbered by thousands; and committing their care to the cow-boy in the wild pastures of the south and west, is emulous to supply the world with its meat and clothe them with its wool. Everywhere, it seeks through organization, a channel for its employment. It seeks through co-operation protection for its interests—a better information to promote its success. A combination of many, whose mutual welfare begets an argus-eyed watchfulness, which is ever alert to repel aggression and occupy every avenue of advance. Hence, on every hand, to-day, we find individual wealth associated, that it may do better work with more profit for itself, conferring more benefit on its patrons, and by its strength in accomplishment, giving to all an assurance of perfection in quality, which makes it a standard of excellence.

Manufacturers in all their varied industries are organized for co-operation in looking after their mutual interests, be it through legislation, through the channels of business, through the laws of supply and demand, they are ever ready to act as exigency or policy shall dictate. It is not the manufacturers alone who are thus united in mutual dependence; the merchant seeks help through his board of trade, the banker has his national association, the lawyer, the physician, the teacher, the scientist, all, by their organizations, promote mutual sympathy, promote advance in thought, enlarged and comprehensive views of their several avocations, of their relations to society, and the world and increase of their self-respect. Thus, they stand forth in society stronger and better men in their several callings, because of these things. As we look through the whole range of mechanical industries, this same spirit of organization prevails. While these things are true of the commercial, the profes-

sional, mercantile, mechanical and manufacturing industries of our country—how is it with regard to its leading and most productive industry—agriculture? While all others are combined for interest and improvement, is the farmer wise to stand aloof from his fellows? Isolated socially, by his broad acres—mentally by the nature of his avocation, giving him little time for that intellectual attrition, which comes to other classes in the course of their occupations, can he afford to retain his ignorance and conceit and call it independence? We are beginning an era of broad competition. With the knowledge and the implements furnished by science and invention to aid the farmer's labors, with our vast area of virgin soil and rapidly increasing numbers occupying its domain, and so rapidly increasing the wealth of our productions, the nations of Europe have already learned that their ill-paid labor, with its scanty wants cannot avail, to supply with food at living prices, their swarming millions.

English farmers have learned by bitter experience, that their lands are too valuable to produce wheat against American rivalry.

Germany is seeking to foster her own pork industry by excluding that of America. This condition of things has been ably set forth in a pamphlet recently published by the Danish government, containing the results of their American minister's observations on the agriculture of this country. He says: "It has dawned upon us in Europe, in a measure, what American rivalry in the market of food products means, but we are yet very far from comprehending its extent and significance—its advantages and dangers. Skeptics may try to pooh-pooh it as of no consequence, but the rivalry of America in all products of agriculture is as real as the material progress of which it is the result, and we can commit no worse folly than to shut our eyes to its existence, or persuade ourselves that it will not last. It is not a fact that tillage has to any appreciable extent exhausted or soon will exhaust the fertility of the soil, nor that the culmination has been reached. It is yet far, indescribably far off. American rivalry is already an active force in the economy of the world; it will grow steadily, stronger.

Against its quantities, its enormous and constantly accumulating masses, European husbandry will battle in vain. Its defense is in emphasizing the quality—the *best* grain, the *finest* cattle, the *choicest* butter—these the European husbandman must make his aim. Here he is yet a stretch ahead of his rival, to whom quantity and cheapness must long continue chief ends.”

With this key to the situation, it is evident where at no distant future, we as farmers, must look, to obtain full claim and possession of the laurels, which are certainly within our reach, if we are wise to comprehend the advantages we possess.

Our stock breeders have combined their knowledge and experience in an organization which is designed to protect and promote their interests, and the result is apparent in the improvement of some of the more valuable breeds to such a degree, that for some time England has sought among our herds, some of the treasures she needs, to enrich the blood of her choice flocks.

Look at the dairying industry of the northwest, and learn therefrom something of the value of a farmers' organization. Effected only eighteen years ago, its products are second to none in quality, and its value is annually counted by tens of millions. In his recent address to the Illinois Dairymen's Association, the president said, that the Elgin dairymen owed much of their success to the monthly meetings of their club, organized in 1866, and which for several years, pointed out the way which dairymen ought to go in order to succeed. Without organization and its educational assistance, this vast interest would still be groping in the darkness and dissatisfaction of individual effort, its results uncertain in the quality of its productions, and equally uncertain in its pecuniary profits. With enlarged and more complete organization, may we not find a solution of the problem of oleomargarine and its kindred products, which will vainly seek a market when a uniform quality of standard butter takes the place of the uncertain lots, and ill-conditioned samples, which at present, constitute so large a proportion of the general market supply.

This subject was emphasized in the remarks by President Marvin at the last annual meeting of the Minnesota Butter and Cheese Association. Says he: "To-day known brands of creamery butter are worth nearly double the best dairy stock, not because there is this real difference, but because there is the uncertainty of factory or ladle packed goods. Consumers wishing to use genuine goods, want to know that they are such, without employing a chemist to examine every package. Hence the importance of a brand reputation. This must readily convince the producers of milk and cream, of the necessity for co-operation and centralizing their products where it can be made in large quantity, to gain both the advantage of brand reputation and to lessen the pro rata expenses of the manufacturer."

These advantages of organization are apparent at a glance. Why not extend their benefit till it shall embrace the whole range of the farmer's welfare and his interests, till it shall include all his industrial relations and combining social improvement with the education evolved from the daily application of science to the daily duties of the farm, evolved from experience applied with judgment and thought, make him proficient in all the elements which assure success to his labors. This constitutes the object and the end of the organizations which are soliciting the attention of our farmers to-day. Would that a broader education and a prompt appreciation of its privileges would lead them to advance their ranks to the proper place, as the *leaders* of all our industries.

DISCUSSION.

Mr. Hazen — The paper just read appears to be a very appropriate one on this occasion. It meets my ideas most effectually.

Mr. C. N. Plumb — I would like to say a word from a personal acquaintance with the gentleman whose paper we have just heard. This acquaintance was made last fall during a trip into St. Croix county. He is a gentleman of very high educational talents who by failing health was forced

to seek a home in the west, and he located near River Falls, in Pierce county. To him is due one of the most successful Amber Cane plants in the west. He with a gentleman of wealth established a sugar plantation, put in improved machinery and to-day probably that is the only paying sugar plantation in the state. It is marketed near St. Paul and no doubt the success of that is due to Dr. Wilcox. You might think he was theoretical but he is a thoroughly practical gentleman in every sense of the word.

Mr. Torrey read a paper entitled "The Farmer's Wife."

Mr. Hazen — We will call on our friend J. M. Smith to talk some on the subject of the propagation and culture of potatoes.

Mr. Smith — I am engaged somewhat in growing potatoes with my sons. We are engaged in buying largely and shipping them north to our customers. If we were to plant all of our land to potatoes we could not fill the orders we annually get. We buy annually many thousands of bushels of potatoes from your county. As a rule they are good. Take it on an average, they are better potatoes than we grow in our county. Now, I would like to ask some questions about them. I would like to ask how you grow them; what varieties you consider the best? In handling and selling potatoes we often get orders like this, "Send me a hundred bushels or a car-load of potatoes, provided you can — a nice quality of Early Rose; we don't want anything else." Those orders come time and time again. Sometimes we can't get Early Rose, either at home or with you, but they sell best as a rule. It is very rarely we get a direct order for any other single variety. Perhaps we sometimes send a mixed lot. We often have orders not to send until we can get a first-class lot of Early Rose. Now, tell us what varieties you have that are better than the Early Rose; tell us how you cultivate them, and how many you get to the acre.

Answer — A hundred bushels is a good crop.

Mr. Smith — Is not that a light crop?

Answer — It is an average.

Mr. Smith — We would consider that a very poor crop where we grow potatoes. What variety yields the best?

Mr. Gibson — Of the large number of varieties grown, I don't know what variety is the best. There are different methods of cultivation. The Mammoth Pearl is considered a very large yielder. The Early Rose yields well, some other varieties yield better. There are a great many better yielding potatoes than the Early Rose — Snow Flake.

J. M. Smith — Does the Snowflake yield as well as the Early Rose?

Mr. Gibson — Hardly as well. The trouble with the Early Rose is they are uneven in size, some very small ones. I am not exactly a potato raiser myself.

Mr. Smith — Is the Jordan Prolific cultivated here to any extent?

Mr. Gibson — That is cultivated but I am not acquainted with it.

Mr. Smith — What variety is earlier than the Early Rose?

Mr. Gibson — We haven't any. There is a variety called the Binkey Rose, originated by Mr. Binkey, of Weyauwega. It was considered a few days earlier. It was so like the Early Rose that a person getting them mixed can't separate them. It was a seedling of the Early Rose.

Mr. Smith — Is Clark's No. 1 any different from the Early Rose?

Mr. Gibson — I am not acquainted with it.

Mr. Smith — I will say that I got some seed of Clark's No. 1, planted them alongside of the Early Rose, planted them the same day. They came up with the Early Rose, looked precisely like them, grew precisely like them, ripened at the same time, they cooked just like them, tasted just like them, and if there was any difference there was nobody at my place could find out what it was.

Mr. Gibson — The Beauty of Hebron seems to supplant the Early Rose here.

Mr. Smith — It is not quite so early as the Early Rose?

Mr. Gibson — I think not.

Mr. Smith — Is the Early Ohio as early as the Early Rose?

Mr. Gibson—The Chicago Early Market is as early as the Early Rose. I only raised them one season.

Mr. Smith—Give us the method of cultivation?

Mr. Gibson—There are some that have had more experience. They are not here now but they will be.

Mr. Parish—My experience in raising potatoes has been limited. I have kept them on the farm for a number of years.

Mr. Stinchfield—I have been asked a dozen times what this convention was called for. It is the first convention of the kind held here and if you will postpone this discussion on potatoes until some time in the future and let it be noised about that you are going to talk potatoes I will warrant you that this hall will be filled with men who do not raise less than from ten to twenty acres each year.

By Mr. Roe—I would say a word on this potato question. There are so many in this immediate vicinity, so many throughout this county, this particular region who are pretty well posted in this potato question; they have made it a specialty so that the reputation of Waupaca and Wau-shara County potatoes has gone out all over the country. We have come up here with a definite object in our minds, that is, to get all we can out of you. I am a grower myself as well as my friend Mr. Smith. We want to get all we can out of you on the potato question; we want to learn all about it. We want to get your methods and we would be most happy to have as many of your practical men who have made this a study come here on this question.

C. M. Plumb—Mammoth clover is an immense crop. It is raised for seed. In the northern part of the state they do not raise clover for seed. It is a great fodder crop. I would like to amend Brother Roe's remarks by adding clover.

On motion the discussion on the potato question was postponed until 3 o'clock, February 20th, 1884.

On motion the convention adjourned until February 20th, 1884, at 9 o'clock A. M.

February 20th, 1884, 9 o'clock A. M., convention called to order by Mr. Hazen.

J. M. Smith then read a paper entitled :

WHAT SHALL BE DONE FOR THE BOYS UPON THE FARM?

Mr. President, Ladies and Gentlemen: Some time since I saw a statement, purporting to be from the official records, that there were three thousand deserted farms in the state of New Hampshire. Soon after reading this report, I repeated it to a friend of mine, who is a native of the state, and he said he had no doubt the statement was rather under than outside the real fact. For years it has been stated as a fact that could not be contradicted, that the majority of the farms in many of our eastern states, as they exchanged owners, were passing into the possession of our foreign born citizens.

To a certain extent this same state of affairs may be said to exist in many portions of the west, though not to the same extent as in the eastern states. Why is it, and is it right, that the landed estate of our mighty domain should pass from the possession of our native born citizens, who are certainly among the sharpest, shrewdest, and most active business men in the world, into the possession of the men who were born, reared and educated under foreign governments?

Let me not be understood as being opposed to our foreign born citizens having homes of their own among us. No one is more pleased than myself to see them working and toiling so bravely, and so economically, year after year, to obtain homes of their own and all the comforts of this life for themselves and those dependent upon them. Still, I should like to see our native born Americans share these homes to a much greater extent than they are at present doing, or seem likely to do, in the near future.

Again, the question returns to us, Why is this, and what is the remedy? Many years ago in our eastern states, if one had gone into one of the farm homes where a family of boys

were growing up, and asked what was to be done with this family of boys, the reply would have been about as follows: "Well, there is Joseph, he has a serious turn of mind and likes his books pretty well, I think we will make a minister of him. Bob is quick at his lessons, and is first rate at the debating society, he will make a good lawyer, or may-be a doctor, if he should like that best. Jim is not very quick with his books, except in writing and arithmetic, but he is always trading marbles and jack-knives with the boys and always gets the best of the trade; I think we shall put him into a store and let him learn the business, and then one of these days try and start him in the business for himself. But here is Bill, he has always been dull at his books, and does not seem to be very bright at anything; I guess we will keep him at home and make a farmer out of him. Farming is not as honorable as the professions, or as mercantile life, and is in fact a very poor business anyway. It does not require much education, nor much brains; in fact anyone knows enough to make a farmer." Fifty years ago at the east these sentiments were well nigh universal. They are not unknown at the west to-day. Still, I am glad to know that they are not as wide-spread either east or west as formerly.

But, gentlemen, I protest against this whole doctrine from beginning to end. It is neither true nor just. On the contrary, I claim and firmly believe, that when I am at work laying out drains, preparing manures and fertilizers, and so arranging and cultivating my land, that large crops of corn, potatoes, onions, cabbages or strawberries will grow, where nothing but weeds, briars, and wild and nearly worthless grapes grew a few years since, I am doing a work of humanity; nay, more, a work of religion, if you please, just as much as if I stood in the pulpit proclaiming the principles of the sermon on the mount.

I say this, not out of disrespect to religion, for I yield to none in my regard for those wonderful words, or of the Divine Teacher who gave them to us.

But I would have our sons taught that it is as honorable to haul manure upon a field for potatoes or corn as it is to

stand behind a counter and measure off calico and ribbons for the ladies, or weigh out sugars and coffee for their sons or brothers.

Teach him that putting in a good underdrain is much more honorable than studying out some legal technicality by which he might clear a Frank or Jesse James from just reward for his crimes.

Teach him to so cultivate and improve his land that at the close of each year he will be able to truthfully say: "my farm is now better able to give my family and myself a splendid living than it has ever yet been." If he has not done this, no matter how large his crops may have been, his farming has in one respect been a failure.

Teach the daughters that a well kept farm home and a knowledge of how to keep it so, and how to make tubs of gilt-edged butter, is more honorable as well as more valuable to the world than to sit in gilded parlors, robed in the finest of satins and in silks, but with nothing to do.

But I imagine that some of you are asking yourselves how is this to be accomplished? The boys do not like the farm, and will not stay at home and work upon it. Well, I do not blame them if they do not like to stay at home; I should not like to stay at such homes as some farmers' homes are; neither would I stay any longer than necessity compelled me to do. But are such homes upon farms a necessity? I say no. That the great majority of the new settlers in our state, as well as in other western states, must commence with very humble and economical ones is very certain. But in almost every case they may and ought to be made home-like and pleasant, and each passing year should add in some way to these attractions. One of the greatest objections to the farm is the almost ceaseless toil and drudgery from year's end to year's end. Neither do I wonder that boys tire of this. A farmer friend of mine, who by the way, was an excellent farmer, as well as an excellent man and a Christian gentleman, had been brought up and trained to the idea that nothing but work would answer upon the farm. He would insist upon getting up at four o'clock or a little later, both summer and winter; doing his chores and having his break-

fast in time to commence his day's work about six o'clock A. M., and work on with but little intermission from that time until dark. He had become well off financially, and if there ever had been any excuse for such a treadmill life it had long ago ceased to exist. More than once I urged upon him the necessity of his making a change in his system of working his farm; in fact he did take it more easily himself at times, during the later years of his life, but insisted upon those almost interminable days for those about him. The wife and mother was a most estimable lady; the house a beautiful one, with books, papers and music in it; a splendid garden, with fruits and flowers in abundance. Shade and ornamental trees surrounded their home, and aided in protecting them from both the summer's heat and the winter's cold.

Yet in spite of all this, that ceaseless round of hard labor and drudgery drove every one of his sons from their beautiful home, and in their old age none of the sons whom they had reared were with them to care for them or their excellent farm. To me it seemed to be the one great mistake of his life. He could and did make many fine improvements upon his farm, and kept himself posted in the agricultural knowledge of the day, but he could not, and did not break away from that life of incessant toil, both for himself and those about him, to which he had been trained in his early life.

Gentlemen, may I, without seeming to be egotistical, refer to my own practice in this respect? I do not do so for the purpose of boasting of my success, but because I can better illustrate my ideas by so doing.

Many years ago, I do not know how many, I adopted the ten hour system in my garden. All the men, boys and girls, are expected to be on hand and to be ready to commence work promptly at the ringing of the bell—seven o'clock. At twelve it rings again for dinner. At one it rings for the commencement of the afternoon's labor, and at six for the close of the day. At this time all work ceases, unless it may be during some very busy time, when they are asked to come one or two hours earlier, or to work one or two hours later.

They are always paid extra for this time. Ten hours' work is a day's work, whether with our own boys or our neighbors' boys. A boy is kept to do chores, or one of the garden boys is paid extra for doing them before and after working hours. During the long days of the summer this gives the boys no little time for reading, writing, studying music, going bathing, going fishing, going riding, going to a concert, or going to make an evening visit if they prefer.

A number of years since I was at work in the garden when one of the neighbor's sons came along and stopped to chat with me. He was a bright, active young man of about twenty years of age. While we were talking I said that my work was getting behind and I must hire some more help as soon as I could get it. My sons were at work a short distance away, and just then one of them came to me and says: "Father, Mr. ——'s boys are going duck hunting tomorrow and we should like to go with them, can't we go?" I replied: "Yes, go and finish the little job that you are at, and then get ready to-night, and take the whole day tomorrow, and after a day's sport the work will come easier." I should never have thought of the occurrence again except for what follows. After my son had left the young man began to laugh. I said: "What pleases you, William?" He replied: "Not two minutes ago you said you must hire more men to work, and then the first thing let all of your own boys go off duck hunting. I was just thinking what would have happened if we had asked our father to let us go hunting." "Well, would he not let you go?" I asked. He replied: "Let us go? he would have thrashed the very hide off our backs if we had even asked him." I afterward learned that this young man's father was a merciless tyrant and savage over his entire family. Of course, both his boys and girls left him as fast as they felt able to care for themselves. This little incident may seem to be a small matter, although its influence is by no means small. I have no recollection of ever saying to my boys that they could not go either hunting, or fishing, or boating, when they wished for a day's sport of that kind. On the contrary, I have very distinct recollections of saying to them repeatedly, after they had been

at work for some time without a rest of any kind, that I wished we could have a nice dinner of roast ducks, or of black bass from the bay shore, or a dish of snipes. Of course it would not be long before they would be off having a first-rate time, whether they got any game or not. If it is not during the hunting or fishing season, I have said, can you not get up a nice party and go off either in the boat or in the wagon, and spend the day and have a picnic dinner, and let your mother and myself go along? One of our wagons is upon springs, and is capable of carrying eight or ten without crowding, and is an easy one to ride in, although by no means an expensive one. It is used for such purposes as well as for light marketing. Our library is very moderate in size, but composed almost entirely of standard works. The house literally runs over with papers of all kinds, and magazines as well. Our home is neither a very large nor a very extravagant one. Yet wife and myself have tried to make it a very pleasant and happy one, not only for ourselves, but for our children and grandchildren. We have many visitors every year. We incur no large expense in caring for them, yet I hardly think that they will say that wife makes our home a failure for our friends. Our children know that their friends are as welcome to our home, as are our own.

Perhaps you are asking yourselves what is the result of this waste of time, this hunting, boating, fishing, picnicing during the very busy season. These are fair questions and shall be fairly answered. It is possible that I have not made as much clear money as if I had pursued some other course. Still, I am by no means certain of that. As to our sons, the net result thus far is about as follows:

We have seven sons. None of them are ignorant. None of them are afraid or ashamed to work. None of them think that the cultivation of the soil is a poor business, provided it is done as it should be. Some of the older ones have already comfortable homes of their own and have them paid for. All of the others are saving money toward the same end. None of them consider any other profession any more honorable than the cultivation of the soil. I think

that none of them neglect their work, and yet they have their play days as in days at home.

I remember one day last season one of them took his wife and went fishing. He rowed the boat and she managed the two trolling lines. In a few hours she caught between seventy and eighty beautiful black bass. She could not have lifted them at one time had they been put into a basket large enough to hold them. But suppose she had had no success with her lines, there was the day's ride, the out-door exercise, the pleasure of knowing that her efforts to make their home a happy one was appreciated.

As to the future, I have no fear that they will ever cease to love the soil. Wherever they may roam, or whatever business may for a time engage their attention, they will turn with pleasant memories to the home land that they assisted in changing from an almost worthless common to a land that made us all happy, by yielding us one, two, and sometimes three huge crops in a single season. Neither will they forget the mother's flowers, how they grew and how they bloomed in their beauty and their purity. Neither will they forget the little flower garden that annually bloomed at their own homes, under the care of the young wives and mothers. In short, the love of the soil and its improvement, and how to make large crops grow, has become a part, almost, of their existence, and they cannot forget it if they would. They would not forget it if they could.

Excuse me, gentlemen, for referring to myself to such an extent. I have no desire to place myself before you as a model, and will only say that if my experience has any value in this respect, those who choose may follow it. If not, then pursue some better method. It has long seemed to me that one of the prominent faults of our system of cultivation is this: A farmer very often attempts to do entirely too much for the help he has upon his farm. The result is, that he is always behind with his work, and the boys can see nothing but a mountain of work before them, and work as hard as they may or can, it only lessens the amount a little, but never gets even with it. This ought not so to be. It cannot

but be discouraging to wide awake and active boys or young men, to constantly see before them an ever accumulating amount of work that they well know they cannot get through with until a still larger amount is needing to be done elsewhere.

One of my own rules has long been to never let my work get ahead of me. One of my sons is the foreman, and I am ever upon the watch with him to see that there is plenty of help to do everything in time. I will not pretend that we do invariably keep all work done at the exact time it should be. Still, that is the rule, and it may be truthfully said that we keep reasonably near it. Another fault in the education of the boys is, that they are allowed, if not taught, to believe that farming is a poor business; that it is not as good as mercantile life, or as to be a professional man. It is in the estimation of many, not quite as honorable as some other business would be. Gentlemen, this is all wrong. It is wrong for two reasons. One is, it is not true, and the other is, it is entirely unjust to ourselves and the profession to which we belong. Statistics will show beyond all dispute that the cultivation of the soil is the safest business of our country. While there are no fortunes made as large as some of our railroad magnates accumulate, or as some of our merchants obtain, still, there are no such wretched failures as are to be found among them. Another fact will be found to be beyond dispute. Other things being equal, the more intelligence a farmer has in regard to his entire business from the first preparation of the soil to the final sale of the produce of his farm, the more successful will he be financially. In fact, I cannot now recollect in the whole circle of my acquaintance among farmers, and it is by no means a small one, of a single thoroughly wide awake, intelligent man, who understood his business and attended to it, that ever made a failure of his farming. On the contrary, while the final result may not be a very large fortune, it will almost assuredly be a comfortable home, with all that he needs to make himself and those dependent upon him happy and contented in their old age.

As to our profession not being as honorable as that of any

other, I care not what one it is, I do not believe that there is one man in the city of Green Bay who would make such a claim. If he should make it in my presence, he would commence a debate at once, in which I do not believe he would come out first best. I am sorry to acknowledge that it is a fact that a very large proportion of the prominent offices of our country are filled by men entirely outside of our profession. But whose fault is it? Lawyers, with but a light practice, are generally willing to accept, and in fact, to seek some better position than their offices, and I do not blame them for it. Are they better fitted for these places than are some of our own number? If not, why are they there? Whose votes place them there? I leave these questions for your thought and consideration. But allow me to say this much, I can count farmers by the dozen in different portions of our state, who would be an honor to almost any office within the gift of our people from that of governor down to that of overseer of the highway. Whenever the farmers say the word, these positions, or a majority of them, will be filled by men of our profession, who will not only be an honor to us, but to the citizens of the entire state as well.

Gentlemen, these are things which, in my opinion, should be taught our sons upon the farm. A second-class law office has been in the past too much of a royal highway to political honors. It is time it should cease to be such. Teach your son that he has rights upon the farm that cannot be ignored with impunity. Teach him to be worthy of those rights. Teach him how to maintain them. I wish to preach no crusade against any other business or profession, but I do wish our boys taught that our position is as honorable, and as high as that of any other trade, business, or profession, in the United States. To this I make no exception. I would have them well and broadly educated. By this I do not mean that they should be taught Latin, Greek, Hebrew, or Sanscrit. But they should know something of the chemistry of soils and of crops. They should know how crops grow and how they feed, and upon what they feed. They should know something of the botany of plants and flowers. They should know something of the organization of the different

classes of animals, which of them are best fitted for their own farms, and why it is so. What machinery is best adapted to their use, and how to care for it. What fruits, plants, flowers, shrubbery, etc., will best adorn and help to make their homes happy and how to care for them. When their crops or produce of any kind is ready for a market they should know whether the world's supply of any one or all of them is a large or a small one. If there is a deficiency anywhere they should know it, and the freight rates to it. They should be taught to understand our inter-state commerce, our entire system of government revenues, how they are collected, for what purposes, and to what purposes the money is applied. In short, they should be educated to be men—broad, grand and noble men; and then taught to believe that they are men. As they walk over the broad and beautiful acres that are, or may become theirs in the future, I would have them feel that they are not the inferiors of any race, class, or profession of men, either in this or any other country, and that just so far as the Father over all has given them the intellect, they are the peers, both in honor and usefulness, of any class, be they either statesman or generals, president or king.

During the reading of the paper Mr. Smith made the following remarks:

I do not feel as if I was an entire stranger to the people of Waupaca county. Perhaps in respect to this point I may illustrate my meaning by the history of a friend of mine. He married young and moved out into Michigan into a part of the state that was a wilderness and commenced farming. They lived in a log house a good many years, had a large family, there were no schools, no churches within reach of them. They had to educate their own children. Their log house grew to be covered almost all one side of it with vines and climbing roses, and they had a yard of flowers and fruits and everything as nice as it could be made. One day a friend of the lady called to see them, he was the owner of and living in the largest house in the county. He

was wealthy. After chatting awhile, he threw himself down on the lounge, and said, "Well, Sarah, you have got the most pure home in this log house of any place I have been in my life." Yet she had done it with nothing. Her husband was poor. They had nothing except what they earned right there in the woods. I claim what they did others can do.

DISCUSSION.

Mr. Hazen — The paper just read I heartily indorse.

Mr. Roe — This paper of our friend Smith in some of its bearings will probably be one of the most important papers that we will have read in our hearing at this convention. For my own part I know of no question that can come up for discussion in this convention more important than the one "How shall we Keep our Boys on the Farm." All around me I find the farm deserted, or in process of desertion. The American boys are leaving the farm. Where large families have been reared, in more than one instance (I recollect one now in my mind's eye) the old folks are living solitary and alone, deserted, in the old homestead and the children gone out from them, scattered all over, and in many instances in different avocations. I see also in the town and sections adjacent to where the foreign element, German, Dane, Switzer, Norwegian, is coming in and taking up our American farms, and for what purpose? As a farmer told me, one of our best and most successful men, a man who had amassed wealth, that his children are all away from home and the chores are getting to be a heavier chore, as the phrase is, every day. He feels the burthen of the work with increasing years and he must get rid of the farm, he must go into the city.

Now this process is going on very widely. Of course if the American element is not able and willing to remain masters of the soil or lords of the soil, if we must yield precedence to the foreign element, then yield we may and must, but I am not prepared for any such conclusion as this and the question takes the practical issue with us, "How shall

we keep the boys on the farm?" How shall we keep our boys, our children interested in farm life with a definite aim and a bright, hopeful future before them on the farm? Now I think this can be done. We have the example and the statement here made, in no egotistical vein, for we know the man too well to associate even the thought with our friend Smith. I have been in that house. I am acquainted personally with those boys who find their pleasure and measure of profit on the farm, or in the market garden, in the future that they are hewing for themselves in farms that shall be their own. I hope the same for my own boys. I have one that is well on in years. He has taken an active interest in the farm. I would make this suggestion and there are those familiar with the facts, and I think as I state them will sustain me in the statement which I make. I know homes where there are large families to-day, and a large proportion of them may be girls. Now it too often occurs in the thought of those young growing girls in the family, well father is getting old and mother is not as strong as she was and the returns from the farm are not what we wish they were, and we must go out and earn our own living. We must go out from the home and find places for us in the adjacent village or adjacent town, and they leave the shelter of the home roof and they find their way among strangers; pretty often they lose so much which was before theirs of peace and purity and happiness which was once theirs in their country home. Again and again have I met instances of this kind or as one of our leading instructors told me, to use his own phrase (I am using a technical expression) the nagging on the nerves sustained, the wear and tear of a teachers' life, the constant breaking down of our teachers, and I know of an instance not far from here where a young girl returned home to die. We just took up the papers a short time ago where a brilliant young girl went to the insane asylum from one of our neighboring cities. The strain, the idea that there was no future for them but outside of the home away from the farm is too much.

Now pardon me, Mr. President, if I would be allowed to

make this suggestion. It would seem in this age that the combination and co-operation that we see improved in so many instances by the varied trades and professions and manufactories of our land and which was alluded to so ably in the paper read last night, which is so true on a larger scale of our corporations and great institutions may also be true in a smaller scale of home life on the farm. As we see it in the first family, there was the wool grower and there was the agriculturist. I am very sorry for the agriculturist that he turned out so badly, but there will be black sheep in all families. In the first family I referred to the diversity of tastes, difference of character and mind, and the path that is chosen. We have one who is a natural stock grower, takes a fancy to poultry, who has a love for horticulture, for fruit and flowers, who takes to gardening. We have those again whose tastes are otherwise. Now in this home life on the farm can there not be this combination and this co-operation. Where one of the boys has a taste for stock let that boy have an interest, even in a small way at first and let it be developed as the boy's talent develops. Let him have a personal interest in the stock of the farm, something which belongs to him. The same of the garden. So of our young ladies. The outside life of the farm should have its attractions too. How many are growing up of our American girls who are so fragile, so physically worthless that they are (I am using strong terms) physically frauds, who are utterly disqualified for what should be their future in life. Now if they did as their English sisters, if they should go out in the pure air and bright sunshine winning health and strength in horticulture, in the culture of flowers and fruit, in bee-keeping or poultry raising and these various outside employments which are perfectly consistent with propriety and even elegance, if those things were attended to, as they may be on the farm, they would find in the home life a field for the exercise of mind and body, they would find their opportunity for acquiring means sufficient for their own maintenance, not only sufficient for their own maintenance in clothing themselves according to their taste, but for pro-

curing books suitable for their mental growth and mental want. They will have the pleasure of feeling that they are contributing to the needs, to the profit and enjoyment of the home, each one in his or her own way furnishing his or her quota to the general support.

Mr. Torrey — This question of what shall we do with our boys on the farm, seems to me as one of great importance, but there is a like one of equal importance, what shall we do without our boys on the farm? The question of course comes to every parent's heart, what shall we do with John or Mary? What field in life shall we fit them for? What influences surround them with, that shall make them worthy citizens of such a country as ours? The anxiety is not only with the farmer, but a greater anxiety is in the city with the parent there. When every avenue of temptation and sin is open to the youth of the cities, it becomes one of the most serious questions in the world, what shall be done with the boys? If the boys of the farm were to-day to look rightly at the question, could tear aside the screen that hides city life, and see the actual dangers and temptations that surround the youth in the city in every avenue of sin and crime that is open to them in the most attractive form, and see the actual results, they would stick to the farm, if they had to work eighteen hours out of every twenty-four. The anxiety is not alone on the farm, it is everywhere. I do not know that I ever heard a better idea advanced of making farm life attractive than was advanced in the simple statement of our friend Mr. Smith, that ten hours a day was a day's work on the farm as much as in the shop. Then there is time for recreation, then there is time for study, then there is time for play, for social meetings and time for everything that shall make life attractive. Life is just as attractive on the farm as it is in the city, without these temptations. The gilded palaces of sin are not wide open, swallowing up the youth in the country as in the city. If we cannot perform the work on the farm without working eighteen hours a day with the help we have, we better employ more help than to let the boys feel as though their energy was being taken from

them in their youth by over-exertion, either mental or physical. I cannot conceive why so many boys do leave the farm and go to the city. There is a wear and tear upon those in the city that we do not find on the farm. There is many and many a man in our cities that has left the farm, left its associations, that would give worlds to be back there again. Every energy is sapped. Over-exertion shortens his life and there is nothing to compensate for it. It seems to me that liberal policy pursued towards the boys and girls by every farmer, so far as granting them every possible chance for improvement and enjoyment are concerned, will be one of the influences that will keep them on the farm. We all say and we all believe that the occupation of farming is one of the most noble and honorable occupations. We claim this in our conventions. The merchant depends upon the farmer. If the farmer fails in his crop the merchant fails. We are all dependent upon the farmer. It is the grandest calling in the world, yet how many of our farmers there are who by their acts deny the precept. They are anxious to get off the farm and get into the city.

The boys are scattered here and there picking up a precarious living. I care not what the calling is, any man can honor his calling, and make it so prominent that others will adopt it and stick by it.

Mr. Huntley — It is necessary also to have the boys occupy offices of trust. We would not keep the boys on the farm to the exclusion of filling places of trust. They do not occupy them now, the boys that are grown up, boys of our age, in the proportion that they should and I think the fault is our own. Lawyers and others fill those offices. When the intelligence of the farmers grows to that extent that they can fill those offices, when the people are educated so that they will just as soon vote for a farmer as a lawyer, then the time will have passed when we shall be quarreling about the offices to be filled. The first thing is to have your sons able to fill any calling, and when he comes into the city and a topic is broached, let him be as intelligent as any city boy; let him know what the last speeches are in Con-

gress, and whether his interests have been cared for. I think there are two sides to this question, city and farm. We do not want them to remain on the farm. I have three boys. Since I have not been as rugged as I was, I have been commiserated because my boys were not at home. The younger boy wished to leave home, he thought he could help me as much away from home as at home and better his education. He has sent home more than money enough to pay a hired man since he left home, and also got some experience. Their mother did the most of the corresponding with them. As soon as it was known that father was not able to manage the farm, the boys corresponded with each other and among themselves decided which boy should come home. One of them came, and is there now.

Mr. Rhodes — This is a matter that I feel deeply interested in. I do not consider the point of how shall we get the most money out of our boys but how shall we make them the highest type of American citizens. George Washington, I take it, is the model for all patriotic Americans. We have been flooded with every thing from Europe. A dark stream is coming here threatening to wipe out the Puritan stream, that enobles the American farmer. As far as I have any sentiments on this subject I say let us first give our boys that kind of treatment upon the farm that will develop a good, rugged constitution. In the next place give them that kind of intellectual training that will give them the ability to reason upon every matter of every day life and interest them not only in the farm, but in governmental matters and politics and religion, and if our boy is well educated with a well developed physique and has that proper mental training in our schools and in the family that he ought to have he will be already to prepare himself for any position within the gift of the people and if we brought him to that point I think we should not worry ourselves whether he stays on the farm or not. Just as sure as water will find its level just so sure will your boy find that place in the gift of the people that he is fitted for and that he is worthy of. Our courts want overhauling, our legislature wants overhauling. We want to send up a crowd of young American

farmers to Washington to regulate these matters. Our jury system is not worth a copper, it wants to be remodeled. The lawyers never will do it. We have to send up farmers to remodel that system.

Prof. Henry — I am greatly pleased with the remarks made by the last gentleman. I think he has given us a great deal of food and I want to add one word, and that is, in educating these boys for any position in life let us give a little more agricultural bent to that education. Who has written all our text-books? Who have been the educated men in the classics, the old Latin and Greek scholars? Educated men. Everything has come down from that side. You know as well as I, that as the twig is bent the tree is inclined. If we expect to make professional men of our boys, let his books be oratory and the achievements of eminent men. If we expect to make a good, thrifty farmer, let us have good agricultural and horticultural matter before the boys. I do not see why the lawyer and the educated men should have written so many of our text-books. It seems to me there are a great many topics about live stock and agriculture that might be incorporated into our text-books as well as the speeches of Robert Emmett. With all respect for those present there is not one farmer in ten that takes an agricultural paper. This is a fact that I find out by writing to the farmers and editors. It is less than one paper to ten farmers. What lawyer does not take a legal paper? Go down to the telegraph office and you will find the telegrapher takes the *Telegrapher*. When we are so careless it is no wonder that the boys do not see the intellectual side. Many young men do not know what books to read. A learned lawyer in Madison said the other day that there was no literature in agriculture. There are some books that a boy can sweat over just as hard as algebra. If a man expects to be a lawyer he studies hard. Down at Madison you will find boys sitting up at night and working hard. Why ought not our boys be studying something about agriculture at least with a fair degree of energy— put in a little mental effort. I am going to say some more on this and I don't want to exhaust the subject.

Mr. Smith — A good many years ago, when our boys were small, we worked ten or twelve hours a day just as we could. We adopted the ten hour system and we all liked it very much better. A few years ago, during the very hard times, the profits were small, everybody was hard up, we tried the eleven hour plan. We only tried that for one year then we went back to the ten hour system. It is now the universal opinion of all our family that we could not only have a pleasanter time, but we got more work for the money we paid out and have the work done better by the adoption of the ten hour rule than in any other way. Where they worked extra we paid them extra for their time.

Prof. Henry — Do you believe it practicable for a good farmer who has to make every dollar out of the soil to adopt the ten hour system?

Mr. Smith — Why not. My principle is this, that you will get more work done for a dollar upon the ten hour system than you will for a dollar in the eighteen hour system.

Prof. Henry — Do you believe a man running a dairy farm could adopt that system?

Mr. Smith — I do not. It is not exactly ten hours in a dairy farm, for instance you have to go to work early in the morning to care for the cows, then you have got to work late in the evening. Let us have some limitation. Don't get up at four o'clock and commence milking, until six or seven, then go into the field and work until six, then go to milking again until eight. What comfort is that? I wouldn't give a snap for a boy that would stay on the farm that had to work that way. It is not sensible; it is not right; it is not just. With regard to the remarks of Prof. Henry. There are a great many problems more difficult than algebra or Euclid. There are a good many in agriculture that I have not been able to manage, even with Prof. Henry's help, and he is good help, too.

Prof. Henry — I would like to ask Mr. Smith whether he would recommend the ladies to adopt the ten hour system. We are all aware that Mr. Smith is a ladies' man. I want to see how he advocates the cause.

Mr. Smith — It is forty years in a few days since wife and

I were married. When we started in life we agreed that I should manage the out-door matter, and she should manage the matters in the house. We have not quarreled with each other or intrenched on each others domain.

Mr. Randall — Have you kept the contract?

Mr. Smith — Yes, sir.

Mr. Randall — I mean in reference to the outside work and inside work.

Mr. Smith — Yes, sir; she has not interfered with me nor I with her.

Mr. Griswold — I think this theory is all right about working ten hours a day, but I don't know how the dairy farmer can do it. I have been keeping twenty head of cattle this winter, and I work from eleven to eighteen hours. Unless you stop in the middle of the day and take your leisure, then you can't take it in the evening, you can't stop at 6 o'clock. It is very well for Mr. Smith, because he is not a dairy farmer. He can stop his business at 6 o'clock. Where is the farmer in the state of Wisconsin that can do it. The business of the general farmer requires more than ten hours' labor. Prof. Henry's idea of the boys staying on the farm is mine. Give the boys agricultural papers. I do not think that there is one farmer out of twenty that takes a paper. Prof. Henry says one out of ten men in all other professions take papers to give them information on their particular subject. Why should not the farmer take an agricultural paper. There is an agent here for a Wisconsin paper. If you don't like it just subscribe for one year or for three months. I say to the farmers that do not take agricultural papers, just commence to-day. Some boys will not succeed on the farm. Let them go into some other business and they will succeed. There is no use of making that boy stay on the farm, for he has no inclination to stay on the farm, he will never succeed. Teach your boy to employ his leisure hours in study, read the papers and books that he may be better fitted to take a place at the capitol as a legislator.

Everything requires time. The farmer has not the time to study as has the professional man. We need professional men like Professor Henry. The farmer cannot be a lawyer,

or a merchant, or a doctor, or a chemist. Each one is a profession by itself. It is said that one trade is enough for any man, and is as much as he can learn. The farmer should read to enable him to prosecute his business. If you want your boys to stay on the farm you want to instill in their minds that they can make some money on the farm, about as much as any other profession. Is your boy going to stay on the farm and work ten to eighteen hours a day when he sees his neighbor's boy who has gone to the city only working six hours a day and getting double the money that he does. Not at all. I know boys that wouldn't work on a farm, they went away and now they are worth twenty-five or thirty thousand dollars. If they had stayed on the farm they would not have been worth five.

Mr. Roe — My experience tallies somewhat in regard to this question of time. Now the question naturally arises how is the dairyman going to work only ten hours a day? Where is he going to get time to rest? Right after the dinner hour, in the wide arch of the day. Every nerve and muscle is on the stretch. Take one hour of good honest rest at noon time and then you can go to work. I find it so with Dutch women on the farm. The hoe is lifted up and dropped down quicker, and the time is well put in. If they have a rest they can go to work with a vim and they do more in two hours than they did before.

ESSENTIALS TO PROSPEROUS COMMUNITIES.

By R. D. TORREY.

Mr. President, Ladies and Gentlemen — It affords me a very great pleasure to meet again with so many old time friends on an occasion of this kind.

As for the last ten or twelve years it has been my privilege each winter to associate with members of these two societies represented here, in meetings of this character and kind in different portions of our state, the present brings back again very many pleasant memories, and I assure you

I am glad to meet so many of you again and also find so many new faces present, thus showing that the interest in Industrial Conventions is not waning but is on the increase.

I shall take the liberty of changing my topic slightly, and make it read

ESSENTIALS TO PROSPEROUS COMMUNITIES.

The word Communities may also be used in a broader sense, the one that is permitted under a strict definition of the word as given by authority. Webster says community means: 1, "Common possession, or enjoyment; 2, A society of people having common rights, privileges, or interests, civil, political or ecclesiastical, or living under the same laws and regulations; or, 3, Society at large, a State or commonwealth, the public or people in general."

Irving uses the word in the sense of "unreserved thought and feeling," so that with the latitude given we do not hesitate to give even more extended application to the word.

But before proceeding, an allusion to the word prosperous or prosperity may not be out of place. The same authority says to prosper is to be successful—to succeed, to thrive. Prosperity is advance or gain in anything good or desirable, successful progress in any business enterprise; attainment of the object desired, as prosperity of arts, agricultural or commercial prosperity; national prosperity, etc. These definitions, however, may be considered arbitrary, of both words, and either is applicable, to many things not commonly accepted, not that it is proposed to construct a new dictionary in this paper, but to apply old thought to new objects, and thereby gain perhaps some profit in the consideration. Prosperous nations are made up of prosperous states, counties, cities, towns, and homes, but all depend on the prosperity of individuals, in whatever interest you consider it, whether in art, and science, in manufactures, in agriculture, or in social and benevolent societies, or church association, for it is but one aggregation of individuals that makes a community, whether large or small, so that primarily it is in keeping with this paper to consider individual prosperity,

and in this sense one may ask what is prosperity to a man, or rather what is real prosperity, and in the answer it may be well to say that all men are ready to praise the man who prospers, without a thought as to the basis of or methods he may adopt to secure his prosperity; he may do so, while engaged in some business or enterprise that works absolute ruin to his neighbor, either financially, morally or socially, and yet to the general run of men, it is sufficient to record, he is getting rich, to cause all men to fall down and worship him, even though it be but a "golden calf." He may obtain wealth, even at the cost of his own manhood; he may lose all honor in the struggle to amass a fortune; he may make many a worthy man or woman bite the dust in his mad ambition to be rich; he may crush the poor and turn a deaf ear to their cry for bread, and yet if he succeeds in acquiring a fortune, all except perhaps his victims, are ready to do him homage. And why?

Not to enter into any discussion as to the right or wrong of the question, the answer comes that we have erroneous notions as to a prosperity that is real, and true and desirable. All through time men have been worshippers of mammon, and there never was a time when this worship was more apparent than now. All partake of it. None are exempt and the thought invades every walk of life. It is not so much a question with the young man or maiden seeking an alliance for life whether the party is a true man or woman as it is how many acres of land, or how many greenbacks enter into the copartnership. It is not the question as to *how* Dives obtained his wealth so much as the fact that he is rich, that makes us raise our hats as he rolls by in his costly carriage with liveried servants. We do not stop to question his methods in our anxiety to show a friend his palatial residence, and beautiful grounds, and broad acres. It has not been the design of this paper thus far to speak of any nefarious or disreputable business, for there is plenty to say taken from what are considered the legitimate fields of life; neither do we class men engaged in correct business with those who are not, only in this, that neither can obtain wealth at the expense of honor, manhood and health, and

no evidence be given of real-prosperity, though riches may be theirs to a surfeit. Then in individuals an essential to true prosperity is health in mind and body, a true regard for the rights of others, honest and honorable dealing with all men, and though you may belong to "the tin pail brigade," if in possession of these essentials, your prosperity is greater and more substantial in a thatched cottage, eating honest bread, than in a palace without them. In other words, if we build financially, socially, morally or politically on wrongs to ourselves or to others, our foundation is so sandy that sometime the whole superstructure must come down, and our seeming prosperity vanish into thin air.

Then if prosperity means only the acquirement of wealth, the increase of wealth, then the essentials are keen business sagacity, close application to business, and favorable circumstances, but if a higher view be taken of what prosperity is, then combine those named with integrity, and uprightness, with a proper regard for the rights of others in all the walks of life, and then it would seem, we have a really prosperous man.

So much for individual prosperity. We will take for our first community, the Home Circle, for here we find is the most important community of all; this is the cradle of all others, the sons and daughters of the national community are trained here, and go out into the world, with whatever lessons that have been taught them fully learned, and in all their lives they will never cease to be influenced by them. What, then, may be asked, are essentials to the prosperity of the Home Community? Surely money is one of them, but not all, nor is it the greatest one by any means. There are so many things more important, that money may be said to be convenience, more than an essential, but if properly used it becomes a powerful aid in the development of real essentials to the prosperity and happiness of the household.

There should be a perfect and full confidence between all members of this community, between parent and child, as well as between the united head of the circle; no boy is safer from temptation than when he keeps no secrets from his father; no girl can find a truer friend in whom to confide

than her mother, and that young lady who has grown up in this manner is all the better for it. This confidence existing, other essentials are readily found and retained, such as the making the home circle the brightest and most pleasant spot on earth, so prosperous and happy that time spent away from it will seem to each member like an utter waste. Music and reading, yea, even dancing, may all come in as essentials and fill their place, and be of good service in making the community prosperous and happy.

Essentials to success in business or among them is one that never fails, and that is, the more attractive the place the more patronage we get. If one iota of the pains were taken to make the home circle attractive that the proprietor of the saloon uses, there would be more boys at home evenings than now.

The shades of anxiety on the face of the parent would be chased easily away if homes were made pleasant, for the boy or girl would love the old hearthstone too well to desert it for other society, and if, perchance, one of its members shall stray out of the fold, yet memories of the faithful teachings given us in youth will come athwart our pathways and lead us back again sometime.

From the perfect home community go out into the wider, broader communities, perfect men and women, whose influence is everywhere felt for good; and these latter, if composed of the former never fail to make strong and substantial communities, with the blessing of heaven resting on them.

We come now to consider our national community, and what is most essential to that greater prosperity so desirable, and first, may be noted that of education. I am well aware that we boast of our enlightenment of our munificent public school system, and well we may, but only in comparison with what it ought to be. True it is, that it is one of the grandest monuments that could be raised to its founders, but is not as efficient as it ought to be or may be made if its provisions are properly used, and the advantages utilized. Congressman Willis, of Kentucky, has introduced a bill for federal aid to education, and makes the startling announce-

ment that one voter in every five cannot write his name; this is denied in several of the leading papers of the last few days, and it probably is overstated, but in an editorial of yesterday in the *Evening Wisconsin*, while proving the overestimate, the following truths are given which lead to other thoughts, viz., that while we have the most munificent school system in the world, yet it can be and should be improved, and not only so, but those who neglect to avail themselves of its benefits should be compelled to do so, and if poverty intervenes then let the state supply the necessary text-books, so that all may be benefited, and education be no longer confined to the wealthier classes.

I will read a slight extract from this editorial.

There is illiteracy enough to warrant prompt and generous national aid to the cause of popular education. There is illiteracy enough under the very shadows of school houses all over the land to imperil the healthful growth and permanence of republican institutions. There should be congressional legislation in aid of the public school system; and the danger from ignorance that overhangs the country should be dissipated by an enforced education of every child at any cost.

Another essential is a proper regard for the Sabbath. The command, remember the Sabbath day, etc., rests with all emphasis on nations, and yet it would seem that in this nation, but more especially in our larger cities, probably ninety per cent. of the population disregard in greater or less degree the day, and it is coming to be regarded more of a holiday than anything else, and business is carried on, on a larger scale than on any other day in the week—that is certain kinds of business. The history of nations is that no nation has disregarded the commands of the Ruler of the universe for a great length of time without in some manner paying the penalty. Nations may not do it more than individuals; but we have law enough; let it be enforced. A proper regard on the part of capital, to the rights of labor, or else sooner or later the irrepressible conflict between the two will be upon us; fewer millionaires in congress, and more representatives of the common people.

Smaller farms and more farmers, for one of the dangers of the present day is, that our public domain shall fall into the hands of a few speculators.

Our citizens, our homes, our common country, are all prosperous; but only in comparison, so much room there is for improvement.

DISCUSSION.

Mr. Roe—Some time ago, in one of the leading manufacturing cities of New England, a prominent manufacturer and employer was in the city council where the subject was discussed of opening an evening exhibition and reading room on the Sabbath, but before a vote was taken in the council, the foreman of his workshop came to him, touched his hat very respectfully to him and said that he had come as the spokesman of his fellow workers. Says he: "Mr. So-and-So, while we do not wish to differ with you, while we feel you are our friend as well as our employer, if you will allow us to respectfully suggest that we do differ with you on this subject. If for our enjoyment, we will say in this instance you feel authorized to violate the laws of God and of the country in opening these rooms and this exhibition on the Sabbath, we feel that it may prove for us the thin edge of the wedge, and in the future, when occasion may seem to demand it, our employers may take our time and strength on the Sabbath for their own uses as they may see fit.

Mr. Rhodes—I have no word of criticism to offer in regard to the article so able written and read, but I would like to add a trifle to it. It is this, if we stockmen are trying to make a good horse we know it will not do to starve a colt. We must feed them with that quality of food required to build up a perfect animal. Now to have a prosperous community we must have prosperous men and prosperous women, we must have men that have in them the elements of prosperity and to the boy that is growing up to be a man we must afford that amount of mental food that will develop in him a prosperous man—a man that is powerful because he is able to grasp every question that interests the American citizen. What are our boys reading? The country is flooded with cheap newspapers, cheap novels and the majority of the

young are reading stuff that does no more good than drinking dish water. I think this is a question worth looking after. Our forefathers, what did they read? They had no cheap newspapers, no novels. They read the Bible largely, read Shakespeare, Scott's novels and scientific works and see what a class of men they made. Let us see if we can not develop in our boys a taste for good reading. Let us not buy this cheap, blood and thunder literature. We will find that the best is the cheapest at any price. The taste of our boys will run downward. Let us get an inclination upwards. Let us cultivate in them a taste for that class of literature which is elevating.

Mr. Huntley — I would like one mistake corrected that the writer made, and that is in regard to our school system. I don't think it is the best. If you look around you will find that there is not a single state but expends more money than Wisconsin. She is a good ways behind. The taxation in our state is ten times as much for the support of the schools in one community as it is in another. All this falls upon the poor and weak. There is something very wrong, and it is high time we stopped praising this system and went to work reforming it. If there is one thing that is true, it is that the state should educate its people. In new settled communities they vote and tax themselves to educate their children. In an adjoining district the town will only vote one-tenth. That is not equal taxation. The richest county in the state only votes one-tenth as much tax as some of the poorer counties. I never was so much astonished as when the writer stated we had the best system of schools in the world. We have got to reform it.

Mr. Torrey — It is not the first time I have astonished my brother Huntley. I wish to say a word about the literature for our young people. The statement was made to me by a friend in the city of Oshkosh some time ago, that he didn't know what he was going to do with his boy, he was bound to read all manner of trashy literature that was unfit for anybody to read. He didn't know what to do with him to get him away from it. I met him two or three months after that, says he "I have just hit a rule by which I succeeded. I

told the boy I would buy him five pages of light, trashy literature for every page of history he would read." He says it was not long before it was reversed, he was reading five pages of history for one of the light trash. He acquired a taste for it. I wish to say that I think the paper did not state that we actually had the best school system. I said it was the best but only in comparison with what it ought to be.

Mr. Huntley—I think you made a misstatement of the facts.

Mr. Torrey—There is an old saying "A woman convinced against her will is of the same opinion still."

Mr. Huntley—I do not think we have got the best system and I think the sooner we are really informed on that subject the better we can apply the remedy. The spread eagle and praise of our country is so chronic that we use it without knowing it.

FARM NOTES FOR 1884.

By J. P. ROE.

It is now the heart of winter, and contrary to the predictions of the weather prophets, it cannot be classed among the mild ones. At this season of comparative leisure, there is opportunity for doing what is customary—indeed considered indispensable among business men, but which is so generally neglected that we may say the average farmer rarely does—taking, as the phrase is, account of stock. And by this, farmer reader, we do not mean the number of head of cattle, sheep or pigs on your premises; they are necessarily included in the stock taking, but it is not limited to these. Let this be a survey of the *interests* and an estimate of the *values* of the farm.

The excessive cold has moderated. The wind, which had blown almost a blizzard, has gone down. The mid-winter sun swings low in the southern sky, but its beams shine warm and kindly. The young colts are playfully nipping each other, flinging up their heels and careering from one

end of the wide barn-yard to the other. The cows stand quietly and comfortably chewing their cud; each has placed herself by fence, and barn, and straw stack, where can be had full benefit of the slanting sunbeams. The sheep have turned out from their warm but rather close quarters; they are busy picking up the littered fodder left by the colts, each running his molars with a self-satisfied, business-like air. Their large, plump bodies, and long silky wool showing a strain of Cotswold. An occasional grunt from underneath the ledge of the straw stack tells where a lot of store hogs (allowed the run of the yard to work over the manure), Berkshire, Poland China or Chester White, are snoring in peace. The barn-yard rooster has led out his train and is busy assorting and dividing the hay seed among his dames. The pigeons, at one moment, with reckless assurance, seem underfoot of everything, the next are soaring over the roofs of the buildings, or they gather to moisten their bills by the dripping icicles under the eaves. It is to such a scene as this, of peace, pleasure, plenty and content, the winter scene of many a Wisconsin farm yard, that you are invited to take yourself, note-book and pencil in hand; but don't go alone, take one or more of the boys with you, the more the better. Yours is a *business*, an occupation, in some respects the most important, rightly viewed as honorable as any in the state. See to it that your boys come to know and regard it as such. Let each have a personal interest in the affairs of the farm — something more than having to do the chores.

And now for the list. Under each head of horses, cattle, sheep, hogs, poultry, note as carefully as possible the number, cash value, character and condition of each. We emphasize the last. There runs an old proverb, "The eye of the master is worth more than his hands." If there is neglect or deficiency anywhere, if their quarters are too cold, or feed short or irregular, if air of stables be bad, if there is need of ventilation, if water supply be insufficient or unhandy, note and right the matter promptly. Neglect, always costly, is especially so now. From the live stock, take in order the products of the farm, on hand, in cellar, barn or

stack; the potatoes or other roots in pit or bin; the apples in barrels; the beef and pork in salt; the hams and shoulders in the smoke house, not forgetting the bees stored in their own dry, quiet quarters, in an inclosed corner of your cellar. Estimate amount of hay in mow and stack, kind and quality; timothy, red top, wild hay; total cash value. Note the straw in stack; its value on the farm. We are always ready to buy straw, but never to sell it. From the barn you go to the granary. You estimate the number of bushels and cash value of wheat, rye, oats, barley or buckwheat on hand, of corn in crib (unfortunately for us of the northwest, an easy task this year). But the air is growing raw and chilly, the sun is setting, its last rays struggling through a thickening mist. The day has been what old wisecracks term "a weather breeder." There is a marked change of temperature. The populous barn-yard of noontime looks deserted. Note-book and pencil are stowed away. The farmer, as he draws closer his muffler, buttons up his coat, draws on his mittens and shrugs up his shoulders, says there is snow in the air. It is evening and chore time, and the many denizens of stable, sty and roost are none the worse that night that the eye of the master rested on each and all of them. The evening's milk in foaming pails, is taken by the good housewife and added to the glistening rows of pans, whose golden surfaces are ripening for the churn. The substantial supper is over, the tea things cleared away, and the cloth removed. But the low moan of the gathering storm swells into the fury of the gale, the wind drives the snow against the window panes. But what care they for the storm without. The wood-box is piled up high with the seasoned gifts of the timber lot—the stored sunshine of many a summer. The timbers creak and groan, the old farm house rocks with the gale, but there is light and warmth and comfort within, and the old heater roars away until red in the face.

And now we have a scene differing somewhat from Will Carleton's Sketches, or Farm Ballads, or Whittier's Fireside in Maud Mueller:

"The farmer in the chimney lug,
Dozing and grumbling o'er pipe and mug."

Thanks to the abundance and cheapness of kerosene for *them*:

“The tallow candle an astral burns.”

The farmer has on his spectacles. All are busy, pencil in hand. The works of the day are gone over. The oldest boy, who has stood a term (we will say) at the business college is called on to draw off the account. As item is added to item under its separate and proper heading, and the farm products are all down on paper — the farm itself is put in the estimate — its value is determined by the average market price of real estate in the neighborhood. And now says the oldest boy with a business air: “We have finished taking account of stock. Had we not better post up the books?” “Well,” says the old gentleman, “if you can make head or tail of my old memorandum books I have no objection, but it is time we were all abed.”

When the eyes of the inmates of the old farm-house open on the morning light, they see where the snow found entrance at many a chink and cranny of door and window, the weather without still as rough as ever — snowing, blowing, and drifting — but young, willing hands and an old head together make quick work of the morning chores, father and the boys are again gathered round the table, drawn a little closer up to the stove, the old memorandum books are brought out, and now they are facing a formidable undertaking. It takes the united talent of the family, father, mother and all, to decipher the blurred pages. The half-erased pencilings, some scratched out and all hastily scratched down, of the old pocket-worn books. “There, father; if you will try and keep your book accounts a little straight, I will promise to keep account of the family expenses, and of all that passes through my hands.” “Well, mother, I won’t brag, but we will see, with the boys’ help if we can’t do better, but I reckon we had better not put off this job till the end of the year, but post up the books monthly, before things get rubbed out from the pages or your memory.” But as item after item is picked out, farm receipts set in one column and farm expenses in another; as the outlay and returns on the different crops take definite shape, and the

income is compared with the outgo, the old farmer sits with his elbow on his knee, his face buried in his hands, deep in thought. "Boys," says he, at last, "our *margins* are not *big enough*; we must look *closer* to our *methods* and try to make a better showing next year."

As here indicated, our next chat with our readers may take the shape of methods and margins.

DISCUSSION.

Mr. Griswold — I would say that the advice of Mr. Roe is very good. Probably not one farmer out of twenty will follow his advice. I have kept account of the farm stock and any farmer can ascertain pretty correctly what it costs to raise a bushel of potatoes. Waupaca farmers can know whether fifteen cents a bushel will pay for raising potatoes or not. I would advise farmers to keep accounts, and when you sell your pork or potatoes put down the price you get. Do so for five or ten years and see if it don't pay very well to raise potatoes. Two years ago this coming spring I sold my potatoes for eighty-five cents a bushel. I have a few bushels on hand. I think I can get fifteen or twenty cents for them. Rather than sell them for that I would feed them to the hogs. I would say to the potato raiser you must keep a considerable amount of hogs. If you find it will not pay to sell them, feed them to the hogs. Some of them, if they had known what the price was going to be, would have fed them out in the fore part of the winter. They are very good to feed to stock. Feed them in small quantities.

Mr. Hazen — We passed over the remarks of Prof. Henry as to what are we here for. We will call on him to know "what he is here for."

Prof. Henry — *Mr. President* — I suppose a more particular statement would be, why was not I here. The trouble was I was over on the other side of Lake Winnebago at a farmers' convention and could not get here yesterday as advertised. If these farmers' conventions keep springing up at the rate they have been I will have to get a pretty good

sized boy to go with me to help attend if I am present at all of them. There are three conventions for me to attend this week and three next week; my memorandum book calls for twelve more in this state. The farmers of Wisconsin may feel that they are not progressing, they may feel that there are lots of things that need righting, but one thing is certain, and that is they are seeing the necessity for gatherings. When they come into these gatherings they stick pretty closely to the subject. That brings me right to the subject, "What are we here for." We are for the same purpose that other bodies of men get together. The bankers get together every year; they met this year at Saratoga. Their report fills a volume of 500 pages. No doubt they have accomplished much; no doubt they have their lobby at Washington arranged. Each profession has its union or association or gathering. In the same way the agricultural population begin to see the necessity of these gatherings. One trouble with these conventions is that the people who most need the help fail to get out. Farmers that should use clover seldom get into the conventions where the value of clover is discussed. The farmers who have boys that most need books and papers never get where that subject is mentioned; how are we to reach this large class is the study.

At our convention, yesterday, at Stockbridge, three young men came twenty-one miles to attend; when such energy is shown by our young men, I have great hopes for the future. I think I can see in conventions a larger number and greater interest than ever before, and this is my fourth year at this work. It is the young men I have the most hope of. These old gray heads are not worth much. What do you think of the fifteen year old horse on the farm. The fifteen year old horse you say is pretty good, but the boys want to drive the colts. The old horse is a stand by, but you know the old horse is not going to last much longer. The four year old is going to be a good horse when the old horse is broken down. The farmers who are beyond forty are the ones in the main who have attended these conventions, and that has been a startling fact. Must I, a young man, go out and talk to these old heads all my life; cannot I gather around me these

young men? cannot we, in our conventions, have the young men as well as the old men? I think there is one trouble, the fathers have got the idea that the wife and boys must be at home and attend to the chores, and they will take a little run out from home. They have been shut in several weeks, and they guess the old woman and the boys can manage and they will go off for a little change. I fear that is the one reason why the boys are not at these conventions. There has grown up among our farmers the feeling that the wife is to stay at home most of the year at least; she can go out to protracted meetings, prayer meeting, or something like those, but to go down to a convention at Madison, or to a convention at Waupaca or Oshkosh, "some way or another it is a *little too far* from home; the weather is cold." Then the boy has got all the years before him, let him stay at home. I know a farmer who attended the dairymen's meeting at Lake Mills, to hitch up and drive forty miles to attend, bringing one boy with him, while another son stayed at home to do the chores. Another farmer told me "I came to this convention, the boy will come to the next one." I don't want the old gentlemen to stay at home, but the boy ought to have his turn. We are here for several reasons. I don't know whether any of you are looking for any nominations in any of the next caucuses. If we are I say it is a pretty good place to lay the ropes, because we are going to get some ideas in our heads to prepare us for the offices to which we may be elected. It is a pretty good place to find out what the people want; to get the drift of affairs. Then we come out to see our old friends and neighbors; we come out to make new acquaintances. Then we have come out to get away from the farm. I was talking to a lightning rod agent —

Mr. Torrey — I am sorry.

Prof. Henry — I associate with lightning rod agents, insurance agents and farmers. The agent was an excellent talker, of course, but better than all, he was an excellent farmer. He was a better farmer than half of the farmers through the state as we find them. This man was laying down tile drains. Now, where did he learn about tile drains? There

was not a farmer in that neighborhood knew about tile drains so well as this lightning rod agent. His business took him away from home. Down in Indiana he saw the advantages of tile drain. So that when he got home to his farm he says "boys there is the old swamp, we will clean it out and carry the water off under ground." If he had never got away from home he would not have seen the advantages of tile draining and would have held his hands up in horror and said, "we can't allow any such innovation to come in here." Now tile drain is quite common in that neighborhood. I scarcely care what the motive is for coming, but I hope this will be a success as an agricultural convention, if we can get some of this class away from home and get away from the thought of the barnyard full of stock, the wood pile, the manure heap, the country store and its associations; if we can get away from them for a day when we return again we carry back some impression, some idea, and as we sit around the fire at night they will come to listen when we tell what we saw; who was there; who was not there; what we saw on the train, whose house we passed, and so on. Now it is a grand good thing to get away from home now and then; it often pays a large per cent. on the investment. Let these things shift around a little; if there is a convention at Waupaca, and another at Neenah, let the boy go to Neenah, you come to this one and he go to the other one. If there is some kind of a gathering, say the meeting at Madison on the Sunday School Association grounds next summer, let your wife go down there if she did not come to this convention. She may not care to go to a farmers' convention, but let her go to something she does care for. I believe every dollar expended in that way will bring ample return.

Last fall I heard a farmer talking with his boy, not knowing that I heard him. The boy was about fifteen years of age and not very large of his age. He says: "John I have made up my mind to let you go to Minneapolis to the fair; I will let you go providing you bring me a written account of it. There are some things up there I want to learn." This man was a breeder of a particular line of stock. "There are

some things I want to learn about these cattle I am interested in; if you will agree to bring me a written account I think I can afford to let you go." That boy was proud to consider such a proposition. You see there was a business contract there, and the manly spirit of the boy was called out. His father had approached him just as one business man would another, just as a merchant would a confidential clerk. The boy felt he was a man. The father told me afterwards it was a magnificent report his son brought back. Talk of getting that boy off the farm! You could not hire him to go. I don't know of any young man, and I have many acquaintances in this state, more likely to be a successful farmer than that boy. I had him down visiting me last summer. He told me the amount his father made on the farm the year before. I said I did not think he made as much as that. He said he was certain he did. I asked him, "How do you know?" He replied, "we set down just what the hired help costs, just what we sell, keep an inventory of the stock we have, and we have a pretty good idea of how we are running." I asked, "Who does it?" He answered, "I do now." A fifteen year old boy was doing that work. At the same time he had full knowledge of the breed of cattle that his father was raising. He had a good knowledge of his father's business. Think of the city boy going around stoning bird's nests, loafing around depots and waiting for the next circus. Think of the father sending that boy to Minneapolis, not for that isolated fact alone, but for the relations that existed between the two. I like nothing better than to tell my wife when I get home from these meetings of what has transpired. She knows half of the farmers in the state, I sometimes think, just from my reports. It is only because I am interested in this work that I keep up. I have my heart and soul in it. It is from cultivating the intellectual side of farm life that we can keep up an interest. Talk about the farm not paying. I believe Mr. Smith's sons have paid a bigger dividend than many of our city men with their hundreds of thousands sending their boys to college. There are many things in life that make us sad,

but you can get the sunshine and joy in your own home and you can shut out a great deal of darkness. Come into these conventions and let us have a good social time. When I go into a convention in some places I find the farmers so cold and distant that they do not want to shake hands; in other places they are around shaking hands and show great cordiality. That is the way. You never regret shaking hands with a man, I don't care whether he is a member of congress or a farmer. You must cultivate this feeling.

Mr. Smith— I want to indorse one or two things that my friend, Prof. Henry, has said. We crack our jokes on Prof. Henry as we have the chance. We do not want you to think it is in earnest. We, who have been with him, know what he is doing for our state better than those who have not been with him. He is doing a splendid work for us and doing it honestly and truly. I don't know what we should do without him. Let the boys take part in the work and the management. My youngest son has a book in which he has kept a diary of the work in the garden. He can tell for many years when we commenced our plowing, what we plowed, what we planted first, how many rainy days there were, what we did on such and such a day. I made him foreman in the garden at an early age when there was a number of men there that were old enough to be his grandfather. When I was there of course I had a kind of general oversight, but I left a great deal of it to him. I let him go on and take his own way. When I was away from home he had the entire charge and management of it. Long before he was twenty-one I told him I want you to keep the time of the men and boys and girls, I want you to settle with them, keep their accounts, pay them their money. In the hundreds and thousands of dollars that I have paid out I have scarcely paid a dollar a year personally. He settles with the men. I tell you farmers I think it would be better to allow your boy to manage part of the farm. If they make a mistake once in a while let them do it. They will not make the same mistake twice. You can tell them quietly I think it would be better the other way." "I think that is the best way;" but don't scold them. I think that is

one of the best ways of keeping our boys on the farm. We still have to furnish boys for the cities, but I don't want to furnish all the brightest and best boys for them. Let us have the best and brightest boys on the farm. Let the small boys go to the city. That is the kind they raise there. It is very seldom that you hear of a man of great brain power being brought up in the city. They are brought up on farms and go to the city after they become strong men. Strong men are very rarely brought up in the cities. If we have to send them boys let us send them our poorer boys and keep the best and the brightest boys on the farm.

Mr. R. D. Torrey sang a song entitled "The song of the plow."

Prof. Henry — I have some figures here that I shall have to give you upon these slips. I ask the patience of the audience. I have no excuse for presenting you a difficult subject. If men had stopped at difficulties of course we would have no civilization, no science. The subject of stock feeding from a scientific stand-point is a difficult one, and if you attempt to make any progress in that study you have got to think; you must concentrate your mental powers. There is this, though, to be said, that what I shall attempt to give you to-day in one talk, as a student at our State University you would receive the same amount of material in several lectures, or it would pass through several recitations. In attempting to concentrate so many lectures in one, of course it requires the best judgment to pick out only that which is essential, and to make that plain. My task is a hard one if I do say it for myself, but I believe my audience is willing to hear upon the subject, for in all its various phases it is a broad one. Now to go back a little, what farmer within the hearing of my voice has not stopped and thought sometimes as he threw the food to the stock, of what wonderful transformations that food must pass through before it becomes a part of the animal body. In the case of a steer, the farmer hopes a large part of the food might become fat. While it was changing to fat, other parts become muscle, bone, hair or horn, and a part is lost as excrement. What are the proportions that become the different parts? What proportions

of the hundred pounds of corn you may feed a steer become flesh? How much corn is worked out in heat? How much of the food you eat to-day disappears in the warmth that you feel so plainly when you clench your hands. Chemists, about twenty-five years ago, started out on these problems. The work was begun at German scientific experiment stations. You have heard of the great many experimental stations in Germany? Possibly you have asked what are they doing? This is one of the things they are trying to do, to find out what becomes of the food, and the best way to use food. Recollect, now, that in general, whatever I say of food for animals is true of food for man. The effect of food on the lower animals is no different from that of man. At these experimental stations what have they done? How did they begin?

Let me tell you one way. They would take a steer say weighing a thousand pounds and full grown. The steer would be led into an air tight chamber, an attendant would accompany the animal at times, and at times the animal was in there alone. The air that was passed into this room where the steer stood was forced in there by machinery — by pumps. The air that came out was drawn out and caught in receivers to be analyzed, thus ascertaining the difference between that which was given and that which was taken away. Then the food of that animal was passed in through tubes to the feed box, or to the water trough, and the composition and amount of the different elements given to the animal were carefully ascertained. Then whatever passed from the animal as excrement was caught, weighed and analyzed and by a long series of experiments in this way they found out a great many answers more or less perfect, many of them of course very imperfect to some of these questions. When it came to the functions of the different foods, it was sometimes necessary to use carnivorous animals. Dogs would be taken and fed possibly nothing but lean meat, that from which every particle of fat had been taken. They were subjected to this food for a long time. Everything that passed from those animals was analyzed. Sometimes the animal after long feeding would be killed and the whole

body cremated and an analysis made of the ashes. Sometimes it would be necessary to work the animal. A dog would be taken, fed a certain amount of food and put into a tread mill and kept there at work. Sometimes after working a long time he might not answer the purpose, then sometimes they would take men and the men would be put into rooms, put at very hard work and times kept without food as long as they could exist. The reason they did not use a dog or some animal was because they would worry and fret and thus expend energy in some different way than work, so a man would be put in there and given instructions that he must not worry and fret, that he must patiently do this toilsome work in order to show what the results were. Of course many of these experiments were cruel, but the results have been of great advantage and have tended to advance this science. For twenty-five years these Germans have been at work. At the American experimental stations they are beginning to take up this work. In a letter received from the New York experimental station within a week, the gentleman writing it says, we are now taking up the experiment of the digestion of ensilage. An attendant stays with the cows constantly, whose excrement is caught and carefully analyzed as well as the food that passes to them.

We are trying to find out the digestive qualities of ensilage at the Experiment Station at Madison. We have been feeding sheep, and analyzing everything that passed to them and from them. In this way we found out that of every hundred pounds of clover given to a sheep, they take into the system and assimilate about fifty-three pounds, the remainder never entering the animal's body, but simply remaining in the alimentary canal. Now what have these Germans found out? If you will refer to these notes, you find, first, that all the food of animals—I don't care whether it is animals or man—may be considered as consisting of albuminoids and carbohydrates and fat. There is a word that bothers you, I mean the word albuminoids. You say you don't care about any new fangled scientific terms; but you use the word telephone, telegraph, etc. There was a time you didn't know what telephone meant; now you use

the word every day, it is a common word. Just so the farmer of the future is going to use the word albuminoids, or some other word that has the same meaning. The word protein is rather the word now than albuminoids; it means the same thing. There is another word — carbohydrates. You must become familiar with it. Now, as to this word albuminoids. The second statement gives the explanation in part. Albuminoids are represented by the curd of milk and the white of egg, and lean meat. It is composed of four elements, carbon, hydrogen, nitrogen, oxygen, with possibly a little sulphur. White of egg is a pure albuminoid, and is always an expensive food. Lean meat, eggs, linseed meal and such albuminoid foods will always be expensive, because to find nitrogen in a combined form is always more or less a difficult task. You know the contents of the egg, by the warmth of the mother becomes the chick, and occupies the whole interior of the egg. There must be a large food material in the egg to make so large a bird as it does. The cheese part of milk, you all know how it is coagulated by heat or rennet, and it is always considered nutritious. The carbohydrates lack one element of the albuminoids, that is, nitrogen, and are composed of the elements of carbon, hydrogen and oxygen. We have numerous examples of carbohydrates in the vegetable world. Sugar is a pure carbohydrate, starch is a pure carbohydrate, fat is a pure carbohydrate. The carbohydrates assume many and various forms. Fat exists usually in small quantities in the vegetable world. Wherever found but in the animal's body it has the same function as carbohydrates. It goes to supply the heat, warmth, and to make up the fat of the body. Albuminoids go to form the muscle of the body; and yet an albuminoid may go to make up the heat or the fat. Nature, in her workings in the animal's body can take albuminoids and break them up into fat or heat; but on the other hand she can not take a carbohydrate and build up an albuminous structure out of it. Nature can not take sugar nor starch in the animal's body and build up muscle out of it. The doctor sometimes says to the mother, "You are giving that child too much starchy food." If he had used a scientific term he would have said carbohydrates.

The child can not build up muscle on carbohydrates; you must give it some albuminous material. When they recommend oat-meal or meat, they recommend an albuminoid.

I shall omit from the discussion the building up of the bony structure of the animal. That goes on with the building up of the muscle and the laying on of the fat. There should always accompany our food when in the proper proportion, a sufficient amount of material to make the bone. I shall only speak of the building up of the muscular portion and fatty portion of the body. When a pure carbohydrate is given, there is a lack of bone forming material accompanying it. On the other hand, when albuminous material is given, from the very nature in which that substance exists, there is plenty of material for the building up of the bony structure. When you eat cheese, you not only eat that which builds up the muscle of the body, but there is sufficient phosphate of lime to build up the bone you need. If you will pardon the digression, I may say that it has been found out by science, that when you make a skim milk cheese, there is a lack of phosphates in the cheese. The effect of skimming is an actual loss of phosphates for building up the bony structure of the body. A skim cheese is not as good as a full cream cheese, because the phosphates have been rendered soluble by the lactic acid in the milk and pass off in the whey. Dr. Wolff found in the German markets that the German farmer had to pay four and a half cents a pound for albuminoids. That is, whenever a German farmer went out to buy hay or corn, or straw, or meal, the average price he had to pay was four and a half cents a pound for the albuminoids he bought. On the other hand, he found carbohydrates in Germany cost but nine-tenths of a cent a pound. Since all sugar is a carbohydrate — all starchy matter, you can see it must be more abundant than the albuminoids I have been speaking of. Fat has been found to give off more heat in combustion than starch. If you were to burn a pound of ordinary fat you would get two and a half times more heat than you would in burning starch. They claim that fat produces two

and a half times more heat in the body than starch or other carbohydrates.

In the table I give you on the next page, all the fat that exists in a given food has been multiplied by two and a half and added to the carbohydrates. I now ask your attention pretty closely for a few minutes to the table you will find on the first page. The first thing is average meadow hay. That is from the German farms, not from the American farms. The Germans found that the hay as it lay in the hay mow, that one hundred pounds contained fourteen and three-tenths of water.

The farmer usually says the hay is dry when in the mow, but every one hundred pounds contain fourteen pounds of water on the average. The albuminoids in one hundred pounds of hay amount to four and one-tenth pounds on an average of digestible material. Now, there are more albuminoids than that in the hay, but no animal can take out of the food all that is in it. I give you here the simple average of the pounds that have been found to be digested. Carbohydrates and fat exist to the extent of forty-three and one-half pounds in a hundred of hay. We have now passed the first three columns of figures. What about the fourth one which is headed "Nutritive Ratio." Dividing the carbohydrates by the albuminoids, five and four-tenths goes into forty-three about eight times. So in meadow hay there are eight pounds of carbohydrates to one pound of albuminoids. Now about clover. That comes a little nearer to our wants in this section. Of course, the discussion of the amount of water contained is not of importance now. The first thing noted is that the albuminoids run higher than they do in the meadow hay. Now, the question is, is a clover hay a good hay, which I find the farmers ask on some occasions. Clover hay is richer than meadow hay. I would say that German meadow hay is superior to Wisconsin pure timothy hay. You see, clover hay, as shown by the experiments, is richer than the average of meadow hay of Germany. In carbohydrates it is a little poorer, being only forty-one and one-tenth pounds in a hundred. You notice the nutritive ratio is about one and five-ninths. Here we have something differ-

ent from clover hay in straw. The albuminoids run very low. In one hundred pounds of straw there is a little less than a pound and a half of albuminoids while the carbohydrates are a little higher than in clover. It is one and thirty-hundredths. The farmer that throws oat straw to his cattle supplies that stock with one and four-tenths albuminoids and forty-one and six-tenths carbohydrates. For every pound of albuminoids he gives that animal thirty pounds of carbohydrates. That leads to the question, how much of the two does the animal need. That will be answered further on.

Potatoes show pretty well in albuminoids and only reasonably high in carbohydrates. This is owing to the large amount of water, potatoes being seventy-five per cent. water. Mangel-wurzels are poorer than potatoes, and wheat bran, which some farmers regard as a sort of chaff or husk and worthless, contains twelve times as much albuminoids in one hundred pounds as a hundred pounds of mangold wurtzels while the carbohydrates run up higher than any we have got on the list. Then comes Indian corn, malt sprouts milk, and so on. Turn to the second page. The first case is very plain. Consider how much food is necessary for the wants of a full grown steer weighing a thousand pounds and kept in a comfortable room at the proper temperature, not allowed to do any work of any kind, or to be worried or suffer any inconvenience. The answer is that he should have of total organic substance, that in the food after the water is taken out, not less than seventeen and a half pounds. The dry material given to that animal should weigh not less than that. To give the steer seventeen and a half pounds of turnips would be giving a large amount of water and very little substance. So we have to figure on the amount of dry material. You know an animal of the ruminating kind must have a large bulk in the paunch to carry on digestion properly. The albuminoids to keep up the muscle are equal to seven-tenths pounds per day and nutritive ratio is one to twelve. Some one asks the question at once how is it that the steer used up seven-tenths of a pound of lean meat making material when he does no work. That is hardly correct, for the steer standing still does work. You

know how tired we get standing in one position. All the time we are standing we are wearing out some of the muscles of the body. The heart is in constant motion, the brain of the animal is working to some extent. To keep up the functions of the body requires seven-tenths albuminoids per day, to keep up the heat eight and three-tenths of carbohydrates, the nutritive ratio is one to twelve. Man would require considerable higher ratio than that. A man requires a ratio of about one to five. No man likes to live upon potatoes alone leaving out the question of variety. Why? There is too much starch, the carbohydrates run too high. A person after living upon lean meat for a while craves some starchy food in order that the carbohydrates may be in the proper proportion. Take the sheep next; a thousand pounds of sheep of the fine wool variety or breed not supposed to be increasing any, but simply growing their wool, would require you see more than twice as much albuminoids as the ox, about one-third more carbohydrates with the nutritive ratio one to eight.

We come now to something more interesting. The horse, heavily worked, requires two and eight-tenths pounds of albuminoids a day, and thirteen and eight-tenths of carbohydrates. That is the food that the horse must have sooner or later, in one way or another, for the waste of the body when he does hard work. Now we have been familiar with and driving the horse a long time and only at this late day they begin to ask what food does he need from a scientific stand-point. Those who have been running a steam engine burning coal for fuel can tell you just what a pound of coal does. You step into a mechanical engineer's office and ask him how far you can raise a pound of water with a pound of coal and he can tell you. He can tell you what a pound of coal will do, how much steam it will generate, and the effect of that steam. Our agricultural questions are just beginning to meet with a solution. Then the milch cow comes next. You see her food in quantity varies but little from that of the horse that is hard worked, being twenty-four pounds of organic substance a day, albuminoids two and five-tenths, carbohydrates thirteen and a half with a

nutritive ratio of one to five and four-tenths. One to five and four-tenths — just about what human being requires. So you have got to give the cow just as rich food as you do yourself only varying it in kind. Now take the table that I gave you, the first table at the top of the second page and we are in a condition to put the two together and get some practical results.

Can a farmer mix rations together to feed his stock intelligently? Well, let us try and see if we can make a ration. Here is the place for you to amuse yourself. With a table that is complete, and this is only a fragment, any dairyman can sit down and figure out feeds for his stock, then taking the market value of these different foods you can find out that you can save a good deal of money by purchasing this food in preference to that one. Here is a ration marked first on the page, which I figured out to see how near we could come to the table to see what amount of clover and bran theoretically I would have to give the cow in order to supply her wants. Now this was approached wholly from the scientific side. Whether the cow is able to eat this amount of food or not was not asked at the time. It is simply what science would tell us to feed the cow, not what practice tells us. Here is a ration filled up whether it will suit the practical men of this audience or not. If they object to it they are at liberty to take these figures and constitute another ration. The farmer will say we cannot go to work and weigh out this food every time we feed an animal. Certainly not, but you can approximate. You can proportion the bran to the clover or the corn meal to the oat straw and of these proportions, if you should fail to feed quite as much as you should at one feed, it might be supplied at the next. The old soldiers know that the rations must have been figured out months ahead at Washington and the amount of hard tack and meat must have been anticipated a long time before they were to be eaten, so the farmer can intelligently calculate the amount of food that each animal that he is keeping upon his farm must have.

Before he makes the ration he can purchase, or if he has abundance of feeding stuffs, he can sell. Sometimes he finds

one kind of food very low in the market, and that which he has on hand commands a high price, and it may pay him to take some of this on hand to market and purchase some other food at a lower price. I have known of a food that has been begging for a buyer in Milwaukee, and yet it is the cheapest kind of food after all. Our Wisconsin farmers never knew of it. The Orange county farmers knew of it, and they sent to Milwaukee and shipped it by the car load to Orange county, New York, and fed it and made butter of it, and shipped it to market. That food is malt sprouts. We have it shipped to Madison by the car load, our experimental station being the first one that called the attention of the farmers to it. What did science tell us? It did not say you must feed the cow twenty pounds of clover hay, but it said if we did feed twenty pounds of clover hay it will contain one and four-tenths of albuminoids, and eight and two-tenths of carbohydrates. You see from that we still lack a large amount of albuminoids. We find by this table that bran is rich in albuminoids, so that by mixing bran with the clover hay we can supply the albuminoids. To that end we take eight pounds of bran which contains one pound of albuminoids, which, added to that of the clover hay, makes two and four-tenths. The standard is two and five-tenths, so we approach the standard very closely. We find the carbohydrates is over twelve pounds while the standard is thirteen and a half. Here our ration is deficient. If we can induce the cow to eat a little oat straw it would add to its value, and still be an amount which the cow could easily hold in her first stomach. At number two I figure out another ration in which cornstalks are used along with clover hay, and since corn fodder is poor in albuminoids, I raise the albuminous part of the ration by adding linseed meal which is rich in albuminoids as you will see by the first table. There being four pounds of linseed and fifteen pounds of clover hay and fifteen pounds of corn fodder, we make up a ration which has pretty fair proportions.

Now I doubt if all of you have been able to follow me. I don't think if I had been sitting in your places and heard this lecture for the first time I could have followed it myself.

What I did hope was to get you to thinking upon this question of feeding. You know as farmers that you feed hundreds of dollars worth of material to your stock every year. You admit there is quite a possibility that you may be losing many dollars every year by the way in which you feed that amount of material. If you will admit that, you are then ready to admit if there is anything in tables of this kind it would be a good thing for you to learn them, it would be a good thing for you to study. This morning I told you I hadn't much hopes of the old men on these tables. As old men you would rather read your newspapers, and it is something that is not very difficult that you prefer to study, but the boys, I say, should take hold of this question and sift it. You will ask me if I consider this paper sufficient for you to get the knowledge that you need. No, there is not enough here for practical purposes. You see that this does not give you the analysis of a good many of the food products that you need. It does not tell you anything about oats which is one of our common foods for stock. Now there is a book published which will supply the want, and if any of you are interested and will take your lead pencil, I will give you the name of the book and the addresses of those who have it for sale, so that you can secure the book if you care to, and I wish some of these fathers who left the boys at home to do the chores, would just kindly remember the boy. Get the book and don't let the boy know anything about it. It may be his birthday, send for it and make him a birthday present of it. I need not suggest the pleasant ways in which these little things can be done, instead of depending upon the itinerant book peddler who comes to your doors with books out of which he can make the most money. Why not buy some standard agricultural work? This book is called "Feeding Animals." It is written by Prof. E. W. Stewart. Is sold by the *Breeder's Gazette*, Chicago Illinois; the price is \$2. Prof. Stewart is a farmer of large experience, always lived on a farm, has carried on extensive feeding and dairy operations and is probably the most capable man in the United States to write such a book. You are familiar with the *Live Stock*

Journal, of Chicago, and will remember the pleasure with which you read the essays signed Alimentation. He is the writer of those essays on stock feeding. You can also get the book of the *Western Rural*, or *The Farmer's Review*, both published in Chicago. I would say that I carried a copy of this book with me to one or two farmers' meetings and unwittingly laid it on the table of the last meeting, and some farmer picked it up and forgot to lay it down again. Of course farmers are the most honest men in the world. It might have been some of the newspaper agents that picked it up, possibly. I don't know. You see this question of feeding stock is a pretty deep subject. Some people wonder whether there is any science in agriculture. We had a learned paper at our farmers' convention, at Madison, this winter, which declared there was no science in agriculture, and that successful farmers were so mainly by instinct. This paper was prepared by a lawyer, and, therefore, perfectly capable of judging. I think if that gentleman had taken the book I speak of and begun to figure up the ration for stock he would have found out there is something pretty close to science in the subject of stock feeding, at least.

I know of a young farmer who has a farm of 200 acres and a family of four children. He started in about five years ago with a mortgage of \$5,000 on the place of 200 acres. He succeeded in building up a pleasant home. He and his wife live pleasantly upon this place and are paying off this indebtedness. He has upon his farm some of the best of stock in the northwest. The other night I took tea at his house and I found upon his table this book I have just mentioned. I found this young farmer was studying that book thoroughly and faithfully. He was not reading it lightly as you read a newspaper, but studying it, and in a conversation he told me he was getting a great amount of help out of it. He says, I never saw the subject of stock feeding in the light that I do now. Here was a corn crib with corn worth so much; here was also stock worth so much. Have I to feed all that valuable corn to my stock? If I could sell my feed and then sell my stock, might I not make more than by combining them. Now, he says, this book

has set me to feeding heavily. I pour out the grain liberally to my stock. I don't feed it grudgingly. He says, I feed my corn to my sheep and cattle instead of selling it, and they look better and are better. That is the way that mortgage is being lifted. I am confident that his opinion of this book was correct. I want to say to all farmers that can, that they should take up this book and study it; get your boy to help you. Take your pencil and figure it out with your boy and see if you give your stock two and a half pounds of albuminoids a day. You need not weigh all the hay, but weigh a little of it. Instead of throwing bran in with the peck measure just weigh it and see how much your cattle get. These tables are not perfectly adapted to America. Possibly our American stock will do with less albuminoids than the German, but until we have better light we should adhere to these tables. That is all upon this subject unless there are questions to ask.

Mr. Smith—Is it not a fact that in feeding stock that a given amount of grain of any kind will make more good beef from some beef making breeds of cattle than it will when fed out to native stock; and is it not also a fact that the same amount of feed given to some of the milking or dairy stock will make a greater amount of butter and cheese than if fed out to the common native stock as they call it.

Prof. Henry—Yes, sir; I think that is true in the same way as we find some individuals who eat very little food and yet lay on flesh easily. I think there are breeds of cattle which fat more readily than others. What I have given you, you must take as the averages all the way through. They have not attempted in this table to figure for individuals, but only averages, but what Mr. Smith asks is almost answered in the very form of the question. Yes. Different breeds do differ but not as much as we would expect. Very often when a cow is not giving a large flow of milk she is putting on a good deal of flesh. When a sheep is not gaining in fat he is putting on a good coat of wool. Sometimes when a horse does not put on fat on the outside he may be fattening internally, so these great differences are reduced somewhat when we thoroughly study the case.

Mr. Rhodes — Do I understand that these are the results of German bran?

Prof. Henry — Yes, sir.

Mr. Rhodes — I would inquire also if they have had any experience with American bran as now made in Wisconsin?

Prof. Henry — We have only handled American bran to the extent of making a chemical analysis to determine the total amount of albuminoids and carbohydrates. So far as that goes it shows that they will run as high as these tables, or just about as high as these tables. I would figure on American bran as being as good as these tables in albuminoids but poorer in carbohydrates since they have got to taking out nearly all the starch from the bran. I would not worry about that. The starchy part the millers take out and give to us human beings to eat can be made up to our stock by timothy hay, oat straw, or even the straw part of our clover hay and if we can buy albuminoids, that is the main part. Let the millers take the starch.

Mr. Griswold — Is it profitable for a farmer to buy this bran?

Prof. Henry — That depends upon what clover hay and corn and shorts are worth with you. You must study for your particular locality. I found the farmers up in St. Croix county were burning their straw stacks and allowing wheat bran to be sold as low as five dollars a ton from their mills in the neighborhood. The question they ask would be very different from what you ask. I doubt if you burn your straw stacks up here. I doubt if you can buy wheat bran in the fall for from four to five dollars a ton. Now in answering this question let me say to you; take your pencil and figure on the foods in your vicinity. You may find bran quite cheap or it may be very high.

Mr. Huntley — I saw a statement of Prof. Arnold, perhaps Prof. Henry has seen the same, that gives these ratios, that the protein in bran was five to four as compared with corn meal. That it was a quarter better for flesh and muscle forming material. That bran actually contained more protein or albuminoids than corn meal, and the fat forming material in bran was nine to twelve, and the manurial value

of bran was five to one of corn meal. It would pay to buy bran to use as a fertilizer, even if it was not fed at all. He was answered by another correspondent, who signed himself "C," who made the statement that he presumed that Prof. Arnold had reference to bran and shorts mixed; that the American bran, as they now made it, was merely an indigestible husk. In his reply to that, the Professor said that was exactly what he meant—the husk, the indigestible husk, nothing more or less than the outside bran.

Professor Henry — You can see that by taking the first table on the first page. You see bran is twelve and six-tenths pounds to the hundred, corn meal is nine. Then the ratio of bran to corn meal is twelve to nine. In albuminoids one ton of bran is worth twelve dollars and a ton of corn meal would be worth nine dollars. In carbohydrates, if a ton of bran is worth \$49, a ton of corn meal would be worth \$71. There you see the proportion goes the other way, corn being rich in heat and fat forming properties. Of course what Professor Arnold said about the manurial value of these foods depends upon the location. The farmer in the west has not had to buy manures. If you had to go out and buy phosphates at forty dollars a ton, as the farmers in the east do, this would have a dollars and cents application with you. The farmer that feeds rich foods has rich manures; the farmer that feeds poor foods has poor manures. Straw stack manure is about as poor proportionally as is shown in this table. The manure from the chicken house is very rich. Why? Because chickens eat very rich food. If chickens ate cornstalks, the droppings would not be worth any more than the droppings of the cow fed upon the same food.

Mr. Huntley — There is one other item I would like to speak of. In a letter that I received a few days since from George Lord, of Elgin, he claims that he feeds one hundred cows from three hundred acres of land, and has not used hay for several years. He made the statement that the average ration ran from sixteen and one-third to nineteen and two-thirds cents a day for a cow giving milk, but he could get an equally as good a ration by increasing the

amount of corn fodder and bran, and a little corn meal would reduce the price of the ration to nine and one half cents, and equally as good a ration. He said he was preparing an article on that matter, and it would appear in the *New York Tribune* in a few days.

THE BALANCED RATION.

By T. D. CURTIS.

The subject of the proper food for stock and the proper preparation of it, is yearly attracting more attention. It is only of late that the popular mind has come to consider the composition of foods, and the nature of the materials, of which they are compounded. Yet, a knowledge of food ingredients, and of the character and value of each ingredient, is essential in the selection and preparation of foods, and to feeding economically and so as to secure the best results. It will, therefore, not be out of place for me to consider, for a few minutes, some of the elements of food and explain their characteristics and offices, so that the least educated can understand them.

For good reasons, which I will try to explain, foods are divided into two classes—carbonaceous and nitrogenous. They are sometimes called carbo-hydrates and albuminoids; But I prefer the terms carbonaceous and nitrogenous, as more expressive of the real character of the elements which we are dealing with. But let it be understood, in the beginning, that no food is wholly one or the other—neither entirely carbonaceous nor entirely nitrogenous. The two terms have only a relative signification. All foods are more carbonaceous than they are nitrogenous; but when the proportion of nitrogenous elements is comparatively large, the food is called nitrogenous, and when the carbonaceous elements are comparatively large the food is called carbonaceous.

Foods are composed of a large number of ingredients, which, to avoid confusion, I need not name. These are in

different proportions. But, as a rule, if we are careful to get two of them in the right proportion, the rest will be present in sufficient quantity. These two are carbon and nitrogen—and both are contained in the air we breathe. In other words, the carbon is present in the form of carbonic-acid gas, and the nitrogen as a simple gas. We breathe them both; but the carbonic-acid gas is a deadly poison, and if the air has beyond a certain proportion of it, it kills all animal life; while the nitrogen is perfectly harmless in its free state, but it is not known that either animals or vegetables imbibe it directly from the atmosphere. It simply passes into the lungs and out again without any portion of it being absorbed; and while it is possible that the leaves of plants may absorb a very little of it, this is not known to be a fact; but it is known that they draw most if not all of it from the soil, through the roots. So, practically, we have to prepare foods so as to furnish a full supply of carbon and nitrogen as nourishment.

The proportion of carbon to nitrogen in the air is very small. The atmosphere is composed of four ingredients—a small amount of water in the form of vapor, four-tenthousandths of carbonic-acid gas, about four-fifths of nitrogen and one-fifth of oxygen. Without a full supply of the latter to breathe, we would almost instantly lose consciousness, and die in a few moments.

Supposing the atmosphere to be of equal density throughout, and five miles high, and that the elements composing it were arranged according to specific gravity—the heaviest at the bottom and the lightest at the top, in regular order—if the earth's surface were a smooth plane, we should have four to six inches of water on the ground; next would come about thirteen feet of carbonic-acid gas; on this would rest a mile of oxygen; and over all would lie a layer of nitrogen, four miles thick.

All the oxygen we need, we get from the air by breathing. We drink our water from brooks, springs, wells, etc., but our carbon and nitrogen we have to take, with a number of other ingredients, in our food. Our special concern is about carbon and nitrogen.

Carbon constitutes the main part of all the visible world. Though only about four ten-thousandths of the atmosphere is carbonic-acid gas — a compound of carbon and oxygen — nearly the whole vegetable, and a large proportion of the animal world is composed of carbon. We have pure carbon in the form of the diamond, and almost pure carbon in charcoal and hard coal. Burn any object, and we set free the nitrogen, while the carbon unites with the oxygen of the atmosphere to form carbonic-acid gas. So, all that belongs to the air, because originally drawn from it, becomes invisible gas and mingles with the atmosphere, while all the mineral portion, which was drawn from the earth, remains as ashes.

All combustion produces carbonic-acid gas by oxidation of the carbon. All decomposition, as of decaying vegetables and timber, is slow combustion, and produces carbonic-acid gas. When we breathe, the oxygen that goes into our lungs unites with the carbon in our blood, forming carbonic-acid gas, which we throw off with our breath. So with the respiration of all animals; and thus is the supply of carbonic-acid gas kept up.

The growing vegetable world breathes this carbonic-acid gas through its leaves, using the carbon to build up its structures, while it sets the oxygen free for the use of the animal world. And this interchange is constantly going on, the animal world keeping up its heat by the union of carbon and oxygen in its countless organisms, thus making and throwing off carbonic-acid gas for the use of the vegetable world.

Nitrogen is the most freedom-loving element of which we have any knowledge. It is very shy about entering into combination with other elements, and always ready to break the union at the first opportunity. When yoked with other elements, it is always struggling to get free, and often regains its freedom with tremendous energy. It is the principal element in most explosive compounds, as gun-powder, gun-cotton, etc., and is supposed to be the generator of motor power in the animal organisms. It expends itself rapidly, in a series of consecutive explosions, as it were;

and hence all excessive eaters of nitrogenous foods are restless and roving—a characteristic of all exclusively flesh-eating animals. They are supple and springy, and seize their prey by pouncing suddenly upon it, or a short, quick race, in case they fail to secure it at the first jump. When combined with carbonaceous elements, nitrogen is set free more gradually and gives more endurance to the animal. Hence, as a rule, the vegetable-eating animal is slower, but has more bottom or endurance. The tiger, cat, lion, etc., belong to the flesh-eating animals, and secure their prey by stealth—springing suddenly upon it from some place of concealment. The deer, horse, ox, sheep, etc., are vegetable-eating, and most of these have more speed than the animals of prey, and hence can keep out of their way in a fair, open field. The horse is our best sample of speed and endurance, and he feeds on highly nitrogenous vegetable foods, such as clover hay, oats, barley, etc., and finds corn and other carbonaceous foods, too heating.

Hence, it will be seen that the term “nitrogenous foods,” or albuminoids, as they are often called because albumen is highly nitrogenous, means those foods that contain a comparatively large amount of nitrogen. The base of all these foods is protein. They are known as fibrin, gelatin, albumen and casein, and are found in both animal and vegetable organisms.

“Carbonaceous foods” contain a comparatively large amount of carbon. They are fats of all kinds, starch, gum, and all kinds of sugar. The foods containing these largely are also called hydro-carbons, or carbo-hydrates, often carbohydrates, because of containing a good deal of hydrogen (the principal element of water) which is fat-producing.

The nitrogenous foods make motor power and muscle, or lean meat and milk. The carbonaceous foods make heat and fat. We must balance these two kinds of food, the nitrogenous and the carbonaceous, so that, on an average, they will stand relatively as one of nitrogenous to five or six of carbonaceous. If the animal is undergoing a good deal of exercise, the proportion may be as one to four. If it is quiet and exposed to cold, the proportion may be as one

of nitrogenous to seven or eight of carbonaceous. So, if we wish to produce fat we may give a large proportion of carbonaceous food. If we want milk, we must give a larger proportion of nitrogenous food. If we want muscle, as in the growing animal, we must feed more nitrogenous food. In all cases, judgment must be used so as to proportion the food according to the end in view. In order to get the best results, we must consult the food tables, and learn the composition of the different foods. I know of no better book for this purpose than Prof. E. W. Stewart's recent book on "Feeding Animals." It contains much other valuable information, and costs only two dollars. It can be ordered at any bookstore. A little manual for free distribution, just issued by the American Dairy Salt Co., L., contains thirty odd feeding rations for various purposes, mostly for milch cows. A copy of this may be had by addressing a postal card to J. W. Barker, secretary, Syracuse, N. Y.

I give the names of a few foods, with their relative amount of nitrogenous and carbonaceous elements:

	Nitrogenous.	Carbonaceous.
Meadow hay, poor.....	1	to 10.6
Meadow hay, medium.....	1	8.0
Meadow hay, extra.....	1	5.0
Red clover, poor.....	1	7.1
Red clover, medium.....	1	5.9
Red clover, extra.....	1	4.0
Lucerne, good.....	1	2.8
Swedish clover (alsike).....	1	4.6
White clover, medium.....	1	to 5.0
Timothy.....	1	to 8.1
Orchard grass, in blossom.....	1	to 6.5
Blue grass, in blossom.....	1	to 7.5
Red top.....	1	5.4
Fodder rye.....	1	to 7.2
Italian rye grass.....	1	to 6.3
Hungarian grass.....	1	to 7.1
Rich pasture grass.....	1	to 3.6
Green maize, German.....	1	to 8.9
Fodder oats.....	1	to 7.2
Sorghum.....	1	to 7.4
Pasture clover, young.....	1	to 2.5
Red clover, before blossom.....	1	to 3.8
Red clover, in full blossom.....	1	to 5.7
White clover, in blossom.....	1	to 4.2
Buckwheat.....	1	to 5.1
Fodder cabbage.....	1	to 5.2
Rutabaga leaves.....	1	to 3.9
Fermented hay, from maize.....	1	to 12.0

	Nitroge- nous.	Carbona- ceous.
Fermented hay, from beet leaves.....	1	to 4.0
Fermented hay, from red clover	1	to 4.1
Winter wheat straw.....	1	to 45.8
Winter rye straw	1	to 52.0
Winter barley straw.....	1	to 40.5
Oat straw.....	1	to 29.9
Corn stalks.....	1	to 34.4
Seed clover.....	1	to 7.4
Wheat chaff	1	to 24.1
Rye chaff	1	to 32.6
Oat chaff.....	1	to 23.8
Barley chaff.....	1	to 30.4
White clover chaff	1	to 3.6
Corn cobs.....	1	to 71.2
Potatoes	1	to 10.6
Artichokes	1	to 8.7
Rutabagas	1	to 8.3
Sugar beets	1	to 17.0
Carrots	1	to 9.3
Turnips	1	to 5.8
Wheat (grain).....	1	to 5.8
Rye (grain).....	1	to 7.0
Barley (grain).....	1	to 7.9
Oats (grain).....	1	to 6.1
Maize (grain).....	1	to 8.6
Millet (grain).....	1	to 5.4
Peas (grain).....	1	to 2.9
Buckwheat (grain).....	1	to 7.4
Cotton seed.....	1	to 4.6
Pumpkins.....	1	to 18.4
Coarse wheat bran.....	1	to 5.6
Wheat middlings.....	1	to 6.9
Rye bran.....	1	to 5.3
Barley bran.....	1	to 4.5
St. Louis ship stuffs.....	1	to 7.0
Buckwheat bran.....	1	to 4.1
Hempseed cake.....	1	to 1.5
Sunflower cake.....	1	to 1.3
Corn bran.....	1	to 10.3
Brewers' grain.....	1	to 3.0
Malt sprouts.....	1	to 2.2
Wheat meal.....	1	to 5.7
Rape cake.....	1	to 1.7
Rape meal, extracted.....	1	to 1.3
Barley middlings.....	1	to 6.0
Oat bran.....	1	to 9.7
Linseed cake.....	1	to 2.0
Linseed meal, extracted.....	1	to 1.4
Cotton-seed meal, decorticated.....	1	to 1.8
Cotton-seed cake, undecorticated.....	1	to 1.7
Cow's milk.....	1	to 4.4
Buttermilk.....	1	to 2.6
Skimmed milk.....	1	to 1.9
Cream.....	1	to 30.5

The German standard ration for a milch cow is 24 lbs. of dry organic substance, containing 2.50 lbs. nitrogenous food,

and 12.90 lbs. of carbonaceous food. To secure this, Dr. Wolff recommends for every 1000 pounds of live weight:

12 pounds average meadow hay,
6 pounds oat straw,
20 pounds mangolds,
25 pounds brewers' grain,
2 pounds cotton seed cake.

Prof. S. W. Johnson's ration for the same purpose is:

20 pounds corn fodder,
5 pounds rye straw,
6 pounds malt sprouts,
2 pounds cotton seed meal.

Prof. E. W. Stewart recommends:

20 pounds best meadow hay,
10 pounds corn meal.

He also recommends:

17 pounds clover hay,
3 pounds wheat bran,
10 pounds corn meal.

Or this:

20 pounds fresh marsh hay,
5 pounds corn meal.
5 pounds cotton-seed meal.

It is safe to always feed cotton seed meal, bran, or linseed cake with corn fodder, or fodder corn, or ensilage. And it will always be found to work well if corn meal is fed with clover hay. Corn ensilage with clover hay will constitute a proper feed. To avoid waste, and secure the best results, we must learn to balance the nitrogenous and carbonaceous foods. Our greatest difficulty in feeding stock, as in manuring the soil, is to secure enough of the nitrogenous elements. These are what we have to mainly look out for, the carbonaceous foods usually being over abundant.

Not only must we proportion the elements of food properly, but we must prepare the food so it will be in a proper condition. It may contain all the elements, but in consequence of being in a bad or wrong condition, the animal cannot digest it. There is plenty of carbon in coal, but who would expect the animal stomach to digest it? So there is nitrogen in saltpeter and gun-cotton, but they are not in a suitable condition or form for digestibility, and hence have no food value. Most raw vegetables are indigestible in the

human stomach, but cook them, and thus put them in a proper condition, and they become nutritious foods.

There are few, if any, perfect foods. Every food needs to be supplemented with something else. Hence it is that both men and animals want variety. Summer pasture, composed of mixed grasses, makes the best food for all kinds of stock. Meadow hay, cut at the right time, and properly cured—provided there is a mixture of grasses—makes a proper food for winter; but even this needs to be accompanied by roots, ensilage, or something of a juicy nature, as a relish, if for nothing else, and an aid to digestion.

In a state of nature, roaming free, animals select and balance their rations according to the cravings of appetite. But when domesticated, they have no such freedom of choice, except, perhaps, in a few of the summer months. In winter, they must take what is given to them. It is our duty, therefore, to give their food a proper balance of elements, as far as possible; and in thus conforming to the laws of nature, we shall find both the greatest economy and the greatest profit. To direct your attention to this subject and set you to thinking and studying upon it, is the object of this paper.

DISCUSSION.

Mr. Hazen—It was announced last evening that the topic of the potato would be taken up at three o'clock. We have a gentleman here from Madison, an editor of the *Western Farmer*. I will call on Mr. Plumb to introduce this question.

Mr. C. M. Plumb—*Ladies and Gentlemen*—In bringing up the potato to discuss before you this afternoon, I hardly feel qualified to stand by with people that have the notoriety of raising the finest potatoes in the northwest, and introduce this subject for discussion. As has been remarked, young men can sometimes impart knowledge to old men. About 1876, when I was residing in Iowa, I had a neighbor, an old New York farmer, who raised the earliest, largest and finest potatoes I ever saw. It took some time to get at his manner of preparing the seed and his way of cultivation. I found

out when I gained the knowledge I was seeking, that the secret of his success was in the preparation of his seed, and that knowledge I shall impart as briefly as I can. I shall not take up your time, because I want to know how Wau-shara, Waupaca and Portage county farmers succeed in raising potatoes.

Mr. Griswold — I would say one thing is because we have an excellent soil for raising potatoes.

Mr. Plumb — I will confine my remarks to the early potatoes. Early potatoes bring the highest price in the market. The potato is made up of numerous seed cells or seed pores. It is something like an ear of corn, and I contend that the farmer that will take a potato and stick it in the ground and expect to raise a crop will meet with about the same success that he would to take an ear of corn and shove it in the ground and expect to raise a crop. That is my experience. Those cells are connected, invisibly of course. In the spring of the year nature forces these eyes to sprout or to extend its rootlets, you may say, which are small, woody fibres, which makes the potato eater say to his wife, these potatoes are getting stringy; there is something the matter with them. Those small fibres are rootlets that run from the eye of the potato. I have a small diagram that shows how they run. On the seed end of the potato the eyes are very numerous and close together, while at the base of the potato or root end of the potato the eyes are scattered; they are not so close to each other. These lines I mentioned would run in about that line, being closer at the top than at that end. Of course there are not as many lines as there are eyes to the potato, but probably as many as you would get by slicing the potato through its center.

This farmer finally told me how he succeeded in raising early large potatoes. He did it by taking a penknife and cutting out the eyes at the lower end. First he removed this top part. That was thrown away, and he would cut an eye this way with a knife. I made this tube. (The speaker illustrated his remarks with an instrument.) I could do it much quicker with this tube than I could with a knife. In removing these eyes I generally selected one that was

quite prominent, one or two, as the case might be, about the center of the potato. I don't know as it is necessary to take all these eyes out, but follow that system. I used a tin tube as it was more satisfactory to me than to take a knife. I could do it much quicker, and furthermore, I preserved this seed. The Snow Flake and the Early Vermont were sold at a very high price. I think I paid a dollar a pound for the Early Vermont. They were considered an excellent variety, and I wanted to get the benefit of my seed. Supposing we have removed all these eyes, we have a large amount of plant food to supply one stem. All the seed derives its nourishment from the starch or other materials that surrounds the seed before it derives any nourishment from the soil or atmosphere. Of course the moisture of the earth enlarges these starch cells, or food cells, as we will say, and forces the sprout out. After it reaches the air, it derives nourishment from the air, and throws out rootlets. With that amount of plant food to one eye, I have secured, in the first place, a very rapid growth.

They first shoot, so much so, that a friend of mine remarked that my potatoes looked lonesome. Well, I thought they did. They looked lonesome to me. I think it was the 10th of May that I planted my potatoes. The ground was then in a suitable condition. I planted them in this manner: My ground was two rods long and wide enough to make eight rows, three feet apart, and the hills planted two feet apart in the rows. The ground was laid out quite accurately, and perhaps too close for horse cultivation with the plow. In the first row I removed all but one eye. I planted the first row in that manner, with the Snow Flake. The second row I prepared the seed in like manner, with the exception that I left two of those eyes in a piece. The third row, I took the rest of my limited supply of Early Vermont and planted as far as I could. I think I had about five or six potatoes. I cut out all but one eye in one hill. The next hill I left in two eyes in a piece not as large as that. I think the potato I had was not larger than that one. The eyes were quite numerous. The balance of the row was planted with these little cylinders consisting of seed. I think six of those eyes

were dry. It being recommended to me that dry seed was preferable to moist seed of the potato in its normal condition. It got so late in the season that I could not tell the advantage of the dried over the moist seed. I would not recommend any one to dry potato seed. It is a good deal of work, and it may not pay, unless the system be adopted of planting these single seeds. They might be dried down to one half of their size, and in a large tract of ground, planted the same as corn. I don't offer this as a suggestion. I would be very sorry to have any one adopt it and fail. If seed should be scarce, I think on a small scale, the experiment would prove satisfactory.

Mr. Smith—How many cylinders did you put in a hill?

Mr. Plumb—Two. I planted them indiscriminately because I had but little confidence in their doing well. I secured about an average crop. In the fall the potatoes seemed to run about uniform or run as they did when planted in the ordinary manner, that is to say, the potatoes would be from the size of a pea up to a hen's egg. Under favorable conditions the largest would run as large as this was before I cut into it. The balance of the eight rows were planted with the Snow Flake in the usual manner, that is to say, I had a larger supply of Snow Flake seed than I had of the other. I would plant two pieces in the hill.

A Voice—Tell us how you prepare the hills.

Mr. Plumb—The way my grandfather learned me, stuck a hoe in the ground, stuck the potato in and covered it with the hoe.

Mr. Griswold—I would ask if there are different ways of planting. Some practice planting on the surface. My plan is to take a hoe and hoe out a hoe full of dirt or two and plant the potato about three or four inches deep.

Mr. Plumb—I think probably these were planted from two to two and a half inches deep, probably two inches, not more than two and a half. In the first row where I planted the Snow Flake with the single eye, notwithstanding my vines looked lonesome, still later in the season they sent up side shoots and presented quite a respectable appearance in about four weeks or less. I can't remember dates, but as

near as I can remember from three to four weeks the potato vines were in bloom. At the fourth of July we had potatoes to use. I went to one hill in this first row, and to my surprise I found in the first hill enough to supply my table that day, and there were four of us, and there were four potatoes much larger than the one I hold up before you, before I cut it. I couldn't realize that that single eye would produce that amount of fruit in so short a space of time. My conclusion was that the experiment was a success. I thought I would not disturb those potatoes, but I would let them mature and approximate the amount that could be raised per acre if an acre were planted, and the same system followed. About the 10th of July, it could not have been much later, my tops began to die down. I feared that I was going to lose the best part of the result. After examining the vines with a microscope and finding no insects, my conclusion was that they were thoroughly ripe and thoroughly matured at the 15th of July. It was a very early season, uncommonly early. I am satisfied that if you will adopt that system with a few hills for your own family use, you will follow that plan ever afterwards. The remaining four rows were planted hit or miss in the usual manner. I found that my conjecture was not true in regard to the season having anything to do with the maturity of the first two rows that I had planted. I found that these end shoots owing to the limited amount of seed food that surrounds them and the roots connected with that eye, that the potato planted in the usual manner continued to throw out weak, puny shoots and distributed the plant food among the vines, so that these main shoots were deprived of the amount of nourishment necessary to secure early potatoes. I think the potatoes that were planted indiscriminately, were ripe about the 15th of August. I was told by the gentleman who gave me this information, never to cultivate potatoes after the blossoms had set. Why? because by throwing fresh earth on the potatoes, by cultivating them, they throw out new shoots and form new potatoes. I believe the cultivation of the potato promotes its growth, that it is just as necessary to the potato

as it is to corn or any other crop; that by hoeing them you don't form new and original sets, but you simply nourish the shoots that were but partially formed and they simply make their extensions and form new tubers. These potatoes in the first four rows I cultivated just the same as you would cabbages. I kept the ground perfectly free from weeds. In the first row it was never more than five potatoes nor less than three, it would average four. I got as good results from a single eye with a small amount of plant food as I would from a single potato. I was well satisfied with the crop of the Early Rose.

Mr. Hazen — Waushara and Waupaca are noted for their potatoes. There are farmers here that have raised them successfully, we would like to hear from them now.

Mr. Smith — I would like to ask the growers here how the Early Ohio compares with the Early Rose in productiveness and in earliness. I suppose there are those that can answer.

Mr. Chandler — Two years ago I planted side by side the Early Rose and the Early Vermont.

Mr. Smith — The Early Vermont with me has been similar to the Early Ohio.

Mr. Chandler — The Early Vermont yielded more than double of the Early Rose. I think they are three or four days earlier than the Early Rose. I got them of a neighbor. It may have been that they had been cultivated and not run out as the Early Rose.

Mr. Roe — I have tested on an acre of black sand on the lake shore around our section around Lake Winnebago the Early Ohio, Beauty of Hebron and the Early Rose planted side by side. The Early Ohio was the earliest of the three, the Beauty of Hebron next, but a very slight difference between the two; the Early Rose coming into maturity about a week later.

Mr. Smith — What was the comparative yield.

Mr. Roe — The Early Ohio, if anything, led the three. There was but little difference between the Early Ohio and the Beauty of Hebron; but the two, the Early Ohio and the

Beauty of Hebron exceeded in the yield the Early Rose about twenty-five per cent.

Mr. Rhodes — In reply to Mr. Smith's question not from my own experience, but Mr. Durand, of Lind, told me last fall that his Early Ohio did very much better than the Early Rose. I am of the impression he said it yielded twice as much.

Mr. Roe — In either instance a good deal depends upon locality. You can go to certain localities and find a superior article of wheat. The same is true with potatoes. We like to get our seed from what we call "off the sand." We like to have seed from your county. We find your Early Rose a superior one to our own.

Mr. Huntley — How does the Beauty of Hebron yield in comparison with other varieties?

Mr. Rhodes — Last summer I raised the Beauty of Hebron and Mammoth Pearl. The Early Rose I did not try because I thought the Beauty of Hebron yielded quite as well and was in no wise inferior. The Mammoth Pearl didn't suit me. My impression is the Beauty of Hebron yielded three bushels to two. I did not measure it, but I think the ratio would be less than three to two.

Mr. Graves — Three years ago I planted the Early Ohio, Early Rose, Burbank's Seedling and the Mammoth Pearl side by side on a very rich piece of ground. It had formerly been a hog pasture. I raised at the rate of 180 of the Early Ohio, 230 of the Early Rose, 220 of Burbank's Seedling and 400 bushels of the Mammoth Pearl. The next year, two years ago, they yielded about the same relatively. The Mammoth Pearl began to retrograde and become uneven. Last year they became so much more uneven and scabby that I discarded them, and the Early Ohio did so poorly that I discarded them also. I think we don't cultivate enough in this section. That is the reason we only get one hundred bushels instead of two hundred as Mr. Smith spoke of. Last summer we could walk all through our potato fields and not leave a mark. This, I think, will not do in potatoe culture. You must keep the ground mellow, and you must have it mellow, too, before you plant. It is impossible to make the ground

mellow under the hill after the potatoe is planted. Last season we bought a new tool for that purpose, manufactured in Middleton, New Jersey. It is just the tool we want. Last year we planted seventeen acres on sod, using this tool thoroughly, and harvested one hundred and fifty bushels to the acre of marketable potatoes throughout the field. We came to the conclusion that inverted clover sod was what we wanted. It must be thoroughly pulverized before planting. We used the Acme pulverizer. The common plow and a corn cultivator are the tools that most of us use. It must be pulverized in order to get our ground in the proper condition.

Mr. Griswold — I would like to ask the depth of the plowing, how the field is prepared for planting, the manner of covering and cultivating, what implements you use and whether you put the potatoes below the surface of the soil.

Mr. Grover — We turn up the sod in the fall or in the spring; I could not tell which is best. We are undecided which is best. Bear in mind we both fall and spring plow. We thoroughly pulverize the ground before planting, with this pulverizer. We mark the ground with a sulky corn cultivator, rows three feet apart each way and cover with the same tool about two and a half inches. The first tool put on after the potatoes were planted, and before they were fairly up, was a common smoothing harrow; we used it twice, and then common one-horse cultivators. These we used until time for molding the hills and then hilled with a shovel plow. We find it unnecessary to use the hoe after using these tools both ways. Having drills, we thought it unnecessary to use the hoe to keep the weeds out. We dig the potatoe with a digger, and it costs two cents a bushel to dig and pit. Farmers paid five cents in our vicinity. We did not think we lost enough potatoes by digging with a digger to pay the three cents a bushel.

Mr. Huntley — Do you like the hill culture better than drills?

Mr. Grover — I do on account of cultivating. We put more seed in a hill. With drills we only put one or two eyes in a hill. We put three or four eyes in a hill.

Mr. Huntley—In marking with a sulky cultivator you take off one wing?

Mr. Grover—We took the inside tooth out. We have plans for marking. We follow back with a horizontal bar with a weight and make a mark for the horse to follow coming back. We change the guide at each end of the field. In covering we take off the two outside teeth leaving the two inside teeth to cover with.

Mr. Huntley—I want to add my mite to this talk about the Acme pulverizer. I bought one. Mr. Grover said he didn't know which was the better; fall or spring plowing. It is better to have your work on the land done up in the fall and then you have not got to do it in the spring. Put on the Acme pulverizer. It inverts no sod, it cuts the ground fine. By going both ways you have it three or four inches deep and just as fine as it can be. It does not cost but little. It pays to do it well. If you have not got a sulky cultivator get one. If you have any boys they will feel more like going to a dance at night after working all day.

Mr. Roe—Our best results with market gardening was when the Early Rose was in its prime. We selected an acre of ground on the shore, being black sand with an infusion of lake shells as they would naturally be with the attrition of the water. This was manured with rotten manure in the fall, spread and plowed under, not too deep but moderately. In the spring this land was plowed again, then harrowed, smoothed with plank a perfectly smooth surface, marked with a three foot marker as accurately as possible, then it was furrowed out. We put on these scrapings of the barnyard, and leached and unleached ashes. We cut our potatoes with a single eye, dropping them about fifteen inches apart in the row, covered with a hoe because there was more or less limestone in the soil and you displaced the seed with the plow. The usual methods were used in cultivating with a corn cultivator. When we dug we obtained a trifle over 400 bushels to the acre of good marketable potatoes. They were sent to the Bay and marked to a firm by the name of Randall. We dug out every other row leaving a space of six feet apart. Dug tolerably early. In this space

which was dug out we set our celery, obtaining the very best results. Our celery plantation this fall was the best we have had, being the second crop following the potatoes. The potatoes were only cultivated one way.

Mr. Huntley — That is a pretty big story of four hundred bushels to the acre, but we are prepared to believe most anything since Mr. Smith raises four hundred and twelve bushels of strawberries to the acre.

Mr. Floyd — The Acme pulverizer has been spoken of. I have used one myself and found a better one and returned the Acme. I think the Acme on certain soils acts as a good pulverizer, but the wheel harrow is just as good, is a much better pulverizer than the Acme for me. I can pulverize more thoroughly with it at one time than I can with the Acme. One thing is you will want three good horses with the Acme and only two with the wheel harrow.

Mr. Huntley — You ride on the wheel.

Mr. Floyd — Yes, sir. I noticed it was quite sharp pulling for the horses on the Acme to what it was on the other and still a great deal better work done with the one than with the other. There is no question in my mind, but that the principal varieties of potatoes run out from being planted a long time in one locality. I have a friend in the audience to-day that got some seed in Waupaca county, the Early Rose, and I think got more than a double yield from those potatoes than he could from his own seed at home, hence the necessity of often changing seed. I presume, if we were to change from clay soils to sandy soils and from sandy soils to clay soils we would get beneficial results and extra yields, and we could hold our varieties much longer without deterioration than we do. One point about cultivators when the soil is a little sticky, with the Acme it will clog up and you can't do anything with it. The other one has a cleaner, and when it is sticky it cleans it off. I have two of them. I don't know the names of them.

MERINO SHEEP—FROM THEIR FIRST IMPORTATION DOWN TO THE PRESENT TIME.

By C. D. McCONNELL.

The common sheep was probably the first animal domesticated by man. We are all told in the book of Genesis that Abel was a keeper of sheep, and that he brought an offering unto the Lord of the firstlings of his flock, and of the fat thereof, and from that time until the death of Christ, lambs continued to be the most frequent sacrificial offerings, both amongst the Patriarchs and the Jews.

Judah was also a keeper of sheep, we find by referring to the 38th chapter of Genesis, 12th and 13th verses, which you are all so conversant with that it would be superfluous for me to repeat.

We find it also recorded in the first book of Samuel, 17th chapter, that Jesse the Ephrathite of Bethlehem, Judah the father of David, was also possessed of sheep, and from what I have already stated, I believe it will not be questioned but what sheep have been domesticated by man from almost the beginning of the world to the present time.

The breeds of sheep are very numerous, and I will proceed to mention some of them and their characteristics.

The Black-faced sheep of the Highlands of Scotland, is perhaps as near the original type as any existing breed. Both male and female have horns, the face and legs are black, they are very robust and hardy, enduring the cold, stormy and tempestuous weather, superior to any breed of the British Isles; the wool is long and coarse, but the mutton is considered equal, if not superior to all others.

The Welsh sheep, they are smaller than the Black Faced. Fleece seldom weighs two pounds. They have upon the Shetland and Orkney Islands a similar breed, but hornless, its wool affording the material for the manufacture of Shetland hose, is very hardy, living principally in winter almost wholly upon sea weed.

The Breton is very diminutive, and is of but little importance.

The Forest Sheep, of England, in most places has been supplanted almost entirely by other breeds.

The Dorset sheep is one of the best of the old English upland breeds.

The Ryeland sheep has long existed in Herefordshire England. It produces a very fine staple of wool, and was used for the manufacture of fine broadcloths until the introduction of the irrepressible Merino Cheviot sheep. These have existed from time immemorial on the Cheviot Hills, and is one of the most popular breeds.

The Leicester is another of the choicest of long wool species.

There is another most excellent sheep of the long wool species—the Cotswold. In the fourteenth and fifteenth centuries they were held in great esteem, the wool commanding a higher price than any other. In 1464, Edward IV sent a present of Cotswold rams to Henry of Castile, and in 1468 a similar present was sent to John of Aragon.

The Southdown is a favorite breed with many, and has been lately much improved.

The Shropshire, I think, taken as a wool and mutton variety, has no equal among those I have mentioned, but never having been the owner or breeder of any long wool species, I do not say they are the best, but I think when all their qualifications are taken into consideration, length of staple, density of fleece, form, constitution, size, etc., we must think favorably of them.

The sheep of Iceland and northern part of Russia have a double coat of long hairs projecting beyond a short staple of wool, its flesh as mutton being deemed most excellent.

The Fat, or Broad Tailed sheep, is a variety found in Asia, Syria, India, China, Barbary and at the Cape of Good Hope. Its chief characteristic is its enormous tail, that often weighs seventy to eighty pounds (it is used as a substitute for butter, and I can see no reason why it should not be as cleanly and as palatable as oleomargarine, manufactured in Chicago from the tallow of stock yard cattle, and generally called

"Bull butter" by the workmen employed in its manufacture).

The Astrakahan sheep has wool in spiral curls. Great care and labor is expended in the care of the lambs; the shepherds sewing bandages on them, and wetting them with warm water daily, to make the ringlets glossy, soft and silky. It was, a few years ago, eagerly sought after by furriers, and was utilized in the manufacture and trimming of ladies' wearing apparel.

We find that sheep have been possessed by man from his earliest pilgrimage on earth to the present time, and I will now proceed to say something in regard to the most popular of all breeds in many localities, and in very many states, which is the Spanish Merino. We find in Genesis, 22d chapter and 13th verse, these words: "And Abraham lifted up his eyes and looked, and behold, behind him a ram caught in a thicket by his horns, and Abraham went and took the ram, and offered him up for a burnt offering in the stead of his son." Now I take this position, the ram was a Merino, and to qualify my statement, the circumstance of his being caught by horns goes to show that this identical sheep had one of the most prominent characteristics of the Merinos, and I have known personally of quite a number being caught in various ways by the horns. A gentleman of Bosque county, Texas, informed me this winter, of his having a very valuable sheep caught in mesquite brush by the horns. I knew of two very valuable ones this winter, kept in a pen, where they could not get to a thicket, and they locked horns together.

There appears to be a predisposition of the Merino to get caught by the horns, since the days of Abraham. I feel quite confident that our president and secretary, particularly, will agree with me, as they are sticklers for blood, and say it will tell. Then again, if Abraham was going to substitute a sheep in the place of his son, what could have been more appropriate, or a more valuable sacrifice, as measured by breeders of Merino sheep, than a Merino ram? Then again, if Abraham wanted to create a great smudge, I do not think he could have found the same amount of animal

matter that would have so completely filled the bill as a Merino ram, that cuts from thirty to forty pounds of wool. Now you, my hearers, may not be convinced, but I cannot satisfy myself that that particular sheep was anything else but a Merino.

Now as regards the first importation of Merino sheep into the United States, I shall copy largely from the Register of the Vermont Sheep-Breeders Association:

In 1798, Hon. William Porter, of Boston, imported from Spain two ewes and a ram. He made a present of them to Andrew Cragie, of Cambridge, who, not appreciating them, killed and ate them. This gentleman afterwards paid \$1,000 for a Merino ram. In 1801 there was an importation of four more; only one survived the passage.

Mr. Worrell, in his "American Shepherd," says they were from the Rambouillet flock, in France. Dr. Randall, in his "Practical Shepherd," says, or conjectures, that they were of original Spanish stock. In 1801, Mr. Seth Adams, of Zanesville, Ohio, imported one pair from France, from a flock imported from Spain by Bonaparte. In 1802 Colonel Humphrey imported from Spain 75 ewes and 25 rams; these were landed at Derby, Connecticut.

We read that "at the fair of the Columbus County Agricultural Society at Georgetown, D. C., on the 10th of May, 1809, nearly all the gentlemen wore clothing of domestic manufacture. President Madison sported his inauguration suit. The coat was made from Merino wool of Colonel Humphrey's flock.

Col. Humphrey repurchased one he had sold, paying therefore \$1,000 as he could well afford to do, having sold four head for \$6,000, \$1,500 apiece; this was in 1810. In 1809, Hon. Wm. Jarvis, at that time Consul at Lisbon, through the intervention of George Ewing, Esq., then United States Minister to Madrid, purchased 200 Escurials, so named as belonging to that cabana.

Now in 1809, Joseph Bonaparte in command of the French, invaded Spain — there were some owners of the most valuable cabans, or flocks, that joined the foreign army, and the result was, that their flocks were confiscated by the Spanish

Junta and sold contrary to custom, as I have seen somewhere that the government of Spain prohibited the exporting of these out of the country, as their wool was one of their greatest sources of revenue.

The four principal flocks confiscated were the Paulars, Negutte, Montarcos and the Aguiries, which combined amounted to about 120,000. One hundred thousand of the finest sheep in Spain were sacrificed to the devastation of war, leaving only about 20,000. Besides these four cabanas, there were probably as many more that had about the same number of fine Transhumanta sheep, including the cabana of the Duke of Infantado who did not join the French, and his flock was not confiscated; but in consequence of permission being given to export the confiscated flocks, there is no doubt that large numbers of these cabanas that were not confiscated were sold, and came to the United States. According to Mr. Albert Chapman of Middlebury, Vt., who has made a careful estimate of numbers imported in 1810 and 1811, there were about 17,000. Consul Jarvis imported into Vermont at one time 3,850, which formed the base of a large structure and very many that were sold to parties in other states were afterward sold to parties residing in Vermont.

The sheep imported by Consul Jarvis were delivered and consigned to various ports and persons for sale. There is an account of a sale being made by Messrs. Hicks, Jenkins & Co., of New York, for \$1,250 per head—this sale being made in 1810. And at the present time I know of stock sheep that are held at prices ranging from \$1,000 to \$5,000 and the owners refuse to sell, at any price, some choice ones.

The improvement that has been made since the first importations is truly astonishing. As regards size, they have increased from 60 to 75 per cent., as the first importations only weighed about 100 pounds. And it is no unusual thing to find them now weighing from 160 to 180 pounds, and there is a still greater difference in the weight of fleece. The original importation cutting only 4, 5, 6 and 7 pounds, and it is quite often seen at the present "shearings," fleeces that weigh from thirty to forty pounds taken off of a single

sheep of one year's growth. I refer any that are skeptical to the reports of the "Public Shearings" held in Vermont, New York, Michigan or Wisconsin, and those reports, I think, will justify me in stating that we now possess the best type of Spanish sheep in the world. There has been recently exported to Australia, New Zealand and Japan, at rates that go to show they are appreciated abroad as well as at home, as I will proceed to show by the account of sales the last year, by various parties: Mr. W. G. Markham shipped from Batavia, New York, October 28th, the sixth car this season of American Merinos for Australia. These sheep were purchased by Mr. James Winter, who came from London and made the selections himself, he having arranged for the purchase when in this country in May last. The purchase included forty ram lambs, from F. D. Barton, of Vergennes, Vermont, for \$10,000; from E. Townsend, of Pavillion Center, New York, fifteen ram lambs, \$5,000—two ewes, \$1,000; from S. B. Lusk, Batavia, New York, two ram lambs, \$1,500, and eleven ewes, \$3,300; and from W. G. Markham, Avon, two ewes, \$1,000, and three ewes, \$600. The sheep go to the stations of Messrs. Winter and Wm. Hays, for their own breeding. These gentlemen, in connection with Mr. Alexander McFarland, purchased through Mr. Markham in May last, twenty-three rams and fifty-six ewes. The purchases were made from Messrs. Hammond, Barton and Rich, of Vermont, and Townsend, Lusk, Sherman, Cossett and Goodrich, of New York. For the twenty-three rams \$14,500 was paid, and for the fifty-six ewes \$7,900; all of the above sheep were for use in the flocks of the purchasers.

There has been a steady and continuous demand for the last twenty years, for all the sheep that have been bred from pure Spanish stock, to supply California, Texas, Colorado, Kansas, and other states and territories, but at the present time the prospect is not very flattering for the wool growers, I admit. Nevertheless the owners of registered flocks that are raising stock sheep need have no fears.

Our own state was completely drained last year of everything that was for sale.

There are thousands upon thousands of Mexican sheep

and their crosses, that will positively require the best blood we can furnish for years.

Now I will close this article, Mr. President, with reluctance — as I have only begun — for the reason that I have not time to finish.

R. D. Torrey recited a German version of “Barbara Fritchie.”

Prof. Henry — *Mr. President, Ladies and Gentlemen* — I have talked a good deal about reading matter for farmers and I am not quite through yet. It was not long after I arrived in your town until I found some of your editors who were interested in this work. Now of all the good friends we have in this subject of education, none stand by us better than the local press. I don't think I need add a word of comment when I say stand by your local press. If you can take the second paper it should be our *Western Farmer*, published in Madison, now in its third year. Two or three agricultural papers have gone to the wall in this State because the farmers have refused to stand by them. You lost some excellent talent for that reason. Prof. George E. Morrow tried to run an agricultural paper in this State and he failed. He has gone to Illinois and the State is very proud of him. This meeting here to-day is more or less the outgrowth of Prof. Morrow's work, for it was he who inaugurated farmers' conventions. In Chicago he inaugurated the fat stock show. It is too bad that Illinois to-day has that man's talent instead of Wisconsin, to whom he properly belongs. I believe the *Western Farmer* claims five thousand on the subscription list. I say stand by the paper, don't let the *Western Farmer* go to the wall. If you can make it better you should do so. Again, I say hold up their hands. We are struggling along at the University with the agricultural department. While in Canada, I found two hundred and twelve boys in their agricultural college. In Michigan they have two hundred, Mississippi three hundred and fifty, in Kansas three hundred and eighty pupils in the agricultural colleges, while I am going around this State

begging for boys to come to the college and so far I have succeeded in inducing only seven to come to our agricultural college at Madison. Mississippi with three hundred and fifty, Wisconsin with seven! They say comparisons are odious and indeed they are when they reflect on us. Mississippi has only been running an agricultural college three years; last year the legislature of Mississippi investigated their agricultural college. You know what investigation means in the North. The investigation resulted in an appropriation of \$115,000 for that year. I think had an investigation been carried on by a Wisconsin legislature they would have told us to move out because they couldn't afford an agricultural college.

I don't think you know what we have in the State University at Madison. Our State University has cost over \$700,000. It costs over \$50,000 a year to pay the professors their salaries, and over \$80,000 to run the University. With all these advantages we have not the backing we should have from the people. I have worked as hard as I know how, but the farmers prefer to make lawyers of their boys or doctors rather than farmers. I had nine students until a few months ago. Two of the boys we counted on as among the best of them changed their minds and are going to become doctors, so that instead of having nine as I expected to be able to tell the farmers this winter, there are only seven. Now the course of agriculture at the State University is a very complete one in many ways. The boy that goes through that course passes under the instruction of not less than sixteen or eighteen teachers. The teacher that teaches the boy how to use the lathe in the machine shop, does nothing else but machine shop work. The professor that teaches him how to run levels, gives instruction in civil engineering only. The one that teaches English literature, pursues those branches as a specialty. If you know any young men in your neighborhood send them down to the agricultural college and let us see what we can do for them. I know of a young man who recently went from Wisconsin to the Michigan Agricultural College, to study agriculture. Our state is rich enough to ed-

ucate the boys at home. We have in addition to the agricultural department an experimental station, organized by order of the last legislature, at a time when they gave us money for experiments. The regents have called as agricultural chemist Dr. H. P. Armsby. Dr. Armsby, although young, is the author of "The Manual of Cattle Feeding," which some of you may have read. Prof. Trelease, at one time instructor of Harvard College and Johns Hopkins University, is the professor in botany and horticulture. Those two young men, with myself, are those directly related to the agricultural department, and the boys not only come under the instruction of us three, but as I said before, of about fifteen other professors in that university during that course. With such advantages you can hardly afford to send the young men out of the state. If you desire a catalogue, write your name upon a slip of paper with your post-office address and I will be glad to send you one. Should you wish to receive any reports of our experimental station, send me your name, and whenever we have anything of interest we will send it to you. We are allowed \$4,000 a year besides our salary for experimental work. Out of this we had to put on repairs and start the chemical department. Although we are not very strong yet in the agricultural department of the University in regard to students, our experimental station, so far as means is concerned, starts out second best in the United States. The other station that has more money for experimental work than we have, is the New York station, which receives annually \$20,000. You who may visit Madison, I cordially invite to come and see us. There you may see Science Hall, where the sciences are taught; the art gallery and museum and machine shop, Washburn Observatory, etc. I urge upon you to take more interest in your State University, stand by it and help us out of our trouble. We are not in a very bad way to be sure, but we want to grow stronger. The need, just now, is students rather than money.

The Michigan Agricultural College went through much the same dark trouble that we are experiencing; now they are a long way ahead of us and we must rank with the back-

woods states. Their agricultural college has been running since 1854. The young men that have left that college as graduates are now in the farming districts of Michigan, and the farmers are proud of them. They are standing by that college nobly. The young men that have graduated have gone back and are now farmers by the hundreds, and wherever those young men are located, the farmers feel the benefit of the agricultural education of those young men. Where there is a farmers' club, or a grange, or lyceum, those young men are the foremost. With their education they know the names of the common plants, they know something about insects, they are ready speakers, they are capable of helping in the meetings. In the societies, in the gatherings everywhere, those young men are helping the farmers and the farmers are willing to help the agricultural college. How much better it would be if young men came back in your neighborhood to-day with a good agricultural education. How much more friendly the gatherings would be, how much more intelligence there would be in these communities if those young men came back from college to your midst. As it is now you have spent your money for education and talent, but it is turned into the cities, and only makes the country more dreary by comparison. I stand here pleading, but at the same time I feel it is your cause rather than mine. I do not want Wisconsin to wake up and find herself fifty years behind her sister states in this matter. We are twenty years behind Michigan already and we will find ourselves a long ways behind the other states unless we fall into the ranks of progress and march to the tune of agricultural education.

Mr. Randall—I can see the difficulty under which our friend, Prof. Henry, labors, and I can judge pretty nearly, within two or three weeks of the time of year that the trouble occurs. It is this, in sending our men to Madison, both in the senate and the assembly. Just about three weeks before election the men that can control the most votes by buying the liquor dealers and saloon men, are the men that will represent us. I never was at Madison but

once to see the legislature, and I did not see an intelligent farmer that was a member of the legislature.

Prof. Henry — You are wrong.

Mr. Randall — There may have been lots of them, but they didn't talk with me. If the farmer will use his influence to bring forward the young men it is all right. I have not got any boys to send to the State University, I am simply blessed with two daughters, and they have attended Lawrence University. I never had a boy to send to the agricultural college. There are men in Outagamie county who can send their boys out of the county, to Ripon, anywhere except to the University. I don't believe they ever sent a student there, particularly to the agricultural department. The most of them pay no attention to the agricultural department.

Prof. Henry — I want to say that I have been in the state three years. I came here a boy, as they called me. I was an old boy in college. I got here in September. I went into the legislature about the 10th of January; or rather I went from the Cane Growers' meeting to Governor Smith's office, and said to Governor Smith: "We are pushing this cane question; couldn't you mention it in your message?" He says: "My message is about made up; if I can help you I will." He opened his message and put in a few words about Amber cane. It was a kind act. The legislature met, and they gave me, at least the professor of agriculture, and I happened to be the man at the time, \$4,000 for experimental work. The next session the legislature asked: "How much do you want?" I says, so much. I never knew the number of the bill; they gave me every cent I asked. The next year the regents went before the legislature and said they wanted an experimental station. The bill was drawn up by a member of the legislature, at the instance of the regents. The legislature passed that bill as drawn up and gave us the money. I have been in the state three years, and every year the legislature has given us money, and that is the legislature described by our friend.

Now this is the fourth year that I have gone before the farmers, this generous-hearted, noble people, begging for

boys, and they gave me seven. I don't feel quite like scolding the legislature.

Mr. Roe — There is an old proverb something to this effect, "One man can lead a horse to water, but ten men cannot make him drink." Here we have facts. Our legislature has not been at fault in its appropriations. They have done for the farmers all they can do in the premises. They have prepared everything; the feast is ready. Prof. Henry is going out into the highways and hedges to try and gather in the guests. In the case of our friend we excuse him, for he has no boy to send, but those who have I think will be from this time forward inexcusable.

Mr. Brown — I had the honor that year to represent this assembly district in the legislature. I believe also that I was a member of the committee on agriculture, and I believe Prof. Henry will bear me out in saying that that committee carried out the views which were expressed by the officers of the University. They came before the committee. There was appropriated somewhere in the neighborhood of \$200,000 to build a special agricultural college. If the gentleman wants special legislation to force our boys to go there, he has got uphill work. If our people will not send their boys there, how are we going to get them there? If these men that have got boys will send them there, I will guaranty that they will be well taken care of, and they will feel well paid for it.

Mr. Huntley — I want to say one word about this question of pay. Is Prof. Henry paid? Mr. Smith said he was paid. Is a man paid when he has an offer from another state of four or five hundred dollars more. We lost our Morrow, and I think the committee better recommend that the salaries of the agricultural professors be equal to any of the other professors.

Mr. Smith — I presume it is known to you all that there is a World's Exposition being held in New Orleans. It has been under way for a year or so. They want us to come down and help them. I will say I was down there with a party last winter, and delivered an address in New Orleans, and our whole northern party was handsomely treated. They want us to come down and make

a fine exhibition of agricultural and horticultural productions. They are putting up buildings that cover thirty-two acres of ground. They have appropriated \$100,000 for the purpose of putting up a horticultural building to show horticultural products. The horticulturists of our state as well as the agriculturists want to go down there and make a handsome exhibition. In this connection let me say, that they had an agricultural exhibition last winter, and Wisconsin stood second in the list; Missouri standing ahead of Wisconsin in the horticultural exhibition. It was a surprise to them who supposed that we up here were growing pine trees and icebergs. We are going to have a fine crop this year. We have no legislature, and we can expect nothing in that direction, but a bill has been introduced in congress for an appropriation, to be distributed among the states, to enable them to pay the expenses at New Orleans; in this connection I submit the following resolution for your consideration:

WHEREAS, It is well known that a World's Industrial Exposition is in course of preparation, and to be opened in New Orleans, on the 4th of December, 1884, and

WHEREAS, funds are needed in order that the Agricultural and Horticultural interests of our state may be suitably represented at said exhibition; therefore,

Resolved, That it is the sense of this convention assembled, that our members of both houses in Congress are hereby earnestly requested to use their entire influence for the purpose of having such an appropriation passed as will enable our interests to be fully and fairly represented at the said exposition; and further,

Resolved, That the Secretary of our association be instructed to send copies of the above to each of our members of Congress.

Prof. Henry—I would say that I expect to speak to-morrow, to the farmers upon the subject of stock breeding. There are many of farmers that fail to understand what a full-blood, a thorough-bred, a grade or a cross is. I will take up this topic to-morrow.

The convention adjourned until 7:30 P. M.

At 7:30 P. M., the convention was called to order by the President.

A paper was then read, entitled

INSECTIVOROUS PLANTS.

By MRS. F. P. WILLARD.

If at times we are amazed at the mystery of life as its power is made manifest in the animal kingdom, we are no less astonished as we discover and become familiar with the wonderful complexity and peculiar habits of some species of plant life. That plants absorb from the atmosphere a large part of their subsistence is well known, and that some subsist exclusively on air, as some of the orchids, is also a well-known fact. It has also been discovered that plants, or some at least, are consumers of animal food, absorbing and assimilating this food much in the same way as animals of the lower orders. Over one hundred years ago, a Mr. Ellis, an English naturalist, discovered that the Dionen Venus fly trap, of North Carolina, catches insects by a peculiar construction of the tips of its leaves like a steel trap, and since then botanists have satisfied themselves by numerous experiments, that the plant not only catches the insect but digests them, and the materials are absorbed into the tissues of the plant. About the year 1868, a Mr. Canby, who was then in North Carolina, in the Dioneer district, discovered that small pieces of beef that were fed to the plant were completely absorbed, the leaf opening again with a dry surface and ready for another meal. He found also that they could not only be surfeited but suffered from indigestion, and also that a meal of cheese disagreed with the leaves so seriously as to kill them. The Dioneer seems to be found only in a limited section of the country, while the Droma or Sun Dew is found in nearly all the states, as well as in Europe, and is a common little plant of the marshes. One variety has a round leaf about the size of a cent, the whole upper surface being covered with glands, bearing filaments or tentacles, as

Mr. Darwin calls them from their manner of acting. A tentacle consists of a thin, straight, hair-like pedicle, carrying a gland on the summit. Each gland is surrounded by a large drop of extremely viscid secretion. They average about two hundred on each leaf, and as they glitter in the sun have given to the plant its poetical name — Sun Dew.

The tentacles on the central part of the leaf are short and stand upright and their pedicles are green. Toward the margin they become longer and longer and more inclined outward with their pedicles of a purple color. Those on the extreme margin project in the same plane with the leaf, or more commonly are considerably reflexed. If a small insect be placed in the center of the leaf a motor impulse is transmitted to the marginal tentacles; the nearer ones are first affected and then those further off until at last all are slowly but surely inflected and close over the object until it is absorbed. The sensitiveness of the leaves is located in the glands, together with the immediate underlying cells of the tentacles. A bit of hair 1-10th of an inch in length and weighing only 1-78000 part of a grain will induce motion and cause a marginal tentacle to sweep through an angle of 180 degrees. But by a curious provision of nature, drops of water falling from any height do not affect the glands in the least. It is proved that the leaves are capable of true digestion and that the glands absorb the digested matter. As is well known the gastric juice contains an acid and a ferment (pepsin) both of which are requisite for digestion. So it is with the secretion of *Droma*, like the gastric juice, it also has antiseptic properties. Meat is dissolved by each in the same manner and by the same stages. It promptly dissolves cartilage, a substance so little affected by water. It dissolves bone and even the enamel of teeth. In short, there is no doubt that the ferment in both cases is closely similar, if not identically the same, a fact in physiology which may well be called wonderful. When it is considered where the plant grows, generally on extremely poor, peaty soil, it is evident that the supply of nitrogen would be quite deficient unless the plant had the power of obtaining this important element from captured insects, and this explains why the roots are

so poorly developed. These usually consist of two or three slightly divided branches from a half to one inch in length furnished with absorbent hairs. It appears that they serve only to imbibe water, though of course they will absorb nitrogenous matter when supplied. Mr. Tait says that it is certain that the Drosnen not only absorbs nutriment by its leaves, but that it can actually live and thrive by their aid alone; that is, without the aid of roots; that nitrogenous matter is more readily absorbed by the leaves than by the roots, for over-feeding kills the plant sooner by the leaves alone than by the roots alone.

Francis Darwin made some very interesting experiments with these plants. He took six plates full of thriving plants of Sun Dew and divided off each by a transverse bar. Then choosing the least flourishing side of each, he placed, on June 12th, roast meat in morsels of about one-fiftieth of a grain on the leaves and renewed the dose occasionally. The plants on the fed side were very soon clearly greener than those on the starved sides and their leaves contained more chlorophyle and starch. In less than two months the number of the flower stalks was half as numerous again on the fed as on the unfed sides, while the number and diameter of the leaves and the color of the flower stalks all showed a great superiority. The flower stalks were all cut at the end of August, when their number was as one hundred and sixty-five to one hundred, their total weight as two hundred and thirty to one hundred and fifty, and their average weight per stem as one hundred and forty to one hundred, for the fed and unfed sides respectively. The total number of seed capsules was as one hundred and ninety-four to one hundred, or nearly double, and the average number of seeds in each capsule as twelve to ten, respectively. The superiority of the fed plants over the unfed was even more clearly shown by comparing their seeds, the average weight per seed being as one hundred and fifty-seven to one hundred, their total calculated number as two hundred and forty to one hundred and their total weight as three hundred and eighty to one hundred. The fed plants, though at the commencement of the experiment in a slight minority, at the end of the season

exceeded the unfed by more than twenty per cent., while the following spring the young plants which sprang up on the fed side exceeded those on the other by eighteen per cent. in number, and by one hundred fifty per cent. in total weight, so that in spite of the relatively enormous quantity of flower stalks produced by the fed plants during the previous summer they had still been able to lay up a far greater store of reserve material.

You will pardon me if I call attention to a very important matter suggested by these experiments made by Mr. Darwin of feeding the Droma. It relates to the fact whether or not we may not greatly improve our methods of cultivation by learning from these insectivorous plants something more than we know, of nutriments adapted to increase the yield and growth of fruit bearing plants. If it shall prove that these plants reveal to us a process of cultivation that will largely increase the yield of fruits and vegetation, it will appear then that these little insect destroyers that absorb their nitrogen in this way will have rendered an important service to man. Since writing this paper the importance of this suggestion of a better knowledge being required in respect to feeding plants has received additional confirmation in the experiments made by Prof. W. H. Jordan, in which he finds that phosphoric acid from bone black superphosphate will increase the yield of wheat more than any other plant food. The addition of potassa and nitrogen gave an increase of grain and still more of straw. There is also a number of other insectivorous plants each one having a method of its own to capture its prey. The Butterwort secures them by incurving the margin of its leaves. It is not provided with any irritable filaments, the sensitiveness residing in the surface of the leaf, which is set with two kinds of glandular hairs secreting an extremely viscid fluid which seems to be the only agent for entrapping the insects. When once caught they are detained by the slowly inflecting leaf. Here, too, contact with nitrogenous bodies changes the nature of the secretion so that it becomes capable of dissolving and digesting insects and other nutritious substances when the secretion and the digested matter are absorbed by the glands.

When the objects are too large to be inclosed by the inflecting leaf, they are by its incurving pushed along over the surface, constantly coming in contact with fresh and hungry glands.

I found in one leaf of Butterwort eight or ten small flies, two ants and as many spiders. The Bladderwort is found floating in shallow or stagnant water, and their thread like leaves have numerous little bladders upon them that many suppose were for the purpose of floating the plant, but Mrs. Treat, of New Jersey, has demonstrated that they entrap numerous insects, larvæ and fresh water worms; there seems to be no power for digesting the insects, but of absorbing the products of decay. Mr. Darwin considers the *Nepenthes* a genus of pitcher plant, insectivorous; their digestive powers were so strong that they dissolved cartilage. It was also found that fibrin was dissolved more rapidly by the secretion of the excited pitchers than in a test experiment with pepsin from a pig's stomach. "Tait finds two substances both possessing great antiseptic powers and both being apparently, together with acid, essential to digestion, one a grayish white precipitate with alkalies, which he terms droserion, and which seems the analogue of pepsin; the other, azerin, a transparent straw colored substance precipitated by alcohol, he compares to ptylin the ferment of salive. Droserin seems to be present in the secretion of all these insectivorous plants which possess the power of digestion, azerin perhaps in all without exception. The latter substance like glycerine wets any body with which it comes in contact. A fly thrown into water never gets completely wetted, while one which falls into the secretion of any of the insectivorous plants is rapidly soaked and drowned by the fluid entering its trachea." There is also a plant that in a state of nature catches such numbers of flies, that the Portugese call it the fly catcher and hang up branches of it in their houses for this purpose.

The *Martinia* seems to be quite a good fly trap. Professor Beal says that he counted seventy-six small diptera and some other insects on the upper side of a young leaf of about four inches average diameter, and two hundred on the under side. The insects are caught on all parts of the plant

which are exposed. Among a lot of others was one plant about three feet high, spreading three feet in diameter, which, according to estimate, had 7,200 small flies on it at one time. These insects are caught by the small hairs with which the plant is covered, and live only a short time if only touched by two to four hairs. In the summer of 1881, a Miss Sallie Andrew examined the leaves of one of the common garden petunias, and found that they were quite freely powdered with the dead or apparently dying bodies of small insects, which seemed to be held fast, either by the hairs with which every part of the plant is covered, or by the gummy, sweetish exudation therefrom. She says that she had found the freshly captured insects most plentiful about night time, at which time the petunia blossoms emit a powerful odor and the clamminess of the leaves and stems is most noticeable, and that she had seen insects as large as the common red ant struggle and die, but most frequently she had found small spiders and gnats. These are intimations from those who are at present investigating the habits of insectivorous plants, that there is a very much larger number of these varieties than has been supposed to exist, and the thought now is, that we may add largely to our stock of knowledge by studying the peculiar habits of this carnivorous plant-life.

DISCUSSION.

Mr. Smith—Here is a topic that has been of a good deal of interest to me. I would say that it is not new, but the author of the paper is a highly cultivated and highly educated lady, and the statements which she makes on this strange subject are undoubtedly true.

Mr. Rhodes—I have been laughed at for raising crab apples. You all know about the crab and you all know about the Transcendent crab. The Transcendent crab is of the finest quality, but we can enjoy it but a very short time during harvest, but the Hislop we can begin to use along in September, and we have had it on our table at home now three times a day and we have used it in making pies and

very good ones too. About ten or eleven years ago I got of Mr. Felch of Amherst, 75 Hislop crabs and 25 Transcendents and I was very sorry when the Hislops began to fruit, because of their inferiority to the Transcendents. When we learned how to gather them and care for them, we found they were worthy to be cultivated by everybody, not only by those that have exceptional locations where they can raise the Duchess and Russetts, but also by the farmers who have sandy locations and those that are too low, and where the surface is near the water line. I don't think that there is one farmer in forty that knows that the Hislop crab can be successfully raised. I would not recommend the Hislop as an eating apple at any time during its life, but as a cooking apple, and the quality is generally choice. It is rich in jelly. I don't know of another apple in the whole list that will give so much jelly and of a fine quality, and that very peculiarity makes it a very excellent apple, and it is also very good for pies. Now as to its keeping qualities. Let them be gathered early, as soon as it is well colored, as soon as the first week in October, and I would prefer the last week in September, and carefully picked from the bough by hand, packed in barrels and headed up. We have not headed up any of our barrels; they have been kept in a cool cellar in open barrels and boxes. I should say we have 25 bushels on hand. We have been sorting them in the last few days and we found one barrel had a place partially decayed. We have sorted perhaps 15 or 16 bushels. In regard to the market I would say of the Hislop, that when eating apples were selling for \$2 this winter that I had no trouble in disposing of the Hislop at \$1.20. I would say that there is not a tree in my forest, oak or hickory, that looks hardier and healthier than do mine, and I have not lost a single tree except two or three from the borers and my trees were planted ten years ago last spring.

A solo was sung and chorus by Mrs. J. W. Creighton, Miss Lottie Snow, and Messrs. S. T. Oborn and L. L. Wright, Mrs. E. E. Gordon, organist.

HISTORICAL AND DESCRIPTIVE SKETCH OF THE
FOX RIVER VALLEY.

By R. J. HARNEY.

The Fox river valley enjoys the distinction of being the scene of the first civilization in the great valley of the Mississippi. For more than half a century before the eye of civilized man had seen the sites of Chicago or St. Louis, the Fox river country was the center of aboriginal traffic with the French voyager, and the initial point in the northwest of the early explorations and discoveries of the interior portions of the continent.

The advent of civilized man in this region may be said to be cotemporaneous with that of Virginia and New England. The first permanent settlement in the latter being in 1620, while in 1634 Nicollet ascended the Lower Fox, visited the Winnebagoes at the outlet of Lake Winnebago, and made the first treaty with the Indians of the west.

In 1668, more than a hundred years before the revolutionary war, a mission and trading post was established near the mouth of the Lower Fox; and that point, for over a century, was the commercial center of the west.

The great natural commercial advantages of this valley may be seen in the fact, that it was through these river arteries connecting the great lakes with the Mississippi, that the civilization of the west was pioneered; and that all the traffic and white settlement of the great upper Mississippi valley, for over a hundred years, had its initial point in the valley of the Fox, which was the main entrance way to the vast prairie world of the interior of the continent.

Two centuries ago the first traffic carried on between the French and the Indians, instinctively followed that line of trade which flows through the present commercial centers of the valley of the Fox river and Lake Winnebago. The French bateau and Indian canoe were the primitive flow of that commerce which was destined to pour its mighty volume through this natural outlet of the northwest.

At this remote period the continent was one vast barbarous solitude, with the exception of the scanty Indian population, who, according to reliable authority, did not number two hundred thousand in all the territory lying between the Mississippi and the Atlantic; for, besides the little English and Dutch settlements on the sea coast, the French at Arcadia and on the St. Lawrence, there were no others in all that immense territory, stretching away from the Atlantic to the Mississippi, except the pioneer settlement at De Pere on the Lower Fox.

Just previous to the establishment of that mission, and the trading Post of Perrot at that point, the territory, now known as central and northern Wisconsin, was of a great aboriginal tumult.

Up to the year 1600 the Sioux were the sole occupants of this territory. About this time commenced the migration of the Eastern Algoquins.

The first tribes to come were the Chippewas who settled at La Point on Lake Superior. They were attacked by larger forces of the Sioux, and were compelled to evacuate the country. They retreated to the St. Sault Marie and to the mouth of the Fox, where they were re-enforced by accessions of Chippewas and Potawatamies from the east, and then began that struggle with the Sioux for the possession of the rich hunting grounds of Northern Wisconsin, which made this region the greatest battle ground known in Indian tradition — the great contest between the Dakotah and Alejic races.

The Sioux were gradually driven across the Mississippi and the Ojibwa immigrant became the possession of the country.

While the Chippewas were fighting the Sioux, the Hurons, Ottawas, Foxes, Sauks, and Menominees, all of the Algonquin family of Indians, settled at various points from the strait of Mackinaw, to the southern extremity of Lake Michigan.

The Sault St. Marie and Michilmackinac, with the Chippewa, Huron and Ottawa settlements; Green Bay, with its tribes of Menominees and Sauks; the Fox river, with its

tribes of Foxes and Miamis, and the adjacent Lake Winnebago, with its surrounding Winnebagoes, now become a great center of Indian population, being one of the most favored regions for game and fish; while the lovely country around Lake Winnebago and on the Upper Fox afforded sites for the most productive planting grounds; the tribes increased in numbers, and enjoyed a full share of Indian prosperity.

The locality embracing the junction of the great lakes, Superior, Michigan and Huron, and the adjacent Green Bay, with its Fox river, affording a water communication with the Mississippi by the easy portage between the Fox and Wisconsin, became the great center of Indian travel and commerce of the northwest.

Up to the year 1836, the only settlers in the Fox valley and in central and northern Wisconsin, were the little French and Half-breed settlements on the Fox river. From the time of their advent the country had been under the rule of three different governments — France, Great Britain and the United States. But still these people, cut off from all association with their mother country, retained their primitive habits, manners and language; and when France had abandoned the country they were left like stray waifs in the immensity of the wilderness.

The traders and voyageurs were mere birds of passage, leading like the natives, a nomadic life, which was but a slight modification of the aboriginal. The whole country bordering these water courses, from Green Bay to the far-off land of the Dacotahs on the west, and the Spanish possessions in the south, was their home. They set out in their canoes to Green Bay to make voyages to distant lands like vessels sailing for foreign countries, and returning to Green Bay with their cargoes of furs, pursued their way to the distant Mars of Quebec and Montreal — the headquarters of that French Indian empire — which for over a century embraced in its territorial domain the whole valley of the St. Lawrence, the basin of the great lakes and the immense valleys of the Ohio and Mississippi, absorbing its Indian tribes and organizing them into a semi-civilization.

From its central point on the St. Lawrence, the outlet of

that labyrinth of water courses, branching out to the primitive sources of the Mississippi, on the northwest, to the tropical shores of the Gulf of Mexico on the south and to the western steppes of the Alleghenies in the east, it extended its lines of communication and established its missions and trading posts, which have left their historic marks in the geographic names of the country.

The Algonquin Indians and the French were almost merged into one people, and a class of men came into existence who were vastly superior to the Indian in forest craft, and in all the skill of savage life. These were called the *coureurs de bois*, whites and half-breeds born on the frontier posts, and inured from childhood to hardship and danger. No Indians could surpass them in endurance in the chase, or in shooting the rapids in the light canoe. In mode of life they conformed to that of the Indians. Dressed in buckskin hunting frock and leggins, gaily ornamented with porcupine quills and beads; with eagle feathers in his hair—the emblem of the warrior—the *Coureur de Bois* freely roamed the wilderness from the Labrador to the southern Mississippi. He explored the most remote recesses of the interior; was as familiar with its trails and lines of travel as the denizen of a city with its streets. He read his way by the moss and bark on the trees — by the stars at night, and by all the signs so familiar to those accustomed to forest life. In his canoe laden with furs, and in the enjoyment of the companionship of the congenial Indians, he cheerily paddled it along the silvery stream, enlivening his toil with song and banter. For a thousand miles — from the far-off land of the Dacotah or Illinois, he guided the frail bark through river and lake, through foaming rapids and stormy seas; through great stretches of dense forest where the sinuous stream was almost hidden from the light of day — and again through countless leagues of prairie, where herds of buffalo, antelope and deer roamed in undisputed possession, and then over the transparent waters of the great inland seas. But when his frail canoe shot like a startled deer through the milky foam and tearing rapids, and rushed madly by the jagged rocks, then, holding his life in his hands and depend-

ent on his skill and intrepidity — the *Coureur de Bois* was in his glory.

The beautiful Fox river valley in the days of its French Indian occupancy, was the great, busy channel of frontier and aboriginal life, trade and travel. The abundance of game, fish and fur-bearing animals, the wild rice which grew luxuriantly in the shallow portion of its waters, the rich, warm soil of its planting grounds, its facilities for canoe travel, and the easy portages between its water courses, made it the center of Indian population, and one of the chief seats of Indian diplomacy and power. Here dwelt some of the most powerful tribes of the Sauks, Foxes or Outagamies, and Winnebagoes, and their noted chieftains famous in Indian song and legend. On these lakes and river banks, were the picturesque seats of their villages and planting grounds; their council fires and war dances, and here occurred great tribal wars, and some of the most sanguinary conflicts of Indian warfare, in their struggle with a race which was destined to supplant them.

Here the first intercourse took place between the whites and Indians in the west, and here the Frenchman met the diplomats of the Indian tribes to form treaties of alliance to facilitate that nomadic traffic which pioneered the earlier civilization of the country; and here, for a century and a half, the two nations mingled alternately in friendly intercourse or deadly conflict. Here were found scions of the French nobility mingling in the dusky circle of the wigwam, those who were reared amid the elegancies and luxuries of the court circles of Versailles and Paris. And here were found military officers whose earlier years had been passed in the feudal camps of Europe.

Many a gallant young French officer who distinguished himself in the long French-Indian war with Great Britain, and that had its closing scene in the fall of Montreal, took his first lessons in forest warfare in the sanguinary contests of the Fox Valley. Here the heroic Beaujeu, who fell at the famous battle of the Monongahela, organized with De Langlade, of Green Bay, the Indian forces who defeated Braddock in that memorable opening scene in the great drama,

whose closing act was the English conquest, in itself but the prelude to that greater contest which established the standard of free government in America, and the overthrow of both French and English feudalism.

Chas. De Langlade was a descendant of the house of the count of Paris. His mother was the sister of the head chief of the Ottawas. He settled at Green Bay in 1745, and his descendants still reside there. He was one of the distinguished officers in the long French Indian war. He raised six hundred of the Indians of this valley and marched at their head to the defense of Fort Du Quesne, when it was threatened by the approach of Braddock and Washington, the latter being then a young militia captain. Arriving at Du Quesne, they camped in the surrounding forests and sent out scouts to watch the approach of the enemy.

De Langlade, learning the immense superiority in numbers of Braddock's forces, saw that the only chance was to intercept him on his march. He therefore went to meet him with about two hundred soldiers and six hundred Indians; and before Braddock was aware that an enemy was within miles of him, he was suddenly confronted by Beaujeau at the head of his French soldiers. Beaujeau fell at the first encounter, but the tactics of De Langlade baffled Braddock at every point. He could hardly see a foe while a deadly storm of lead was poured on his compact forces. The Indians would suddenly attack his flank on both sides at one time and suddenly disappear. At last every tree and bush was flashing with a deadly fire. The English troops fell by scores. The grandest army that America had ever known at that time was annihilated. De Langlade's ambushade was a death trap, and the remnant under the skillful management of Washington effected a retreat.

De Langlade, with his Fox river Indians and Ottawas, was subsequently in ninety odd encounters, and received from the king of France the highest compliments for his valor and military skill.

Although a century and a half had passed since the French had established their trading posts in this country, it was up to the year 1846 but a comparatively unbroken wil-

derness. The little straggling French settlement on the Lower Fox, the government agency, at Neenah, and half a dozen families at the mouth of the Upper Fox—the present site of Oshkosh, the trading post of Augustin Grignon and James Polier, near the head of Big Lake Buttes des Morts, comprised nearly the whole civilized inhabitants, with the exception of the troops and traders at Fort Winnebago and Fort Howard. But the country was soon to witness a sudden transformation. The age of railroads and steam machinery was coming on. The beaver, otter, mink and their contemporaries, the French voyager and Indian, were to be superseded by that advancing civilization which has spread its conquests far and wide, and whose forces have opened up the broad west to that wave of immigration which rolls ceaselessly across the continent, peopling its most remote solitudes with a race which takes permanent possession, and before whom the Indian hopelessly flees, disheartened and overwhelmed by the destiny which closes remorselessly around him, and leaves him an alien and outcast in the land of his nativity.

The Fox river valley, embracing several of the finest counties in the state, is a region abounding in the most diversified resources of trade, agriculture and manufacture, the Upper Fox being the dividing line between two districts of country of very different physical features. The territory lying south of this river line comprises the great rich prairies and opening district of the state which stretches from Winnebago county to its southern and western limits. This vast tract, with the exception of the strip of forest land in the counties bordering Lake Michigan, constitutes the northeastern extremity of that great agricultural empire of fertile prairie and openings which extends to the south and west for distances that include whole states in its vast limitations, and presenting in almost one continuous body a tract of agricultural country whose territorial immensity and fertility is unparalleled in the wide world. That portion of it included in the limits of the state of Wisconsin is more diversified with openings and detached bodies of timber, and consequently does not present those great monotonous

stretches of level prairie which largely abound in the more southern portions of the district. The face of this prairie and opening country of Wisconsin is indescribably charming in its picturesque beauty of commingled prairie, woodland, lakes and rivers, forming vast rural landscapes of the most exquisite loveliness; but in all this magnificent country there is no tract that can surpass the Fox valley. Here are lakes rivaling the finest in the world, with handsome sloping banks rising on graceful undulations. The rolling prairie in succession of smoothly rounded ridges stretching away as far as the eye can reach, dotted with picturesque openings and bordered with the dense foliage of the more heavily wooded slopes, affording views whose distant vistas fade into a perspective that resembles some enchanting mirage of wooded hills and grassy lawns, with glimpses of water flecking the whole scene in artistic light and shadows.

The counties of Green Lake, Winnebago and western Fond du Lac constitute the principal portion of the Upper Fox valley, its prairie and opening section. In those counties the beautiful water scenery gives additional charms to the contrasting varieties of prairie and woodland. These lakes and rivers too, form a water course through the heart of the country, which is navigated by steamers, and upon whose banks have arisen some of the chief cities of the state. Green Lake, a body of clear, crystal water about nine miles long, and three to five wide, is one of the loveliest sheets of water in the west. The country surrounding it is rolling and of most picturesque appearance. Lake Winnebago, almost an inland sea, thirty miles long and twelve wide, bounding the eastern side of Winnebago county and indenting it with deep bays and capacious harbors, forms with its handsome sloping prairie and openings, one of the finest scenes. It has no overtowering mountains, but this lovely expanse of water, stretching away as far as the eye can reach, and glittering like a gem in its emerald setting of undulating banks and leafy groves, until the view fades away in the dim distance, among the hazy points and headlands, is a scene of picturesque beauty that is seldom equaled.

The soil of the upper Fox valley is mostly a deep, rich

loam, with clay sub-soil on a base of limestone, which occasionally crops out at the surface. Limestone gravel beds are frequent, which show the action of the water at the time of their deposit. These furnish abundant material for making roads and are largely utilized for that purpose, the country being very generally provided with excellent roads.

An abundance of good water is readily obtainable throughout the whole Fox valley, upper and lower, by dredging or drilling. It is generally hard from contact with the lime rock. Soft water is obtained by drilling below the limestone and in a large belt of country flowing fountains of soft water abound. Springs and flowing streams are also numerous.

This portion of the Fox valley, the upper Fox, gives every evidence of its physical resources of wealth, as it presents almost one continuous expanse of highly cultivated farms, with well painted farm-houses, many of them elegant rural villas, surrounded with the adornments of taste and refinement, with spacious barns and good fences; all giving plain evidence of the wealth and thrift of the occupants.

The country of the Lower Fox presents very different physical aspects.

This is a portion of the original forest which borders almost the entire eastern side of the State and which extends from Lake Michigan to Lake Winnebago, while on the north side of the lower Fox it stretches away into the limits of what is known as the forests of Northern Wisconsin.

The counties Outagamie, Brown and Calumet comprise the lower Fox district. They were originally covered with a heavy forest growth, principally rock maple, oak, basswood and elm, except in the northern extremity of Brown and Outagamie, in which more or less of pine is found. The surface is generally rolling, well watered, and the soil a clay loam of varying degrees of fertility. A large portion of Outagamie county and the greater part of Calumet being one of the best wheat districts in the state. The southern half of Outagamie has been so long under cultivation that the fields are very generally clear of stumps and it con-

stitutes now one of the finest farming districts in the state. As building material is abundant and comparatively cheap, its farm buildings are very neat and substantial. The same may be said of a large part of Brown and Calumet.

The crowning glory of the lower Fox country is its magnificent water power on a navigable stream. Commencing at the outlet of Lake Winnebago, are the twin cities of Neenah and Menasha, with a water power running ten large flouring mills, whose products reach from 600,000 to 800,000 barrels of flour annually; six immense paper mills which produce 9,000,000 pounds of print paper per year; and in addition to these are several other branches of manufacture. Appleton, a lovely city, queen of the lower Fox, with a capacity of 40,000 or 50,000 horse power, with her mammoth paper and flour mills and other extensive industries run with water power, and which give her a rank among the leading manufacturing cities of the west.

Kaukauna, the next point below with a power estimated at over 100,000 horse power. Depere with an immense power, running extensive iron works, and other branches.

The lower Fox is said to be the finest water power in the United States, not only on account of its volume of water and vast reservoirs and feeders, but also for its available and continuous supply, and its unequaled shipping facilities.

Ten or fifteen miles north of the upper Fox, the physical character of the country changes, and the region called northern Wisconsin has its beginning. This tract, stretching away to the northern limits of the state, presents great variety of soil.

After crossing a belt of sandy soil, the pine and hard wood forests are reached. The vast timber resources of this region are readily accessible to the Fox valley, by the Wolf river and its many tributaries penetrating that region for over one hundred and fifty miles.

The country now being also intersected by railroads in every direction, pours into the Fox valley an endless stream of commercial timber. The chief point of this lumber manufacture has been the city of Oshkosh, the second city

in the state in wealth, population, trade and manufactures. Its eight mammoth sash and door factories turning out over 4,000 doors and windows per day — with its saw and shingle mills, the products of which with its sash and doors load over 18,000 railroad cars per year.

In this city are also several of the largest carriage works in the west, employing in the aggregate some 300 hands. Flouring mills, foundries, machine works, trunk factories and others numbering in all about 80 manufactories run by steam power.

On lake Winnebago and the upper and lower Fox are eight of the principal cities of the state. Thrifty business and manufacturing cities, surrounded by fine agricultural territory. This at once attests the wealth and resources of this region, which is now one of the greatest business and manufacturing thoroughfares in the west.

It is the conjunction here in this valley of the respective elements of three distinct types of country, which contributes to the great manufacturing and business capacity of the Fox valley, where nature, with the most prodigal hand, has scattered the richest elements of productive wealth. And it is this which makes the beautiful country on the line of these water courses, a populous thoroughfare, on which have sprung up populous cities, the busy centers of modern enterprise and manufacturing activity.

What a spectacle is here afforded of the wonderful progress of the age. Thirty-five years ago the locality was one of the frontiers of western civilization. Now populous cities, marts of trade and commerce, with educational institutions and all the luxuries and elegancies of modern social life cluster around these waters; highly cultivated farms cover the whole face of the country; railroads stretch away in every direction, and the empire of modern progress holds undisputed sway. The Indian wigwam and the pioneer's log cabin are supplanted by the stately mansion and towering steeple; the bark canoe and the voyager's batteau have given way to the magnificent steamboat and graceful sail craft, while the generous hospitalities of the pioneer, his

hearty welcome, his kindly manners, his brave enterprises that opened up the pathway of progress, are among the things of the past.

Mr. S. T. Oborn sang a tenor solo.

A paper was read entitled:

PHYSICAL CULTURE.

By H. J. KOEHLER.

Mr. President—Although the subject of my paper is a new one in this convention, still I do not feel called upon to offer any reasons for its introduction, as I feel confident that there is not one here present unacquainted with the benefits to be derived from physical culture. This subject being one so closely allied with everything beneficiary to man, I do not think it out of place here. And why should I? All subjects read and discussed tend to the improvement, promotion and perfection of man's social position, which, in a very large measure, is dependent of his physical condition. To begin with I will give a brief historical sketch of physical culture.

The struggle for existence was a victory for the stronger. Unconsciously, therefore, it became manifest, at a very remote period, that only by hardening the body could the inclemencies of the weather and other hardships be endured. Soon it became apparent, that besides being hardened and strong, agility, too, was necessary, a necessity without which the provision of food would have been a very fruitless one in most instances. In these, the power to swim, which was quite an art at that time; the handling of the then rude weapons, and the training in times of peace for those of war, are included. The exercises then practiced consisted of: running, jumping, leaping, climbing, swimming, wrestling and riding. To these we add the exercises with weapon. In the earliest period these probably consisted in the throwing of stones from the hand; afterward the sling-shot was

invented; later the use of the clubs, tree-branches, light and heavy spears, and still later the bow and arrow were added to these. Activity and the longing for excitement manifested itself in the *naturalist* as it does in a child, and to the aforementioned exercises another *element* was added, viz.: *dancing*. These were usually accompanied by songs. The latter being a physical culture of the organs of respiration and vocality. Later the more ideal conclusion was arrived at to develop the body for its own benefit, from whence the motto "*mens sana in corpore sano*," really owes its origin. This led to the adoption of systematical physical culture.

PHYSICAL CULTURE OF THE GREEKS.

The Greeks present to us the first and most complete system of physical culture. In the universality of development it knows no superior — not even an equal. The self-dependence of each and every citizen, upon which the republican government was based, made it necessary that these should be sound and able men, for which reason the Greeks made public education all-important. The state encouraged, and by allowing its teachers numerous privileges, promoted the cause of mental education also. Although enjoying these privileges, teachers were bound by wise laws to work in the interest of the community. Large public structures were erected by the government to be used as schools for the development of physical culture, the promotion of which constituted one honorable duty for the wealthier citizens. By custom and law it was made compulsory for citizens to allow their children — girls included, to a certain age — the privileges of this education, slaves alone being excluded. The object the Greeks wished to attain by their education was a quadruple one, viz.: Firstly, physical healthfulness. Secondly, warrior ability. Thirdly, aesthetic perfection. Fourthly, moral development, sense of custom and duty, strength of courage and moderation. To what extent their efforts were successful can be learned from Grecian history. Only graduates of their gymnasium were entitled to the privilege of citizenship. The classes were divided according to the ages of the pupils and were promoted after a certain term expired.

Exact lists and records of pupils were kept. After the eighteenth year had been reached the pupils were trained in the use of arms, and at the age of twenty-one they were enrolled in the army.

A word in regard to their gymnasiums. They were of the most beautiful architecture, and were in most instances situated on flowing waters, and were used also as schools for science. The portion devoted to physical culture was divided as follows:

- (a.) Apartment for youths' exercises.
- (b.) Apartment for the game of ball.
- (c.) Sand apartment.
- (d.) Cold water bath.
- (e.) Oil room.
- (f.) Luke-warm room.
- (g.) Water bath and sweat room.

The exercises practiced were very simple in comparison to our modern improvements (?), but such exercises that promoted a universal development.

They consisted of exercises, to execute which no apparatus were necessary, the leading ones being running, leaping, wrestling, boxing, putting stones, and throwing spears and lances.

The Greeks valued healthfulness above everything, which the care they displayed in preparing for their daily exercises manifests. The exercises were executed in a nude condition, but not until the body had been carefully warmed, oiled and sanded, to guard against draughts and colds. After finishing, the oil and sand was scraped off and the body cleaned and cooled to its natural temperature. With such an education, can we wonder that the Greeks were the most healthy and perfect people who ever inhabited the globe? Every man was a model! After the downfall of the Greeks, and, namely, after they had lost their liberty, the system of physical culture became corrupt, and it was then that instead of the universal development, the development of athletes began, whose only object was gain. The Romans made one attempt to revive the Greek physical culture, but were unsuccessful.

PHYSICAL CULTURE OF THE MIDDLE AGES.

During the middle ages all thoughts of the Greek system of physical culture had been lost. Indeed, it was quite natural for the then *feudal-diseased* world to not entertain any thoughts whatever in regard to such a custom whose object was a national education. If we have any accounts of physical culture to give dating from that period, we have the natural desire for bodily exercise to thank for it. Religion of the date oppressed all movements in that direction, and what little was done, was simply done to educate in the use of arms. A national development of physical culture was out of the question. All exercises disclosed the feudal exclusiveness, and therefore remained highly unpolished. We may divide the exercises into two groups, those of the knights, and those of the citizens and peasants. The education of the knights had for its delusive ideal, honor, which in reality was only aristocratic pride and passion of defiance and quarrel. Their exercises consisted of riding, fencing and lancing. The citizens' and peasants' consisted of the playing of ball, running, climbing and wrestling. An exercise in which all classes participated was dancing. This, at times became a very plague — St. Vitus dance.

PHYSICAL CULTURE OF MODERN TIMES.

Not until the sixteenth century did any one again make an effort to reproduce a system of physical culture, based upon that of the Greeks. Quite a number of authors give Martin Luther credit for being the first to make propogande in that direction. This is hardly acceptable, when we think that Luther knew very little in regard to real public education, and that he would, rather than make such an effort for the benefit of the people, load them down with plagues and cares. We must be very careful, therefore, in our acceptance of such theories. It is by far more correct to give the humanists, who awoke the interest, not alone for the antique classics, but also for the antique mode of living, credit for being the revivers of the hellenistical gymnastics. One of the foremost of these was the Italian Hieron Mercurialis, M. D., 1573, who published his "De Arte Gymnastica." The

French philosopher, M. de Montaigne; the English physician, Locke, and J. J. Russeau, who was an inveterate enemy of the luxury and extravagance of his time, and who, therefore, preached the "Return to Nature;" all did a great deal to promote physical culture. J. B. Basedow, a pupil of Rasseau, was the founder of the pedagogic science of physical culture of modern times, especially that of the Germans. It was then that the foundation of modern physical culture was laid. Among the Germans it found many admirers, and to them the credit is due that we have any physical education at all. Besides the influence of Rasseau, that of the naturalist Winkermann is praiseworthy. Amongst the physicians, too, the importance of physical culture became manifest. The philanthropist, Salzmann, Basedow's assistant, founded an institution at Schepfenthal, whose aim it was to make physical culture the basis of all other branches of education. In the year 1785, J. C. F. Gutsmuths entered this institution as teacher. He was the first German author who treated physical culture. Gutsmuths founded the first practical system of the branch in Germany. His system had three divisions, viz.: Gymnastic exercises, hand-work and games. It included running, leaping, climbing, throwing, wrestling, balancing, lifting, pulling, dancing and swimming. Apparatus used were poles, masts, oblique ladders, ropes, planks and timbers, for balancing, and stilts. He furthermore indorsed exercises for the development of the organs of speech, vocality and respiration.

The most prominent founder of German physical culture, and he who made this branch really one of national popularity, was F. L. Jahn, born 1778. It was during the reign of Napoleon that the necessity to awaken the slumbering national spirit through a natural and national education became manifest to a number of patriotic men, amongst these was Jahn. In his "Volksthum" (1810) he drew the attention of the Germans to the necessity of physical culture. He succeeded in putting his plans into operation at Berlin in 1810, where he found a number of companions who indorsed them. To him physical culture was a public, a national affair, and he for that reason founded the first public gym-

nasium under the canopy of heaven, where scholars and men exercised without distinction, and where they listened to the patriotic speeches by their master, Jahn. This was in 1811. The uncommunicable aim of Jahn was to arm the people for the purpose of shaking from them the French yoke. Amongst the first to enlist in the army, to oppose the French, was Jahn and his followers. During his absence physical culture had steadily developed under the supervision of E. Eiselen. After his return from the army they published the *Deutsche Turnkunst*, 1816. In this work the technical expressions of the branch were made use of for the first time. That the cause of physical culture, then as now, found some ignorant enemies, was to be expected. These people succeeded in having all gymnasiums closed by the same government, for whom physical culture had produced such able men in the time of need. This occurred on the 2d of January, 1820. Jahn, whom all had so honored and respected, was arrested on the charge of being a seducer of the people, and after long trials and examinations made a prisoner, under the guard of the police, in his own house. After the above episode physical culture was mainly developed by societies and schools, and not again until the 6th of July, 1842, was it officially promoted. During the French revolution, and when the revolts throughout Germany took place, 1848, the constituents of physical culture sided with the revolutionists, for which offense large numbers had to flee to the United States. Since then we really date the beginning of a systematic physical culture in this country.

Before sketching the history of our development of the branch, I will briefly glance over the other European countries, and see how physical culture fared among them.

In France, the Spaniard, Amoras, 1770-1847, was successful in drawing the attention of the officials to the vital importance of the branch. He was, alas, only successful in introducing it into the army.

P. H. Clias, 1782-1854, made this education esteemable in Switzerland. In 1822 he was called to England to introduce it into the army and navy, which he did successfully. He

succeeded, too, in introducing it into the most prominent educational institutes.

Pestalozzis, the famous Swiss educator, also did a great deal for the benefit of physical education. His ideal was to educate the body and mind in unison and for that purpose administered his exercises on an anatomical-mathematical basis.

In Denmark, F. Nachteggall, 1827, succeeded in introducing physical culture in all schools.

Ed. Linden introduced the German system in Russia.

P. H. Ling, 1776-1839, introduced it successfully in all schools and the army of Sweden. It was he who first practiced physical exercises as a cure for chronic diseases and deformities of the body.

It is a strange fact, that, although physical culture had been introduced for more than a century in nearly all countries, the female sex was always neglected. Not until the year 1875 was it deemed necessary to include it. Since then it has been introduced in all female educational institutes of merit.

PHYSICAL CULTURE IN THE UNITED STATES.

As stated before, physical culture really originated with the settling of the banished revolutionists of 1848. What had existed before was of very little consequence. With the settling of these German revolutionists, societies whose object was physical culture began to spring up. These societies were and are known as Turn Vereins. What sacrifices the members of the early societies offered, and what a sorrowful and unthankful lot was theirs, old members of these societies have still fresh in their memories. Unflinchingly, however, they went to work, and after a long and sorrowful experience, they were rewarded by seeing their cause gain more ground and stronger root day by day. They had to overcome all obstacles; obstacles placed in their path by men of all nationalities. But as their cause was a noble one they were bound to win, sooner or later. Step by step, it gained more ground, and I dare say the time is not far distant when all will accept and appreciate what the

Turners so nobly defend and promote. They brought to us a branch of education of which we were, and are to-day, to a great extent, totally ignorant of, and because we were, we ignored it, and wrongly condemned it. It was, as the writer can testify, condemned by a number, not because it was not of great importance, but because it was a branch brought to us by a lot of "Dutchmen." As the years pass by and as the American grows less narrow-minded, he finds that the "Dutchmen" not only brought him an all-important but also a branch of education of which he is sorrowfully in need of.

The Turn Vereins of late years have grown more numerous, and as the German emigration increases, they, too, will increase in number and in strength. Their object is to promote physical culture in a systematic manner. They train their members and the pupils of their schools in rational physical education, and condemn everything pertaining to an athletic or acrobatic system. The number of societies now in the country is about 200, with a membership of from 20,000 to 22,000. In their schools some 20,000 children are trained in physical culture. In order to secure competent teachers, these societies have organized a Normal Institute for physical culture, which is situated in Milwaukee. Here students are fitted out as teachers of this much needed branch of education. Their studies not alone include physical culture, but anatomy, physiology, science of educating, culture and the higher branches. All the studies are under the supervision of some of Milwaukee's best educated men.

I will now make a few general remarks and then close. Those who have made observations and have observed the wan cheeks, stooping shoulders and sunken chests of not alone our school children, but also of our people in general, no argument is necessary to prove the need of physical culture. In Austria, France, Germany, and most of the United States mental education is made compulsory. Why not is physical education treated in like manner? Is it of less importance than the other? No, decidedly not. All of the aforementioned countries and states yearly expend enormous sums for mental education, but not one, with the exception of Germany, spends *one cent* for the physical part.

Teachers are engaged to promote mental education and *cram* weary, little sick brains with more than they are capable of containing, but not one teacher is engaged to make this cramming a success. Not one is engaged to point out to the weary, over-burdened child a mode by which it can refresh its sick brain, or who can point out to our weak boys and girls (and we have an immense number of them) that which will invigorate them, develop a shapely body, and will bring buoyancy of spirits. There are a few who are not engaged by the state, who will do this for our children. These are engaged by private corporations.

Physical culture is of so great importance that it cannot be overlooked by any intelligent community. Men of intelligence have long observed that the well-built men and women of to-day are the exception and not the rule. It is a fact also long agreed to by scientific men that the American is degenerating in his bodily constitution. To retard and ultimately to prevent this lamentable degeneration there is but one means: the introduction of physical culture into the schools of the country. When we are reminded that both anatomy and physiology proclaim that the purpose of the human constitution is activity, can we be surprised that such a degeneration is unavoidable? Again, when we seek the knowledge to be gained from these sciences and find that every organ, even the minutest, is dependent of exercise, can we be surprised that physical culture is all-important? Physical culture knows no luxuries, no conveniences; it calls for activity and exertion, and it is just these facilities which restrain our people from indulging in it. Americans, as a rule, are surrounded by luxuries and comforts of life; this being the case they have a natural disinclination to all bodily exertions or efforts. Society, too, has done its share to bring on this degeneration through this disinclination.

Society requires mothers to teach their children that bodily exertion is rude, and that a delicate, sickly appearance is very *fashionable*; whereas one strutting with health and vigor, is decidedly vulgar. It is also not in accordance with the rules of society for children, girls especially, to romp and run about. In short, society puts a damper on every-

thing that tends to develop the physical condition of man, and indorses everything that is *unnatural*. Girls hardly old enough to lisp their names, are put into those instruments of torture, known to the civilized world as a fashionable and indispensable article, *the corset*. Do mothers know, that from the first day of appliance of that torturing instrument they are impairing not alone their children's health, but also their children's children. Have mothers no thoughts for the exacting demands, the anxieties, privations and bereavements of their daughters' future life? Mothers are actually *murdering* their daughters for the sake of *style* and *fashion*. If boys are in need of exercise, surely our girls are ever so much more so, to fit them for the duties once to be thrust upon them. Mothers must often, when comparing their daughters, who are frail, sickly and delicate creatures, with those of their poorer neighbors, whose means does not allow them to invest in all the torturing instruments of fashion, and whose daughters are for that reason hale and hearty; feel guilty of robbing from their daughters that which they, with all the luxury and comforts, can not again restore them — *good health*.

With our boys, mothers are not so successful in the training dictated them by society. Boys give way to the natural desire for physical exercise and generally are successful in deriving at least some benefit from them, unknown to the over-cautious mother. Daughters are less successful. They are ever under the parental eye, and all attempts to exercise are encountered by such severe lectures upon lady-like requirements that they are not again attempted.

If mothers, instead of organizing Temperance and Women's Suffrage societies, would organize associations for the purpose of promoting rational training and education, their cause would be far more beneficial to humanity.

But as this is hardly to be realized, the great responsibility of training, both physically and mentally, is left entirely to the care of educators. Now the question arises, are educators, who have made mental education a study only, competent to undertake and execute this very important duty imposed upon them? It can hardly be expected, as these

educators have not received the training requisite to fit them for the discharge of this sacred duty. The state board of education has it in its power to do much good in this respect. Let them engage competent teachers of physical culture to train pupils of their normal schools in this branch, so that when their pupils graduate, they can be sent out as true apostles of education in the full sense of the word. This would be a gigantic step of importance toward benefiting our people. Let us hope those who have the welfare of the nation at heart, will co-operate in the introduction and promotion of this sadly neglected, but, nevertheless, all-important branch of education.

With such co-operation we can hope to make the motto:

“Mens sana in corpore sano,”

a fitting one for all and every inhabitant of our country.

DISCUSSION.

Mr. Roe—In regard to the paper just read since the Franco-Prussian war the French have learned the value of Gymnasia. They had twenty-five before the war, they have three hundred and twenty-five now. On the walls they have written Bonapartists, Legitimatists, Republicans may be our christian names, Patria, is our family name.

A duet was sung by Mrs. Creighton and Mr. Wright.

The Convention passed a vote of thanks to the ladies and gentlemen of the choir for their music.

Adjourned until February 21st, 1884, 9 o'clock.

Convention called to order February 21st, 1884.

A paper was read, entitled :

THE MORGAN HORSE.

By A. C. BARRY.

Much time has been spent, and many tables of statistics have been compiled, to prove the superiority of some favorite breed of horses.

In making comparisons between trotting sires, one must make allowance for age, the time of stud service, class of mares served, and amount of time spent, the means used in developing progeny. Depending on plain facts, and no complicated tables, and with few words, I shall try to prove to all unprejudiced minds that old Justin Morgan is entitled to first place as a sire of trotters.

That he possessed the power to, and did transmit a high rate of speed at trotting, is proven by the records ; giving us the following list of trotting sires, tracing in the male line directly to Justin Morgan : Daniel Lambert, Gen. Knox, Ethan Allen, Winthrop Morrill, Ethan Allen 473, Magna Charta, Gold-Dust, Son of Ethan Allen, Gen. Morgan, American Ethan Allen, Grey Messenger, Fearnought, Star of the West, Black Hawk, Brown Harry, Ethan Allen 356, Gilbreth Knox, King Herod, Morrill (Perkin's), Revenge, Superb, Vermont, Gen. McClellan, Cloud Mambrino. The get of these sires, two hundred or more horses, were from dams that have produced 2:30 or better trotters only to the service of these sires. The dams of a large number of the 2:30 or better trotters sired by horses of other families, trace through Morgan sires to Justin Morgan, and the first dams of eight or more trotting sires of other families, were Morgan mares.

Up to 1882, the pedigrees of only about three hundred of the first dams of the 2:30 or better trotters could be traced with reasonable certainty— one-third of these were by Morgan sires. That he possessed the power to transmit great

speed at trotting, is shown by this other fact, that his grandson, Hills' Black Hawk, begot more speed at trotting than imported Messenger's grandson Abdallah; and the talk about the Narragansett mares that came from the woods for Justin Morgan's service, possessing more speed than the mares that came to imported Messenger is nowhere proven. There is no evidence that the mares served by Justin Morgan were any better than those served by imported Messenger. The combined speed at trotting of the dams of Mambrino and Abdallah exceeded that of Sherman Morgan and Hills' Black Hawk; and if true that imported Messenger was the superior of the two, either as a trotter, or rather as a sire of trotters, then it should have been intensified in Abdallah for he was an *inbred* Messenger; but with his double line to imported Messenger he fails to get as much speed at trotting as Hills' Black Hawk with but one line to Justin Morgan. If these facts do not prove to a certainty that the trotting instinct at a high rate of speed is inherent in both Morgan sires and dams, then figures are false.

The editor of *Wallace's Monthly*, in an article, "History of the Pacer," in speaking of Justin Morgan, says: "Excellent and distinguished as he was, we know of no element about him that would lead to the conclusion that he was either a trotter himself, or possessed the power to get trotters." In the same article he admits that "he could run a quarter of a mile quicker, and then pull a bigger saw-log than any other horse in his region of country; and that many claimed that he could trot a mile in three minutes;" and that is as well or better than imported Messenger could do, though he had the advantage of Justin Morgan, in that he was not put to the same hard labor. In this the editor admits the superiority of Justin Morgan; for nowhere can I find that he claims that imported Messenger was either fast at running or trotting. But he would probably have been *fast* if hitched to one of those saw-logs. Rysdyk's Hambletonian, the "grand old hero of Chester," when twenty-four years old, had only eleven in the 2:30 list, while Daniel Lambert at the same age had twenty-two sons and

daughters in the 2:30 list, though five have pedigrees of repute on the dam's side.

These facts it seems to me, prove beyond contradiction, the superior trotting instinct and power to transmit the same, of Justin Morgan over imported Messenger.

The breeding of Justin Morgan is in dispute. Some claim his sire to have been Beautiful Boy, a thoroughbred, others claim that he was too far away from that section of the country to have been his sire; as little is known of his dam though it is supposed that she had more or less French-Canadian blood, and that through her the Morgans got some of their characteristics, the heavy mane and tail, and hairy legs. However this may be, it is certain that Justin Morgan was taken from Springfield, Mass., to Randolph, Vt., in 1795, when a two year old colt. He was a small horse, fourteen hands high, and weighed about nine hundred and fifty pounds. He was a dark bay with black points, very short on the back, a long body with broad, deep chest; legs wide and thin but remarkably muscular.

Many stories are told of his wonderful strength and willingness to pull, and patience at a dead lift; and it is claimed that he did out-draw, out-work, out-trot, and out-run, any and every horse that was matched against him; showing that the strength, speed and endurance were all there to transmit to his posterity. The great objection raised against the Morgan horse, and the only one, is his size, and yet almost every breeding farm in the United States where trotters and roadsters are bred, you will find more or less of Morgan blood; they cannot do without it.

Many are the ways tried by the would-be breeder, to size up the little horse ending in the dissatisfaction of the would-be wise man; for with size come worse defects — faulty legs and feet, or lack of that energy and grit that carried the little horse always to the front, and made him the prince of roadsters, and the chief corner stone of the American trotter.

For the farm it seems to me that the Morgan horse is the beau-ideal. If two are not heavy enough for all work, three can be kept at less cost than one of the animate (I almost

wrote inanimate) corn bins that one sees on most farms of to-day. Sunday with this kind of team is the hardest of the week, if you want to go to church and live more than the average mile; you get there in time to receive the benediction and back time enough to do the chores; it makes one wish for a yoke of oxen.

THE DRAFT HORSES OF FRANCE AND GREAT BRITAIN.

• By GALBRAITH BROS., Janesville.

To a subject so important and comprehensive it is impossible to do anything like justice inside the limits of an ordinary essay, as whole volumes might be written on the subject without exhausting it. I have, therefore, only endeavored to give a very concise history and general idea of the various characteristics of the Norman, English Shire and Clydesdale horses, the three leading breeds of the present day for draft purposes.

The origin of draft horses is not positively known, but we are informed by historians that fully two thousand years before Christ there existed in Europe and Western Asia five distinct races of horses, which were known as the blacks, the whites, the bays, the duns and the piebalds. The general characteristics of these were as follows: The black horses were the largest and most powerful, and possessed a fringe of long hair on the back of the leg from knees and hocks to pasterns. The white horses were very sound-footed, symmetrical, spirited animals, and afterwards became very popular war horses. The bays were the swiftest and most enduring of all, while the duns and piebalds do not seem to have shown any special excellencies, nor to have taken as high position as the other three.

Each of these five races were for a long period kept entirely separate and distinct from the others, and consequently the uniform color of sire and dam was invariably transmitted to their progeny.

In the beginning of the ninth century A. D., Charlemagne, king of the Franks, instituted a regular and judicious system of interbreeding between the black, bay and white horses, with the object of raising a class of horses that would possess the desirable qualities of all three races combined, and so prove superior to those of the followers of Mahomet, who, as a rule, were mounted on the fleet but light-weighted Arabian bay. This system of interbreeding being successful, the same system was continued for over two hundred years, the districts where the best specimens were to be seen being Flanders, Belgium and part of northern France.

Owing probably in part to the different qualities of soil and pasture, as well as a more judicious system of breeding, the Flemish horses excelled all the others and were justly considered at that period the finest draft horses in the world. They contained, as the result of inter-breeding, the blood of all three races—that of the black horse strongly predominating.

When William, Duke of Normandy, invaded England in the year 1066, he was accompanied by the Earl of Flanders and a strong force mounted on the very finest chargers in the world. After the Norman conquest, these horses became very popular in Great Britain and were industriously propagated there for war purposes for several centuries thereafter. As the age of chivalry passed away and that of productive industry approached, the horse of Flanders retained the highest position in the minds of the British public, and the demand consequently increased for that stock. In the 12th century, King John imported one hundred Flemish stallions into England for the purpose of improving the draft horses of that country, and at this period these horses are described as being for the most part “black with white markings on face and feet, and frequently with all his legs white up to the knees and hocks. He was tall, rangy, muscular, well developed at the vital points, and stood on broad, flat, cordy limbs which were strongly jointed both above and below, and the backs of which were heavily fringed, from the fetlock to the upper end of the cannon, with long hair. The

dominance of the black stock in him gave a short neck and a rather clumsy head, but he possessed enough of the blood of the bay to give him the long, sloping shoulders, the long arms and thighs, the long, oblique pasterns, the splendid style and action for which as a war horse he was distinguished. The abundance of lime in the soil of Flanders contributed liberally to the growth of his osseous framework, and in size and quality of bone he never was and perhaps never will be excelled."

Early in the fourteenth century, another large importation of these Flemish horses into Britain was made by King Edward II, and in the year 1352 King Edward III granted to William, Earl of Douglas, a free passport to allow his taking ten of these "large horses" from Scotland into England—the strong probability being that these also were of Flemish stock.

It is generally believed that both the Clydesdale and English Shire horse of the present day are directly descended from these Flemish horses, and it is highly probable that some of the old Coaching horse or Cleveland Bay blood may, from time to time, have got mixed with that of the heavier draft stock, and has doubtless affected in some degree the prevailing colors of the British horses, which are bays and browns. Another circumstance which has had considerable effect on the color of Clydesdales, is the fact that early in present century—say about sixty years ago—prizes were frequently offered for draft horses, the competition for which was restricted to "brown bays and black bays," and therefore breeders became anxious to retain and preserve these colors at the expense of all others.

The natural result was that blacks, grays, and other colors became more rare and less popular than the approved bays and browns. In the year 1715, John Patterson, of Lochlyoch, in the upper ward of Lanarkshire, and the valley of the Clyde, purchased a black Flemish stallion for his own use and that of his neighbors, and from that horse was descended in a direct line the famed Lampits mare, dam of Glancer (335), *alias* "Thompson's Black Horse"—which may justly be called the father of the Clydesdale breed proper. A great-

grandson of this horse was the well-known Broomfield Champion (95), foaled 1820, and from this date downward a correct record has been kept of all, or nearly all, the colts bred in that country till the present day. This has been rendered less difficult on account of the comparatively limited area over which the breeding of Clydesdales was carried on in Scotland during the first half of the present century. The Clydesdale horse is therefore in all likelihood descended from — first of all — the black horse of Flanders, from which he doubtless inherits his great strength, size, and quality of bone. From the white horse he retains the markings on face and legs, while from the Arabian bay — and also to some extent from the Coacher or Cleveland Bay, he partakes in a large degree the color, endurance and hardihood so characteristic of the breed.

We now go back to the French and Belgian breeds, and find that while they also practiced the system of inter-breeding, the foremost place was given by them to the *white* horse, and so through course of time the various shades of grey became very common and has continued so almost ever since, and especially in and around the La Perche district. Early in the present century it is said that two Arab stallions, named Godolphin and Gallipoli — both greys — were taken to France and used for stud purposes, and that their blood has been widely disseminated among the French horses of the present day.

While nearly all the horses imported from France to this country are here termed either Normans or Percherons, in France they differ in name according to the district or province in which they are raised. In some parts they are known as Boullonnais, in others, Hammonds and Vimeux; in Normandy they are usually styled Angerons, while the district of La Perche gives the well-known title of Percherons to all horses raised or sold in that quarter. The influence of soil, climate, etc., has had the usual effect on the growth and appearance of these horses, the consequence being that in some districts they are larger and show to greater advantage than elsewhere. Their general characteristics, however, are still the same, and the following description by

Professor Andre Sanson, of the Agricultural School of Grignon, France, may be accepted as a faithful and accurate delineation of the average French or Norman horse. He is described as being "sixteen hands high, color, dapple grey, slate grey, bay or roan; large nostrils, small mouth, large lower jaw, which makes the head appear short and thick; the ears small and erect, the eyes though not very large are well opened and bright; the strong, arched neck appears short, bears a double mane which is not very long usually; the breast is broad and prominent, the withers low, the muscles of the sides full and large, the back slightly hollow, the loins short and full, the crupper short and rounded, covered with thick muscles making the loins project, and is divided by a furrow; the tail is short and bushy, the body short and round and the shoulder slightly oblique."

Norman horses are, as a rule, mild in disposition and easily broken to work. They have also considerable spirit, and probably show more resemblance to the old-time war horse than any other breed of the present age. They are hardy, active, useful horses, with a fair amount of strength and considerable endurance. They are probably more subject to excitement and restlessness than Clydesdales; indeed their general characteristics as compared with Clydesdales, may be likened to the light-hearted, vivacious, fussily-inclined Frenchman on the one hand, and the slower, steadier, matter-of-fact Scotchman on the other.

Horses, as a rule, possess a very fair amount of intelligence, but the Clydesdale exhibits this probably in a more marked degree than any other breed. In the cart he is guided entirely by word of command, while in the plow he shows a measure of real intelligence and sagacity that is positively surprising. Any one who has witnessed a Scotch plowing match, cannot fail to have noticed the careful "measured step and slow" which these horses take, as their masters are holding the plow handles or "stilts," like grim death, and trusting to the horses' steady, constant, mechanical motion to help them in securing the much coveted prize. It is on such an occasion that the Clydesdale horse is seen to the greatest advantage when forty or fifty teams,

decked with ribbons, and their highly polished harness glancing in the sunlight, assemble on the lea, and each man and horse seems to feel responsible for the satisfactory accomplishment of the day's work. The sight to a stranger is certainly most imposing, and once seen, not easily forgotten. The average Clydesdale horse is about sixteen and a half hands high; the prevailing colors, brown and bay, with white markings. He has a fair sized head, wide between the eyes, muzzle square, under jaws cleanly cut, eyes full and expressive of mildness and vigor, ears moderately long and active, neck long and well arched on to the shoulders, which are deep, powerful and tolerably sloping. Chest broad and full, denoting a good constitution, back short and firm, body round and deep with its ribs well sprung, coupling short, hind quarters lengthy and muscular, arms and thighs powerful and well muscled, hocks clean, bone strong, flat and thin, with nice fringe of long hair from knees and hocks to fetlock, pasterns sloping and elastic, feet good size, strong and tough, large knees and joints, exceedingly mild disposition, and very docile and faithful. General appearance symmetrical and majestic.

The same description may apply to the English Shire horse except that his head is generally narrower, his bone less thin and flinty and his pasterns less oblique and not so elastic. In many cases, however, he is larger and heavier bodied than the Clydesdale, but, as a rule, not so enduring.

An American on visiting Europe for the first time is struck at seeing so many different methods of working the draft horses in the various countries.

In France it is a common thing to see four, six or even more horses yoked together in wagons and generally pulling well together. In England the custom is to use two-horse wagons or drays, whereas in Scotland one-horse carts and lorries are the invariable rule, and the loads drawn by single horses on the streets of Glasgow and other Scotch towns—loads varying from seven thousand pounds to eleven thousand pounds on each horse—are considerably

greater than the individual drafts of either the English or French horses or any other breed.

The manner in which Clydesdale horses set themselves to draw very heavy loads is noteworthy. Watch how he plants his hind feet far forward under his belly, his forefeet deliberately thrown straightforward with toes firmly clutching the ground—his head on a line with his body, but not too high, then by a slow, steady pull, gaining a strong leverage from the natural bend in his hind legs, and bringing into play all the weight and strength he possesses, he moves off with his five-ton load quite cheerfully. Some horses might make a sudden dash with a high head with such a load, only to recoil backwards, but the deliberate Clydesdale, with shoulders and pasterns tolerably sloping, goes forward, onward, and if need be, upward without any trouble or hesitation. Another advantage in drawing which the Clydesdale possesses over many English Shire horses is in keeping the hocks close together, thereby concentrating his hind power on the line of the load.

In a trotter or hunter wide hocks are desirable, but not in a draft horse. If asked to account for the present high state of perfection to which the Clydesdale horse of the present day has developed, I would say that the original stock was undoubtedly good, that the climate, soil and pasture of Scotland, and especially of the Clyde valley, has been favorable to the development of bone, muscle and general strength and hardiness; but probably the chief cause is to be found in the judicious selection of mates, the castration of all inferior or unworthy colts, and the friendly rivalry induced by competition for prizes at local and provincial shows throughout Scotland during the past half century.

The following remarks from the pen of James M. Hiatt, author of the "National Register of Norman Horses," are worthy of note. He says that "the care, the system, the intelligence with which the Clyde horse has been bred in Scotland ever since the time of John Patterson (1715) have given that horse a marked typical conformation, and have imparted to him those noble characteristics of style, spirit, action, power and endurance which have made for him a

world wide fame and have brought him into requisition as an improver of draft stock in all the great agricultural regions of both hemispheres.

“His popularity in the United States, already very great, is daily and rapidly growing, and our numerous full handed American importers are at this early period of their enterprising career, really unable to meet the demand. He is by far the best combination of the black and the bay the world has ever seen, and as such he will doubtless be known to the future as he is known to us. As a constant, hard worker he is peculiarly adapted by his superior strength of pastern and his elastic frame work to stone pavements and hard turn-pikes, and wherever he is fairly tried he will win his way and firmly establish himself in popular favor. Even in France, the prolific centre of the great continental field in which all the heavy draft horses of the whole world originated, the Clyde has won imperishable laurels.

“The standard French author, Eugene Gayot, in his work, ‘*La Connaissance Generale du Cheval*’ (The General Knowledge of the Horse), tells us that in a well-attested trial in the province of Perche several years ago, the Clydesdale proved himself greatly superior to the very best of the Percherons, both in draft power and in power of endurance. This, under the circumstances, is the grandest victory that ever was achieved in any part of the world by any breed of draft horses.”

“See him, with ancient pride and mien, by Glasgow Broomielaw,
 Stepping with state, as if so keen his mountain load to draw;
 Rejoicing in his giant strength, he scorns his load to shirk,
 His every look, it plainly says, “There’s dignity in work.”
 Wise as a man, he scans his road to see the easiest way,
 ‘Voiding the pools and ruts and stones that in his pathway lay.
 Sweeping he rounds each bend and curve, through crowds selects his line;
 Then with a neigh, he gathers way and breasts each steep incline.
 Mindful of words, with ready ear he heeds the driver’s will,
 For good at a walk or trot, he too is good at standing still.
 Ah! men can tell what men can make, we ne’er can count the gold
 Some day they’ll say in Glasgow made by Clydesdales in the old.

* * * * *

"Far from Tintock's lofty mountain, far from Cora Linn's loud roar,
 Far away from haughs of Clydesdale, there by Michigan's lake shore,
 Stepping quickly, stepping stately, each rejoicing in his power,
 Each betokening that true labor is to him a wealthy dower.
 Working night and day so willing, may each have a healthy rest
 In their great home of the future, in the city of the west.
 May they prove, as has been proven of the untold strength of force.
 Of a Scotchman and his Collie and his faithful Clydesdale horse.
 There, where Freedom's glorious banner is by winds of peace unfurled,
 See the war-horse, turned to work-horse, is the work-horse of the world;
 Brave in peace, as oft in battle back the tide of war he rolled,
 The Clydesdale of the future, yet the Clydesdale still of old."

DISCUSSION.

Mr. Beardsmore— I think he has not done the English draft horse justice. In the fall of 1847, I was to an agricultural meeting at New Castle, Staffordshire, England. There was a draft horse there called Thomas Prince, weighed 3,100; seventeen and one-half hands high. He was the sire of Black Prince, who was backed to pull any horse in the world for any amount.

Mr. Smith— A writer recently said that while there were no horses quite equal in speed to some of the Hambletonians, yet in proportion to number there were more fast horses among the Morgans than among the Hambletonians. I would like to ask the gentleman about the walk of the Clydesdale with a load.

Mr. Beardsmore— About two miles an hour.

Mr. Smith— How without a load?

Mr. Beardsmore— They are fast walkers, about four miles an hour.

Mr. Smith— Suppose you hitched them to a carriage and wanted to go to church?

Mr. Beardsmore— You want a little faster breed.

Mr. Huntley— Although I am not a horseman, I lived in Addison county, Vermont, and was brought up as a boy where they used to raise them, where we worked them through the day on the farm. We had a couple of them weigh-

ing about ten-hundred. They would do the heaviest farm work, and in the evening we could hitch them up and we could go to a dance fifteen or twenty miles away, and you could drive them ten or twelve miles an hour. They were good for twenty years.

Mr. Rhodes — I am not a horseman, but I believe in the ten-hundred horse. I have had some experience since I came into this state that I deem worth giving to you now. I had a span of ten-hundred horses. With those horses I could do any farm work, and I believe as much as with fourteen-hundred horses. They were capable of doing any work on the farm that I required of them. One winter I gave them a test worth mentioning. I had occasion to haul red oak stave bolts. I didn't suppose they were doing anything remarkable. One day a neighbor says "Rhodes are you not abusing your team?" I says "no." He says "how much have you on?" I says "about six thousand." He says "you have got on eight." I says "I think not." When I got to Waupaca I weighed the load, and it weighed 7,720. In regard to feed they had timothy hay with the seed taken out of it. They were out of the stable eight hours without any feed except nibbling at hay twenty minutes while being unloaded at Waupaca. All the grain they had during that heavy hauling was four quarts apiece, nights and mornings. They had no grain at noon, none on Sunday, none on stormy days. The neighbor thought I was cruel, but I wish to show what a ten-hundred horse can do.

Mr. Huntley — Do you think it is a good way to make a horse fast on Sunday?

Mr. Rhodes — The gentleman seems to hint that my team was used badly, but I will say that my team increased in muscularity, they increased in hardness and roundness, and they did not show their bones or ribs, they kept in splendid order.

FISH CULTURE.

By PROF. C. A. KANASTON, Ripon.

The introduction of the culture of fish for food is a matter of great interest and importance to all classes of the community, and marks an era in recent times.

Ample supplies of varied and nutritious food is the indispensable condition of human happiness, prosperity, and advancement. Abundance of cheap food is the broad platform upon which human progress is possible, and without it there can be no social development, no intellectual culture, no discoveries in art or science, no national greatness, and almost no religion. In its absence, living becomes merely a hard, disappointing, inevitably failing struggle for bare existence without pleasure for the moment or aspiration for the future; successive generations are born to an inheritance of pain, misery, hopelessness, and miserable death; and life ceases to be worth the living. Without exception, that country is the most favored in which food is most abundant and cheap, not only, but varied in its character; for here pleasure is served and health with all its countless blessings is conserved. Minimize the effort necessary to supply the demands of hunger and appetite, and time and inclination are left for other and more important activities. Hence it is that the discovery of a new food resource, a new cereal, a new fruit, or the large increase of an existing supply of animal or vegetable food is of greater individual and national importance than the discovery of a new textile fabric or a new process in the arts or a discovery in science.

From time immemorial, fish has been universally considered a nutritious and desirable article of food, suited alike to the healthful appetite of the laborer and the pampered tastes of the luxurious. Fish of the choicest and most varied descriptions were sought far and wide and brought across continents to grace the tables of kings and emperors, and scarcely any other viand was so highly esteemed. Many communities living along the shores of oceans and streams,

who have greatly influenced the course of the world's history, have used fish as their principal or, at times, their sole article of diet, with manifest advantage to health, strength, manly vigor and comeliness, and to-day the fishery interests of the nations are among those which receive and deserve the most careful administration.

Among the recognized advantages connected with a residence near the seaboard or along the great rivers and lakes of our country, not a small one is that of the easy and cheap procuring of various kinds of fish. And by the enlarged facilities for transportation that belong to the present time, these advantages are extended to the remotest inland villages and towns, until fish, fresh or salted, canned or smoked, can be readily obtained of any grocer at reasonable cost.

Figures would fail to impress us with the magnitude of these interests, and as population increases and towns multiply along new railroads and throughout the wide expanses of the new states and territories, this will increase to an extent that will be limited presently only by the already lessening sources of supply. Cattle raising, grain growing, orchard culture and poultry growing increase commensurately with the spread of population, and the supply is easily and naturally kept up to the demand, but the inroads made upon our supply of fish-foods of a constantly increasing magnitude are uncompensated, and the supply is rapidly and steadily diminishing, while already only limited and very distant areas, like Alaska, remain, that may be considered as new natural sources of such products. Already examination by government officials has shown that both on the Atlantic seaboard and on the Pacific coast, not to mention our great lakes and rivers, the schools of shad, bluefish, codfish, herrings and salmon are not inexhaustible, but are annually perceptibly becoming smaller and smaller.

With the oyster, the prospect is somewhat more hopeful, since in this department of fish culture alone, until recent years, trained observations of the habits of the animal has been employed with a view to domestication and reproduction; and oyster farming has been placed on a comparatively

secure basis. But the oyster cannot be carried far without ice or be kept in good condition for a great length of time; choice bit as he is, soon after he has been taken from the bed on which he grew, he can neither be smoked, nor dried, nor preserved in cans, except for a short period; for he must be always an expensive article of food with a demand that is naturally limited. Even the streams and lakes about us here in the interior of the continent are rapidly becoming "fished out," and unless something is done to prevent such a result, the time is not far distant when the fish-catcher and the fish-eater will be deprived, the one of his business or his sport, the other of an excellent and attractive variety of food. Other causes, besides the unreasonable or excessive slaughter of the fish in our streams by the wiles of our fishermen, have played havoc with the finny tribe; such are the changes wrought in the rainfall of the country by the cultivation of the soil so widely, the denudation of great tracts of their forest coverings, thus interfering with the prescribed order of nature; fouling of our diminished rivers by the sawdust of our mills and by the sewage of our towns and the waste products of our manufactories. We hear much in this state and of late about the rapid exhaustion of our forests that is going on, and calculation based upon correct data seems to show that within about a score of years at the farthest our supplies of lumber will be practically gone, and some new resources for building material will need to be found, or men must once more resort to the movable tent of the Bedouin or betake themselves to the caves of the earth like the wild beasts.

The facts already alluded to would seem to show that we are threatened also with another famine of perhaps even more alarming proportions when rightly viewed, since it affects directly the question of food for men, which is at least as primary and universal a demand as that of shelter. The danger in either case is not an imaginary one conceived in the mind of the theorist or the statistician, and therefore of no practical importance; but it is one that already impends and appeals to the most sensitive of our material possessions, the pocket-book. Somewhat remote for some classes

and in some parts of our country, because of proximity to sources of supply not yet greatly lessened or exhausted, the danger is yet of national importance and the emergency is already upon us. The question is, can anything be done to avert what must be regarded by every sensible man a calamity. With regard to the rescue of our forests from impending exhaustion within a few years, it is probably now too late to impose any restrictions upon the cutting of timber that would prove to be of any practical effect, and, leaving out of account the fact that we have thus far in our country no art and no schools of forestry, which is a fact by no means creditable to us as a people, the growth of trees for lumber under the most favorable circumstances is far too slow to be of any avail to avert the threatened scarcity. With regard to the supply of the fish foods, however, the case is fortunately quite different and more hopeful, and if sufficient interest in the matter can be called forth, and some small amount of active intelligence can be applied, it is certain not only can a fish famine or a great scarcity be prevented, but sources of supply can be multiplied and greatly extended, and this, too, without the expenditure of much money or the devising of troublesome legislation. The hope lies in fish culture, a thing practically unheard of twenty years ago, and presenting now all the elements of novelty and likely to provoke a smile on the face of many a hard-headed "practical" farmer, who shies like a young colt at anything that is new, especially if the improvement be one that has been thought out and practicalized by any other than an honest plodder like himself.

It is true, doubtless, that centuries ago, the almond-eyed Celestials, who we know were so skillful in horticulture and landscape gardening and in the management of artificial ponds and streams for picturesque effect, knew much about the habits of various kinds of fish and had mastered the art of artificial propagation of fish. And among some European nations in recent years fish-hatching and growing have been practiced to a small extent, chiefly, if not altogether, by government agents. But fish-culture as now known and practiced in this country, is a development of

the last ten or fifteen years and has already made such strides as far to eclipse all previous efforts made anywhere in the world. Many states already have fish-commissioners, and state hatcheries have been established from which fish eggs and young fish are supplied to applicants at merely nominal cost and effort. The literature of the subject is becoming extensive, and suitable legislative enactments have been provided to further the new discovery; but general attention has, as yet, by no means been sufficiently aroused upon the subject. To this object every endeavor should be made by enlightened farmers, by agricultural societies, and by the agricultural journals throughout the land. Rapid as the development of the art has been, and doubtful as the project seemed at the outset even in the minds of its promoters, fish culture has become "an established art, capable of yielding vast results for the benefit of mankind. The days of doubt and uncertainty have passed away, and numerous experiments leading invariably to the same result have established it on a firm basis." Mr. Seth Green, perhaps the earliest and most enthusiastic fish culturist in the country, and who is a recognized authority on all that relates to the artificial propagation of fish and now has charge of the New York state hatching-house, which is said to be "the largest and most efficient establishment in the world for producing actual results and separating fact for error" avers that the probable results of fish farming are greater acre for acre than of any other branch of agriculture, and his conclusions do not seem to be incorrect or extravagant. I quote from his book on "Fish Hatching and Fish Catching":

It has been said that an acre of water would produce as much as five acres of land, if it were tilled with equal intelligence. In making such a comparison, it must be borne in mind that the crop of one requires no manure, needs no care during its period of growth and after it has once been planted, and that it is harvested by simply taking it from the water in which it dwells. It is almost wholly profit. The other must not be merely planted, but must be fertilized at great expense, and worked and cultivated with assiduous labor of man and beast, and finally, when at last successfully harvested and saved from destruction through disease, insects, and the elements, it yields but a meagre advance upon the cost of time and labor. It has been the habit to cultivate the land and neglect the wa-

ter—the one has been reduced to private ownership and constitutes a large part of individual wealth, while the other is a sort of common property, too little appreciated to be reduced to possession where this is possible, and abandoned as a sort of waste to yield what it may without care to the few chance persons who make a living out of it. If our wheat crop is damaged or the corn crop is diminished or the cotton crop short, the public press rings with lamentation and the country mourns over a national calamity. But the supply of our fish crop, yielding millions of pounds of food per annum, may be in process of utter annihilation, and yet no voice is raised, and we sit by with folded hands in idleness. The land we value dearly, because to till it costs us dear in sweat and thought, and the water we despise because it yields its free will offering without an effort on our part. We have tilled the ground for four thousand years, we have just begun to till the water.

If the conclusions here adduced are even approximately correct, it is plainly to be seen that the area of the globe and of our own country, and of this state in particular, with its numerous lakes and ponds and clear running streams that become available for the support of men, becomes vastly augmented. Even the farms that are not situated upon bodies or streams of water, and every farmer seeks in choosing his farm proximity to a constant supply of water, may yet, by artificial means, be made to produce sufficient fish for the family consumption with very small expense at the outset, and with almost none afterward. Some relatively low-lying area of a few square rods extent, useless for pasture or tillage, can nearly always be found, which with a little inexpensive labor at idle times in the year can be made to hold water, and to it the water from the well, or the water from some neighboring marsh that will be reclaimed by draining, or from some spring can be conducted. Here certain kinds of excellent fish can be planted, and they will afterwards thrive much as the barn-yard fowls do or the swine in their pens, but with incalculably less expense and trouble; and for the mere labor of catching the farmer may have added to his family bill of fare another nutritious and every way desirable article of food, with which he is now practically unacquainted. Unlike the poultry and the swine, his fish need no shelter. They do not need even the scraps from the kitchen and the waste from the dairy, which usually constitute the food

of the animals mentioned. No feeding is necessary, for nature supplies them with all that they can require. All they want is to be let alone until they are grown, and for letting things alone that nature may do her allotted work unhindered, the average farmer is proverbial. His pond, moreover, has other desirable uses that will of themselves fully pay for the cost of construction and maintenance. If large enough and deep enough, it will furnish him an abundant supply of ice for storing for summer use, and in any event it can easily be made a great attraction, adding to the beauty of the grounds, and largely enhancing the value of his farm. With such simple and inexpensive arrangements the farmer can also raise fish for market far more easily and certainly than he can his ducks or chickens and eggs, and thus increase to an enviable amount the good wife's pin money.

But in our own rich, fertile, and exceptionally well watered state, I know of scarcely a farm which has not a natural supply of living water of excellent quality and abundance that can be utilized for a fish pond. Many of our smaller streams, flowing from perennial springs of clear, cold water, are admirably adapted to the culture of the trout, and in some of them probably conclusions have already been successfully verified by a little well directed effort. To adduce a single instance, I may mention the stream called Silver Creek which flows through the little city of Ripon. It rises in some fine springs of cold water on the farm of Almon Osborn, about four miles south of the town, and after a course of some six or seven miles through a rolling country, it empties into Green Lake at its eastern extremity. A shallow, gravelly pond covering an area of a few square rods, collects the water from the springs, and here some three or four years ago some young trout were deposited through the enlightened zeal of Squire Cooley who, dying about one year ago, lived long enough to witness with great and continued satisfaction the success of his experiment. The fish grew and thrived, increasing in size beyond all expectation, and when I visited the pond several months ago there was presented a most remarkable and beautiful sight. The water seemed to be alive with fish, and they varied in length from one inch

to twenty inches according to age. Several dozen of them would probably measure sixteen inches each in length, and no doubt three pounds would be a fair estimate for the weight of individual specimens. No care, save to protect them from enemies, human and other, had been expended upon these fish since they were first placed in the pond, and no food had been given them. Here they had grown and multiplied without assistance, a constantly increasing source of pleasure and interest to visitors from all parts of the country. The stream itself is becoming stocked with the fish and not infrequently during the season, trout of seven or eight inches in length are taken by sportsmen.

Other successful attempts to cultivate these fish have been made in other streams flowing into Green Lake, and increasing attention is being paid to the subject. I may add farther that promising experiments have also been made in the introduction of whitefish and lake trout into the main body of the lake mentioned. What has been done in this vicinity, can be done in a hundred other places in the state, just as soon as the popular attention is sufficiently aroused and the interest of intelligent persons is drawn out. Even where there are no bodies of water belonging to individual owners and attached to their properties, a little comprising together of communities or societies, for the stocking of our larger rivers, ponds, and lakes with desirable varieties of fish, is entirely possible with a large increase presently of the public comfort and convenience. A few simple regulations well carried out, with regard to improper slaughter of the fish during the spawning season, and by set lines and other murderous contrivances at all times, would be all that would be required in most cases.

With regard to the ease with which fish can be grown in almost every kind of water, the writer before quoted makes the following observations:

Fish can be raised with less trouble and cost than other articles of food. The lakes and rivers are full of animal and vegetable organizations upon which fish can live, now wasted, but which should be utilized by stocking these waters with suitable varieties. There is not only an abundance of food, but it is also true that fish need less food to produce a given

amount of flesh than is required by birds or quadrupeds. The amount which will make a pound of poultry or beef, will make many pounds of fish; this is owing to the fact that they are cold blooded and usually inactive animals. When we see them in water, they are in motion because they see us; at times they go long distances in search of breeding places, but they are as a rule, quite torpid in their habits. Animal action consumes the system. For this reason, those who wish to fatten cattle or poultry keep them confined. Animal heat is also a great consumer of food, and a large share of all that is eaten by warm blooded animals is needed to maintain this vital heat. As fish are cold blooded, they need but little food for this purpose, and most that they take goes to make bulk and weight. The fact that this class of animals will live a long time without eating anything is familiar to all. There is but little waste of their systems in any way. We frequently see birds and fishes kept in the same rooms. While the first are restless and need constant care and feeding, and frequent cleansing of their cages, the latter are almost motionless, unless disturbed; and as the water in which they are kept is usually clear and fresh, it has in it but little food.

I have thus hastily referred to the importance of fish culture, to the probable results that may be produced by applied intelligence and observation, to the facilities for it presented abundantly all over the country even far from the great rivers and lakes and oceans, and to the cheapness with which fish for home consumption and for market can be produced. It is no doubt true that before many years fish-raising will become as fully recognized a branch of agriculture as sheep husbandry or poultry-raising; and will be considered even more certain and profitable.

The following general conclusions may be quoted:

First. Fish culture, extending to every desirable variety of fish is entirely practicable. Second. It may, under proper management, be made profitable to the producer; as much so or more than the cultivation of land animals, and on similar conditions. Third. It may furnish to all classes an abundance of cheap and most nutritious and healthful food. Fourth. It is absolutely necessary in order to the preservation of the fish of the country from total destruction. Fifth. Every section of our country, and all its creeks, rivers, lakes, and seacoasts are available for this, care being taken that the right kinds of fish be selected for the water into which they are introduced, observing latitude, climate, temperature, and quality of water. Sixth. It may be carried on by stocking waters with young fish brought from the hatching establishments, or by obtaining eggs for hatching, and both eggs and young fish may be transported safely to almost any

distance. Seventh. The money capital required for these operations is small, skill, care, patience, perseverance, and common sense, the same as in any other business, being the chief requisites. Eighth. Individual enterprise alone is sufficient for success, though state action is desirable; indeed, legislation is essential, if not to foster, at least to protect those engaged in the business of fish culture.

Upon the receipt of the copy of the order of exercises of this meeting, I learned that I had been assigned this topic: "Fish—their propagation and habits." I had agreed to speak, rather, on the general subject of fish culture, and the programme came too late to make a change in my preparations possible. Moreover, inasmuch as I make no claim to any unusual knowledge of the subject, and since I am not an enthusiast, it was only when assured that I was the only easily available man to prepare a short paper on the cultivation of fish, that I consented to undertake it; and that very reluctantly. Reflection convinced me, also, that to enter into the details of methods of natural or artificial propagation of fish and of the habits of fish in general or of varieties in particular would scarcely be well adapted, as it would seem best to me to do it, to a meeting of this kind, particularly as treatises on natural history and other books on kindred subjects and related to the cultivation and habits of fish are abundant and easily accessible. All I could hope to do would be to endeavor to direct the attention of the intelligent men, who are here present to the importance of the subject, in the hope that they will begin to inquire and study and experiment for themselves; for thus only can any improvement in their processes or any departure be safely and profitably inaugurated.

The artificial propagation of fish may safely be left to experts, who by training and by scientific knowledge are well fitted for their occupation, since with our present facilities for transportation a young fish can be safely and inexpensively conveyed many hundreds of miles at a great saving of risk and expense. This is what we are already accustomed to with regard to our fruit trees and small fruits and poultry; the nursery men and the poultry fanciers develop varieties from which the farmer selects those which

seem best adapted to his situation and needs and marked facilities; and this division of labor is recognized as convenient and profitable.

With some knowledge of the habits of fish of the different varieties to guide in the selection or preparation of suitable spawning beds, the natural propagation of these animals may be left to care for itself. A knowledge of the habits of fish is more vitally connected with successful fish farming than familiarity with the principles of fish hatching; but this is more readily and quickly acquired than the principles of stock-breeding and growing, about which every farmer is expected to be informed. Some fish are unquestionably better adapted to certain situations than others are, and the fish-farmer must know the fact in order to succeed. Also, the enemies of fish in their various stages of growth, as frogs, birds, snakes and other fishes, must be known and guarded against. The same must be said of the few and comparatively rare diseases that may interfere with prolonged success. There is no doubt but that, as in other departments of agriculture, a change of stock or a rotation of varieties of product will prove advantageous; and here is ample room for observation and study and experiment. It is probable that conditions once favorable to the culture of a certain variety of fish may be in part exhausted, while another variety in the same place would find a congenial and suitable home, so that a change would be desirable. By domestication and by crossing stocks, as knowledge of the subject is acquired and practicalized, varieties of fish may be obtained of greater rapidity of growth, finer flavor, and larger size than any of which we now have any knowledge. Such, at least, has been the history of every grain, fruit and vegetable, as well as variety of stock, now known. Starting with the native wild product of the field or the forest, culture has so improved and changed it that its prototype is now scarcely recognizable as belonging to the same genus.

In conclusion, it is proper to say that this brief review of the general subject of fish culture should be sufficient to direct the attention of intelligent farmers and others to the

importance of the facts presented. The topic is too large for treatment fully in a single paper, and each man must examine and read and experiment for himself. Our country is particularly well adapted to the culture of fish for food, and the native varieties found in our creeks, rivers and lakes are numerous and of unsurpassed excellence. They point out the direction in which the successful development of fish-farming will undoubtedly rapidly advance.

DISCUSSION.

Mr. Baker—Three years ago this coming spring I went to California, and when I got to the Columbia river, we passed in just at night, and I think I could have counted 50 boats fishing. In August, we got back to Astoria, that is where you go into the Columbia, there the steamboat stopped and it loaded salmon from 10 o'clock in the morning until about sundown with two gangs. They are not allowed to fish after the 1st of August. I don't remember as the writer of this paper spoke of salmon. Where do you get the most of them?

Mr. Smith—The largest supply comes from the Columbia river. There used to be many of them in our eastern rivers, but they are pretty much exhausted. They are restocking them. The probabilities are, that in the next ten or fifteen years we will have a great many salmon in the eastern rivers again. The Connecticut and the Hudson furnished the great supply of shad. They are almost exhausted, but they have restocked them, and it is said they are more plenty than they were seventy-five or one hundred years ago.

Mr. Roe—It is stated in the recent reports that the supply of salmon is inexhaustible. There is no estimate of it.

THE ORIGIN AND PROGRESS OF HORTICULTURE
AND AGRICULTURE, AND THE POSSIBILITIES
OF THE COMING FARMER.

By MRS. CLARK, of Galesburg.

I am asked to read a paper at the Horticultural Convention. "It must touch upon Horticulture in some of its branches." As I sit musing upon this my thoughts wander back to the primal condition of the earth, and the birth of Horticulture and Agriculture.

In the book of Genesis, the beginning of everything is ascribed to the power of God. This earth that He created was "without form and void" and darkness reigned. "The spirit of God moved on the waters," bringing order out of confusion, light out of darkness, and this formless and vacant earth into fit condition for the residence of man, and the subsistence of animal and vegetable life.

As God moved upon the face of the waters in the dark, He saw this primordial creation alone was not good and He said, "Let there be light, and there was light." He divided the darkness from the light, calling light, day, and darkness, night. This ended the first day's work.

The waters still being dispersed over the face of chaos, the Almighty was pleased to separate them, and He made the firmament and divided the waters above from those beneath. The separation completed the work of the second day.

On the morning of the third day, He gathered together all the waters into the deep recesses of the earth and called these seas. As the waters receded, the lofty mountains raised their towering heads, the hills displayed their pleasing summits, and the vales and plains made their appearance. As the great Creator intended the earth for the habitation of man and beast, as soon as the dry land appeared, he gave it a prolific virtue. By this command, with no seeds, the surface was immediately covered with grass for animals, and herbs, plants, and fruit trees proper for the nourishment of man; each kind containing its own seed that it might be

perpetuated. Thus laying the foundation for the two industries, Horticulture and Agriculture.

The Almighty Creator having prepared all things necessary on earth for the use of its intended inhabitants, on the fourth day formed those two great luminaries in the heavens, the sun and moon, appointing the former to rule the day, the latter the night. He also formed the planets, fixed their gravitation and vicissitudes, and appointed their regular courses that they might divide time and distinguish the seasons. By means of these luminaries the atmosphere was rarefied, and by their influence on the planets the office of vegetation was promoted.

Now, all being in readiness for animal life, He said, "Let the waters bring forth abundantly the moving creatures that hath life, and fowl that may fly above the earth in the open firmament of heaven, enduing them at the same time with a power to propagate, in a prolific manner, their respective species. Thus ended the fifth day's work.

In the beginning of the sixth day, by the means of this command, "Let the earth bring forth the living creatures after his kind, all the terrestrial animals were created. Then the Omnipotent Creator, having made these abundant preparations, crowned His works with the formation of man for whose use they were designed. He said, "Let us make man after our own image, after our own likeness." What a majestic expression! How consistent with the nature of that Almighty Being by whom it was spoken! In the formation of the other creatures He says: "Let the earth or the waters bring them forth," "but here He says: "Let us make him like ourself, and endue him with all those noble faculties that will raise him above the animal creation, and invest him with wonderful ingenuity, that will enable him to devise and originate ways and means by which he can successfully develop the resources of this grand and noble garden, the earth, that we have created for his use and enjoyment.

Adam was put into the garden of Eden to "dress and keep it." Then with Adam's work in the garden of Eden, horticulture germinated. But he did not remain long in the garden to "keep" it. Unhappily, the artifices of the serpent

beguiled him to choose wisdom and death rather than a life of enjoyment exempt from care, for which God "sent him forth from the garden of Eden to till the ground from whence he was taken." This, then, must have been the birth of agriculture.

How Adam or his ancestry performed their labor it is not known. Doubtless they sowed their seed in the annually inundated valleys of the rivers which, cradled in distant mountains, are swelled by melting snows more slowly and equably than others. Perhaps, at first, the seeds brought down from the mountains would produce sufficient amount of grain for their sustenance; but as this proved inadequate, they profited by God's pattern and scattered their seed upon the slowly receding waters knowing it would sink into the softened earth and, in time, yield unto them a crop. To this mode of seeding the origin of the old Hebrew proverb, "Cast thy bread upon the waters and thou shalt find it after many days" possibly might be attributed. This manner of seeding required no animal or mechanical power, no implement but the hand and arm, while the annual inundations supplied the elements of growth in abundance. This self-fertilizing area was quite limited. As the population increased, it was evident that more acres must be cultivated. These must be pulverized in order that the seed might take root, hence animal power was introduced, and the yoke and plow were brought into existence, both rude, the original plow being a forked stick with one prong five or six feet long for a beam, the other shortened to a foot or two and sharpened to serve as a coulter and share. They knew nothing of reproducing elements necessary for growth, still this seemed necessary to be done in some manner; therefore Moses ordained that the soil should lie fallow every seventh year. Thus by rest and atmospheric influence restore its exhausted fertility. In the production of many of the varieties of fruits and flowers, the ancients stood nearly on the plane with us. Horticulture has thriven in the earliest ages and in every country that has a claim to be called civilized. The Old Testament scriptures abound in reference to gardens. The monuments of Egypt and Assyria display most elaborate representations

of gardens, which fact conveys to us the knowledge that tastefully arranged gardens existed before the invention of printing. All branches of horticulture were carried to a high state of perfection by the Romans. They had their hot-houses and conservatories. The Saracens conveyed the love of gardens into France, Spain and Sicily. The Italians displayed a natural taste for gardening. The Dutch, imbibed with the oriental fondness for gardens, delighted in well kept gardens. Later, the Scotch have excelled as gardeners.

This was not the case with agriculture. Under the existing circumstances in the different ancient countries, agricultural improvement was scarcely possible. The ruling classes in most countries of antiquity wronged themselves by degrading labor. The leading caste being the priests and warriors, while the soil was tilled mostly by slaves. Later, the condition of the masses under the feudal system in Europe hindered efficient cultivation. The tillers of the soil were tenants at will, obliged to rush to arms at the call of their lord. Certain portions of their crops were required for rent, this being fixed by the lords. If one of them grew an unusually large crop his rent would be increased. They had neither means nor will to improve their lands or methods. Wheat they seldom ate, this crop being required by their masters. Rye, barley and oats were their chief living. Luxuries were almost unknown to them. The aristocrats of most of the European countries fared but little better, for it was not till about the middle of the sixteenth century that any salads or edible roots were produced in England.

With the invention of printing, dawned a brighter day for agriculture. The circulation of books, periodicals and journals, enhanced civilization and inaugurated the day spring of inquiry, the result of which was the discovery of America. By this discovery new varieties of agricultural products were introduced, and an abundance of fertile soil was found, which, after the birth of our country, afforded the poor husbandmen noble opportunities to obtain farms of

their own, which they might cultivate subject to their own will.

The progress of agriculture since 1800 has been so rapid that its recent triumphs outweigh all that preceded them. Underdraining was employed and greatly promoted by an act of parliament, whereby millions of acres were reclaimed and made productive. The use of bones as a fertilizer was first introduced into England. This was scarcely eighty years ago. Now a large variety of commercial fertilizers are employed.

Under American promptings, the sickle has been superseded by the cradle; the cradle in its turn has given place to the reaper, and the self-binder has superseded the reaper; the scythe has stepped aside for the mower; the thresher has taken the place of the flail; animal power has been substituted for manual exertion in the planting and cultivating of corn, in the shape of corn planters and plows; a large variety of farm implements, such as horse-rakes, hay-forks, fanning-mills, etc., have been introduced, which have immensely economized our labor, and increased the amount and value of our annual harvests. Lastly, the employment of steam in the direct service of agriculture, not only in threshing, but in plowing and tilling as well, is among the great and beneficent improvements of the nineteenth century for which mankind are indebted to the intelligent and energetic cultivator and mechanics of Great Britain.

The real triumphs of American agriculture have been won by mechanical genius. The average American cultivator seems to be content to cultivate just as his father before him did. He does not attempt to suggest and put into action any new methods, and appears reluctant to adopt improvements suggested by others. Still, the different improvements in cultivating have been adopted by an enlightened minority, and the benefits derived from these are so prominent and evident that the many cannot long hesitate to adopt them.

The possibilities of the coming farmer are education, refinement, luxury and even elegance in their homes and families. Many of our farmers, I am sorry to state, are content

to live in small, plainly furnished houses, perhaps a corn-field or potato patch the front yard adornment, their families plainly clothed, riding to town in a hard, open vehicle, their children, as soon as they can read and cipher, kept from school to perform the necessary farm work, knowing nothing of the luxuries of books, music, flowers, or any of the pretty fancy work that grace the homes of those in other vocations. The fact is, many of our farmers work so hard and late, and read so little that they have little or no wit to arrange the proceeds of their labor, and they who do nothing keep their eyes open and get the benefit.

Farmers, the tilling of the soil in its various branches, is the first vocation ordained by God, the other vocations being instituted as the population increased, and the various tastes, ingenuities, casualities and crimes have demanded. Then should it not be considered the highest calling? It rests with you, farmers, whether it shall be so considered.

It is now generally admitted that horticulture and agriculture may be reduced within scientific rules, and its general principles taught with as much certainty, so far as they are now understood, as the science of law or medicine. This being the case, why not introduce the sciences embracing Horticulture and Agriculture into the common schools, particularly into the rural districts, where the majority of our farmers' sons are educated? How? By introducing the sciences, entomology, botany, agricultural chemistry, and landscape gardening, etc. The introduction of even the rudiments of these branches may seem quite impracticable, but when we think of the advancement our common schools have made in the past forty years and note the introduction of one science after another, we see not only the practicability, but the possibility of these improvements in a few years.

Many of you, no doubt, will at once say, it will require mature minds to comprehend these sciences. A retentive memory will be the first requisite, if they are to be taught theoretically and technically; but the young minds will acquire the facts of natural science as readily as they will the science of figures or language, if it be taught practically. A child that has never seen a horse or the representation of

one, can not be given any definite idea of the animal; but when once seen the name is never forgotten, and he will always be able to give a description of it. Thus these sciences may be taught to the youthful mind, and become a living possession in after life.

I would also deem it necessary to select a fertile and pleasant site for your school-houses. Have the grounds spacious and finely laid out, tastefully adorned with trees, shrubbery, and flowers, and intersected by walks. Let the pupils attend to their care and cultivation under the direction of their teacher, thus giving them practical lessons in botany and landscape gardening, and affording the teacher an opportunity to present the objects previous to the technics. Then let your boys have a small share of the farm for an experimental garden, where they may develop the knowledge they are obtaining in the other branches. This will not be a waste. You can not leave your boys a richer legacy than the practical knowledge they obtain in the management of their little experimental gardens.

It is evident that the introduction of these sciences into our common schools will have a most beneficial effect upon the prosperity of our agricultural colleges. Here would be the means, in every neighborhood, of preparing agricultural students to enter upon a higher course. This rudimentary teaching in the common schools would develop the aptitude of the boys for the college course. Many, who would not otherwise have their attention turned to it, would find great delight in the study of these sciences.

When a farmer's son finds that agriculture is an intellectual pursuit—that it is of such importance to be taught him at school—that it not only embraces a science, but an aggregate of sciences—that cultivating the soil should be governed by definite knowledge and exact rules, his respect for his father's calling will increase. When he finds in the few lessons that are given him in architecture and landscape gardening, that refinement and taste may be displayed in the homes on the farm, as well as in homes of those in other occupations or professions, he will then not leave the farm for any other pursuit, on plea of dignity or respectability.

When these improvements are made, we will see the coming farmer living in a stately mansion, a fine, spacious lawn as an entrance ground, adorned with ornamental trees, dotted here and there with fountains, ornamental vases and statuary, and intersected by walks and drives. On the right or left an elegant flower garden in connection with a small greenhouse; back of his mansion he has a well kept kitchen garden, and a thrifty orchard; he delights in the culture of strawberries and small fruits. He rides in an elegant covered carriage, clothed in garments modeled by an accomplished artist. He and his family indulge in an occasional pleasure trip. His children attend school regularly and are sent to college. He is as ready to buy an addition to his library as to his farm, he values social pleasures, domestic comfort, moral and intellectual culture higher than money at interest. He keeps servants, and he and his family have left off those untimely toils that forbid mental and moral culture. In short, the coming farmer may be a princely savant.

DISCUSSION.

Mr. Randall — Although I take a decided interest in that paper, then the question naturally arises to me, how are you going to get these agricultural teachers to take this primary work? Yesterday Prof. Henry laid us "Silver Greys" on the dry dock, not for repairs, but for decay. Now, I say, let us silver greys build a monument and let that monument be the agricultural college to prepare teachers to do the work the lady referred to in the paper. We have three professors and only seven students. It is a small business for a hen to scratch for one chick. We want to give them a flock. We want more ground than they have at Madison, so the student can be engaged at least five hours a day in manual labor. I am indebted to one of those manual labor schools for the little knowledge I have gained, and I believe that the system of manual labor, where the boys can go out and labor four or five hours a day and be credited with it on the stew-

ard's books, will give him a good commercial education. We have some of the brightest talent in Outagamie county, but when that young farmer comes to go to Madison to the agricultural college, he is looked down upon by the professional wealthy aristocrat; yet there is more in that man's head so that if they were to put his head in their pocket they would have more brains in their pocket than in their own heads. Some of the best young men are deterred from going there from the feeling there is between the farmer's son, the merchant's son, or professional man's son. Don't let the student leave the college and go over to Michigan. The fact is that there is not an eminent man in the world but has had his life and training in the rural districts.

Mr. Harney — We have a great many specious theories that look very plausible until we attempt to carry them out and make them practical. This question seems to involve more or less, the education of the youth, and we know very well there is a universal tendency of fathers and mothers to desire to let out the education of their children by contract. It is a good deal like the business man who expects to go to heaven through the virtues of his wife, who attends church regularly. They expect through the industry of the college man to have the way paved. The education of these children for the various pursuits of life is a thing that should be largely directed at home. All your colleges and schemes for making great men, I am sorry to say, have been barren in results. The main thing for a father or mother is to carefully observe the tendency of the children. It is certainly ordained, more wisely than man can ordain, that people should be fitted for various pursuits in life. There are a great many different nicks to fill and men are born to fill those places. It is an excellent thing that there is this variety. Some are physically strong and it would be foolish to fasten them down to studying theories. They have not the natural brain or capacity for it. I do not mean to say at all that they should not be cultivated, but you can't make them interested in theoretical and abstruse studies.

Now I think the lady suggested in her paper, if I heard correctly, that the farmers were to be a sort of privileged

class, have servants, and so on. Now where are the servants going to come from. There are a great many mothers want their daughter to be a lady, but let us understand some mother's daughter must be washing the dishes and mopping the floor. We might as well be a little practical. I was brought up in the west and I have seen the early pioneers industrious, but they made very little progress at first. He had not the capital, he had not even a wagon, he would use his sled with his oxen in the summer. People have to work up their way slowly. We boast of our wonderful progress. It would look to a great many men as if the progress of civilization was to end in desolation. That has been the history of a great many of the civilizations of the world. Perhaps that has been the history of America in the days before its modern discovery. If people would wisely conform to the necessities of their station, come down to be a little practical, and every father and mother perform their duty towards their children, it would be better. You will find that the greatest geologist the world ever produced had no collegiate education.

Mr. Huntley — I think as does Mr. Harney, that the education should commence at home, and the sooner the better. It often commences there with intelligent parents, but stops to a great degree when the children commence going to school. As often as the father asks his boy to help him carry the kettle on a lever he is giving him a lesson in philosophy. As often as the mother makes soap she is giving that child a lesson in chemistry, but the moment he starts in at the school everything like education almost drops. He commences the rotation and spends years where he ought not to spend days. Friend Randall spoke of commencing at the bottom and get colleges, but I am very doubtful whether that is the bottom or not. There is not a farmer present but what knows a little something about the sciences, and you should let no opportunity escape at your table to give lessons to your children in some of the sciences. You can't get periodicals and journals too common. If there is three or four minutes to spare before the meal is ready, you can take your journal. There is one suggestion that I would

like to see carried out, and that is the cultivation of flowers in the school yards. That is horticultural education. It is ennobling, it is elevating, it helps morals, it is like music, it makes children better. The cultivation of flowers makes better homes, it makes better parents, it cultivates affection and everything connected with the moral and intellectual and even the physical development. I see they are doing a good work in Michigan in regard to that; agricultural associations offer premiums for those schools that have the best and most pleasant grounds. Have we not something to do right in that line here. Wouldn't it be a good idea for some of our folks who are managing these county fairs to have a little premium for the best school ground in the cultivation of flowers. They even donate seeds for the school districts. I have in my mind's eye now a school that was noted for being rough and harsh. They employed a young female teacher. It was predicted that she would never get through the school, it wouldn't be possible for one that had not more muscle, it needed some one that could wield the whip. It was the most successful school that had been taught there. There were flowers in nearly every window. The grounds were nice and tasty, and it was spoken of all through the country. The superintendent visited the school, he sat all the forenoon in the school-room without making a remark. The scholars hardly knew they had a good teacher until the superintendent told them it was the best teacher they had in the county and the first school she had ever taught.

Prof. Henry — Over in Michigan they have got to planting flowers systematically about their country school houses. D. M. Ferry & Co. offer to the school teachers of Michigan flower seeds free. The person who started that was Charles W. Garfield, a distant relative of the deceased president. Who is Charles W. Garfield? He is a graduate of the Michigan Agricultural College. I told you yesterday that the people of Michigan were proud of their college. I did not tell you all of the reasons. One of the grandest men in America is Charles W. Garfield, Secretary of the State Horticultural Society. The way D. M. Ferry & Co. came to send these flower seeds free to the teachers, was this. D. M.

Ferry's seed expert is a young man by the name of Tracy. Tracy is a graduate of the Michigan Agricultural College. You can see why D. M. Ferry got interested in this question. The Canada school is my ideal agricultural college. The farmer's boy goes to that college right from the district school. I think there are many farmers who would like to send their boys away from home to some cheap school where they could learn book-keeping, get some ideas of stock, get no high ideas of the learned professions, but would be willing to go on with the farm. The Canada Agricultural College carries that out pre-eminently. They have a large farm and the boy can go there, the president told me, for seventy dollars a year besides what it cost him in work. I think there are lots of farmers here who would be willing to let their boys go to college if they could do so for seventy dollars; especially if he was, while there, looking at good blooded stock, seeing fields cultivated, and hearing a good deal about agricultural science in a practical way. If they knew he was tending cattle, cultivating corn, I am sure they would let him go. One trouble at Madison is, it costs too much, it is too expensive. I am trying to reduce the cost. It costs something like a couple of hundred dollars a year. When a farmer hears that he is staggered. Now I would say on the other hand I would furnish the boy with work, which will in part reduce that expense depending upon the capacity of the boy to work. As to the success of the Canada college, I said to the president, "I am going to talk to the people of Wisconsin about your school, and I want to know the facts." What becomes of your boys that leave the school?" He says, "they go back to the farm and become farmers." I says, "do they all?" He says, "no, not quite all. We have a good many bankers' sons, merchants' sons, wealthy men's sons, and they very often go back and help their fathers."

Mr. Smith— Are there not some from Scotland.

Prof. Henry— They have them from all over the world, West Indies, England, Ireland, Scotland and the United States. I says what about the farmers' sons. He says, "they go back to the farm." "All?" I says. He says, "please let me

be accurate." He turned to the professor of agriculture. He says, "Professor, do you know of any boys that have left our school that came from the farm that did not go back?" He says, "no, not one." He says, "that is the fact, so far as I am aware of, not a single boy." "Then I am to say to the Wisconsin farmers that it takes the boys from the farm and sends them back to the farm." He says, "every one that is taken from the farm so far as I know of, has returned to the farm." That is better than the law department. We have a law department at Madison that turns out twenty-five lawyers a year. We have got a pretty good lawyers' mill down there. I don't think every young man that graduates becomes a lawyer. Just so far as I can get the farmers to back me up I want to reduce the standard of admission in our college, reduce the expense, and make it possible for a boy to come to that school, wear plain clothes, do some work every day, be under the influence of agriculture all the time he is there, and grow more and more in love with the calling of his father. Will the farmers help me in such a school or are we going to let it drift on in its present unsatisfactory condition?

Mr. Roe — We are all interested in this. There are some points that have been touched upon that I would like to gather up. There are difficulties at Madison. The matter of expense strikes the average farmer, most of the average farmers whose income is not a large one. He has to look at a dollar twice and sometimes three times. The expense is an important one with us. It strikes us right in the face, as Prof. Henry says. There is a broad contrast between seventy dollars in Canada and two hundred dollars at Madison. Mr. Randall spoke of caste. We are met with it in every direction, going to church and everywhere. Look at the practical ignorance and practical heathenism of those in the great cities who will not mingle with the wealthy. The difficulty to-day in our churches is to get a certain class to go there. The wealthy go there with their silks and velvet, but the laboring man and the laboring man's wife and daughter are not there. It is not necessary to be written over the door to keep out. There was a pious inanity who

assumed for himself a little mission at a Sunday school who made this remark, "the shop girls may go into such a class." The shop girls went right out of the door. If he had said "the young ladies may go into that class" the shop girls could feel their self-respect was not touched and they would have remained. One difficulty with this great question of help on the farm, help in the family, arises from this circumstance. We no longer call them help. We are beginning to write them down and call them servants. There is a great deal in a name. When we recognize them as helpers with community of interest and treat them as fellow men and brothers and sisters with solidarity of interest, that community of interest as Robert Burns says, "a man is a man for a' that," we will soon be able to solve this problem of help; we will get a far better class of help, the American girl will be willing to take her place in the kitchen, she will respect labor as honorable. There is the secret of our success. There is one other point I would touch upon, and that is in regard to the question which is open now, of the relations that should exist between the parent and teacher. The authorities at Madison have given us first-class teachers, We have ample demonstration of that, but is there that co-operation elsewhere, are we educating the boys who we can send there properly? That was alluded to by our friend from Oshkosh. In our district schools are we doing what should be done? We speak of our superior country, we can look away from our own borders and learn some lessons. The young republic of France has adopted a system; their primary schools correspond with our district schools; there is a plat of land attached to the school in which not only flowers are cultivated but there are plants and cereals. In France the child's attention is called out, premiums are given, special instruction is given and a certain amount of time which would be the play spell, which is merely spent in rough, rude play, is spent out of doors in the sunshine in the pure air in teaching them the first principles of successful farming. Now, make our common school system co-operate with the university, with our agricultural college and we will have

that growth and development and fitness that will make our agricultural college a success.

On motion the following resolution was adopted :

Acknowledging the beneficial effect of this and kindred societies as an educator of those engaged in agriculture, and in teaching them how to increase the products of their farms, but in view of the unjust proportion of taxes paid by farmers, and of the exorbitant exactions of rings, corporations and monopolies ; therefore,

Resolved, That it is equally important to educate them how to retain a fair proportion of the profits of what they do produce as to double their products and be robbed of the profits of the whole.

Mr. Rhodes — I wish to inquire of Prof. Henry if there is a successful agricultural college in connection with a state institution or a political institution?

Prof. Henry — I would rather be excused.

Mr. Smith — I am not afraid to answer. There is not.

Mr. Rhodes — I have heard that was true. Brother farmers, here is a question that interests us. Since the world began, at any rate since the American nation began, there has been a disposition and feeling of caste in American society. It is bad enough in the old monarchial countries. Here in America it is grinding and mortifying. The question is, are these mercantile classes, all the class that dress genteely seven days in the week, to look down upon anybody who works and wears the habiliments of labor and has a horny hand? A farmer boy who goes to Madison to attend the agricultural college, I question if he he is not scorned and despised by those who are in the professional department and classical department. We know how it is here at home. The farmer boy comes to town driving his team with a farmer suit upon him; he goes into a store and this little whippersnapper, who does not know as much about business as he, with his little mustache, can hardly see the farmer boy come in. Our boys don't like to be treated with scorn. He wants to feel respectable. Here comes in the question I spoke of yesterday. Let us lift the boys up; give them more culture, professional culture. We have got to have the professional farmer that will cause everybody to

respect him whether they will or not, for the farmer that is worthy of respect will be respected.

Mr. Huntley — Who is the true aristocrat of the school? Is it the boy who stands at the head of his class or is it the one who wears the best clothes? I don't exactly indorse Mr. Rhodes. Don't teach your boys to put too much stress on dress, but more on intellect. If he has muscle and sinew right here it will not be so much matter what kind of clothes he wears. Get his brain and body in the right direction and he will take care of the place he occupies. In the school the true aristocrat is at the head of the class.

Mr. Baker — I presume the most of you know the young man who is the professor at Oberlin. I lived in Williamstown when he was in college. He graduated at Williams College. I was there at the commencement when he graduated. There was no one called upon for the valedictory but John Morgan. He made the valedictory. He did not mind going through the streets about dress. He had an old overcoat on. Some of the students one day asked him "why don't you hold up your head?" as he went with his head down. He says, "Don't you know that the heads of wheat that are filled the best hang down." The day of commencement he was not well; the class was worrying about him for fear that he would not be able to deliver the valedictory, but when his name was called he came up on the platform and delivered it splendidly. He was an Irishman. He was a shoemaker by trade and came into our shop and asked for work before he got through college. He educated himself by teaching school and working.

Prof. Henry — If I may say a word I do not think this clothing question has the importance that our friend would give it. It is something deeper than that. The trouble lies with the parents at home rather with the boys at college. I have known boys in college to be respected when on Saturdays they shaved men in the barber shop and were thought none the less of. In Madison, boys studying engineering are at work with their overalls on, covered with grease, working at the lathes and no one thinks any the less of them. The trouble begins at home; the farmer thinks a lawyer is

better than a farmer. What men do you elect to office? You sit there and let a lawyer talk when you would not listen to a farmer. I saw a man, who was paid to represent the protection side of the tariff, bulldoze a convention of farmers for three days at Madison. There was not a farmer that would stand up.

Mr. Smith—You would not want a farmer to have the impudence of that man.

Prof. Henry—No, sir; his impudence saved him. A farmer came to me as I was talking about the agricultural college, he says "I have one boy and my wife is going to make him a professional man, the farm is not the proper place for him, but we have heard so much about the other side in this convention I have got to talk to him." He says, "I guess we will keep the boy at home on the farm." I don't know whether the seed sown at that convention will sprout or not, but it set the mother to thinking. We have got to assert our dignity. You can find as many men famous among farmers as among lawyers. You can find as many rascals among the agriculturalists as among ministers. A farmer within one week was telling me how the farmers were imposed upon, how much they were cheated by telling them there was so much cockle in their wheat, or they said it was a little light. "Yes," I says, "just when he is ready to go to market he gets out the old stove pipe and sets it in the middle of the bag and puts the good wheat on the outside of the sack, and puts the screenings in the stove pipe and then pulls it out." That was not a surprise to him at all. The point was, says he, "that is just right, that is the very thing to do; I would do it every time I could; as long as we are cheated we are going to play the same game." Now, as long as farmers talk that way, I don't think there is much dignity among that class. The farmer is just as good as any other man as long as he minds his business. You must not think if you send your boy to Madison that he is going to be looked down upon. The two boys that graduated last June were applauded when they took their degrees. The twenty-five lawyers that took their degrees were not applauded. The audience applauded those two boys, for the boys each had good posi-

tions with good salaries, and those twenty-five lawyers were wondering where to hang out their shingle. I want you to feel that you are going to educate your boys. It costs about two hundred dollars. I think many farmers can afford that sum of money for his boy, but how you can get it for that amount is one of the problems I am trying to solve.

On motion, a committee on resolutions was appointed consisting of three members.

Adjourned until half past 1 o'clock P. M.

1:30 P. M.

Convention called to order.

A paper was read entitled:

THE POULTRY INDUSTRY.

By R. L. PORTER.

Gentlemen — I send my regrets. I should very much like to be with you, but circumstances are such that I cannot attend your convention, although urged to do so by your secretary, Mr. Austin.

I feel I could much better talk to you as regards the poultry industry of this country than I can write it. Perhaps I could awake you up to a realizing sense of the magnitude of the business, so you would better comprehend my meaning, but I hope this will help to open the eyes of the farmers of this state, that they may profit by it.

The poultry business is one of the neglected industries of this country. As a general thing, the poultry on a farm is allowed to shift for itself; their quarters are filthy, ily ventilated and cold; perhaps are fed once a day, more generally not at all. If other stock was treated in the same way, what would be the result? A farmer would not raise enough meat to live on, or sell enough to pay his taxes, or buy the children shoes: but where poultry is given attention, it is the best paying investment on the farm.

One bushel of corn will grow as many pounds of poultry as it will of pork; on an average, poultry sells at double the

price of pork. One bushel and twelve quarts of corn, or its equivalent in other grain, will keep a fowl a year. An average hen will lay ten dozen eggs a year if properly taken care of, which at fifteen cents a dozen — an average price — will, on an honest calculation, bring in one dollar and fifty cents. If attended to, that hen will raise you as well, eight chicks, which at six months old, making allowance for feed, will net you, at the lowest calculation, one dollar and seventy-five cents more. We have a total of three dollars and twenty-five cents, and the original stock still on hand. To give you an idea of the poultry industry in this country, I will quote you extracts from the Department of Agriculture, giving the total cash value of several farm products, per annum, as follows: Corn, \$480,643,000; wheat, \$304,675,000; hay, \$271,934,000; oats, \$178,665,000; potatoes, \$76,249,500.

The annual value of the poultry and eggs consumed and sold in this country amounts to the respectable sum of \$475,000,000, or more than any other product except corn, and is exceeded by this product only \$5,000,000. A New York state farmer writes, "Breeders and poulterers look well to your laurels. Eggs this year, so far, have ranged about thirty cents a dozen in my town, at the stores, while fresh laid have been five cents higher." This does not look as if our business was up to the demand. The fact that 350,000 eggs formed a part of the cargo of the steamer Hermdel, which took fire the other day on its way to this country from Copenhagen suggests some observations regarding a curious class of articles imported into this country. It certainly seems a little odd that the United States, with their large agricultural population, should have to go to Copenhagen for eggs, or indeed, to any point outside of this country. Yet this is a lamentable fact.

The reports of the past year's importations, show that this is not a spasmodic movement in commerce, but that the egg trade from abroad has been a flourishing industry for some years, having grown so rapidly since its inauguration that the hens ought to be startled by it. In the fiscal year 1881, the number of eggs imported was 110,000,000; in 1882, it was 140,000,000, and last year it probably exceeded 175,000,000.

Certainly now, if ever, is the time to make money out of poultry.

As regards the breed of fowls one should keep, it does not lie in the common barn-yard fowl. There is occasionally a person so completely fossilized, as far as the more useful and valuable qualities of fine bred poultry and other domestic live stock is concerned, as to declare that the regular old fashioned breeds of barn-yard fowls are better than the "new fangled ones" exhibited at shows and sold at high prices. Such erroneous ideas never find place in the minds of intelligent people. They know better. We must keep in view first, above all, productiveness and early maturity.

We all know that in breeding cattle, if we want rich and much milk, we do not take the Durham, but some of the smaller varieties, known to be good and extra milk producers; and for fat beef cattle no one would select the little Jerseys. So select the fowl you admire; if for broilers, for the early market, some of the Asiatics; if for meat and eggs combined, the Plymouth Rocks, Wyandottes or Houdans; if for eggs alone, the Leghorns; but discard the native sort. There is no lack of good breeds to select from. All may be made profitable if certain requirements are adhered to. Much depends on the care and attention given to poultry to make the business profitable. If one intends to keep fowls for the purpose of bringing in quick returns, he certainly must keep them up to their best condition in order to develop the production of eggs or flesh, as he may think best, for his purpose. A common error in the keeping of poultry on the farm is, that while the horses, sheep, etc., are carefully looked after, no person has especial charge of the fowls. It is as necessary to have some one in charge of the poultry yard as of the barn or pig pen. Try it a year, and convince yourself that the fowls will pay a better return for time and money invested than any other stock on the farm. Farming is made up of home industries, and to neglect poultry as one of the sources of industry is poor economy.

STOCK BREEDING AND FEEDING.

By PROFESSOR W. A. HENRY.

I have no excuses to offer on the subject of stock breeding, as it in one way or another interests every farmer. I have thought it well in this convention to give an elementary lecture upon this subject. If you were taking lectures at the Agricultural College, you would hear many lessons, probably, upon the subject of this nature. As I said yesterday, we have in these conventions to boil things down pretty well, and often in doing that we fail to make it perfectly clear what is intended; but I do not think you will have any trouble in this lecture to follow me, for I think the things I state will be pretty clear to you. I wish, however, to make some qualifications before I start. I shall talk more particularly about two breeds of cattle, to-day, at least, in the lecture part. Don't think, then, that I am advocating those breeds because I am talking about them; these breeds are used to illustrate a point, and because they illustrate it in my mind better than any others, I choose these for to-day's talk. I have delivered this lecture to farmers who have gone away and said, because I talked about the Jersey, it was all Jersey, though I made the same qualifications before I began with them as I make here now. I don't wish any farmer to go away and say I talked about nothing but Jerseys and Short Horns, and that I think there are no breeds of cattle except Jerseys and Short Horns, for I do think there are some other breeds just as good. What do we mean by blooded stock? One animal must have the same amount of blood in him as any other, and yet we talk about *blooded* cattle. We have got the idea that a blooded horse is a horse that runs very well or trots pretty fast. Yet we may use the term in regard to the draft horse just as well as the trotting horse. Blooded stock we think are high priced cattle. That all this means simply another method of cheating the farmer, by calling them blooded stock, and putting an extra price on them on account of it. Everything

in this world has a value. If diamonds were as plenty as quartz rock they would not be as valuable as they are, although they would have a value as a thing of beauty. If gold were easily obtained it would be cheaper. Every dollar in gold represents, as a rule, a dollar of labor. Every animal of blooded stock costs money because it requires money to produce them. About Jersey cattle: It did not occur to me that much need be said about Jersey cattle, until the other day I found one person, a man of intelligence, who thought that Jersey cattle came from the state of New Jersey. We have a good many things from New Jersey most wonderful in their way, but the cattle we get from there are second hand at best. The islands of Jersey are situated in the English channel, to the south of England, near the French coast. There are several of them, Jersey being the largest of them. That has an area of about a town and a quarter, or forty-five square miles. Another much smaller is the Island of Guernsey. A third is called the Island of Alderney. On that is situated an English fortress, and here are kept soldiers to watch over the shipping in the English channel. Possibly a few cows are kept within the fort, their food having to be brought by ships, for the island contains only 1,900 acres of land.

On the Island of Guernsey there is kept quite a number of cattle. On the Island of Jersey, in proportion to its size, a great many. Away back as far as history reaches we find these Jersey people were very proud of their cattle. The farms upon this island are very small. The reason of this is that the same method of the division of the land occurs on this island as in France, where, when the holder of a farm dies, the farm is divided up and is cut into strips, and each of the children receives a portion. Very often the younger children sell out to the older brother and he keeps the farm intact. Each child can hold his piece, and consequently the farms are small, the same as in France, where the common people own the soil. It is very common in the Island of Jersey for a well-to-do farmer to own but five acres of land, and fifteen acres is the average size of the farms. The wife and daughters assist in the out door work,

and naturally enough the greatest share of the care of the cows falls to them. The cows are usually tethered in the pasture during the summer, and are not allowed to run at large. These people have made a very fine quality of butter and ship usually to the London market, and in catering to this market, consciously in part, and in part unconsciously, they have developed what is called the Jersey cattle. As long as a hundred years ago they saw they had an excellent breed, and those in authority issued a decree that no cattle from that date should be brought to the Island of Jersey. A hundred years ago, this year, the decree went forth that any stock of any kind brought to the Island should be slaughtered, and the meat should be given to the poor. You can see since this has been carried out rigidly for a hundred years there has not been a single animal taken to the Island from any foreign country. Occasionally an animal would be shipped from the Island of Guernsey to Jersey or back again. The people are a little clanish and on each island they think the cattle of their own island a little better than the other island's. In Guernsey the cow has been developed with a larger frame than the Jersey cow, with the peculiarity of making a very yellow butter. Where the population is so dense as in these islands you can see there can scarcely be a cow more than there was a hundred years ago. With the number remaining stationary, and the people interested in butter-making, you can see that only the best cows are retained. As a rule a cow can raise but one calf to take her place. If a good cow leaves two calves, then some poorer cow can leave none at all. From the force of circumstances a very rigid selection took place. Now, in this fact, first and particularly in their selection brought about by stern necessity, and by the freedom from admixture of foreign blood, a cattle of uniform excellence has been produced.

Old writers, dating back from fifty to one hundred years, speak of the superior excellence of the Jersey cow, and we are told by those who have visited the island years ago that there were cows on the island that would make twelve Jersey pounds, and they are a little heavier than our pounds, of butter a week, and that was considered a good yield for

a Jersey cow. I think you will admit that the blood of these cattle must be pure or at least practically pure.

Cattle that have no admixture for at least a hundred years are probably running pretty uniform in their characteristics and that is the fact. The Jerseys have certain marks which distinguish them. Now, you know with our native cattle a red and white cow usually has a red and white calf, but not always, and the marks of the calf do not always resemble the cow; they possibly do not resemble the sire, nor are they a grade between the two, yet this shows itself more or less in our native stock. Some of the characteristics of the old-fashioned Jersey cow are her crumpled horn, usually of a good yellow color; her bony skeleton, large abdomen, well shaped udder, with her colors usually a yellow or brindle and some white, occasionally a fawn color. She was a homely cow in nearly every characteristic to the eyes of most people, yet there were some points of beauty about her.

When these officers went back from the fortress on Alderney to their English home as they had from time to time done, they brought these cows to their estates in England, and when it was found that these fawn-colored cows were fashionable, the Jersey breeders began to select the calves of those characteristics, and it soon became fashionable to breed Jerseys of fawn color, with black points.

You understand black points. The tail shall have a black tip, the horns black, hoofs black, and the tongue, strange enough, shall be black also, if the cow comes within the true description of having black points.

Now I am ready to explain to you why sometimes those cattle are called Alderneys. As I said, these officers took home these cattle and put them on their parks in England. When asked where they got the cattle from it was natural to say: "We brought them from Alderney," that being their station there. The truth was, they came from the Island of Jersey for the most part. You will understand Jersey and Alderneys are the same cattle in reality.

About 1850, the Massachusetts State Agricultural Society, which had been importing different breeds of cattle and

horses to America for the purpose of introducing blooded stock, conceived the idea of bringing some Jerseys to America to test their value. In 1852, if my memory serves me right, Thomas Motley was sent by the society to the Island of Jersey, with instructions to bring home some of the best stock he could find, regardless of expense. He brought home, among others, a bull called Colonel, and a cow called Countess. The Society was pleased with the purchase and he went back the next year and brought back a cow called Flora. He kept Flora on his own farm. After she had become acclimated an accurate account of her butter yield was kept. He found that the product was five hundred and twelve pounds and three ounces of butter in fifty consecutive weeks. Pretty good for a little cow weighing about seven hundred or seven hundred and fifty pounds. She produced over two-thirds of her weight in butter in fifty consecutive weeks. Other people brought over Jerseys and the current has been running stronger and stronger from that time to this. Sometimes Jerseys were fashionable, again they went by default for a time, but on the whole the increase has been steady.

We now have in America, if I am correctly informed, some twenty thousand Jerseys that are what we call recorded, and it is said that there is about an equal number of pure blood animals that are not recorded. Now I come to a term that needs a definition. What is a pure blood? You see, I have really just given an explanation. My whole lecture so far has been to lead you up to a certain point which we have now reached. An animal, all of whose ancestors live or have lived on the Island of Jersey, is a pure blood Jersey. The men who brought Jersey cattle over to America kept an account of the breeding for some time in their private records with pen and ink, but as the numbers increased they saw those records were liable to be lost and they appointed a man to keep the records. First was established what is called the Jersey herd book. After awhile some of the breeders found fault with the Jersey herd book, thinking it was not kept so strictly as it should be, and formed a second place of registering called the American Jersey Catlte Club Register. I

forgot how many volumes of this last herd book have been published with the pedigrees, but I think thirteen volumes, each containing nothing but the pedigrees of Jersey cattle brought to America. That is, there are that many volumes in the herd register. Now in this register are kept only the pedigrees of pure bred Jerseys or full bloods. A man who sends to the secretary of this book the name of his Jersey cow or bull must produce evidence to show that all the ancestors of that animal came from the Island of Jersey. It is the secretary's duty to examine the evidence and see if it is correct; if it fails in any particular, he is not allowed by the society to register the animal. If the owner can prove the statement correct the animal is registered. Now being registered as a Jersey animal it is named and numbered and those two belong to that animal distinctively. In forming the register, Colonel was given the number 76. Now that name and number belong to a particular animal and no other, just as much as the name George Washington is generally understood in history to apply to but one individual. We may have in America many George Washingtons, perhaps, but with Jersey cattle the name is more distinctively individual than with the human kind, because there can be but one Colonel 76, at least in this country. Countess was given number 144. The Countess' calf was called Major, and given the number 75. The owner of the animal is allowed to choose what name he pleases, but the secretary places the number, the animals being numbered consecutively as they come on the books. With all these precautions thrown around breeding, there is very little chance for fraud, though occasionally fraud is practiced. Suppose Colonel and Countess' calf had died, and the owner of those animals had another calf born about that time, you can see how easily he could have said this is Countess' calf and had that animal recorded in place of the one that died. You can see how an owner could palm off one animal for another. That is something that no one can wholly keep straight and yet the amount of fraud practiced is really small in comparison to the number of animals born, raised, bought and sold. They are very careful in bringing animals from the Island

of Jersey. You can see animals could be shipped from England only part pure bloods. When animals are shipped to America at times there are chains put about the cow's neck and those chains are sealed where they are joined together, with a seal that cannot be broken until the animal is landed in America and then the seal must be broken in the presence of witnesses; and there are different methods taken to prevent fraud in bringing animals from the Island.

I think you now understand what a full blood Jersey is. A full blood is the same as a thoroughbred, the two terms being practically identical. The history of Jersey cattle in America would be interesting, but I cannot follow it only as it illustrates my purpose. There was a cow in Massachusetts a few years ago that excited world wide fame and attention. She was called "Jersey Belle Scituate." Everybody was talking about Jersey Belle Scituate. It was announced that she was to go on a year's butter test, and everybody was wondering how much butter she was going to make. While she was on this test it is said not less than fifteen thousand people visited the cow. You see the thing was public, had there been fraud practiced some of the fifteen thousand would probably have detected it. When her record was made up it was found in a single week she had made as high as twenty-five pounds of butter, and for the year over seven hundred pounds. People at once began to inquire who was her father and who was her mother, and that is what these herd books show. It is very easy to find out, because this was all printed so you can find who was her father and who was her mother, and you can learn of her two grandfathers and two grandmothers and so on. You know that our English friends are always talking about their ancestors, and they have a book in which the pedigrees of the nobility are kept. We Americans are of such mixed breeding that we are very wise if we can name our great grandfathers. We lose track of these things. This idea of keeping pedigrees comes from England. There you have a complete pedigree. You see here the sire was Victor (pointing to chart). The dam was a cow, Jennie. You will notice the sire of Jennie was also Victor. So that the sire of the

Jersey Belle was also the grandfather on the mother's side. Jersey Belle Scituate then had three-quarters of her blood through the sire Victor. About Victor, taking that one animal, you will notice the sire of Victor was Pilot, dam Minnie, and you notice a little further Dick Swiveler, Jr., was the sire of Pilot and also the sire of Minnie, so that Victor is inbred with Dick Swiveler, Jr., and Dick Swiveler, Jr.'s sire was Dick Swiveler, and that line is all imported Jerseys. Also, Fannie was an imported cow, "Imp." being an abbreviation. Czar (273) was imported. If we had time to dwell upon this I should like to figure out the percentage of blood. If any of you agriculturalists were asked to tell what per cent. blood of the Jersey Belle of Scituate was Colonel and Countess, blood of the Colonel and Countess strain, you could figure it out in percentages by studying this chart. Jersey breeders now are doing an immense amount of figuring. We hear of a cow who has made a wonderful butter record, and they all commence to figure to learn where the ability to produce such results come from, and often it is found that it traces back to a certain animal, away back in the pedigree just the same as our horsemen have figured out that Rysdick's Hambletonian is a horse that is the ancestor of so many of our famous trotters. The subject is interesting, but we cannot dwell upon it any longer. I think you understand the points now I have tried to make.

In the valley of the Teeswater, in northeastern England, existed centuries ago a fine breed of cattle for general purposes, large, rather loose built cattle, maturing late but excellent fatteners when matured, giving large quantities of milk, of all colors except black or part black. These cattle had long been the favorite cattle of the people of that section. They had different names according to their locality, and the cattle in various localities probably differed somewhat. Some of the cattle were called Durham cattle, some Teeswater cattle; the common name they had in distinction to any other kind of cattle was Short Horns, not because their horns were really so short, but because there was in England some cattle that had very long horns, horns sometimes eighteen

inches to two feet in length. These cattle have horns five to six inches to a foot long, and were really short horns in comparison to the other cattle. The name of Durham was quite common, but the name Short Horn has come to be the name, and the word Durham is gradually being lost. Durhams, you will understand, are really the same as the Short Horns. As I told you these cattle were large, loose built, and matured late, and gave a large quantity of milk. There had arisen in England, a little previous to the year 1750, a very famous breeder of stock, Robert Bakewell; he had gained a national reputation as a stock breeder. He was truly a scientific man; he not only studied animals in their living shape, but he cut up animals and studied the individual muscles of those animals, and the bony structure, and made many comparisons. He conceived the idea that to successfully breed, or rather to successfully establish a breed of cattle, actual in-and-in-breeding was necessary. Here, of course, he struck a strong prejudice that ran through most races of the human family, a strong aversion to in-and-in-breeding. This prejudice existed in the English farmer as fully; as to-day it does in the American farmer.

Thomas Bakewell found the sheep of his vicinity with a leggy, lank carcass, and long wool, without any particular characteristics. By careful selection, and in-and-in breeding he produced a large sheep known as the Leicester sheep. When you talk of Leicester sheep you talk of a breed of sheep which was brought into existence through the efforts of Thomas Bakewell. He also improved the cart horses in England. The heavy cart horse owes some of its characteristics to Thomas Bakewell's efforts at improvement. He attempted to improve the long horn cattle and made a partial success, but he seems to have taken an unfortunate breed to work on. His fame was so great that George III paid him a visit and bought stock of him. Of course, when the King did it, it was fashionable, and a great many people thought it the proper thing to do. It happened there were two young men in the valley of the Tees who inherited a little property from their father. These young men were about going into business for themselves. Robert and Charles

Colling were studying the kind of farming to go into. As tenants, they expected to rent, must stock it and go ahead with the business. Now, what should they take up?— a question many young men are asking themselves to-day. They heard of Thomas Bakewell and thought it best to visit him in order to get some advice. There I think they showed a different spirit from a good many young men of to-day who drift into what they do. If they get onto a certain farm it is not because they wanted to go there, but because they happened to go there. These young men spent some time in finding out what they should do. Finding that Robert Bakewell's success in improving these cattle resulted from in-and-in breeding, they, laying aside prejudice, resolved to see what they could do for Teeswater cattle. The cattle were improving in this section all the time. A number of famous breeders had arisen in that vicinity before their time. They began purchasing the best cattle they could find. If a cow costs \$75 or \$100 and satisfied them, the price was never bothered about. They had not any great amount of money, but they were willing to buy good cattle at reasonable prices. They purchased here and there a cow. Now I have not time to tell you in detail of their breeding, but in general they started with in-and-in breeding. They never stopped to inquire the relationship of the two animals as long as those two animals were the embodiment of what they desired, and they wished to get the increase resulting from the union. So close in one case was their breeding, that they used the same sire on his own descendants for five successive generations. The result was a cow which was a profitable animal. They sold from time to time to their neighbors at pretty good prices. Their fame kept increasing as they grew to be middle aged men. When they had passed middle life they had made a fortune.

Thomas Bates, who started farming with about a hundred thousand dollars, and was an excellent breeder of these cattle, had purchased a cow called Duchess of Charles Colling. The cow had dropped at least one heifer calf while Colling owned her. After he sold her she produced no heifer calf, but one bull calf. Thomas Bates thought he would run out

of that family of Short Horns, and as he thought the cow Duchess was one of the best of cows, and he was very anxious to keep up that strain of Short Horns. When it was announced Charles Colling was to have a sale, Thomas Bates was anxious to purchase this heifer I have spoken of. It was said that Charles Colling's wife was as sharp in a trade as her husband, and that her husband did not usually make any purchases or sales until he had a little talk indoors. Mrs. Colling suspected that Thomas Bates would be after the heifer out of the Duchess cow, and she kept pretty strict watch the day of the sale, but he didn't seem to be interested. When they made a cattle sale in those days, the auctioneer held the hour glass in his hand, which run five minutes. When the heifer came to be put up he said: "Gentlemen, what am I offered for the fine heifer?" Thomas Bates was back in the crowd and didn't appear to be interested. The auctioneer turned the hour glass and put it upon the stand, and the sand began to run. The farmers knew in five minutes the sand would be out, and no matter who wanted to bid after five minutes, the instant it stopped running, the man whose bid was last before the sand was out got the animal. The heifer was knocked off to a farmer in the crowd for nine hundred dollars. It was not long until it was found out that Thomas Bates owned the heifer. He took her to his farm and felt that now he had the foundation for some stock that would prove famous. The union of the male that he had by the Stanwick cow after he purchased the old cow and this heifer, produced a calf which he called Duchess 1st. The second calf was called Duchess 2d, and he kept breeding without going out of this family under any circumstances, until he had bred his Duchess 32d. He called the males Dukes. By this time he had carried his in-and-in breeding too far. His cattle were not what he desired. They were losing in shape, they were losing in size and becoming sterile. He sought for fresh blood. His fear was that he would get something which would prove but little better than his present stock, but at last he found on a farm a few miles off, the bull Belvidere, which, when he examined the pedigree, originated from the same source as the old

Duchess cow, but had been kept off in another part of the country. He thought the blood would be fresh enough for him to continue his line, so without taking much new blood, he continued to breed his Duchess. As I said, he was worth a hundred thousand dollars when he began business. He had no family to care for; simply cared for nothing but his cattle. Besides the Duchess he had other families of Short Horn cattle on which he prided himself. Another family he called the Oxford, another Wild Eyes, etc. In fact he had seven families. Each family differed a little in their characteristics from the other, but all of them were excellent cattle. He bred Duchess 64th before his death, and died shortly after Duchess 64th was born.

There were other famous breeders in that day. The Booth cattle were a great cattle for the show ring, and often took premiums at the fairs. Thomas Bates hardly ever patronized the fairs. He was prejudiced against them, saying there were a hundred men in England who would make a good prime minister, but hardly three would make good judges of cattle in the show ring. I think the managers of fairs are aware of that. He said before his death that it would not be long before England would be coming to America for good cattle. He made Kenyon College a present of some cattle. That is an Ohio college at which President Hayes graduated. These Duchess were mainly along the Hudson river. Then a man at Geneva purchased them and gathered them together until he owned about all the Duchess in America. Then a man at New York Mills, purchased up the Duchess Short Horns and kept them for some years, and in 1873 made a sale. As soon as it was announced these Duchess were to be sold, the English grew anxious. Some men came over from England and attended the sale. It was predicted that the prices would run high and they did. I can't tell you just how many head were in that herd, but the total sales were over \$300,000. The cow that brought the highest was sold for \$42,600. You see it was true, then, as Thomas Bates said, it would not be long before England would be coming to America for high priced cattle. It was purchased by an Englishman. When

Charles Colling made a sale, the bull Comet brought 1,000 guineas — \$5,000. That fact was published in the *London Times*, and excited a good deal of comment. People thought somebody must be crazy, but when I tell you the Short Horns kept up their high-priced figures it is not strange. Some Kentucky people read about this bull Comet; and thought if these cattle were as good as that, they had better have some in Kentucky, so early in this century an agent in England was instructed to buy some of these cattle. He purchased several pair. They went to Kentucky, along with other importations, and furnished the foundation of the famous Kentucky Short Horns. A good many Short Horns were early taken to Ohio, and Ohio became a famous Short Horn breeding ground. They have been scattered through North America until now they are numbered by the tens of thousands. At first Thomas Bates and the Colling brothers and others kept the pedigree of the cattle they bred with pen and ink the same as the Jersey breeders, only this was years earlier. They saw matters were getting in bad shape, so they formed an association and issued a book in which their cattle were recorded. Americans first recorded their cattle in the English Herd Book. When Short Horns had increased in America to some extent, the Americans established a book called the American Short Horn Book. That book has grown in numbers until now twenty-five volumes have been issued, holding the names and pedigrees of those they call full-blood Short Horns. Now for a definition of full-blood Short Horns. In the early days, when they were starting this book, breeders of good reputation in that section were allowed to record their cattle. Any man who had good cattle and could show that he had bred them without mixture, could get them recorded. Later, no animal that had not at least several crosses of a registered sire, could be recorded, and still later they said no more cattle can come into the book except those whose sire and dam are recorded in this book. Americans have drawn the limit in the same way. No one now can get a Short Horn recorded unless both the sire and dam are recorded. You then see what the term is. Some of these animals recorded early on further

examination showed they were not really very pure animals, but no one now can change that. It is a matter of record and it has to stand.

I have been approached by farmers who would ask me: "Suppose, now, I used a registered animal as sire, but the cows are unrecorded, how many generations would it take before I could get my cattle recorded as full blood Short Horns?" I have answered: "You could not get them recorded at all." He says they are fifteen-sixteenths pure. They would lack just one sixteenth. Suppose they were sixty-three sixty-fourths, they would lack one sixty-fourth. They may be just as good, they may be better than many that are recorded but they cannot get into the book, so you see no matter how high you breed up, either with the Jerseys or Short Horns, you can't get them recorded, if there is a single strain that is foreign to the herd book, flowing in their veins. Those animals that are recorded are called full bloods or thoroughbreds, and are said to have a pedigree, although that word is used a little loosely. Of course every animal has a sire and dam, father and mother, and they had fathers and mothers, so that one animal has a pedigree as well as another, but a recorded pedigree is usually meant when we say pedigree. Now for the definition of a grade animal. Most of our cattle are unrecorded. We call them natives or apply other terms. They are the common cattle of the country. The union of a full blood animal in breeding with one of these so-called natives produces what is called a grade animal. The first union of a full blood and native would be a half blood. The union of a full blood with a half blood would produce a three-quarter grade, and so on. A cross-bred animal is the result of the union of two full bloods of different breeds. For instance, a Jersey and a Short Horn united would produce a cross-bred calf. The term is used a little more loosely, for instance, the union of a full blood Jersey with a high grade Short Horn would be called a cross. If the Short Horn was three-quarter grade and the Jersey was full blood, or even three-quarters, the result of the union would be called a cross-bred animal. There are other breeds of cattle brought to America whose pedi-

grees are recorded in the herd books. Ayrshire breeders have an Ayrshire book. The Holstein breeders have their book. Breeders of blooded horses have their books, and so on.

I think, now, I have made this matter plain, and I shall make some practical applications for our farmers here. In the first place, nearly all of our farmers are willing to acknowledge the value of good blood, but they often fail to see how the average farmer can make use of that good blood. Many farmers think it is a fine thing to be a breeder of full blooded stock, but then that belongs to somebody outside of the proper ranks of farmers. In general the people who breed these so-called blooded stock, are people who in one way or another represent some means, and so some farmers have come to think there are two classes of people, those who own full bloods, gentlemen farmers, and straight farmers, who must take up with what they can get. Often the man who brings full blood cattle in a neighborhood is looked down on by the farmer, who often sneers at such a man, and makes disparaging remarks about his neighbor, his farm and his stock. I have heard farmers make ugly, wicked remarks of some people who are bringing good blooded cattle in their neighborhood, more so than those same gentlemen would make in regard to any farmer in their neighborhood. The breeding of full blood cattle is a business of itself. Let it always remain so. To succeed in it requires capital and the very best judgment as to stock. Any man can buy a herd of blooded cattle, but only a thoroughly practical and good business man, and one who can give attention to details, can maintain the reputation of that herd. I never advocate any farmer to breed full blood cattle as a business, unless he feels he has the special qualifications.

Growing wheat is a low kind of farming. It requires about the ability of a section hand on a railroad to grow spring wheat. Mixed farming, successfully carried out, is of a far higher order. Dairy farming successfully carried on is of a higher order still. It requires more thought, more judgment, more ability in every way to be a successful dairy farmer than to be a wheat farmer. To be a successful dairy farmer, I consider, requires a high order of intelligence. To

be a breeder of thoroughbred stock requires a still higher order of business tact than to be a dairy farmer. Here is the pith of this whole lecture. *The average farmer of the whole country gets the whole advantage of this blooded stock in the use of the full blood male with the common native stock in his vicinity.* Now they hold a fat stock show down in Chicago, every fall, in which they offer premiums that are so large that no man can afford to let them go by if he thinks he can win one. The best judges in America are brought to judge upon these fat cattle. They do not merely pass upon the cattle as they see them in all cases, but the cattle are slaughtered and the different parts of the animal are, in the presence of the judges, cut up and critically examined. The test of these beef cattle is the butcher's block. Now what does that show bring out? Hundreds of cattle are brought into that great Exposition building, in Chicago, from Iowa, Kentucky, Canada, and some have been brought over from the old world. The results show the high grade Short Horn steer's quarters make as many pounds of beef, in a given number of days, as full blood. What have the dairy tests shown? That some of our best butter-producing cows are grades.

Now, a number of farmers, by joining together, can get the full benefits of the blood for practical purposes. If a grade Short Horn will make as many pounds of beef as a full blood, is it not possible for farmers to get grade Short Horns? If a grade Short Horn or Jersey will produce as many pounds of butter as a full blood, why cannot farmers have grade Short Horns and Jerseys? It is not necessary to purchase a herd of cattle to reach this result. All that is necessary is to purchase a full blood male and the result can be accomplished. By the use of the full blood male and the common stock upon the farm, the first calf will be half blood, the next calf will be three-quarters blood, and these animals are, for practical purposes, in my estimation, better than full bloods.

I make this statement, knowing it is to be put into print, and wish it could be read by every thoughtful farmer in Wisconsin. In my judgment, the grade cattle are better for

farmers for practical purposes than the full bloods. And why? These full bloods have been bred in-and-in, in many cases, and have been kept under such conditions that they often will not do as well as animals that have more strength of constitution, more vigor, although these are the more powerful in certain directions, and when the hardy native animal under the circumstances which surround it, is united with these high pure bred animals the union is better than either. But you can not get the farmers to see that. I talked the other day to farmers about this, they were shaking their heads all over the room; none of your high-toned notions for them, they were going to stick to the good old native; but I am glad to see all over the state that this interest is very considerable. I have seen German farmers that could hardly speak a word of English, after a meeting of this kind, when too poor to buy a full blood by themselves, get together and two or three would talk it up and make arrangements for the joint purchase of a full blood. The rock on which our farmers split is this, finding out a grade animal is as good for practical purposes, they reason that he must be as good as a full blood for breeding purposes, *which is a fatal mistake*; if a grade Short Horn steer will make as many pounds of beef as a full blood upon a given amount of food, why not use him for breeding purposes they ask? The union of the native cow with the full blood, produces a calf which is not half native and half full blood, but it looks almost like a full blood, and many farmers, because they look like a full blood, think they ought to breed like a full blood. I hope I am clearly understood in these terms. I have not spoken about Holsteins, about Ayrshires, or about horses. You need not think I mean to advocate that the farmer shall not have horses because I have not spoken of them. I have spoken of these two breeds of cattle because they were produced by different methods; in one case the farmers took cattle and by in-and-in-breeding formed their characteristics, until they were the characteristics of the whole breed. In the other case the people on an island took those cattle and made all the cattle on that island assume a certain form.

I have here an outline sketch, by James R. Stuart, of Madison, of the Jersey Belle of Scituate. This is taken from a photograph (pointing to a painting of the Jersey Belle of Scituate). There is what the Jersey farmer worked out; but he did not have such a cow in his mind a thousand years ago, but he kept picking out the best butter cows and saving the calves from such, and finally he got that. You see she is not a fine looking cow, according to the views of some persons; she is a homely creature, you say. You see in the first place she has a pretty solid looking jaw. I think the grass that comes within the reach of those muscles will probably be nipped. You see there is about enough muscle here to well connect the head with the shoulders. The shoulders slant about that angle. No boy would want to ride that cow around the barn-yard for fun. Her hips, you see, stick up so that when our farmers go to the state fair and get in front of the pen of the Jerseys the Short Horn breeder will stand around and say, "fine points;" then he will take off his hat and hang it on one of the points. You notice the cat-ham. After you have heard the word "cat-ham" you always think of it as applicable to the hind parts of a Jersey. You notice the large abdominal region and the large udder. What have we here? A skeleton, to which is hung in the first place a head for gathering the food; in the second place, a paunch and stomach, which is simply a chemical laboratory for using up the food that is gathered, and an udder in which to store the milk until it can be drawn. Such is the Jersey cow which the people on that island have reached as the result of centuries of selection. They did not start out to get such a creature, but they got her. If you look at the race horse, I think you will see an animal sometimes pretty near as homely as the Jersey cow. If you look at the length of the hind leg of the race horse, I think you will find it is a pretty long organ. There is no particular fat about the animal; in fact he is rather an ill-shaped creature. But does the horseman stop with making a fine looking race horse, or does he ask the question, How fast can he trot? and ignore the looks of the horse so far as he has to, in the one thought of how fast can the horse go,

and how near can he move like an ideal trotting horse. Well, the beef-loving English did not start to form any particular kind of animal, but what did he get? Here is a male of the Duchess family of Short Horns. You see what he got (pointing to a portrait of a Short Horn bull). Look on this picture and then on that. This is the bull, third Duke of Northumberland. Look at the ribs, springing that way to form a circle, while the Jerseys spring that way, to form an inverted letter V. Through here is the sirloin. You notice here the meat. In fact you notice that the skeleton of this animal is the place for storing meat. The skeleton is arranged for storing all the meat that can be built upon it, and especially the meat of the upper half of the body of the animal. Now the Englishman, in his desire to make fine beef for the London market, produced that animal. People on the Island of Jersey, struggling for their supremacy in the butter market, produced that animal.

Farmers are constantly asking the question, can we get a general purpose cow? You must expect that can only be answered in the same way as for a general purpose horse. If you want excellent speed in a horse you would not go to the Clydesdale nor the Norman to get him. You would not expect a grade Clyde or a grade Norman to be as good as a grade of the trotting families. If you want a general purpose animal you must sacrifice some of the highest qualities to obtain that, and you should select your animals just in accordance with what you desire.

DISCUSSION.

Mr. Hazen — I think the Professor has explained the principles of breeding very thoroughly. Milk is what the dairyman is after. The milking breeds are the Jersey, Ayrshires, Holsteins. The beef breeds are the Short Horns, Devons, Herefords, Polled cattle. The Galloways have three or four names. The same with the Holstein. This is a very important lesson for the farmers to look over and weigh thoroughly. If they are going to breed stock, it don't cost any more to breed a good animal than a poor one.

Prof. Henry — I would like to ask if there are any full blood animals upon the farms in this county?

Mr. Witt — I have.

Prof. Henry — What breed have you?

Mr. Witt — Short Horn.

Another Member — I have got half a dozen Jenny Lind. I have a Duke bull.

Mr. Witt — Are there good milkers in the Short Horns?

Prof. Henry — Yes, sir; I think there are, but I think it is pretty hard to find them. The reason is the Short Horn men keep their cattle very fat, and allow the calves to suck the cows. From this cause the cows dry up early. Since the Short Horn men have been trying to make beef, they have gone crazy on the beef question, and keep the Short Horns very fat, especially all those that go to the fairs and have not developed the milking qualities. Indeed, they have been trying to spoil their Short Horns for milking purposes. If Short Horns are not spoiled for milk, it is because they can not be. When they take Short Horns to a fair they are rolling in fat. The calves suck the cows, because they want fat calves, and the cows dry up early. That tendency is liable to be inherited. I believe Short Horns to be a breed of cattle of such excellence that they, by proper care, can bring them back to their milking qualities. Originally no doubt they were fine milkers.

Mr. Roe — We were not through with our friend Howard. I would like to hear from him.

Mr. Howard — I am not able to speak now, but at the next meeting I will produce the records. Rev. Henry Berry the father of Short Horns commenced about 1750. They were imported from Flanders to England, and he improved the cattle for fifteen years and sold them to Robert Colling and Charles Colling.

Prof. Henry — I wish to inquire if there are any thoroughbreds of other breeds?

Mr. Fenelon — Weed, Gumaer & Co. have a cow and a bull and their progeny for two years.

Prof. Henry — I ask this because I think soon of trying to form a record of all the thoroughbreds in the state. It is an

undertaking I am thinking upon and if I can't get the farmers to help in these conventions, I must give it up. It will take considerable exertion to carry it through, and I want to find out about the proportion in each neighborhood before I commence. Are there any other Jerseys?

Mr. Rhodes—There is a Jersey bull owned at New London.

Prof. Henry—There are full blood animals that are not recorded.

A Voice—Mr. ——— of Embarrass purchased a Short Horn last spring.

Prof. Henry—I want to say you report far more animals for this vicinity than I can get any of the farmers in this part of the state. Of course in Walworth and Rock counties there are a good many more. Now I hope that the neighbors of these men who have brought these animals here will stand by them as they should.

A Voice—You pay \$150 for such a creature and a neighbor will come along who wants to use him for two shillings or fifty cents.

Prof. Henry—And yet such men will come to the conventions and want us to stand up and say the farmer is the noblest work of God.

Mr. Griswold—I believe the object of these conventions is to educate the farmers so they will appreciate these animals. There are towns in this state where there are no thoroughbreds whatever. I think I would like to get a Durham for breeding and for working. In this part of the state they use oxen for breaking up the land, and they also sell cattle for the pineries. Would you recommend the Short Horn for working cattle and for beef, in preference to any other?

Prof. Henry—For working alone the Devons have the preference. The Devon steer is the best working steer of any breed. You must measure that by your preference for work or beef. If you care more for work than you do for beef in the end, I would take the Devon. It would depend on the family of Short Horns you breed from. In general, the Devon steer would be the best. They grow to a large

size. On this question I want Wisconsin cattle to gain a better reputation in the Chicago market than they have. We have the reputation of sending lots of scrubs and scalawags to the stock yards. Wisconsin, as yet, has never taken a premium on Short Horns at the Chicago fat stock show, and I think only a few on Devons. She takes no premiums on cattle in Chicago. Iowa ships to Chicago, Canada and Kentucky ship there, but we here, near Chicago, have never taken a Short Horn there, grade or otherwise, and taken a premium. I do think we ought to do better in the future.

Mr. Rhodes — We think the dairy pays the best.

Prof. Henry — Of course the dairy reputation is excellent. A grade calf can be secured at a cost of from one to five dollars. If the grade animal is, as I say, as good for practical purposes as a full blood, you will see that it is cheap for such a calf. If you go with a stock buyer around your country much and ask him if he would rather buy a native or Short Horn of the same weight, or how many more dollars he would pay for a Short Horn steer of the same weight than a native, it would amount to a good many dollars. You see a male may have a thousand calves, so you see it amounts to \$3,000 instead of the \$150 that you have to pay for it.

Mr. Gibson — I would like to ask if these Short Horns do not become scrubs in this climate after a few generations.

Mr. Witt — If a man wants Short Horn cattle he wants Short Horn feed as well as cattle.

Prof. Henry — The feed will pay you proportionately well. The idea that if you have that breed of cattle that you can give them nothing, but produce high price butter or beef is an exploded idea. If a man constructed a threshing machine and did not give it all the wheat it would take in to keep it running, and kept running around to the half bushel to see if there was not some wheat coming from it; he could not expect to see the wheat. It is just about the same way that these men expect to run these cows. Up to certain limits the more you can feed one animal the more you get. The high feeders are the successful farmers as a rule.

Mr. Custer — I have had some little experience, but very

little in stock. I have dealt in Durhams and Jerseys. My experience is that the Short Horns require considerable feed to keep them up, also the Devon. I have not fed the Jerseys hay but twice a day and they are in fine condition, grain once a day. I had to feed these others grain to keep them up in good condition. They are not hardy enough.

Prof. Henry — How about butter?

Mr. Custer — I have not used the Jersey cow as yet for butter.

Mr. Gibson — I would like a little more explanation on this stock question. There are small horses said to be descended from these large horses. Now I would like to ask if we have not a good deal to contend with in keeping up an animal of that kind in this climate.

Mr. Roe — Not far from my home a calf was found frozen to death out by the straw stack, in the field, and it is my impression that that kind of treatment is not proper, and I know of no breed in which it is a success.

Prof. Henry — I believe a Norman horse would soon degenerate under abuse to be a very common scrub horse. I believe any trotting horse would soon run down to be a common horse under abuse. I believe Indian corn would soon run down to be a worthless variety if it was abused for several generations. The whole struggle of the successful farmer is to keep the thing up. You have got to do it with one breed of cattle just as you have with another. You have got to do it with all breeds. You have got to do it with vegetables.

Mr. Gibson — I am not quite satisfied yet. The horse has gained a stronger constitution.

Prof. Henry — And he has sacrificed size.

Mr. Gibson — Yes.

Prof. Henry — Hardiness and the struggle for existence has compelled him to do it, the same as some people are dwarfed because of their terrible struggle for existence. They cannot keep up their size.

ADAPTATION.

By GEORGE J. KELLOGG.

Mr. President — Your secretary has kindly handed me a programme of your convention. Believing it will be impossible to meet with you I send herewith a few thoughts on

ADAPTATION.

Without adaptation of men, animals, grain, grasses, vegetables, plants and trees, all are failures more or less according to surroundings.

A good lawyer might possibly make a third class farmer.

A Jersey pair of oxen would be rather light for lumbering.

A full blooded Norman would hardly suit a Doctor.

Certain kinds of grain or grasses are best adapted to certain soils, and there is no profit in them on other land. The secret of success in farming and fruit growing is *adaptation to soils and surroundings*.

In the orchard, *site, elevation*, and the "*lay of the land*" has more to do with success than varieties, yet all kinds of trees will not succeed on the best site. Certain kinds are tender, other kinds seldom bear, others bear well, but are worthless.

The most favorable fruit belt of our state is the lake shore counties from Illinois to Green Bay, and from present indications the belt will continue far northward.

Not all the land in these counties will profitably grow fruit. Low, black, level land should be avoided; only such situations as have good drainage, and clay soil should be planted to trees if you are expecting profitable returns.

Every farmer should plant on his best and highest elevation, generally the poorest clay soil he has; on low, wet land only plant Duchess and Wealthy and the crabs, and then on ground thoroughly ridged by backsetting, planting on the ridges, and if the prospect is for long lived trees do not plant nearer than thirty feet. Our close planted mature

orchards are showing disease of the leaf, and consequent scabbiness of the fruit.

Everybody wants their orchard near the house, when often that hill away back in the farther corner of the lot should be cleared off, and there is the best place for the orchard. If it is too steep and rocky to be plowed, cut the trees and brush in July, and plant your trees without plowing, giving them plenty of leaf or straw mulch, and bank up in the fall to prevent mice, and wind the bodies with newspapers or some device, to prevent rabbits from injuring the trees. Suppose a little fruit is stolen, you will have double for your own use than if planted on a low, rich plat of land.

In my visit to Waupaca county I was very favorably impressed with its adaptation to fruit growing. Those rocky hills, though the soil is somewhat sandy, are well adapted to the hardy varieties of fruit, and your splendid show of fruit at Green Bay confirms my opinion.

There are thousands of acres of splendid pear sites east of Green Bay, just as the ax left those timbered ridges, and I am surprised that with the continued success of the one little orchard there, that is annually yielding at the rate of \$1,000 per acre, that some enterprising pear lover has not a thousand acres planted ere this.

Wherever you go throughout the state, you will find the timber ridges still covered with the native grove, and nine times out of ten the orchard is on the best garden soil, and proves a failure. There is right here in Rock county about three thousand acres of the only good orchard ground we have got still covered with the white oak and hickory of its native growth. Around Baraboo are millions of acres of the best orchard sites in the state, still uncleared and unplanted. The future will develop wonderful resources in Wisconsin for favorable orcharding.

DISCUSSION.

Mr. Roe — I would simply say a word; one item is that of climate. He spoke of soil, exposure; but my own experience is that the chief difficulty we have is that of climate. The great trouble heretofore has been lack of adaptation for the peculiar climate of the northwest. We have these great extremes of heat and of cold and of drought. We have a peculiar combination. It sometimes happens to be fatality with the fall which is a bearing year. One year when apples are at a premium it is not a bearing year, and the bearing year apples are a drug in the market. One night I recollect the thermometer fell as low as forty degrees below without snow for a covering. Put those things together and you have a combination nothing can stand. The fruit growers of the northwest have got to study with the utmost care what varieties will meet some such Waterloo occasion as this. Thus far we can count the old selected varieties on our fingers of one hand. Our future remains in the old guard of iron clads and upon the varieties that have grown up in our midst who have survived and proved their fitness, and also importations which are made from localities exactly in character like ours, and where these conditions of climate are still more severe than with us. Every one has his pet. Some have very queer pets. Every one has his hobby. Some are very amusing. It strikes me peculiarly that a man of intelligence should select of all crabs the Hislop crab, which to my taste is nothing more than stuffed with sawdust, where you have magnificent seedlings right at your doors.

Mr. Randall — I don't know of an off year. If you want a good crop be a little piggish, in other words, gather them a little too soon. I have a Duchess right by the side of the road, where the school boys pass; when they begin to ripen, I am sure to lose them by those boys. I go on the sunny sides of my trees and gather them. Where circumstances have crowded me to pick early I know of none as an off year. If you have not got apples, buy some Duchess and

save every seed and plant them, and get a good sound orchard of Duchess seedlings.

Mr. Fenelon—I have some Golden Russetts. The trees were set out in 1863. They have not failed to produce a crop of apples since that time. I planted a new orchard in 1868, and put in a few Golden Russetts. They are scattered, one bearing every year and one every other year. One hardy, the other almost a total failure. If the gentleman can tell me the reason I would like him to explain.

Mr. Randall—You are asking a most difficult question. I will have to go back to the theory of evolution. It is a question on adaptation. In other words, the parent was not a good one and it became hereditary. Look at your scions, look at your cuttings. There is just as much difference between scions taken from an orchard of my friend Rœe and those taken from others, although of the same name as there is in cattle. They go back in every direction.

Mr. Roe—I have some apples with the Tallman Sweet name on them, they resemble very much the shape of the apple Northwestern Greening. They are a nice, handsome apple, but a larger apple than them. The other apple looks like a Tallman Sweet, but it is a late summer apple, or early fall, and tart. They both have the Tallman Sweet trademark on them, drawn across them.

Mr. Griswold—The question is what you would recommend in the place of the Hislop crab.

Mr. Roe—I think I have mentioned your own seedling right at your door, Wealthy. What is mentioned by our friend, Mr. Randall? Duchess. I find the Fameuse with me a success. Utters do well with me. I am very thankful that a kind Providence has made the Hislop a light bearer.

Mr. Flowers—I would like to say something in regard to the Russett apple. There are two trees doing so differently from each other. Undoubtedly his second lot of trees was grown with roots about that long. The others I have no doubt had the full length of roots, so they made a perfect tree; but I don't understand, hardly, how they come to make that annual crop, unless they had superior feed. I can understand very clearly how the Duchess can be made to bear

every year. It is a very easy matter, by picking them early and having the trees well fed, they have sufficient time after the crop is taken from the tree to develop fully a good bud. An apple that requires the entire season, like the Golden Russett, our seasons are hardly long enough. It will shrivel very much without extra care to get it through the winter. But it is very seldom that we perfect that fruit, on account of the length of the season required. In Michigan it perfects easily; it does not shrivel there; it is a valuable variety there. The only reason I can see why those bore annually is, they must be attended to remarkably well.

Mr. Fenelon—My first original set was twelve trees in the lot where my house was; they have all died out but these three Russetts—two Golden Russetts, one Perry Russett. That has not borne but one or two crops since 1863. It continued a garden for a number of years, then seeded it to clover. Never allowed cattle or horses to run in there, because they destroyed the trees. On the other side of the road, opposite, the same soil there had been a garden. It was plowed and manured, plowed again; my trees were set and cultivated one or two years and then put into grass. Remained in that for two years, and then broke it up. Those were set in 1878. It has been in potatoes ever since. I set nearly a hundred trees in an acre, six in a row. When I set my orchard over there I put six trees in a row. We never had a plow for them hardly since then. They have all died. It was so with the Golden Russett; they had a struggle to live. The care has been similar, though I think better than the ones near my house.

THE FLOWER MISSION.

By MRS. H. M. LEWIS.

A few months ago an item in regard to the Flower Mission appeared in the *Western Farmer*. Soon after this several persons expressed a desire to know more of it and of its workings. They also expressed feelings of surprise that a

society of such magnitude could exist in our midst and a majority of the people be ignorant of its existence. To such as these we would say that the Flower Mission had its origin in Boston a little more than twelve years ago. At first its workers were few, now they are numbered by thousands. The object of the Society is to send gifts of cut flowers, pot plants, fruit, etc., to the asylums, hospitals and other places where they will be most beneficial. It may be some day to a work house, a jail or a factory, as well as to the asylum and hospital. Practical workers in the society that interest and inform themselves on the subject know where they will do the most good. We who have kind friends, comfortable homes and all the necessaries, as well as many of the luxuries of life, know but little of the needs, the heart-aches and the discouragements of the suffering poor in our large towns and cities who are making tireless effort to keep soul and body together during the heated term of the summer. Many of these people are herded together in small, hot rooms, in basements, in alleys, or attics where fresh, pure air is almost unknown. The joyous young lady teacher in the suburbs of Boston little knew what magical seeds she was sowing and what beautiful flowers would bloom from her simple acts of charity and kindness. For by giving flowers to the dirty, ragged children by the roadside, behind the asylum gates, and in the basement tenement houses, the beautiful Flower Mission had its birth. With what joy the children anticipated the enthusiastic little teacher's coming — eager, dirty little hands were open and ready to receive the flower gifts, for children, however unclean and ill-bred, are seldom or never such barbarians that they cannot enjoy everything in nature. After a little time the growing demand for flowers became so great that she could not meet it alone, so she consulted with friends, and by their advice resolved to ask for public contributions. On the following Sunday a notice was read in several of the churches inviting people to bring contributions of flowers and fruit to Hollis street church, as it would be open to receive them on Mondays from eight to twelve. Although the

church was Unitarian, it was only selected because of its central location, for the society has no sectarian bias.

On Monday morning the ladies were ready to receive the gifts, little dreaming of the great work they were inaugurating. The record says, "The first to come were two bright-eyed girls, who, glowing with the air of their lovely country homes, and excitement from the thought of the pleasure they had the means of giving, appeared with baskets filled with houstonias, cowslips, violets and anemones, nicely tied up in pretty bunches; then two more with baskets filled with English violets, and again another with field flowers. So far all were personal friends. The next contribution, however, was from a stranger — lovely hot-house flowers and red, ripe strawberries. Again a silver wedding gift of twelve beautiful bouquets, seeming to the donors the pleasantest memorial they could have of their own happiness. Again, a Lady Bountiful sends her carriage laden with cut flowers, pot plants, and branches of flowering shrubs, placing the carriage also at the service of the ladies, a welcome gift indeed, for it is no light task to carry the large, flat, flower-laden baskets to their destination. Surely an auspicious beginning; contributions from thirteen sources, distributions to one hundred and fifty persons." For several years the mission had no president or other officer; every one worked as inclination prompted, but for the past five years, for the sake of doing the best work in the least time, a full corps of officers are elected yearly. Nearly eight thousand bouquets were distributed the first year, besides loose flowers and pot-plants. One man called the pansy man, brought to the mission two thousand pansies, eighteen hundred bouquets, and twelve hundred pond lilies. He was as faithful the fifth year as the first — indeed it is said that people who have given themselves once to the work never turn back. Were we to gather up the many interesting incidents of the Flower Mission — publish the grateful letters, etc., we could fill volumes with the touching stories more strange than fiction, for every day brings forth fresh experiences. We cannot say that all are benefited by flowers (O! that we could), but we believe that the majority of people —

particularly women, are so blessed and benefited. The day for receiving and distributing flowers in Chicago, is Wednesday. The Flower Mission rooms are to be found at the Atheneum, 50 Dearborn street. In Madison the flowers are gathered Tuesday afternoons. Then the stems are laid in cold water in a cool cellar or dark room for an hour or two; after this they are loosely packed in boxes or baskets between wet newspapers or cotton batting. They go by the night express, arriving in Chicago by daylight the next morning, as beautiful as if gathered fresh from the woods and gardens. The railroads transport all the flowers for the Flower Mission free of cost and the expressmen seem to take special delight in the work. The annual fee for the society is fifty cents. These fees from gentlemen constitute the carriage fund. Many invalids during the year have the benefit of a free carriage ride.

The country home department is a branch of the Flower Mission, controlled by a separate committee. It has for its object providing comfortable homes for a limited time to poor invalids in the country. This department is rapidly growing in popularity, as much good has already resulted from it. It is destined to become one of the most worthy charitable institutions of our country. At Christmas time the ladies of the Flower Mission aim to have a Christmas wreath of evergreen, with a "Merry Christmas" card attached, for every bed in the hospitals. This part of the work could be done by people living in the country, and I know of no pleasanter Christmas work than that of making five hundred Christmas wreaths to gladden the hearts of those who are suffering from pain and disease. It is not medicine at all times that the sick need most. It is something that takes the mind from brooding, and disquieting thoughts. A kind, hopeful, cheerful word, a sympathetic grasp of the hand, a little token of remembrance will sometimes cure where medicine fails. The mind is oftentimes more diseased than the body. Through the medium of flowers, shy, sensitive, proud natures are many times reached when no other avenue is open. For instance, the case of a woman supposed to be in great poverty, was reported to the

ladies, but no one had the courage to proffer her assistance, for she was proud and high bred. So full was she of a foolish pride that she would bitterly resent any overtures of charity; so the ladies resorted to a bit of strategy; a hand full of roses and other flowers were first carried to her, the next visitor brought her a pitcher full of wild roses and fresh ferns from the woods. These brought enthusiastic words of praise from her lips, and glad happy tears from her eyes. Next came a pot of mignonette, a small fuchsia and other green growing plants for her to enjoy and care for. These bright flowers were the stepping stones that took her out of herself for a little, out of her own discouraged, morbid self. After the flowers came jelly, fresh eggs, nourishing food and a new, comfortable bed for herself and child. One morning one of the ladies called and informed her that on the following morning she (the invalid) was to go out for a ride. "Oh! but my dear, I cannot go," exclaimed she, "don't you know that I have not been out of this bed for more than a year." "Never mind," said Mrs. G., "I have permission from the doctor, and John has strong arms you know, he will carry you, besides the carriage will be half full of pillows. We will try the experiment and if it fails we will not attempt it again." Sweet, new hope came to her that day like an angel of light, for she began to feel now for the first time in years that she had friends, and that life was indeed worth living, for the ride proved to be the turning point in her life.

Let us follow the flower carriages on their rounds during a July morning. The heated air is most oppressive out of doors—in the great salesroom it is like an oven. All the clerks are obliged by the rules of the house to be in full dress. Everyone looks and feels unhappy and irritable. They are all thinking of the cool waters and green pastures far away, and they long to be among them. Let us follow on in the great workroom above, where overcoats and other heavy garments are being manufactured for the winter's trade; men and women are at work cutting, sewing, padding and steaming with hot irons the heavy woolen goods. To such as these give flowers.

The modest sweet-brier spoke at last:
"My humble lot I long to cast
Among the poor who toil and sin
Amid the city's ceaseless din.

I would recall their early days
Of simple joys and peaceful ways,
The country walks, wherein they strayed
Through sunny field or woodland shade.

And through those memories of youth,
With all its innocence and truth,
A tender ray of hope divine
To cheer the present gloom should shine."

It was a source of great pleasure to me to see what flowers could do for the sufferers in hospitals during the war. Whenever they were brought into the wards, men and boys would reach out and beg for them, saying, "Please don't pass me by." Pinks, roses, lilacs, pansies and sweet geraniums were favorites, but the old double pink most of all. I have seen a young man in bed, with amputated limbs, shed tears over them and almost pray to them, for he saw his mother's eyes in her good old garden pinks. I have seen a man too sick to hold the tin cup of roses in his hand, ask to have it placed near his pillow, that he might enjoy all the fragrance and beauty. Another man asked that his hands might be filled with sweet flowers — mignonettes and roses — when a severe operation was being performed. If flowers afford such comfort to men, what must the comfort be to women, sick in prisons and hospitals. Physicians tell us that when the Flower Mission is at work, and difficult operations are to be performed at the hospitals, they take special pains to have them done on Wednesdays, after the distribution of flowers, for at that time the very atmosphere seems changed, and the patients are more joyful, hopeful and happy.

I am not prepared to give an opinion in regard to prison and jail work. I will leave others to investigate the subject. I have no doubt but excellent work can be done in those places at times, but the best discretion and judgment must be used in the matter. It is often a mistake to make these places attractive, for indolent people who do not like to pro-

vide for themselves will take advantage if too well treated. Prisoners should always have clean, warm, well ventilated, healthy rooms. In cases of life-long imprisonment no doubt on the flower question is entertained. The prisoner's life should always be brightened with pleasant things—let him have books, pictures, growing vines and plants by all means, for they will give him sweet growing thoughts that will lead him upward to a better life. A woman prisoner (a desperate character) in one of our western cities, is breathing out her life to-day behind prison bars that are wreathed with a drape of green from her growing vines. The effect that the cultivation of flowers has had upon her life is said to be almost miraculous. Let us enlist with the flower workers of the cities if we can, but if we cannot, let us establish Flower Missions of our own in our homes for the sick and unhappy about us. We can easily do this by getting the members of the family interested. We will cut our geraniums into slips in the early spring that the geranium beds may be enlarged. We will make an additional pansy bed, plant new shrubs, vines and flowers with the old time ones, that are ever ready to give up their flowers. Then is flower growing glorious employment. If doubts arise in your mind on the subject, I pray you try the experiment for one year. Right here let me say to our people that we have several insane asylums in our state filled with hundreds of insane patients that are in need of all the flowers that we can send to them. Many of these unfortunates have lived among and cared for flowers during the best part of their lives, and it is not an uncommon sight to see these people taking flowers by stealth from the asylum grounds, for their souls long for them and they must and will have them. We hope the day is not far distant when a bouquet or basket of fresh flowers will adorn every patient's room on Wednesday morning of each week during the summer season, for there is a magical power in flowers and music that ministers comfort to minds diseased.

“ I gave unto a brown and tired hand
A stem of roses white and creamy white,
I knew the bells rung merry tunes that night.

So it was Christmas time throughout the land,
 And all the skies were hung with lanterns bright,
 The brown hand held my roses gracelessly.

They seemed more within their dusky vase,
 A scarlet wave suffused the woman's face,
 'My hand so seldom holds a flower,' said she.

'Think the lovely things feel out of place.'
 Oh! tired hands that feel unused to flowers!
 Oh! feet that tread on nettles all the way!

God grant His peace may fold you round to-day,
 And cling in fragrance where the Christmas hours
 With all their mirthfulness have passed away."

THE CONVENTION AT WAUPACA.

Impromptu Poem, by R. D. TORREY.

The Convention assembled pursuant to call,
 In the city of potatoes, in Stetson's cold hall.
 When with rap on the table so loud 'twas amazin',
 Order was had through the President, C. Hazen.
 The objects of meeting were then stated briefly,
 Which at that moment was getting warm—chiefly.
 When this was accomplished we gave earnest heed
 To warm words of welcome (which cheered us indeed)
 By McCormick; they were given in fullest of measure,
 Which added indeed to everyone's pleasure.
 A reply was then given by one they call Torrey,
 In which he said that he was quite sorry
 That he was unable to respond as he ought,
 But to make minute speeches he'd never been taught.
 But he need not have said so, for everyone knows it,
 For he cannot stand up but he faithfully shows it.
 But of all that was done I hardly can write,
 Send to Austin, the scribe, he will furnish the light.
 In the volume he faithfully sends you each year,
 All addresses and speeches in full will appear.
 Permit me to name a few who were there,
 And to the Convention each added a share
 Of wit and of wisdom and keen repartee,
 Abreast of each other, all wished to be.

Now, there was Hazen, who makes so much cheese
 That it ought to be cheaper, which surely would please
 The thousands who eat it, but 'twill never be
 For he, too, loves money very much as you see.
 And then there was Henry, who is trying his best
 To convince all the farmers in the great fertile west,
 And by all earnest methods their attention secure,
 To this one great fact, that if they build to endure,
 No better foundation can ever be found,
 Than a good education the wide world around.
 Then there is Smith, he of Green Bay,
 Who ever is ready with something to say,
 Of love, home and friends, which should make us all better,
 If followed in spirit, as well as in letter.
 But what shall I write of our earnest friend Roe?
 He, too, is ready in kindness to show
 He believes in his calling, and will do good to all,
 For proof when in Oshkosh just give him a call.
 And then there is Huntly who ever stands by
 To battle for right and he never fights shy.
 A more earnest heart 'twould be hard to find,
 Not in quantity, at least, though you'll see the same kind.
 Then next comes Randall always sincere
 On any question when it shall appear.
 He has his own notion and will ever stick by it,
 You cannot convince him, you need never try it.
 There is Harney of Oshkosh, you've heard of the town.
 Its record is known the wide world around.
 More history he knows of the grand old State
 Than would fill a volume, should he try to relate
 All he knows of the earlier time
 Of our grand commonwealth, (you fill out the rhyme).
 There is Rhodes of this county, always on hand
 To assist all toilers and tillers of land.
 And Masters and Floyd, they are on hand,
 We write down their names, they belong to our band,
 For they too are worthy and so is friend Church
 For bees and honey he's ne'er in the lurch,
 Nor in anything else in good, honest life,
 He's always prepared for all earnest strife.
 There's Fenelon, too, and John Gordinier,
 The best of good fellows, glad you are here.
 And last but not least is our friend Mrs. Clark,
 But for the ladies our lives would be dark.
 Her presence here, has added much to our meeting.

Kind lady accept our heartiest greeting.
 Oh! I've forgotten one other chap
 I cannot forbear to give him a rap,
 For all that we say or do with good will
 He jots down in a twinkling, with mechanical skill.
 So all you have done or all you have said
 By that fellow Sawyer will public be made.
 Oh! I'll never get through for there is the scribe
 Austin, they call him, he belongs to our tribe.
 God bless you, old fellow, and give you success
 In measure complete, peace, quiet and rest.
 There are hosts of others of whom I would write
 Yea, in friendliest words and with all of my might.
 But for want of acquaintance as well as of time
 Your names I can't mention in this simple rhyme.
 Rest assured, however, we are glad you are here
 And hope you'll all live yet many a year.
 Our thanks we hear tender to all of you friends,
 And hopes for your happiness till this life shall end.
 And now as we part we do so in sadness
 But to the next meeting look forward with gladness.
 May death skip us this year in making his call,
 And time deal kindly with each one and all,
 Friends and neighbors a kindly good bye,
 Let us go to our homes determined to try
 To win fresh laurels each hour, each day,
 Till we rest from our labors and life's longest ray
 Shall summon us hence, may it find us in order
 And ready to pass happily over the border.

WISCONSIN HORTICULTURE—THE OUTLOOK.

By GEO. J. KELLOGG.

Mr. President, Ladies, Members and Friends of the Wisconsin State Horticultural Society—It requires no small effort to annually present some thoughts worthy of your attention; most themes become threadbare after writing on them for twenty consecutive years. The fact that Wisconsin Horticulturalists are in no danger of dying rich, stares us in the face.

The zeal, energy, application, knowledge, and persistent

efforts that have been put forth by those who have toiled early and late for the last twenty-five years in Wisconsin horticulture ought to have given better returns ; in almost *any other* business would have given *affluence*.

Now, the question is, can we profit by the failures of the past?

Everything hinges on *hardiness, adaptation to soils, elevation, productiveness* and *insect enemies*.

The experiences of the past year are the most bitter since the wild Indian raised his own crab apples.

We thought the winters of 1856-7 had settled the basis of *hardiness*.

Our state society have adopted list after list, ever varying to suit some supposed claimant for *ironsidedness*. Now what have we left? The only two kinds of fruit that will succeed on *all soils* and *locations* are "*Irish lemons*" and *white beans*. For favorable locations a few crabs, Duchess of Oldenburg and Wealthy ; not a winter apple to tie to that has fruited for ten years, but is a failure for the general wants of the state ; some soils and locations may succeed with the best ten varieties on our books, but for the average farmer, we have only those mentioned above to recommend — not a winter variety.

What there may be among the seedlings of our own state, already known, requires ten years more of trial and dissemination.

The new Russians are yet an unsolved problem, hardy, subject to blight, tender some of them, mostly early, lacking in quality and size, we must have years of careful experience and not jump at conclusions from a few reports from our most favored locations in the state. Twenty years of careful sifting will only get out the chaff.

From our own seedlings I believe we shall yet find more valuable varieties than most on our recommended lists ; and all honor to the men who are bringing out these new kinds. Our society ought to adopt some rules and regulations that will pay for continuous experiments, dissemination and trials on different soils and elevations, for at least five years of successful bearing on root graft, or their own roots, and not

confine the premiums to *continuous* years of fruiting, as our best varieties fail almost every other year; let the persons competing be required to make exhibitions from at least four different locations and soils widely distant and varying from sand to clay, and let the premiums be large enough to pay for these extended efforts. I would also include plums, pears, cherries and small fruits. Now just suppose we were twenty-five years ahead and had a perfect list, satisfactory to everybody and adapted to *all soils* and alike successful on the mountains of Baraboo, the hills and valleys of Richland and La Crosse, the sands of Portage, the desert plains of Rock, and the garden of Eden about Green Bay. Well, what then? What are you going to do with the apple curculio,* the pest that far exceeds the codling moth, the canker worm, the leaf roller, the tent, and all other caterpillars — worse than the blight, mildew, scab, and all other skin and atmospheric diseases; you say poison him. I hope you can. It is no easy task. Try it. I think the applications must commence with the fall of the blossom, and be continued for two months, and then I think what few apples you have left should be classed as "*small fruits.*" I believe for every bushel of fairly good apples grown in the state this year, there has been an equal amount of knotty, wormy, worthless culls.

If we cannot poison or trap these insect pests, and they continue to increase as in the past three years, we may as well all go to raising "Irish lemons" and white beans.

If this outlook for Wisconsin horticulture is not pleasing, let us compare the recommended lists of our last volume with the facts in successful fruit growing.

The pear is one of my pets, and in my last catalogue I mention this fact that "the most profitable and freest from blights, are those that never leave out."

Of cherries we can by extensive planting and judicious care, grow about every third year enough to last the robins about three days.

We can all have plenty of plums; all we have to do is just

*See Saunders', p. 133.

wait till some successful variety yet unheard of is introduced.

There is no trouble raising grapes if you have just the right kind of soil, elevation, aspects, protection from frosts, and understand the careful culture of the vine, providing the season is favorable, and you have already plenty of vines four years old growing.

I would recommend new beginners to reject all for "trial" except Moon's Early, and all on the "German list" except the first two (2) "Worden" and "Concord."

I see no objection to the list of blackberries if you add "Auc and Briton," and after the uncertainties of the past I would recommend that winter protection be given them *all every time*. Just go down to Ripon and learn how.

The recommended list of raspberries is about right, but if you have only a small garden and do not want to be overrun with suckers of the red kinds, plant only Shaffer's Colossal and Philadelphia.

If I have any particular failing it is failing to grow strawberries. I have failed as yet to grow a thousand bushels per acre. Small patches have produced at the rate of eight hundred bushels, but when you spread out all over a ten acre lot and plant fifty kinds, it reduces the average yield *wonderfully*. I think I can tell after next July whether five varieties will yield a thousand bushels if properly planted and given generous treatment.

The poor, sour, much abused little Wilson stands at the head of our lists, there let him stand; until he is fairly vanquished and driven from the field, he has a right to stay; his greatest fault adds richness to the feast, when properly ripened and well smothered in sugar and cream. *Beside* him plant the Crescent; feeble and *feminine*, she needs his strong arm for her support. Next the Vick, Countess and Piper, and if these five are not enough, order forty-five dozen, one dozen of a kind for trial. Your soil may be *wonderful*, there are *untold fortunes* hidden beneath its surface; with judicious application find its *hidden wealth*.

All it needs is a good deal of common sense, grit, money, muscle, a shot gun and a bull dog. A careful selection of

varieties adapted to the soil, good culture, sufficient winter protection, spring care, no insects, blight or frosts, good crops, good prices, good management, and you are sure to get rich.

THE TREE PLANTERS.

By B. S. HOXIE, Cooksville, Wis.

We read that in the beginning God planted a garden, and out of the ground He caused to grow every tree that is pleasant to the sight or good for food; and man that was created he placed in the garden to dress and till it. And so we find the garden of use, supplying home and happiness, and it would be hardly possible for us to think of a garden without associating with it, in our mind, home and pleasure.

So, if flocks and herds signify possession of profits, they also signify a wandering or nomadic life, as we find they were to the early possessors. So, if an offering of the first fruits of the one, or the firstlings of the flocks of the other was the more acceptable, it must have been from the fact, "If thou doest well shalt thou not be accepted?" rather than from the offering.

The two boys represented in our early history, the one to till the ground and the other to tend the flocks, whether it be a fact or a figure may represent to us two important results — trees and home, flocks and commerce. And whatever we may find of gain in the commercial world, or however extended the travels of the traffickers, it is all brought to the place we call home. And whatever may have been the gains, we seek for contentment under our own vine and fig tree.

The early history of our race, or until the time when men had acquired peaceful homes, gives us very little knowledge of fruit, tree or flower, except the natural productions of forest and plain.

So, to more modern times we look for the world of beauty, subdued and to be subdued for the use of man. And whatever variety of fruit or vegetable we may take, we shall find

that it is only a few years or a few centuries back that it was a wild plant or shrub, which, if now cultivated would hardly be considered as fit food for our beasts. So, then, ours may be considered an art of almost creative power, for by it we change the more common into the beautiful, for from the sour and crooked crab we have produced the symmetrical tree and the rich, juicy apple. We turn the desert into a garden and the waste places into productive forests.

The oldest work that I have any account of in the English language, written exclusively on the growing of forest trees for timber and fire wood, was written by one Arthur Standish, in the year 1613. The Germans and French have many works upon forestry, and the cultivation of forest trees, and no nation has spent more money, or prizes more highly the American forest trees, than the French; and it is said that they can show more and better cultivated American trees in the parks and streets of Paris than we can in any ten of our own cities.

The Earl of Haddington, Scotland, wrote a treatise on forest trees in the year 1760, but it was his wife who weaned him from his dogs and the chase, to the more noble occupation of tree planting, by first planting two or three hundred acres herself under the discouraging opposition of her husband and friends.

But by her pluck she not only had the satisfaction of enjoying the work of her own hands, but also of seeing her husband an enthusiastic tree planter; and the poet says of this brave woman:

“Thus can good wives, when wise, in every station,
On man work miracles of reformation;
And were such wives more common, their husbands would endure it;
However great the malady, a loving wife can cure it;
And much their aid is wanted, we hope they'll use it fairish,
While barren ground, where wood should be, appears in every parish.”

Every civilized nation has given this subject more attention than our own, and in Japan it is both the law and custom, that if a tree is cut down another must be planted in its stead.

It is only within the past forty years that any particular attention has been paid to this subject, or thought given to saving the standing forest trees or planting others, in the United States.

The Smithsonian Institution, which has for its object the collection and diffusion of knowledge, in the year 1858, published a very valuable paper, giving a complete catalogue of the native trees of the United States. The common and botanical names are given, the height in feet, the region of country where found, besides much other valuable information for the tree planter.

Since then various horticulturists, and horticultural societies have called the attention of American citizens to the important subject of saving and protecting our forests; and among these with profound respect I mention the name of Andrew Fuller, who perhaps has done more to awaken thought upon this subject than any other we can mention.

That the planting of forest trees in our own country may not have been considered of so much importance as in the old world is true in measure, because the immense and vast forests in the New England States and many portions of the middle and western, also, were looked upon as a never-ending source of supply. But the time has come when we see the mistake of our prodigality, as the necessity already exists of substituting other kinds of wood in the arts for those once so common. And now many of our state legislatures are offering inducements by way of bounties, and legal enactments, having for their object a liberal supply to future generations of our most valuable timber, both for fuel and artistic uses.

It is a fact very clearly shown that the planting of trees and the protection of timber belts is not only of commercial importance, but it has much to do with climatic influences. The Russians, by the destruction of a large portion of the Trans-Caucasian forests a number of years ago, converted a fertile country into almost a barren waste. While other portions of the old world made unproductive by despoilment of the forests are again being converted into fruitful fields by being replanted with forest trees. And it is said, that the

cultivation of the soil, and the planting of trees upon our western plains, has already had a marked effect upon the amount of moisture in the atmosphere and an increase of rainfall in portions of the country that forty years ago were considered uninhabitable.

These are only a few brief points upon the commercial or climatic influence or importance of tree planting; but there are other considerations which possibly have as much to do with national character as either of these, and which may equally claim our attention as tree planters.

Travelers on the continent, and especially in Germany and Switzerland, tell us that for miles and miles, the roadsides are lined with fruit trees, with occasional rustic benches, where the footman can not only rest, but regale himself with good fruit, without the fear of being driven away as a trespasser. Strangely in contrast with this is our method, in planting at a distance from the highway, and often with a high picket or barbed-wire fence between the fruit and the boys. I have often thought that our custom in this respect was a sad commentary upon our civilization, by putting a premium upon the boys' love for fun and mischief, inducing him to obtain the fruit at all hazards, and to play some trick upon the stingy owner at the same time.

When I set out my own orchard and vineyard a few years ago, upon the only available sight suited to it, but at a considerable distance from my house, I was repeatedly told that I would never get any fruit, because the boys would steal it all. "Well," I said, "I hope to plant enough for myself and the boys, too." And so far I have had no reason to complain of their treatment, and only once have I known more to be taken than to satisfy the present want of the trespasser. And I am inclined to think that if fruit-growers would deal with the boys as some recommend to do with the rabbits—feed them—there would be less reason for complaint, and possibly both we and our trees would be treated with more respect.

I am further inclined to the opinion that some of our fruit trees planted by the roadside, would be quite as ornamental and much more useful than many which we see in the fence

corners. If this is a thought worthy of consideration, you will pardon the digression from my subject.

Every tree, shrub and other plant has its history, and however much we may have learned of its habits and growth, we cannot find the secret spring of its existence, or tell why the fruit of one is sweet and that of the other sour. Neither can we detect that subtle coloring matter which tints the "Maiden Blush," or paints the "Hyslop Crab." We do know that certain causes produce certain results, and that by taking advantage of known laws, we, to a certain extent, form new creations. And so with plant, fruit and flower, by hybridization and cross-fertilization, we have been enabled to produce almost an endless variety of each or either, in distinct species.

Upon a square acre of ground I can produce every variety of fruit, tree and shrub that can be grown in my latitude, and each differing from the other in color, habit form, quality and texture, with other properties just as unlike and varied, while the organic and chemical properties of the entire plot are in perfect distribution. And yet a complete analysis of fruit, vegetables and flowers reveals properties not detected in our examination of the soil. Knowing that these facts exist in nature, we take advantage of that knowledge, and have dominion over the results of our work, and produce a seeming miracle by growing a hundred varieties from one parent stem.

Experienced horticulturists and amateur cultivators of late years, in conformity to known laws relating to tree and plant growth, have produced astonishing results in the way of developing new varieties of fruit and flower. We not only have better sorts, but we have them in greater abundance, and better adapted to each particular location. Indeed, from present indications, we are led to conclude that horticultural science is yet in its infancy. And who can tell what may yet be done in producing new varieties among the trees of the forest?

We look back with a kind of longing for some of the favorite apples of the old home, and a regret that we cannot make them flourish in the new. But these are not vain

regrets, for the loss of the old has stimulated the effort to produce something better, and though we may never expect to cope with California in size, or beautiful appearance of apples or pears, yet in flavor and keeping qualities we very much excel.

I said that we could not detect those qualities or properties in the soil which made of one a tint and another a perfect color; neither have we yet discovered what peculiar quality is lacking from that source, to produce a Spitzenberg equal to those grown in the states of New York or Ohio. But we have learned that there are certain climatic and atmospheric influences which we must put ourselves in harmony with, or wholly guard against to produce the result sought for. And it is this law of likes and unlikes that is constantly stimulating the enthusiast or practical worker in horticultural science to arrive at perfection in all branches of tree, plant or vegetable growth. So there is a satisfaction almost akin to fascination in experimenting for the development of new plants, trees or flowers. And we indulge in a look of pride, almost a reverence for the tree planted by our own hand. A stately elm is growing in my yard which is twenty inches in diameter and fifty feet in height. My own children and a granddaughter have played beneath its branches, and it only seems a few years since, a tiny thing, I balanced it upon my little finger.

Some of you here assembled may, perhaps, be interested in other branches of industry, and as you attend their conventions and listen to the papers read and the speeches made at their banquets which are published to the world, we almost think for the time being that the whole universe depends upon that one industry for its support.

The tobacco growers tell us that they have in the United States over six hundred thousand acres devoted to that crop, worth forty-five million dollars, which all ends in smoke or a filthy pool at our feet. The brewers and distillers tell us of millions on millions of money invested in a business to produce death and damnation, and from which our government derives such a revenue that they must be protected and the traffic never prohibited. Butter and cheese, though quite

useful for food but not indispensable articles like tobacco and whiskey, are put down about the same in value as the weed which we chew and smoke; and we export about the same amount of one as we do of the other, or nearly eighteen million dollars' worth, while the export value of fruit does not exceed three million dollars. Rather a meager showing on paper for an industry when compared with the others. And if the prosperity and happiness of a people can be measured by the amount of money invested or the value of the product, then we who produce the fruit and grow the trees to adorn the landscape are surely at a great disadvantage.

But in order to ascertain the cash value of our fruit product, I wrote, a few days since, to the superintendent of the census department. He replies as follows :

" WASHINGTON, December 28th, 1882.

" DEAR SIR: The value of orchard products, according to the census of 1880, was \$50,733,093. The number of acres devoted to fruit culture not yet ascertained."

Here, we have the estimated cash value ; but who shall sum up the real value, when added to the comforts of life, as set opposite the other articles which I have mentioned.

A number of years ago, when apples were scarce, and costing five dollars a barrel at that, I met a clergyman of my acquaintance on the street, who was just having a barrel taken to his house. " Ah !" I said, " I supposed that ministers, and editors, lived on sawdust puddings and all such attenuated food." " Oh, yes ;" said he, " and have the doctors' bills to pay ; but I and my family prefer apples to pills, we find them more palatable and much the cheapest, if they do cost five dollars per barrel."

And can any of you recollect more pleasurable emotions of early childhood, than that produced by the sight, and taste, of the red cheeked apples?

So, if I should attempt to draw the comparison between the homes of fruit growers, and those who invest their money in the products of the still, and give a measure to the happiness of one, or the misery of the other, it would

not take you very long to decide which of the industries we could dispense with.

I have mentioned the importance of tree culture as a means of climatic equilibrium in condensing, and distributing moisture; but, besides this, there is a value of national importance not taken into the account, when we reckon, by figures, standing for so many dollars. The highest standard by which we can estimate a nation's civilization is its parks, and gardens, and in the adornments of its burial places.

What stranger would think of visiting New York or Philadelphia without a ramble in Greenwood, or Laurel Hill? And if the hanging gardens of Babylon are counted among the seven wonders of the world, Woodward's, in California, or Shaw's, in St. Louis, may be considered the largest and most beautiful of any, in variety of species, showing not only the wealth and taste of their owners and founders, but also conferring upon the citizens of those localities a boon priceless in its influence upon this and future generations.

I cannot close this disjointed paper without mentioning the display of American woods now being placed upon exhibition at the Central Park Museum, New York. This collection embraces specimen blocks from each of the 420 trees indigenous to our country. These blocks are cut so as to show a longitudinal, diagonal, and transverse section of the wood; and the commercial product of each, so far as it can be, is exhibited in conjunction with each variety.

Mr. Morris K. Jessup, who has been to the expense of making this collection, is now having water-colored drawings prepared, representing the actual size, color and appearance of the fruit, foliage and flowers of the various trees on exhibition. This collection, when completed, as it will be in a few weeks, will be the largest and best of any in the world, not only reflecting credit upon Mr. Jessup, but proving of vast importance to the naturalist and the tree-planter.

THE PEAR BLIGHT.*

By H. N. HOFFMAN, Elmira, New York.

The blight which affects pear and apple trees, has been known in this country for more than a century, but its occurrence has been very irregular. It seems to have started in the east almost with the beginning of pear culture, and to have spread westward with the extension of that branch of pomology. It has found its most favorable conditions upon the black, rich soil of the Ohio and Mississippi valleys, and in the basins of the adjacent great lakes.

The earliest records of its appearance in Ohio date back to 1847, but it probably existed there long before that time.

Its first appearance in Indiana was in the year 1844, when it raged violently as it did also the next year; from that time until 1870 it was almost unknown, but then reappeared. Its occurrence in any given locality in the east has been only occasional. In this region it is a phenomenon of recent years. At Ithaca, it appeared first in 1874, in a pear orchard on West Hill. It was not very destructive at first, but for the next two or three years it raged violently, and has been more or less destructive in this vicinity ever since. At present the disease appears in some trees, but does not seem so fatal as formerly.

The usual time of appearance is in July or August, the tree beginning to get sickly in June. Some forms of blight, however, may appear at any time during the growing season. It is often most intense upon first appearance, and decreases as the season advances.

Certain conditions of weather seem more favorable for its development than others. A dry summer, followed by a wet fall in which late growth occurs, is a common preceding circumstance; or more immediately, though not always, upon several wet days following a drought.

* A graduating thesis, read at the 15th commencement of Cornell University, June 2, 1888.

The usual course of the disease is as follows: In the spring the first sign will be the oozing of a thick, clammy sap, from cut ends of branches or from wounds. The tree will put forth its leaves as usual, but soon certain parts become moist and the bark at those points becomes dark colored and shrivelled; the wood under these patches becomes dead for some distance towards the heart. These patches have a watery appearance, due to the sap which oozes from them. It is often so abundant as to run off upon the ground. These spots on the bark spread outward from the starting point. The first leaves reached by this affection die and fall; all the leaves above this point may afterward turn black and wither, but remain firmly attached to the twigs. This may go on until the whole or a large part of the tree is dead.

The course of the disease in different cases is not the same and does not seem to be governed by any laws which usually govern diseases. It may appear first at the upper ends of twigs and run down the branches and trunk; it may begin in the middle of a branch or the trunk and run both ways; or it may simply encircle the stem or a single bud. Occasionally only the main stock of the tree is affected, and again only the branches, or perhaps only one side of the tree suffers.

One form of blight has been called gradual blight, from the manner of its appearance, signs being visible for a week before the tree is seriously affected. Another form, supposed to be of the same disease, is called fire blight. This affects very suddenly; one day the tree may show no signs of disease, and within a few days the whole orchard be dead. Limbs will blacken in a few hours.

One peculiarity of the disease is that it may be easily communicated by accidental or intentional inoculation.

The disease exists in Europe and in that part of the United States lying east of the great plains bordering upon the Rocky mountains. In many places in the south it seems to have become epidemic in the soil and fatal to all trees planted there.

The existence and development of blight depends greatly upon climate, soil, and manner of cultivation.

Climate has undoubtedly some influence, but how great has not been accurately determined. California and Italy are often spoken of as unfavorable to its existence, but the only evidence is its non-appearance in those places. The uniform weather and the dry, sandy soils may be a partial explanation.

No rule can be laid down in regard to soil in which the disease flourishes best; usually, however, it is most destructive upon very damp and rich, loamy soils.

In regard to the method of culture in its bearing upon the disease there is much conflicting testimony. Sometimes upon adjacent plots, trees which stood upon sod were blighted worse than the same variety growing upon cultivated soil. Other experiences show the opposite effects. Altogether the circumstances of soil and cultivation are exceedingly various. The rapidity of growth seems to make but little difference, though it is said that very rapid growth predisposes the tree to attack. At Ithaca, the first trees to be attacked were in the orchard that had been the most highly cultivated and fertilized of any in the region.

The fatality of the disease is also various, as trees may be entirely killed, or only badly injured. There is much difference in varieties, as regards the liability to taking the disease and its fatality. Of the varieties principally cultivated in this region none seems to be so little affected as the Duchess, on which it often appears but rarely damages the tree. The Bartlett, Tyron, Beaurre Gifford, and Anjou, are also very little affected. But the Sheldon, Vicar of Wakefield, Onandaga, Flemish Beauty, Stevenson's Genesee, and Lawrence, are very liable to injury.

In looking for the causes of the pear blight we will understand the difficulty if we remember the extremely various forms and circumstances of its appearance. Several series of careful investigations have been made, with the idea of discovering the cause, but as yet without success. Most of these investigations have been undertaken for the purpose of proving or disproving certain theories; or, in the course of the work, theories have occurred to the investigators and each has attempted to prove his own to be true. With the

multiplicity of forms and conditions of the blight it has not been difficult to explain any of these theories, basing the explanation upon individual cases, but when applied generally many fail completely, and others leave so many things unexplained or include so many points that are not established that they cannot be accepted as proved.

Some theorists have maintained that the insect "*Scolytus pyri*" was the cause, because the boring of the larvæ of that insect produces an effect somewhat similar to blight, but this insect has been known for many years in places where the pear blight proper did not appear.

Downing and others have advanced the frozen sap theory, which is as follows: The second growth, which occurs in a damp fall, does not mature, and is therefore injured during the winter. The sap loses its vitality and becomes thick and poisoned. The sap in the spring dilutes this, and it is then carried to other parts of the tree. The poisoning of the whole tree requires time, hence the late and gradual appearance of the blight in certain cases. This theory is not borne out by the facts. In the first place, it is the opinion of many distinguished scientists that the sap never freezes in a healthy tree. Frost extracts moisture from the cells, and, if the roots do not extend below frost or where they can supply the deficiency, the bark shrivels and the tree often dies. Tender shoots often suffer from freezing and thawing, but the effect is different from the so-called blight. Small blighted spots, such as are often found on the trunk and branches of trees, would be difficult to account for by this theory.

Prof. Brainard put forth a theory giving extreme heat and sudden changes as the cause, but this would cause more blight in warm climates and after extremely hot summers, which is not the case. Extremes of temperature, both high and low, have caused the death of trees, but without blight. Another theory is that electricity is the cause of blight; that lightning either bursts the cells or heats the sap hot enough to burn the tissues, but this theory is entirely unsupported. With the idea that electricity was a possible cause, one experimenter tried to guard his trees against attack by passing a copper wire among the branches of several trees and

connecting the ends so as to lead away all electricity. The trees still blighted without any perceptible difference.

Next comes the fungus theory, with its several modifications. The principal theory is as follows: The blight is manifest only during the growing season, and just after damp and rainy weather. Fungoid spores are very common in the atmosphere at such times, and some of these are inhaled by the plant through the stomates of the leaves. These remain in the circulation until favorable conditions for their development present themselves. If a tree remains perfectly healthy the spores do not develop, but the slightest derangement will produce some decomposing matter in the tissues, upon which the spores seize and develop into a fungus, sending its mycelium through the tissues, and by its poisonous effects and absorption of the juices produces death in the tree. This theory supposes the derangement of the structure of the tree by some physical or physiological causes. It may be brought about by insufficient food, ruptures caused by extremes of temperature, defect of the soil in some essential chemical elements, or a series of circumstances as follows: If the season is quite dry, the whole power of the tree is employed in drawing moisture from the soil. If the weather changes suddenly, and the tree is suddenly immersed in a damp soil and atmosphere, this extraordinary absorptive power does not stop quickly, and the vessels and cells gorge themselves with water and are injured.

This fungus theory is based upon scientific observations made by Prof. Salisbury, in regard to the fungus which he named *Sphaerotheca pyrus*. However, this theory of the entrance of spores through the stomates must be at fault, for no parasitic fungus has never been known to send its spores through the stomates. Spores always germinate on the surface and penetrate the tissues; besides they are larger than the passages in the tree and are not found in the sap of healthy trees. Dr. Hunt, of Philadelphia, examined several specimens of pear blight, and found a fungus which he supposed to *cause* the black color of the bark. The fungus begins on the outside and works in towards the center. He

says that the cells become filled with pigment granules, and these, together with other foreign bodies, often choke up the ducts in the interior of the stem. He does not pretend to name the fungus nor to prove that it is the cause of its disease.

He studied the case from a wrong point of view, making the mistake on the start, in supposing that the black color was the result of fungoid action instead of preceding its appearance. This theory was generally prevalent a few years ago; however, it is not proved. The fungus probably thrives on products that are the results of blight, rather than being itself the cause.

All of these theories depend somewhat upon the supposition of starvation or excess in the plant, and fail to account for cases occurring in trees of medium and healthy growth. It is possible that each of these forces has an effect in certain instances or that combinations of them produce the various modifications of appearance.

The last theory is that bacteria are the cause of this disease. Prof. Burrill, of the Illinois Industrial University, advanced this theory in the autumn of 1880. In making microscopic examinations of the diseases of blighted trees, he repeatedly noticed that the sap of affected parts, also the exudations upon the surface, swarmed with a specific form of bacteria, which he called *micrococcus amylovorus*. In his investigations he found that these organisms spread in the sap from the point where the black spots first appeared, keeping a short distance in advance of the withering of the bark.

Prof. Burrill conducted several series of experiments, with a view to establishing the aggressive character of the bacteria. He inoculated several trees with pieces of diseased bark and sap from infected spots, and formulated the result of his investigation as follows:

“First. This specific micrococcus is always present in blighted parts of the pear and other trees. Second. Inoculation of healthy trees with this organism is, in the great majority of cases, followed by blight, beginning at the point of inoculation and extending in every direction. Third. The

change occurring in the tissues suffering with blight is a fermentation of the starch and perhaps other food products stored in the cells. The cells themselves are not destroyed. This fermentation is exactly similar to that set up by the bacteria in similar products outside of the living tree. Starch itself immersed in water and kept at the proper temperature, is destroyed by this same micrococcus."

In these inoculations it was found to be insufficient to apply the virus on the outside of the bark; it was necessary to puncture the epidermis with a needle or knife. From over one hundred inoculations, in a less number of trees, sixty-three per cent. showed the disease in eight or ten days, while neighboring trees were free from blight. How is this inoculation performed naturally? Cuts in the branches and the punctures of insects may furnish the opportunity of ingress; but how are the germs carried from tree to tree? Prof. Burrill says that this form is seldom found floating in the atmosphere. The only explanation given is that insects may carry the germs. That point has not been proved. Again, Prof. Burrill says that the spread of the disease is slow upon a given branch, because the bacteria spread gradually from cell to cell. Now, under the highest powers of the microscope there are no visible openings or pores through the cell wall, while bacteria appear of considerable size; hence we conclude that the latter cannot pass along with the sap, and since the cell wall remains entirely unchanged, how do they get through? No explanation has been given. Again, why should the bacteria stop spreading, after having attacked a single twig or branch? They are not destroyed by cold, or by the highest temperature reached by the atmosphere. This point is also unexplained. One would suppose that these organisms, which multiply in a few hours, would continue to develop, almost without limit, when once well started in the tissues.

There is a tendency at the present time to attribute a large number of diseases and phenomena indiscriminately to the effects of bacteria and might not this tendency have had great influence in the formation of this theory — turning the scale in a nicely balanced question?

Prof. Burrill is the only one who has made investigations in this line. He is one of the best authorities in this country upon bacteria and their effects, so his conclusions are entitled to great consideration; but, although it is difficult to dispute the points he makes, yet the whole is unsatisfactory as it leaves many points still unanswered. The essential fact upon which the theory rests is not entirely proved, for, although it is found that the bacteria are in the sap and that they accompany inoculation, it is not proved that they are the essential cause; that there is not some poison that is the real destructive agency, leaving the bacteria as a result rather than the cause. This theory has still to stand the scrutiny of the scientific world and the test of time. What are the remedies? is a very important part of the subject. The practical fruit grower would not care what theory of the disease is accepted, if he possessed an infallible remedy. As a natural result of a lack of uniformity in belief as to the cause and circumstances, a large number of remedies have been proposed and tried.

One pear grower accidentally saved the life of a couple of his trees that were badly affected by filling in around them with soil to the depth of two feet. This led him to suspect that the origin of the disease was in the roots, but it is the testimony of the most careful investigators that the roots are never affected except as the infection spreads from the trunk to them. The probable explanation of the recovery of his trees, is that the roots were thus put further beneath the surface, and the temperature and amount of moisture around them were more uniform. Pear trees are always healthier when the roots are made to go deeply. It has often been recommended to give a tonic of some sort. Therefore, salt and iron have been applied to the roots, sometimes with apparent benefit and sometimes without effect.

The best remedy known is to remove all affected parts and destroy them by burning. Blighted limbs should be cut away some distance below the point of appearance, and great care taken to disinfect the knife used, to prevent carrying the germs from diseased to healthy trees. This cutting is usually accompanied by the covering of all wounds with

a protecting coat of linseed oil, and by washing the branches and trunk with some antiseptic wash to cleanse them and to keep away insects. The best way is to prevent the start of disease if possible. We cannot always do this, but there are some principles of general application. In the first place, we should plant only those varieties which are known to be hardy and adapted to the region. The soil should be deep and well drained. There is less liability to blight when the soil is light and only moderately rich. The general treatment of the trees should be such as would produce only a strong and stocky growth; rapid and late growth, that cannot mature before winter, should be discouraged. Whatever may be the cause of this disease, the healthy condition of the tree will give more power to resist its attack.

FARM LIFE.

By Mrs. C. V. LAYTON, Richland Center, Wis.

We read many papers on making farm life pleasant—most of them written in the interest of the young people—“Make farm life pleasant for the children; keep your boys on the farm; furnish your house nicely; build porches and bay windows, and have nice carriages and harness; use your best room, your china and silver every day; cultivate flowers, plant trees and shrubbery; have plenty of holidays;” all most excellent advice if there be a bank account to back it, and if fathers and mothers be not offered up as a sacrifice on the altar of pleasure builded for the young folks. But to many, farm life means a large farm with a mortgage nearly as large, or a small farm nearly covered with timber. It means no china, no silver, no best room, no bay windows, and few holidays—these all looked forward to, perhaps—and in the meantime plenty of hard work.

The first essential to happiness on the farm is to be out of debt, a condition often slow of attainment, generally because too much is undertaken at once. A small farm, cultivated to its utmost possibilities, should be the farmer's ideal. After many laborious and careful years he may attain to broad

acres, which he must ride over to enjoy; but while acquiring them, he is too apt to forget the needs of mind and soul, to become possessed with a burning thirst for gain, which, more than any other that man can acquire, removes him from his likeness to his Creator, and makes him meaner than a brute. He should take papers, but not too many, lest he have no time for books; for newspapers are the salad, books the bread and meat of life.

The second essential of happiness on a farm, is, that the farmer's home, *be* his home, and not the abode of strangers. If he employs men he should build houses for them. Why should a farmer's house be a hotel? Children are imitative. They find their teachers everywhere. They learn more in the family circle, to stamp their individuality for life, than they do elsewhere; then why should farmers bring rudeness, coarseness and want of culture to their table and fireside, as tutors and governesses for their children, and companions for their youth? Let home be a rest and a refuge, not a boarding house.

Clubs or co-operative societies will probably become, in the future, powerful factors in the promotion of happiness on the farm. All who have lived in a dairy country, know the great change in woman's work caused by the establishment of cheese and butter factories. We trust the time will come when laundries and bakeries will be found in every school district, when the work will be done cheaper, better and with more uniformity than at home, and steam, smoke, heat and vexation will be banished to the past—to the days when we used to do our own washing, ironing and baking, and make our own butter and cheese.

Farmers, distant from market, use a great deal of salt meat, having fresh beef only through the winter, and living on salt meat, usually pork, during the summer. Clubs might be formed in a neighborhood, each member agreeing to fatten so much mutton and beef, the date of slaughtering being agreed on, a sufficient number subscribing to keep the whole club in fresh meat the year around, and also to use all without waste.

Lack of social privileges is the greatest drawback to farm

life, but it need not be. Form a literary society, or a suffrage society, or a temperance society in your neighborhood. Make it a duty and a pleasure to attend the meetings; do your best in whatever part is assigned you; meet at private houses, if possible; in order that each may join freely, have no entertainment but the feast of reason and the flow of soul, except, after the regular meeting is over, a dish of delightful small talk, to warm you up for the homeward ride. This for winter; and for all the year, have a church or a school house where you can, not attend service, but, go to meeting—the whole family, babies and all. Keep up your meetings, minister or no minister. You can do your own thinking. All sing together. Some of you can talk; all can read, and depend upon it, you will go home happier, and feel more like doing right all the week, than you will if you lounge about home, reading to yourself in a slipshod way for entertainment only, and perhaps sleeping half the day.

Farmers do not think enough of keeping up the social relations. Good feeling is worth cultivating, and we gain friendship; we consciously or unconsciously bear and have borne for us "the burdens too heavy for mortals to bear" alone. There are those who live to themselves and say they like it. They are sufficient to themselves. Such people must have great resources, and they owe a duty to society to give of their wealth freely. They cannot impoverish themselves if their wealth be genuine. We should be not only willing to give sympathy but to receive it. The truest charity does not always consist in giving, but often in receiving.

In some localities the visiting is done principally by young people, or, if the old visit, it is each other; entertainments are not participated in by old and young alike. Both sides lose by this custom, but the young the most, not only in example in fitting themselves for the coming years, but in pure fun. The wit and humor, jest and repartee of the elders, break up the tiresome monotony of purely physical amusements all set to music and done by rule. Let your children be good dancers if they wish, but teach them to see the folly

of undertaking the amusement as they would a season's threshing, all hands at the machine and working for life, lest they degenerate into dancing automatons, with a vacuum where ideas ought to be crowding in. Teach them the meaning of the word conversation. Don't let it be a lost art, because you live on a farm.

To be happy on a farm you must be healthy, so keep your premises well drained. Learn the use of dry earth as a deodorizer and disinfectant. Have your barns remote from house and well. Keep your cellar clean and ventilated; your house and bedding well aired. Always rest in the middle of the day; never eat hot, greasy suppers, and always remember that the best preventive and cure-all, the best tonic and sedative, the most hope inspiring, and the most ornamental object you can have in the house is sunshine. If masses of trees interfere with it, cut them down; if you are afraid of fading your carpets, don't have any.

Cultivate flowers in your garden and windows, if you have a great love for them, which makes the burden of this earth a light one—a love which will not let you live without them, but if you feel them a burden do not cultivate them because they are fashionable and you admire them. If you truly love them, they will cultivate in you a generosity and unselfishness; next to the love of children, they will open the heart and make it generous and free. A true flower lover should be as incapable of seeing always the price of each specimen as of sitting down coolly to estimate the amount of carbonic acid gas each one consumes in a day.

She will be glad to extend their usefulness in all the circle of her acquaintance, by gifts of flowers and slips. They will be seen not only at the funerals and bridals of her neighborhood, but in the churches and schoolrooms, and the more flowers she gives away the more she has. But if you are weary and overworked, the busy mother of a large family, do not enter very deeply into floriculture, but get away from all the work and worry of living, and out into the woods among nature's darlings, the wild flowers. How they comfort the weary soul! and they are all ready; they don't have

to be planted, or watered, or wed, and they welcome you from every nook and corner.

I lived once in a clearing among forest covered mountains, on the high bank of a rapid river. On one side of the river the sun did not shine half the day, but we rejoiced in the reflected sunshine from the wild hill pasture on the opposite side; and as "spring came slowly up that way" and the ice with clash and roar went rushing out of the river, and the green and gray rocks lost their icy coatings, I aspired to a flower garden, and dreamed over catalogues, and fancied I would have the familiar darlings of the home garden, among the hills and trees. I little knew what I had to deal with; first, the soil, where I failed utterly to even tickle the earth with a hoe, on account of innumerable stones and roots— it had not been disturbed since the deluge. I planted some sweet peas at the foot of a tall stump opposite my door and in a few days there came up a stalwart specimen of "Jack in the Pulpit" wagging his head sagely, as if to say, "this is my parish and you have no jurisdiction." I planted other seeds, but none came up. I threw a paper of pumpkin seeds to the winds, and *they* grew and flourished and hung round golden fruit triumphantly, over the old logs and stumps; and all up the hillside grew the red elder in July, resplendent with scarlet berries, and for every bunch of berries a bird. The Dicentra, the Spring Beauty, the yellow Adder-tongue, yellow, blue, and white violets came to my very door step to greet me. Ferns grew everywhere. Down by the river long colonnades of rhododendrons, equal to the famous ones of Hampton Court, wild roses, columbine and laurel, without end, and the white, pale pink, and deep pink fragrant azaleas made the woodland blush with beauty. So my loss had its compensations. Those summers the flowers, the woods, the hills, the river, were my companions, teachers, guides and friends.

Farmers' wives and daughters, go to the woods and fields for rest and recreation— not alone in summer, but in winter also. The long delightful rambles over the crust, or following the curves of the ice-bound creek and dodging the willows and alders, searching for seed pods, evergreens, bright

stemmed plants! When do we see nature's ability as a sculptor as in winter? Nor is she a mean colorist then — **how** lovely the russet of the clinging oak leaves against the snow, **the soft** yellow of the wheat stubble, the pale straw-color of the withered roadside grasses, the blue and purple bloom of the raspberry branches; **and** when does she execute such dazzling sunsets? Go to her, bless her, **thank her** that near to nature's heart you dwell on a farm!

Business men are in a tread-mill. They have no time for the duties and little for the pleasures of life; a farmer, if he has not too large a farm, is the most independent and ought to be the happiest man on earth. If he is not, discover the tastes of his family; you will find his children sighing for town life and are often of that class who would appreciate most the pettiness and trivialities of such a life, instead of its opportunities for doing and receiving good. Bring up a boy on a farm and it will haunt and charm him always, though he leave it forever. What is Mont Blanc, Gibraltar, Rome, Venice, to him, when he thinks of the dear old farm, of the "Duck Point," "Indian Mound," "Rattlesnake Bluff," and all the familiar nomenclature of a territory large enough once to hold his world. And if he stay on it, he has to make not only the best of it, but the most of it in every sense; to make every foot of it respond with a paying harvest, and to learn to respond himself to every lesson it teaches, to every sermon it preaches, to every poem written in each glancing, glittering leaf, cloud and shadow, sunshine and rain.

Every condition in life has its drawbacks, there is all the work any one can do waiting for him everywhere, and it rests with each individual to say whether he or she will be a noble worker in the great battle of life, cultivating to the utmost of its opportunities the moral, physical and social being, or degenerate, as each one may, into a mere drudge.

BEAUTIFUL HOMES, THE SAFEGUARD OF THE
NATION.

By Mrs. E. Y. RICHMOND, Appleton, Wisconsin.

"The whole of human civilization has its rise and origin in the home," says a noble writer. He might have gone further, and said the pillars of national prosperity rest upon the hearth stones.

Not in mighty armies, in vast navies, in an inexhaustible exchequer, lies the strength of governments, but in the homes and firesides of the land, which are the power behind the throne, more omnipotent than the strength of dynasties.

Woe to that land whose populace own no homes! The denizens of whose Faubourg St. Antoine and Rue de'Corde-liers sit in unkempt misery in their dismal garrets and musty cellars, plotting insurrection and incendiarism, in the mid-night darkness. History clearly proves that where the people throng in hives instead of homes, there may the rulers tremble.

"A home for every man," and "every man's home his castle," is the royal privilege of these unscattered shores, and each house-holder may be prophet, priest, and king of his own dominion, answerable to no potentate on earth, for its supervision, provided he abide by the laws of the land. Each is sovereign in his own right, and the hearth stone beneath his feet is sacred as the marble floors of palaces.

In the inexhaustible acres of this great land, with its corn patches for millions yet to come, with its firesides lighting up the prairie and forest, its free schools and colleges dotting the hill and vale, lie the strength and sinews of the government, its ramparts of defense and munitions of war.

Let us uphold and strengthen these homes of ours, "whether on the prairie lone or in the city full," and while we open wide our doors to the discontented caravans from across the seas, and say to them "come and welcome, there yet is room," shall we not, while we unbar the gates to countless hordes from foreign shores, with their creeds and

isms, their beliefs and unbeliefs, still have respect to the sons and daughters of our soil who are nurtured up at our hearth stones?

Shall we permit without protest the desecration of our Sabbath, the inundations of infidelity and atheism that are poured in upon us from the open dykes of the old world?

It is high time that American citizens, of whatever name or creed, should make a bold stand for the integrity of our institutions, as they were handed down to us by the fathers of the constitution, and not resign our birthright into the hands of untutored aliens, to make and unmake our laws at pleasure, while the wives and mothers of the land stand voiceless without the gates.

Again, shall we permit, without a protest, the wholesale and legalized traffic in strong drink that is being forced upon us by the great tidal wave of foreign immigration that has stranded on our shores. This dark evil that is filling with woe and desolation thousands and thousands of hapless homes in this fairest land God's sun ever shone upon.

Shall we still banish from our politics and from our senate chambers this great question that cries to Heaven for answer? How shall these free hearth stones of ours stand strong and invulnerable if the armed assassin is left to prowl round at the midnight watch?

The tired, old world is all a-weary with the work of this ghoul of darkness, and God has left it to this century to wipe out this baleful shadow from our borders, and if the men of the nation dare not come to the front and obliterate this dire wrong, let them place the ballot in the hands of woman, and with one sweep she will drive the demon back to his Inferno, that we may hold our firesides in peace.

Let us also see to it that these American homes of ours have a pure and righteous representation in the high places of the land, that our councilors are all honorable men, who will not sell our nation for a mess of pottage.

What shall be said of the "princes of the soil" if serfs hold the reins of state in their unsanctified hands!

Let us build well and strongly the fortifications of our

homes, not for this generation only but for all time. God's ages are long and his workers many !

There were giants in the early days, and they have handed down the monuments of their strength and skill—even to these far-off cycles of ours—in the pyramids and sphinxes of the desert and the massive ruins that time has not overthrown.

We stand on a grander plane than did the old builders of the Nile, looking from the pyramids of sun-dried brick across the shadowy centuries overclouded by darkness and superstition.

It is ours to lay the chief corner-stones of a great nation's stability and power, in the superstructure of our homes. Let us lay their foundations well in the imperishable mountain granite, that not even the cyclones of ages shall sweep away. And while we build strongly, let us remember also to build beautifully. "Strength and beauty are in the sanctuaries" of the God of all the heavens, and shall we ignore this in our earthly sanctuaries?

It were far better we pass by some of the rusted shackles we stop to gather by the way-side, than that we should starve the souls of these little ones, launched in amongst us with hearts hungry for love and beauty.

The inventors, artists, and statesmen of the coming century are among the little waifs playing by our firesides. Shall we have intuition enough to discern the young eagles from the ground birds, and wisdom enough to direct their flight aright?

Let us teach the little ones to be home-builders with us. Architects of the hearthstones, with freedom to work out the inspirations God has given them. Shall not He, who teaches the oriole to build her swinging nest in the mountain larches, also teach these busy little fingers to weave their stray designs brought from the gardens of paradise?

The most beautiful home we ever saw was created, not by the gold of a millionaire, but by the educated skill of the children of the household, whose fingers brought out beauty from all they touched, whether from a handful of sea-shells or a bunch of forest mosses.

Such children will be staunch home lovers; few renegades will spring from among them; loyal subjects will they be to the auld fireside, even when their heads are silvered over with the hoary hairs of age; and while wandering the high-ways of earth, their hearts will still sing with Burns:

“I ha’ sat in great halls, ’mang lords an’ fine leddies a’ covered wi’ braws,
When the grand shine o’ splendor has dazzled my een,
But a sight sae delightful, I trow I ne’er spied,
As the bonnie, blithe blink o’ my ain fireside.”

“There’s naught to compare wi’ ane’s ain fireside.”

THE PLEASURES OF HORTICULTURE.

By SAMUEL BARTER.

It is very pleasant and agreeable for the friends and lovers of horticulture to meet together on these lovely June days to confer with each other about the best mode of cultivating and bringing to perfection the various fruits, flowers and vegetables, from the germs, which an all-wise Creator has so bountifully provided for the comfort, prosperity and happiness of mankind.

Horticulture may be profitably considered under three heads, viz.:

Its meaning, its uses, and its rewards. First, as to its meaning or correct definition, an impression prevails that it implies only the cultivation of fruits and flowers. Webster tells us that the latin word *hortus* means garden and *cultura* means culture, so that the word horticulture as rendered in the English language simply means—garden-culture, or the cultivation of a garden.

This enables us to take a liberal and comprehensive view of the subject; there is practically no limit to the size of a garden or the numbers and variety of its productions. While most persons have but a small piece of ground appropriated for use as a garden, others may have extensive lawns and beautifully laid out grounds, interspersed with ornamental

trees and shrubs, and rows and beds of beautiful flowers, which may properly be called a garden. Professional horticulturists may have hundreds of acres of land in use for cultivating and propagating the products of the garden — in fact the newly discovered varieties of the cereals are often propagated and distributed by the horticulturists, so that by taking this liberal and extended view of the subject, we may safely conclude that the cultivation of all the vegetable productions of the earth may be classed under the head of horticulture.

Second, as to its uses the study and practice of horticulture is useful and profitable to us, by teaching us many valuable lessons. One of the most important is the discovery of the fact that all vegetable life must have a germ. What is life? We cannot tell. It is beyond *man's* comprehension. Chemistry, one of the most important and valuable sciences known to man, cannot produce life. This world has unquestionably existed for thousands of years, yet man with all his natural and acquired abilities has been unable to discover or account for the sources of life, aside from what is imparted to us by revelation. Even Ingersoll, with all his flip-pant oratory, dare not say (nor could he substantiate the statement if he did) that there is no Creator. In the flight of his imagination at the grave of his brother, he unwittingly, but beautifully confessed that he could hear the rustle of an angel's wing, thus admitting man's immortality, as it is indicated by the existence and reproduction of all vegetable life.

Man, with all of his wonderful powers and endowments, is not a creator. He cannot create something out of nothing. He can only utilize, propagate, build up and improve on the forces and materials made for him. Who can produce a beautiful rose bud, a choice specimen of fruit, an elegant ornamental tree, or shrub, without having first obtained a germ or the material necessary to bring about that result.

Sir Isaac Newton propounded the principle of gravitation, but he only discovered the workings of that universal law which had been in existence for ages. So, also, with the

principle of vegetable life. We cannot account for it, but it is a self-evident fact that it does exist, as it springs up in response to our kindly care whenever the proper conditions are produced by a suitable supply of plant, soil, moisture, heat and light.

Another valuable lesson taught by the study and practice of horticulture, is that of unselfishness. Who is there among the lovers of flowers that takes pleasure in growing them for himself or herself alone. Why is it that they are usually grown in front of our houses or adjacent to the sidewalk? Is it not because we want the public to share with us in the enjoyment afforded by gazing on their exquisite loveliness?

I have in mind, in this connection, the handsomely laid out grounds of W. Lucas, Esq., situated on the south shore of Green Lake, one of the finest inland lakes in the known world. Mr. Lucas, who is a gentleman possessing great wealth, has expended immense sums of money in the construction of green-houses, aquariums, fountains and statuary, in making extensive walks and drives around and adjacent to his fine residence, and in setting out on each side thereof the most beautiful flowers and shrubs that can be obtained. With an unselfish generosity, characteristic of all lovers of horticulture, he allows the public to visit his grounds, see the flowers, and enjoy the fine view of the lake from "Cote Brilliante." The grounds are frequented by thousands of people every summer who fully appreciate, and are very grateful for the owner's kindness and generosity.

Another of the uses of horticulture consists in growing delicious fruits and vegetables for the use of the family, by learning from the State Horticultural Society and other sources, how to produce the best kinds in the largest possible quantity, and by making our homes enjoyable and attractive to ourselves and the children by surrounding them with beautiful flowers.

The grandest house would be barren and cheerless without flowers. Who is there among us that does not think of the flowers we loved in our childhood days. I have a pleasant

reminiscence of an elegant "moss rose," grown in my mother's garden near the south coast of England, and although thirty years, with all its chequered scenes and experiences, have passed away since I saw that lovely rose, the recollection of it is still fresh and vivid in my memory, and carries my thoughts back to the happy and peaceful scenes of my childhood, when I was comparatively free from the cares and anxieties to which we are all more or less subject in maturer years.

"So shall each unforgotten rose,"
 When far those loved ones roam,
 Call back the hearts that once it moved,
 To childhood's holy home.

The green woods of our native land
 Shall whisper in the strain,
 The voices of our household band
 Will sweetly speak again.

Third, as to the rewards of horticulture. It requires no argument to prove that all who grow an abundant supply of health-giving fruit and vegetables, are fully rewarded by the consciousness of having done their duty in thus providing for the physical wants and enjoyments of their families and friends. But while it is a pleasure to thus supply our material wants, we should not forget to provide for the full enjoyment and gratification of our moral, intellectual and esthetic natures. This can in no way be more successfully accomplished than by the study and practice of floriculture, which is a part of horticulture. It is generally conceded that the companionship of flowers is almost essential to our highest intellectual and spiritual enjoyment. Flowers are a source of joy and comfort to us in every relation of life, from the cradle to the grave. This is proved by the fact that they are so generally used by the people of all countries, especially by the most highly educated and christian nations. Ladies use them to adorn their persons for the purpose of adding to their natural attractiveness. Our homes, our school houses, our halls and our churches are made more beautiful and attractive by the presence of flowers. The

walls of our houses, so much looked upon, are rendered cheerful and pleasant by paper made in imitation of flowers. Business men often use cuts of flowers to attract attention to their advertisements. Flowers, with all their natural beauty and fragrance, are used at weddings and funerals, and presented to mourning survivors to comfort them in their sorrow. They are tenderly laid on the graves of departed friends. More especially are they annually used throughout the length and breadth of this land to decorate with the flora of May, the graves of our heroic defenders, who died that our country might live. What kinder or better appreciated offerings were presented at the funeral of our respected and honored president, General Garfield, than the wreaths and crosses of flowers donated on that occasion, especially those given by Queen Victoria and the emperor of Brazil, in token of their appreciation of the value of his life and services to his country and his race.

To many persons it is difficult to understand how the amateur florist can be induced to devote so much of time and labor to the care and cultivation of flowers, without any apparent profit arising therefrom. To the lovers of flowers and all that is grand and beautiful in nature, the problem is easily solved. They can readily appreciate the happiness and rewards derived from an association with God's beautiful gifts, the flowers. It has a refining, ennobling, cheering, christianizing influence, it teaches us humility and a firm and confiding reliance on the Great Creator, who provides the conditions necessary to the growth and development of our loved and cherished friends, the flower plants.

The experienced florist is conscious of the amount of care and labor necessary in the production of flowers; he knows that his plants require as much care and watchfulness as a fond mother devotes to the guardianship of her lovely child; but if his heart is in the work, he accepts the responsibility, well knowing that he will be richly rewarded for all the labor bestowed.

One of the most enjoyable experiences of the florist consists in observing the gradual and perfect growth and development of the various plants, shrubs and bushes in the

garden. Changes occur every day (sometimes every hour), so that he is constantly instructed and entertained, from early spring until late in the autumn, in beholding the wonderful workings of nature's laws in its tireless course, "without haste, and without rest," patiently bringing forth the leaves and buds and unfolding and perfecting the lovely blossoms. Surely the culture of flowers is a pleasant and profitable employment.

Ladies, on account of their more refined and cultivated tastes, enjoy the sight of flowers more than men, but they do not have the time and strength to battle with the weeds, and protect the plants. Let those of us who are able and have leisure, do our share in aiding nature in the production of the beautiful flowers which God has provided in token of his goodness toward us, and enjoy the rewards resulting from the consciousness of having done something to add to the attractiveness of this beautiful world, so that, as we sit in our cozy sitting rooms, looking out on the cold world, clad in its pure white wintry garb, we will long for the return of spring, when the earth shall be again clad in a mantle of *verdure*, when the buds will burst forth, and the roses will bloom again, to gladden our hearts, and make the pathway of life *purser, brighter and happier*, and be led to exclaim, in the exuberance of our joy, as we walk out among our loved *treasures*: "How wonderful are thy works, O, Lord! In wisdom hast thou made them all."

The following resolutions were unanimously adopted by the convention:

Resolved, That in the name of this convention of the Northern Wisconsin Agricultural and Industrial Association, and the State Horticultural Society, our hearty thanks be tendered to the citizens of Waupaca, for their courtesy and hospitality.

Resolved, That our thanks be tendered to the county authorities for the commodious and comfortable quarters of their elegant public building, which they so kindly granted for the uses of the convention.

Resolved, That the thanks of this convention be heartily extended to the singers who gratified us with their music, and especially to Hon. R. D. Tor-

rey, of Milwaukee, and our appreciation of the success he achieved as a reader, recitivist and soloist.

Resolved, That the thanks of this convention be bestowed upon our distinguished state educator of the people, Prof. Henry, for his labors with us, to the authors of papers read before the convention, and also to the farming public of Waupaca and adjoining counties, for their personal presence, interest and participation in the discussions of this convention.

Resolved, That this convention do recognize, with hearty thanks, the assistance rendered by the local press, and for the general interest they have labored to create.

Resolved, That our thanks as a convention be extended to the railroad authorities for the courtesies extended in reduced rates.

Resolved, That we all go home with the purpose to work that the teachings and influence of this convention may be of practical benefit to ourselves and our neighbors.

DISCUSSION.

Mr. Roe — You farmers, by your presence and the presence of your wives and daughters, have made this convention a success and the best I ever attended.

Mr. Griswold — I would like to have some one tell the farmers the importance of attending these conventions. That is, impress upon the farmers the need of attending these conventions. Since I have been here one farmer, over 50 years old, told me it was the first convention he ever attended. I think he will be here years after this when they are held in any other place. It seems to me quite important that the farmers should attend these conventions. I have been eighty miles to attend the convention at Madison and it well paid me for the little money I paid out and getting acquainted. I would like to hear from Mr. Roe on the subject.

Mr. Roe — I don't think it is necessary for me to impress upon any one present the importance of the desirability of attending these conventions. Your personal attendance here, your hearty and intelligent participation in the discussions which have arisen, show conclusively the interest which you feel in the matter, and I feel convinced that every one here present, ladies and gentlemen, will go home with

purser, higher, stronger purposes for after life; that in our home life, that in our farm life, that in our whole life we will strive to make better, truer men and women and make a better record for our life's work.

Mr. Griswold — When our hands are not profitably employed we should attend to the cultivation of our minds. I think there is hardly ten minutes passes in the month but, when I am not at work, that I catch up a paper. In the winter, when I come in to warm my feet, I take up a newspaper. I think the farmer should teach the boys in their leisure moments to love to read. That is the way to acquire an interest in farming by reading the agricultural papers.

Mr. Levissee — I have heard the gentlemen express their thanks for the kind attention of the citizens of Waupaca and surrounding country; but what should be the feelings of the citizens here towards the gentlemen who have come here and entertained us and given us so much instruction. I speak a hearty vote of thanks. It has been two of the happiest days I have spent since I have been in Waupaca county and I want to express my hearty thanks which, I believe, all here are ready to do. I am glad that the convention has been held here.

On motion, a vote of thanks was passed to the ladies and gentlemen from abroad attending the convention.

Mr. Hazen — I would, in behalf of the Northern Wisconsin Agricultural Society, extend an invitation to you to attend our fair and bring your exhibits. We are thankful for the exhibits we have received from the northern part of the state. We got up as good an exhibition in our northern fair, at least some years, and better last year than the state fair. We are working for the interest of Northern Wisconsin — this county with several others. We expect to see you there with your exhibits. This is the annual gathering. We meet in one place to hold our fairs. Once in the season we get together and have a pleasant week, and usually a profitable one. It is worth taking time to get together and meet old friends, and we hope to see you all there on that occasion to help us all you can. This fair is what the people of

Northern Wisconsin make it. The officers cannot make a fair alone.

Mr. Huntley — I have been superintendent for many years in the vegetable department, and this is the banner county of the state, and especially in the matter of potatoes.

Mr. Randall — We in Outagamie county, in the town of Grand Chute, have an association. We have what is known as the Farmers' Industrial Association, composed of twelve families in our town. One of the members entertains the other eleven. We meet the first Monday of each month at 11 o'clock. We come as guests. Just as soon as the table is cleared we call the meeting to order at 2 o'clock, and spend two hours in discussing farming questions and questions that pertain to the household.

Mr. Flower — I regard these conventions as a school for the farmers of Wisconsin. I wish we could get in the habit of holding such conventions in almost every county in the state, and I think we would build up an interest in the minds of the farmers that will very materially increase their prosperity in the future. These meetings in this state can be attended in the winter with a good deal of profit to the community at large. We are at the point where the wee small profits on our produce have to be husbanded in order to be prosperous, and it is through the little savings that we can make here and there that will add to our prosperity, and it is by comparing notes with each other of this mode and that mode of husbandry, that we make little savings in the expense of culture or that we get larger profits. The fact is, there is a class of people in this country who study nothing else only to secure the profits of the farmer. There is an absolute necessity for the farmer to look well to this subject in order to secure such a share of the profits of his labor as he can. It belongs to him. It is his product, and should not be wrested from him as it is by the managers of these great monopolies. The legislatures of our country are actually built up in the interest of the monopolies. They are paying large amounts of money to secure certain bills in the legislatures and congress to build up their interests.

Mr. Huntley — Is there any gentleman here engaged in

dairying that can tell us whether he has green food in the winter; if so, what it is, or, if he uses anything as a substitute for green food?

Mr. Flower — I believe I can say a little something on that point. There is a gentleman down near Whitewater that I have talked with a great deal. He used to grow a great many roots for his cows, but he said the boys found it so tedious to handle them. He said, he did not believe he got a pound of butter more in using the roots than he did without them, but he thought the health of his animals was better and they lasted longer in the flow of milk than they did without. It was not well to feed them in very cold weather, but a feed of roots once in a while to his dairy stock was beneficial.

Mr. Randall — I feed my stock ensilage twice a day. The cost of my silo was about one hundred and fifty dollars, including the horse power and cutting machine. I can cut a ton of corn fodder with one horse in twenty minutes. One time we got in a ton of clover in about forty minutes, and it cost me no more than to put the hay in the mow. One of my animals showed a disposition not to take it after the first month; then I shut off. By feeding ensilage I can produce just as much foam on the milk in milking as in the months of June or September. The milk appears about the same as it does in mid-summer. There is just as yellow butter on my table as there is in June or September. It is fine in flavor, yellow in color, and I don't know but it is just as good a quality. If any of you want to use ensilage you want to get a silo like Prof. Henry and make no mistake.

Mr. Smith — I want to say one word on the subject of Prof. Henry not having any scholars at his agricultural school. He is not without classes. He is going around all over the state. He was at Arcadia. He had a large class there. He went from there to Whitewater. There he had another class. This week he was at Stockbridge, and had another class there. Yesterday and to-day he had a class here. A good many of your heads are getting white like my own; still we are learning something. To-morrow he goes to Neenah. There he has another class. He is getting

a good many classes among the old men and a great many of the grey headed men are still learning. I am sorry there are not more young men, but when he has graduated us old fellows I think there will be some young men to follow us.

Prof. Henry — It is hardly true to say that friend Smith is always mellow, because that has a bad meaning; but to say that he is always genial, and brings peace and happiness wherever he goes, that is true. I know of no man who has spent more of his time and money in going to conventions, than J. M. Smith, of Green Bay.

I want to say to the farmers, you can get your boys interested in an agricultural education, although you can not send them to the college. I can help them. If any of the young men will write to me, I will give them the titles of books that they can read and get a good agricultural education at home. I know of a farmer in this state, forty years of age; he never was inside of a school house after he was nine years of age, who is a good student of botany. He worked constantly on the farm and had no means to help him. He took up the subject of botany. He took up the subject of the spring flowers, then trees, then grasses, then ferns. If you were at his house in the summer and walked through the fields, he would be able to tell you the scientific names of the flowers and weeds. He went through the subject completely. I suppose he knew the names of the plants better than a good many teachers in our colleges. He wrote to me a few years ago that he wanted to take up the subject of chemistry; what book would I advise him to read. I don't know what progress he has made, but I know a man that has made that advance in botany will get along in chemistry. If you can not send your boy, write to me and I can help him. You can arrange it at home. If you can not get the proper text-books, I will help you. My correspondence is very large, and they are almost all from farmers in regard to books, in regard to crops and seeds, and all those things. I wish you would think this matter over and see if I can help you. I don't wish you to think that I consider myself essential, but if I can help you I am willing to do so. When you come to

Madison I want you to visit the Washburn Observatory and visit the experimental farm. I am only a factor in the agricultural department; Prof. Armsby is my equal in the work. Besides us, there is Prof. Trelease. We three are working together. The regents have seen fit to send me around among the farmers; I can't promise to go to any place this winter. If you are too poor to pay my expenses, I will come free of all charge. Now, friends, do not let us go home and lose the good influences that should grow from this meeting. You are brothers in this work. There is an intense desire for reading, and a disposition and determination to keep up. We have had hard work, but it is pleasant. If the the boys are not worked too hard they will stay on the farm; I think you would be happier yourself if you would take more rest. In getting away from home and from the farm, and not thinking about stock all the time; getting out of the house, not seeing the dishes all the time, seeing the crops; when you get back they look better, and you think more of your stock; you put in a little more feed. I believe there is no class on the earth that is advancing so rapidly as the farmer. He should. Look at the rich soil. When trouble comes, as it certainly will, great social troubles that will remodel society like an earthquake, I think the salvation is in the agricultural people that are scattered abroad throughout the land.

Mr. Huntley—I want to say a word to the farmers about being selfish. If you can't attend the convention send the better half. I happened to think of that, because Prof. Henry spoke about dishes. It is a good thing I know for the inside of the house to get away from the dishes. Mrs. Huntley goes sometimes when I don't go, and it always does more good than when any other member of the family attends. If you can't go, send the wife, and it will do more good if she rests two or three days, and it will not be any loss of money, but will come back to you in happiness, and the children and the mother will be the better for it.

Mr. Roe—Not only send the wife, but send the daughters and send the boys along to beau them.

Mr. Holmes — There is one thing in behalf of Prof. Henry. I generally receive a circular from the experimental station or from the state agricultural department, and I most generally try to get them in the papers, but I know it is a universal fact that our printers throughout the state throw them in the waste basket, and I must say I have been guilty of that myself; but in the future, after coming out to this farmers' convention and listening to the important discussions and seeing the great interest that the farmers display in this matter, I pledge you my word, Prof. Henry, that I will never throw anything in the waste basket that you send. It shall have the first claim on my attention and free gratis. I hope that this county will see that they not only have a county organization to hold a convention, but let every township organize. I am a new-comer. I feel an interest. I came here to live, and I hope to work for the good of the farmers and the people generally.

Mr. Griswold — I think this must be something like a protracted meeting. I think there must be some converted in this meeting. I feel that some are benefited and I feel paid for my time.

Prof. Henry — It is a good deal like our Christian friends. They get converted every winter and backslide every summer.

R. D. Torrey recited a piece entitled "The Farmer's Wife."
The convention then adjourned.

METEOROLOGICAL RECORD FOR THE YEAR 1883.

Furnished by K. M. Hutchinson, Oshkosh Wis.

JANUARY.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	- 8	5	2	Clear.	Snow fell in evening. Cloudy days during this month. The greatest depth at one time was eight inches which fell on the 16th and 17th. The least varying from 1 to 4 inches. Whole depth for the month, 28 inches. No January has been so cold since 1875.
2	- 9	13	1	Clear.	
3	0	3	- 3	Fair.	
4	-13	3	1	Snow.	
5	7	27	15	Snow.	
6	10	23	20	Snow.	
7	- 1	16	5	Fair.	
8	-11	- 2	- 5	Clear.	
9	-19	8	2	Fair.	
10	4	17	15	Snow.	
11	9	17	10	Clear.	
12	3	18	15	Cloudy.	
13	18	31	15	Cloudy.	
14	-13	0	- 5	Clear.	
15	-17	1	0	Clear.	
16	- 5	16	11	Snow.	
17	12	28	19	Snow.	
18	- 3	13	11	Clear.	
19	17	32	10	Snow.	
20	-11	- 2	- 6	Snow.	
21	-29	-12	-20	Clear.	
22	-32	-17	-20	Clear.	
23	-31	-15	-16	Clear.	
24	-11	9	0	Fair.	
25	-19	- 2	- 5	Clear.	
26	- 9	18	15	Snow.	
27	13	30	20	Clear.	
28	2	21	17	Clear.	
29	6	20	16	Clear.	
30	24	38	20	Snow.	
31	8	24	3	Clear.	

FEBRUARY.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	-22	- 7	-10	Clear.	On the 2d and 3d, three inches of driv- ing snow.
2	-13	2	- 8	Snow.	
3	4	7	5	Snow.	Thunder shower on the 15th.
4	-10	4	- 4	Clear.	
5	-22	0	- 3	Clear.	Four inches of snow on the 24th.
6	-10	10	15	Fair.	
7	0	16	10	Clear.	
8	- 5	16	15	Clear.	
9	2	11	9	Clear.	
10	-11	19	14	Fair.	
11	13	33	22	Clear.	
12	- 1	22	18	Clear.	
13	3	24	24	Clear.	
14	25	31	30	Sleet.	
15	25	47	35	Fair.	
16	33	38	37	Rain.	
17	5	14	10	Clear.	
18	- 6	16	17	Fair.	
19	10	23	20	Clear.	
20	23	32	27	Clear.	
21	6	22	25	Clear.	
22	13	26	23	Clear.	
23	1	26	22	Fair.	
24	21	28	24	Snow.	
25	19	42	25	Fair.	
26	7	32	19	Clear.	
27	7	40	33	Clear.	
28	21	50	38	Clear.	

MARCH.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	25	48	44	Clear.	Three inches of snow on the night of the sixth. Three inches snow on the 18th with high northeast wind. Two inches of snow on the 25th.
2	25	38	29	Clear.	
3	15	30	59	Clear.	
4	17	25	20	Clear.	
5	2	38	28	Fair.	
6	20	37	30	Fair.	
7	— 3	14	13	Clear.	
8	5	38	31	Clear.	
9	25	50	40	Fair.	
10	24	38	28	Snow.	
11	14	32	28	Clear.	
12	14	48	36	Clear.	
13	21	40	42	Clear.	
14	31	46	42	Clear.	
15	15	29	25	Clear.	
16	9	37	26	Clear.	
17	17	44	41	Clear.	
18	20	20	12	Snow.	
19	— 3	21	13	Clear.	
20	2	20	20	Clear.	
21	3	22	22	Clear.	
22	16	34	32	Cloudy.	
23	14	30	29	Clear.	
24	20	38	40	Clear.	
25	30	46	38	Sleet.	
26	20	51	39	Clear.	
27	23	49	38	Cloudy.	
28	19	47	36	Fair.	
29	22	42	35	Fair.	
30	19	42	32	Fair.	
31	18	46	29	Fair.	

APRIL.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	18	29	30	Clear.	Thunder shower, followed by light snow and high wind on the night of the 10th. Heavy rain and light wind the 14th and 15th. The summary of the past winter is as usual made up at the end of the present month. It has been a season of great zero weather. The average cold of January was greater than that of 1875, but February was several degrees warmer. March and April don't differ materially from other years. There has been the usual prevalence of cold north and northeast winds. The opening of navigation on the 18th was hastened by the severe gale on Saturday the 14th, which cleared the lakes of ice and did much damage in the country, leveling farms, unroofing barns, etc. Amount of snow fall the present winter is as follows: November.. 3 inches December ..14 inches January ...28 inches February... 7 inches March..... 8 inches — Total....60 inches
2	25	33	35	Clear.	
3	34	41	38	Sleet.	
4	36	50	48	Cloudy.	
5	37	42	39	Cloudy.	
6	36	48	43	Fair.	
7	38	48	47	Clear.	
8	45	40	53	Clear.	
9	45	66	62	Clear.	
10	38	52	47	Cloudy.	
11	30	47	52	Fair.	
12	45	59	55	Cloudy.	
13	45	55	53	Cloudy.	
14	53	78	74	Rain.	
15	54	55	50	Cloudy.	
16	59	52	56	Clear.	
17	58	65	63	Fair.	
18	48	58	52	Fair.	
19	50	51	55	Fair.	
20	45	55	57	Cloudy.	
21	45	56	50	Fair.	
22	38	41	43	Cloudy.	
23	37	37	38	Clear.	
24	50	55	49	Clear.	
25	52	54	55	Clear.	
26	44	55	57	Clear.	
27	40	59	60	Clear.	
28	37	40	40	Clear.	
29	46	51	52	Clear.	
30	45	47	49	Clear.	

MAY.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	40	60	58	Cloudy.	Very heavy rains the 8th, 9th and 10th. Fourteenth, cold N. E. rains all day. Nineteenth, high, southwest winds. Day full of heavy showers without lightning. Tornadoes in southern portion of the state. On the 20th, snow on Lake Superior. 21st and 22d, cold, with wind. Balance of the month comfortable, with much rain.
2	41	40	40	Cl. & Rainy	
3	36	40	40	Cloudy.	
4	30	45	39	Cloudy.	
5	40	52	57	Fair.	
6	44	64	59	Rain.	
7	62	66	61	Fair.	
8	47	55	52	Rain.	
9	38	45	29	Rain.	
10	40	42	48	Rain.	
11	44	48	52	Clear.	
12	43	50	58	Clear.	
13	50	61	49	Cloudy.	
14	40	40	38	Rain.	
15	40	56	64	Rain.	
16	42	61	63	Clear.	
17	50	69	62	Cloudy.	
18	55	70	76	Rainy.	
19	66	78	69	Rainy.	
20	48	57	45	Rainy.	
21	33	45	47	Rainy.	
22	36	51	55	Clear.	
23	40	63	65	Cloudy.	
24	60	70	65	Rain.	
25	58	65	65	Clear.	
26	50	68	69	Cloudy.	
27	54	59	63	Rain.	
28	50	70	70	Fair.	
29	50	67	65	Clear.	
30	52	58	57	Rain.	
31	44	64	64	Clear.	

JUNE.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	54	71	73	Clear.	Seventeenth, a fearful rain. First half of the month much rain. Crops backward. Last half of the month moderate rain and warm.
2	60	78	73	Fair.	
3	62	68	60	Rain.	
4	55	70	67	Clear.	
5	55	77	78	Fair.	
6	66	79	78	Fair.	
7	60	74	75	Fair.	
8	60	84	70	Cloudy.	
9	58	66	66	Rain.	
10	54	65	58	Rain.	
11	56	75	65	Rain.	
12	60	78	74	Clear.	
13	52	66	67	Clear.	
14	54	74	72	Clear.	
15	60	77	76	Fair.	
16	67	72	78	Cloudy.	
17	69	77	69	Rain.	
18	65	73	72	Rain.	
19	62	67	71	Rain.	
20	65	78	75	Fair.	
21	68	80	80	Fair.	
22	68	88	80	Fair.	
23	80	87	83	Fair.	
24	65	85	76	Rain.	
25	54	60	61	Cloudy.	
26	68	72	75	Fair.	
27	61	74	75	Fair.	
28	64	80	78	Fair.	
29	71	88	78	Clear.	
30	62	76	76	Clear.	

JULY.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	68	83	85	Clear.	Seventh, very heavy rain. Tenth, heavy rain and hail. There is no use talking about the weather, and yet there is nothing so remarkable in all the world, not even the telegraphers' strike compares with it. When we contemplate that it has rained on an average about every day since snow went off the ground, and when one figures that there is everything pending on the weather relative to the securing of the hay crop of the coming harvest, the situation is even discouraging. If not hourly, the rain is nightly and sometimes daily, and is threatening about all of the time. The transformation from silver moonlight to pouring rain, and from rain to hot, streaming sunshine, and from sunshine back to pealing thunder and flashing lightning, is only the panorama of a few hours, only to be repeated night after night, and day after day, until wet from beneath, wet from above, wet to the right of us, wet to the left of us, and wet all over us is the constant order of things.
2	72	84	85	Clear.	
3	76	93	79	Cloudy.	
4	70	76	83	Rain.	
5	70	82	80	Fair.	
6	68	88	84	Showers.	
7	51	67	63	Cloudy.	
8	58	66	63	Clear.	
9	58	68	72	Clear.	
10	66	82	74	Showers.	
11	64	85	80	Clear.	
12	65	80	77	Rain.	
13	58	68	68	Clear.	
14	65	78	68	Rain.	
15	65	76	68	Fair.	
16	65	71	81	Rain.	
17	58	71	64	Cloudy.	
18	68	71	70	Clear.	
19	61	73	70	Clear.	
20	60	77	78	Rain.	
21	69	83	74	Rain.	
22	68	75	71	Rain.	
23	67	73	71	Rain.	
24	64	74	77	Clear.	
25	78	78	77	Rain.	
26	45	83	77	Rain.	
27	67	79	72	Rain.	
28	57	71	69	Clear.	
29	62	70	71	Clear.	
30	60	75	74	Clear.	
31	61	79	77	Clear.	

AUGUST.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	71	83	79	Clear.	
2	59	74	70	Clear.	
3	58	72	67	Clear.	
4	54	75	67	Rain.	
5	56	74	72	Clear.	
6	56	71	69	Clear.	
7	56	75	71	Clear.	
8	56	75	74	Clear.	
9	58	80	73	Clear.	
10	62	78	74	Clear.	
11	66	83	79	Rain.	
12	68	72	67	Cloudy.	
13	51	69	63	Clear.	
14	55	73	66	Clear.	
15	52	72	66	Clear.	
16	59	80	77	Clear.	
17	67	87	76	Rain.	
18	69	87	82	Clear.	
19	70	88	85	Clear.	
20	60	75	74	Clear.	
21	62	80	81	Clear.	
22	76	79	72	Clear.	
23	50	69	68	Clear.	
24	54	73	71	Clear.	
25	60	78	76	Clear.	
26	56	68	66	Clear.	
27	58	67	64	Rain.	
28	61	70	68	Clear.	
29	52	70	69	Clear.	
30	60	77	75	Clear.	
31	66	81	75	Clear.	

SEPTEMBER.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	67	81	78	Clear.	Heavy frost the 9th and 26th.
2	64	74	66	Clear.	
3	54	73	68	Clear.	
4	60	72	68	Clear.	
5	46	64	64	Clear.	
6	50	72	65	Rain.	
7	59	51	45	Cloudy.	
8	36	55	52	Fair.	
9	38	60	55	Clear.	
10	43	63	51	Clear.	
11	49	67	67	Clear.	
12	48	69	67	Clear.	
13	50	70	68	Clear.	
14	59	73	73	Clear.	
15	62	80	78	Fair.	
16	67	65	75	Fair.	
17	40	68	63	Fair.	
18	49	64	60	Fair.	
19	52	66	65	Fair.	
20	57	61	64	Rain.	
21	54	64	59	Cloudy.	
22	48	60	60	Cloudy.	
23	59	67	64	Cloudy.	
24	35	60	58	Cloudy.	
25	44	53	50	Clear.	
26	41	57	56	Clear.	
27	47	61	56	Cloudy.	
28	42	47	44	Cloudy.	
29	39	51	49	Cloudy.	
30	35	52	54	Clear.	

OCTOBER.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	33	54	45	Fair.	Wet snow on the 13th.
2	36	53	53	Fair.	
3	34	46	47	Clear.	
4	33	50	50	Fair.	
5	46	53	50	Cloudy.	
6	49	58	54	Cloudy.	
7	48	62	60	Clear.	
8	50	69	72	Cloudy.	
9	68	70	65	Cloudy.	
10	52	63	57	Clear.	
11	48	61	58	Cloudy.	
12	45	50	46	Rain.	
13	38	40	34	Snow.	
14	32	44	43	Clear.	
15	30	44	43	Clear.	
16	34	49	45	Clear.	
17	41	50	50	Cloudy.	
18	58	62	60	Fair.	
19	44	55	49	Fair.	
20	27	39	33	Fair.	
21	32	38	35	Cloudy.	
22	33	45	40	Cloudy.	
23	34	45	40	Cloudy.	
24	30	41	39	Cloudy.	
25	35	42	42	Cloudy.	
26	35	45	43	Cloudy.	
27	42	53	53	Cloudy.	
28	45	50	53	Cloudy.	
29	46	50	48	Cloudy.	
30	39	50	45	Clear.	
31	35	42	35	Clear.	

NOVEMBER.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	26	37	38	Clear.	Blackbirds had not all migrated the 4th. Thunder showers on the 5th. High south west wind. Sudden cold. Lake and river frozen over on the 11th. Two inches of snow on the 21st; very heavy rainfall with thunder and high wind on the night of the 28th.
2	22	41	42	Clear.	
3	30	52	47	Clear.	
4	30	45	51	Fair.	
5	50	61	56	Rain.	
6	32	36	38	Fair.	
7	31	38	40	Rain.	
8	32	50	47	Fair.	
9	42	48	43	Clear.	
10	33	43	42	Clear.	
11	35	42	28	Clear.	
12	15	28	27	Fair.	
13	28	38	25	Fair.	
14	7	15	14	Fair.	
15	6	15	14	Fair.	
16	1	15	18	Fair.	
17	19	36	35	Clear.	
18	26	43	40	Fair.	
19	34	47	43	Fair.	
20	44	52	51	Rain.	
21	34	38	35	Cloudy.	
22	30	40	32	Cloudy.	
23	30	37	37	Cloudy.	
24	35	52	36	Cloudy.	
25	38	42	40	Cloudy.	
26	25	24	16	Clear.	
27	13	31	30	Clear.	
28	20	25	23	Rain.	
29	23	34	32	Cloudy.	
30	24	31	28	Cloudy.	

DECEMBER.

Day.	7 A. M.	12 M.	5 P. M.	Weather.	Comments.
1	31	42	40	Clear.	Twenty-fourth, two inches of snow; twenty-seventh, one inch of snow.
2	13	19	18	Clear.	
3	14	29	28	Clear.	
4	30	41	35	Clear.	
5	20	38	31	Clear.	
6	34	41	39	Rain.	
7	46	51	42	Rain.	
8	29	33	25	Cloudy.	
9	22	35	32	Fair.	
10	31	35	30	Fair.	
11	29	42	40	Clear.	
12	28	40	38	Clear.	
13	33	42	39	Clear.	
14	20	19	11	Clear.	
15	6	14	10	Fair.	
16	7	15	10	Fair.	
17	- 3	8	7	Snow.	
18	- 2	6	- 3	Clear.	
19	-16	- 5	- 8	Clear.	
20	- 7	9	5	Cloudy.	
21	3	15	15	Fair.	
22	- 3	9	0	Cloudy.	
23	13	23	25	Snow.	
24	14	20	21	Clear.	
25	8	20	18	Clear.	
26	26	33	29	Snow.	
27	2	11	6	Fair.	
28	2	15	14	Fair.	
29	9	20	20	Cloudy.	
30	19	28	23	Cloudy.	
31	18	20	24	Cloudy.	

THE WOOL RAISERS.

ANNUAL MEETING OF THE CENTRAL WISCONSIN ASSOCIATION.

There are comparatively few people who appreciate the importance of the sheep-raising industry of the country, or the amount of capital that is invested in it. Many a farmer's crop of wool brings him in more money than all his other products put together, and with all who keep sheep in any considerable numbers, the annual wool sale swells the cash receipt accounts more than almost anything else does. And there is as much clear profit in it as in any branch of farming. The wool growing farmers are as independent as any class. They make more money, and make it easier than those who attempt to raise grain to sell, and they can depend with a good deal of certainty on being able to sell for such a price as will leave them a profit.

There is never a failure in a crop of wool. A few hot days may wither a crop of wheat or other small grain. A frost will spoil a promising crop of corn, or a rot will make a potato crop useless; but nothing keeps wool from growing if the sheep are fed, unless some disease breaks out among them and kills them off. And Wisconsin breeders have been troubled as little with things of this kind as those of any section of the country.

This latitude seems to be specially adapted to successful sheep raising, and the farmers have taken advantage of this fact. Central Wisconsin is to-day the best wool growing quarter of the state.

Last year, the Northern Agricultural and Mechanical Association having offered pretty liberal premiums on sheep, some of the old breeders of Walworth and Waukesha counties, men who have for twenty years had reputations as suc-

cessful breeders that extended far beyond the limits of their own state, came here with the choicest animals, expecting to sweep the boards of all premiums, sweepstakes as well as the rest. But they found they had underrated their competitors, and that the premiums staid right here. It was no disgrace to those breeders, though, to be beaten by the animals they found here. They had never seen such sheep before, except in Vermont, and went back home rather crestfallen. They had helped to make one of the finest shows of sheep ever gotten together in the state, and had brought animals here that it was an honor to central Wisconsin to be able to beat. But it did it.

The sheep breeders of this portion of the state organized an association four years ago, known as the Central Wisconsin Sheep Breeders' and Wool Growers' Association. It has met annually since, at Ripon, and has spent a day in shearing sheep belonging to different ones. A meeting of this kind was held on Friday, April 25th.

The day was as pleasant as could have been desired — too pleasant in fact to allow a great many farmers to attend. The lateness of the season has kept seeding back until every good day now is worth a good deal. Had the season been ten days earlier, there would have been a big crowd at the meeting. As it was there were twenty-five breeders in attendance, and enough sight-seers to swell the company to more than two hundred during the day. It was a busy day and one full of interest for anybody who has any taste for the business in hand. The floor was occupied by twelve or fifteen shearers, and among them were moving anxious owners and interested spectators. Shearing began at 9 o'clock, and the first fleeces were ready for doing up at 10. One good shearer worked on a ram of T. F. & C. D. McConnell from that time till after 3 o'clock in the afternoon — over six hours.

Among the prominent breeders present were J. B. Morrison, of Waukau, who had a party of seven very fine yearlings, and two rams, two and four years old; H. B. Reed, of Metomen, with six; E. Stewart, from five miles south of Ripon, a very careful and conscientious breeder, with three;

O. B. Knapp, of Brandon, with a party of as handsome delaine wool sheep as were ever seen; E. T. Corliss, with one thirteen months ram, that sheared the heaviest yearling fleece ever cut on the ground — twenty-six pounds fifteen and one-half ounces. E. G. Stone, of Fisks, with five handsome animals; U. Wood, of Brandon, with three white wool delaine; T. F. & C. D. McConnell, with a party of fourteen that cannot be beaten in Wisconsin, and R. T. Rich, of Rush Lake, with eleven.

All of these breeders are getting into registered stock as fast as possible. They are members of the Vermont Association, and have their stock registered there. There are many good breeders in the state who have stock about as well bred as any, who are unable, on account of pedigree, to get their stock entered in the Vermont registry, and to supply this lack, an association or two have been organized in Wisconsin. This is a good thing, but it does not give a breeder the tone that a membership in the Vermont Association gives him.

The McConnells, T. F. & C. D., have more money in sheep than any of the other breeders in central Wisconsin. They have a flock of one hundred registered animals, and ten or eleven hundred high grades. They have been in the business of breeding pure-bred sheep for about fifteen years, and have contributed as much, probably, as any men in the state to the improvement of this class of stock. They go to Vermont frequently, and, having the means to invest, bring back with them only the very best animals to be found in the market. One of these importations, the noted ram Bacchus, has raised the grade of McConnells' flock many per cent. He is a fair sized, handsome animal, woolled on every square inch where wool grows on a full bred Spanish Merino. He is now three years old, weighs in fleece one hundred and thirty-eight pounds, and sheared this season twenty-two pounds thirteen and one-half ounces. He took the first premium at the Northern Fair in 1883, for ram showing ten of his get. The great point about this animal is the uniformly splendid proportions of his get. "Broker," one of his his two-year old rams, is as handsome an animal as

was ever seen in the west. He weighs in fleece one hundred and fifty-eight pounds—twenty pounds more than "Bacchus," and cut a handsome fleece that weighed cut twenty-nine pounds nine and one-half ounces, and this, let it be understood, was a growth of three hundred and fifty-six days. He is stylish and as strong as a horse, with a constitution that will stand him to a good old age. This ram is sure to be heard from in the future.

"Bacchus" gives the same marks to all his lambs, and there is nothing that adds so much as this to the beauty of a flock. He is a son of Rich's "Banker," out of a pure Spanish merino ewe. The McConnells follow the fashion of heavy fleeces, and great size and strength of body. More ought to be said about their stock but space forbids. The McConnells' address is Ripon.

Mr. O. B. Knapp, of Brandon, is a careful breeder. He goes in for big fleeces of white wool, without much foreign substance in them. He showed one eight year old ewe that sheared sixteen pounds of white, clean wool last year and raised a lamb. His flock of twenty-eight, all registered, sheared on an average fourteen and one-half pounds, twelve and one-half months' growth. All of his original purchase of ewes were sired by "Banker." His four year old ram "Banker," attracted a great deal of attention. His fleece was not as heavy as some, but there were few that would cleanse as much pure wool.

U. Wood, also of Brandon, is a broad-shouldered, good natured and intelligent farmer, who has devoted a good many years to careful breeding. He has a flock of one hundred and fifty, three-fourths of which are registered. His desire is to get size, and big fleeces of white delaine wool. He has a yearling ram, imported by himself from Vermont, that sheared twenty pounds six ounces of three and seven-eighths staple. This fellow's dam took first premium at Vermont state fair. Wood put up two hundred dollars for him last winter. Another two year old ram, "home bred," sheared twenty-one pounds fifteen ounces, and there was as much money in the fleece as any taken off that day.

E. S. Corliss, of Rush Lake, is an extensive breeder and

has some splendid stock. He brought but one animal to the shearing—a yearling ram, a fine looking fellow weighing one hundred and eighteen pounds, and sheared the heaviest yearling fleece ever cut on the ground—twenty six pounds fifteen and one-half ounces. Mr. Corliss says he does not take the care of his sheep that some do—that he is too lazy, he thinks. But there is a suspicion that they do not suffer for the necessaries of life.

E. C. Stewart, of Rosendale, belongs to the more intelligent class of farmers, and has a gentlemanly bearing. He has a flock of three hundred thoroughbreds and high grades. He has been a breeder of thoroughbreds for fifteen years, and breeds for wool. He says he would rather have a twenty pound fleece that will cleanse eight, than one that weighs twenty-five and cleanses but six. He showed but three animals, very fine, all of them.

J. B. Morrison, of Eureka, began on thoroughbreds in 1875, with three ewes and a ram which he brought from Vermont. His crack four-year old ram, which last year sheared twenty-nine pounds two ounces, and was supposed by some to have been prepared for it, this year cut thirty-one pounds. Mr. Morrison takes a keen delight in his work, and is accomplishing a good deal. He sheared from one yearling ewe that weighed in fleece fifty-nine pounds, eleven pounds, eight and one-half ounces—one pound of wool to four of sheep.

H. B. Reed lives six miles southwest of Ripon. He has fifty thoroughbreds, not registered. He showed a party of particularly fine yearling ewes, large, handsome, and bearing splendid fleeces. He thinks registering would not improve his stock. This is so, but it might his sales. He is a good breeder.

E. G. Stone, of Fisks, is a young breeder, with a head full of good ideas about his business. He has registered stock, so he is in the fashion. He kept McConnells' ram, "Broker," last winter, and is greatly pleased with his lambs.

There were other breeders present, but some notes that were taken are missing at this writing, and they cannot be given the notice they deserve.

RECORD OF SHEEP EXHIBITED.

OWNER'S NAME.	Sex.	Age.	No. of Entries.	Breeder's Name.	Sire's Name.	Weight in Fleece.	Weight of Fleece.	Age of Fleece.	Length of Staple.	Quality of Fiber.	Constitution.	Postoffice Address.	*Class.
		<i>Wrs.</i>				<i>lbs.</i>	<i>oz.</i>	<i>days.</i>					
R. S. Rich	Ewe	2	1	R. S. Rich	Gold Fleece	93	13 10	363	3 1/4	100	90	Ripon	1
R. S. Rich	Ewe	2	2	R. S. Rich	Gold Fleece	78	10 5 1/2	363	3 3/4	100	96	Ripon	1
R. S. Rich	Ewe	2	3	R. S. Rich	Rich's 401	80 1/2	16 8 1/2	363	3 3/4	98	98	Ripon	1
R. S. Rich	Ewe	2	4		Rich's 401	83	13 2	363	3 3/4	100	100	Ripon	1
R. S. Rich	Ewe	2	5			72 1/2	12 3	363	2 3/8	100	60	Ripon	1
R. S. Rich	Ewe	2	6	J. J. Mead	251	71 1/2	10 11 1/2	363	3 3/4	98	100	Ripon	1
R. S. Rich	Buck	2	7	E. Bush	Gold Fleece			363				Ripon	1
R. S. Rich	Buck	1	8	R. S. Rich	Gold Fleece			363				Ripon	1
R. S. Rich	Ewe	1	9	R. S. Rich	Gold Fleece	55	8 15	363	4 7/8	100	95	Ripon	1
R. S. Rich	Buck	1	10	R. S. Rich				363				Ripon	1
R. S. Rich	Ewe	1	11	R. S. Rich				363				Ripon	1
T. F. & C. D. McConnell	Buck	4	12	Leach		165	23 9 1/2	363	3 3/4	95	100	Ripon	1
T. F. & C. D. McConnell	Buck	3	13	McConnell	Bacchus	133	22 13 1/2	363	3 1/4	85	100	Ripon	1
T. F. & C. D. McConnell	Buck	5	14	Catchen	Banker	158	27 9 1/2	356	3 3/4	95	100	Ripon	1
T. F. & C. D. McConnell	Buck	2	15	McConnell	Bacchus	176	29 9 1/4	358	4 5/8	100	100	Ripon	1
T. F. & C. D. McConnell	Buck	1	16	McConnell	Curley	95 1/2	13 7	March	3 7/8	100	100	Ripon	1
T. F. & C. D. McConnell	Buck	1	17	McConnell	Curley	104	18 1	March	3 3/4	95	95	Ripon	1
T. F. & C. D. McConnell	Buck	1	18	McConnell	Bacchus	131 1/2	17 10 3/4	March	3 3/4	98	100	Ripon	1
T. F. & C. D. McConnell	Ewe	1	19	McConnell	Bacchus	65	12 9	March				Ripon	4
T. F. & C. D. McConnell	Ewe	1	20	McConnell	Bacchus	68 3/4	15 15	March	2 5/8	90	100	Ripon	4
T. F. & C. D. McConnell	Ewe	1	21	McConnell	Bacchus	72	14 2 1/2	March	3 3/8	95	100	Ripon	4
T. F. & C. D. McConnell	Ewe	1	22	McConnell	Bacchus	72	16 2	March	3	95	100	Ripon	4
T. F. & C. D. McConnell	Buck	3	23	McConnell	Banker	175	25 8	363	3 3/4	98	100	Ripon	3
T. F. & C. D. McConnell	Buck	4	24	Taft	Harlow	163	29 12 1/2	363	3 3/4	100	100	Ripon	3
T. F. & C. D. McConnell	Buck	4	25	Worthing	Harlow	159	28 0 1/2	363	3	75	100	Ripon	3
U. Wood & Son	Buck	2	26	U. Wood	Farnsworth	132	21 15	374	3 3/4	100	100	Brandon	1
U. Wood & Son	Buck	2	27	U. Wood	Farnsworth	146	24 11 1/2	374	4	100	100	Brandon	1
U. Wood & Son	Buck	1	28	E. N. Bissell	Rip Van Winkle	100 1/2	20 6	April	3 7/8	100	100	Brandon	1
E. G. Stone	Buck	1	29	McConnell	Bacchus	110	17 8	12 1/2 mo	3 1/4	95	100	Fisk's Corners	1
E. G. Stone	Buck	1	30	Stone		121	15 14	12 1/2 mo	3 3/4	100	100	Fisk's Corners	1
E. G. Stone	Buck	1	31	Stone		143 1/2	19 2 1/2	12 1/2 mo	3 1/4	100	100	Fisk's Corners	2
E. G. Stone	Buck	1	32	Stone		90	14 13 1/2	12 1/2 mo	3 3/8	100	100	Fisk's Corners	1
E. G. Stone	Ewe	1	33	McConnell	Bacchus			12 1/2 mo				Fisk's Corners	2
E. S. Corliss	Buck	1	34	C. P. Morrison	157	118	26 15 1/2	March	3 1/2	80	97	Rush Lake	2
O. B. Knapp	Buck	4	35	E. N. Bissell	Banker	139	18 12	363	3 3/4	100	100	Brandon	1
O. B. Knapp	Ewe	8	36	H. C. Brown	Banker			337				Brandon	1

O. B. Knapp.....	Buck.....	1	37	Knapp	Major			365				Brandon.....	1	
O. B. Knapp.....	Ewe.....	1	38	Knapp	Major			341				Brandon.....	1	
E. Stewart.....	Buck.....	4	39	C. Clark.....	Capt. Moore.....	140	20	1	363	2 $\frac{1}{2}$	97	100	Ripon.....	2
E. Stewart.....	Buck.....	4	40	Boynton.....		140 $\frac{1}{2}$	23	91 $\frac{1}{2}$	349	3 $\frac{1}{2}$	100	100	Ripon.....	1
E. Stewart.....	Buck.....	3	41	Stewart.....	Billy.....	138	16	71 $\frac{1}{2}$	363	4 $\frac{1}{2}$	100	100	Ripon.....	1
J. B. Morrison.....	Buck.....	2	42	C. P. Morrison..	157.....	148 $\frac{1}{2}$	24	21 $\frac{1}{2}$	363	3	100	100	Waukau.....	2
J. B. Morrison.....	Buck.....	4	43	Merrill.....		156	31		363	2 $\frac{1}{2}$	95	100	Waukau.....	2
H. B. Reed.....	Buck.....	3	44	O. B. Knapp.....	Bissell.....	132	21	2	363	3 $\frac{1}{2}$	98	100	Ripon.....	1
H. B. Reed.....	Ewe.....	1	45	H. B. Reed.....		87	12	141 $\frac{1}{2}$	383	3 $\frac{1}{2}$	95	100	Ripon.....	1
H. B. Reed.....	Ewe.....	1	46	H. B. Reed.....		78 $\frac{1}{2}$	10	01 $\frac{1}{2}$	383	4 $\frac{1}{2}$	100	100	Ripon.....	1
H. B. Reed.....	Ewe.....	1	47	H. B. Reed.....		82	12	81 $\frac{1}{2}$	383	5	100	100	Ripon.....	1
H. B. Reed.....	Buck.....	1	48	H. B. Reed.....					381				Ripon.....	1
H. B. Reed.....	Buck.....	1	49	H. B. Reed.....					381				Ripon.....	1
H. S. Perkins.....	Buck.....	2	50	A. A. Farnsworth.	L. P. Clark's Moses									
H. S. Perkins.....	Buck.....	2	51	A. A. Farnsworth.	L. P. Clark's Moses									
J. B. Morrison.....	Ewe.....	1	52	J. B. Morrison...	Major 200.....	59	11	81 $\frac{1}{2}$	May				Waukau.....	4
J. B. Morrison.....	Ewe.....	1	53	J. B. Morrison...	Major 200.....				May				Waukau.....	4
J. B. Morrison.....	Ewe.....	1	54	J. B. Morrison...	Major 200.....				May				Waukau.....	1
J. B. Morrison.....	Ewe.....	1	55	J. B. Morrison...	Major 200.....				May				Waukau.....	1
J. B. Morrison.....	Buck.....	1	56	J. B. Morrison...	Major 200.....	68	11	13	May				Waukau.....	1
J. B. Morrison.....	Buck.....	1	57	J. B. Morrison...	Major 200.....				May				Waukau.....	1
J. B. Morrison.....	Buck.....	1	58	J. B. Morrison...	Major 200.....				May				Waukau.....	1

* Classes: 1, Delaine Merinos; 2, Fine Combing Wool; 3, Weight of Fleece only consideration; 4, Weight of Fleece in proportion to weight of carcass only consideration.

In studying the tables herewith given care should be given to a few points. Even sheep men do not pay very close attention sometimes to the weight of the animal, and whether it is given before or after shearing. And another important matter is the age of fleece. This is given in days, and is of prime importance. Ten days makes a difference in a fleece when it weighs up toward the thirties. The length of staple is another matter that would receive attention from a purchaser if he had the animal in hand. These points are all given, but they are liable to be carelessly read.

THE BUSINESS MEETING.

During the afternoon the meeting was called to order by the president, H. W. Wolcott, of Ripon. The financial report was read by the treasurer, Mr. E. Reynolds. The election of officers for the ensuing year was then had, and resulted in the following choice:

H. W. Wolcott, Ripon, President.

C. D. McConnell, Ripon, Vice-President.

C. M. Bright, Oshkosh, Secretary.

A. Osborn, Metomen, Treasurer.

E. Reynolds, Metomen; N. A. Miller, Ripon, and E. S. Corliss, Rush Lake, Executive Committee.

There was the most friendly feeling manifested among the breeders present. Occasionally would be heard such an exclamation as, "Well, old fellow, my yearling beat yours." And this would be replied to with, "Well, I am not surprised at it. He was out of my ram."

The next shearing must be more largely attended than this. It cannot be a more interesting one, though.

INDEX.

	<i>Page.</i>
Officers for 1883.....	3
Constitution of the Society.....	5
Sketch of President Hazen's Life.....	7
Life Members.....	9
Meetings of the Board—Annual Meeting, Election of Officers.....	12
Secretary's Warrant Account.....	17
Speed Horses.....	22
Premiums Awarded in 1883.....	23
Farm Machinery Exhibited.....	52
Treasurer's Report.....	54
Opening Address, by President Hazen—Report of the Fair in <i>Daily Northwestern</i>	55
Tenth Annual Convention—Opening Address, by President Hazen	79
Other Addresses—	
J. M. Smith.....	80
R. D. Torrey.....	81
Mr. McCormick's Address of Welcome.....	81
Paper—"Importance of Organization," by Dr. Wilcox.....	87
Discussion thereupon.....	94
Discussion on Potato Culture.....	95
Paper—"What Shall be Done for the Boys on the Farm," by J. M. Smith.....	98
Discussion thereupon.....	108
Paper—"Essentials to Prosperous Communities," by R. D. Torrey...	117
Discussion thereupon.....	123
Paper—"Farm Notes," by J. P. Roe.....	125
Discussion—"What are we here for," by Prof. Henry.....	129
Paper—"The Balanced Ration," by T. D. Curtis.....	150
Potatoe discussion, by C. M. Plumb and others.....	157
Paper—"Merino Sheep," by C. D. McConnell.....	167
Agricultural College discussion.....	173
Resolution.....	179
Paper—"Insectivorous Plants," Mrs. F. P. Willard.....	180
Discussion thereupon.....	185
Paper—"Descriptive Sketch of Fox River Valley," by R. J. Harney	187
Paper—"Physical Culture," by Prof. Köehler.....	198
Discussion.....	208
Paper—"The Morgan Horse," by A. C. Barry.....	209

	<i>Page.</i>
Paper — "The Draft Horses of France and Great Britain," by Galbraith Bros.....	212
Discussion thereupon.....	220
Paper — "Fish Culture," by Prof. Kanaston.....	222
Discussion	233
Paper — "The Origin and Progress of Horticulture," by Mrs. Clark.	234
Discussion	241
Paper — "The Poultry Industry," by R. L. Porter.....	251
"Stock Breeding and Feeding," by Prof. Henry	254
Discussion thereupon.....	272
Paper — "Adaptation," by Geo. J. Kellogg	277
Discussion	279
Paper — "Flower Mission," by Mrs. H. M. Lewis.....	281
"Convention at Waupaca," by R. D. Torrey.....	288
Paper — "Horticulture, the Outlook," by Geo. J. Kellogg.....	290
Paper — "The Tree Planters," by B. S. Hoxie	294
Paper — "The Pear Blight," by H. N. Hoffman	302
Paper — "Farm Life," by Mrs. C. V. Layton.....	310
Paper — "Beautiful Homes," by Mrs. E. Y. Richmond	316
Paper — "Pleasures of Horticulture," by Sam'l Barton.....	319
Resolutions and discussions.....	324
Meteorological Record for 1883, by K. M. Hutchinson.....	332
The Wool Raisers	345

This book may be kept

FOURTEEN DAYS

A fine of **TWO CENTS** will be charged
for each day the book is kept overtime.

16 OCT
1946

AUG 20 59

DEMCO-291-B

89044368207



b89044368207a

NORTHERN WIS.
AGRICULTURAL AND
MECHANICAL ASSOC.
TRANSACTIONS
1883-84

RBW7
N81
1883-84

DOCUMENTS
COLLECTION

89044368207



b89044368207a