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Transactions of the Wisconsin State Agricultural Society, including the proceedings of the state agricultural convention held in February, 1887, together with other interesting papers. Vol. XXV 1887

Wisconsin State Agricultural Society
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1887

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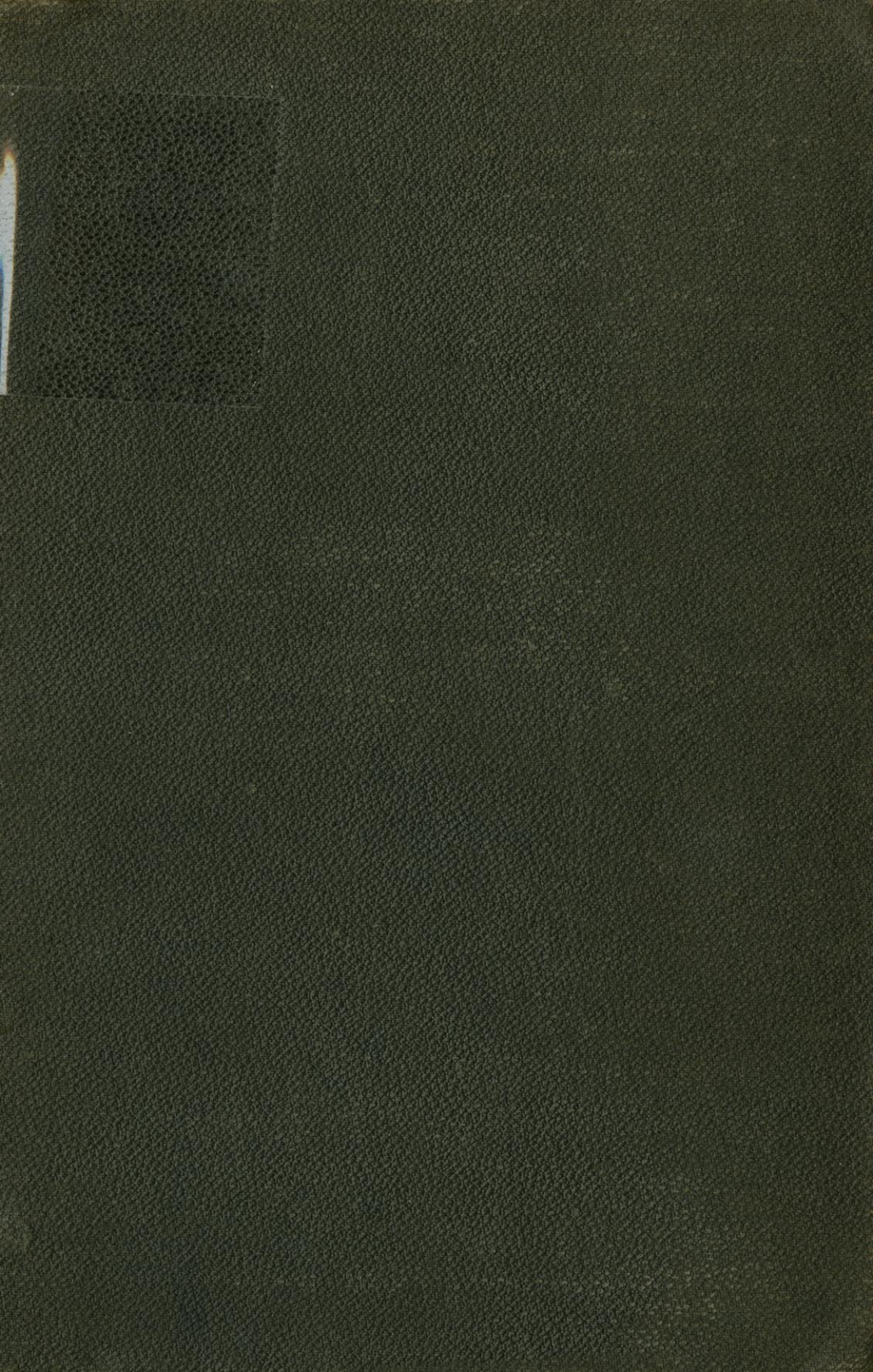
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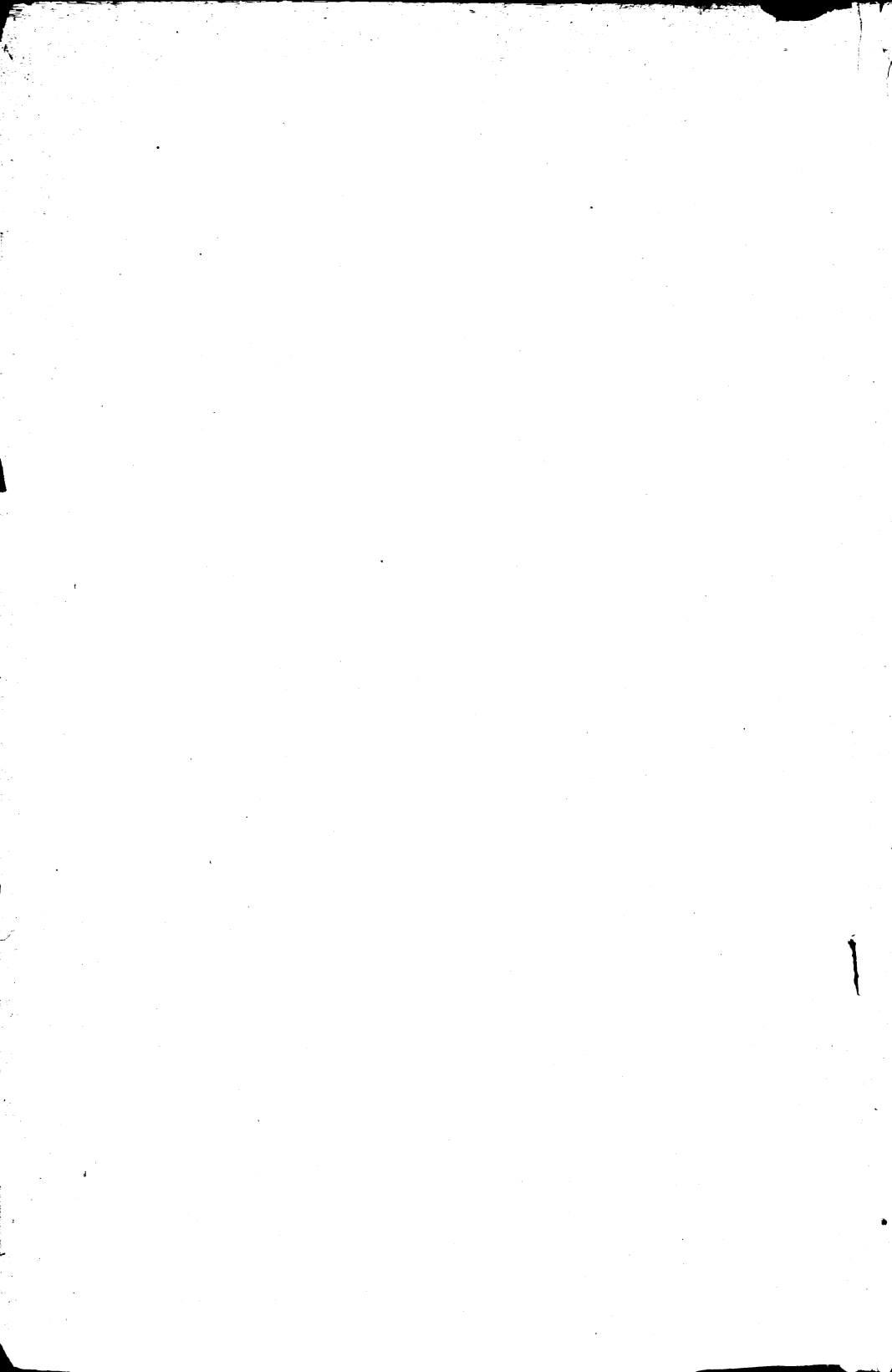
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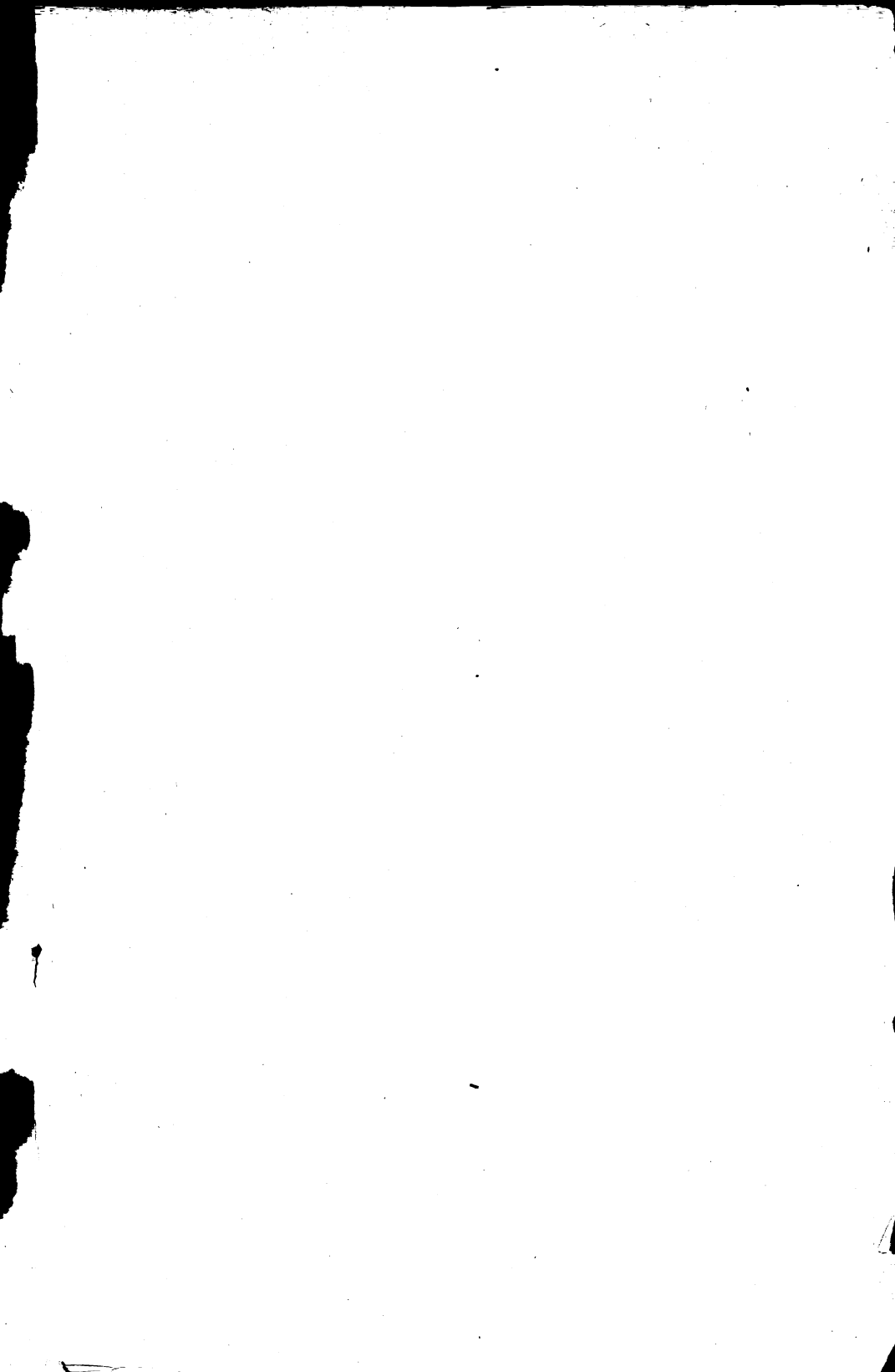
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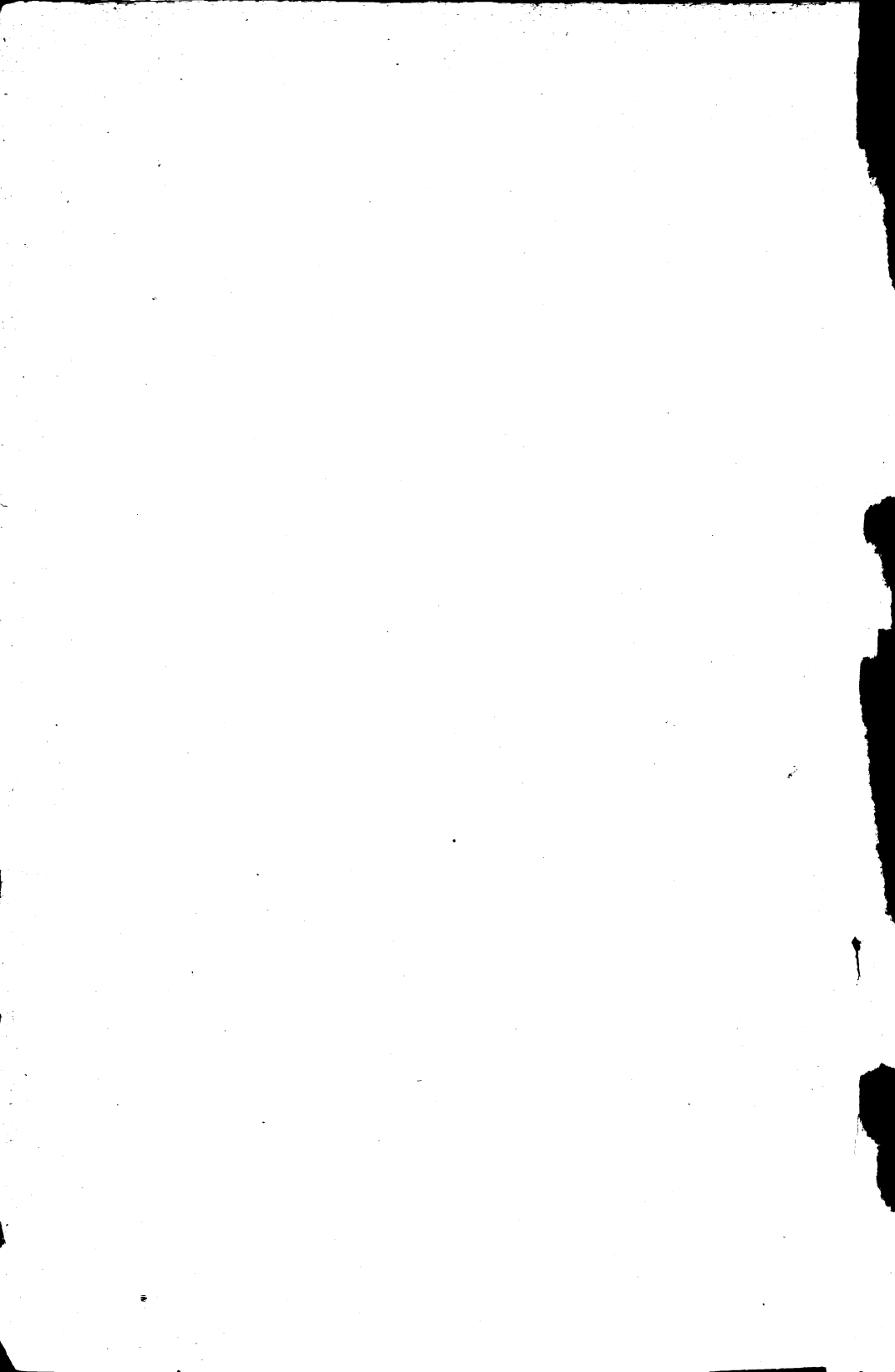
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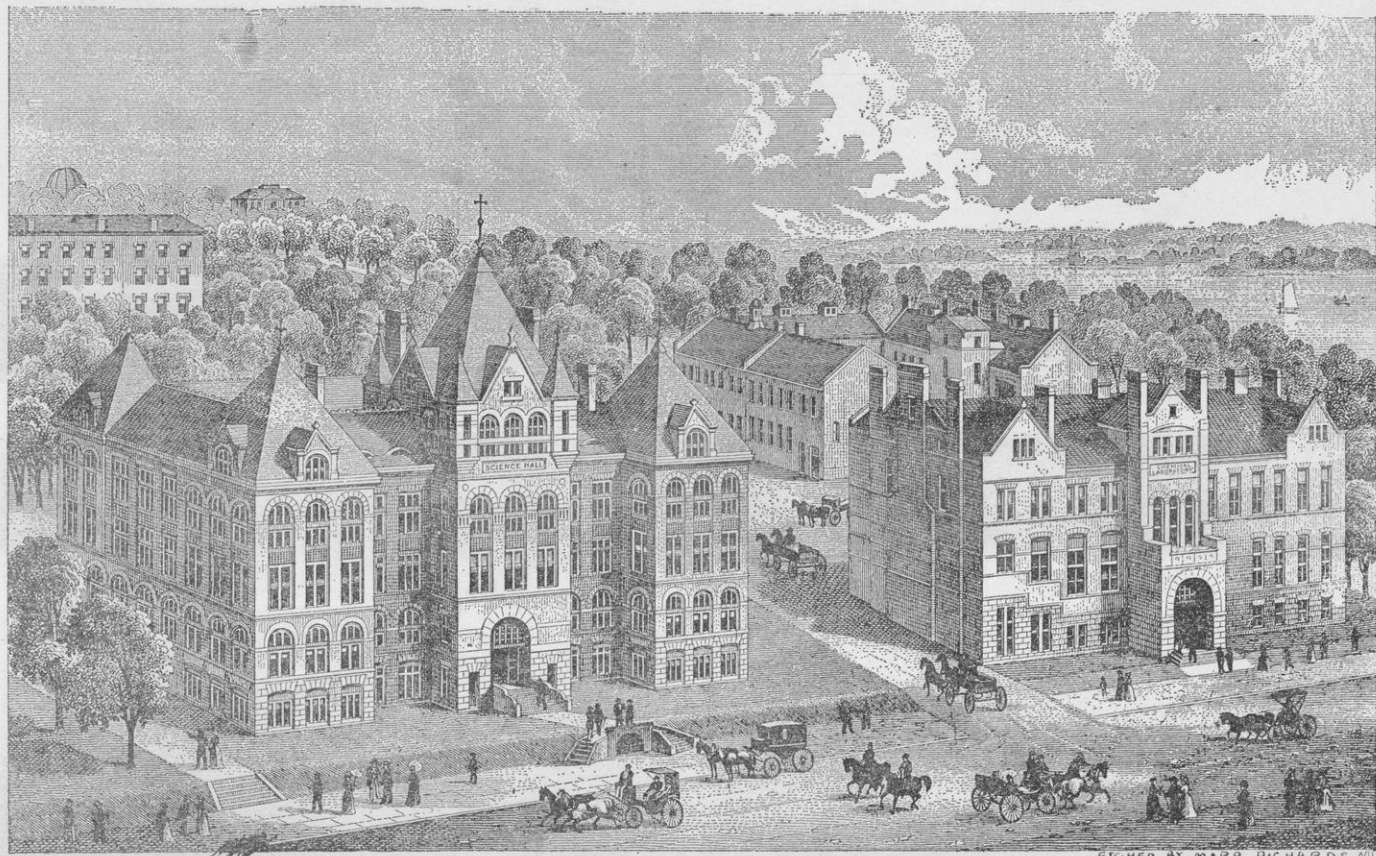
ADVERTISING

MADISON WISCONSIN









NEW SCIENCE HALL, CHEMICAL LABORATORY AND MACHINE SHOP, STATE UNIVERSITY, MADISON.

TRANSACTIONS

OF THE

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State Agricultural Society,

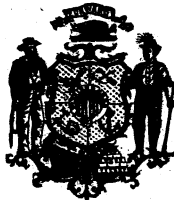
INCLUDING THE

PROCEEDINGS OF THE STATE AGRICULTURAL CONVENTION
HELD IN FEBRUARY, 1887, TOGETHER WITH
OTHER INTERESTING PAPERS.

VOLUME XXV.

PREPARED BY

T. L. NEWTON, Secretary.



MADISON, WIS.:
DEMOCRAT PRINTING COMPANY, STATE PRINTERS.
1887.

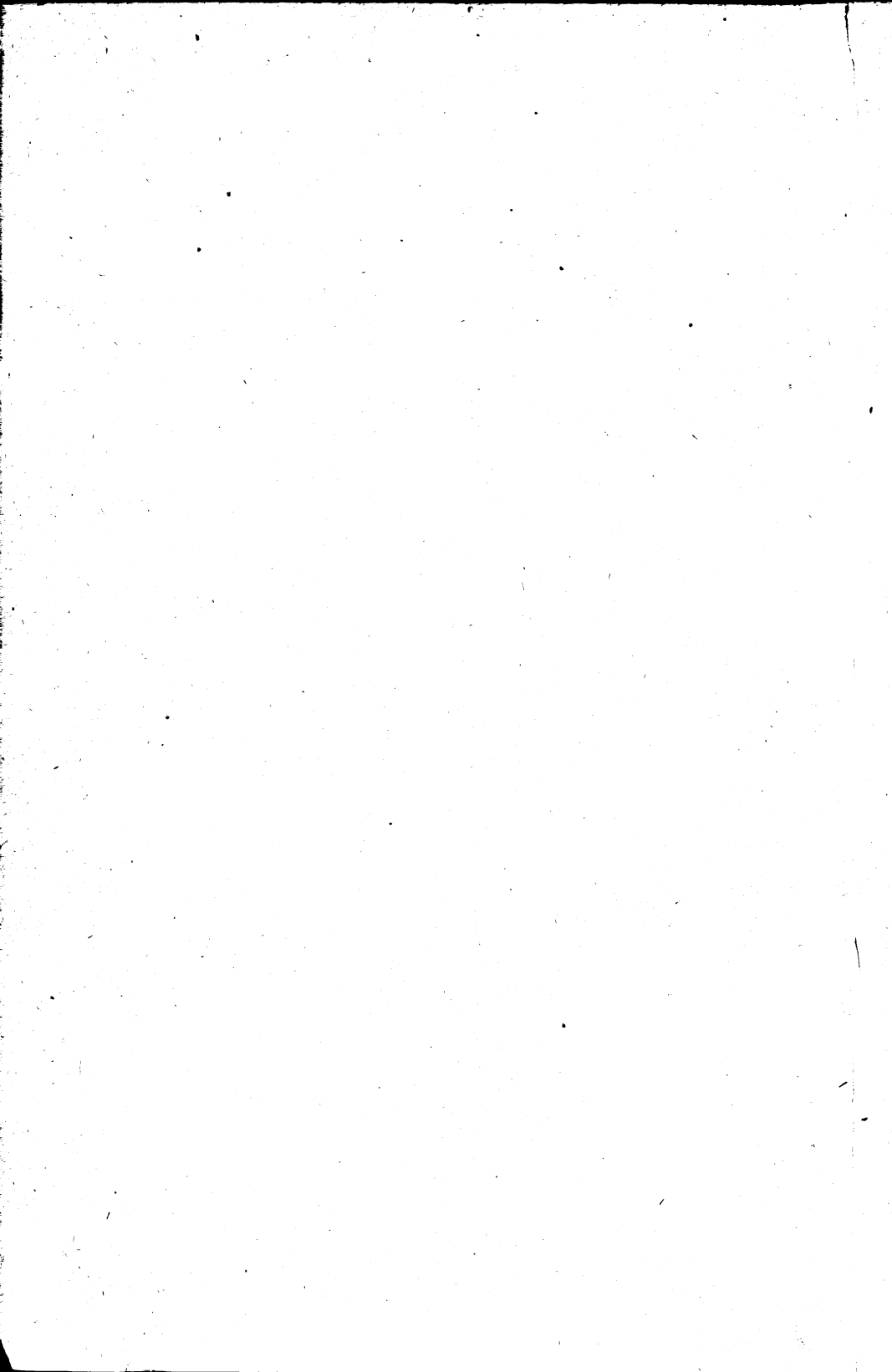


TABLE OF CONTENTS.

	<i>Page.</i>
Letter of Transmittal.....	1-2
Officers of the Society.....	3
Laws Relating to the Society.....	4-8
Constitution.....	9-10
By-Laws.....	11-14
Life Members.....	15-22
Mortuary.....	23-24
Officers of County Agricultural Societies.....	25-28
Exhibition of 1886 — Opening Address by Hon. A. A. Arnold...	29-34
Reports of Superintendents.....	35-51
Premium Awards.....	52-78
Executive Board Meetings.....	79-84
Society Meetings.....	84-88
Treasurer's Report.....	88-99
Farmers' State Convention.....	100-101
The Education of the Citizen Farmer, by Prof. J. J. Blaisdell, of Beloit College.....	101-123
Fine Wool Sheep and Their Place in Our Agriculture, by C. R. Gibbs, Whitewater.....	123-132
Discussion.....	132-154
Justin Morgan, the First and Only Full-Blooded Morgan Horse, by Lewis Clark, Beloit.....	154-157
Future Prospects of the Wisconsin State Agricultural Society, by N. D. Fratt, Racine.....	158-172
Discussion.....	172-183
De-horning Cattle, by Prof. H. H. Haaff, Atkinson, Ill.....	183-219
Queries, by A. D. McGilvra, Baraboo.....	219-220
Capital and Labor, by George S. Parker, Janesville.....	221-236
Discussion.....	237-238
What Shall We Feed Our Hogs, by Prof. W. A. Henry, Superin- tendent of Experiment Station, Wisconsin University.....	238-246
Discussion.....	246-250
Practical Education for the Farmers' Boy, by Prof. Condé Hamlin, Beaver Dam.....	250-260
The Problem of Cattle Feeding in Wisconsin, by A. O. Fox, Oregon, Wisconsin.....	262-279
Discussion.....	279-291

	<i>Page.</i>
The Clydesdale Horse, by Alex. Galbraith, Janesville	291-296
Fruit for the Farm — The Apple — by Geo. P. Peffer, Pewaukee..	297-300
Health of Animals, by V. T. Atkinson, V. S., State Veterinarian	301-306
Discussion	307-317
A Woman's Idea of Kindness to Animals, by Mrs. Mary E. Warren, Fox Lake.	317-323
A Plea for a Better Parentage, by Mrs. Vie. H. Campbell, Evansville.	324-335
Agricultural Education, by H. C. Adams, Madison	335-341
Discussion	341-376
Science of Breeding, by A. A. Arnold, Galesville.....	377-386
Discussion	386-388
Hints on Growing Potatoes, by D. T. Pilgrim, Wauwatosa.	288-390
Pre-historic Farming, by Rev. S. D. Peet, Clinton, Wis.....	390-000

LETTER OF TRANSMITTAL.

HONORABLE JEREMIAH M. RUSK,

Thrice Honored Governor of Wisconsin:

In conformity with an act of the legislature of 1854, I have the honor of transmitting to you the twenty-fifth report of the transactions of the State Agricultural Society. To you as the chief executive the society owes much. Your interest in agriculture manifested not only on your own beautiful farm, but upon every occasion where the society and state could be benefited, has won for you the enduring friendship of the farming community, and given you as their representative a proud distinction unparalleled even by your military glory.

Our state is making rapid advancement in many directions. The raising of cattle and horses has given many of our farmers a large balance on the right side of the ledger. Our mechanical arts and industries are multiplying in every direction. Railroads are keeping pace in the march of improvement. Our recently developed iron interests are daily making millionaires of their discoverers. Ere long our state will be known as the happy home of many millions of peaceful and contented citizens. Much credit is due the State Agricultural Society for the present prosperous condition of our agricultural interests and the enviable reputation our stock raisers and breeders have attained.

Our State Fair is a great agricultural and industrial school. It teaches by comparison, it encourages by competitive tests and establishes superiority by its awards of diplomas, premiums and ribbons. Its educating influence has set its mark of improvement upon the farms, the orchards, the gardens, the grainaries, the stables, and the good housewives' pantry stores through the length and breadth of the state.

The Farmers' Annual Convention, held in the capitol in February, brings out the best agricultural and industrial talent in the state. An increased interest in it is clearly manifested, the hall is daily and nightly packed with intelligent and enthusiastic men and women. Papers and discussions usually cover nearly all farm interests, with many thoughts presented that have made homes brighter and firesides happier.

The proceedings of the convention are published in our reports and distributed as equally as possible throughout the state. The issue for 1886 is entirely exhausted, still applications are received by every mail, not only from our own state but from nearly every state in the union, and from many foreign countries that have learned to estimate their value. Several thousand additional copies will be greatly needed for the forthcoming annual report.

T. L. NEWTON,
Secretary.

OFFICERS OF WISCONSIN STATE AGRICULTURAL SOCIETY, 1887.

President.

CASPER M. SANGER, MILWAUKEE.

A. A. ARNOLD, GALESVILLE,

Ex-Pres. W. S. A. S.

Vice-Presidents.

SETH FISHER, CENTER.

H. D. HITT, OAKFIELD.

M. R. DOYON, MADISON.

WM. WILSON, WAUSAU.

J. M. SMITH, GREEN BAY.

A. W. VAUGHN, LODI.

J. M. TRUE, BARABOO.

W. A. JOHNSTON, GALESVILLE.

J. G. J. CAMPBELL, MILWAUKEE.

Secretary.

T. L. NEWTON, BEAVER DAM.

(*P. O. Address* — Wisconsin State Agricultural Rooms, Madison, Wis.)

Treasurer.

CYRUS MINER, JANESVILLE.

Additional Members of the Board.

C. M. CLARK, WHITEWATER.

H. C. ADAMS, MADISON.

A. LUDLOW, MONROE.

F. C. CURTIS, ROCKY RUN.

N. D. FRATT, RACINE.

S. D. HUBBARD, MONDOVI.

GEO. J. SCHOEFFEL, MILWAUKEE.

PROF. T. C. CHAMBERLAIN, BELOIT,

Pres. Wis. Academy Sciences, Arts and Letters.

PROF. E. A. BIRGE, MADISON,

Sec. Wis. Academy Sciences, Arts and Letters.

LAWS RELATING TO THE SOCIETY.

The Wisconsin State Agricultural Society was organized March 8, 1851, and incorporated by

CHAPTER 5, LAWS OF 1853.

Section 1. The Wisconsin State Agricultural Society is hereby declared a body politic and corporate, and by that name it shall be known in all courts and places whatsoever.

Section 2. The objects of the society being to promote and improve the condition of agriculture, horticulture and the mechanical, manufacturing and household arts, it shall be allowed for those purposes only, to take, hold, and convey real and personal estate; the former not exceeding ten thousand dollars.

Section 3. The said corporation shall possess all the powers and privileges conferred, and be subject to all the liabilities imposed upon corporations by the revised statutes of this state, so far as the same may be applicable.

Section 4. For the purpose of organizing said society under this charter and for the transaction of such other business as may come before it, the executive committee of the society may call a meeting of the same at such time and place as they may deem proper; first giving due notice thereof.

CHAPTER 40, LAWS OF 1854.

Section 2. It shall be the duty of the executive committee of said Wisconsin State Agricultural Society, to keep an accurate account of the manner of expenditure of said sum of money hereby appropriated and transmit the same together with the vouchers therefor to the governor of this state, in the month of January in each year, to be by him laid before the legislature.

Section 3. It shall be the duty of said executive committee of the Wisconsin State Agricultural Society to collect, arrange and collate all information in their power, in relation to the nature, origin, and preparation of soils; the cultivation and growth of crops; the breeding and management of stock; the application and character of manures and fertilizers; the introduction of new cereal and other grains; and other agricultural subjects; and report the same, together with a statement of their own proceedings, to the governor of this state, in the month of January in each year, to be by him laid before the legislature.

CHAPTER 53, LAWS 1358.

Section 3. The principal officers of the Wisconsin State Agricultural Society, shall have full jurisdiction and control of the grounds on which the society may exhibit, and all of the streets and alleys and other grounds adjacent to the same, during all such exhibitions, so far as may be necessary to preserve and keep good order, and so far as may be necessary to exclude therefrom all other exhibitions, booths, stands, or other temporary places for the retail or sale of any kind of spirituous or fermented liquors, or other article or articles that they might deem objectionable or offensive to said exhibition. The President of the society, or in his absence, any Vice President, acting in his stead, shall have the power to appoint any necessary policemen to assist in preserving the peace, quelling any disturbance or arresting offenders, and conveying them to jail for trial; and all such policemen thus appointed shall be vested during the continuance of such exhibition with the ordinary powers and authority of common constables, and be entitled to similar fees for any services rendered or duty performed. Any person or persons who shall willfully and without leave enter any fair ground during an exhibition, that are duly enclosed with a proper fence, not less than six feet high, either by climbing over, or under, or through said fence, or by fraudulently receiving and using the tickets or badge of another, or passing the gate-keeper without the proper payment and compliance with the rules of said grounds, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court, shall be liable to a fine of not less than five nor more than twenty-five dollars; and in case of non-payment, to imprisonment in the county jail not less than one nor more than ten days. Any such offender may be tried before any justice of the peace, or police justice most convenient to be found.

JOINT RESOLUTION NO. 7, SESSION LAWS OF 1866.

Resolved by the assembly, the senate concurring, That the rooms on the north side of the west wing of the capitol, to-wit: The rooms just made vacant by the removal of the attorney general, and the superintendent of public instruction, be prepared by the superintendent of public property, for the use of the Wisconsin State Agricultural Society, and that the said society be and hereby is allowed the use of the same until otherwise ordered by the legislature.

CHAPTER 95, LAWS OF 1870.

Section 1. Joint stock associations formed under the laws of this state for the encouragement of industry by agricultural and industrial fair and exhibitions, may purchase and hold such real and personal property as shall be necessary for fair grounds, and such property while used exclusively for such fairs and exhibitions, shall be free from taxes. Provided that the quantity of land so exempt shall not exceed forty acres,

WISCONSIN STATE AGRICULTURAL SOCIETY.

CHAPTER 159, LAWS OF 1875.

Section 2. The superintendent of public property is hereby authorized to furnish the office of the Wisconsin State Agricultural Society with stationery upon the order of the secretary of said society, the same as other officers in the capitol are supplied.

CHAPTER 65, LAWS OF 1877.

Section 1, provides: That nothing in this act shall be construed to prevent any citizen of any other state from becoming a member or officer of any agricultural society or industrial association which is now organized or may hereafter be organized under or by virtue of any law of this state

CHAPTER 219, LAWS OF 1877.

AN ACT to donate the cereals and other centennial exhibits made by the state, to the State Agricultural Society.

Section 1. The cereals and other seeds and glass globes in which said cereals and seeds were exhibited by the state at the centennial exposition; one agricultural map of the state; one case samples fine wool; one picture of the state capitol, and three pictures of centennial buildings, are hereby donated to the above named society, to be by them kept in the agricultural rooms in the capitol.

CHAPTER 199, LAWS OF 1880.

Section 1. The secretary of the State Agricultural Society is hereby authorized to procure for the use of his office the necessary amount of postage stamps or stamped envelopes for the payment of the postage of the official correspondence of his department. The account therefor shall be audited by the secretary of state upon the presentation thereof in the manner hereinbefore provided, and paid out of the state treasury.

CHAPTER 194, LAWS OF 1885.

Section 1. There is hereby annually appropriated to the Wisconsin State Agricultural Society the sum of four thousand dollars. *Provided*, that no warrant shall be drawn by the secretary of state for the payment of the sum of money hereby appropriated, except upon the presentation of a sworn statement, signed by the president and secretary of the said Wisconsin State Agricultural Society, certifying that the sale of intoxicating liquors has been prohibited and prevented upon the fair grounds of said society during the year for which the appropriation is made.

Section 2. It shall be the duty of the several agricultural societies entitled to the state aid of one hundred dollars in this state, to send their president or other representative to the state fair, where the annual election of officers is held, there to act on committee of award, and to cast the vote for the county in the aforesaid election.

Section 3. On arrival of the president or other representative at the state fair he shall report to the secretary thereof, and on the certificate of the secretary of his attendance and performance of the duties named in section 2 of this act, the treasurer shall pay to him two dollars per day for the time he has been in attendance, not exceeding five days, and six cents per mile, one way, over the nearest traveled route from his home to the place where the state fair is held.

Section 4. This act shall take effect and be in force from and after its passage.

CHAPTER 435, LAWS OF 1885.

AN ACT to amend chapter 320 of the general laws of 1883, "an act to provide for the printing and distribution of the reports of state officers, departments and institutions."

Section 1. Sections 7, 8 and 9, of chapter 320 of session laws of 1883, are hereby severally amended so as to read as follows:

Section 7. There shall be printed annually by the state printer, and on the order of the commissioner of public printing, the following documents:

1. Thirteen thousand copies of the transactions of the Wisconsin State Agricultural Society, together with abstracts of the reports of the county and other agricultural societies, and such other matter pertaining to the industry of the state as shall be deemed important; provided, the number of pages shall not exceed five hundred.

2. Sixteen thousand five hundred copies of the transactions of the Wisconsin State Horticultural Society, together with such other abstracts of reports of county and other horticultural societies, and such other matters pertaining to fruit growing and other horticultural interests of the state as shall be deemed important; provided the number of pages shall not exceed three hundred.

3. Eighteen thousand copies of the transactions of the State Dairy-men's Association, and such other matters pertaining to the dairy interests of the state as shall be deemed most important; provided the number of pages shall not exceed two hundred and fifty.

4. Eighteen thousand copies of the report of the Agricultural Experiment Station of the State University; provided the number of pages shall not exceed two hundred.

Section 8. Thirteen thousand volumes of said report shall be bound in cloth, uniform in style with volumes previously published, each volume to contain such part of one copy of each of the reports designated in the preceding section as the compiler shall select, the size of said joint report not to exceed one thousand pages; and shall be distributed as follows: Thirty copies to each member of the legislature; one hundred copies to the State Historical Society; twenty-five copies to each county agricultural society and district industrial association which embraces two or more counties, and furnish the state agricultural society a report of its proceedings; one

hundred copies to the state horticultural society; thirty copies to each county horticultural society; two hundred copies to the State Dairymen's Association; one hundred copies to the experiment station of the state university; twenty-five copies to the library of the state university; five copies to the Wisconsin Humane Society. To the governor, lieutenant governor, secretary of state, state treasurer, attorney general, state superintendent of public instruction, railroad and insurance commissioner, twenty-five copies each; to each public library in the state, two copies; and the remaining copies to the State Agricultural Society for distribution by its secretary.

Section 9. Twenty-five hundred copies of the transactions of the State Horticultural Society shall be bound singly in cloth, and one thousand in paper. Twenty-five hundred copies of the State Dairymen's Association shall be bound in cloth, and twenty-five hundred in paper. Twenty-five hundred copies of the report of the Agricultural Experiment Station of the State University shall be bound in cloth, and twenty-five hundred in paper, for the use of these several societies and departments for distribution or exchange.

Section 2. All acts or parts of acts interfering with the provisions of this act are hereby repealed.

Section 3. This act shall take effect and be in force from and after its passage and publication.

CONSTITUTION.

ARTICLE I.

OF THE NAME AND OBJECT OF THE SOCIETY.

This society [shall be known as the "Wisconsin State Agricultural Society." Its object shall be to promote the advancement of agriculture, horticulture, and the mechanical and household arts.

ARTICLE II.

OF THE MEMBERS.

The Society shall consist of life members, who shall pay, on subscribing, twenty dollars, and of honorary and corresponding members, who shall be elected by a two-thirds vote of all the members of the executive board, at any regular meeting. The presidents of county agricultural societies shall be members *ex-officio*, entitled to the same privileges as life members, and together, shall be known as the general committee of the Society.

ARTICLE III.

OF THE OFFICERS.

The officers of the Society shall consist of a president, one vice-president for each congressional district of the state, a secretary, a treasurer, and seven additional members, who shall hold their respective offices for a term of one year from the first day of January next succeeding the date of their election, and until their successors shall have been elected; and all of whom, together with the ex-president latest in office, and the president and general secretary of the Wisconsin Academy of Sciences, Arts and Letters, shall constitute the executive board.

ARTICLE IV.

OF THE POWERS AND DUTIES OF OFFICERS.

The presidents and vice-presidents shall perform such duties as are common to such officers in like associations, as may be required by the executive board.

The secretary shall keep the minutes of all meetings, and have immediate charge of the books, papers, library, and collections, and other property of the Society. He shall also attend to its correspondence, and prepare

and superintend the publication of the annual report of the Society, required by law.

The treasurer shall keep the funds of the Society and disburse the same on the order of the president, or a vice-president, countersigned by the secretary, and shall make report of all receipts and expenditures at the regular meeting of the Society in December.

The executive board shall have power to make suitable by-laws to govern the action of the several members thereof. They shall have general charge of all the property and interests of the Society, and make such arrangements for the holding and management of general and special exhibitions as the welfare of the Society and the interests of industry shall seem to require.

The general committee shall be charged with the interests of the Society in the several counties where they respectively reside, and constitute a medium of communication between the executive board and the public at large.

ARTICLE V.

OF MEETINGS AND ELECTIONS.

The annual meeting of the Society for the transaction of general business, shall be held in its rooms in Madison, on the first Wednesday in December, at nine o'clock A. M., in each year, and ten days' notice thereof shall be given by the secretary in one or more papers printed in the city of Madison.

The election of officers of the Society shall be held each year during and at the general exhibition, and the exact time and place of the election shall be notified by the secretary in the official list of premiums, and in all the general programmes of the exhibition.

Special meetings of the Society will be called by order of the executive board, on giving twenty days' notice in at least three newspapers of general circulation in the state, of the time, place and object of such meetings.

At any and all meetings of the Society, ten members shall constitute a quorum for the transaction of business though a less number may adjourn from time to time.

ARTICLE VI.

OF AMENDMENTS.

This constitution may be amended by a vote of two-thirds of the members attending any annual meeting; all amendments having been first submitted in writing at the previous annual meeting, recorded in the minutes of the proceedings, and read by the secretary in the next succeeding meeting for the election of officers. All amendments proposed shall be subject to amendment by a majority vote at the meeting when presented, but not thereafter.

BY-LAWS.

SECTION I.

OF OFFICERS.

The officers of the Society shall, *ex-officio*, fill the corresponding offices in the Executive committee.

SECTION II.

OF THE DUTIES AND POWERS OF OFFICERS.

The duties of the President, in addition to those defined by the constitution and the by-laws regulating the duties of the permanent committee, shall be at follows, to-wit:

1. To inspect the fair grounds after they shall have been prepared for the annual exhibition by the special committee of arrangements, appointed for that purpose, and suggest such modifications or further preparations as he may deem necessary.
2. To formally open the annual fair of the society at such time as the executive committee may prescribe, with an appropriate address.
3. As the executive head of the Society, to have a general supervision and control of the entire exhibition, subject only to the authority of the executive committee.

The duties of the Secretary, more especially defined than in the constitution, shall be as follows:

1. To make a faithful record of each meeting of the executive committee and keep such record in a condition for the convenient reference of any member thereof, at any time; also to make a record of every order drawn on the treasurer, and delivered to parties in whose favor they were so drawn—separately entering and numbering the orders drawn to pay premiums and those to pay general expenses, and so defining them—and of all moneys due the Society; in all cases holding the parties so indebted responsible therefor until they shall have presented him a certificate from the treasurer, showing that the same has been paid.
2. To open and carry on such correspondence as may be advantageous to the Society or to the common cause of agricultural improvement, not only with individual agriculturalists and eminent practical and scientific men of other industrial pursuits, but also with other societies or associations whose objects are kindred to ours, whether in this country or foreign

lands, and to preserve a journal of such correspondence in the archives of the Society.

3. To collect and arrange for convenient examination, standard agricultural works and periodical publications, together with such models, machines and implements as may be donated to, or otherwise acquired by the Society.

4. To investigate as far as practicable, the nature of fertilizers, indigenous and cultivated plants, insects injurious to vegetation, etc., and to collect and preserve such specimens thereof, as will illustrate the natural history and agricultural resources, condition and progress of the state.

5. To institute, and collect reports therefrom, needed experiments relative to the preparation of the various soils of the state for economical culture, the cultivation of different grains, fruits and garden vegetables, the breeding and raising of stock, etc.

6. To visit, by the advice of the executive committee, or as his own judgment may direct, the various portions of the state, and to give lectures on the science and practice of agriculture, wherever and whenever they may be deemed most necessary and desirable.

7. To co-operate with the superintendent of public instruction and the agent of the normal school board, for the introduction and use in the schools of Wisconsin, of standard works on agriculture and other industrial arts and sciences.

8. To attend as many as possible of the industrial exhibitions of this country, particularly the county fairs of Wisconsin; to co-operate with the president and special committee of arrangements, for the judicious preparation and management of our state exhibition; and to have the sole supervision and control of the offices of entry thereat.

9. To carefully prepare and superintend the publication of the annual report of the Society to the governor of the state, embodying therein the proceedings of the State Agricultural Society, an abstract of the reports of the incorporated county agricultural societies of the state, and such reports, essays and addresses, or other matters of information, as may be calculated to enhance the value of said report.

Finally, it shall be his duty, not only by the means above named, but also through such other instrumentalities as he may devise, and the committee approve, to devote himself faithfully and unreservedly to the promotion of the industrial interests of the state.

It shall be the duty of the Treasurer —

1. To receive primarily and exclusively all moneys due the Society, from whatever source.

2. To keep a full and faithful record of all receipts of moneys coming into his hands, and of the sources whence derived, in a book specially furnished by and belonging to the Society, and to have the same open at all reasonable times, to the inspection of any person or persons authorized by the executive committee to make such examination.

3. To likewise keep an exact record of every order by him paid; and such record must be verified by the proper vouchers, showing that the sums therein named have been by him so paid.

SECTION III.

OF MEETINGS.

The Executive Committee shall meet annually, on the day preceding the day on which the annual meeting of the Society is held, on Monday preceding the first Tuesday of February, and again on the first day of the annual fair.

They shall also meet at the call of the secretary, the president and a vice-president of the Society concurring — and may adjourn to any stated time.

SECTION IV.

OF A QUORUM.

At any meeting of the Executive committee, four members thereof shall constitute a quorum for the transaction of business.

SECTION V.

OF PERMANENT COMMITTEES.

There shall be two permanent committees of the Executive committee, which shall be respectively styled the *Standing Committee* and the *Finance Committee*.

The Standing Committee shall consist of the president, the secretary and the treasurer, who shall have power in the recess of the Executive committee to draw orders on the treasurer for all necessary current incidental expenses. But the Executive committee shall have authority, and are hereby required to revise the proceedings or transactions of said Standing committee, and indorse or disapprove of the same.

The Finance Committee shall consist of the president and treasurer, and it shall be their duty to suggest means for increasing the revenues of the Society.

They shall also have authority to invest any portion of the funds of the Society that may from time to time be set apart by the Executive committee for investment, disposing of such funds upon such terms and conditions as may be prescribed by the said Executive committee.

Each of the above-named sub-committees shall be responsible for the faithful discharge of their duties to the Executive committee, to whom an appeal may at any time be taken from their acts or decisions.

The auditing, adjusting, allowing or rejecting of all bills, claims or demands, of whatsoever nature, against the Society, and the issuing of orders upon the treasurer for payment of the same — except for the current n'i-

dental expenses of the society, as by this section already provided for— shall devolve upon the Executive committee; and it shall be the duty of said committee to annually examine the books, papers and vouchers of the treasurer and secretary, and compare the same, and adjust the accounts between those officers and the Society, and report thereon at the annual meeting in December.

SECTION VI.

OF THE ORDER OF BUSINESS.

The following order of business shall be observed at all meetings of the Executive committee:

1. Reading the minutes of the preceding meeting.
2. Reading the minutes and reports of the Standing committee.
3. Reading the minutes and reports of the Finance committee.
4. Report of Auditing committee.
5. Reports from special committees.
6. Communications from the secretary.
7. Communications from members of the committees.
8. Unfinished business.
9. Miscellaneous business.

This order of business may be suspended, however, at any time, by a vote of the majority of the members present.

SECTION VII.

OF THE FISCAL YEAR.

The fiscal year of this society shall commence on the first Wednesday of December in each year, and all annual reports of the year previous shall be made up to that time.

SECTION VIII.

OF THE EXPIRATION OF THE TERMS OF OFFICE.

The terms of office of all the officers of this Society shall expire on the 31st day of December of each year.

SECTION IX.

OF AMENDMENTS.

These by-laws may be amended at any regular meeting of the Executive committee by a vote of eight of the members thereof.

LIFE MEMBERS.

Names.	Residence.	Names.	Residence.
Adams, James.....		Blair, F. J.	Milwaukee.
Adams, L. L.	Stoner's Prairie	Blanchar, Willard.	Madison.
Alexander, O.		Bostwick, J. M. ...	Janesville.
Allen, J. W.	Janesville.	Bostwick, R. M. ...	Janesville.
Allen, W. C.	Delavan.	Bonnell, James...	Milwaukee.
Allis, Edward P. ...	Milwaukee.	Bonnell, L.	
Anderson, Matt ...	Cross Plains.	Boorse, Henry	Granville.
Angell, R. R.	Janesville.	Brown, W. W.	Merton.
Angell, W. H.	Sun Prairie.	Barry, A. C.	Lodi.
Atkins, Albert R. ...	Milwaukee.	Boyce, A. A.	Lodi.
Atwood, David	Madison.	Boyd, R. B.	Milwaukee.
Atwood, Wm. T. ...	Portland, Org.	Bowman, J. M. ...	Madison.
Atwood, R. J.	Madison.	Bradley, C. T. ...	Milwaukee.
Armour, P. D.	Chicago.	Braley, A. B.	Madison.
Armstrong, L. G. ...	Boscobel.	Brazen, Benj.	Wauwatosa.
Arnold, A. A.	Galesville.	Brichener, G. H. ...	Sheboygan Fa's
Aspinwall, D. M. ...	Farmington.	Brabazon, J. R. ...	Delavan.
Ackerman, Philip ...	Milwaukee.	Brockway, E. P. ...	Milwaukee.
Abresch, C.	Milwaukee.	Brodhead, E. H. ...	Milwaukee.
Auerbach, S. B. ...	Milwaukee.	Brown, Jas. J. ...	Madison.
Asmuth, Anton. ...	Milwaukee.	Brown, John A. ...	Chicago.
Andrus, L. E.	Milwaukee.	Brown, Frank G. ...	Madison.
Auer, Louis'.....	Milwaukee.	Bruce, A. T.	Madison.
Adams, H. C.	Madison.	Bryan, John.	Cross Plains.
		Bryant, F. H.	Madison.
Babbitt, A. O.	Beloit.	Bryant, D. D.	Madison.
Billings, Carl.	Madison.	Bryant, G. E.	Madison.
Briggs, F.	Madison.	Bryant, Jr., G. E. ...	Madison.
Babbitt, Clinton ...	Beloit.	Bull, Stephen.	Racine.
Babbitt, D. H.	Auburn, N. Y.	Bullard, James. ...	Bridgwa'r, Da.
Bacon, I. P.	Waunakee.	Bump, N. P.	Janesville.
Bacon, W. D.	Waukesha.	Bunker, Geo.	Madison.
Bailey, A. P.	Oshkosh.	Burgess, J. M. ...	
Bailey, M. T.	Madison.	Bush, Samuel ...	Milwaukee.
Barlass, Andrew. ...	Emerald Grove.	Button, Henry H. ...	Milwaukee.
Barlass, David.	Emerald Grove.	Burnham, Jr., A. ...	
Barrows, E. S.		Burnham, J. L. ...	Milwaukee.
Bates, A. C.	Janesville.	Burnham, Miles. ...	Bl'ng Pr., Minn.
Bement, E. R.	Oregon.	Byrne, John A. ...	Madison.
Bemis Jervis.	Footville.	Brand, F. C. G. ...	Milwaukee.
Benedict, J. D.	Bristol.	Burroughs, Geo. ...	Milwaukee.
Benedict, S. G.		Bunde, Louis W. ...	Milwaukee.
Benedict, W. G. ...	Milwaukee.	Beer, Richard.	Milwaukee.
Benson, S. W.		Bass, Jas. W.	Milwaukee.
Biglow, F. G.	Milwaukee.	Busjaeger, A.	Milwaukee.
Bliss, C. M.		Birkel, F. G.	Milwaukee.
Bird, I. W.	Jefferson.	Bayley, F. W.	Beaver Dam.
Bird, T. E.		Boomer, Elbert ...	Beaver Dam.
Bishop, J. C.	Fond du Lac.	Boomer, E. J.	Beaver Dam.
Black, John.	Milwaukee.	Boening, Job H. ...	Milwaukee.

Names.	Residence.	Names.	Residence.
Best, Jr., Chas....	Milwaukee.	Colton, John B....	Madison.
Boyd, J. G.....	Milwaukee.	Ccooper, E. J....	Des Moines, Ia.
Becker, Washingt'n	Milwaukee.	Cornell, James..	Oakfield.
Boynton, A. L....	Milwaukee.	Cornwell, H. H..	
Bechtel, Daniel....	Madison.	Corrigan, John E.	Milwaukee.
Boyden, J. A.....	Milwaukee.	Cottrill, J. P. C.	Milwaukee.
Brown, Thos. H....	Milwaukee.	Cottrill W. H....	Appleton.
Bigelow, Wm....	Milwaukee.	Cottrill, C. M....	Milwaukee.
Bergenthal, Wm....	Milwaukee.	Crampton, N. B.	Madison.
Bartlett, L.....	Milwaukee.	Crawford, J. B..	De Smet, Dak.
Bartlett, O. C....	Milwaukee.	Crawl, John.....	Center.
Bradley, Edward..	Milwaukee.	Crilly, John J....	Milwaukee.
Boorse, J. H.....	Milwaukee.	Crocker, Hans...	Milwaukee.
Bacon, E. P.....	Milwaukee.	Crosby, J. B....	
Brigham, D. M....	Milwaukee.	Crossett, B. F....	Janesville.
Boyd, Francis....	Milwaukee.	Culver, Caleb E..	Shopiere.
Burnham, John F.	Milwaukee.	Cummings, Wm.	Randolph, Ia.
Buestrin, Henry...	Milwaukee.	Curtis, F. C.	Rocky Run.
Bradley, W. H....	Milwaukee.	Curtis, D. W....	Ft. Atkinson.
Boorse, W.....	Milwaukee.	Curtis, Dexter...	Madison.
Bartels, J. L....	Milwaukee.	Cutting, J. W...	
Beckwith, S.....	Milwaukee.	Coon, H. C.....	Albion.
Beck, C. A.....	Milwaukee.	Cook, W. H.....	West Point.
		Crawford, E. B..	
Carey, Ed. A.....	Fond du Lac.	Cramer, John F..	Milwaukee.
Camp, H. H.....	Milwaukee.	Cudahy, P.....	Milwaukee.
Cantwell, M. J....	Madison.	Campbell, J. G. J.	Milwaukee.
Capron, Geo.....	Boston, Mass.	Cuppel, Chas....	Milwaukee.
Carleton, W. D....	Sun Prairie.	Chapin, Chas. A.	Milwaukee.
Carpenter, J. E....	Windsor.	Chandler, E. H..	Milwaukee.
Carpenter, J. H....	Madison.	Campbell, M. Y..	Milwaukee.
Carpenter, S. D...	Carthage, Mo.	Cary, Edward L..	Milwaukee.
Carr, N. B.....	Madison.	Corrigan, J. C...	Milwaukee.
Carr, Joseph S....			
Carter, A. M.....	Johnston.	Doyon, M. R.....	Madison.
Carver, P. S.....		Davis, Patrick...	
Case, J. I.....	Racine.	Dexter, W. W....	
Clark, C. H.....	Madison.	Dahlman, Anth'ny	Milwaukee.
Clark, D. J.....	Milwaukee,	Dann, Obed.....	
Chandler, J. C....	Madison.	Danks, E. P.....	Stoughton.
Chapman, T. A....	Milwaukee.	Daniels, W. W...	Madison.
Chase, Enoch.....	Milwaukee.	Darling, K. A...	Fond du Lac.
Cheney, Rufus....	Evanston, Ill.	Darwin, A. G....	
Chipman, A.....	Sun Prairie.	Daubner, Geo. H.	Brookfield, C.
Children, E.....	E. Dububue, Ia	Davidson, Adam.	Verona.
Chipman, C. R....	Waunakee.	Davis, N. P.....	
Church, W. W....		Davis, W.....	Center.
Clark, C. R.....	Madison.	Dean, E. B.....	Madison.
Church, Wm. A....		De Hart, J. L....	West Lima.
Clapp, G. W.....	Oregon.	De La Matyr, W.A	Stoughton.
Clark, C. M.....	Whitewater.	Delaplaine, G. P.	Madison.
Clark, Lewis.....	Beloit.	De Mor, A. B....	
Cochrane, John...	Waupun.	Dewey, Nelson...	Cassville.
Cogswell, A. W...	Galesburgh, M.	De Wolf, E.....	
Colby, Charles....		Devoe, A. B....	McFarland.
Colman, W. W....	Milwaukee.	Dickerman, J. A.	Madison.
Colman, Ed.....	Fond du Lac.	Dodge, H. S.....	Milwaukee.
Colladay, W. M...	Stoughton.	Doolittle, W. J..	

Names.	Residence.	Names.	Residence.
Dore, J. S.....	Neillsville.	Fitch, W. G.....	Milwaukee.
Doris, John.....		Fitzgerald, R. P..	Milwaukee.
Dorn, M. M.....	Madison.	Fletcher, John...	
Dousman, T. C.....		Flint, Jr., J. G....	Milwaukee.
Dow, O. P.....	Palmyra.	Folds, Geo. H.....	Sioux Falls.
Drakley, S.....		Foot, E. A.....	Footville.
Dunlap, S.....	Token Creek.	Foot, A. E.....	Milwaukee.
Durkee, H.....	Kenosha.	Ford, J. C.....	Madison.
Dutcher, J. A.....	Milwaukee.	Fowler, James S.	Milwaukee.
Dwinnell, J. B.....	Lodi.	Fox, A. O.....	Oregon.
Dunham, M. W...	Wayne, Ill.	Fratt, N. D.....	Racine.
Durand, Wm. T....	Milwaukee.	Frank, A. S.....	
Des Forges, Geo...	Milwaukee.	Frank, Geo. R.....	Boscobel.
Day, F. T.....	Milwaukee.	Frankfurth, Wm.	Milwaukee.
Durr, Emil.....	Milwaukee.	Freeman, C. F....	Milwaukee.
Dickinson, O. B...	Milwaukee.	Friedman, Ignatius	Milwaukee.
Drake, John R....	Milwaukee.	French, Jonathan	
Dexter, Chas. J...	Milwaukee.	Fuller, M. E.....	Madison.
Daly, John L.....	Milwaukee.	Fuller, F. D.....	Madison.
		Fuller, E. M.....	Madison.
Eaton, J. O.....	Lodi.	Fuller, Miss Frank L	Madison.
Echlin, J. C.....	Janesville.	Foley, Jr., John..	Milwaukee.
Edgerton, E. W...	Milwaukee.	Finney, F. N.....	Milwaukee.
Elderkin, Ed.....	Elkhorn.	Friend, Elias.....	Milwaukee.
Elliott, E.....		Fay, Chas. H.....	Milwaukee.
Elliott, Jas. T....	Racine.	Frattinger, Peter.	Milwaukee.
Ellis, J. A.....		Fitzgerald, H. J..	Milwaukee.
Edmunds, F. W....		Fisher, H. D.....	Florence, Wis.
Ellsworth, L.....	Milwaukee.	Fueldner, Herman	Milwaukee.
Ellsworth, W. J...	Madison.	Fohey, Michael...	Milwaukee.
Elmore, A. E.....	Green Bay.	Farlow, Simeon..	Burnett.
Elmore, R. P.....	Milwaukee.		
Eldred, John.....	Milwaukee.	Gates, D. W. C...	
Elson, Charles....	Milwaukee.	Galbraith, Jas....	Janesville.
Emmons, N. J.....	Detroit.	Gammons, Warren	Middleton.
Enos, Elihu.....	Waukesha.	Gaylord, Aug....	
Esterley, Geo. W..	Whitewater.	Gernon, Geo.....	Madison.
Ehlers, C. F.....	Milwaukee.	Gibbs, Chas. R....	Whitewater.
Eastman, John....	Madison.	Gilbert, Thos....	Oregon.
		Giles, H. H.....	Madison.
Falk, Frank R....	Milwaukee.	Gilman, H.....	Sun Prairie.
Farnsworth, J. H..	Fond du Lac.	Gleason, H. B....	Madison.
Farwell, L. J.....		Goodenow, H. D...	Madison.
Fenn, G. W.....	Janesville.	Goodrich, Ezra...	Milton.
Ferguson, D.....	Milwaukee.	Gould, L. D.....	
Ferguson, Benj....	Fox Lake.	Grady, F. M.....	Madison.
Field, Martin.....	Muckwanago.	Graham, Alex....	
Field, W. W.....	Odebolt, Ia.	Grant, Albert....	Milwaukee.
Fifield, L.....	Janesville.	Graves, R. T.....	Ripon.
Fifield, D. E.....	Janesville.	Graves, S. W.....	Rutland.
Fifield, E. G.....	Janesville.	Green, Richard...	Middleton.
Finch, Lorin.....	Janesville.	Green, N. S.....	Milford.
Firnain, F. H.....	Hastings, Neb.	Greenleaf, E. B...	Milwaukee.
Fisher, C. C.....	Center.	Greenman, C. H..	Dov'r Cen., Min.
Fischer, Elijah...		Greenman, H. D...	
Fisher, Seth.....	Center.	Gregory, J. C.....	Madison.
Fitch, D.....	Madison.	Grinnell, J. F....	Farmers Grove.
Fitch, W. F.....		Groom, J.....	

Names.	Residence.	Names.	Residence.
Grubb, W. S.....	Baraboo.	Hoskins, Alfred..	Janesville.
Gurnee, J. D.....	Madison.	Hoyt, J. W.....	
Goodrich, John R..	Milwaukee.	Hoyt, F. E.....	Rochester.
Garrett, G. W.....	Milwaukee.	Hurlbut, E.....	Oconomowoc.
Grant, W. J.....	Milwaukee.	Hume, Wm.....	Oshkosh.
Gray, T. A.....	Milwaukee.	Hutchins. C. A..	Fond du Lac.
Green, David C....	Milwaukee.	Hutson, J. S....	Stoughton.
Gilligan, John....	Milwaukee.	Hudson, John....	Madison.
Goodrich, T. W....	Milwaukee.	Huntley, D.....	Appleton.
Gallagher, A.....	Milwaukee.	Hyde, Edwin.....	Milwaukee.
Goes, Geo. W.....	Milwaukee.	Hansen, Guido...	Milwaukee.
Gartner, Andrew..	Milwaukee.	Hansen, Thos....	Milwaukee.
		Hansen, John E..	Milwaukee.
Haight, Nicholas..	Madison.	Hansen, Oscar C..	Milwaukee.
Haight, J. M.....		Hubbard, S. D...	Mondovi.
Hall, Augustus....		Hopkins, H. C...	Milwaukee.
Hallock, Youngs..	Middleton.	Hildebrand, And.	Milwaukee.
Hall, H. P.....		Hendee, C. A....	Milwaukee.
Hall, S. H.....	Madison.	Helms, Christian.	Milwaukee.
Hanchett, A. H....	Milwaukee.	Heyn, Herman...	Milwaukee.
Hatch, Eugene....	Jefferson.	Henes, Jr., Louis.	Milwaukee.
Hancock, Brad....	Chicago.	Hoffman, Chas. G.	Milwaukee.
Hanks, A. S.....	Milwaukee.	Holbrook, Jas....	Milwaukee.
Hammond, L. M....		Home, W. M.....	Milwaukee.
Hammond, E. S....	Fond du Lac.	Hauxhurst, Sidney	Milwaukee.
Harrington, N. M..	Delavan.	Hamilton, A. K..	Milwaukee.
Harris, Jas.....	Janesville.	Hintze, C. F. A..	Milwaukee.
Harvey, J. N.....	Kn'xville, Tenn	Hartman, F. W...	Milwaukee.
Hasbrouck, W.....		Haisler, M. J....	Milwaukee.
Hastings, S. D....	Madison.	Hiles, Geo.....	Milwaukee.
Hausmann, Jos....	Madison.	Hurson, G.....	Milwaukee.
Hawes, J. T.....	Wil'wLake, Da.	Hackendall, E....	Milwaukee.
Hawes, W. N.....	East Middleton	Hirsch, H.....	Milwaukee.
Hayes, A. J.....	Milwaukee.	Hinrichsen, H. L.	Milwaukee.
Hazelton, Geo. C..	Washington.	Hinkel, John.....	Milwaukee.
Hazen, Chester...	Ladoga.		
Helmer, A. M.....	Waukesha.	Iisley, Chas. F...	Milwaukee.
Hempsted, H. N...	Milwaukee.	Inbush, J. H.....	Milwaukee.
Hicks, J. H.....	Oshkosh.	Ingram, A. C....	
Hibbard, W. D....	Milwaukee.	Iverson, J. C.....	Milwaukee.
Higby, A. T.....	Ft. Atkinson.		
Hill, H. J.....		Jacobs, Wm.....	Madison.
Hill, J. P. W.....		Jackman, Hiram..	
Hill, Robert.....		Jeffery, Geo.....	Milwaukee.
Hill, J. H.....	Madison.	Jenks, S. R.....	
Hickley, B. R.....	Summit.	Johnston, W. A..	Galesville.
Hitt, H. D.....	Oakland.	Jenkins, J. C....	Janesville.
Hodson, C. N.....	Janesville.	Jerdee, L. P.....	Madison.
Hoeflinger, Carl...	Wausau.	Jerdee, M. P....	Madison.
Hogan, Gilbert....	Eleria, O.	Johnson, John, Jr.	Madison.
Holister, R. M....	Dakota.	Johnson, M. B...	
Holmes, A. M.....		Johnson, Joseph..	Hartland.
Holton, Edward D.	Milwaukee.	Johnson, John V.	
Hoven, Matt.....	Madison.	Johnson, John A.	Madison.
Hopkins, B. B.....	Milwaukee.	Johnston, Hugh L.	Milwaukee.
Hopkins, E. C....	Milwaukee.	Johnston, John...	Milwaukee.
Hopkins, James...		Jones, E. D.....	Fond du Lac.
Hoskins, J. W....		Jones, C. H.....	Sun Prairie.

Names.	Residence.	Names.	Residence.
Jones, John N.	Madison.	Lynch, T. M.	Janesville.
Jenkins, J. G.	Milwaukee.	Lysaght, Wm.	Monroe.
Josslyn, E. S.	Milwaukee.	Lesley, John	
Kellogg, Geo. J.	Janesville.	Luenzmann, C. ...	Milwaukee.
Keiwert, Emil.	Milwaukee.	Lennox, B. G.	Milwaukee.
Kent, A. C.	Janesville.	Lewis, Calvin E. ...	Milwaukee.
Kershaw, C. J.	Chicago.	Luening, A. F.	Milwaukee.
Keyes, E. W.	Madison.	Mann, J. E.	Sun Prairie.
Kimball, M. G.		Main, Alex. H.	Madison.
Kingsley, Geo. P. ...		Mann, A. L.	Madison.
Kingston, J. T.	Necedah.	Mann, Henry	Sun Prairie.
Kiser, W. C.	Tetonka, D. T.	Mann, Curtis	Oconomowoc.
Kiser, J. C.	Oregon.	Manwaring, Wm. ...	Black Earth.
Knight, E.	Myrtle, D. T.	Marshall, Samuel. ...	Milwaukee.
Kneeland, James. ...	Milwaukee.	Martin, A. C.	Ashton.
Knowles, Geo. P. ...	Fond du Lac.	Martin, C. L.	Janesville,
Knowles, Geo.	Milwaukee.	Martin, Nathaniel ...	
Knapp, G. A.	Fond du Lac.	Martin, S. W.	
Knapp, J. G.	Limona, Fla.	Mason, Geo. A.	
Knapp, Wm. A. ...	Fond du Lac.	Matthews, A. R. ...	Milwaukee.
Koss, Rudolph	Milwaukee.	Maxson, O. T.	Evanston, Ill.
Koch, John C.	Milwaukee.	May, A. C.	Milwaukee.
Kelly, Thos. L.	Milwaukee.	Mayhew, T. W.	
Kraus, Fred.	Milwaukee.	Mayhew, F. L.	
Kern, J. B. A.	Milwaukee.	Mayhew, J. L.	
Krull, Robt.	Milwaukee.	McCarty, F. D.	
Kane, A. L.	Milwaukee.	McComber, S. D. ...	New Lisbon.
Kendrick, C. D.	Milwaukee.	McConnel, W. N. ...	Dartford.
Klein, Peter J.	Milwaukee.	McConnell, T. J. ...	Madison.
Kellogg, Rufus B. ...	Green Bay.	McCormick, J. G. ...	Madison.
Ladd, M. L.	Mendota, Ill.	McDermott, Wm. ...	Fond du Lac.
Lamb, F. J.	Madison.	McDonald, A.	Alloa.
Landaur, Max.	Milwaukee.	McDonald, J. S. ...	Fond du Lac.
Lapham, Henry ...	Summit.	McDowell, H. C. ...	Oconomowoc.
Larkin, B. F.	Madison.	McGeogh, P.	Milwaukee.
Larkin, C. H.	Milwaukee.	McIndoe, N. D. ...	Wausau.
Larkin, Daniel.	Madison.	McKenna, Martin. ...	Madison.
Larkin, Wm.	Madison.	McLaren, Wm. P. ...	Milwaukee.
Lawrence, W. A. ...	Janesville.	McNeil, David.	Stoughton.
Lawton, J. G.	De Pere.	McPherson, J. P. ...	Springdale.
Lazier, E. J.	Rochelle, Ill.	Merrill, Alf.	Madison.
Learned, J. M.	California.	Miller, C. B.	Madison.
Leidersdorf, B.	Milwaukee.	Miller, John.	
Leitch, W. T.		Millett, Chas. O. ...	Beloit.
Leitch, Jr., W. T. ...		Mills, Simeon.	Madison.
Lester, Waterman. ...		Miner, Cyrus.	Janesville.
Lewis, John L.	Madison.	Miner, John B.	Milwaukee.
Lindsay, E. J.	Milwaukee.	Mitchell, Alex.	Milwaukee.
Lloyd, Lewis.	Cambria.	Mitchell, J. L.	Milwaukee.
Lockin, John.	Pueblo, Col.	Moore, B. F.	Fond du Lac.
Lockwood, John ...		Morden, E.	Madison.
Ludington, H.	Milwaukee.	Morehouse, L. H. ...	Milwaukee.
Ludington, James. ...	Milwaukee.	Morrison, W. H. ...	Madison.
Ludlow, A.	Monroe.	Moseley, J. E.	Madison.
Lucy, O. K.	Columbus.	Moxley, A. R.	
Lyman, H.	Dakota.	Mullen, James.	
		Murray, Geo.	Racine.

Names.	Residence.	Names.	Residence.
McFetridge, E. C.	Beaver Dam.	Patten, L. F.	Janesville.
Meinecke, A.	Milwaukee.	Patton, Jas. E.	Milwaukee.
Manegold, A. F.	Milwaukee.	Paul, Geo. H.	Milwaukee.
Miller, Roswell	Milwaukee.	Payne, Wm	Janesville.
Morgan, Thos	Milwaukee.	Payne, H. C.	Milwaukee.
Morgan, Jas	Milwaukee.	Peffer, G. P.	Pewaukee.
Mohr, Oscar	Milwaukee.	Pember, R. T.	Janesville.
Mann, J. G.	Milwaukee.	Perkins, P. M.	Burlington.
Mendel, H. M	Milwaukee.	Perrine, L. W	
Madegold, Chas., Jr	Milwaukee.	Perry, B. F.	Madison.
McCord, Sam.	Milwaukee.	Pfister, Guido	Milwaukee.
Mueller, Oscar	Milwaukee.	Pier, C. K.	Fond du Lac.
Mathews, E. P.	Milwaukee.	Pierce, C. L.	Milwaukee.
Melindy, Miss M. A.	Milwaukee.	Pilgrim, D. T.	Wauwatosa.
Mock, B.	Milwaukee.	Palmer, E. W	Madison.
Millard, A. F.	Milwaukee.	Pinney, S. U.	Madison.
Mitchell, G. Stanley	Milwaukee.	Plankinton, John.	Milwaukee.
Miller, B. K.	Milwaukee.	Plumb, J. C.	Milton.
Mueller, Louis J.	Milwaukee.	Plumb, T. D.	Madison.
Mix, E. T.	Milwaukee.	Plummer, B. C.	Wausau.
		Pond, Samuel A.	Janesville.
Nason, S. L.	Nasonville.	Porter, Wm. H.	Marshall.
Nash, C. D.	Milwaukee.	Porter, G. E.	Eau Claire.
Nazro, John	Milwaukee.	Powers, W. J.	
Needham, E. G.	Elm Grove.	Paulson, Aug.	New Holstein.
Newcomb, S. B.	Cold Spring.	Pabst, Fred.	Milwaukee.
Newton, J. S.	Middleton.	Pratt, E. E.	
Nichols, L. T.	Berlin.	Pres. St. Peter's Val	
Norris, C. W.	Milwaukee.	Farmer's Club.	Springfield.
Norton, J. B.	Madison.	Pratt, Oris	Spring Prairie.
Nowell, W. A.	Milwaukee.	Power, D. J.	
Nelson, C. B.	Madison.	Pabst, Fred., Jr.	Milwaukee.
Newton, T. L.	Beaver Dam.	Pabst, Gustav	Milwaukee.
Nunnemacher, Rob.	Milwaukee.	Pereles, Thos. J.	Milwaukee.
Newcomb, C. W.	Milwaukee.	Pereles, James M.	Milwaukee.
Nunnemacher, C. W.	Milwaukee.	Phillips, J. P.	Milwaukee.
Neacy, M.	Milwaukee.	Pruesser, C.	Milwaukee.
		Pfister, Chas.	Milwaukee.
Ober, R. P.		Polzinsky, Jas.	Milwaukee.
Ogilvie, Robert.	Madison.	Pritchard, Miss M.	Janesville.
Olcott, J. B.	Oshkosh.		
Oliver, Joseph B.	Milwaukee.	Quinn, Jeremiah.	Milwaukee.
Olney, C. W.	La Cygne, Kan.		
Orr, G. H.		Ray, Chas	Milwaukee.
Ott, Geo. V.	Lawtey, Fla.	Raymond, S. O.	Geneva.
Otjen, C. S.	Milwaukee.	Riordan, Chas	
Ormond, Wm. M.	Milwaukee.	Reed, Harrison	Jacksonv'l, Fla.
Osbourne, W. H.	Milwaukee.	Ressigue, A. C.	Janesville.
Olcott, John D.	Milwaukee.	Reynolds, Thos	Madison.
		Reynolds, John	Kenosha.
Palmer, H. L.	Milwaukee.	Rexford, J. D.	Janesville.
Palmer, J. Y.	Oregon.	Rice, E. M.	Whitewater.
Palmer, O. M.	Oregon.	Richardson, D.	Middleton.
Palmer, Henry	Verona.	Richardson, Jas.	
Park, Wm. J.	Madison.	Richardson, R. J.	Janesville.
Parker, C. H.	Beloit.	Richardson, H.	Janesville.
Parmley, Ira	Center.	Richmond, A.	Whitewater.
Parsons, P. B.		Riebsam, C. R.	Madison.
Paul, John H.	Genesee.	Robbins, J. V.	New York.
Partridge, J. S.	Whitewater.	Rodgers, L.	

Names.	Residence.	Names.	Residence.
Roe, J. P.....		Spencer, R. C.....	Milwaukee.
Rogers, C. H.....	Milwaukee.	Squier, Thomas H	Waterloo.
Rodgers, D. G.....	Milwaukee.	Stannard, A. C....	Milton.
Rogers, J. S.....	Burlington.	Stark, Chas. G....	Milwaukee.
Rogers, Anson.....	Janesville.	Steele, Chester....	Milwaukee.
Rogers, H. G.....	Milwaukee.	Stevenson, Isaac..	Marinette.
Rowe, Richard W.	Madison.	Steenland, H.....	Madison.
Rowe, W. E.....	Arena.	Stewart, C. R.....	Karson, Minn.
Ruggles, J. D.....	San Francisco.	Stewart, G. H.....	Col. Spr'gs, Col.
Ryder, James K....	Waterloo.	Stilson, Edgar....	Oshkosh.
Rawson, C. A.....		Stilson, Adelbert.	Oshkosh.
Richter, Fredrick..	Chestnut St. Mil.	St. John, J. W....	Janesville.
Richardt, Griffith..	Cambria.	Stockman, John...	Milton Junct'n.
Rich, A. W.....	Milwaukee.	Stone, Gustavus...	Beloit.
Rohlfing, Wm.....	Milwaukee.	Storm, Wm.....	Madison.
Rosenkrans, O. L..	Milwaukee.	Stowe, La Fayette	Sun Prairie.
Rogers, C. C.....	Milwaukee.	Street, Richard...	Waukesha.
Rademacher, Wm.	Milwaukee.	Sutherland, C....	Syene.
Rust, Julius.....	North Greenf'd.	Swain, Wm W....	Madison.
		Schardein, Emil..	Milwaukee.
Shaw, Geo. B.....	Eau Claire.	Stark, Edward J.	Milwaukee.
Sherman, Amaziah	Janesville.	Schoeffel, Geo. J..	Milwaukee.
Stevens, J. T.....	Madison.	Stelloh, Henry....	Root Creek.
Sherman, Adelmar	Janesville.	Smith, A. E.....	Milwaukee.
Stanley, William..	Vienna.	Schweitzen, Theo.	Milwaukee.
Sprecher, John....	Madison.	Smith, A. A. L....	Milwaukee.
Sage, E. C.....	Faulton, D. T.	Shea, Thomas....	Milwaukee.
Salisbury, R. W....	Paoli.	Shea, Edward....	Milwaukee.
Salisbury, D. F....	Oregon.	Saveland, John...	Milwaukee.
Sanderson, Ed.....	Milwaukee.	Sawyer, James...	Milwaukee.
Sanderson, R. B....		Sanderson, Wm....	Milwaukee.
Sarles, John H....	Boscobel,	Simonds, Wm. L.	Milwaukee.
Schute, Charles....		Stolper, Chas....	Milwaukee.
Seville, James....	Lodi.	Shaw, Chas. N....	Milwaukee.
Sexton, W. F.....	Milwaukee.	Sanger, Casper M.	Milwaukee.
Simmons, C. J.....	Monroe.	Sholes, Chas.....	Milwaukee.
Sharp, J. W.....	Iowa.	Seiben, John....	Milwaukee.
Shaw, J. B.....		Spencer, John C..	Milwaukee.
Sheldon, A. H.....	Janesville.	Snyder, Fred.....	Milwaukee.
Sheldon, D. G.....	Madison.	Stafford, H. H....	Milwaukee.
Seaver, J. E.....	Darien.	Sanborn, Jas. S..	Milwaukee.
Sheldon, S. L.....	Madison.	Simpson, E. B....	Milwaukee.
Shepard, C.....	Milwaukee.	Seamans, S. H....	Milwaukee.
Shipman, S. V.....		Salisbury, Abra'm	Milwaukee.
Skelley, Charles...	Janesville.	Spaulding, D. J...	Bl'k Riv. Falls.
Skinner, Geo. J....	Sioux F'ls, Dak.	True, John M....	Baraboo.
Skinner, E. W.....	Sioux City, Ia.	Tuttle, A. G.....	Baraboo.
Sloan, I. C.....	Madison.	Tallman, W. H....	Janesville.
Slocum, J. A.....	Chicago.	Taylor, E. T.....	Mukwanago.
Smith, Winfield...	Milwaukee.	Taylor, W. R.....	Cottage Grove.
Smith, Angus.....	Milwaukee.	Tenney, H. A.....	Madison.
Smith, M. C.....	Janesville.	Tenney, D. K.....	Chicago.
Smith, S. B.....	Big Bend.	Tenney, Samuel...	Hartland.
Smith, J. Maurice.		Terwilliger, Jas..	Syene.
Smith, J. M.....	Green Bay.	Thorson, John....	Milwaukee.
Snell, H.....	Madison.	Tibbits, Geo. M...	Milwaukee.
Stickney, J. S.....	Wauwatosa.	Tierney, K.....	California.
Spencer, James C..	Milwaukee.	Twining, M. S....	Brodhead.

Names.	Residence.	Names.	Residence.
Thompson, W. H. . .		Wheeler, Guy	Janesville.
Thorp, J. G.	Eau Claire.	Wheeler, L. A. . . .	Milwaukee.
Todd, J. G.	Janesville.	Wheelock, W. G. . .	Janesville.
Tolford, J. W. . . .	Neillsville.	Wheelwright, J. . .	Middleton.
Torgerson, Lars . .	Madison.	Whitney, W. F. . .	Milwaukee.
Torrey, R. D.	Racine.	Wicks, Thomas . . .	Milwaukee.
Townley, John . . .	Moundville.	Wight, W. O.	
Treat, E. B.		Wightman, H.	
Treat, George E. . .	Milwaukee.	Wilcox, C. T.	Janesville.
Theurer, Fred . . .	Milwaukee.	Wilkins, A. W. . . .	Milwaukee.
Tucker, Joseph F. .	Milwaukee.	Wiley, O. S.	Benn Har., Mich
Tweedy, Jr., J. H. .	Milwaukee.	Williams, C. H. . . .	Baraboo.
Thompson, Dr. J.H.	Milwaukee.	Williams, D.	Darien.
Taylor, H. A.	Milwaukee.	Williams, Daniel.	Summit.
		Williams, J. P. . . .	
Van Brunt, W. A. . .	Horicon.	Williams, G. G. . . .	Whitewater.
Van Cott, Albert B.	Madison.	Williams, Randall	Janesville.
Van Etta, Jacob. . .	Madison.	Williams, S. B. . . .	Madison.
Van Kirk, N.	Chicago.	Wilson, Wm.	Windsor.
Van Schaick, Jr., W	Milwaukee.	Wilson, Zebina . . .	Palmyra.
Van Slyke, N. B. . .	Madison.	Wood, J. W.	Baraboo.
Vaughn, A. W. . . .	Lodi.	Wootton, Robert.	Madison.
Viall, Andrus	Madison.	Worthington, B. M	
Vilas, Chas. H. . . .	Chicago.	Wright, D. H.	Madison.
Vilas, L. M.	Eau Claire.	Wright, Geo.	Mt. Horeb.
Vilas, Wm. F.	Madison.	Wright, J. S.	Emerald Grove.
Van Norman, G. B.	Milwaukee.	Wright, Josiah T.	Janesville.
Vance, Frank L. . . .	Milwaukee.	Wylie, Geo. W. . . .	Elkhorn.
Vilter, Ernst	Milwaukee.	Weisel, Peter.	Milwaukee.
Vance, David	Milwaukee.	Wagner, Julius . . .	Milwaukee.
Van Baumbach, C.	Milwaukee.	Weilel, August. . . .	Milwaukee.
		Welrab, Sylvan. . . .	Milwaukee.
Ward, A. J.	Madison.	Wolcott, H.	Milwaukee.
Waggstaff, S.		Warren, Fred. C. . .	Fox Lake.
Wackerhagen, E. . .	Racine.	Wharton, J. S. . . .	Milwaukee.
Wait, J. B.		Wellauer, Jacob. . .	Milwaukee.
Warren, Albert. . . .	Madison.	White, C. W.	Milwaukee.
Warren, J. H.	Janesville.		
Welch, W.	Madison.	Yewdale, Merton H	Milwaukee.
Werner, John	Sauk.		
West, Henry.	Madison.	Zweitusch, Otto. . .	Milwaukee.
West, S. C.	Milwaukee.	Zimmerman, Val.	Milwaukee.
West, Henry M. . . .	Milwaukee.	Zimmerman, G. J.	Milwaukee.
Whaling, J. W. M.	Waukesha.	Zinn, A. C.	Milwaukee.
Wheeler, Geo. F. . .	Milwaukee.		

MORTUARY.

J. M. Arnold,
Isaac Adams,
Chauncey Abbott,
Chas. D. Atwood,
J. W. Ayres,
H. M. Allen,
Robert Baker,
Géo. Baxter,
Timothy Brown,
James Barry,
Fred. Bemis,
W. G. Beecroft,
George Barnes,
A. A. Bennett,
H. M. Billings,
Perry Bostwick,
W. A. Briard,
B. F. Brown,
H. D. Barron,
J. B. Bowen,
Levi Blossom,
Guy Carter,
Wm. Casar,
S. Chandler,
C. M. Campbell,
C. B. Chapman,
John Child,
D. R. Coit,
B. F. Catlin,
A. J. Craig,
J. B. Crass,
H. Chase,
Satterlee Clark,
L. S. Curtiss,
Seymour Curtiss,
J. Cary,
J. A. Carpenter,
G. L. Davis,
S. B. Davis,
S. S. Daggett,
E. P. Doty,
J. B. Dousman,
H. L. Dousman,
Andrew Dunn,
J. P. Dickson,
Wm. Dunn,
E. W. Drury,
Abel Dunning,
Chas. Durkee,
N. W. Dean,
John Davis,
J. E. Dodge,
John Dahlman,
O. Ellsworth,
S. S. Fisher,

J. T. Furlong,
Sidney Foote,
Jacob Fowle,
E. Fairbanks,
W. H. Fox,
John Fernley,
John Furlong,
S. B. Grant,
Samuel Green,
Anthony Green,
Geo. G. Green,
Eleazer Grover,
Joseph Goodrich,
C. Goodrich,
Orrin Guernsey,
R. E. Gillett,
H. D. Greenman,
Peter Houston,
J. Helfenstein,
P. B. Hill,
W. B. Hibbard,
L. J. Hobart,
David Holt,
W. H. Hiner,
L. P. Harvey,
B. F. Hopkins,
Wheldon Hughes,
John W. Hunt,
E. Hulbert,
Sol. Hutson,
N. W. Harrington,
Robert Hodge,
A. G. Hanford,
J. C. Hopkins,
E. H. Jansen,
Paul Juneau,
H. C. Jacobs,
J. C. Johnson,
John Kimball,
W. J. Kershaw,
Sam. Klauber,
Moses Kneeland,
S. P. Kingsley,
L. F. Kellogg,
L. H. Kellogg,
A. C. Kent,
J. A. Lapham,
Jas. R. Larkin,
Herbert Lewis,
W. P. Lynde,
J. D. Mosher,
J. H. B. Matis,
Clinton Matterson,
E. D. Masters,
Samuel Morse,

And. McColough,
Alex. McGregor,
E. F. Mabie,
John B. Macey,
Alex. McBride,
A. S. McDill,
David McKinna,
Wm. A. Mears,
Ira Milmore,
G. F. Moseley,
D. S. Morse,
Geo. W. McDougal,
S. S. Merrill,
B. F. Nott,
E. Newton,
H. M. Page,
George Paddock,
George Paine,
W. F. Porter,
David Post,
John W. Park,
Andrew Proudfit,
D. G. Power,
B. Pinckney,
P. M. Prichard,
W. A. Phelps,
John Reynolds,
M. Reynolds,
Herbert Reed,
J. O. Rezer,
John Rodermund,
N. C. Rowley,
Simon Ruble,
Jas. H. Rogers,
R. Roddis,
Jas. Ross,
Harvey G. Russell,
Rich. Richards,
Wm. B. Slaughter,
Jos. Sullivan,
Geo. B. Smith,
Frank Scollan,
L. Sexton,
M. Spaulding,
A. C. Shipman,
Kellogg Sexton,
J. M. Sherman,
Joseph Spaulding,
Geo. C. Stevens,
S. B. Scott,
W. E. Smith,
H. P. Strong,
Adam Smith,
J. B. Smith,
S. W. Smith,
H. L. Smith,

Wm. Spaulding, Geo. Sherman, Jeff. Sinclair, Geo. H. Slaughter, U. Schutt, J. E. Sherwood, Wm. Thompson, John J. Talmadge, M. J. Thomas, Ole Thompson, B. Troop, W. H. True, A. H. Terry,	F. Troedert, Joseph Utter, L. B. Vilas, Henry Vilas, A. H. VanNorstrand, E. B. Woolcott, J. F. Willard, Dennis Worthington, Charles Weed, C. L. Williams, W. A. White, Jas. A. Webb, A. White,	T. L. Whittlesey, H. O. Wilson, N. A. Wright, W. R. Warren, James Webster, S. G. Williams, Geo. Worthington, J. F. Woolley, Martin Webster, Wm. A. Wheeler, A. H. West, D. L. Wells, J. E. Young.
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LIST OF OFFICERS OF AGRICULTURAL SOCIETIES IN WISCONSIN, FOR 1897, WITH THEIR POST OFFICE ADDRESS.

Counties.	Name of Society.	Name and P. O. Address of President.	Name and P. O. Address of Secretary.	Name and P. O. Address of Treasurer.
Adams	Adams County Agricultural Society.....	S. W. Holmes..... Big Flats.....	O. M. Coats... .. Friendship	J. W. Twining, Friendship.
Barron	Barron County Agricultural Society.....	W. W. Flynn..... Chetek.....	N. E. Carver..... Chetek.....	D. C. Strong, Chetek.
Buffalo.....	Buffalo County Agricultural Society.....	J. W. Whelan..... Mondovi.....	Alex. Lers..... Gilmanton	R. Southworth, Gilmanton.
Burnett.....	Burnett County Agricultural Society.....	John O. Newgard.. Grantsburg.....	A. Gudmanson... Grantsburg	John A. Swenson, Grantsburg.
Brown	Brown County Horticultural & Agricultural Society	J. M. Smith..... Green Bay.....	Werden Reynolds. Green Bay	
Chippewa	Chippewa County Agricultural Society	J. N. Phillips..... Chippewa Falls..	J. W. Thomas..... Chippewa Falls..	W. B. Bartlett, Chippewa Falls.
Clark	Clark County Agricultural Society.....	Jos. O'Neill..... Neillsville.....	Geo. A. Urne..... Neillsville.....	Chas. Sternitzky, Lynn.
Columbia.....	Columbia County Agricultural Society.....	A. J. Turner..... Portage	F. G. Wilde..... Portage	Robt. Bain, Portage.
Columbia. ...	Lodi Union Agricultural Society.....	Geo. Wylie	E. W. Gardner	Addison Eaton, Lodi.
Crawford.....	Crawford County Agricultural Society.....	Hugh Porter..... Seneca	Fergus Mills..... Seneca	A. E. Mills, Mt. Sterling.
Dodge	Dodge County Agricultural Socie'y.....	G. B. Congdon..... Beaver Dam.....	S. R. Webster	S. W. Andrews, Juneau.
Door	Door County Agricultural Society.. ..	C. Scofield	C. A. Masse.....	Chris. Leonhardt, Sturgeon Bay.
Dunn.....	Dunn County Agricultural Society.....	Sturgeon Bay... W. Miller	H. W. Reed	Sam'l Black, Menomonie.
Fond du Lac.	Fond du Lac County Agricultural Society.....	Rusk	Fall City.....	
		H. B. Stanchfield.. Fond du Lac.....	A. J. Decker..... Fond du Lac	G. I. Susan, Fond du Lac.

LIST OF OFFICERS OF AGRICULTURAL SOCIETIES FOR 1887—Continued.

COUNTIES.	Name of Society.	Name and P. O. Address of President.	Name and P. O. Address of Secretary.	Name and P. O. Address of Treasurer.
Grant	Grant County Agricultural Society	J. J. McKenzie	R. Meyer, Jr.	W. J. McCoy, Lancaster.
Green	Green County Agricultural Society.....	Lancaster	Lancaster	Fred P. Treat, Monroe.
Iowa	S. W. Wis. Industrial Association.....	G. T. Hodges.....	A. F. Lichtewaluer Monroe	W. A. Jones, Mineral Point.
Jackson.....	Jackson County Agricultural Society.....	Monroe	Delos P. Beech....	R. B. Jones, Black River Falls
Jefferson	Jefferson County Agricultural Society.....	G. G. Cox	Waldwick	G. J. Kispert, Jefferson.
Jefferson	Central Wis. Agri. and Mech. Association.....	D. J. Spaulding....	Black River Falls	Jos. Salick, Watertown.
Juneau	Juneau County Agricultural Society.....	John Whittet.....	Black River Falls	F. Winsor, Mauston.
Kewaunee ...	Kewaunee County Agricultural Society.....	Busseyville	Black River Falls	Lorenz Lutz, Kewaunee.
La Crosse....	La Crosse County Agricultural Society.....	Gust May	Black River Falls	Wm. Smith, Bangor.
La Fayette...	La Fayette County Agricultural Society.....	Watertown	Black River Falls	H. Richardson, Darlington.
Langlade	Langlade County Agricultural Society.....	C. W. Potter	Black River Falls	A. B. Millard, Antigo.
Lincoln	Lincoln County Agricultural Society.....	Mauston	Black River Falls	H. C. Ross, Merrill.
Marathon	Marathon County Agricultural Society	John L. Haney	Black River Falls	Aug. Kickbush, Wausau.
Marquette....	Marquette County Agricultural Society.....	Kewaunee	Black River Falls	W. W. Page, Westfield.
		Daniel Shaw	Black River Falls	
		Bangor	Black River Falls	
		P. H. Orton	Black River Falls	
		Darlington	Black River Falls	
		Chas. Gowan.....	Black River Falls	
		Antigo	Black River Falls	
		W. H. McCord	Black River Falls	
		Merrill	Black River Falls	
		S. M. Quam	Black River Falls	
		Wausau	Black River Falls	
		John Ellis	Black River Falls	
		Moundville.....	Black River Falls	

LIST OF OFFICERS OF AGRICULTURAL SOCIETIES FOR 1887—Continued.

COUNTIES.	Name of Society.	Name and P. O. Address of President.	Name and P. O. Address of Secretary.	Name and P. O. Address of Treasurer.
Monroe	Monroe County Agricultural Society.....	L. C. Morse	W. H. Blyton.....	G. A. Richardson, Sparta.
Monroe	Eastern Monroe County Agricultural Society.....	O. M. Hill.....	M. L. Hineman....	L. D. Wyatt, Tomah.
Oconto.....	Oconto County Agricultural Society.....	Ed. Scofield.....	Geo. Beyer.....	Chas. Hall, Oconto.
Outagamie...	Outagamie County Agricultural Society.....	John Dey	F. W. Harriman..	M. M. Comb, Hortonville.
Ozaukee	Ozaukee County Agricultural Society.....	A. M. Alling	Dan. E. McGinley.	L. Seiberlich, Saukville.
Pepin.....	Pepin County Agricultural Society.....	S. L. Plummer	A. G. Kelton.....	Geo. Tarrant, Durand.
Pierce.....	Pierce County Agricultural Society.....	G. W. McMurphy..	G. G. Williams....	T. J. Atwater, Prescott.
Pierce.....	Pierce County Central Fair.....	C. M. Stafford.....	E. S. Doolittle....	J. B. Jensen, Ellsworth.
Polk	Polk County Agricultural Society.....	Jas. Thompson.....	W. L. Tuttle	W. J. Vincent, St. Croix Falls.
Portage	Portage County Agricultural Society.....	S. N. Buswell	Edwin Grover.....	A. M. Nelson, Amherst.
Richland....	Richland County Agricultural Society.....	H. M. Bock	F. W. Burnham....	T. M. Hart, Richland City.
St. Croix....	St. Croix County Agricultural Society.....	G. W. Chinnock... River Falls	Theo. F. Young.... Hudson	Robt. Dinsmore, Hudson.
Sauk.....	Sauk County Agricultural Society.....	A. D. McGilvra... Baraboo.....	R. B. Griggs..... Baraboo.....	G. C. Grisim, Prairie du Sac.
Sauk.....	Baraboo Valley Agricultural Society.....	James Lake..... Reedsburg	A. F. Lawton..... Reedsburg	A. P. Ellinwood, Reedsburg.

LIST OF OFFICERS OF AGRICULTURAL SOCIETIES FOR 1887—Continued.

COUNTIES.	Name of Society.	Name and P. O. Address of President.	Name and P. O. Address of Secretary.	Name and P. O. Address of Treasurer.
Shawano.....	Shawano County Agricultural Society	Chris. Hill..... Shawano.....	D. A. McDonell... Shawano.....	J. D. Kast, Shawano.
Sheboygan ..	Sheboygan County Agricultural Society.....	T. W. Blackstock.. Sheboygan	N. F. Pierce..... Sheboygan Falls.	J. C. Fairweather, Sheboygan Falls.
Taylor	Taylor County Agricultural Society.....	C. C. Palmer..... Westboro	T. Y. Jeffers..... Medford	J. H. Wheelock, Medford.
Trempealeau..	Trempealeau County Agricultural Society..	L. L. Odell..... Galesville.....	E. W. Freeman ... Galesville	E. F. Clark, Galesville.
Vernon	Vernon County Agricultural Society.....	E. Tilton	F. W. Alexander.. Viroqua.....	E. Powell, Viroqua.
Walworth....	Walworth County Agricultural Society	S. R. Edgerton .. Spring Prairie...	Levi E. Allen	L. Y. Latham, Elkhorn.
Waukesha ...	Waukesha County Agricultural Society.....	C. M. Sanger..... Waukesha	Isaac Gale..... Waukesha	Geo. Harding, Waukesha.
Waupaca ...	Waupaca County Agricultural Society.....	F. Conrad..... Weyauwega.....	A. V. Balch..... Weyauwega.....	David Waffer, Weyauwega.
Waushara....	Waushara County Agricultural Society	J. S. Bugh..... Wautoma	J. T. Ellarson .. Wautoma	G. Tennant, Wautoma.
Wood.....	Wood County Agricultural Society	G. J. Jackson	F. L. Tibbits	Philip Ward, Grand Rapids.
		Centralia.....	Grand Rapids...	

EXHIBITION OF 1886.

OPENING ADDRESS.

BY A. A. ARNOLD, PRES. W. S. A. S.

Fellow Members of the Wisconsin State Agricultural Society, Ladies and Gentlemen:

Since our last meeting one more year has gone into the eternity of the past; and it now becomes my pleasant duty to again welcome you, one and all, to our annual fair. It is not all we could wish, but is far better than we might have expected, considering the extreme dry weather during the summer months, thus dwarfing vegetation and impeding the growth of animal life. Crops are not so bad on an average as we had anticipated, and stock has done remarkably well, considering the shortness of our pastures. To look at the exhibits, the vegetables and the cereals, and along the lines of stock in their several departments, there is nothing to suggest a dry or unproductive year. God, out of His bounty, feeds us all, and no provident person, unless overtaken by sickness or other calamity, need want for adequate food and clothing, to say nothing of the bountiful luxuries that a great proportion of our population enjoy. The improved methods of cultivation, and the better understood laws that maintain moisture through long-continued droughts, have materially aided the good farmers of Wisconsin; while those who are not up with the age have to be contented with empty bins, small hay-mows and dwarfed stock. Wherever we have seen rich lands and the crops put in in good season, with proper cultivation, we have seen good returns. A corn or potato field where the ground was stirred frequently during the drought, thereby making a mulch in every instance, gave evidence of the

wisdom of the cultivator by its thrifty vegetation, while where this was neglected, the converse was equally manifest and uniform. We are approaching an era wherein farmers may no longer look for success except by utilizing best methods, the use of sound judgment and intelligent enterprise. In a country where only one lawyer in ten makes a fair living from his profession, and one in one hundred makes his profession a decided success, when only one of twenty-five graduates of the medical college deserve or have the confidence of the people, and where, perhaps, only one in ten that attempt to dispense Christianity from the pulpit can be of any positive use to the people, it is not to be wondered that so few of the many farmers that have not generally had equal advantages

SHOULD PROVE FAILURES,

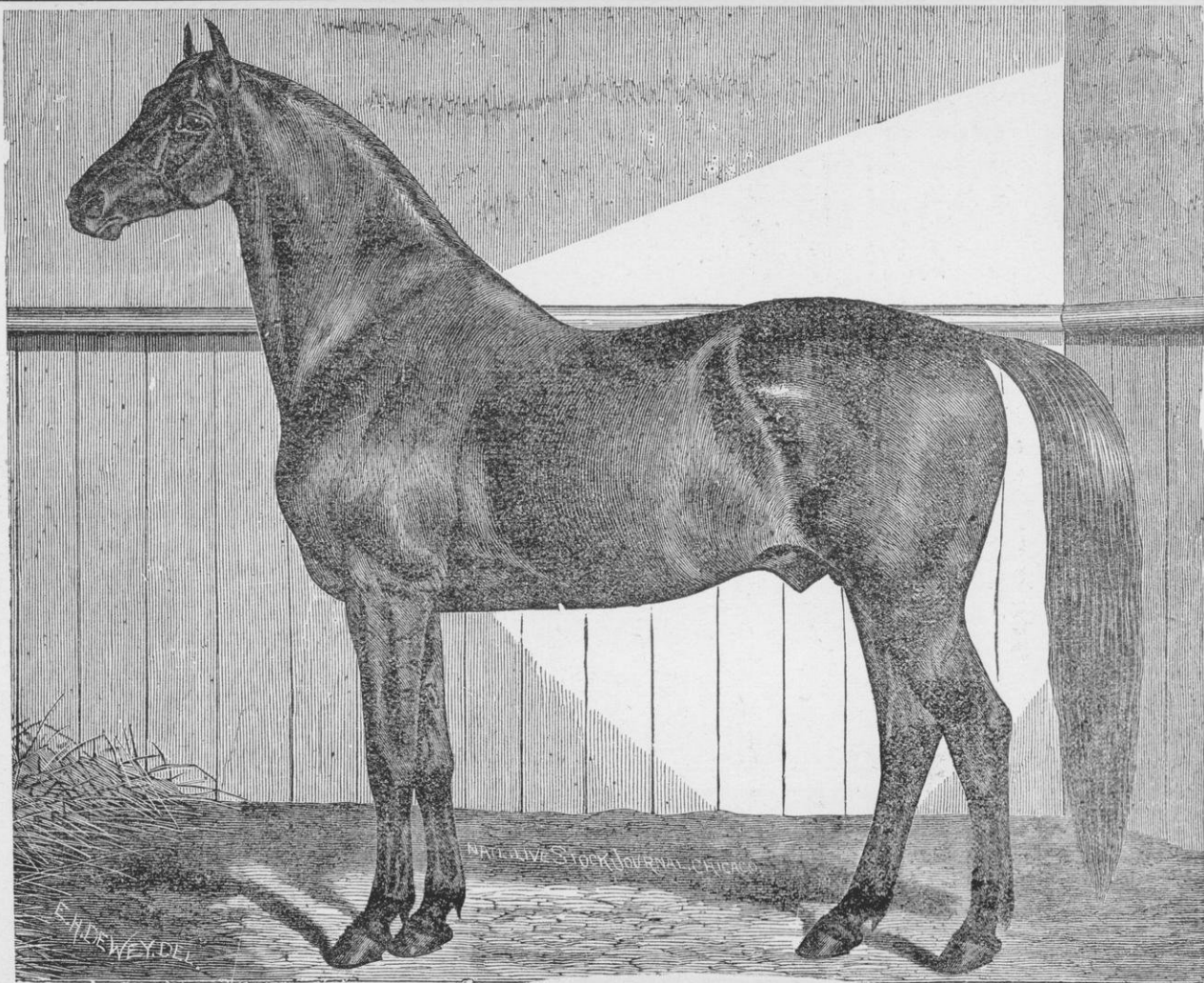
knowing as we do that constant drafts are made from us to fill the ranks in professional, mercantile and mechanical life, caused by the constant strain of these on brain and nervous force. I have great respect for any man in any calling that makes a success of it, but more than for any other I have respect for the farmer that succeeds in his business and does not do it at the expenses of brain or personal independence of character, which last he can never maintain when he and his family become mere drudgers. Intelligent labor is not drudgery, but labor of any kind, either mental or manual, when unrelieved by social and intellectual enjoyment, and with no object in view except gain, becomes nothing short of drudgery, no matter what the station in life the person occupies. To be a good farmer demands as much intelligence as in any other calling, and in a general way, sounder judgment. In a new country when real estate is constantly on the raise and the soil is rich, a novice may succeed on a farm; but in an intelligent, old settled community, where there is but little chance for the rise of lands, and the margins of profits are small, those alone will succeed that understand this business and work according to their understanding. All things that are possible for any one, are possible for the farmer; and yet this class seldom

has direct personal representation in the great executive and legislative affairs of the government. Farmers who own and cultivate their farms are of all others the most patriotic; for ownership, occupation and use of the realty induce the growth of patriotism everywhere. There are none so slow as they to engage in civil strife, none more conservative, more steadfast in their opposition to tyranny, to communism, to revolutionary movements of any kind against law and order, against the rights of life and property and that protection resulting to all through well organized society. Therefore, it is needful in a country like this, where the government rests upon the consent and will of the people, that such a great conservative, patriotic element should hold its full proportional representation in the personal direction of affairs. Why is it, in view of these facts, that, as a rule, farmers are set aside, and preference given to professional men instead? The answer is easy. As a class we are not their equals in cultivation and there is too much clannish sentiment among us. In this free country one man stands before his fellow man as he does before his God, just as good as another save where his brother may excel him

MORALLY OR INTELLECTUALLY.

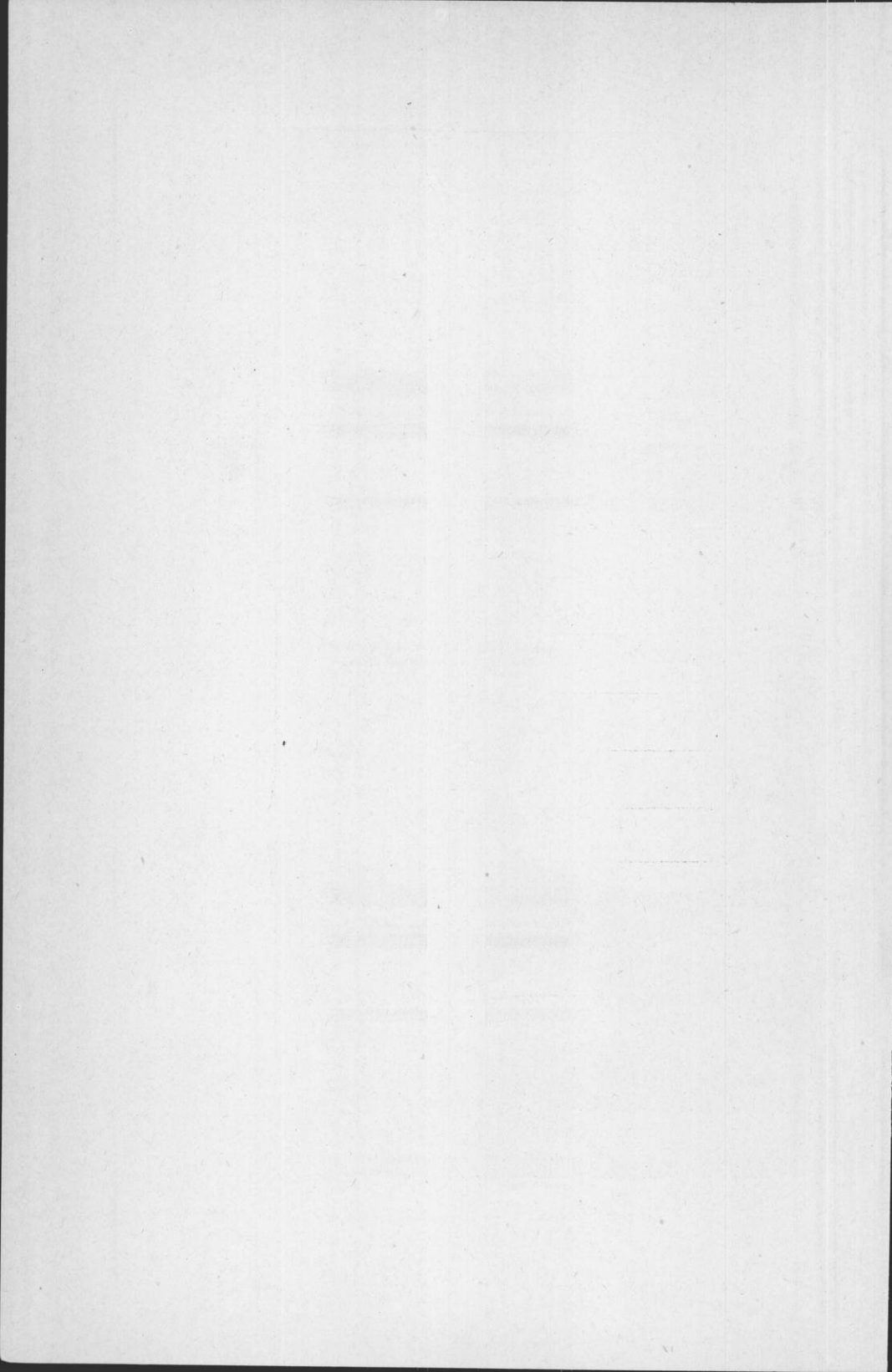
Away with professions of all kind. Among all persons whose opinions are worth knowing, or whose society is worth courting, we, both men and women, farmers, mechanics, lawyers, doctors, divines—all are judged not by what we profess but by what we are. Farmers, as a rule are content with giving their children only inferior education, when it is apparent that of all the youths of the land they should receive the most careful training, the most thorough and general instruction. He should be learned in political economy, in the laws of trade and commerce and in finance. He should be learned in the law, he should give attention to literature, and to philosophy. He should be cultured, mentally disciplined and refined, because our civilization demands it; because this class being the largest and the most interested in the prosperity of the country, is, therefore, the safest of all and should lead in affairs. All this cannot be until those-

that compose this class shall be thus qualified to take the place to which, were it not for a lack of these, they would be otherwise entitled. Be ye not therefore discouraged. To be monarch of all you survey while on your farm, and as nearly independent as a man can be of his fellows in this world, in itself affords a satisfaction and an opportunity for contemplative enjoyment that others than the farmer know not of. There are better things in store for those that love the farm. The glorious orb of advancement shines as brightly on you as on any. Keep yourselves within range of its potent rays. Be contented, but not that contentedness that forbids progress or an ambition for betterment. Be honest—above all things be honest. The mean little tricks of some so-called farmers are detestable and a disgrace to the whole fraternity. Be frugal and industrious. Be systematic. Have some place for everything, not no place for anything, as is often the case. Have a purpose in view in all your farm transactions and work to that end. Keep good stock and never more than you can keep well. Milk your cows clean, but never expect milk or beef without feed. Two and two makes four and nought and nought makes nothing. Be all that becomes a good citizen. If you have any ability it will be recognized sometime. If you have any integrity, you need not tell of it that it may be known. If you are a kind husband and a loving father, your wife and children will find it out without its being put in the papers. I congratulate you and all the people of this state that where we see evidence of thrift and advancement in all other pursuits we too are progressing, in fact without progress in this one calling all others must languish. The location of this state fair has been criticised considerably by the people of some parts of our state and I believe it my duty to give some of the reasons that influenced the members of the board in selecting Milwaukee as the proper place for holding the state fair this year. To go back to the close of the fair last year: We had a rainy week for the fair, and notwithstanding we had a creditable exhibit, the attendance was but small and



TRUE BRITON. CLEVELAND BAY STALLION

Wm. More, Ableman Wis.



CONSEQUENT SCANTY RECEIPTS.

For the first time the sale of intoxicants was entirely prohibited and prevented on the grounds, thus cutting off a large source of revenue from the sale of beer stands. When the expenses and premiums were paid we were \$3,000 in debt, which we raised by giving a new mortgage on the lands belonging to the society at Madison and by the three principal officers of the society giving their personal obligations. The state fair grounds at Madison were in fair shape but there was scarcely a roof that did not leak badly, and most of the stalls and department buildings were fearfully out of repair. This was the situation of affairs when it became the duty of the board to fix on the location for this year's fair. We looked about and determined to avail ourselves of the best point that would offer the best inducements. Milwaukee came to our rescue and offered to do for us just what you see here to-day in the way of grounds and improvements, all free to the society. We considered the situation, the inducements and the location, and determined on this point. We have no apologies to make. We acted as our judgment indicated would best serve the society and the people of the state. If a mistake was made, it was of the head and not of the heart, and I trust that the outcome will prove that it was neither. Ladies and gentlemen, we mean to be honest. We intend to be honest with the state and live up to the law giving us an annual appropriation. Honest with the enterprising citizens of this city, that have done so much for us, and we hope at the same time a good thing for their city. Honest with our exhibitors and pay 100 cents on the dollar on all premiums awarded, as we always have done, through thick and thin, rain and shine, and honest with the people of the whole state, giving you the best entertainment we can, hoping to make it better and better as the years go by. In this land where a single state is an empire, where people of diverse origin, habits and modes of thought are brought within our political boundary, it is most desirable that no opportunity be lost for bringing them

together and facilitating that interchange of ideas whose very friction is the beginning of assimilation. The man who has listened to nothing but the praises of a particular politician or political idea, may find that outside of his own circle, his idol may have a very impish look. And thus in every respect practical, material and social, the effect of a crowded, brilliant exposition is to educate and to enlarge the mind and heart. I realize that most of you did not come here to listen to speech-making and that any effort that I might make would be fruitless, especially so when I have gentlemen back of me that will address you who are more used to addressing large assemblies, far more eloquent and entertaining, that can give you better views and sounder information. Ladies and gentlemen, I again most cordially welcome you all to this our social gathering and Industrial Exposition, hoping that you may find it both entertaining and profitable.

REPORTS OF SUPERINTENDENTS.

DEPARTMENT A.—HORSES.

To the Executive Board of the State Agricultural Society—

Superintendent of Department A, begs leave to present the following report:

A marked improvement was the very notable feature in the exhibit of 1886. Every class was well represented. The draft breeds were largely in a majority; evidence of an increased interest our breeders are taking in that direction. I think it would be a proper thing for the society to offer premiums for grade draft horses.

While many of the most fashionably bred trotting horses of the state were exhibited, larger inducements in the way of increased premiums must be offered to make this exhibit a telling success.

I would suggest to the Board the necessity of making a track for the better showing of carriage and road horses. It might easily be done by opening the fence above and below the judges' stand, and grading a track round it; giving the judges a better opportunity of more practically judging the animals. Those interested could occupy seats in the amphitheatre; this of itself forming an attractive feature of the fair.

I think we should change the classing of horses, showing 4 instead of 3 years old, at head of class. I believe all three years old and over, excepting brood mares, should be shown in harness.

Experience has proven that a division of labor in this department is of absolute necessity. The superintendent should be relieved of the Speed Department, and the latter

placed under another superintendency. This department will require a larger amount of money the coming season to keep pace with our sister states and societies.

Closing the races some weeks previous to the fair may be found desirable.

All of which is respectfully submitted,

T. L. NEWTON,
Supt. Dept. A.

DEPARTMENT C.—SHEEP.

To the Executive Board of the State Agricultural Society :

GENTLEMEN:—Considering the depressed condition of this industry, the display of sheep was very creditable.

There were on exhibition:

Fine wools.....	60
Cotswolds.....	30
Downes.....	70

The one-judge plan was adopted; it did not give as good satisfaction as we had hoped; would advise a return to the old system.

C. M. CLARK,
Supt.

DEPARTMENT D.—SWINE.

To the Executive Board, Wisconsin State Agricultural Society:

The undersigned, superintendent of the Swine Department for 1886, respectfully reports: That at the late State Fair held at Milwaukee, there were sixty-five entries in the Poland China Department. The judge in this department, Mr. R. W. Brown, of Hebron, Ill., was furnished by the State Swine Breeders' Association, and proved to give entire satisfaction. The number of entries under the Poland China head for the year 1885 was forty-six. The increased number of exhibitions in this department for the year 1886 was of the highest order of merit.

For the year 1886 there were no exhibitors in the Chester Whites or Jersey Reds departments.

Of the middle breeds, there were entered in 1886, 34; at the exhibition of 1885, 38.

Of small breeds there were twenty-five entries in 1886, and thirty-eight in 1885.

For the Plankinton Special there were three entries.

The president of the Swine Breeders' Association, Mr. Geo. Wylie, kindly assented to act as judge for the various breeds above named, which was accepted by the exhibitors in the place of the three judge system, and gave entire satisfaction.

The exhibition was of a very high order and received many complimentary remarks.

There was some difficulty engendered by changes made in entries from one class to another. This is proper when mistakes occur, but should not be allowed to exhibitors simply to secure more premiums. I would therefore offer the following resolution:

Resolved, That no alteration be allowed in entries made, without the consent of the superintendent in charge of the department in question.

Respectfully submitted,

F. C. CURTIS,

Superintendent.

DEPARTMENT G.—FRUITS AND FLOWERS.

The Superintendent of Department "G." entered upon the duties of that position with reluctance on account of his inexperience as a Horticulturist, and a consequent feeling of incapacity for the trust.

He would report that throughout his entire work he received the kindest consideration and support from those interested in his department, and through their timely suggestions and advice, and the generous support of Milwaukee Professional Florists, added to the general courtesy and good natured forbearance of the exhibitors, one of the

best exhibitions ever made by this department was produced.

Your Superintendent would suggest that a careful revision of the premium list be left with a competent committee of practical fruit-growers and florists, and that they be allowed to add to the amount of premiums offered, as in its judgment the mutual good of exhibitor and society may demand.

In some particulars—notably the premium offered for Russian apples—the meaning of the premium list is a little obscure, and should be more plainly stated.

I would also suggest that in consideration of the well deserved attention now being directed to grape-culture in our state, that this part of the list be favorably considered in next year's arrangement, and other well established varieties be added to the list.

Respectfully Submitted,

JOHN M. TRUE,

Supt. of Dept. "G."

DEPARTMENT H.—AGRICULTURAL MACHINERY.

To the Officers and Executive Board of the Wisconsin State Agricultural Society :

GENTLEMEN:—I have the honor to submit the following report in relation to the exhibits in my department at the annual fair held in Milwaukee, September 20–24, 1886:

The number of exhibitors was 80—of exhibits, 539. At the fair of 1885, the number of exhibits was 425; of 1884, 349; of 1875, 50; of 1852, 32. These figures indicate, in a small way, what has been the progress in agricultural inventions within the period they mark. In nothing, perhaps, is the intellectual activity of our people shown to be so manifestly beneficent to the agriculture of the present era, as in the invention and improvement of agricultural implements. In 1847, as shown by the report of the U. S. Commissioner of Agriculture for that year, the number of agricultural patents granted was but 43; in 1863, it had increased to 390; in 1864, to 563; in 1865, 642; while in 1866, the wonderful increase

to 1,778 was made, and more wonderful still, in 1867, the Patent Office issued not far from 2,000. What has been the rate of increase for the last twenty years we have not the means of measuring, but we may well believe that it has been many fold greater than during the two previous decades, and that the number of agricultural inventions perfected yearly will go on augmenting for years to come. In the variety and excellence of our agricultural machinery, we greatly surpass the people of all other lands. Twenty years ago, even, we were far in advance of the foremost among them. We are informed by a report made in 1867, that "Partially represented as was our agriculture in the recent world's exposition of industry, at Paris, and almost ignored officially in the national recognition of that great exhibition, our honors plucked from the field of European competition, were almost exclusively industrial, and largely agricultural. So successful have been our farming implements in repeated contests on European soil, that their rapid introduction into every foreign market, is only impeded by the greatly increasing demand at home."

It is of interest to note how greatly the inventive genius of our mechanics was stimulated by our civil war, thus enabling farmers, by means of improved implements, to ration, year after year, an immense army in the field, with plenty to spare. But for efficient farm machinery this would have been simply impossible. "As thousands upon thousands of our young men were called to the field of mortal combat, it seemed almost like an interposition of Providence, that inventors were endowed with sufficient mechanical skill to construct implements with which horses could perform the labor of the absent son or father. Now, the infirm and the invalid, the lame and the lazy, who could never plough the field, harvest the grain, or make the hay of a small farm, can ride when ploughing; ride when putting in the seed; ride when scattering fertilizers; ride when cultivating the growing crops; ride when mowing or harvesting; ride when raking; and ride in an easy seat, and accomplish more work in an hour than could be done in ten hours a few

years ago, even by laboring with all the might of a strong man."

But the progress of invention, in the line of farm implements, could be adequately realized, even by those who had best kept themselves posted with reference to improvements in agricultural machinery, only when standing amidst the amazing display of the embodied forms of the genius and skill of our inventors and mechanics at our late Fair. There they could learn, as nowhere else, and in no other way, what has been done, and is now doing, by the inventive brain, and in the busy shops of the land, to relieve farmers of the heavy and irksome drudgery of the farm. Never before in the history of this society has there been so magnificent a show of agricultural inventions, characterized by such eminent ability; and it is to make no invidious comparisons to say, that it was most prominent among the brilliant attractions of our great exposition in September last.

A list of exhibitors and their exhibits will here be in place:—

Wm. Deering & Co.—

All Steel Binder.

Deering Reaper.

Six feet Mower.

Four 4½ Mower.

South Bend Chilled Plow Co.—

A fine exhibit of Chilled Plows of various patterns.

H. C. Stover Manufacturing Co.—

Horse Power Feed Mills, Corn Shellers, and Wood Saws.

Stoddard Manufacturing Co.—

Tiger Rakes with grass seed attachment. Hollingworth Rake, Tiger Mower, Corn Planter and Check Rower, Bissell's Steel and Chilled Plows, Triumph Seeder, Climax Disc Harrow, Farmer's Friends Hay Press.

Darsch & Harsch.—

Corn Planters, Sulky Plow.

Wheel and Seeder Co.—

Seeders, Rakes, Harrows.

J. P. Phillips & Co.—

Hay Carriers, Taylor Horse Rakes, Heavy Team Wagon, Eureka Hay Tedder, Rowells & Co. Steel Plows, Potato Digger, Wood and Iron Pumps, Road Carts and Cutters, Sterling Horse Rake and Tedder, One Horse Mowers, Feed Grinders and Feed Cutters, Spring tooth Seeder Drill, Harrows, Cultivator, Corn Shellers, Barrel Churn, Bench and Wringer, Cider Mill, Separator and Fanning Mill.

J. I. Case Plow Works.—

Steel and Chilled Plows, Sulky Plows, Harrows, Corn Cultivators, Norwegian Steel Plows, Harrows, and Corn Cultivators.

Van Brunt, Davis & Co.—

Seeders and Drills, Horse Rakes, Iron Pumps, Lumber Wagons.

Johnson & Fields.—

Fanning Mills, Separators, Land Rollers.

Thomas Manufacturing Co.—

Horse Rakes and Tedders.

Lindsay Bros.—

John Deere Plows, steel and wood beams, Sulky and New Deal Plows, double and single; Oliver Chilled and Steel Plows, Side-hill and Cassady Sulky Plows.

John Esch & Sons.—

Tubular Axle Wagon and Street Sprinkler.

S. Freeman & Sons.—

Trowbridge Broadcast Seeder, Fanning Mills.

T. G. Mandt Man'g Co—

Lumber Wagon, Truck Wagon, Bob Sleds.

American Road Machine Co.—

Victor Road Grader and Scraper, two and four wheels.

G. W. Taft.—

New Model Champion Road Scraper and Grader.
Wisconsin Feed Cutter.
One Horse Mower.

Stover Manufacturing Co.—

Ideal Feed Mill.
Feed Cutter and Corn Sheller, operated by horse power.

J. and P. Just.—

Feed Steamer and Coffee Roaster.

J. S. Rowell & Sons.—

Tiger Broadcast Seeder.
Interchangeable Seeder and Drill.

Starr Mills.—

Wind Mill.

P. P. Mast & Co.—

Buckeye Broadcast Seeders, Drills, Cultivators, Horse Rakes and Potato Diggers.

Smalley Manufacturing Co.—

Steam, Tread and Sweep Powers, Feed Cutters, Wood Circular Saws and Feed Mills.

John Ridge Implement Co.—

Horse Rakes.

Albion Manufacturing Co.—

Spring Tooth Seeder and Harrow and Horse Rake.

Frank Ward.—

Feed Grinder.

David Bradley Manufacturing Co.—

Sulky Corn Cultivators, Sulky Plows, Square Corner Steel Plows and Horse Rake.

J. Darsch & Son.—

Road Plow.

Rock Island Plow Co.—

Steel and Chilled Plows, Sulky Plow, with Badger wheel land-side and New Model Wheel Walking Plow.

Fuller & Johnson Manufacturing Co.--

Mower, Corn Planter, Steel Plows, Corn Cultivators
and Horse Rakes.

Cornish, Curtiss & Green.—

Reliance Wind Mills.

G. A. Field.—

Hay Rake and Feeder and Post Hole Digger.

Chas. Knoblock.—

Imperial Steel and Chilled Plows, Sulky Plow, Pumps,
Hay Carrier and Hay Forks.

Mast, Foos & Co.—

Turbine Wind Mill and Buckeye Force Pumps, double
acting.

W. D. Ellis.—

Automatic Gate.

Milwaukee Hay Tool Co.—

Hay Forks, Hay Carriers and Pulleys.

Foos Manufacturing Co.—

Scientific Grinding Mill, grinding all kinds of grain,
and corn in the ear.

Appleton Manufacturing Co.—

Badger Seeders, American Grinding Mill, Horse
Power and Corn Sheller, Diamond Tooth Harrows.

Eclipse Wind Engine Co.—

Eclipse Wind Engine, Combination Feed Grinder,
Frost-proof Stock Tanks.

A. F. White.—

Burrington Feed Steamer.

Freeport Machine Co.—

Union Combination Burr Stones and Steel Plate Feed
Grinder, Stover Wind Mill, and All Steel Grinder
Churn Attachment for wind mill.

Lindsay Brothers.—

Boyd Swivel Hay Carrier, Harpoon and Grapple Hay Forks, Root Cutter, Steamer and Boiler, Cider Mills, Feed Grinders, Hubner's Level Tread Horse Power, a variety of Hand and Power Feed Cutters, Corn Shellers, Evans Corn Planters, and Steel Frame Triple Harrows, Keystone Hay Carrier, Cider Mill, Corn Planter, Corn Sower, Disc Harrow, Corn Shellers, Feed Cutters, and Thompson Clover and Grass Seed Sower.

Janesville Machine Co.—

Crown Mower, Budlong Disc Harrow, Prairie City Seeder, and Lane's Knife Pulverizer.

Challenge Corn Planter Co.—

Corn Planter and Check Rower.

Gould & Austin.—

Boss Feed Cutter.

Belle City Manufacturing Co.—

Belle City Feed Cutters, various kinds; also Root Cutters and Barrel Carts.

C. Silverzahn.—

Champion Feed Cutters.

Johnson Harvester Co.—

Johnson Harvester and Binder, Reaper, and Mowers.

J. F. Sieberling & Co.—

Empire Folding Binders, Mower, and Light Reaper.

Emerson, Talcott & Co.—

Standard Mowers, Hay Rakes, Steel 6 Shovel Cultivator, and Corn Planter and Rower.

C. Aultman & Co.—

Buckeye Platform and Folding Binders, and Mower.

Minneapolis Harvesting Machine Co.—

Minnesota Steel Binder, Standard Binder, and Minnesota Mower.

Winona Harvest Machine Co.—

Winona Binder and Mower.

- Walter A. Wood's Harvest Machine Co.—
Wood's Binder and Bundle Carrier, Mower and
Reaper.
- Esterly H. M. Co.—
Steel Folding Binder.
- Toronto B. & M. Co.—
Toronto Steel Binder, with open end.
- Milwaukee Harv. Co.—
Standard and Junior Binders and Mowers.
- Wadner, Bushnell & Gleason—
Binder and Bundle Carrier, Light Binder and Reaper,
and Mowers. Combination mower.
- D. S. Morgan & Co.—
Triumph Binder, Reaper and Mower.
- D. M. Osborne & Co.—
Steel Frame Binder and Trucks, Junior Binder, Light
Reaper and Mower.
- McCormick H. M. Co.—
All steel Binders, Daisy Reaper and Mowers.
- Wikoff, Tuttle & Co.—
Light Perry Reaper and Mower.
- Plano Manufacturing Co.—
Plano Light Binder and Mower.
- Peerless Reaper Co.—
Folding Binder and Mowers.
- Geo. C. Cribb—
Horse Rakes, Buggies, Sleighs, Spring Tooth Harrows,
Sulky Cultivators, Hay Tedders, Cider Mills, Feed
Mills, Corn Shellers, Whitney Hay Press, Wheel-
Barrows, Hay Carriers, Forks and Pulleys, Road
Scrapers, Feed Cutters, Steel Plows, Belting, Churns,
Flying Dutchman Sulky Plows, Moline Steel Plows.
- B. H. & J. Sanford—
Sheboygan Falls Feed Cutter.
- Althouse, Wheeler & Co.—
Wind Mills and Feed Grinders.

Perry, Wykoff, Tuttle & Co.—

Hollingsworth Rake, Ohio Self Dump Rake, Queen do.,
and Robinson Potato Digger.

Pitts' Agricultural Works—

Traction Engines and Separators.

J. P. Philips & Co.—

Victor Clover Huller.

Gaar, Scott & Co.—

Traction Engine and Separator.

Lindsay Brothers.—

Upright Boiler and Engine, Westinhouse Clover
Huller and Separator and Traction Engine.

N. W. Car Co.—

Minnesota Chief, Traction Engine and Separator.

C. Aultman & Co.—

Upright Traction Engine and Vibrator.

J. S. Rowell & Co.—

Traction Engine and Separator.

M. & J. Rumley & Co.—

Traction Engine and Separator.

J. I. Case T. M. Co.—

Two Traction Engines and three Separators.

What an astonishing aggregation of Farm Implements and machinery does this list furnish!—astonishing, especially, to those of us who can look back to forty and fifty years ago; when tools of the farm were few, and for the most part for the use of the hand only; and when the farmer, if he had many acres, was obliged to employ, feed and pay a large force of men, especially during certain seasons of the year, while the work they performed could have been done far more expeditiously and cheaply, and every way better, by his idle, fat horses, if only the necessary machinery had been provided. It has been well said that the young men of our country cannot appreciate the great contrast between a complete set of farm implements fifty and sixty years ago, and the tools, implements and machinery

brought into requisition to accomplish the same work to-day. Then a farmer could carry all the tools in use on a farm of ordinary size in his wagon, at one load; but now the implements and machinery on that same farm would make many loads. In the room of the rude, clumsy plow, the course drag, the hoe, the cradle, the rake, the fork, the flail, the fan; we have a variety of the well-nigh perfect tools and machinery named in our list: The wonderfully improved plow, the superior harrow of many kinds, the corn planter, the seeder, the cultivator, the mower, the tedder, the horse rake, the reaper and binder, the threshing machine, the separator, etc. Nearly all our agricultural labor is now done by machinery requiring skill and knowledge in its management, and accomplishing marvellous results in its swift and efficient action. To this we may add, that agricultural machinery has done more than any thing else for the elevation of labor in this country.

Without going over the long list of exhibits, and pointing out the chief merits of each implement and machine or the respects in which it surpasses others of the same kind, in our judgment, we will only make the plow,—the indispensable implement in the cultivation of the soil, and therefore in the production of crops,—the subject of special mention.

The common plow has from time to time been so much improved, it may now be accepted as the most perfect instrument for preparing the ground for a crop. No other can compete with it in regard to the amount and quality of the work performed, taking into view the time and expenditure of power. And it would seem that, instead of attempting to invent and construct implements intended to supersede the plow, it would be better for the inventor to direct attention to improvements having reference to its more economical use. The importance of the radical improvements already made—and they are very numerous—may be seen in the increased wealth of the country, not only directly by the increased crops derived from improved plowing, and the saving of expense in doing the work, but indirectly by exciting in the farmer's mind a greater degree of pride and ambition to farm better in every way.

As we looked over the large display of plows, of variety so numerous, and so perfect in workmanship and finish, and, as it seemed to us, in adaptation to special uses also, we found ourself contrasting these superior implements, the results of long years of study, investigation and observation, with the plow as first introduced to us, and as it was fifty years ago. "Our first ideas of this instrument are of a forked piece of timber, with one prong, iron shod, and drawn through the ground to loosen the soil without turning it over. No one can determine how long this was the most perfect form of the plow." In the progress of the ages this forked stick, under the culturing hand of genius grew into something like the shape in which we now find it; and as knowledge increased, and science came to the aid of invention, its growth toward the "perfect stature" of a plow; finally culminated in the finished forms in which it was presented us at our exposition. There were steel and chilled plows, walking, sulky, gang, side-hill, and subsoil; plows for shallow and deep cultivation, for stubble and grass land, for turning under green crops, and for the various uses to which they can be employed on the farm. The exhibits of the J. I. Case Plow Co., the Rock Island Plow Co., the South Bend Chilled Plow Co., the Fuller and Johnson Manufacturing Co., and the David Bradley Manufacturing Co., were especially fine. And yet it may fairly be questioned whether, in the benefits which have accrued from the activity of agricultural invention, the plow has fully participated. While more than half the farmer's labor is superseded by the improved mowers, reapers and binders of McCormick, Osborn & Co., Walter A. Wood, Esterly, Aultman, Johnson, and others, supplemented by the horse-rake, hay-fork, etc.,—all pointing to the ultimate certainty of a better and cheaper means of cultivating the soil,—improvement in the one implement, by which alone the soil can be broken and worked, has been relatively slow. "Essentially the same plow, the same power, and the same depth of cultivation have been continued." Still, it is but just to say that invention is reaching year by year after the more perfect realization of that which is needed in a

plow, and to the doubling of even its present economic value. With the fact before him that "three thousand millions of dollars lie buried within six inches of the present depth of cultivation of the soil of this country, some Bradley, or Deere, or Oliver will devise means for rendering it available. But if the plow would play its full part in the unearthing of this vast hidden treasure, it must call steam to its aid. And here it is, already with harness on, as seen in the portable and traction engines, of which there was an imposing show at our fair. We may well believe that the day is not far distant when steam power will largely displace horse power on the farm; not only threshing our grain, sawing our wood and grinding our corn, but plowing our fields, hauling manure and doing all the heavy work upon the farm at less cost than it is now done.

In closing this report we desire to tender our heartiest thanks to exhibitors and their agents for many courtesies received from them, and for their kindly co-operation in our efforts for their accommodation. Our thanks are also due to the able and faithful assistants in this department, whose labors greatly lightened ours, and contributed largely to the convenience and comfort of exhibitors, and won from them expressions of high praise and commendation.

We would offer in the way of suggestion that the water main, in order to furnish a sufficient supply of water for this department, should be double the capacity of last year. Also, that three water closets be provided for the next season. Also, that a convenient office be provided for superintendent. Also, that the grounds occupied by the department be leveled and seeded — work to be done in spring. Also, that a competent person be appointed, who shall give attention to the cleanliness of the grounds of this department, and of those in their immediate vicinity occupied by dining halls, lunch stands, etc.

All of which is respectfully submitted,

A. W. VAUGHN,

Superintendent.

DEPARTMENT I.—MANUFACTURES.

As superintendent of this department I would respectfully report, that the exhibit in said department at the state fair, held in Milwaukee, 1886, was unusually large; that the spirit manifested by manufacturers and business men of the city of Milwaukee, as well as other parts of the state, was not only commendable but flattering to the officers having the matter in charge. The space allotted to this department in the building was altogether too small, for the accommodation of exhibitors, and many articles of merit were taken away for the want of room to properly exhibit them. It would seem that the importance of this department in the encouragement of home manufactures and exhibitors of fine goods, should be better provided for. And as the cash premiums to be offered in this department at our next fair are to be increased by the sum of two hundred and fifty-six dollars, as per report of committee adopted at annual meeting, which will tend to encourage home manufacturers and increase the number of entries, I would therefore recommend that the space for this department be increased at least fifty per cent.

Respectfully submitted,

H. D. HITT,

Superintendent.

DEPARTMENT K.—FINE ARTS.

To the Honorable Board of the State Agricultural Society:

GENTLEMEN:—Your Superintendent of the Fine Art Department begs leave to report that it being my first year in charge of this department I had much to learn. One of the first difficulties I found was to get out sufficient display for my department. I at once went to work among the business men of Milwaukee. As soon as the people found out what was expected of them they came grandly to the front and at once I found all my space taken and more wanted. I

was obliged to make the display which was under my special care, in the center of the main aisle and in doing so it only left a small aisle on each side. It seems to me that the main aisle should be wholly devoted to the passage way. There is no question but what the Art Department must have more room even to show the art goods shown last year and I am fully persuaded that it will require at least 50 per cent. more room than was required last year. We must first get the room and there will be no trouble in filling it. I think there should be a suitable building for the display of paintings and other pictures, and with such a building and a little solicitation from our many Wisconsin artists we could have a display worthy of our effort.

M. R. DOYON,
Superintendent.

PREMIUM AWARDS

AT

Wisconsin State Fair for 1886, Milwaukee, Sept. 20, 21, 22,
23 and 24.

DEPARTMENT A—HORSES.

CLASS 1—Percherons.

Best stallion 3 years old and over, 12 entries, Dillon Bros., Normal, Ill.....	\$20 00
Second best, I. L. Hoover, Clinton, Wis.....	10 00
Best stallion 1 year old and under 2, 2 entries, Dillon Bros., Normal, Ill.....	10 00
Second best, Dr. W. M. Armond, Milwaukee.....	5 00
Best stallion colt under 1 year, 2 entries, R. B. Kellogg, Green Bay, Wis.....	10 00
Second best, R. B. Kellogg, Green Bay, Wis.....	5 00
Best mare three years old and over, 34 entries, Dillon Bros., Normal, Ill.....	15 00
Second best, I. L. Hoover, Clinton, Wis.....	8 00
Best mare 2 years old and under 3, 1 entry, M. W. Dunham, Wayne, Ill.....	15 00
Best mare 1 year old and under 2, 8 entries, R. B. Kellogg, Green Bay, Wis.....	10 00
Second best, Fred. Pabst, Milwaukee, Wis.....	5 00
Best filly under 1 year old, 3 entries, Dillon Bros., Normal, Ill....	10 00
Second best, R. B. Kellogg, Green Bay, Wis.....	5 00
Best breeding stallion as shown by five of his colts, either sex, under 4 years old. 2 entries, Dillon Bros., Normal, Ill.....	20 00
Best brood mare as shown by 2 of her colts, under 4 years old, 1 entry, Dillon Bros., Normal, Ill.....	15 00

CLASS 2—Clydesdales.

Best stallion 3 years old and over, 16 entries, Galbraith Bros., Janesville, Wis.....	\$20 00
Second best, Griffith Richards, Cambria, Wis.....	10 00
Best stallion 2 years old and under 3, 8 entries Galbraith Bros., Janesville, Wis.....	15 00
Second best, Galbraith Bros., Janesville, Wis.....	8 00
Best stallion 1 year old and under 2, 4 entries, Galbraith Bros., Janesville, Wis.....	10 00
Second best, Griffith Richards, Cambria, Wis.....	5 00
Best stallion colt under 1 year, 2 entries, Galbraith Bros., Janesville, Wis.....	10 00
Second best, Raeside Bros., Waukegan, Ill.....	5 00

Best mare 3 years old and over, 5 entries, Galbraith Bros., Janesville, Wis.	\$15 00
Second best, Galbraith Bros., Janesville, Wis.	8 00
Best mare 2 years old and under 3, 1 entry, Raeside Bros., Waukegan, Ill.	15 00
Best filly under 1 year old, 2 entries, Galbraith Bros., Janesville, Wis.	10 00
Second best, Raeside Bros., Waukegan, Ill.	5 00
Best brood mare as shown by 2 of her colts, either sex, under 4 years old, 1 entry, Raeside Bros., Waukegan, Ill.	15 00

CLASS 3—*English Shires.*

Best stallion 3 years old and over, 3 entries, Galbraith Bros., Janesville, Wis.	\$20 00
Second best, Galbraith Bros., Janesville, Wis.	10 00
Best stallion 2 years old and under 3, 6 entries, Galbraith Bros., Janesville, Wis.	15 00
Second best, Galbraith Bros., Janesville, Wis.	8 00
Best stallion, 1 year old and under 2, 1 entry, Galbraith Bros., Janesville, Wis.	10 00
Best mare 3 years old and over, 1 entry, Galbraith Bros., Janesville, Wis.	15 00

CLASS 4—*Pure Bred Draft Horses.*

Not included in Classes 1, 2 and 3.

Best stallion 3 years old and over, 1 entry, Dillon Bros., Normal, Ill.	\$20 00
Best stallion 2 years old and under 3, 1 entry, Dillon Bros., Normal, Ill.	15 00
Best stallion 1 year old and under 2, 2 entries, Dillon Bros., Normal, Ill.	15 00
Second best, Dillon Bros., Normal, Ill.	8 00
Best mare 3 years old and over, 2 entries, Dillon Bros., Normal, Ill.	15 00
Second best, Dillon Bros., Normal, Ill.	8 00
Best mare 2 years old and under 3, 1 entry, Dillon Bros., Normal, Ill.	15 00
Best mare 1 year old and under 2, 1 entry, Dillon Bros., Normal, Ill.	15 00
Best filly under 1 year old, 2 entries, Dillon Bros., Normal, Ill.	10 00

CLASS 5—*Cleveland Bays.*

Best stallion 3 years old and over, 1 entry, Geo. Warren & Son's, Fox Lake, Wis.	\$20 00
Best stallion 2 years old and under 3, 1 entry, Geo. Warren & Sons, Fox Lake, Wis.	15 00

CLASS 6—*Horses for Agricultural Purposes.*

Exclusive of Pure Breeds.

Best pair of mares or geldings, 2 entries, Dillon Bros., Normal, Ill.	\$15 00
Second best, Samuel Breese, Waukesha, Wis.	8 00
Best brood mare with 2 of her colts, 4 entries, Julian West, Paynesville, Wis.	15 00
Second best, Julian West, Paynesville, Wis.	8 00
Best filly or gelding 3 years old and under 4, 3 entries, Julian West, Paynesville, Wis.	10 00
Second best, Julian West, Paynesville, Wis.	5 00
Best stallion 3 years old and over, 4 entries, M. J. McGowan, Hales Corners, Wis.	10 00
Second best, Jno. E. Semple, Waukesha, Wis.	5 00
Best filly or gelding 2 years old and under 3, 2 entries, W. M. Ormond, Milwaukee, Wis.	10 00
Second best, D. T. Pilgrim, Wauwatosa, Wis.	5 00
Best filly or gelding 1 year old and under 2, 2 entries, D. T. Pilgrim, Wauwatosa, Wis.	8 00
Second best, D. T. Pilgrim, Wauwatosa, Wis.	4 00
Best sucking foal, 4 entries, Dillon Bros., Normal, Ill.	8 00
Second best, Julian West, Paynesville, Wis.	4 00

CLASS 7—*Matched Horses and Roadsters.*

Best pair matched carriage horses or mares, 6 entries, S. S. Judd, Janesville, Wis.	\$20 00
Second best, Geo. Warren & Sons, Fox Lake, Wis.	10 00
Best single carriage horse or mare, 4 entries, Dr. W. M. Ormond, Milwaukee, Wis.	15 00
Best pair of roadsters, 4 entries, Caton Stock Farm, Joliet, Ill.	15 00
Second best, J. H. McLaughlin, Milwaukee, Wis.	8 00
Best single roadster, 13 entries, Caton Stock Farm, Joliet, Ill.	12 00
Second best, D. Atwood, Milwaukee, Wis.	6 00
Best pair of draft horses, 3 entries, Dillon Bros., Normal, Ill.	20 00
Second best, Raeside Bros., Waukegan, Ill.	10 00
Best thoroughbred stallion any age, to be shown by the bridle, 4 entries, Barber Randall, Hustisford, Wis.	20 00

CLASS 8—*Trotting Horses.*

Best stallion 3 years old and over, 12 entries, J. I. Case, Racine.	\$20 00
Second best, W. D. Crockett, Waukegan, Ill.	10 00
Best stallion 2 years old and under 3, 7 entries, Caton Stock Farm, Joliet, Ill.	15 00
Second best, S. M. Randall, Hustisford, Wis.	8 00
Best stallion 1 year old and under 2, 1 entry, W. D. Crockett, Waukegan, Ill.	10 00
Best stallion under 1 year old, 1 entry, W. M. Ormond, Milwaukee, Wis.	10 00
Best brood mare and 2 of her colts, S. M. Randall, Hustisford, Wis.	15 00
Best filly 3 years old and over, 6 entries, H. D. McKinney, Janesville, Wis.	15 00
Second best, Caton Stock Farm, Joliet, Ill.	8 00

PREMIUM AWARDS.

55

Best filly 2 years old and under 3, 6 entries, Caton Stock Farm, Joliet, Ill.	\$15 00
Second best, Caton Stock Farm, Joliet, Ill.	8 00
Best filly 1 year old and under 2, 1 entry, S. Y. Cameron, Milwaukee, Wis.	10 00
Best stallion and 5 of his colts, 1 entry, Caton Stock Farm, Joliet, Ill.,—Grand silver medal.	

CLASS 9—Horses for Speed.

Green Race.

1st, Laura E., H. D. McKinney, Janesville, Wis.	\$100 00
2d, Lottie Woodruff, J. M. Grier, Milwaukee.	50 00
3d, Fuglemon, M. E. McHenry, Genesee, Ill.	30 00
4th, Jack, F. C. Warren.	20 00

2:40 Trotting.

1st, Aunt Merab, A. Davis.	\$150 00
2d, Magna Wilkes, John Grier.	75 00
3d, Tilly, J. Thormason.	45 00
4th, Bay View Boy, M. Bird.	30 00

Special.

1st, Bay Diamond, E. R. Howard.	\$150 00
2d, Longfellow Whip, J. E. Speers.	75 00
3d, Frank McCune, W. B. McDonald.	45 00
4th, Sorrel Ned, Mat Malony.	30 00

3 Minute Race.

1st, Josie G., John Gilligan.	\$150 00
2d, Kittie Lee, John Lee.	75 00
3d, Startle, Geo. Edwards.	45 00
4th, Waupun Boy, H. A. Seeley.	30 00

People's Race.

1st, Warren Sweigert, A. W. Paulding.	\$50 00
2d, Topsy, A. Hildebrand.	20 00
3d, Tilly, J. Thormason.	10 00

Free for all Pacers.

1st, Bay Diamond, E. R. Howard.	\$250 00
2d, Billy F., Hawley Cole.	125 00
3d, John C., C. L. Clason.	75 00
4th, Billy Mac., E. E. Dillon.	50 00

Free for all Trotters.

1st, Longfellow Whip, J. D. Speers.	\$250 00
2d, Villeite, W. B. McDonald.	125 00
3d, Sorrel Ned, Matt. Malony.	75 00
4th, Marvel, J. S. Ryan.	50 00

DEPARTMENT B.—CATTLE.

CLASS 10—*Short-horns.*

Best cow 3 years old and over, 4 entries, J. M. Scoville, Lowville..	\$15 00
Second best, J. M. Scoville, Lowville.....	10 00
Third best, Geo. Harding, Waukesha	5 00
Best cow 2 years old and under 3, 3 entries, J. M. Scoville, Lowville.....	15 00
Second best, Geo. Harding, Waukesha.....	10 00
Best heifer 1 year old and under 2, 3 entries, Geo. Harding, Waukesha	10 00
Second best, J. M. Scoville, Lowville	8 00
Third best, Geo. Harding, Waukesha	5 00
Best heifer calf over 6 and under 12 months old, 6 entries, Geo. Harding, Waukesha	8 00
Second best, Geo. Harding, Waukesha	5 00
Third best, J. M. Scoville, Lowville.....	3 00
Best heifer calf under 6 months old, 9 entries, Geo. Harding, Waukesha	8 00
Second best, J. M. Scoville, Lowville.....	5 00
Third best, John A. Cole, Hustisford.....	3 00
Best bull 3 years old and over, 2 entries, J. M. Scoville, Lowville..	15 00
Second best, J. M. Scoville, Lowville	10 00
Best bull 2 years old and under 3, 2 entries, J. M. Scoville, Lowville.....	15 00
Best bull 1 year old and under 2, 6 entries, Geo. Harding, Waukesha	10 00
Second best, J. M. Scoville, Lowville	8 00
Third best, Geo. Harding, Waukesha.....	5 00
Best bull calf over 6 and under 12 months old, 4 entries, Geo. Harding, Waukesha	8 00
Second best, John A. Cole, Hustisford	5 00
Third best, John A. Cole, Hustisford	3 00
Best bull calf under 6 months old, 4 entries, J. M. Scoville, Lowville.....	8 00

CLASS 11—*Jerseys.*

Best cow 3 years old and over, 8 entries, Strang & Wells, Aurora-ville	\$15 00
Second best, H. S. Durand, Racine	10 00
Third best, H. S. Durand, Racine.....	5 00
Best cow 2 years old and under 3, 4 entries, H. S. Durand, Racine.	15 00
Second best, H. S. Durand, Racine.	10 00
Best heifer 1 year old and under 2, 4 entries, H. S. Durand, Racine	10 00
Second best, H. S. Durand, Racine....	8 00
Third best, H. S. Durand, Racine....	5 00
Best heifer calf under 6 months old, 5 entries, H. S. Durand, Racine	8 00
Second best, H. S. Durand, Racine	5 00
Best bull 3 years old and over, 2 entries, H. S. Durand, Racine..	15 00
Best bull 1 year old and under 2, 2 entries, H. S. Durand, Racine	10 00
Best bull calf under 6 months old, 1 entry, H. S. Durand, Racine	8 00

CLASS 12—*Galloways and Polled Angus or Polled Norfolks.*

Best cow 3 years old and over, 7 entries, I. L. Hoover, Clinton..	\$15 00
Second best, Stone & McConnell, Ripon.....	10 00
Third best, Wm. Steele, Merton.....	5 00
Best cow 2 years old and under 3, 3 entries, William Steele, Mer- ton	15 00
Second best, Stone & McConnell, Ripon... ..	10 00
Third best, William Steele, Merton.....	5 00
Best heifer 1 year old and under 2, 7 entries, Stone & McConnell, Ripon.....	10 00
Second best, Stone & McConnell Ripon.....	8 00
Third best, William Steele, Merton.....	5 00
Best heifer calf over 6 and under 12 months, 2 entries, William Steele, Merton.....	8 00
Second best, Stone & M Connell, Ripon.....	5 00
Best bull 3 years old and over, 2 entries, William Steele, Merton... ..	15 00
Second best, Stone & McConnell, Ripon.....	10 00
Best bull, 1 year old and under 2, 1 entry, I. L. Hoover, Clinton... ..	10 00
Best bull calf under 6 months old, 2 entries, Stone & McConnell, Ripon.....	8 00
Second best, William Steele, Merton.....	5 00

CLASS 13—*Ayrshires.*

Best cow 3 years old and over, 4 entries, Chester Hazen, Brandon, ..	\$15 00
Second best, Chester Hazen, Brandon.....	10 00
Third best, Chester Hazen, Brandon.....	5 00
Best cow 2 years old and under three, 3 entries, Chester Hazen, Brandon	15 00
Second best, Chester Hazen, Brandon.....	10 00
Third best, Chester Hazen, Brandon.....	5 00
Best heifer 1 year old and under 2, 2 entries, Chester Hazen, Brandon.....	10 00
Second best, Chester Hazen, Brandon.....	8 00
Best heifer over 6 and under 12 months old, 1 entry, Chester Ha- zen, Brandon.....	8 00
Best heifer calf under 6 months old, 1 entry, Chester Hazen, Brandon	8 00
Best bull 3 years old and over, 1 entry, Chester Hazen, Brandon..	15 00
Best bull 2 years old and under 3, 1 entry, Chester Hazen, Bran- don	15 00
Best bull 1 year old and under 2, 2 entries, Chester Hazen, Bran- don	10 00
Second best, Chester Hazen, Brandon.....	8 00
Best bull calf under 6 months old, 1 entry, Chester Hazen, Bran- don	8 00

CLASS 14—*Devons.*

Best cow 3 years old and over, 16 entries, J. W. Morse & Son, Verona.....	\$15 00
Second best, J. W. Morse & Son, Verona.....	10 00
Third best, Geo. Baker & Son, Hustisford.....	5 00

Best cow 2 years old and under 3, 5 entries, J. W. Morse & Son, Verona.....	\$15 00
Second best, Geo. Baker & Son, Hustisford.....	10 00
Third best, Geo. Baker & Son, Hustisford.....	5 00
Best heifer 1 year old and under 2, 4 entries, Geo. Baker & Son, Hustisford.....	10 00
Second best, J. W. Morse & Son, Verona.....	8 00
Third best, J. W. Morse & Son, Verona.....	5 00
Best heifer calf over 6 and under 12 months old, 3 entries, J. W. Morse & Son, Verona.....	8 00
Second best, Geo. Baker & Son, Hustisford.....	5 00
Best heifer calf under 6 months old, 3 entries, J. W. Morse & Son, Verona.....	8 00
Second best, Geo. Baker & Son, Hustisford.....	5 00
Third best, Geo. Baker & Son, Hustisford.....	3 00
Best bull 3 years old and over, 4 entries, Geo. Baker & Son, Hustisford.....	15 00
Second best, J. W. Morse & Son, Verona.....	10 00
Third best, J. W. Morse & Son, Verona.....	5 00
Best bull 2 years old and under 3, 2 entries, Geo. Baker & Son, Hustisford.....	15 00
Second best, J. W. Morse & Son, Verona.....	10 00
Best bull 1 year old and under 2, 4 entries, Geo. Baker & Son, Hustisford.....	10 00
Second best, J. W. Morse & Son, Verona.....	8 00
Third best, J. W. Morse & Son, Verona.....	5 00
Best bull calf over 6 and under 12 months old, 2 entries, Geo. Baker and Son, Hustisford.....	8 00
Second best, J. W. Morse & Son, Verona.....	5 00
Best bull calf under 6 months old, 1 entry, J. W. Morse & Son, Verona.....	8 00

CLASS 15 — *Herefords.*

Best cow, three years old and over, 3 entries, John Edwards & Son, Fisk.....	\$15 00
Second best, J. J. Williams, Berlin.....	10 00
Best cow 2 years old and under 3, 1 entry, J. J. Williams, Berlin..	15 00
Best heifer 1 year old and under 2, 1 entry, J. J. Williams, Berlin.	10 00
Best heifer calf over 6 and under 12 months, 1 entry, J. J. Williams, Berlin.....	8 00
Best heifer calf under 6 months old, 1 entry, J. J. Williams, Berlin.....	8 00
Best bull 3 years old and over, 2 entries, John Edwards & Son, Fisk.....	15 00
Second best, J. J. Williams, Berlin.....	10 00
Best bull 2 years old and under 3, 1 entry, John Edwards & Son, Fisk.....	15 00
Best bull 1 year old and under 2, 2 entries, J. J. Williams, Berlin.	10 00
Second best, John Edwards & Son, Fisk.....	8 00
Best bull calf under 6 months old, 1 entry, J. J. Williams, Berlin.	8 00

CLASS 16 — *Holsteins.*

Best cow 3 years old and over, 30 entries, A. Myers & Son, Beloit	\$15 00
Second best, Gillett & Moore, Rosendale.....	10 00
Third best, A. Myers & Son, Beloit.....	5 00

Best cow 2 years old and under 3, 7 entries, A. Myers & Son, Beloit	\$15 00
Second best, Butler & Hemingway, Oconomowoc	10 00
Third best, A. Myers & Son, Beloit.....	5 00
Best heifer, 1 year old and under 2, 13 entries, Barber Randall, Hustisford.....	10 00
Second best, Gillett & Moore, Rosendale.	8 00
Third best, A. Myers & Son, Beloit	5 00
Best heifer calf over 6 and under 12 months old, 7 entries, Strang & Wells, Aurooraville.....	8 00
Second best, H. Rust Bros., North Greenfield.....	5 00
Third best, Strang & Wells, Aurooraville.....	3 00
Best heifer calf under 6 months old, 16 entries, A. Myers & Son, Beloit	8 00
Second best, Gillett & Moore, Rosendale.....	5 00
Third best, H. Rust Bros., North Greenfield.....	3 00
Best bull 3 years old and over, 5 entries, H. Rust Bros., North Greenfield.....	15 00
Second best, Butler & Hemingway, Oconomowoc.....	10 00
Third best, Barber Randall Hustisford.....	5 00
Best bull 2 years old and under 3, 5 entries, Gillett & Moore, Rosendale.....	15 00
Second best, A. Myers & Son, Beloit.....	10 00
Third best, Wintermute Bros., Whitewater.....	5 00
Best bull 1 year old and under 2, 9 entries, Gillett & Moore, Rosendale.....	10 00
Second best, Strang & Wells, Aurooraville.....	8 00
Third best, Wintermute Bros, Whitewater.....	5 00
Best bull calf over 6 and under 12 months old, 2 entries, A. Meyers & Son, Beloit.....	8 00
Second best, A. Meyers & Son, Beloit.....	5 00
Best bull calf under 6 months old, 10 entries, Barber Randall, Hustisford.....	8 00
Second best, J. L. Schafer, North Greenfield.....	5 00
Third best, Butler & Hemingway, Oconomowoc.....	3 00

CLASS 17—*Guernseys.*

Best cow 3 years old and over, 2 entries, I. J. Clapp, Kenosha.....	\$15 00
Second best, I. J. Clapp, Kenosha.....	10 00
Best cow 2 years old and under 3, 2 entries, I. J. Clapp, Kenosha..	15 00
Best heifer 1 year old and under 2, 3 entries, I. J. Clapp, Kenosha.	10 00
Second best, I. J. Clapp, Kenosha.....	8 00
Third best, I. J. Clapp, Kenosha.....	5 00
Best heifer calf over 6 and under 12 months old, 3 entries, I. J. Clapp, Kenosha.....	8 00
Second best, I. J. Clapp, Kenosha.....	5 00
Third best, I. J. Clapp, Kenosha.....	3 00
Best bull 2 years old and under 3, 1 entry, I. J. Clapp, Kenosha...	15 00
Best bull 1 year old and under 2, 1 entry, I. J. Clapp, Kenosha....	10 00
Best bull calf over 6 and under 12 months old, 1 entry, I. J. Clapp, Kenosha.....	8 00

CLASS 18—*Fat Cattle.*

Best exhibit fat cattle not less than 4 head, 1 entry, J. M. Scoville, Lowville ..	\$35 00
Best single head, 5 entries, J. M. Scoville, Lowville.....	10 00
Second best, J. M. Scoville, Lowville.....	5 00

Herd Premiums—Beef Breeds—7 Entries.

1st, J. M. Scoville, Lowville, "Short Horns".....	\$40 00
2d, Geo. Harding, Waukesha, "Short Horns".....	30 00
3d, J. J. Williams, Berlin, "Herefords".....	20 00
4th, Wm. Steele, Merton, "Norfolks".....	10 00

Herd Premiums—Milk Breeds—17 Entries.

1st, Geo. Baker & Son, Hustisford, "Devons".....	\$40 00
2d, J. W. Morse & Son, Verona, "Devons".....	30 00
3d, A. Myers & Son, Beloit, "Holsteins".....	20 00
4th, Gillett & Moore, Rosendale, "Holsteins".....	10 00

James Morgan Herd Prize—5 Entries.

1st, J. M. Scoville, Lowville.....	\$25 00
2d, Geo. Harding, Waukesha.....	15 00

University Prize.

Best milk cow, 7 entries, Henry Boorse, Granville.....	\$50 00
Best butter cow, 5 entries, Henry Boorse, Granville.....	50 00

DEPARTMENT C.—SHEEP.

(CLASS 19—*American Merinos.*

Best buck 2 years old and over, 4 entries, McConnell Bros., Ripon.....	\$8 00
Second best, McConnell Bros., Ripon.....	5 00
Best buck 1 year old and under 2, 4 entries, McConnell Bros., Ripon.....	8 00
Second best, J. H. Pitcher, Eagle.....	5 00
Best pen 3 buck lambs, 3 entries, McConnell Bros., Ripon.....	5 00
Second best, J. H. Pitcher, Eagle.....	3 00
Best pen ewes 2 years old and over, 5 entries, McConnell Bros., Ripon.....	8 00
Second best, McConnell Bros., Ripon.....	5 00
Best pen 3 ewes 1 year old and under 2, 3 entries, McConnell Bros., Ripon.....	8 00
Second best, J. H. Pitcher, Eagle.....	5 00
Best pen 3 ewe lambs, 3 entries, J. H. Pitcher, Eagle.....	5 00
Second best, McConnell Bros., Ripon.....	3 00
Best buck and 5 of his get, 1 entry, J. H. Pitcher, Eagle.....	5 00

CLASS 20—*American Merinos and others not included in 19.*

Best buck 2 years old and over, 3 entries, Geo. Baker & Son, Hustisford.....	\$8 00
Second best, Perry Craig, Caldwell.....	5 00
Best buck 1 year old and under 2, 6 entries, Geo. Baker & Son, Hustisford.....	8 00
Second best, J. H. Pitcher, Eagle.....	5 00

PREMIUM AWARDS.

61

Best pen 3 buck lambs, 2 entries, J. H. Pitcher, Eagle.....	\$5 00
Second best, Perry Craig, Caldwell	3 00
Best pen 3 ewes, 2 years old and over, 3 entries, Geo. Baker & Son, Hustisford	8 00
Second best, J. H. Pitcher, Eagle	5 00
Best pen 3 ewes 1 year old and under 2, 4 entries, Geo. Baker & Son, Hustisford.....	8 00
Second best, Perry Craig, Caldwell	5 00
Best pen 3 ewe lambs, 2 entries, Perry Craig, Caldwell.....	5 00
Second best, J. H. Pitcher, Eagle	3 00

CLASS 21—*Oxford Downs.*

Best buck 2 years old and over, 4 entries, Geo. McKerrow, Sus- sex	\$8 00
Second best, Charles Collard, Edmund.....	5 00
Best buck 1 year old and under 2, 4 entries, Geo. McKerrow, Sus- sex	8 00
Second best, Chas. Collard, Edmund.....	5 00
Best pen 3 buck lambs, 4 entries, Chas. Collard, Edmund.....	5 00
Second best, Geo. McKerrow, Sussex.....	3 00
Best pen 3 ewes 2 years old and over, 4 entries, Chas. Collard, Ed- mund.....	8 00
Second best, Geo. McKerrow Sussex	5 00
Best pen 3 ewes 1 year old and under 2, 2 entries, Geo. McKerrow, Sussex.....	8 00
Second best, Geo. McKerrow, Sussex.....	5 00
Best pen 3 ewe lambs, 2 entries, Geo. McKerrow, Sussex.....	5 00
Second best, Geo. McKerrow, Sussex	3 00

CLASS 22—*Long Wool.*

Best buck 2 years old and over, 3 entries, Geo. Harding, Waukesha.....	\$8 00
Second best, Geo. Harding, Waukesha.....	5 00
Best buck 1 year old and under 2, 4 entries, Geo. Harding, Wau- kesha	8 00
Second best, Geo. Harding, Waukesha.....	5 00
Best pen 3 buck lambs, 3 entries, Geo. Harding, Waukesha.....	5 00
Second best, Chas. Hill, Brookfield.....	3 00
Best pen 3 ewes 2 years old and over, 4 entries, Chas. Hill Brook- field.....	8 00
Second best, Geo. Harding, Waukesha.....	5 00
Best pen 3 ewes 1 year old and under 2, 3 entries, Geo. Harding, Waukesha.....	8 00
Second best, Chas. Hill, Brookfield	5 00
Best pen 3 ewe lambs, 3 entries, Chas. Hill, Brookfield.....	5 00
Second best, Geo. Harding, Waukesha.....	3 00
Best buck with 5 of his get, 2 entries, Chas. Hill, Brookfield.....	5 00

CLASS 23—*South Downs.*

Best buck 2 years old and over, 4 entries, Geo. Daubner, Brookfield.....	\$8 00
Second best, Geo. Daubner, Brookfield.....	5 00
Best buck 1 year old and under 2, 4 entries, Geo. Daubner, Brook- field	8 00
Second best, Chas. Hill, Brookfield.....	5 00
Best pen 3 buck lambs, 2 entries, Chas. Hill, Brookfield.....	5 00
Second best, Geo. Daubner, Brookfield.....	3 00

Best pen 3 ewes 2 years old and over, 4 entries, Chas. Hill, Brookfield	\$8 00
Second best, Chas. Collard, Edmund	5 00
Best pen 3 ewes, 1 year old and under 2, 3 entries, Chas. Hill, Brookfield	8 00
Second best, Geo Daubner, Brookfield	5 00
Best pen 3 ewe lambs, 3 entries, Chas. Hill, Brookfield	5 00
Second best, Geo. Daubner, Brookfield	3 00
Best buck and 5 of his get, 2 entries, Geo. Daubner, Brookfield	5 00

CLASS 24—*Shropshires.*

Best buck 2 years old and over, 3 entries, Chas. Hill, Brookfield	\$8 00
Second best, Hatch & Stannard, Whitewater	5 00
Best buck 1 year old and under 2, 3 entries, Hatch & Stannard, Whitewater	8 00
Best pen 3 buck lambs, 2 entries, Hatch & Stannard, Whitewater	5 00
Best pen 3 ewes 2 years old and over, 3 entries, Hatch and Stannard, Whitewater	8 00
Best pen 3 ewes 1 year old and under 2, 2 entries, Hatch and Stannard, Whitewater	8 00
Best pen 3 ewe lambs, 1 entry, Hatch & Stannard, Whitewater	5 00

DEPARTMENT D—SWINE.

CLASS 25—*Large Breeds.*

Best boar 2 years old and over, 3 entries, E. Wait & Son, La Grange	\$12 00
Second best, James E. Welch, Waukesha	8 00
Best boar 1 year old and under 2, 5 entries, Jas. E. Welch, Waukesha	6 00
Second best, F. R. and R. W. Iliff, Waunakee	4 00
Best breeding sow 2 years old and over, 7 entries, E. Wait & Son, La Grange	10 00
Second best, F. R. & R. W. Iliff, Waunakee	8 00
Best breeding sow 1 year old and under 2, 5 entries, D. T. Ross, Janesville	7 00
Second best, James E. Welch, Waukesha	4 00
Best breeding sow with litter of sucking pigs, 1 entry, D. T. Ross, Janesville	10 00
Best boar pig over 6 and under 12 months old, 4 entries, E. Wait & Son, La Grange	6 00
Second best, D. T. Ross, Janesville	3 00
Best sow pig over 7 and under 12 months old, 5 entries, E. Wait & Son, La Grange	6 00
Second best, Jas. E. Welch, Waukesha	3 00
Best boar pig under 6 months old, 13 entries, E. Wait & Son, La Grange	6 00
Second best, E. Wait & Son, La Grange	3 00
Best sow pig under 6 months old, 12 entries, F. R. & R. W. Iliff, Waunakee	6 00
Second best, Jas. E. Welch, Waukesha	3 00

Herd Sweepstakes.

Best Boar any age, 5 entries, E. Wait & Son, La Grange	\$10 00
Best sow any age, 5 entries, E. Wait & Son, La Grange	10 00

CLASS 27 — *Middle Breeds.*

Best boar 2 years old and over, 1 entry, Mrs. J. W. Park, Dodge's Corners	\$12 00
Best boar 1 year old and under 2, 2 entries, J. R. Brabazon, Delavan.....	6 00
Second best, Mrs. J. W. Park, Dodge's Corners.....	4 00
Best breeding sow 2 years old and over, 3 entries, S. B. Smith, Big Bend.....	10 00
Second best, Mrs. J. V. Park, Dodge's Corners.....	8 00
Best breeding sow one year old and under 2, 3 entries, J. R. Brabazon, Delavan.....	7 00
Second best, S. B. Smith, Big Bend.....	4 00
Best breeding sow with litter of sucking pigs, 2 entries, S. B. Smith, Big Bend.....	10 00
Second best, Mrs. J. W. Park, Dodge's Corners.....	8 00
Best boar pig over 6 and under 12 months old, 1 entry, J. R. Brabazon, Delavan.....	6 00
Best sow pig over 6 and under 12 months old, 3 entries, Geo. McKerron, Sussex.....	6 00
Second best, Mrs. J. W. Park, Dodge's Corners.....	3 00
Best boar pig under 6 months old, 6 entries, J. R. Brabazon, Delavan.....	6 00
Second best, Mrs. J. W. Park, Dodge's Corners.....	3 00
Best sow pig under 6 months old, 6 entries, J. R. Brabazon, Delavan.....	6 00
Second best, Mrs. J. W. Park, Dodge's Corners.....	3 00

Herd Sweepstakes.

Best boar any age, 3 entries, J. R. Brabazon, Delavan.....	\$10 00
Best sow any age, 4 entries, S. B. Smith, Big Bend.....	10 00

CLASS 28 — *Small Breeds.*

Best boar 2 years old and over, 2 entries, Geo. P. Peffer, Pewaukee	\$12 00
Best breeding sow, 2 years old and over, 3 entries, Geo. P. Peffer, Pewaukee.....	10 00
Best breeding sow with litter of sucking pigs, 2 entries, Jas. D. Cass, Beloit.....	10 00
Best boar pig under 6 months old, 2 entries, James D. Cass, Beloit	6 00
Best sow pig under 6 months old, 2 entries, James D. Cass, Beloit.	6 00
Second best, Geo. P. Peffer, Pewaukee.....	3 00

Herd Sweepstakes.

Best boar any age, 2 entries, James D. Cass, Beloit.....	\$10 00
Best sow any age, 2 entries, James D. Cass, Beloit.....	10 00

Plankinton Special.

Best display of swine any breed, 3 entries, E. Wait & Sons, La Grange	\$100 00
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DEPARTMENT E.—POULTRY.

CLASS 30.—*Asiatics.*

Best pair Light Brahma fowls, 6 entries, James D. Cass, Beloit.	\$2 50
Second best, E. G. Roberts, Ft. Atkinson	1 50
Best pair Light Brahma chicks, 7 entries, Geo. Harding, Waukesha	2 00
Second best, Geo. Harding, Waukesha	1 00
Best pair Dark Brahma fowls, 3 entries, E. G. Roberts, Ft. Atkinson	2 50
Second best, Albert Humphrey, Omro	1 50
Best pair Dark Brahma chicks, 4 entries, Albert Humphrey, Omro	2 00
Second best, Albert Humphrey, Omro	1 00
Best pair Buff Cochin fowls, 3 entries, J. R. Brabazon, Delavan	2 50
Second best, E. G. Roberts, Ft. Atkinson	1 50
Best pair Cuff Cochin chicks, 4 entries, Albert Humphrey, Omro ..	2 00
Second best, E. G. Roberts, Ft. Atkinson	1 00
Best pair Partridge Cochin fowls, 4 entries, Albert Humphrey, Omro	2 50
Second best, Geo. Harding, Waukesha	1 50
Best pair Partridge Cochin chicks, 5 entries, J. R. Brabazon, Delavan	2 00
Second best, Albert Humphrey, Omro	1 00
Best pair White Cochin fowls, 3 entries, Albert Humphrey, Omro ..	2 50
Second best, J. R. Brabazon, Delavan	1 50
Best pair White Cochin chicks, 3 entries, Albert Humphrey, Omro ..	2 00
Second best, Albert Humphrey, Omro	1 00
Best pair Black Cochin Fowls, 3 entries, James D. Cass, Beloit..	2 50
Second best, E. G. Roberts, Ft. Atkinson	1 50
Best pair Black Cochin chicks, 2 entries, James D. Cass, Beloit..	2 00
Best pair American Dominique fowls, 3 entries, J. R. Brabazon, Delavan	2 50
Second best, E. G. Roberts, Ft. Atkinson	1 50
Best pair American Dominique chicks, 3 entries, J. R. Brabazon, Delavan	2 00
Second best, J. R. Brabazon, Delavan	1 00
Best pair Plymouth Rock fowls, 7 entries, E. G. Roberts, Ft. Atkinson	2 50
Second best, Geo. Harding, Waukesha	1 50
Best pair Plymouth Rock chicks, 7 entries, James D. Cass, Beloit ..	2 00
Second best, Albert Humphrey, Omro	1 00
Best pair Langshan fowls, 5 entries, Geo. Harding, Waukesha...	2 50
Second best, Albert Humphrey, Omro	1 50
Best pair Langshan chicks, 4 entries, Albert Humphrey, Omro ..	2 00
Second best, Geo. Harding, Waukesha	1 00

Spanish.

Best pair Black Spanish fowls, 3 entries, J. R. Brabazon, Delavan ..	\$2 50
Second best, E. G. Roberts, Ft. Atkinson	1 50
Best pair Black Spanish chicks, 1 entry, J. R. Brabazon, Delavan ..	1 00
Best pair White Leghorn fowls, 3 entries, J. R. Brabazon, Delavan ..	2 50
Best pair White Leghorn chicks, 3 entries, Albert Humphrey, Omro	2 00
Second best, E. G. Roberts, Ft. Atkinson	1 00
Best pair Brown Leghorn fowls, 6 entries, Geo. Harding, Waukesha	2 00
Second best, E. G. Roberts, Ft. Atkinson	1 50

PREMIUM AWARDS.

65

Best pair Brown Leghorn chicks, 8 entries, Geo. Harding, Waukesha.....	\$2 00
Second best, E. G. Roberts.....	1 00
Best pair Black Hamburg fowls, 1 entry, J. R. Brabazon, Delavan.	2 50
Best pair Black Hamburg chicks, 1 entry, J. R. Brabazon, Delavan.	2 00
Best pair Silver Spangled Hamburg fowls, 2 entries, E. G. Roberts, Ft. Atkinson.....	2 50
Second best, J. R. Brabazon, Delavan.....	1 50
Best pair Silver Spangled Hamburg chicks, 2 entries, E. G. Roberts, Ft. Atkinson.....	2 00
Second best, J. R. Brabazon, Delavan.....	1 00
Best pair Silver Spangled or Penciled Hamburg fowls, 1 entry, E. G. Roberts, Ft. Atkinson.....	2 50

French.

Best pair Houdan fowls, 3 entries, J. R. Brabazon, Delavan.....	\$2 50
Second best, E. G. Roberts, Ft. Atkinson.....	1 50
Best pair Houdan chicks, 2 entries, J. R. Brabazon, Delavan.....	2 00
Second best, E. G. Roberts, Ft. Atkinson.....	1 00

Polish.

Best pair Black Polish (white crest) fowls, 4 entries, J. R. Brabazon, Delavan.....	\$2 50
Second best, E. G. Roberts, Ft. Atkinson.....	1 50
Best pair Black Polish chicks, 2 entries, J. R. Brabazon, Delavan.	2 00
Second best, J. R. Brabazon, Delavan.....	1 00
Best pair White Polish fowls, 1 entry, J. R. Brabazon, Delavan..	2 50
Best pair White Polish chicks, 1 entry, J. R. Brabazon, Delavan.	2 00
Best pair Silver Polish fowls, 1 entry, Albert Humphry, Omro...	2 50
Best pair Golden Polish chicks, 2 entries, J. R. Brabazon, Delavan.....	2 00
Second best, J. R. Brabazon, Delavan.....	1 00

Bantams.

Best pair Golden Seabright fowls, 3 entries, Albert Humphrey, Omro.....	\$2 50
Second best, J. R. Brabazon, Delavan.....	1 50
Best pair any other variety Bantam fowl, 4 entries, E. G. Roberts, Ft. Atkinson.....	2 50
Second best, Geo. Harding, Waukesha.....	1 50
Best pair any other variety Bantam chicks, 4 entries, E. G. Roberts, Ft. Atkinson.....	2 00
Second best, J. R. Brabazon, Delavan.....	1 00

Game.

Best pair Brown Red fowls, 2 entries, J. R. Brabazon, Delavan..	\$2 50
Best pair Black Breasted Red Game fowls, 1 entry, J. R. Brabazon, Delavan.....	2 50
Best pair Black Breasted Red Game chicks, 1 entry, J. R. Brabazon, Delavan.....	2 00
Best pair Pyle fowls, 1 entry, J. R. Brabazon, Delavan.....	2 50

Turkeys.

Best pair Bronze Turkey fowls, 5 entries, J. R. Brabazon, Delavan.....	\$2 50
Second best, James D. Cass, Beloit.....	1 50
Best pair Bronze Turkey chicks, 3 entries, James D. Cass, Beloit..	2 00
Second best, Geo. McKerrow, Sussex.....	1 00
Best pair Common Turkey fowls, 2 entries, James D. Cass, Beloit	2 00
Second best, J. R. Brabazon, Delavan.....	1 00
Best pair Common Turkey chicks, 2 entries, J. R. Brabazon, Delavan.....	1 50
Second best, James D. Cass, Beloit.....	1 00
Best pair Rocky Mountain or White Holland Turkey fowls, 2 entries, J. R. Brabazon, Delavan	2 50
Second best, John A. Cole, Hustisford	1 50
Best pair Rocky Mountain or White Holland Turkey chicks, 3 entries, John A. Cole, Hustisford.....	2 00
Second best, James D. Cass, Beloit.....	1 00

Water Fowls.

Best pair Toulouse geese, 2 entries, J. R. Brabazon, Delavan	\$2 00
Second best, J. R. Brabazon, Delavan	1 00
Best pair Pekin Ducks, 2 entries, J. R. Brabazon, Delavan	2 00
Second best, Mrs. A. W. Lehman, Neosho.....	1 00
Best pair Embeden Geese, 2 entries, J. R. Brabazon, Delavan.....	2 00
Best pair White China Geese, 1 entry, J. R. Brabazon, Delavan...	2 00
Best pair Aylesbury Ducks, 1 entry, J. R. Brabazon, Delavan.....	2 00
Best pair Rouen Ducks, 2 entries, J. R. Brabazon Delavan.....	2 00
Second best, J. R. Brabazon, Delavan	1 00
Best pair Muscovy Ducks, 2 entries, J. R. Brabazon, Delavan.....	2 00
Second best, J. R. Brabazon, Delavan.....	1 00
Best pair Cayuga Ducks, 2 entries, J. R. Brabazon, Delavan.....	2 00
Second best, J. R. Brabazon, Delavan	1 00
Best exhibition of poultry shown by one person, 4 entries, E. G. Roberts, Ft. Atkinson.....	5 00
Best pair of Guinea fowls, 5 entries, J. R. Brabazon, Delavan.....	2 50
Second best, James D. Cass, Beloit	1 50
Best pair Guinea chicks, 3 entries, John A. Cole, Hustisford.....	2 00
Second best, Jas. D. Cass, Beloit	1 00
Best exhibition of fancy pigeons, 2 entries, E. G. Roberts, Ft. Atkinson	5 00
Second, W. Frackleton, Milwaukee.....	3 00

DEPARTMENT F.— AGRICULTURE.

CLASS 31.—*Field Products.*

Best sample spring wheat (Rio Grande or China Tea), 7 entries, D. T. Pilgrim, Wauwatosa.....	\$5 00
Second best, J. C. Davis, Oshkosh	3 00
Best sample spring wheat (Fife), 12 entries, J. C. Davis, Oshkosh.	5 00
Second best, W. W. Flinn, Chetek	3 00
Best sample blue stem spring wheat, 6 entries, H. P. West, Fayetteville	5 00
Second best, C. E. Angell, Oshkosh.....	3 00

PREMIUM AWARDS.

67

Best any other spring variety, 15 entries, Geo. McKerrow, Sussex	\$5 00
Second best, D. T. Pilgrim, Wauwatosa	3 00
Best white winter wheat, 11 entries, C. E. Angell, Oshkosh	5 00
Second best, D. T. Pilgrim, Wauwatosa	3 00
Best red winter wheat, 15 entries, C. E. Angell, Oshkosh	5 00
Second best, W. W. Flinn, Chetek	3 00
Best rye, 8 entries, J. C. Davis, Oshkosh	5 00
Second best, D. T. Pilgrim, Wauwatosa	3 00
Best oats, 25 entries, Wm. McClellan, Berlin	5 00
Second best, J. C. Davis, Oshkosh	3 00
Best white schooner oats, 9 entries, J. C. Davis, Oshkosh	5 00
Second best, J. C. Davis, Oshkosh	3 00
Best barley, 14 entries, M. W. Hopson, Ft. Atkinson	5 00
Second best, J. C. Davis, Oshkosh	3 00
Best buckwheat, 12 entries, W. A. Sherman, Janesville	4 00
Second best, Wm. Harland, Duplainville	2 00
Best flax seed, 5 entries, J. C. Davis, Oshkosh	5 00
Second best, C. E. Angell, Oshkosh	3 00
Best timothy seed, 10 entries, C. E. Angell, Oshkosh	5 00
Second best, W. W. Flinn, Chetek	3 00
Best clover seed, 12 entries, C. E. Angell, Oshkosh	5 00
Second best, D. T. Pilgrim, Wauwatosa	3 00
Best variety red top, 5 entries, C. E. Angell, Oshkosh	3 00
Best Hungarian millet, 6 entries, M. W. Hopson, Ft. Atkinson	3 00
Best of any other variety, 3 entries, J. C. Davis, Oshkosh	3 00
Best field peas, 8 entries, M. W. Hopson, Ft. Atkinson	5 00
Best peas of any other variety, 9 entries, C. E. Angell, Oshkosh	3 00
Second best, Wm. Harland, Duplainville	2 00
Best navy beans, 13 entries, Mrs. A. Sherman, Janesville	5 00
Second best, Elmer G. Ward, Caldwell	3 00
Best beans of any other variety, 9 entries, J. C. Davis, Oshkosh	5 00
Second best, H. P. West, Fayetteville	3 00
Best dent corn, white, 8 entries, Frank Hare, Galesville	5 00
Second best, Wm. McClellan, Berlin	3 00
Best dent corn, (yellow), 15 entries, Mrs. J. Hannam, Trempealeau	5 00
Second best, M. W. Hopson, Ft. Atkinson	3 00
Best flint corn, white, 4 entries, A. Patterson, Caldwell	5 00
Second best Samuel Baird, Waukesha	3 00
Best flint corn, yellow, 7 entries, C. E. Angell, Oshkosh	5 00
Second best, Perry Craig, Caldwell	3 00
Best bushel corn in the ear, any variety, 15 entries, Frank Hare, Janesville	10 00
Second best, C. E. Angell, Oshkosh	5 00
Best bale broom corn, 1 entry, Mrs. A. Sherman, Janesville	5 00
Best six pumpkins, 5 entries, H. E. Nicolai, Big Bend	3 00
Second best, V. Kinney, Wauwatosa	2 00
Best exhibition of field products grown in the state, 9 entries, C. Angell, Oshkosh	20 00
Second best, J. C. Davis, Oshkosh	10 00

CLASS 32—Garden and Vegetable Produce.

Best Early Rose or Ohio potatoes, 14 entries, Price county	\$3 00
Second best, Dan M. Hutchinson, Wauwatosa	2 00
Best Beauty of Hebron, 9 entries, C. E. Angell, Oshkosh	3 00
Second best, D. T. Pilgrim, Wauwatosa	2 00
Best any other variety early potatoes, 36 entries, B. B. Olds, Clinton	3 00
Second best, H. P. West, Fayetteville	2 00

Best Snowflake potatoes, 7 entries, Louis Fink, New Coeln	\$3 00
Second best, H. P. West, Fayetteville.....	2 00
Best any other variety late potatoes, 36 entries, Louis Fink, New Coeln.....	3 00
Second best, H. McCaffery, Butler.....	2 00
Best and largest varieties of potatoes, 5 entries, H. P. West, Fayetteville.....	5 00
Best Yellow Nansemond sweet potatoes, 3 entries, C. E. Angell, Oshkosh	3 00
Second best, C. J. Simmons, Monroe.....	2 00
Best four quarts Lima beans, shelled, 4 entries, C. E. Angell, Oshkosh	3 00
Second best, A. Sherman, Janesville.....	2 00
Best turnip beets, 6 entries, C. Wynoble, St. Francis.....	3 00
Second best, C. E. Angell, Oshkosh.....	2 00
Best long blood beets, 2 entries, Price county.....	3 00
Best mangel wurzel, 4 entries, Elmer G. Ward, Caldwell.....	3 00
Second best, C. E. Angell, Oshkosh.....	2 00
Best Red Wethersfield onions, 4 entries, Courtland Bones, Racine.....	2 00
Best Yellow Danvers onions, 9 entries, Trowbridge Bros. Greenfield.....	3 00
Second best, Elmer G. Ward, Caldwell.....	2 00
Best white variety of onions, 4 entries, C. E. Angell, Oshkosh.....	3 00
Second best, C. Wynoble, St. Francis.....	2 00
Best drumhead cabbage, 8 entries, C. Wynoble, St. Francis.....	3 00
Second best, A. Patterson, Caldwell.....	2 00
Best 3 cabbages of any other variety, 11 entries, Trowbridge Bros., Greenville.....	3 00
Second best, Christ Cumber, St. Francis.....	2 00
Best long orange carrots, 4 entries, M. W. Hopson, Ft. Atkinson..	3 00
Second best, Elmer G. Ward, Caldwell.....	2 00
Best horn carrots, 5 entries, Christ Cumber, St. Francis.....	3 00
Second best, Elmer G. Ward, Caldwell.....	2 00
Best head of cauliflower, 2 entries, C. E. Angell, Oshkosh.....	3 00
Best 10 heads of celery, 1 entry, C. E. Angell, Oshkosh.....	3 00
Best 12 ears early sweet corn, 4 entries, E. B. Thomas, Dodge's Corners.....	3 00
Second best, R. E. Nicolai, Big Bend.....	2 00
Best 12 ears late sweet corn, 5 entries, A. Patterson, Caldwell....	3 00
Second best, E. B. Thomas, Dodge's Corners.....	2 00
Best sample of egg plant, 2 entries, Perry Craig, Caldwell.....	2 00
Best 6 nutmeg melons, 4 entries, E. B. Thomas, Dodge's Corners..	3 00
Second best, Perry Craig, Caldwell.....	2 00
Best parsnips, 4 entries, Trowbridge Bros., Greenfield.....	3 00
Second best, Mrs. A. Sherman, Janesville.....	2 00
Best 12 large red peppers, 3 entries, C. E. Angell, Oshkosh.....	2 00
Second best, Perry Craig, Caldwell.....	1 00
Best 12 large yellow peppers, 1 entry, Perry Craig, Caldwell.....	2 00
Best peck of vegetable oysters, 3 entries, Courtland Bros., Racine.....	2 00
Second best, C. E. Angell, Oshkosh.....	1 00
Best 6 Hubbard squash, 4 entries, M. W. Hopson, Ft. Atkinson ...	3 00
Best 12 tomatoes, 6 entries, H. E. Nicolai, Big Bend.....	3 00
Second best, Elmer G. Ward, Caldwell.....	2 00
Best flat turnips, 4 entries, Christ Cumber, St. Francis.....	3 00
Second best, Elmer G. Ward, Caldwell.....	2 00
Best rutabagas, 5 entries, Courtland Bros., Racine.....	3 00
Second best, D. T. Pilgrim, Wanwatosa.....	2 00
Best exhibition of vegetable products by professionals, 1 entry, C. E. Angell, Oshkosh.....	5 00
Best exhibition of vegetable products by non-professionals, 3 entries, Courtland Bros. Racine.....	5 00
Second best, Elmer G. Ward, Caldwell.....	3 00

CLASS 33 — *Products of the flouring mill, dairy and apiary.*

For each exhibit of 3 factory cheese or not less than 150 pounds, made at any time, and awarded 40 points and over in scale of 50 points or perfection, shall be designated Grade No. 1, and draw a pro rata share of \$100; provided, etc., 8 entries.

Chester Hazen, Brandon.....	\$5 00
S. G. West, Elkhorn.....	5 00
S. G. West, Elkhorn.....	5 00
S. G. West, Elkhorn.....	5 00
Milford cheese factory, Milford.....	5 00
E. P. Ingalls, Milford.....	5 00
A. V. Bishop, Milford.....	5 00
A. V. Bishop, Milford.....	5 00

Best roll print or package of dairy butter, not less than 20 pounds, 5 entries, H. E. Nicolai, Big Bend..... 20 00

Second best, Henry Boorse, Granville.....	5 00
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Best sample of 12 or more pounds of comb honey in most marketable shape, 2 entries, George Acker, Butler..... 3 00

Second best, H. Rust Bros., North Greenfield.....	2 00
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Best sample extracted honey, 2 entries, George Acker, Butler..... 3 00

Second best, H. Rust Bros., North Greenfield.....	2 00
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Best bee-hive for comb honey, 1 entry, George Acker, Butler..... 2 00

Best bee-hive for extracted honey, 1 entry, George Acker, Butler.. 2 00

Best samples beeswax, 5 pounds or more, 2 entries, George Acker, Butler..... 2 00

Second best, H. Rust Bros., North Greenfield.....	1 00
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CLASS 34—*Household Products.*

Best loaf Graham bread, 2 entries, Miss M. Johnson, Wauwatosa..	\$3 00
Best loaf white bread, hop yeast, 5 entries, Mrs. A. J. Atwood, Wauwatosa.....	3 00
Best loaf Indian bread, 2 entries, M. V. Sheldon, Racine.....	3 00
Best sponge cake, 3 entries, M. V. Sheldon, Racine.....	2 00
Best jelly cake, 1 entry, H. E. Nicolai, Big Bend.....	2 00
Best chocolate cake, 4 entries, M. V. Sheldon, Racine.....	2 00
Best cocoanut cake, 2 entries, H. E. Nicolai, Big Bend.....	2 00
Best fruit cake, 2 entries, Mrs. J. Hannam, Trempealeau.....	2 00
Best and largest exhibition of articles of above sort, 1 entry, H. E. Nicolai, Big Bend.....	5 00

Sealed Fruits.

Best canned peaches, 5 entries, Mrs. G. P. Peffer, Pewaukee.....	\$2 00
Best canned plums, 4 entries, Mrs. G. P. Peffer, Pewaukee.....	2 00
Best canned currants, 2 entries, Mrs. G. P. Peffer, Pewaukee.....	2 00
Best canned tomatoes, 2 entries, Mrs. G. P. Peffer, Pewaukee.....	2 00
Best canned gooseberries, 4 entries, Mrs. G. P. Peffer, Pewaukee.	2 00
Best canned raspberries, 3 entries, Mrs. S. E. M. Westcott, Milwaukee.....	2 00
Best canned strawberries, 3 entries, Mrs. G. P. Peffer, Pewaukee.	2 00
Best canned grapes, 4 entries, Mrs. G. P. Peffer, Pewaukee.....	2 00
Best canned blackberries, 2 entries, Mrs. G. P. Peffer, Pewaukee.	2 00
Best canned pears, 4 entries, Mrs. S. E. M. Westcott, Milwaukee.	2 00
Best canned hyslop or transcendent crabs, 2 entries, Mrs. S. E. M. Westcott, Milwaukee.....	2 00
Best currant jelly, 1 entry, Mrs. G. P. Peffer, Pewaukee.....	2 00

Best crab apple jelly, 6 entries, Mrs. S. E. M. Westcott, Milwaukee	\$2 00
Best marmalade, 3 entries, Mrs. J. Rust, North Greenfield	2 00
Best raspberry jam, 1 entry, Miss M. Johnson, Wauwatosa	2 00
Best blackberry jam, 2 entries, Mrs. S. E. M. Westcott, Milwaukee	2 00
Best pickled peaches, 4 entries, Mrs. G. P. Pfeffer, Pewaukee	2 00
Best apple butter, 2 entries, Henry Boorse, Granville	2 00
Best tomato catsup, 2 entries, J. W. Wood, Baraboo	2 00
Best pickled cucumbers, 3 entries, J. W. Wood, Baraboo	2 00
Best mangoes, 1 entry, J. W. Wood, Baraboo	2 00
Best pickled red cabbage, 2 entries, Roth Mfg Co., Milwaukee	2 00
Best pickled cauliflower, 2 entries, J. W. Wood, Baraboo	2 00
Best pickled onions, 2 entries, Roth Mfg's Co.	2 00
Best mixed pickles, 4 entries, Mrs. G. P. Pfeffer, Pewaukee	2 00
Best and la ge-t exhibition of fruits, jellies, jams and pickles in glass jars, 1 entry, Mrs. G. P. Pfeffer, Pewaukee	5 00

DEPARTMENT G.—FRUITS AND FLOWERS.

CLASS 35—*Fruit by Professional Cultivators.**Apples.*

Best display of varieties, not to exceed 20, 3 or more specimens, 5 entries, Chas. Hirschinger, Baraboo	\$10 00
Second best, Geo. J. Kellogg, Janesville	7 00
Third best, A. G. Tuttle, Baraboo	3 00
Best 5 varieties adapted to northwest, 3 specimens each, 6 entries, A. G. Tuttle, Baraboo	7 00
Second best, G. P. Pfeffer, Pewaukee	5 00
Third best, Chas. Hirschinger, Baraboo	2 00
Best 5 varieties winter, 3 specimens each, 6 entries, A. G. Tuttle, Baraboo	3 00
Second best, Chas. Hirschinger, Baraboo	2 00
Third best, G. P. Pfeffer, Pewaukee	1 00
Best show, 10 varieties, large and showy, 5 entries, A. G. Tuttle, Baraboo	5 00
Second best, Chas. Hirschinger, Baraboo	3 00
Third best, G. P. Pfeffer, Pewaukee	1 00
Best seedling apple, 5 entries, Chas. Hirschinger, Baraboo	4 00
Second best, G. P. Pfeffer, Pewaukee	2 00
Best plate of each of 10 Russian apples, 2 entries, A. G. Tuttle, Baraboo	10 00
Second best, G. P. Pfeffer, Pewaukee	5 00
Best plate Duchess of Oldenburg, 3 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Famuse, 6 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Golden Russet, 5 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Pewaukee, 6 entries, E. W. Daniels, Auroraville	1 00
Best plate of St. Lawrence, 6 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Tallman Sweet, 6 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Utter, 4 entries, A. G. Tuttle, Baraboo	1 00
Best plate of Alexander, 4 entries, G. P. Pfeffer, Pewaukee	1 00
Best plate of Plumb Cider, 6 entries, E. W. Daniels, Auroraville ..	1 00
Best plate of Wealthy, 5 entries, G. P. Pfeffer, Pewaukee	1 00
Best plate of McMahan's White, 1 entry, Chas. Hirschinger, Baraboo	1 00

PREMIUM AWARDS.

71

Best plate of Orange Winter, 1 entry, Chas. Hirschinger, Baraboo,	\$1 00
Best plate of Wolf King, 1 entry, E. W. Daniels, Auroraville.....	1 00
Best plate of N. W. Greening, 1 entry, E. W. Daniels, Aurora-	
ville	1 00
Best plate of Haas, 6 entries, Chas. Hirschinger, Baraboo.....	1 00
Largest apple, 4 entries, Geo. J. Kellogg, Janesville.....	1 00
Handsomest apple, 4 entries, Chas. Hirschinger, Baraboo.....	1 00

Pears.

Best and greatest display of varieties, 2 entries, G. P. Pfeffer, Pe-	
waukee	\$3 00
Best three varieties of pears, 1 entry, Geo. P. Pfeffer, Pewaukee..	2 00
Best Flemish beauty, 2 entries, G. P. Pfeffer, Pewaukee.....	2 00
Second best, Chas. Hirschinger, Baraboo	1 00
Best and greatest variety of plums, 5 entries, G. P. Pfeffer, Pewau-	
kee	3 00
Second best, A. G. Tuttle, Baraboo.....	2 00
Best three varieties of plums, 2 entries, Wm. Reid, North Prairie..	2 00

CLASS 36—*Grapes and Crabs by Professional Cultivators.*

Grapes.

Best and greatest display of varieties, 4 entries, Wm. Reid, North	
Prairie.....	\$7 00
Second best, G. P. Pfeffer, Pewaukee	5 00
Third best, A. G. Tuttle, Baraboo.....	2 00
Best 5 varieties, 3 specimens, 4 entries, A. G. Tuttle, Baraboo.....	3 00
Second best, Wm. Reid, North Prairie.....	2 00
Third best, Geo. J. Kellogg, Janesville	1 00
Best 3 bunch Concord on 1 cane, 4 entries, Wm. Reid, North	
Prairie.....	2 00
Second best, A. G. Tuttle, Baraboo.....	1 00
Best 3 bunch Delaware on 1 cane, 3 entries, Wm. Reid, North	
Prairie.....	2 00
Second best, Wm. Reid, North Prairie	1 00
Best single variety of grapes, quality to rule, 4 entries, Geo. Kel-	
logg, Janesville	3 00
Second best, A. G. Tuttle, Baraboo.....	2 00
Crabs, best and greatest variety named, Chas. Hirschinger, Bara-	
boo	3 00
Second best, G. P. Pfeffer, Pewaukee.....	2 00
Best plate Hyslop crab, 4 entries, Wm. Reid, North Prairie	1 00
Best plate Transcendent crabs, 2 entries, Wm. Reid, North Prairie	
.....	1 00
Best Whitney No. 20, 3 entries, Chas. Hirschinger, Baraboo.....	1 00
Best seedling crab, 2 entries, G. P. Pfeffer, Pewaukee	2 00
Best collection of fruit of all kinds, 5 entries, G. P. Pfeffer, Pe-	
waukee	12 00
Second best, A. G. Tuttle, Baraboo.....	9 00
Third best, Chas. Hirschinger, Baraboo.....	6 00
Fourth best, Wm. Reid, North Prairie	4 00

CLASS 37—*Fruit by Non-professional Cultivators.*

Apples, best display of varieties not to exceed 20, 13 entries, Geo. H. Haines, Baraboo.....	\$10 00
Second best, E. W. Palmer, Madison.....	7 00
Third best, M. W. Hopson, Ft. Atkinson.....	3 00
Apples, best 5 varieties adapted to northwest, 15 entries, Geo. Jeffrey, Milwaukee.....	7 00
Second best, E. B. Thomas, Dodge's Corners.....	5 00
Third best, Wm. Harland, Duplainville.....	2 00
Apples, best 5 varieties winter, 12 entries, Geo. H. Haines, Baraboo.....	3 00
Second best, Geo. Jeffrey, Milwaukee.....	2 00
Third best, E. W. Palmer, Madison.....	1 00
Apples, best 10 varieties large and showy, 11 entries, Geo. Jeffrey, Milwaukee.....	5 00
Second best, E. W. Palmer, Madison.....	3 00
Third best, Courtland Bones, Racine.....	1 00
Best seedling apple, 8 entries, Wm. Harland, Duplainville.....	4 00
Second best, Geo. Jeffrey, Milwaukee.....	2 00
Best plate of each of 10 Russian apples, H. H. Haines, Baraboo..	10 00
Second best, Geo. Jeffrey, Milwaukee.....	2 50
Best plate Duchess of Oldenburg, 6 entries, E. W. Palmer, Madison.....	1 00
Best plate of Famuse, 13 entries, Geo. H. Haines, Baraboo.....	1 00
Best plate of golden russet, 10 entries, Geo. Jeffrey, Milwaukee..	1 00
Best plate of Pewaukee, 7 entries, M. W. Hopson, Fort Atkinson..	1 00
Best plate of St. Lawrence, 8 entries, Geo. Jeffrey, Milwaukee....	1 00
Best plate of Tallman Sweet, 13 entries, Wm. Harland, Duplainville.....	1 00
Best plate of Utter, 8 entries, F. C. Curtis, Rocky Run.....	1 00
Best plate of Alexander, 7 entries, Geo. H. Haines, Baraboo.....	1 00
Best plate of Plumb Cider, 7 entries, Geo. H. Haines, Baraboo....	1 00
Best plate of Wealthy, 8 entries, Edwin Nye, Appleton.....	1 00
Best plate of McMahan White, 3 entries, D. T. Pilgrim, Wauwatosa	1 00
Best plate of Haas, 6 entries, Geo. H. Haines, Baraboo.....	1 00
Largest apple, 10 entries, E. W. Palmer, Madison.....	1 00
Handsome apple, 10 entries, Geo. Jeffrey, Milwaukee.....	1 00
Best and greatest display of varieties of pears, 6 entries, Geo. Jeffrey, Milwaukee.....	3 00
Second best, D. T. Pilgrim, Wauwatosa.....	1 00
Pears, best three varieties, 6 entries, Geo. Jeffrey, Milwaukee....	2 00
Second best, D. T. Pilgrim, Wauwatosa.....	1 00
Best Flemish Beauty, 7 entries, Geo. Jeffrey, Milwaukee.....	2 00
Second best, D. T. Pilgrim, Wauwatosa.....	1 00
Best and greatest variety of plums, 3 entries, Geo. Jeffrey, Milwaukee.....	3 00
Second best, D. T. Pilgrim, Wauwatosa.....	2 00
Best 3 varieties of plums, 3 entries, Geo. Jeffrey, Milwaukee.....	2 00
Best plate of native plums, 3 entries, Wm. Fox, Baraboo.....	1 00

CLASS 38—*Grapes and Crabs by Non-Professional Cultivators.*

Grapes, greatest display of varieties, 7 entries, Wm. Fox, Baraboo..	\$10 00
Second best, Geo. Jeffrey, Milwaukee.....	7 00
Third best, J. S. McGowan, Janesville.....	3 00
Grapes, best 5 varieties, 8 entries, Wm. Fox, Baraboo.....	3 00
Second best, J. S. McGowan, Janesville.....	2 00
Third best, E. B. Thomas, Dodge's Corners.....	1 00

Best 3 bunch Concord on 1 cane, 7 entries, J. S. McGowan, Janesville.....	\$2 00
Second best, Geo. Jeffrey, Milwaukee.....	1 00
Best three bunches of Delaware on 1 cane, 6 entries, Wm. Fox, Baraboo.....	2 00
Second best, Geo. Jeffrey, Milwaukee.....	1 00
Best three bunches of Worden on 1 cane, 6 entries, J. S. McGowan, Janesville.....	2 00
Second best, Wm. Fox, Baraboo.....	1 00
Grapes, best single variety, quality to rule, 7 entries, Wm. Fox, Baraboo.....	3 00
Second best, Geo. Jeffrey, Milwaukee.....	2 00

Crabs.

Best and greatest variety named, 9 entries, Geo. Jeffrey, Milwaukee.....	\$3 00
Second best, E. W. Palmer, Madison.....	2 00
Third best, Edwina Nye, Appleton.....	1 00
Best plate of Hyslop, 10 entries, Geo. H. Haines, Baraboo.....	1 00
Best plate of Transcendent, 7 entries, E. W. Palmer, Madison....	1 00
Best plate of Whitney No. 20, 4 entries, E. W. Palmer, Madison..	1 00
Best Seedling Crab, 7 entries, Courtland Bones, Racine.....	2 00
Best collection fruit of all kinds, 8 entries, Wm. Fox, Baraboo....	12 00
Second best, Geo. Jeffrey, Milwaukee.....	9 00
Third best, Mrs. J. W. Park, Dodge's Corners.....	6 00
Fourth best, E. W. Palmer, Madison.....	4 00

CLASS 41 — *Flowers by Professional Cultivators.*

Best and most artistically arranged floral design, 2 entries, G. W. Ringrose, Wauwatosa.....	\$5 00
Best and most tastefully arranged basket of flowers, 2 entries, G. W. Ringrose, Wauwatosa.....	3 00
Best and most tasteful collection of cut flowers, G. W. Ringrose, Wauwatosa.....	4 00
Best 10 named dahlias, 1 entry, Chas. Hirschinger, Baraboo.....	2 00
Best display of roses, 2 entries, Currie Bros., Milwaukee.....	3 00
Best 5 named varieties of roses, 2 entries, Currie Bros., Milwaukee.	3 00
Best display of verbenas, 1 entry, Geo. W. Ringrose, Wauwatosa.	2 00
Best show of pansies, 1 entry, Wm. Toole, North Freedom.....	3 00
Best show of gladiolus, 2 entries, Currie Bros., Milwaukee.....	2 00
Best show of lilies, 2 entries, Currie Bros., Milwaukee.....	1 00
Best show of tube roses, 2 entries, Currie Bros., Milwaukee.....	1 00
Best show of green house plants, 2 entries, Currie Bros., Milwaukee.....	7 00
Second best, Geo. W. Ringrose, Wauwatosa.....	5 00
Best 20 varieties green house plants in bloom, 1 entry, G. W. Ringrose, Wauwatosa.....	3 00
Best 10 Geraniums, 1 entry, Geo. W. Ringrose, Wauwatosa.....	3 00
Best 6 fuchsias, 1 entry, G. W. Ringrose, Wauwatosa.....	2 00
Best display of flowers of all kinds raised by exhibitor, 2 entries, G. W. Ringrose, Wauwatosa.....	5 00
Best display ornamental foliage plants, 3 entries, Isaac Jones, Milwaukee.....	3 00

CLASS 42—*Flowers by non-professional cultivators.*

M. V. Sheldon, Racine, 2 entries.....	\$5 00
Best and most tastefully arranged collection cut flowers, 2 entries, M. V. Sheldon, Racine.....	4 00
Best and most tastefully arranged basket of flowers, 2 entries, M. V. Sheldon, Racine.....	3 00
Best pyramidal bouquet, 2 entries, M. V. Sheldon, Racine.....	3 00
Best bouquet everlasting flowers, 3 entries, J. W. Wood, Baraboo..	2 00
Best display of dahlias, 2 entries, Miss Clara Pepper, Pewaukee....	2 00
Best 10 named dahlias, 1 entry, M. V. Sheldon, Racine.....	2 00
Best display of roses, 2 entries, Mrs. C. C. Kingsley, Milwaukee..	3 00
Best display of verbenas, 2 entries, M. V. Sheldon, Racine.....	2 00
Best 10 named verbenas, 1 entry, Mrs. C. C. Kingsley, Milwaukee.	2 00
Best show of asters in quality and variety, 4 entries, M. V. Shel- don, Racine.....	2 00
Best show of perennial phlox, 2 entries, M. V. Sheldon, Racine..	1 00
Best show of pansies, 3 entries, M. V. Sheldon, Racine.....	2 00
Best show of double petunias, 2 entries, M. V. Sheldon, Racine..	1 00
Best show of dianthus, 1 entry, M. V. Sheldon, Racine.....	1 00
Best show of gladiolus, 2 entries, M. V. Sheldon, Racine.....	2 00
Best show phlox drummondii, 2 entries, M. V. Sheldon, Racine....	1 00
Best show of lilies, 1 entry, M. V. Sheldon, Racine.....	1 50
Best show of stocks, 1 entry, M. V. Sheldon, Racine.....	1 00
Best show of green house plants, 2 entries, Mrs. C. C. Kingsley, Milwaukee.....	5 00
Best 10 varieties green house plants, 2 entries, Mrs. C. C. Kings- ley, Milwaukee.....	3 00
Best 10 geraniums, 2 entries, Mrs. C. C. Kingsley, Milwaukee....	3 00
Best 6 fuchsias, 2 entries, Mrs. C. C. Kingsley, Milwaukee.....	2 00
Best display of ornamental grasses, 2 entries, M. V. Sheldon, Ra- cine.....	2 00
Best display of flowers raised by exhibitor, 2 entries, M. V. Shel- don, Racine.....	5 00
Best show ornamental foliage plants, 2 entries, Mrs. C. C. Kings- ley, Milwaukee.....	3 00

DEPARTMENT I.—MANUFACTURES.

CLASS 44—*Stone Cutters' work and their Building Material.*

Best sample brick, 2 entries, Brocker Bros., Fond du Lac.....	\$2 00
Best 10 styles moulding, 1 entry, Roebel & Reinhardt, Milwaukee.	5 00

CLASS 46 — *Stoves, Furnaces, Hollow Ware, etc.*

Best cook stove for coal, 1 entry, W. H. Munn, Milwaukee....	\$5 00
Best cooking range for families, 2 entries, W. H. Munn, Mil- waukee.....	5 00
Best ornamental parlor stove, 1 entry, W. H. Munn, Milwaukee.	5 00
Best display of stoves, 1 entry, W. H. Munn, Milwaukee, Gr. Silv. Med.	
Best exhibition brass and copper ware, 1 entry, W. H. Munn, Milwaukee.....	Diploma.
Best refrigerators, 1 entry, Cornish, Curtis & Green, Ft. Atkin- son.....	3 00

CLASS 50—*Carriages, Wagon Work.*

Best double top carriage, 1 entry, Abbott Buggy Co., Chicago, Ill.	\$5 00
Best double top carriage, 4 entries, C. Abresch, Milwaukee.....	5 00
Best single top buggy, 19 entries, E. W. Grant & Co., Milwaukee.....	5 00
Best phaeton, 2 entries, E. W. Grant & Co., Milwaukee.....	5 00
Best double light sleigh, 2 entries, B. F. & H. L. Sweet, Fond du Lac.....	5 00
Best double farm sleigh, 5 entries, B. F. & H. L. Sweet, Fond du Lac.....	Diploma
Best single sleigh, 17 entries, Henney Buggy Co., Freeport.....	3 00
Best common farm wagon, 7 entries, T. G. Mandt M'fy, Co., Stoughton.....	3 00
Best fancy lumber wagon, 2 entries, B. F. & H. L. Sweet, Fond du Lac.....	3 00
Best 2 seated Surrey wagon, 1 entry, Abbott Buggy Co., Chicago.....	Diploma
Best platform spring wagon, 2 entries, E. W. Grant & Co., Milwaukee.....	Diploma

CLASS 51—*Cabinet Ware, Cooperage.*

Best parlor set, 1 entry, Clement, Williams & Co., Milwaukee.	Silver Medal
Best chamber set, 2 entries, Clement, Williams & Co., Milwaukee.	Silv. Med.
Best extension table, 1 entry, Mathew Bros., Milwaukee.....	\$3 00
Best center table, 1 entry, Clement, Williams & Co., Milwaukee..	3 00
Best writing table or desk, 1 entry, Mathew Bros., Milwaukee...	3 00
Best spring bed bottom, 4 entries, Lovell M'g Co., Milwaukee...	3 00
Best display of cooperage and willow ware by manufacturer, 1 entry, Charles Schaeffer, Plymouth.....	Diploma

CLASS 52—*Leather and Leather Manufacture.*

Best single harness, 1 entry, Thos. C. Smith & Co., Milwaukee.	\$3 00
Best gents' saddle, 1 entry, Thos. C. Smith & Co., Milwaukee....	3 00
Best 6 cases men's boots, different grades, 1 entry, Atkins, Ogden & Co., Milwaukee.....	Grand Silver Medal
Best 6 cases men's boots manufactured in the state, 1 entry, Atkins, Ogden & Co., Milwaukee.....	Grand Silver Medal
Best exhibition of shoes, 1 entry, Atkins, Ogden & Co., Milwaukee.....	Grand Silver Medal
Best exhibition of shoes manufactured in the state, 1 entry, Atkins, Ogden & Co., Milwaukee.....	Grand Silver Medal

CLASS 54—*Textile Fabric, Clothing, Etc.*

Best fleece wool, American Merino, 1 entry, C. E. Angell, Oshkosh.....	\$2 and Diploma
Best fleece long wool, 1 entry, C. E. Angell, Oshhosh....	\$2 and Diploma
Best exhibition furs and fur goods, 1 entry, O. Hansen, Milwaukee.....	\$5 00
Best 6 buckskin gloves, 1 entry, Oscar Hansen, Milwaukee.....	2 00
Best 6 buckskin mittens, 1 entry, Oscar Hansen, Milwaukee....	2 00

DEPARTMENT K.—FINE ARTS.

CLASS 56 — *Sewing Machine Work.*

Best display sewing machine work, 3 entries, Domestic Sewing Machine Co., Milwaukee.....	\$10 00
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CLASS 57 — *Works of Art.*

Best portrait in oil, 6 entries, Frank Enders, Milwaukee.....	\$10 00
Second best, Frank Enders, Milwaukee.....	5 00
Best original landscape in oil, 8 entries, H. B. Frantz, Milwaukee.	10 00
Second best, Otto von Ernst, Milwaukee.....	5 00
Best landscape in oil, 5 entries, Frank Enders, Milwaukee.....	5 00
Second best, Frank Enders, Milwaukee.....	3 00
Best painting of horse from life, 6 entries, Otto von Ernst, Milwaukee.....	10 00
Best painting still life in oil, 4 entries, Frank Enders, Milwaukee.	10 00
Best marine painting in oil, 12 entries, Frank Enders, Milwaukee...	10 00
Second best, Miss Mary Newnham, Oconomowoc.....	5 00
Best plaque painting in oil, 4 entries, Miss Mary Newnham, Oconomowoc.....	3 00
Best oil painting on silk or satin, 3 entries, Mrs. A. A. Arnold, Galesville.....	3 00
Best panel painting in oil, 7 entries, Miss Mary Newnham, Oconomowoc.....	3 00
Best flower painting in oil, 7 entries, M. V. Sheldon, Racine.....	3 00
Best figure painting in oil, 2 entries, Frank Enders, Milwaukee....	5 00
Best collection of oil paintings by Wisconsin artists, 2 entries, Frank Enders, Milwaukee.....	25 00
Second best, Otto von Ernst, Milwaukee.....	10 00
Best specimen bird painting in water colors, 1 entry, Miss Mary Newnham, Oconomowoc.....	4 00
Best panel painting in water colors, 1 entry, Miss Mary Newnham, Oconomowoc.....	3 00
Best flower painting in water colors, 1 entry, Mrs. L. L. Disbro, Milwaukee.....	3 00
Best single piece china painting, 2 entries, Mrs. S. S. Frackleton, Milwaukee.....	3 00
Best collection china painting, 2 entries, Mrs. S. S. Frackleton, Milwaukee.....	5 00
Best Lustre painting, entries, Misses Vilas & Morris, Milwaukee..	3 00
Best Kensington painting, 2 entries, Mrs. W. Y. La Roe, Milwaukee.....	3 00
Best collection photographs and other sun pictures, 3 entries, S. L. Stein, Milwaukee.....	8 00
Second best, J. Brown, Milwaukee.....	5 00
Best collection photographic copies of oil paintings, 1 entry, Roebel & Reinhardt, Milwaukee.....	5 00
Best crayon drawing, by exhibitor, 2 entries, Mrs. P. Trowbridge, Greenfield.....	2 00
Best crayon from photograph, 3 entries, Roebel & Reinhardt, Milwaukee.....	5 00
Best pencil drawing, 3 entries, Miss Mary Newnham, Oconomowoc	2 00
Best India ink portrait, 1 entry, Mrs. G. P. Pepper, Pewaukee....	10 00

CLASS 58—*Needle, Shell and Wax Work.*

Best fancy knitting work, 14 entries, Mrs. S. E. M. Westcott, Milwaukee	\$2 00
Best cotton tidy, 3 entries, Sidney Squire, Wauwatosa	1 00
Best worsted tidy, 1 entry, Sidney Squire, Wauwatosa	1 00
Best tidy (any other kind) 5 entries, Miss Bertha Renk, Milwaukee	1 00
Best specimen worsted embroidery, 1 entry, Miss Henderson, Cambridge	2 00
Best needle work or floss embroidery, 3 entries, Miss Henderson, Cambridge	2 00
Best silk embroidery, 5 entries, Mrs F. A. Merrill, Milwaukee	2 00
Best exhibition applique embroidery, 1 entry, Mrs. A. Sherman, Janesville	2 00
Best chenille embroidery, 4 entries, J. Hannam, Trempealeau	2 00
Best silk embroidered child's dress, 1 entry, Mrs. J. W. Flack, Milwaukee	2 00
Best arasene embroidery, 6 entries, Misses Vilas and Morris, Milwaukee	1 00
Best fire screen, 2 entries, Misses Vilas and Morris, Milwaukee	2 00
Best ladies' work box, 1 entry, J. Hannam, Trempealeau	1 00
Best pin cushion, 5 entries, Miss L. Weinstock, Brandon	1 00
Best Ottoman cover, not upholstered, 1 entry, Miss L. Weinstock, Brandon	1 00
Best sofa cushion upholstered, 3 entries, Misses Vilas and Morris, Milwaukee	2 00
Best sofa cushion, not upholstered, 1 entry, Misses Vilas and Morris, Milwaukee	1 60
Best crocheted or knitted slippers, 1 entry, Miss Bertha Renk, Milwaukee	2 00
Best specimen of darned lace, 1 entry, Mary E. Carrier, Janesville	2 00
Best specimen of Macrame lace, 3 entries, Miss M. Henderson, Cambridge	2 00
Best specimen pillow shams, 2 entries, Mary E. Carrier, Janesville	1 00
Best specimen table scarf, 7 entries, J. Hannam, Trempealeau	2 00
Best table spread, 3 entries, Misses Vilas and Morris, Milwaukee	2 00
Best wall banner, 4 entries, Miss Bertha Renk, Milwaukee	1 00
Best mantle lambrequin, 4 entries, Miss Bertha Renk, Milwaukee	1 00
Best shell work, 1 entry, Sidney Squire, Wauwatosa	1 00
Best bead work, 1 entry, Mrs. Chas. O. La Salle, Lake Geneva	2 00
Best toilet set, 3 entries, Mrs. S. E. M. Westcott, Milwaukee	2 00
Best afghan, 1 entry, Mary E. Carrier, Janesville	2 00
Best display in entire class, 2 entries, Mrs. Chas. O. La Salle, Lake Geneva	5 00

For Boys and Girls under 15 years of age.

Best patch work quilt, 1 entry, Miss M. Johnson, 1 entry, Wauwatosa	\$1 00
Best sample plain sewing, 2 entries, Jessie Johnston, Milwaukee	1 00

CLASS 59—*Domestic Manufacture.*

Best 10 yards home made flannel, 1 entry, Mary E. Carrier, Janesville	\$4 00
Best rug of any material, 1 entry, J. Hannam, Trempealeau	4 00
Best drawn rug, 3 entries, Mrs. A. A. Arnold, Galesville	2 00
Best braided rug, 1 entry, Mrs. John M. True, Baraboo	2 00
Best 15 yards rag carpet, 1 entry, Sidney Squire, Wauwatosa	4 00

Best woolen stockings, 3 entries, Geo. Jeffrey, Milwaukee.....	\$2 00
Best woolen socks, 2 entries, Mary E. Carrier, Janesville.....	2 00
Best woolen mittens (men's) 1 entry, Mary E. Carrier, Janesville..	2 00
Best woolen mittens (ladies'), 2 entries, Geo. Jeffrey, Milwaukee....	2 00
Best silk mittens, 2 entries, Mary E. Carrier, Janesville.....	—
Best hand made or crocheted ladies' skirt, 3 entries, Mary E. Carrier, Janesville.....	2 00
Second best, Mrs. S. E. M. Westcott, Milwaukee.....	1 00
Best silk quilt, 3 entries, Mrs. M. S. Rogers, Milwaukee.....	4 00
Second best, Ida Klett, La Valle.....	2 00
Best log cabin quilt (not silk), 1 entry, Mrs. Chas. Atkin, Waukesha	4 00
Best patch work quilt, 5 entries, Mrs. Julia Huffman, West Granville	4 00
Second best, Mrs. Julia Huffman, West Granville	2 00
Best exhibition of ladies' dress made by professional, 1 entry, Miss Annie Veitch, Milwaukee.....	4 00
Best exhibition of ladies' dress made by other than professional, 1 entry, Mrs. Sarah Keihl, Milwaukee.....	4 00
Best specimen darning, 2 entries, Mrs. Chas. Atkins, Waukesha....	2 00
Best and greatest variety of articles of millinery, 1 entry, A. W. Rich, Milwaukee.....	5 00
Best ladies' cloak, domestic manufacture, 1 entry, A. W. Rich, Milwaukee	4 00
Best ladies' sack, domestic manufacture, 1 entry, Miss Mary Newnham, Oconomoc.....	3 00
Best display in this entire class by one exhibitor, 2 entries, A. W. Rich, Milwaukee.....	5 00

CLASS 60—*Natural History.*

Best collection illustrating the botany of Wisconsin, 1 entry, Mrs. J. W. Park, Dodge's Corners.....	\$10 00
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PROCEEDINGS.

EXECUTIVE BOARD MEETINGS.

MILWAUKEE, Wis., Sept. 25, 1886.

In accordance with the requirements of the by-laws of the Wisconsin State Agricultural Society the executive board met at the club room of the Plankinton House in Milwaukee on September 20th, 1886, and on each evening during the week of the annual fair, adjusting, deciding and directing all matters that were laid before them. They adjourned on September 25, at which meeting the following resolution was passed:

This board desires to convey to Clinton Babbitt, their retiring secretary, its hearty, sincere thanks for his untiring zeal and devotion in the interests of the Wisconsin State Agricultural Society. We can say as of old, "well done, good and faithful servant."

DECEMBER MEETING.

STATE AGRICULTURAL ROOMS,
MADISON, Wis., Dec. 1, 1886.

The executive board of the Wisconsin State Agricultural Society met in the rooms of the Society, as required by the by-laws of the Society.

No quorum present.

On motion of Secretary Babbitt, the meeting adjourned until December 16th, at 2 P. M.

ADJOURNED ANNUAL MEETING OF EXECUTIVE BOARD.

AGRICULTURAL ROOMS,
MADISON, Dec. 16, 1886.

Pursuant to notice of adjourned meeting, the executive board of the Wisconsin State Agricultural Society met at 2 P. M.

The report of committee appointed to compare the treasurer's report with checks and vouchers of the secretary, was accepted, and a resolution passed that the checks for 1886 be placed in the hands of the assistant secretary for cancellation.

On motion of Mr. Miner, the secretary was instructed to refund to Mr. Newton \$25.00, amount expended by him in Milwaukee.

The following resolutions were adopted:

Resolved, That the Society fix the salary of Miss F. L. Fuller at the sum of \$800, as assistant secretary for year 1887.

Resolved, That a Committee on Legislation be constituted consisting of the president and secretary of the Society, A. A. Arnold, N. D. Fratt and H. C. Adams.

FEBRUARY MEETING.

AGRICULTURAL ROOMS,

MADISON, Wis., Jan. 31, 1887.

President Sanger in the chair.

Present, Messrs. Arnold, Fisher, Hitt, Doyon, Smith, Vaughn, True, Campbell, Curtis, Fratt, Sanger, Clark, Miner and Newton.

Minutes of last meeting were read and approved.

Eli Perry, of Waupun, applied for premiums awarded him at State Fair of 1882.

On motion of Mr. Doyon, Pres. Sanger appointed Messrs. Doyon, Fratt and Arnold a committee to investigate Mr. Perry's claim. After examining entry books and vouchers for premiums paid since that time, committee reported Mr. Perry's claim just, and recommended its payment to the sum of \$28.33.

Mr. J. G. J. Campbell, of Milwaukee, tendered his resignation as member of the Executive Board.

Accepted.

On motion of Mr. Arnold, Capt. Geo. J. Schoeffel was appointed to fill vacancy in Vice-Presidency caused by resignation of Mr. Campbell.

Mr. Arnold in chair.

On motion of Mr. Sanger, J. G. Boyd, of Milwaukee, was made an additional member of the Board, in place of Capt. Schoeffel, promoted.

President Sanger in chair.

On motion of Mr. Arnold, reports from Superintendents were received.

Report of Department A—Horses—read by Supt. Newton, accepted by the Board, and referred to Messrs. Newton, True and Boyd, Committee on Premiums for that department.

W. A. Johnson—Supt. of Cattle, Department B—not being present the Secretary was instructed to invite him to send report later. Messrs. Arnold, Fisher, Clark, Doyon and Kiser were appointed committee to report on premiums for Cattle Department.

Report of Department C—Sheep—read by Supt. Clark. Committee on report and premiums for this department, Messrs. Arnold, Fisher, Clark, Doyon and McConnell.

Report of Department D—Swine—read by Mr. Curtis, referred to Committee on Premiums for Swine Department, Messrs. Curtis, Woodward and Kiser.

No report from Supt. Marquardt, Department E—Poultry. Mr. Doyon appointed to report on premiums for this department.

Report of Supt. Fisher for Department F—Agriculture—read, accepted and referred to Committee on Premiums, Messrs. Fisher, Fratt and Smith.

Department G—Fruits and Flowers—report read, accepted and referred to Committee on Premiums, Messrs. True, Adams and Smith, Misses Pepper and Fuller.

Department H—Machinery. Supt. Vaughn's report read and accepted.

Department I—Manufactures. Supt. Hitt's report accepted and referred to Committee on Premiums for that Department, Messrs. Hitt, Miner and Sanger.

Supt. Doyon's report for Department K, read accepted and referred to Committee on Premiums for this Department, Messrs. Doyon and Miner, Misses Fuller and Pepper.

Board adjourned to 9 A. M., Tuesday.

AGRICULTURAL ROOMS.

MADISON, Wis., 9 A. M., Tuesday, Feb. 1, 1887.

Executive Board met, Pres. Sanger in the chair.

Present, Messrs. Fisher, Hitt, Doyon, Wilson, Smith, Vaughn, True, Arnold, Clark, Curtis, Fratt, Sanger and Newton.

On motion of Mr. Doyon, the Board proceeded to elect Superintendents for various departments for State Fair of 1887.

Messrs. Fratt and Doyon were appointed tellers.

On motion of Mr. Miner, a new department was created under the head of Speed Department.

The result of the election was as follows:

Department A, Horses—John M. True, Baraboo.

Department A, Speed—Jas. G. Boyd, Milwaukee.

Department B, Cattle—W. A. Johnston, Galesville.

Department C, Sheep—C. M. Clark, Whitewater.

Department D, Swine—F. C. Curtis, Rocky Run.

Department E, Poultry—W. Wilson, Wausau.

Department F, Agriculture—Seth Fisher, Center.

Department G, Fruits and Flowers—H. C. Adams, Madison.

Department H, Machinery—A. W. Vaughn, Lodi.

Department I, Manufactures—H. D. Hitt, Oakfield.

Department K, Fine Arts—M. R. Doyon, Madison.

Marshal—Geo. J. Schoeffel, Milwaukee.

Superintendent of Gates—N. D. Fratt, Racine.

Adjourned till 2 o'clock.

AGRICULTURAL ROOMS,

Tuesday, 2 P. M.

Pres. Sanger in the chair.

Reports of Committees on Premiums for each department read and accepted.

On motion of Mr. True it was decided to open all departments to the world.

On motion of Mr. Arnold, Mr. True's resolution was reconsidered and the following substituted:

Resolved, That competition in all Departments at our next State Fair be open to the world, with the exception of cattle, and in case legislation now contemplated, render us safe against contagion, prior to the time of issuing our premium list, this class be also included. And that the final settlement of this matter be referred to a committee consisting of A. A. Arnold, Seth Fisher and Geo. Harding.

Carried.

On motion, the Speed Department was referred to President, Secretary and Mr. Boyd.

On motion of Mr. Miner, Mr. Galbraith's offer of medal for special premium was accepted.

Other medals and cups for special premiums accepted.

On motion of Mr. Doyon, the Forage Department was added to Speed Department, and former placed under the charge of D. T. Pilgrim, Wauwatosa.

The Board then proceeded to revise the Premium List.

Mr. True introduced the following:

Resolved, That the aggregate of premiums offered for next Fair be fixed at \$12,000, to be divided among the several departments upon some basis of percentage to be determined by the Board.

Amended to \$15,000 in premiums and amusements, to be referred to committee of three.

Carried.

On motion of Mr. True, Pres. Sanger appointed a committee of three, consisting of Messrs. True, Arnold and Boyd, to divide or apportion the entire amount of premiums among the various departments.

Mr. True reported the following apportionment of appropriation among departments by committee:

Department A, Horses—17½ per cent., \$2,625.

Department B, Cattle—17½ per cent., \$2,625.

Department C, Sheep—5 per cent., \$750.

Department D, Swine, 6 per cent., \$900.

Department E, Poultry—3 per cent., \$450.

Department F, Agriculture—8 per cent., \$1,200.

Department G, Horticulture—5 per cent., \$750.

Department H.

Department I, Manufactures—3½ per cent., \$525.

Department K, Fine Arts—7½ per cent., \$1,050.

Speed and amusements—27½ per cent., \$4,125.

Mr. True:

Resolved, That Superintendents be authorized to appoint one instead of three judges to act in the several departments at next Fair.

Carried.

Rule for stall rents amended.

On motion of Mr. Doyon, committee on Department K were allowed to make their report later but not allowed to exceed amount assigned.

Adjourned.

WEDNESDAY, 9 A. M.

Mr. Fratt in chair.

Present Messrs. Fisher, Doyon, Wilson, True, Schoeffel, Fratt, Miner, Curtis, Clark, Newton.

Motion by Mr. True:

That the leasing of Fair Grounds in Milwaukee, and the arranging of grounds for next Fair be referred to Standing Committee, such committee to have the full power of this Board in their action.

Carried.

On motion of Mr. Schoeffel, the fixing of dates for next State Fair was left to Committee on Location.

Motion of Mr. True:

Resolved, That in the selection of judges for the next fair, superintendents of Stock Departments be allowed to appoint one expert judge in each of the divisions requiring separate action, and that the decision of such judge be final in all cases. And that any regularly constituted organization of Stock Breeders in the State be allowed to select the expert judge for its particular division; provided, that the expenses of procuring such expert do not exceed ten dollars.

Carried.

Adjourned.

SOCIETY MEETINGS.

ELECTION OF OFFICERS.

In accordance with the requirements of the constitution, and after due notice by the secretary, the life members of the Wisconsin State Agricultural Society met at Saint

Andrew's Hall, in Milwaukee, Thursday, September 23, at 8 o'clock P. M., to elect officers for 1887.

President Arnold called the meeting to order.

A motion to locate the fair in Milwaukee for one year, was introduced by E. W. Keyes. After some discussion a motion, by H. C. Payne, to locate state fair in Milwaukee for five years was carried.

Secretary Babbitt, assisted by Gen. Geo. E. Bryant, called the roll, first of life members; second of delegates from county agricultural societies.

Voted—to proceed to ballot for president.

The chair appointed as tellers Messrs. Payne, Johnston, Fisher, Kellogg and Doyon.

Whole number of ballots cast, 316. As follows: Casper M. Sanger, 231; Arnold, 47; Babbitt, 38.

Mr. Sanger was declared the unanimous choice for president.

A ballot was then taken for secretary, T. L. Newton receiving 176 votes, and H. C. Adams 64. The election of Mr. Newton was made unanimous.

Cyrus Miner was re-elected treasurer, by acclamation.

The following vice-presidents were then chosen:

- 1st District — Seth Fisher, Center.
- 2d District — H. D. Hitt, Oakfield.
- 3d District — M. R. Doyon, Madison.
- 4th District — J. G. J. Campbell, Milwaukee.
- 5th District — J. M. Smith, Green Bay.
- 6th District — A. W. Vaughn, Lodi.
- 7th District — J. M. True, Baraboo.
- 8th District — W. A. Johnston, Galesville.
- 9th District — Wm. Wilson, Wausau.

The chair appointed Messrs. Doyon, Ellenwood and True a committee to select additional members of the executive board, who reported as follows:

- C. M. Clark, Whitewater.
- F. C. Curtis, Rocky Run.
- N. D. Fratt, Racine.
- Geo. J. Schoeffel, Milwaukee.
- H. C. Adams, Madison.

A. Ludlow, Monroe.

S. D. Hubbard, Mondovi.

The following resolution was adopted:

Resolved, That the members of this society highly appreciate the efforts of the retiring officers of this society to make the fair of 1886 so grand a success, and we hereby tender them our thanks for such efforts.

Meeting adjourned.

ANNUAL MEETING.

STATE AGRICULTURAL ROOMS,
MADISON, WIS., Dec. 1, 1886.

As required by the constitution of the Wisconsin State Agricultural Society, the society met in their rooms in the capitol, at 9 A. M., as per published notice. No quorum present. On motion of Gen. Geo. E. Bryant, meeting adjourned until December 16th, at 12 M.

ADJOURNED ANNUAL MEETING OF THE WISCONSIN STATE AGRICULTURAL SOCIETY.

AGRICULTURAL ROOMS,
December 16, 1886.

President Arnold in the chair. Present, Messrs. Adams, Johnston, Newton, Fratt, Babbitt, Arnold, Doyon, Grinnell, Van Etta, Curtis, Plumb, Bryant and Miner.

Cyrus Miner, treasurer of the society, read his report for the year ending December 1st, 1886.

On motion of Mr. Fratt, the report was referred to a committee consisting of J. F. Grinnell, Dexter Curtis and J. Van Etta; who examined vouchers and compared them with the books of the secretary and reported them correct.

The report was accepted by the society.

The following resolution, introduced by Mr. Miner, was unanimously adopted, and copies of it ordered to be forwarded to Milwaukee and Madison papers:

In view of the fact, that the state fair of 1886 would have been a financial failure if held in any other town in the state under the same condi-

tions as at Milwaukee, and being desirous to in some manner manifest its appreciation of the efforts of the people of that city, therefore be it

Resolved, That the Wisconsin State Agricultural Society tender its sincere and earnest thanks to the business men and citizens of the city of Milwaukee, for their zeal, liberality and hearty co-operation, and for their generous attendance under very discouraging conditions, making what promised to be a disastrous failure, one of the most successful of any of the fairs heretofore held by this society.

On motion, it was decided to pay H. C. Allen \$25, due for losses sustained while in the employ of the society in 1878.

The following was adopted by the society :

WHEREAS, The State Agricultural Society having temporarily located the state fair on the Cold Spring grounds, in Milwaukee, to avoid any misunderstanding that may arise in the future, therefore

Resolved, That the State Agricultural Society tender the Dane County Agricultural Society the use of our grounds, in Madison, for the purpose of holding their county fair. But to be used by them for no other purpose, one week prior to the fair, one week during their county fair, and the week following their fair. The Dane county society to make good to our society any and all damage to our property during their occupancy. The State Agricultural Society reserving to themselves the exclusive right to use and occupy said grounds the balance of the year; also reserving the right to reconsider the above resolutions at any time; and that our secretary be directed to carry out the spirit of the above resolution.

The following was unanimously adopted :

Resolved, That in view of the faithful, honest and efficient service rendered the Wisconsin State Agricultural Society by Miss Frank L. Fuller and Miss Minnie Prichard, they be made honorary life members.

The following amendments to the constitution were proposed and ordered to be voted upon at next society meeting, according to the by-laws of the society :

Amend article III. of the constitution so it shall read :

The officers of the society shall consist of a president and vice president from each congressional district of the state, a secretary, a treasurer, and seven additional members who shall be life members of the society.

And strike out the words executive board, and have it read "the State Board of Agriculture.

Amendment to article V. of the constitution proposed by George E. Bryant at the annual meeting in Dec. 1886 so it shall read; "The annual meeting of the society for the transaction of general business shall be held in its rooms in the capitol in Madison, on the first Wednesday in December at twelve o'clock noon in each year."—etc.

Meeting adjourned.

TREASURER'S REPORT.

For the Year Ending December 1, 1886.

To the officers and members of the Wisconsin State Agricultural Society:

GENTLEMEN:—I have the honor to hand you herewith statement of the financial transactions of your Society for the year ending December 1, 1886.

It is a source of great pleasure to me to report, that for the first time in ten years, (if not in its entire history), your Society enters upon a new year entirely free from all indebtedness, has a comfortable balance in the treasury, possessed of a valuable unincumbered real estate, and has, I have good reason to believe, the confidence and hearty good will of the people of this commonwealth.

Respectfully submitted,

CYRUS MINER,

Treasurer.

MADISON, December, 1886.

RECEIPTS.

Balance from the year 1885.....	\$2,458 69	.....
Amount from loan.....	999 00	.....
Amount from sale of tickets.....	16,069 50	.....
Amount from membership.....	4,360 00	.....
Amount from sale of forage.....	139 00	.....
Amount from sale of forage, 1885.....	10 75	.....
Amount from state appropriation.....	4,000 00	.....
Amount from advertising.....	150 00	.....
Amount from herd premium.....	40 00	.....
Amount from entry fees.....	1,333 50	.....
Amount from rent of stalls.....	346 00	.....
Amount from rent of ground.....	1,318 26	.....
Amount from Plankton premium.....	100 00	.....
	-----*	\$31,334 70

DISBURSEMENTS.

Total disbursements..... .. \$31,324 64

DETAILED STATEMENT OF EXPENDITURES, ACCORDING TO WARRANT ACCOUNT OF SECRETARY.

No.	To whom and for what issued.	Amount.
1	Babbit, C., secretary salary.....	\$150 00
2	Huntley, G. W. & Co., labor on agricultural department...	5 00
3	Western Union Telegraph Company.....	75
4	Fuller, Frank, clerk.....	45 00
5	Smith, R. B., draw mortgage.....	2 50
6	Danihar, D. D., labor.....	2 00
7	Madison Manufacturing Company, use of engine.....	10 00
8	Dodd, H. B., express.....	9 20
9	Main, W. E., assignee, dinner tickets.....	48 50
10	Young, P. & M., rope.....	12 60
11	Arnold, A. A., president's expenses.....	8 25
12	Regan, Thos., water supply.....	150 00
13	Haley, Lois, advertise fair.....	2 50
14	Dengler, A. M., painting.....	14 75
15	Western Farmer, papers.....	5 00
16	Dennison, N. H., team work.....	5 00
17	Recording mortgage.....	1 00
18	Dorn & Co., livery.....	14 00
19	Fuller, Frank, clerk.....	45 00
20	Ward, Dr. A. J., medical attendance, '84.....	5 00
21	Babbitt, C., secretary salary.....	150 00
22	Scoville, J. M. & Son, premium.....	75 00
23	Scoville, H. B., gate attendance.....	7 50
24	Dodd, H. B., express.....	13 50
25	Park, & Co., goods.....	5 00
26	Moseley, J. E., goods.....	3 20
27	New York Store, goods.....	1 54
28	Wright, Mrs. D., premium.....	9 60
29	Daggett, A. M., pails.....	2 50
30	Babbitt, C., secretary salary.....	150 00
31	Crouch, S., premium.....	10 00
32	Western Farmer, printing.....	31 50
33	True, J. M. delegate board meeting.....	8 40
34	Prichard, Minnie, clerk.....	43 50
35	Allen, G. R., delegate Walworth county.....	12 50
36	Fuller, Frank, clerk.....	45 00
37	Sliter, J.....	2 00
38	Emmerson, M. E., police.....	2 00
39	Newton, T. L., board meeting.....	10 15
40	Fratt, N. D., board meeting.....	13 40
41	Newton, T. L., circulars.....	4 00
42	Smith, J. M., board meeting.....	12 00
43	True, J. M., board meeting.....	5 50
44	Curtis, J. C., board meeting.....	7 50
45	Wilson, W., board meeting.....	15 50
46	Austin, George, board meeting.....	13 50
47	Bucholz, H., premium, 1884.....	6 00
48	Calkins, J. G., police, 1884.....	6 00
49	Hatch, C. A., delegate, Richland county.....	9 30
50	Tuttle, A. G., premium.....	20 00
51	Pilgrim, D. T., oats at fair.....	16 64
52	Pilgrim, D. T., board meeting.....	12 00
53	Johnson, W. A., board meeting.....	12 80
54	King, C. G., work.....	2 50

No.	To whom and for what issued.	Amount.
55	Davidson, A. L., reporter.....	\$35 00
56	Park Hotel, board guests.....	28 50
57	Dodd, H. B., express.....	10 60
58	Kiser, J. C., premium.....	15 00
59	Fredrickson & Fish, lumber.....	87 93
60	Blackman, C. M., interest.....	210 00
61	Babbitt, C., secretary's salary.....	150 00
62	Howlett, H. H., premium.....	5 00
63	Storm, Wm., labor.....	2 00
64	Fuller, Frank, clerk.....	45 00
65	Phillips, A. J., labor.....	10 00
66	Journal Co., subscription.....	2 50
67	Vroman & Mason, lumber.....	18 84
68	Hitt, H. D., board meeting.....	11 05
69	Herston, H. C.....	15 00
70	Newton, T. L., expenses.....	13 95
71	Arnold, A. A., expenses.....	30 50
72	Miner, Cyrus, advance on subscription.....	25 00
73	Miner, Cyrus, expenses and paid sundries.....	45 60
74	Babbitt, C., secretary salary.....	75 00
75	Fuller, Frank, clerk.....	45 00
76	Babbitt, C., secretary salary.....	150 00
77	Journal Co., advertising.....	50 00
78	Mil. Lithograph Co., diplomas.....	30 00
79	Morrow, G. E., expenses Feb. meeting.....	17 50
80	Fuller, Frank, clerk.....	45 00
81	Babbitt, C., secretary salary.....	150 00
82	Western Union Telegraph Co.....	10 85
83	Free Press, advertising.....	10 00
84	Park Hotel.....	3 00
85	Fuller, Frank, clerk.....	45 00
86	Babbitt, C., secretary salary.....	150 00
87	Fuller, Frank, clerk.....	45 00
88	Baker, J. S., plates.....	2 50
89	Babbitt, C., secretary salary.....	150 00
90	Chas. Morriss Co., flags.....	27 00
91	Davidson, A. L., reporter.....	100 00
92	Dodd, H. B., express.....	10 60
93	Fuller, Frank, clerk.....	45 00
94	Western Union Telegraph Co.....	4 25
95	Babbitt, C., secretary salary.....	150 00
96	Vaughn, A. W., board meeting.....	10 00
97	Vaughn, A. W., expenses.....	45 60
98	Democrat Printing Co.....	7 50
100	Fuller, Frank, clerk.....	45 00
101	Prichard, Minnie, clerk.....	34 00
102	Hoard, W. D., advertising.....	25 00
103	Babbitt, C., secretary salary.....	75 00
104	Morse, C. F., signs.....	100 00
105	Manf. Publishing Co., adv.....	50 00
106	Milwaukee, local advertising.....	25 00
107	Reigart, F, ed, advertising.....	7 50
108	American Express Co., express.....	3 25
109	Caton stock farm, premium.....	132 80
110	Pember, R. T., delegate Rock Co.....	12 50
111	Shano, Daniel, delegate La Crosse Co.....	17 10
112	McGelora, A. D., delegate Sauk Co.....	14 28
113	A. H. Allyn, delegate Walworth Co.....	11 28
114	Meiklejohn, M. A., delegate Fond du Lac Co.....	14 20
115	Owen, Wm., delegate Columbia Co.....	16 24
116	Babbitt, A. O., advertising.....	31 50
117	Whelan, J. W., delegate Buffalo Co.....	28 24

No.	To whom and for what issued.	Amount.
118	Porter, Hugh, delegate Crawford Co.....	\$23 08
119	Alexandar, F. W., delegate Vernon Co.....	20 54
120	Dey, John, delegate Outagamie Co.....	18 40
121	Wherrill, Wm., delegate St. Croix Co.....	27 98
122	Alling, A. M., delegate.....	11 80
123	Davis, J. A., delegat- B. P. Agl. Sec.....	22 00
124	Elliss, J., delegate, Marquette Co.....	16 20
125	Morrill, S., delegate Jackson Co.....	22 40
126	Pierce, M. F., delegate Sheboygan Co.....	13 24
127	Odell, L. L., delegate Trempealeau Co.....	22 04
128	Hildebrand, G. F., Boscobel A. D. P.....	14 08
129	Torrison, Thos., delegate, Manitowoc Co.....	8 80
130	Hill, O. M., delegate Monroe Co.....	17 24
131	Crane, W. W., delegate Waupaca Co.....	17 56
132	Harvey, J. L., delegate Kiswaukee.....	15 20
133	Barber, J. M., delegate Grant Co.....	21 16
134	Sunderland, D. C., delegate Green Co.....	14 30
135	Thomas, J. W., delegate Chippewa Co.....	22 08
136	Miller, Wm., delegat- Dunn Co.....	25 16
137	Smith, J. M., delegate Brown Co.....	14 78
138	Ellenwood, A. P., delegat- Baraboo V. A. S.....	15 36
139	Rix, W. P., delegate Washington Co.....	12 10
140	Crockett, D. W., premium.....	20 00
141	Dillon Bros., premium.....	254 00
142	Witters, Geo. W., Adams Co. delegate.....	17 92
143	Howard L., premium.....	4 00
144	Potter, C. W., Juneau Co. delegate.....	15 74
145	Caton Stock Farm, premium.....	73 00
146	Curtis, F. C., superintendent.....	28 00
147	McMurphy, G. W., Pierce Co. delegat-.....	26 36
148	Whitman, Joel, Iowa Co.....	17 00
149	Galbraith Bros., premium.....	174 00
150	Buffalo John, help in securing Indians.....	15 00
151	Richards, Griff, premium.....	15 00
152	Marquardt, A. F., Superintendent E.....	32 00
153	Marquardt, A. F., Marathon Co. delegat-.....	14 40
154	Wilson, Wm., Assistant Superintendent E.....	28 00
155	Patterson, May, clerk.....	20 85
156	Warren, Albert, gate keeper.....	14 00
157	Seaver, J. E., attendant.....	10 00
158	Blake, Edward, attendant, gate.....	17 50
159	Welch, W., attendant, A.....	16 00
160	Veitch, Chas., police.....	6 00
161	Vernon, R. C., assistant marshal.....	39 00
162	Driscoll, Pat., police.....	2 00
163	Caton Stock Farm, advance on freight.....	25 20
164	Widder, John, premium.....	5 00
165	Flinn, W. W., Barron county delegate.....	28 90
166	Wilson, C. W., use of tent, department A.....	25 00
167	Haskins, Wm., Indians and expenses in full.....	250 00
168	Hatch, C. A., Richland Co. delegat-.....	14 28
169	Millett, Chas. O., gate keeper.....	17 50
170	Hitt, H. D., superintendent.....	48 00
171	Jones, E. D., helper and watch.....	18 00
172	Hitt, E. J., assistant superintendent.....	21 00
173	Barry, M. A., labor.....	12 00
174	Welch, Wm., amphitheater.....	10 50
175	Howard, C. R., race.....	350 00
176	Speers, J. D., race.....	200 00
177	Totto, Miss O., clerk.....	48 00
178	Phillips, A. J., police.....	8 00
179	Davies, P. H., speed.....	180 00

No.	To whom and for what issued.	Amount.
180	Thomanson, J., speed	\$55 00
181	Doyon, M. R., superintendent	68 77
182	Clark, C. M., services	38 00
183	Whittet, John, delegate Jefferson county	8 64
184	Johnston, W. A., superintendent cattle department	50 00
185	Buttman, S., night watch	14 00
186	Barlman, H., police	11 00
187	Kirwin, John, police	14 00
188	Burroughs, John, police	8 00
189	Becker, Wm., police	4 00
190	Sholtz, L. K., police	8 00
191	Barry, A. C., advertising	45 00
192	Flood, Thos., police	8 00
193	Kellogg, R. B., department A	30 00
194	Freie Presse Company	15 00
195	Crowl, O. H., labor	12 00
196	Shupe, Sam, police	8 00
197	Halligan, Anna, clerk	22 85
198	Dever, Ira, police	8 00
199	Walton, N., police	2 00
200	Arnold, Archy, police	10 00
201	Speers, J. D., race	50 00
202	Semple, Joe E., premium	10 00
203	Arnold, A. H., expenses and posting bills	10 50
204	Warren & Son, premium	45 00
205	4th Battalion band	50 00
206	R. D. Torrey, police	10 00
207	Milwaukee Arbeiter Zeitung, advertising	10 00
208	Parkinson, J. M., advertising expenses	29 10
209	Parkinson, J. M., advertising and clerk	41 50
210	Clark, C. M., services	4 00
211	Patterson, Mary, clerk	44 00
212	Cole, Hawl-y, speed	125 00
213	McKerron, Geo., premium	61 00
214	W. C. R. R., transportation Indians	172 50
215	Newton, T. L., superintendent	40 00
216	Newton, T. L., expenses, etc	44 95
217	Phillips, J. P. & Co., material	136 31
218	Fifield, F. P., police	8 00
219	Karzke, Wm., painting signs	4 85
220	Reid, Wm., premium	22 00
221	Partridge, A., police	4 00
222	Bourse, Henry, premium	7 00
223	Cox, G. G., assistant marshal	24 00
224	Cox, G. G., S. W. Agricultural Society, delegate	9 90
225	Babbitt, A. O., money advanced and taking Indians around	3 90
226	Williams, Owen, city police	4 00
227	Davis, T. C., premium	47 00
228	Roth, Adam, & Co., boarding 27 Indians 3 days	81 00
229	Humphrey, Albert, premium	27 00
230	Manty, Fred, police	4 00
231	Hette, Myer, Heth, coal	12 00
232	Shimmel, Jas., police	10 00
233	Austin, Geo. A., ribbon badges	1 12
234	Austin, Geo. A., marshal	36 00
235	Ormond, N. M. premium	40 00
236	Daubner, Geo., premium	37 00
237	Grover, E. J., premium	197 89
238	Charnly, Isaac, gate	17 50
239	Stevens, M. A., assistant superintendent	10 00
240	Fratt, N. D., superintendent	24 00
241	Deuster, P. V. & Co., advertising	32 00

TREASURER'S REPORT.

93

No.	To whom and for what issued.	Amount.
242	Asch, Mrs. P., premium.....	\$10 00
243	West, S. G., gatekeeper.....	17 50
244	Near, Jacob, gate.....	17 50
245	Frat, N. D., expenses.....	39 03
246	Schmitz, Peter, grain.....	141 86
247	Greer, I. M., premium.....	125 00
248	Ryan, I. S.....	50 00
249	McDonald, W. B.....	170 00
250	Slater, D. S., assistant machine department.....	42 75
251	Ayers, H. M., assistant machine department.....	38 50
252	Vaughn, A. W., superintendent machine department.....	7 00
253	Vaughn, A. W., 12 days.....	29 50
354	Vaughn, A. W., 12 days.....	48 00
255	Henry Buggy Co., premium.....	3 00
256	Frankforth, shade cord.....	62
257	Peffer, Kate, assistant art department.....	39 25
258	Calkins, J. G., police and watch.....	16 00
259	Maybee, Frank, watch.....	18 00
260	Leroy, C. H., premium.....	100 00
261	Austin, G. A., Clark county delegate.....	12 00
262	Schwartz, S., sundries.....	6 75
263	Atwood, Mrs. A. G., premium.....	3 00
264	Sutfring, J., watch.....	8 00
265	Vilas & Morris, premium.....	11 00
266	Yerdale & Son, advertisement.....	107 50
267	Clauder's band.....	208 00
268	Armstroog, G. W., assistant in forage.....	14 00
269	Sentinel Co., advertisement.....	70 00
270	Yenowine News, advertisement.....	25 00
271	Monroe, M., police.....	8 00
272	Anderson, H. V., detective.....	44 00
273	McNulty, J. A., detective.....	25 00
274	Daniels, M. N.....	17 50
275	Anderson, H. V., police.....	6 00
276	Fohrmann, E., police.....	25 00
277	Allen, J. R., police.....	27 50
278	Pritcher, J., police.....	25 00
279	Roebel & Renhardt, sundries.....	4 85
280	Roebel, H., assistant superintendent.....	15 00
281	Newnham, Miss Mary, premium.....	33 00
282	Helderbrand, A., premium.....	20 00
283	Pilgrim, D. T., superintendent forage.....	44 00
284	Pilgrim, D. T., hay.....	23 75
285	Bechtel, D., assistant on grounds.....	44 00
286	Bechtel, D., assistant on grounds.....	60 00
287	Ringwod, Geo. W., premium.....	32 00
288	Schaefer, J. L., premium.....	5 00
289	Gordon, Jas., labor.....	17 00
290	Milwaukee Vokeblat, advertising.....	25 00
291	Myer, Wm. & Son, board land.....	24 00
292	Burdick & Armitage, advertising.....	118 30
293	Arme, E. A., gate attendant.....	17 50
294	Frackelton, W. F., premium.....	3 00
295	Parks, W. O., posting bills.....	27 25
296	Rich, A. W., merchandise.....	13 25
297	Rich, A. W., premium.....	14 00
298	Frackleton, Mrs. S. S., premium.....	8 00
299	Le Roe, Mrs. H. Y., premium.....	3 00
300	Foley, I. S. & M., forage.....	372 24
301	Patterson, O. J., forage.....	71 09
302	Pilgrim, J. N., assistant forage department.....	28 00
303	Pilgrim, D. T., assistant forage department.....	16 00

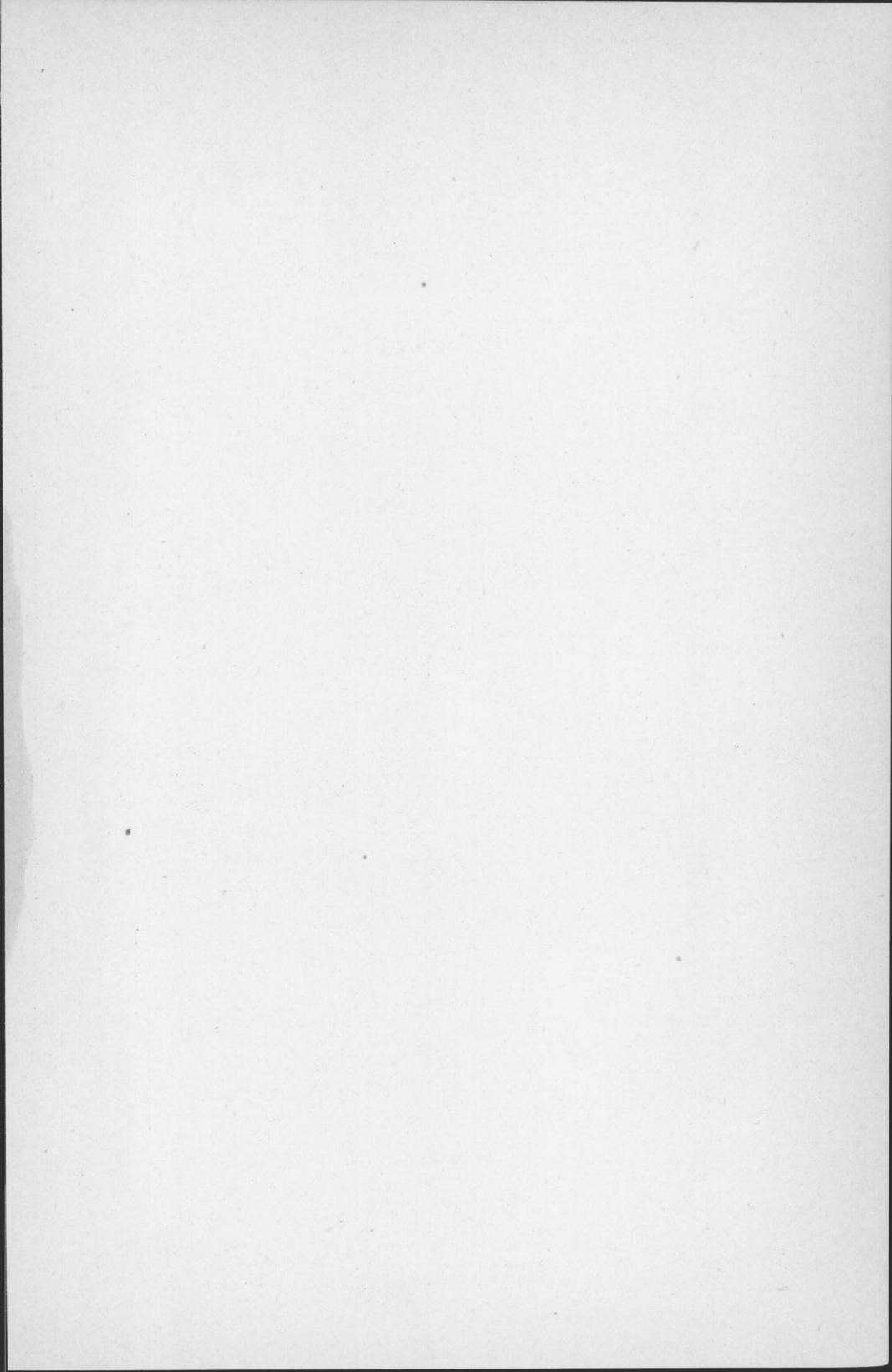
No.	To whom and for what issued.	Amount
304	Pilgrim, D. T., supintendent forage department.....	\$12 00
305	Fuller, Frank, clerk.....	35 00
306	Squires, S., premium.....	7 00
307	West, J., premium.....	42 00
308	Boettcher A. W., wall paper.....	4 25
309	Roberts, E. G., premium.....	37 50
310	Reasi e Bros.....	10 00
311	Abbott, J. W. & W. H., material.....	204 57
312	Lee, John, premium.....	75 00
313	Rogers, Mrs. H. G., dinner tickets.....	213 80
314	Peck's Sun, advertising.....	25 00
315	Pfeffer, Kate, premiums.....	105 50
316	McHenry, M. E., premium.....	105 00
317	Howard, E. R., premium.....	50 00
318	Classon, G. L., premium.....	75 00
319	Blanchar, W., gate keeper.....	10 50
320	Warren, F. C., premium.....	20 00
321	Pilgrim, —, team.....	12 00
322	Pilgrim, S. W., watch.....	12 00
323	Pilgrim, D. T., superintendent forage.....	15 00
324	Pilgrim, D. T., superintendent forage.....	60 00
325	Pelimen & Stredy, butter tryer.....	1 25
326	Chicago, Milwaukee & St. Paul R. R., freight.....	16 29
327	Journal Co., Milwaukee, advertising.....	53 00
328	Enders, F., premium.....	78 00
329	Roebel & Rembaudt, premium.....	10 00
330	Sheldon, S. L., delegate Dane county.....	8 00
331	Merchants State Fair committee.....	207 00
332	Jeffrey, Geo., premium.....	60 50
333	Mathew Bros., use furniture.....	13 50
334	McGovern & Davis, work on grounds.....	200 00
335	Freudenberg, Chas., dinner tickets.....	1 66
336	Westevtt, S. E. M., premium.....	13 00
337	Hutchinson, B. M., premium.....	2 00
338	Johnston, M.....	6 00
339	Haskins, Wm., Indians.....	32 00
340	Plankinton House.....	97 75
341	Prichard, Miss Minnie, clerk.....	20 00
342	Andrews & Thayer, livery.....	20 00
343	Babbitt, C., salary.....	50 00
344	Welch, Jas. E., premium.....	24 00
345	Mock & Son, livery.....	36 00
346	Shirey, Henry, carpenter.....	83 33
347	Bank of Galesburg, note, loan.....	1,040 00
348	Fuller, Frank, clerk.....	45 00
349	Babbitt, C., secretary, salary.....	150 00
350	Plankinton House.....	114 00
351	Woodward, S. S.....	17 50
352	Vogle, M., straw.....	79 52
353	Prichard, M. E., clerk.....	75 00
354	Morse, C. F., signs.....	44 00
355	Bisshop & Son., ponies.....	211 00
356	Babbitt, C., secretary salary.....	25 00
357	Henderson, M., premium.....	6 00
358	Bralagon, J. R., premium.....	130 06
359	Ramsey, DeWitt, goods.....	83 85
360	Palmer, E. W., premium.....	21 00
361	Carrier, Mary E., premium.....	17 00
362	Sheldon, M. V., premium.....	48 50
363	Wood, Miss Fanny, premium.....	10 00
364	Cameron, S. Y., assistant superintendent.....	10 00
365	Edwards & Son, premium.....	53 00

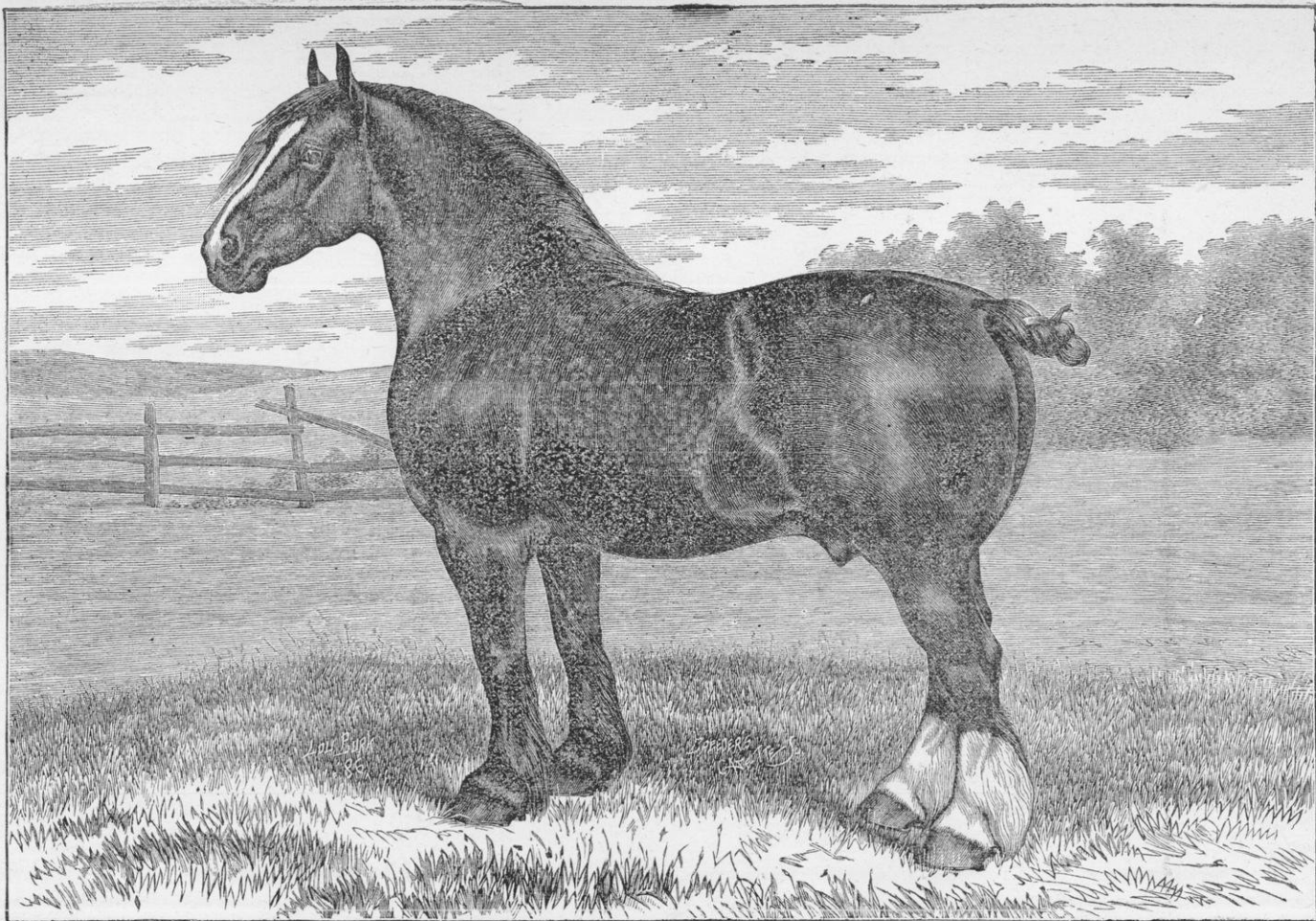
TREASURER'S REPORT.

95

No.	To whom and for what issued.	Amount.
366	Baker, Geo. & Son, premium	\$163 00
367	Lovell Manufacturing Company, premium	3 00
368	Cantwell, M. J., printing	283 05
369	Morse & Son	150 00
370	Sherman, Mrs. A., premium	27 00
371	Gillett & Moore, premium	58 00
372	Kellogg, Geo. G., premium	12 00
373	Ross, D. T., premium	20 00
374	Raeside Bros., premium	50 00
375	Frantz, H. B., premium	5 00
376	Harding, Geo., premium	181 50
377	Thomas, E. B., premium	14 00
278	Baird, Samuel, premium	3 00
379	Angell, C. E., premium	163 00
380	Durand, H. S., premium	109 00
381	Pitcher, J. H., superintendent	36 00
382	Nicolai, H. E., premium	37 00
383	Park, Mrs. J. W., premium	57 00
384	Childs & Co., printing	138 75
385	Hyland, Agnes, badges	4 85
386	Newton & Wenz, ribbons	21 00
387	Boorse, Henry, premium	100 00
388	North & Nelson, advertising	25 00
389	True, J. M., premium	2 00
390	Eastman, John, advertising	40 00
391	Eastman, John, advertising	10 00
392	Babbitt, C., salary	75 00
393	Harland, Wm., premium	11 00
394	Von Ernst, Otto, premium	15 00
395	Spence, Geo. & Co., labor	1 00
396	Schenck, F. W., loan of stools	2 00
397	Pritzlaff Hardware Co., scales	7 00
398	Grimm, G., freight	18 50
399	Watrous, J. A., printing	25 00
400	Kleit, Ida, premium	2 00
401	Renk, Bertha, premium	4 00
402	Rogers, Mrs. M., premium	4 00
403	Cass, Jas. D., premium	59 50
404	La Selle, Mts. C. O.	7 00
405	Ward, Elmer G., premium	19 00
406	Hopson, M. W., premium	26 00
407	Hazen, C., premium	148 00
408	Allis, E. P. & Co., merchandise	91 64
409	Sheldon, S. L., merchandise	6 00
410	Sheasby & Gray, painting	12 50
411	Brazee, A., asst. dept. B.	24 50
412	Babbitt, C., salary	150 00
413	Collard, Chas., premium	28 00
414	Cole, John, premium	16 50
415	Mayer & Son, premium	96 00
416	Judd, S. S., premium	20 00
417	McConnell & Stone, premium	61 00
418	Tuttle, A. G., premium	45 00
419	Williams, J. J., premium	79 00
420	West, S. G., premium	15 00
421	Arnold, Mrs. A. A., premium	5 00
422	Currie Bros., premium	17 00
423	Clapp, I. J., premium	112 00
424	Case, J. I., premium	20 00
425	Fox, Wm., premium	32 00
426	Flinn, W. W., premium	9 00
427	Hill, Chas., premium	65 00

No.	To whom and for what issued.	Amount.
428	Wintermute Bros., premium.....	\$10 00
429	Toole., Wm, premium.....	3 00
430	Scoville, J. M., premium.....	177 00
431	Price county, premium.....	6 00
432	Randall, S. M., premium.....	23 00
433	Randall, R., premium.....	51 00
434	McConnell Bros., premium.....	50 00
435	Hannam, J., premium.....	16 00
436	Haines, Geo. H., premium.....	19 00
437	Hatch & Stannard, premium.....	39 00
438	Strang & Wells, premium.....	34 00
439	Abbott Buggy Company, premium.....	5 00
440	Winestock, Miss L., premium.....	2 00
441	Steele, Wm., premium.....	58 00
442	Curtis, F. C., premium.....	1 00
443	Chicago Horseman, advertising.....	25 00
444	Cramer, Aikins & Cramer, advertising.....	31 25
445	Catholic Citizen, advertising.....	25 00
446	Grass, Phillip, hardware.....	12 65
447	Crocker, Chas.....	18 00
448	North Western Fuel Co., fuel.....	9 00
449	Butler & Hemingway, premium.....	23 00
450	Elmore & Co., coal.....	35 00
451	Hirschinger, Chas., premium.....	38 00
452	Olds, B. B., premium.....	3 00
453	Matthew Bros., premium.....	6 00
454	Hoover, I. L. premium.....	43 80
455	Western Union Telegraph Co.....	3 95
456	Iiiff, J. R. & R., premium.....	18 00
457	Smith, J. B., premium.....	34 00
458	Hansen, Oscar, premium.....	9 00
459	Ingalls, E. P., premium.....	5 00
460	Steele, Wm., premium.....	10 00
461	Williams, J. J., premium.....	20 00
462	Wynoble, C., premium.....	8 00
463	Tuttle, A. G., premium.....	6 00
464	Pitcher, J. H., premium.....	5 00
465	Munn, W. H., premium.....	15 00
466	McGowen, J S, premium.....	9 00
467	Parkinson, John, advertising expenses.....	24 25
468	Parkinson, John M., clerk.....	3 00
469	Patterson, A., assistant superintendent.....	10 00
470	Scoville, J. M., premium.....	40 00
471	Memhardt, F., freight.....	11 58
472	McKinney, H. D, premium.....	15 00
473	Gregory, Miss Fanny, clerk.....	5 00
474	Simmons, C. J., premium.....	2 00
475	Stein, S L., premium.....	8 00
476	Sweet, B. H., premium.....	8 00
477	Roth Manufacturing Company, premium.....	4 00
478	Rust Bros., premium.....	32 00
479	Nye, Edwin, premium.....	2 00
480	Milford Cheese Company, premium.....	5 00
481	Mandt Manufacturing Company, premium.....	3 00
482	Lehman, M. A., premium.....	1 00
483	Keihl, Mrs. Sarah, premium.....	4 00
484	Huffman, Mrs. L., premium.....	6 00
485	Hare, Frank, premium.....	5 00
486	Cornish, Curtis & Green, premium.....	3 00
487	Craig, P., premium.....	28 00
488	Hathway, H. C., premium.....	3 50
489	West, H. P., premium.....	27 00





CLYDESDALE STALLION GILDEROY, 1438. IMPORTED BY GALBRAITH BROS., JANESVILLE, WIS.

TREASURER'S REPORT.

97

No.	To whom and for what issued.	Amount.
490	Russell & Morgan, lithographs	\$180 00
491	Monona Lake Assembly	10 00
492	Dodge & sons, premium	50 00
493	Zehnter & Co., ribbons	1 63
494	Seely, H. A., premium	30 00
495	McKinney, H. D., premium	100 00
496	Davis, A., premium	150 00
497	Mahoney, Mat., premium	30 00
498	Edwards, Geo., premium	45 00
499	Gazette Pub. Co., bills	2 00
500	Cole & VanSicklen, cash loans	5 50
501	Smith, I. N., treasurer's clerk	21 00
502	Atwood, Chas., treasurer's clerk	10 50
503	Wait, E. & S., premium	163 00
504	Disbro, Mrs. L. L., premium	3 00
505	Heimstreet, E. B., treasurer's clerk	21 00
506	Smith, S. B., treasurer's clerk	21 00
507	Gordon, Will, treasurer's clerk	21 00
508	Colvin, R. L., treasurer's clerk	14 00
509	Fifield, Edwin, treasurer's clerk	21 00
510	Main, Geo. E., treasurer's clerk	21 00
511	Haselton, Frank, treasurer's clerk	21 00
512	Gregory, Miss F., assistant superintendent	12 50
513	True, John M., superintendent horticulture	60 75
514	Taft, Wm. H., assistant superintendent	25 00
515	Brownell, I. C., treasurer's clerk	21 00
516	Ellenwood, Mrs. H. C., helper department G.	10 00
517	True, Gordon H., helper department G.	10 00
518	Cowles, Lewis, watch	15 00
519	Pawling, W. H., premium	50 00
520	Fisher, Seth, superintendent	32 00
521	Sherman, A., assistant superintendent	13 00
522	Kenyon, S. D., assistant superintendent	21 00
523	Maloney, Mat, premium	75 00
524	Dillon, E. E., premium	50 00
525	Edwards, Geo., premium	50 00
526	Arnold, A. A., President's expenses	72 63
527	Arnold, A. A., attendance at fair	32 00
528	Robertson, A. A., gate attendant	17 50
529	Little, Geo., gate attendant	17 50
530	Marsland, T. H., gate attendant	17 50
531	Fitzgerald, H. M., gate attendant	17 50
532	McPherson, Geo., police	21 00
533	Main, A. H., assistant treasurer	40 00
534	Main, A. H., paid sundries	5 90
535	Miner, Cyrus, attendance and expenses at fair	41 80
536	Miner, Cyrus, paid expenses of A. H. Main	15 25
537	Miner, Cyrus, paid sundries and expenses	34 40
538	Colvin, R. L., treasurer's clerk	5 25
539	Miner, Cyrus, advanced to secretary for advertisement	25 00
540	Prichard, Miss Minnie, clerk	18 00
541	C., M. & St. P. R. R., freight	11 20
542	Benedict, E., services, advertising	28 13
543	Benedict, E., services, advertising	20 00
544	Wilson, R. H., advertising fair	28 00
545	Merrill, R. J., advertising fair	28 90
546	Merrill, R. J., balance of expenses	38 00
547	Fuller, Frank, clerk	45 00
548	Armsby, H. P., expenses	19 29
549	Miner, H. A., advertising	11 00
550	Western Union Telegraph Company	25

No.	<i>To whom and for what issued.</i>	<i>Amount.</i>
551	Dorn, M. M. & Co., premium	\$3 00
552	Wisconsin Telephone Company	70
553	American Express Company, medals	37 00
554	Hewby, Mrs. Sarah, interest	177 77
555	Hewby, Mrs. Sarah, loan	2,000 00
556	Blackman, C. M., loan	3,000 00
557	Grant, E. W. & Co., premium	10 00
558	Atkins, Mrs. Chas., premium	6 00
559	Daniels, E. W., premium	4 00
560	Atwood, O., premium	6 00
561	Domestic Sewing Machine Co., premium	10 00
562	Brown, J., premium	5 00
563	Acker, Geo., premium	12 00
564	Bones, Courtland, premium	15 00
565	Brocke, Bros., paemium	2 00
566	McClellan, Mrs. M. C., premium	8 00
567	McLaughlin, John H., advertising expense	8 00
168	McCaffery, H., premium	2 00
569	Trowbridge Bros., premium	9 00
570	Trowbridge, Mrs. F., premium	2 00
571	Breese, Sam'l, premium	8 00
572	Haines, Geo. H., premium	10 00
573	Smith, Thos. C. & Co., premium	6 00
574	Jones, Isaac, premium	3 00
575	McGowen, M. J., premium	20 00
576	Kingsley, Mrs. C. C., premium	18 00
577	Cumber, C., premium	8 00
578	Alresch, C., premium	5 00
579	Merrill, Mrs. F. A., premium	2 00
580	Bishop, A. V., premium	10 00
581	Kinney, V., premium	2 00
582	Herold Co., advertising	28 25
583	C. N. W. R. R.	15 00
584	Fink & Son, premium	6 00
585	Bishop, A. V., cheese tryer	1 25
586	Pritchard, Miss Minnie, clerk	5 00
587	Veitch, Miss Anna, premium	4 00
588	Babbitt, A. O., advertising expenses	39 00
589	Stevens, M. A., advertising expenses	8 00
590	Babbitt, C., expenses	197 50
591	Miner, Miss F., treasurer's clerk	5 00
592	Field, C. B., oil	4 20
593	Fuller, Frank, clerk	45 00
594	Labor Review, advertising	10 00
595	Blackman, C. H., interest	169 75
596	Pilkington & Smith, sundries	2 50
597	Livermore, F. F., advertising	7 00
598	Stoddard, assistant superintendent, 1885	10 00
599	Ormond, Dr., assistant marshal	9 00
Total amount of warrants paid		\$27,552 73
Paid orders of 1885		208 38
Paid dinner tickets redeemed		65 00
Total expenditures for the year		\$27,826 11
Balance on hand		3,498 53
		<u>\$31,324 64</u>

TREASURER'S REPORT.

99

Warrants No. 88, 400, 440, 485, 549, 569, 570, 594 and 599, amounting to the sum of fifty-three dollars and fifty cents, not presented at date of this report.

MADISON, WIS., December 15, 1886.

The committee appointed to examine the vouchers of the treasurer and compare them with the books of the secretary, beg leave to report that we have discharged that duty, having compared the vouchers with the report and orders drawn, and find them correct.

J. F. GRINNELL,
DEXTER CURTIS,
J. VAN ETTA.

PROCEEDINGS

OF THE

FARMERS' STATE CONVENTION,

HELD UNDER THE AUSPICES OF THE WISCONSIN STATE AGRICULTURAL SOCIETY, IN THEIR ROOMS IN THE CAPITOL
AT MADISON, JANUARY 31-FEBRUARY 1, 2, 3 & 4, 1887.

7:30 P. M. TUESDAY FEBRUARY. 1, 1887.

Ex-President Arnold call the convention to order, and said:

I am happy to see before me, this evening so many familiar faces. I trust that this convention will be both interesting and profitable. These conventions have been maintained for something over a dozen years, and, together with all others of the same character, I believe have tended to develop a better public sentiment, to elevate our civilization, and to make us better citizens.

I now have the pleasure of presenting to you my successor in office, Casper M. Sanger, President of the Wisconsin State Agricultural Society.

President Sanger: Ladies,—gentlemen of the state of Wisconsin: As President of the State Agricultural Society, it becomes my duty, this evening, to open this meeting as per the programme. As I am not in the habit of making speeches, and do not possess any oratorical ability, I beg to be excused from making the usual so-called address. I don't think it would be my place to go into an exhaustive, detailed speech, giving figures and data calculated to furnish material for speakers selected for the various subjects,

consequently, I will say a few words, only, at random, and leave the detailed statements to be made by those who have prepared them,—and probably prepared them very carefully,—believing that they will present them more instructively than I could.

I asked his excellency, Governor Rusk, to say something to you this evening, but, unfortunately, the governor does not feel very well, having had a serious fall recently on a slippery walk; and therefore it was conditioned that he would come here without delivering any address this evening, but he will address you sometime during the week.

To entertain you this evening, we have selected two gentlemen, who will present very interesting subjects,—professor Blaisdell, and Mr. G. B. Holden. If I thought that I could entertain you I would occupy more of your time; but inasmuch as Professor Blaisdell can do so, very much more intelligently than I can, I will retire, and call upon him to make the opening address of the evening.—I have the pleasure of presenting Professor Blaisdell, of Beloit College.

THE EDUCATION OF THE CITIZEN FARMER.

BY PROF. J. J. BLAISDELL, OF BELOIT COLLEGE.

Mr. President, Ladies and Gentlemen:

I have been asked to speak to you this evening on some subject relating to education. I come before you with considerable embarrassment, partly lest I should seem, in talking about the farmer's need, to be implying that I know better what farmers need than a company of farmers themselves, and partly lest I should seem to be obtruding the subject of education in a place where it does not specially belong. But in regard to the first matter, I do not think there is need that any comparisons be made between us. No one certainly, has a higher ideal of the farmer and a higher estimate of his calling than I, and if I can say anything to help in the least degree that important calling I am more

than glad to do so. Whatever I say I shall say to those that know about these things, and they will judge whether my words are true. In regard to bringing education into a place where it does not belong, I do not know why a company of farmers would raise the question of how to improve their land and of what kind of manure can be used best to make two blades of grass grow where one grew before, any more fittingly than they would ask the question, how they can be best equipped in education, so that they may avail themselves of the opportunities to accomplish the same end.

Of course in speaking of education for the farmer and of what belongs to it, we have to consider the farmer, like every one else, as living two lives; first, the life of his own particular calling as a farmer, and secondly, that larger calling in which each person, whatever be his profession, is related to the community and the nation in which he lives.

I. Now, without delaying you unnecessarily, let us speak in the first place in regard to what the farmer needs as a farmer. Here I wish to call your attention first to a fact with which you are doubtless as familiar as I am, that the calling of the farmer now-a-days is carried on on a broad basis of scientific fact, and in order to successfully prosecute his calling he must be possessed of a wide range of information. Not of course that the conditions have changed on which the earth yields her fruits, and cattle grow and thrive; but the mind of man has become acquainted with these conditions, and has treasured them up as the governing principles of your profession. It is so in all the forms of industry men are engaged in, such as that of the manufacture of farming implements or of wagons and other vehicles, of the house-builder, the civil engineer. Clear-minded and patient men of study have been busy in investigating the laws which govern the materials, the methods and the products of these various trades, until now the man who engages in them with any prospect of success must have so possessed himself of these laws that by his familiarity with them they have become a kind of spontaneous habit in his every-day work and calculation. Not only is the farmer no exception

to this beholdenness of the trades to scientific enquiry, it is his distinction that he is the very one who has been the most favored in the privilege of gathering help from the discoveries of science. To be impressed with this, one only needs to listen for an hour, as I did last year at the meeting of the Dairymen's Convention in Beloit, to your interesting conversation and discussions. It all showed me how affluent your calling is in pretty well established applications of principles in every branch of investigation. Why, Chemistry has, in Agricultural Chemistry, devoted a whole and very large department of its wide range of wealth to your equipment, and so you are enabled to increase the yield of your various grains, your potatoes or your grass, if you will only furnish yourselves with the information at hand about the kind of soil containing the ingredients of these different productions. In the same degree the ability is within your reach of improving the quality of your cattle by informing yourselves of the nourishing power of different articles of food. The rotation of crops, the breeding of cattle, are now largely reduced to the certainty of science. The dairyman makes his butter and his cheese and even gathers his cream to his advantage, only as he does this in strict accordance with laws which are settled with considerable accuracy, and only ask to be properly learned in order to be the key of success. A farmer needs in our day to know and scrupulously observe the laws of hygiene, if he will husband the resources he has in his horses and his stock. He should know the conditions of successful housing, feeding, medicating in sickness. Proverbially, nothing is more variable than the weather; but the varieties of the seasons and the atmospheric changes with their succession of wet and dry and hot and cold, as connected with the planting and harvesting and perfecting of crops and other departments of farm work, are now brought by science within the range of quite certain determination, and no farmer can afford to stumble along without being possessed of the principles which govern them. The relation of timber and woodland to the rainfall and to the drying up of water courses is to be found in

the archives of science, and to be a thoroughly equipped farmer, prepared to wrestle in the competitions of his calling, means to be enlightened on this important subject also. Nor do I see how one who tills the soil with reference to a market which is always changing and is tremulous to circumstances will be able to do so to ultimate profit, without being somewhat informed in the laws which govern these fluctuations of the market, at least as regards the relation of the state of the market this week to its state next week and to the price of agricultural products; and if the failure of the crop of wheat in the Crimea is going to make it profitable to double his acreage of grain, it is supposable that it is best for the farmer to have his outlook broad enough and defined enough to know what is going on in Russian weather and Russian politics, in order that he may be on hand when the hour of his opportunity strikes. Nor does it make any difference that these matters of information are not cultivated by the majority of farmers, unless to make it all the more necessary that those whose minds are large enough to compass the need should constitute a growing minority. I think you will agree with me, that to be a farmer, in the highest and grandest sense of the term, implies a large, a very large, range of knowledge—great enlightenment of mind on these subjects. Indeed, I sometimes think, as I have already said, that a farmer is a man of all others whose calling depends on so many processes of natural law as to necessitate the broadest range of information. Certainly I am safe in saying that a great amount of thorough, practical information must, at all events, constitute one indispensable element in the reasonable education of the man who manages a farm, and is not managed by his farm.

2. Another fact which has occurred to every one of you is, that farming is a complicated and difficult art, and to be successful in it requires great resources of trained mental power. For consider how many things the farmer must have in mind in order to prosecute his work. I am entirely within the limits of truth when I say that there is in the common walks of life no man who has to look in more direc-

tions and be more capable of quick, prompt, alert adjustment to circumstances than the person who is engaged in agricultural pursuits. I could not of course satisfy you in any account I should give of the things which the farmer has occasion to observe. Why, think of it, he must know when his grass is ready to be cut; and that means, I suppose, when his timothy is ready to be cut, when his clover is ready to be cut, and when his red top, or whatever you call it, is ready to be cut. He must watch and be on hand just at the moment. But his grain also must not be out of his mind, which means that his wheat must be taken just when it is properly ripe, and his oats, and his barley, and his rye: and suppose two of them come together or over-lap each other, as they sometimes do; you all know it is a complicated problem. And then, all this time, there is the stock that is apt to get out of the pasture or out of its place, and has got to be housed again, or put back in its proper pasture and taken care of, not to speak of additional attention when it is sick. Then suppose the man is changing work, as is sometimes the case, with some neighboring farmer when the neighbor is just as much pressed and perhaps in the same emergency as himself. Then the complication becomes doubly great. Then there are all the errands to the town, and his farming implements must be kept in their place, so when one is used it must be returned to where it belongs, for I suppose that all the farmers in Wisconsin cover and shelter their farming implements of course, in order to save the waste of an hour in looking them up or to save the necessity of spending half a day in running to the neighboring town to get an implement repaired. Your gang of hands must be secured and kept in full number and good temper, and must be fed and kept at work. Then there is the stock to be fed and the fences looked after, the cows to be milked, the corn to be gathered, the butter to be made and to be marketed, and all the time an intelligent farmer will be watching the markets, in order to strike when the iron is hot. Why, it is a perfect wilderness, and where shall we stop? And then in the winter time, more quiet, yet very

much occupied; for there is the stock to be fed, and snow roads to be ploughed out, and the wood to be gotten in, and the dairy to be attended to and the everlasting chores to be done. Indeed it seems to me no common man requires more alertness, and more power of adjusting himself to what is around him than the farmer. Other professions have comparatively a straight course, but, as we used sometimes to say when we were boys, the farmer "has to look six ways for Sunday," and I do really think that the ability, the mental training, the power of prompt comprehension of circumstances, of ready insight and outlook required, is much as that of the military man who is commanding a battalion of soldiers, where there are a score of the enemy's lines, and he has to fight them all at once. Now that means mental training, personal resources that are not picked up suddenly, but resources that are gained by hard exercise of mind. I am not concerned now with the question, nor do I intend to trouble you much with the question, where or how this sort of ability is to be obtained; some of you may think it can be best obtained upon the farm — in the early novitiate and in the continued and assiduous practice of an agricultural journeyman. I am disposed to think that it comes better, in connection with something of this, by an early intellectual schooling under the best kind of live and strong teachers. What I wish to say now is only this, that the degree assigned to the farmer's need in the matter of broad, alert comprehensive, discriminating, mental generalship, has been, and is, sadly too low. The ideal farmer, the farmer which the industrial problem of Wisconsin calls for, is a man of trained brain, and the education which is reasonable for him to have and demand the opportunity of having, is an education very much like that, as I said before, which will fit a military man to command a battalion of troops, when there is a wilderness in front of him, and from a dozen or more points the enemy's artillery is playing upon his lines.

3. Let me call your attention to another matter. Farming now-a-days is prosecuted under a most severe industrial competition, and if it is to be successful it must have in it-

self an able and qualified championship. We know something of what has been taking place since our boyhood, since we first knew anything of the structure of society. We express it by saying that the organism of industrial society has become more complicated, which means, I suppose, for one thing, that the number of occupations has become greater. It also means that these occupations are become related to each other more intimately and intricately, so that each one is dependent upon every other, and each one is so sensitive to the presence and the influence of every other, that it is quite liable to be jostled or crowded from its place. Without any set purpose to interfere with any other industry, one is apt to overstep, in the race of competition, its legitimate limits, and some other is put at disadvantage. The condition of every occupation is as sensitive to the condition of every other as the mercury in the barometer is to the state of the atmosphere. Besides there is a grain of selfishness abroad in the world—though not at all in Wisconsin—and every calling is apt to elbow its way to the front and to over-ride, if it can, by craft, by chicancery, by push, by insolence, the others. Now the normal state of industrial society is where all these callings are working harmoniously, every one in its place, like the wheels of a machine, or, better, like the members of the human body. This is what we call industrial health. The danger is that the farmer will be pressed out of his place, and put in an inferior position and at disadvantage. This competition often takes place before we come to such halls as these, the halls of legislation. The most trying competition the industries are subjected to is that which is prior to the competition of assemblies where laws are made; the ordeal of a profession is in the general trend of society. In society, a sentiment will be generated which will gather around some one particular calling. For some reason or other, the leading members of a community, the leaders of opinion, will put their favor on some particular employment, and the others will fall into neglect; the manufacturer will be favored in the popular estimate and capital will be enlisted in

his behalf, and so the farmer is liable to be at a discount and fail in the race because of a sentiment which does not set in his direction. Especially in legislative bodies that competition takes place or, perhaps rather, gathers into definite expression. It is always a matter of struggle with every calling to keep its place in the interests of legislation, and make it sure that the laws will be so ordered and so proportioned, that it will have its proper and equitable advantage in the economy of industrial society and accordingly in the equitable adjustments of mankind. Be very certain that no calling will stand front to front and shoulder to shoulder with other callings, unless it be able to take care of itself. Here in your legislative body in Wisconsin there are perhaps 133 or 134 members, and 43 of them are farmers. I am not hopeful enough to expect that all those 43 farmers would be accomplished statesmen. Nor do I say that every farmer must be qualified by education to be a debater or even a legislator; but I think this may be affirmed with safety, that any calling that cannot furnish out of its own ranks a goodly number of men who are, by their comprehensive acquaintance with the relation of various industries, by their readiness in action and speech, and by their weight of intelligence, prepared to counterwork the effort of selfishness to over-ride and misappropriate, and to be the peers of men in whatever other calling, will surely be discredited. The laws of industrial growth have not much sentiment in them, and, as it is in the ordinary affairs of life, the man who has not resources so as to be able to rely on himself for assertion and maintenance of his rights, will inevitably go to the wall. What you farmers of Wisconsin want is to make yourselves and the sons you are training to be your successors as farmers equal to this friendly battle in the common adjudications of society, and especially in the adjudications of your legislative assembly; and that means education. I do not care what you call it, or where you get it; but it means education. It means broad, comprehensive views and abundant information, strong brains and level heads, all of which can be gotten only by some strenuous process

of education other than that of the daily newspaper and the gossip of the neighboring saloon.

4. Permit me to suggest one other thought regarding the education which the farmer, as a farmer, needs. Farming is now carried on under conditions of great popular enlightenment, and this makes it necessary that the farmer be a man of general intelligence. I would not venture to say there have not been men in earlier generations, whose names stand for as much intelligence and weight of character as any who are now living. There has been here and there a people who are reputed and by the monuments of civilization they have left are proved to have been, in comparison with any existing people, what we are in comparison with any inferior people on the globe. No doubt in certain periods some one art or some one calling has been prosecuted with higher qualities of mind than any calling at present realizes. But it is far from being so with the occupation of man in general as man. In the bosom of those highly endowed cities where citizenship realized so high a level the great mass of those who toiled, though they had the semblance of men, were little less than menial slaves; and in societies where the higher intelligence has displayed itself in individuals intelligence was so little the law of society as a whole, that no absolute requisition was made upon laboring men to be more than little above the animal. The new age, however, has introduced a far different requirement upon every one. Diffusion of intelligence seems to be a law so universal, that the requirement of it is crowded in upon every one who makes any claim to recognition as being among the forces of society. Mind is every where made essential, as a condition for doing the work which a man's calling puts upon him. It is the mark which the man must have about him as his passport. It must be written on his forehead and in the palms of his hands, or he is not respected or thought respectable in the work which he professes to do. Be his calling what it may he must be a man in his calling, and, to be a man in that calling, he must be a man of mind. There is no servile class in any industry. The

industries are no longer the tread mill of animals; they have become the industries of intelligence, thoughtful and endowed men. We have only to reflect a moment upon facts which are observable all around us, to find abundant illustration of this. There was a time when a certain class, perhaps, were expected to have large compass and quality of thought, such as clergymen, men of law, great and notable merchants, physicians. It is no longer so. Take, for example, the civil engineer. Not all of this profession are expected to build great structures, but such are the exactions put upon his occupation that the builder of railroads or of bridges is to move in a circle which has fullness of intelligence equal to the building of great national highways or of Brooklyn bridges. A carpenter, by the very law of society, if he would not lose his place in the peerage of social estimate, must move among men in a luminous atmosphere, himself living in mental light, for otherwise not only he can not do the work which any day he may be called to do, but if he did, he would still be out of gearing with what is around him, and would be made to feel in a thousand ways, by unmistakable intimations, that something was lacking to render him a living member of society.

Nor is the farmer in the least exempt from this law, that the worker be intelligent. Though somewhat remote from the center upon which population converges, the subtle chords which reach out on all sides to bind men together now reach so far and so everywhere, and have so strong a grasp, and by them the farmer is so connected by a thousand relations to the village and city center, that the standards of society will perhaps be all the more operative upon him, because he will be all the more observable if he be an exception to the general rule. So the farmer is answerable to the inevitable law, and if he expects the recognition of society he must win that recognition by submitting to the condition. The age of animals is past. It is reasonable that the farmer be an exception? Farmers of Wisconsin, what say you? Illustrious examples of better things are amongst you; it is for you to see that they be sufficiently mul-

tiplied. You move in a generation in which thought, character, characted intelligence is the standard of estimate, and you must not hope to pass the sentinels without giving the countersign.

Now I recognize and deeply realize, that the man who lives among the scenes of nature has some especial advantages for the cultivation of intelligence. St. Bernard, the great hero priest of the middle ages, said, "I have learned more from the maples and the beeches of Clairvaux than I have learned from all books and men." I never ride along the beautiful farms that are in the neighborhood of Beloit without feeling deeply that the farmers there and elsewhere, have some peculiar advantages. It is a remarkable fact that a large portion of the great leaders in the world's affairs have been bred amid the circumstances with which the farmer is familiar. Many of the monarchs of thought have spent their later years in the practice of agriculture, as furnishing influences favorable to the thoughtfulness they love. It can hardly be denied, however, that over against these advantages in the way of promoting intelligence, there are some serious drawbacks, of which every farmer is painfully aware. Let me appeal to your experience. How do you feel in taking up a book in science which requires laborious study, after toiling in the hayfield all day and having fed your stock, and that not until after nightfall? Are you in a mood for study, or do you feel like going to sleep? In fact with all the elevating influences of the farmer's life,—and no man honors him more than I—there is much also in the farmer's life to bring him down to the state of the animal. The severe muscular effort of his daily toil brings the blood out of the brain, and impairs that healthful circulation there that puts a man in trim to think. The brain has been depleted to supply the muscles, and the man falls asleep of sheer necessity, unless he rouse himself to fight off this animal nature of his and assert the domination of the spirit. Therefore I say, that, while the farmer is no exception as regards this requisition of society, it is especially necessary that you farmers exert your energies

to the utmost in claim of your position as intelligent and intellectual men, if you will achieve the successes which you desire in your most honorable calling.

I know very well I shall hear from many of your lips in reply to what I am saying, "Yes, yes, but the education comes by practice on the farm." Yes, perhaps, in measure; only, in order to bring a farmer to that state in which he will be so active mentally as to achieve this high intelligence, he must have had an early training and become habituated in early life to thought—become in love with thought and study and the better movements of the mind, and must thus get the momentum of a habit of such pursuits, that will stand him in stead in the depressing—I will not say—yes I will—in the animalizing influences to which he is necessarily and, alas, too often fatally, subjected by the circumstances of arduous bodily toil.

II. I have detained you too long on this. My only thought has been, that the farmer, in order to accomplish his worthy ends, needs, for the reasons which I have given, an education which is large and of the nature of drill, such as shall give him the power of championship, and make him a man among men, able to vindicate for his calling place and peerage among other callings, so that he shall call no man superior, either in the competitions of society or the deliberations of legislative assemblies. Let me ask your attention now, for a shorter time, to the needs the farmer has in regard to his education, not any longer as being a farmer, but as being, as he is, a citizen.

I said what I presume will not be questioned in this intelligent audience, here in this cultivated center of our commonwealth, that every person who comes to years of adult life has responsibility in two relations: that of his ordinary occupation which we denominate his calling, and that of his larger calling by which we mean his citizenship. We might state the same thing in another form: all citizenship employs two forms of service: a narrower, which is the particular form of industry in which he directly serves society while earning his livelihood, and a broader, wherein,

outside the other, he serves society in a more general way. There are small classes of men, or rather classes of small men, who administer life in utter devotion to their own advantage, careless of the duties which society claims of them, satisfied if the work of society is postponed while they live, though after them may come the deluge. I heard a man say the other day in answer to the question, "What would you do if property here should become insecure?" "Why," he said, "I would put my property into foreign securities and would leave the country."

We are hearing very much more now-a-days about rights than about duties, whereas I suppose that the rights of a citizen are founded upon duties rather than duties upon rights. Even if a man, according to an old notion now long since, in theory, happily exploded, entered under the relation of government in order that he might be protected in his rights, the very consideration of the advantage he receives from this relation would put him under the most imperative duty to be serviceable as a citizen to the utmost extent of his power. But society, instead of being merely an insurance company, in which a man gives his services to support society because society gives its services for his support, is an organization into which man is born, as he is born into the family, and for whose welfare he is responsible, just in the same way of disinterested service as he is for that of the family. As he is in the family by birth and can not remove himself from being helpful to the family when it needs him, so his citizenship is a function to which the very nature of the social being commits him, and he has no more right to withhold himself from the requirements of society than he has to reject the claim of a helpless father or widowed mother. It would not be becoming in the hand or the foot, if it were capable of doing so intelligently, to disclaim all obligation to contribute to the use of the body, aside from the consideration that it would be suicidal. No man is other than a hand or foot, or some other member of the body social, and not only will he be destroying the true mold of his manhood in refusing to perform the office, but he will be

certainly cutting himself off from the very center and main purpose of his living. What a wonderful change would be wrought in the joy and the blessing of society if men would only realize this, and be willing to adopt it as a controlling principle. I do not think pains enough are taken to instill this truth into the minds of the young. It would be well to read over again for ourselves and teach over again to our sons and daughters *the lessons of the early fathers of the Republic.*

Now, if the farmer has only an equal share in this responsibility of discharging to the best of his possible ability the duties of citizenship, the truth lets us into a large revelation concerning the need he has of education. He is a citizen, at least, and should be well educated, even if that is all. But I am hardly willing to allow that the farmer stands on a level with other classes of people in the measure of his responsibility. I can not believe that there is not something in the very character of the farmer's influence that makes the loss of it when he drops out of his proper place as a citizen a greater source of damage to society than attends the failure of any other citizen to do his duty. I think the influence of the farmer is one of those great central forces in the production of the broadest and truest national welfare, which society can never safely be deprived of. Will you allow me to dwell for a moment upon two or three reasons why I think this is so?

Consider first, that the influence of that portion of the population devoted to agriculture, is always likely to be, in the main, conservative. This would be so from the very nature of the case, and is made apparent in the study of history. By his occupation and the greater seclusion which it involves, the movements of his mind are more deliberate, and less subject to the gusts of impulse, and the impression of new notions that are continually sweeping over the surface of civic life. Sudden and abrupt changes too are unfriendly to the farmers' personal interests, which are best subserved by steadiness and permanence in the constitution and administration of affairs. He has his land and is

always able to realize from its cultivation a livelihood at least, and the hopes that men build up upon the cast of changes are discouraged in his case therefore by the essential conditions of his life. He has ordinarily little to gain and everything to lose by the revolutionary devices which suggest fresh hope to some other classes. At a time like the present, for example, when so many adventurers are waiting for something to turn up, and are willing to lend the help of their hand and voice to bring about the turning up of something, the class we have most reason to put our reliance upon is the farming class. They are, in important respects, the pillars of civil order, and if withdrawn, our main defence is taken from us, against the floods of socialism, anarchism, nihilism, which are threatening to engulf the beneficent order of things. And consider also that the influence of the tillers of the soil is not more conservative than it is fundamental. There are certain great principles at the basis of the life of nations, and while changes may take place, very many and very full of consequences, so long as these principles are allowed to exercise their control, the existence of civil institutions is secured. I think the natural tendency of intelligent agriculture is to put up a safeguard to these more important principles. So long as an independent yeomanry is nurtured among a people, with intelligence to be conscious of its own position in the body politic and to wield its proportionate influence, there will be no great danger to liberty; and liberty is the system of channels through which flows the nourishing life blood of a nation's existence. Virtue is that life blood, and the only life-blood which, circulating through the veins of a nation, will keep it from decay. And where do the virtues find their favorite abode so truly as in a "Bold peasantry their nation's pride." I might speak in this connection of a general regard for law, which perhaps is only another name for liberty, the observance of righteous limitations by each being the freedom of the ordering of life under law for all, which is the definition of liberty. Then there is patience, not more needful for great achievements in individuals than

in commonwealths. The honoring of honest labor is another of these virtues, and another a habit of arduous toil which knits the fibre of character, and the emphasis, also, put upon the quiet virtues of home, and withal deliberateness, meditateness, sobriety, accessibleness to the suggestions of influences, however unconscious, from the deep heart of nature amidst a world of conventionalities and shams. An ancient Roman writer said, "The fields are a gift of God, man built towns." I deem it well, very well and indispensable, that the volume of a nation's citizenship be in the process of being leavened continually by the influence of principles such as these, which, though not exclusively the contribution of any one calling, are especially generated by life upon the farm. Probably the most determinate of the influences which conspired to consummate the decay of the Roman Empire was furnished in connection with the concentration of wealth in immense landed estates cultivated by slaves, by the retiring of the farmers from the rural districts of Italy and the provinces to Rome and the consequent loss of the support which their characteristic virtues rendered to the declining state. In vain did Vergil by his immortal verse endeavor to renew the ancient state of things and in vain did Rome's most illustrious historian bewail the baleful change. No doubt the French Republic is being preserved to-day along the perilous path it is her destiny to pursue, from which precipices yawn on every hand, to the condition of a stable nationality by her farmers, that, with their grasp on the soil, are thereby so conditioned and characterized as to hold her dizzy steps. Remember what the farmers of Wisconsin contributed, not merely in men and money, but in character and conclusiveness, to the war, that has made our Nation one. Yes, farmers of this commonwealth, we need a splendid breed of farmers to enrich with the valuable contribution of their distinguishing qualities the citizenship of our beloved state. *Shall I say without overstepping the limits of the privilege you have kindly given me that it is more needful that you look to this in your annual gatherings than*

to the methods by which you may have a splendid breed of horses or improve the stock of Jersey cattle?

Besides, I think the influence of the farmer can not be spared in our citizenship because it is so wonderfully comprehensive. For, consider; out from the farmer, out from your lives how many currents of industrial influence proceed. How many persons in society, of varied industries, are more or less dependent on you for supplies! You have your finger on more economical interests than any other class of men. Stop your labor with this night, and more men would die within the next week than would die by suspending the work of any other equal number of men. And more than that, the currents of influence that go from other men to you go from a larger number of men than any other class of men feel the touch of. And what does this mean but that in your influence you are in a condition to cover and determine a wider field of political and social action than your brothers in any other pursuit? I most happily concede that the labor of all the manifold industries of society are working together to a common welfare. No one class of men bears the burden solely of this social structure. A brotherhood of beneficent forces conspire to a common good; but it is not too much to say that the industry of the farmer is the ganglionic center of it all, and these lines of industrial connection that so relate you to all around are capable of being the channels of moral influences as well. If you did but know it, your hand is on the key that sends tone and quality to the citizenship of Wisconsin and of the continent, if you will fit yourselves to deal resolutely, sagaciously, wisely, in love of your country, in loyalty to truth. Therefore, for all these reasons it is my deliberate conviction, that if any man is to demit or neglect his offices as a citizen, it is not the farmer. He is to stand at his post and do his work, in the body politic and in the great body of human society, whoever else may fail. When the Italian statesman Minghetti was lately dying, he was visited by King Humbert, who has himself given such noble example of devotion to the welfare of his people. The words of the expiring

statesmen to him were these: "If I depart with regret, it is only that I shall be able to do nothing more for my country." Methinks such words should bring blood to the brow of any American who holds lightly, in comparison with selfish objects, the claims of his country; a country that moves in the front of nations, and whose privileges are written all over with memorials of two great wars, wherein the blood of American citizenship and all that was dear were freely given.

And now it is in order and most important that we ask what this business of citizenship is that I am pleading for as the province in which the farmer among other callings has so prominent a responsibility. What is it to be a citizen? I am sure that we do not believe that it is simply to be proud of our nationality and to indulge in sentiment as to the glory of our country. It is something more than a willingness to enjoy the privileges which we have inherited in such abundance. Nor is it only to cast, once in two years, our ballot in behalf of the man who shall come up here and shape the legislation of the state. It is something more than to submit to the duty of occasionally serving upon a jury, or once in a lifetime surrender time and home duties to come up to the capitol and make the great personal sacrifice of being among the law-makers. God forbid that the yeomanry of the country should ever be summoned again to engage in military service on the battle fields and in the camps of war; but even to repeat these noble examples of the past would by no means exhaust the duties involved in our citizenship. The sovereignty of the people, in our republic means that the people are the ultimate fountain, under God, not only of authority but counsel. A citizen therefore is one who, being versed in the underlying principles which govern the growth and prosperity of states is able to decide intelligently the many political, industrial and moral questions which are apt to agitate men's minds, and present themselves as the critical issues of national life. In such a government as this, unless you are qualified to be the wise censor of your immediate law-makers, the experi-

ment of self-government will end in your law-makers taking your place. The intelligent ultimate decision of policies belongs to the sovereign citizenship, and when a people lose it or demit it, that moment the office of sovereign citizenship is over. And herein is suggested some portion of what it is to be a citizen — at least in Wisconsin in our day. The tariff, the proper protection and restraint of labor and the protection and proper restraint of capital, provision and enforcement of popular education, railroad legislation, crime and its punishment, public charities, religious competitions which are looming above the horizon, the Indian question, Sabbath allowances, the saloon with its infamies and nefarious crimes, divorce, municipal government, corporations, are a tithe only of the questions American citizens are charged with the ultimate decision of, while engaged on their farms, in their workshops and stores and in the routine of other occupations, intelligent acquaintance with which to be without is no more proper for them than to leave the plow in the unfinished furrow or the wheat uncut against the autumn rains. I seriously apprehend that we are hardly yet alive to what it means to be an American citizen, now after the war has been fought for the union, and we are fairly started on the problem of making a nation such as a nation ought to be. And with the ability to decide such questions — we able and our children able — let us add: At all times and in all places to be so masters of ourselves as to present, accordingly, a steady front of action on the line of all good interests, political and moral, of nation and city and neighborhood and home. If the words of the pagan poet, have awakened a response in all ages in the heart of the patriot, "It is honorable to die for one's country," to live for fatherland, in the intelligent support of its industries, its peace, its good government and its equal laws in order that they may be a defence and a pillar of support to all classes alike, of its individual virtue at home and its virtue in the intercourse of nations abroad—in short, to bear in the membership of the national life, equal responsibilities of counsel and action for the highest common welfare—though it is far

more difficult, is far more a practical claim upon us in our day. I do not say that all are equally endowed for the best performance of such duties, but there is not a man between the oceans who should not deem himself charged with such responsibilities, and take all opportunities that they may be realized in himself, and in his children and his children's children. Valuing, as I do, the privilege of taking a place as a citizen among citizens in this struggle of deed and word, I say to each of you, gentlemen, that of all the men who deem themselves unequal to the responsibilities of such a citizenship or for any reason are willing to forego it, it is only worthy of yourself and your children to take solemn oath that you will be the last.

One question further that I have to ask: what kind of education do the farmers of Wisconsin and their children need to fit them for such an office? I think there will be no difference between us as to its being one that will enable them to go to the bottom of great questions and settle most complicated problems. Does this mean considerable acquaintance with the mistaken answers to similar questions and the inadequate solution of similar problems hitherto? Does it mean the power to look upon a subject on many sides and in relation to many modifying circumstances? Does it mean to fairly comprehend and reconcile a multitude of conflicting interests in determining political or social adjustment. Then, does it mean fulness of mind, breadth, patience, insight, concentration, discrimination? And will any of you tell me how these qualities are to be gotten possession of? They come by training as Ruhling came to the answering of how to build Brooklyn Bridge. There is but one name by which to call the means of acquiring such things: *drill*. And how long a practice does it require to learn such energies and handicrafts of mind? How long does it take for a man to become a skilful blacksmith before you will trust him to put a shoe upon your favorite horse? And can one have the drill sufficient for achieving a disciplined mind without a drill master? How long has your daughter had an instructor for the piano or the organ? Probably then the

mental equipment which will put an American in the way of properly meeting his duties as an American citizen and farmer will find the best teachers and thorough schools at least equally requisite. It will seem to you also, I know, a most natural suggestion, that there are rich mines of wealth in the writings of the fathers of our republic, without some knowledge of which an American can hardly be said to be adequately educated. No literature is more calculated to instruct and inspire to the best citizenship than our own. The productions of these founders and expositors of our national fabric have this excellence, that while they are replete with the maturest statements of moral and political truths and maxims, those statements come with especially generative force from men who were prominent actors in maintaining the truths they taught with their lives and fortunes. There is every reason to believe that the restoration of these early productions to a place in the school instruction of our citizens would be conducive alike to more thorough views upon important questions and to the cherishing of high ideals without which the largest information and the most sagacious insight will be unable to realize the objects of patriotic hope. My fellow citizens, I am not one of those who think that if our nation should fail to realize the purpose which seems to be appointed for it by Providence, the cause of liberty would ultimately be defeated. The resources of God for accomplishing His plans are not limited by the failures of any man or any nation. But we are all agreed that under any circumstances our obligations are very great. In these times of peril especially there is a tragic interest that calls on us all to be devoted to the utmost service we can render, alike in our wider and our narrower sphere. The issues that are already above the horizon press upon us heavily and threateningly. Those that are thus far unseen will be upon our children if not on us, and they will probably be no less serious. The air is heavy with portent. While it is incumbent therefore on us to form intelligent convictions upon these issues, it must be apparent that this is possible only to the well trained mind and character.

So far as we ourselves have not passed the period of life which allows of such training, it is well. However this may be, it remains at least that we have the privilege of ensuring it, as our best legacy, to our children.

I do not care to raise the question where or how this education of the farmer is to be acquired. If you think it can be acquired in high schools, and are surely right in your judgment, why then let it be only in high schools. If it be in the common public schools, let us hasten with our children to the common schools. If it can be certainly gained in an agricultural college with a course of two years,—if that will do it—*and I am sure you will agree with me that it will not do it*—then the agricultural college for two years. If, I say, two years will give the farmer boy the momentum, the strength, the depth, the breadth, to be such a farmer as I have described, and with it such an American citizen as this perilous age of ours requires, then I say again the agricultural college for two years. If the agricultural college for four years is requisite and enough, then the agricultural college for four years. I have no superstition in regard to education, or in regard to colleges. Education is worthy of just so high an estimate as it justifies by the use it serves for human life, and no more, and the college shall have no higher valuation, in my regard, than I can account for in what the college does in making men; nor do I believe that all can have the privilege of being educated at college. But if such an education as you need for your sons unless it be their lot to be likely to take a secondary place in life, is to be secured only by a longer and severer course of mental training in a thorough college, manned by experienced and sturdy teachers, who are also doing their best duty as citizens in the thick of the fight, like Beloit, or Madison, or Ripon, or Milton, *then the college*, and see you to it that your sons find their way through such a college and nothing less. But, farmers of Wisconsin, farmers of only twelve years short of 1900, the message I have to you to-night, which I thank you for giving me the privilege of bringing, is that your calling requires excellent education, to put you abreast of this great age in which we live.

I have chosen to say nothing of what is made necessary by a citizenship which reaches higher than this world and beyond the present life as well by the intrinsic dignity of our manhood. This only is my message: that while you look to the breeding of stock, and the selection of manures and the perfecting of agricultural products, and all kindred and honorable things upon the farm, you see, fellow citizens, that that underlying and imperial necessity be not disregarded nor in the least put by—the necessity of being educated men, yourselves and your sons, in order indeed that two blades of grass may grow where one grew before, and, especially, in order that in the responsibilities which are upon us as American citizens we may not fail of the world's great hope, and so "government of the people, by the people and for the people, may not perish from the earth."

9:00 A. M., WEDNESDAY, FEBRUARY 2, 1887.

Hon. N. D. Fratt in the chair.

FINE WOOL SHEEP AND THEIR PLACE IN OUR AGRICULTURE.

BY C. R. GIBBS, WHITEWATER, WIS.

There are few subjects claiming our attention more interesting or important than that assigned me for presentation to this convention, "Fine wool sheep and their place in our agriculture." I shall not attempt to enlighten or instruct you by searching the records of antiquity to prove that Abel, the earliest sheep breeder of whom we have any reliable account, kept only the Spanish merino. But it is seriously claimed that at the beginning of the Christian era, the better classes were robed in cloth made from the fine wool sheep of Spain. The ancient records may be consulted by those who doubt or wish to know more of the early history of the flock. It is no slight evidence of the degeneracy of our times that fine wool sheep have fallen so much in the

good opinion of the people since the earlier and better days of our planet. I propose to attempt from sources open to all, experience, reading and observation to establish the claim of fine wool sheep to a prominent place in our agriculture. The business of sheep breeding and wool growing is at present greatly depressed and decidedly unpopular. The dairy cow, the horse and the hog are each or all filling the public eye, yet there is room for the much abused and neglected sheep. They have not always ranked so low in public estimation, and I trust the day is not far distant when they will be restored to the proud position they occupied previous to the tariff legislation of 1883. Whatever I may be able to say is intended for the ordinary farmer of limited means, who is not prepared to invest largely in any special branch of farming or stock growing, but is compelled to economize in every direction. We find attached to or forming a part of many of our Wisconsin farms, lands better adapted to sheep husbandry than to any other branch of general farming. I allude to woodland or uneven and thin pasture land unfit for cultivation, affording but scanty growth of wild and innutritious grapes upon which cattle will not thrive but sheep will. This is especially true in seasons of drouth. The Merino will fatten when cattle will barely sustain life in the unequal contest with starvation.

During the summer of 1886, in many sections of our state farmers were compelled to feed their cattle hay as in winter. I heard no instance where sheep were foddered. I regard the sheep as an indispensable adjunct to success in common or mixed farming. A farm can be stocked with sheep to the extent of its capacity, with less capital than with any other farm stock. The necessary means for their shelter and management can be cheaply provided. Sheep can endure neglect in care or feeding as well or better than other farm animals. A high authority says of the Merino: "They are par excellence, the negligent farmer's sheep." They are no more subject to disease or death than other farm stock. They yield a fair profit in wool and mutton and increase when prices are reasonably fair. Their

manure is rarely estimated, but any one who has tried it knows that it is of the highest value, second to none. This, during the largest part of the year, dropped where it will do the most good. The sheep is said to be the only animal that returns to the soil more than an equivalent for what it removes. Sheep destroy many noxious weeds, shrubs and worthless grasses, bringing in to supply their places various feeding plants of real value to the farmer. While cattle and horses impoverish, sheep will enrich and improve the pastures, as every experienced sheep farmer will testify. Sheep are turned to pasture the earliest in the spring and taken into winter quarters the latest in the fall. This is not an unimportant fact in comparing farm animals. Mutton, home grown, is the most healthy, nutritious and palatable, as well as as the cheapest meat for the farmer's table, a much needed substitute for the indigestible, not to say detestable pork, too often yet found on the farmer's table. Fresh meat is too expensive for frequent use in the farmer's home, if only to be had of the butcher in market, generally miles distant, but a lamb or full grown mutton is always in reach of the farmer of moderate means who has a flock of his own. This point will be readily seen by those who have tried both the plan of buying and growing their own meat. The high prices for improved stock formerly demanded and paid, no longer prevail, but a flock of the purest Merino is now within reach of the farmer of small means. This may prove to be one good result of the recent great depression in values, and it is to be hoped will lead to a more general distribution of pure bred Merinos. The high prices heretofore asked for all classes of improved stock have tended to prevent a large increase in their numbers, and a more general participation in the benefits expected from them. This feature is most thoroughly eliminated from the commerce in sheep and a large deduction from the prices demanded for other improved stock might be made without injury to the great body of farmers.

The improvements made in Merino sheep, as well as in all other classes of farm animals in this country, have been

made within a century, and the most important of them with the last half century. I shall not pretend to give any history of the men or agencies in bringing about these magnificent results, but I cannot refrain from a passing illusion to the results themselves. The size of the Merino has been largely increased, the form improved, the fleece more than doubled in weight, without lowering the quality, but really raising it, until it stands at the head in the markets of the country. As evidence, I quote some of the weights of the natives in their own land in England, and in this country, in the early years of this century, when the Merino first began to attract attention here. In Spain, some of the best flocks in full fleece, rams averaged less than 100 pounds, ewes less than 70 pounds. The English king's flock (in 1802) of 100 ewes clipped, 3 1-3 pounds (per head). Of wool washed on the sheep's back, Chancellor Livingstone of New York, an importer and breeder of the highest repute, in 1807 clipped three ewes, yielding nearly four pounds each unwashed; in 1809 he clipped seven ewes, yielding 5 2-16 pounds each, three rams yielding 12 14-16 pounds, 9 pounds and 9 6-16 lbs, all unwashed. These were imported by the Chancellor and were regarded as good as the best of that day. In the early part of the last century, the carcass of sheep sent to the leading markets of England, did not average 30 pounds in weight. These figures partially indicate what has been done in other respects. The Merino with its grades, outnumbers all other breeds combined. It is the only established breed that has proved itself capable of successfully withstanding all the vicissitudes of our changeable climate and the equally versatile treatment of farm animals present in this blessed land of our birth or adoption. The Merino is the only breed of sheep which has really improved under our treatment, and while the owners of other breeds have found it necessary to make frequent importations, to keep up the fictitious values in many instances attached to their stock, the Merino has so advanced in the world's good graces as to entitle us at one world's fair, to the first premium on wool, and at another to the first on sheep, and the

sheep themselves were sold by Mr. Campbell at prices satisfactory to seller and purchaser. These sheep were Vermont Merinos, and the wool was Merino wool, both competing with all the world "and the rest of mankind." In addition to this we have sold to some of the leading breeders of Australia (who came and selected for themselves) several shipments of our improved Merinos, at prices above any before realized in the United States, numbers considered.

The Merino excels in hardiness and herding qualities beyond comparison. No other breed is so long lived although some others mature earlier. None carry so compact, true, even, heavy and valuable a fleece. No other animal in proportion to size and cost will or can do so much to supply the necessary demands of human beings for food and clothing. Ninety per cent. of the flock masters of the United States are breeders of the Merino. In the cold and fickle climates of our country, woolen fabrics are coming to be regarded as indispensable for almost every article of outside dress worn by either sex. The best of underwear is made of Merino wool. The breeding of sheep and growing of wool has been and I trust will again be among the most agreeable and profitable branches of farming, not interfering with but aiding in the successful pursuit of general farming. The tendency of the time is to specialties. We are not all likely to become specialists. I do not deny that success can be and often is achieved in the pursuit of special branches of farming and stock raising. Dairying has enriched the country and filled the pockets of Hiram Smith and his congeners. Hogs, cattle and horses have yielded rich returns to the breeders and dealers who have adopted either as a speciality or in connection with general or mixed farming. I think the failures among specialists are comparatively more numerous and disastrous than among those who do not "put all their eggs in one basket." I know of no kind of farming on land suitable for sheep where they may not be introduced and kept to the advantage of the proprietor and the land. Merino sheep are not to be recommended for low or wet lands. They are only adapted to dry land

where they will yield two crops a year, the lambs to increase the flock, the wool to replenish the farmer's purse at a season when other crops are not fit for market. The original flock is still intact less the small percentage of loss incident to all stock growing. I have spoken of the increased weight of carcass and fleece. By comparing the weights quoted with those produced among the breeders of to-day any one can verify the statements made and realize something of what has been accomplished. But weight is not by any means the only particular in which improvement is apparent. The Merinos imported or bred early were as deficient in form as in size and fleece. Long legged, long necked, slabsided, narrow chested, without the requisite aptitude to take on flesh.

- Now you find among our best flocks, indeed wherever you find fair Merinos, these objectionable features are bred out. The Merino ranks with the mutton breeds as a feeder, and finds ready sale to the butcher in every market. The epicure claims to prefer South Down mutton, perhaps with some reason, but the majority of brown-legged sheep sold in market as South Downs are grade Merinos, and the fraud escapes detection at the tables.

The greatest improvement in the Merino (pre-eminently a wool growing animal) is seen in the fleece. It is easy to find flocks, and large ones, that will average over ten pounds per head, and some that will reach high into the teens unwashed. Formerly the fleece was uneven in quality and length of staple grading on a small per cent. high, the wool on the lower part of the body was short, coarse and thin, the legs and face bare. Now the whole body is covered with dense, even long staple of sufficient fineness and strength. So that it is fair to claim the Merino of to-day is worth double what the Merino of fifty years ago was worth, either for wool or mutton. For this we are largely indebted to the efforts of such men as Livingston, Humphreys and Jarvis, as well as to the later breeders of the "animal with the golden hoof," encouraged as they were until within a few years by friendly legislation and the demand for our surplus stock in the west and southwest. That the business will revive again is the fondly

cherished hope of the more sanguine. The primitive modes of life prevailing in parts of Texas and the territories, added to their natural advantages of soil and climate, will, for a time, prevent the destruction of their flocks. Should the promised revival come they will again furnish us a profitable outlet for our surplus stock and prove as before our best customers. This trade, of course, will depend upon the price of wool and mutton. The country needs the Merino; the wool is superior to any for cloth for the million; the multiplication of factories all over our land would never have been witnessed but for the introduction, increase and improvement of the Merino.

It is not my purpose to ignore or disparage any of the mutton or long-wool breeds of sheep, or to institute any invidious comparisons of them with my favorites. I have had some experience with some of them, particularly the leading breeds, the Leicesters and Cotswolds. They are valuable, and by some preferred to the Merinoes. If the breeder is near a good market and wishes to keep only a small flock with a view of raising early lambs, then he should try some of the long-wool or mutton breeds. They will do well in small flocks. They can endure high feed, some of them require it. They mature early. They are ready for the butcher at almost any age. They do not herd well. They are not profitable in large flocks distant from market. Wool is with them only a secondary consideration. They are very profitable, 100 per cent. increase and even greater is often realized, while 75 per cent. is considered a fair increase for the ordinary Merino flock. The Merino outlasts the other breeds, reaching its prime about the period of old age with them. I am not partial to cross-bred sheep except for the butcher or to grade up an inferior race to the merino. With sheep as with some other farm animals, grades are sometimes superior in appearance to either full blood sire or dam. This encourages the breeder to hope for continued improvement by continuous crossing. The proportion of individual merit is not always accompanied with the power of transmission, hence this hope generally flatters only to

disappoint. The efforts to establish new breeds of sheep in this country has not been attended with very brilliant success. There is little to encourage new enterprise in that direction. The Merino comes so near supplying the want of a general purpose sheep, and shows such susceptibility of further improvement, it seems unwise to attempt to improve any of the mutton breeds that have been brought to such perfection by the advanced methods pursued in the countries of the old world. In the early settlement of Wisconsin when we were in possession of a virgin soil loaded with the fertilizing deposits of centuries, but without fences or farm stock, the subject of sheep husbandry did not press upon our attention as it now does. Wheat has done its best and its worst for us. We are now compelled like the farmers of the older states to husband our manurial resources. Grain farming is to a large extent superseded by stock growing with a view to preserve or restore the fertility of our farms. I believe the sheep stand first among farm animals for the purpose indicated. We are beginning to realize that even our best soils are not inexhaustable, and the time will certainly come (unless our system undergoes a change) when what Webster said of English agriculture may be said of ours: "That sheep and roots alone can save it."

The low prices of wool and mutton may to some extent be compensated by the introduction of the best stock, the growing of such crops as will least exhaust the soil (notably clover) and by pursuing the best modes of breeding, feeding and cultivation. I cannot emphasize too strongly my preference for clover and fine wool sheep. Next to these I would advocate the cultivation of roots. I will only add as to them that I have raised mangel wurtzell at the rate of 1,200 bushels per acre at a cost of less than five cents per bushel, and they are worth, in my opinion, more than twice that for sheep, dairy cattle or hogs. As to the value of clover, I want to give an item in my own experience. In the month of December, 1863, I purchased fifty-five pure Merino ewes, paying \$14 per head. I took them to my farm on Rock Prai-

rie, put them in a small shed with access to a pile of clover straw. I intended to remove them in a few days to better feed and better quarters; but to shorten the story, they remained there without any additional food or care until spring. They came through in splendid condition, brought me over fifty as healthy lambs as I ever saw and yielded me a clip of wool that commanded the top of the market. Some years since an expert in sheep and clover visited my flock in the evening, passing among the sheep in the dark, he said to me, "I know by the feeling of your sheep that you feed clover," he had not seen the sheep or the clover. I believe clover to be very near a perfect food for sheep, and that they can be well wintered on that alone. I would, however, add bran, salt and sulphur and copperas, and for the feeble ones, if any, oats or corn. Let the lambs come in April. Keep the sheep in lots of not more than fifty each, and my word for it, with reasonable attention and care, they will pay in added fertility for the farm as well as in other respects.

Do not treat this matter of enriching the soil lightly. It is but a few years since parties owning tobacco farms on the Connecticut river were accustomed to come to Wisconsin to buy sheep and to Michigan to buy corn to feed them. The sheep and corn were shipped to the tobacco region. The sheep were fed from one hundred to one hundred and fifty days, then sold in the Boston markets. All that the purchaser asked or expected was the actual cash paid out. The profit was the manure. Wisconsin farmers who early gave up wheat and introduced the flock were wise in their generation. The contrast between wheat farms and sheep farms is enough to convince the most skeptical. With sheep and clover a worn out farm can be restored and the fertility of any farm cannot only be preserved but increased. If the reduction in our flocks is to continue, the time is not distant when our local factories will be closed or compelled to purchase their supplies from abroad or from the larger establishments east, paying such profit as shall be demanded to the great detriment of the country at large. I have

attempted to show that the fine wool sheep is entitled to a high place in our agriculture. If I have even partially succeeded I trust I have "done the state some service." I am thoroughly convinced that the Merino is the sheep for this country for the ordinary farmer, and that no other breed will ever supplant them in public estimation or equal them in numbers and value.

DISCUSSION.

Mr. Lewis Clark: I wish to state, Mr. President, that that paper agrees entirely with my views in regard to sheep. I have known the Merino sheep since 1825 in the state of Vermont. I knew of the Jarvis importation. In 1835 I purchased two hundred fine sheep of the Humphrey importation, and kept them in the state of New York. In 1842 I sent up two hundred and fifty to my place in Wisconsin, before I moved there, to Beloit, and I have never changed my flock. I have some of the same flock still. I have never sold many sheep, because they were low. I never have sold when they have been high, except such as I had to spare.

It is often said that sheep need change. That you cannot keep the same sheep on the same farm. That has not been my experience. Of course I used bucks from Vermont and other places. I knew of the Saxony sheep at one time, away back in 1836. There was a great discussion as to the merits of the two breeds. H. B. Grove was an importer who had great success with the Saxony sheep. They were not so large nor so hardy, but had very fine wool, which would bring at that time seventy five cents a pound, when the Merino sheep's, the importation's, wool would sell for fifty cents a pound. I think that all familiar with sheep and fine wool are aware that Ohio wool is about the best in these states; it runs finer and gets a higher price; and I can tell you that both the Saxony sheep and the Merino sheep were sent in there from New York, to my knowledge. I recollect that I had some correspondence with Mr. Grove, the importer, growing out of a discussion of the two classes of

sheep, the Saxony and the Merino. Mr. Grove said: "They claim that the Saxony are not good breeders, and that they can't raise many lambs." He answered that by saying: "Last season I winter 210 ewes, and from those I raised 211 lambs, one sheep only having twins. I speak of this to show that they are good breeders, and that gives the extra value to the higher wool.

In regard to their value on the farm, I agree with the paper in saying that they keep a farm clean. In 1843 I came up here to see about the sheep that I had, and I experimented, and I could not find a single weed that grows on these prairies anywhere that a sheep will not eat. In speaking of them as mutton sheep, I never sold more than two or three lambs. My practice has been to pick out every year the ewes that I thought were getting past their prime, and some that were not as good form as I wanted, and all the wethers of about three years old, and fit them for market in the spring. The idea among butchers was that they were too small, that they didn't have meat enough, etc. Now the first that I fitted, when the butchers called for them, I told them, "I will sell you those sheep if we can agree upon the price per pound; I will not sell them to you by the sheep, without weighing." We agreed on the price, and he was to take them as he wanted. When he picked out the first wether, I said, "what will this sheep weigh?"—I wanted to test his judgment on that kind of sheep. He said, "It will weigh about 75 pounds." We weighed it and it weighed 113 pounds. And that was a man that was practical and experienced in his business. And as to the quality of the meat, from that time to this I never heard any one complain but that the mutton was good, if they were fattened.

One other matter I wish to mention, because I think it will correct an error, not only in regard to sheep, but in regard to horses and cattle. One of our agricultural commissioners, in his report on agricultural matters, made an estimate as between a coarse sheep and a fine sheep. I thought it was so singular that I have never forgotten the substance of it. He took a Merino sheep and estimated the

wool at so much and the mutton at so much, of a sheep that would probably weigh 100 pounds, and it amounted to a certain sum. Then he took a 250 pound sheep of the large breed and estimated the wool and the mutton, and the coarse sheep overbalanced the fine sheep a few cents, so it showed that that was the best sheep. Now anybody that knows anything about sheep knows that you can keep three of the fine wool sheep where you keep two of the others.

Mr. Wilkinson—I want only a moment to emphasize Judge Gibbs' paper. I think any one who will take the pains to investigate it will find that to-day, with present prices for everything, one man's continuous labor, the year through, may be made to produce more gross returns in cash in sheep farming than in any other branch of agricultural industry.

Mr. Allen—I have been a breeder of sheep, for the purpose of fattening, for a number of years, and I wish to commend that paper as one of interest to the farmers of the state of Wisconsin. I regard the Merino breeds of sheep as the best for the general farmer. They will herd better; they will feed better; and perhaps a little experience that I had a few years ago, may not be without interest to the farmers of the state. When I first commenced feeding sheep I thought nothing was fit to feed unless it was a great, big coarse wool sheep, and I had so thoroughly fixed that thought in my mind, that I made myself really believe it as against my financial interest.

Eight years ago I bought a large flock of coarse wool sheep, all wethers. They had been brought into Chicago, and after being sheared they could not find a market for them readily, and they were bought by some person as a speculation and brought up into our country—400 head of them, all wethers of above two years old, and none over five, all brought from the west, and of very nearly a uniform size. Among the number were three or four Merino sheep that I thought were almost a total loss, but nevertheless, I put them into the flock with the others and fed them together. It is my custom in my feeding to have representa-

tive sheep that I can catch and weigh, usually twice a week, to know whether I am making any gain or not; and among the sheep I had in that flock that I weighed, were two of those Merino sheep, and others of the coarser wool sheep. And contrary to my expectations, and contrary to what I was determined to make myself believe, those miserable little Merino sheep beat the others all the time; they kept gaining on them all the time, and when I came to market those sheep had gained over and above the other sheep eight pounds per head, with exactly the same conditions and kind of feed. It was a convincing proof to me that the Merino sheep were the best feeders; and since that time I have been feeding almost exclusively Merino sheep.

The Merinos will carry about two pounds more wool per hundred weight of carcass than the coarse wool sheep; and the prejudice that has heretofore existed against the Merino sheep is very largely dying out. The principal things to be considered are the facts. That is the question. And I tell you two pounds, extra weight of wool upon each hundred weight of carcass helps very materially in the price of the sheep.

Now a word with regard to feeding. I wish to emphasize by every means I can the importance of clover hay as a feed for sheep. I regard it as the very best hay in the world for sheep, and for all ruminating animals. I think I have told my experience in feeding some sheep—I have forgotten the year exactly, but it was when we had our corn all killed—in feeding some sheep upon clover hay. I had no corn, my corn was killed like everybody else's, but I had some good clover hay which was cut and put up in good condition, and it was clean and nice. I bought two hundred sheep on the 15th of November, that were picked up by some buyers round about Fox Lake. I thought I would see what I could do in feeding sheep on clover hay—I didn't think I could fatten them, but I thought I would see if I could winter them on that. I bought them all in one flock at once and I put them onto the scales and weighed them, and they weighed ninety-two pounds and a half per head; so you see

they were good, fair sheep. I drove them to my place and put them into my yard the same day, and I did not turn them out until I sold them on the 15th of February to the same parties from whom I bought them. I drove them to Fox Lake and weighed them upon the same scales, and those sheep had gained, upon clover hay alone—not one kernel of grain—had gained fourteen pounds a head. Now of course I didn't throw their feed in to them and scatter it over the ground. I fed them four times a day, small quantities. I put it in racks and cleaned out the racks every time clean; I tempted them to eat clover hay, and they did eat large quantities of clover hay. I bought those sheep for \$2.62½ a head. I sold them for \$5.25 a hundred. It was the best profit I had ever made upon feeding sheep.

I want to say still further—you may think, gentlemen, that it is a little exaggeration, but, nevertheless it is a fact—I will agree to be blindfolded, and I will go into a flock of sheep, a promiscuous flock of sheep, fed upon clover hay, timothy hay and straw, if you please, and I will agree to pick out, blindfolded, every single sheep that has been fed upon clover hay exclusively for its fodder, and every one I fail to tell I will pay the price of that sheep. I will tell you all about it: You put your hand on the sheep and there is a fluffy feeling, and it has a silky touch to it; you put your hand upon a sheep fed on timothy or straw, and there is a sort of crackling feeling, and anybody can tell it. The wool raised on sheep fed with clover hay is worth two to three cents a pound more than that fed on timothy hay. Perhaps you don't know that; nevertheless it is a fact. Now you may say I am a kind of a clover hay crank; but any way, I wish to commend the feeding of clover hay to all ruminating animals.

Mr. Wilkinson—Do you not find it profitable to feed shock corn to your sheep?

Mr. Allen—Yes, sir; I do, most emphatically. I think another way you can very profitably fatten sheep, or commence to feed fattening sheep, is to have a good pasture on your farm to turn your sheep upon, and have a field of corn, six,

eight or ten acres, and let your sheep go right into that corn and eat it up. I would not let them in there when their stomachs were empty, but after they had filled themselves on good pasture, let them go in there and eat that corn up. You can not feed your corn in any more profitable way.

A member — Will they pull the ears down, or waste it?

Mr. Allen — They will eat it cleaner than hogs will; they never pull the ears down.

Mr. Wilkinson — Haven't you found in your experience that the Merino sheep will bear feeding heavily on corn when accustomed to it?

Mr. Allen — No more danger of foundering them or injuring them than in feeding hogs; not a bit more. Of course, I would be a little careful of them for a little time.

Mr. Clark — I have never lost a sheep nor found any injurious effects from giving them, either old or young, all the corn they would eat, unless in the fall they break into a field, then they will eat too much. In wintering I cut up all my corn, and shock it up, before the frost if I can, and universally when I winter my lambs, I put them into that corn field, and they eat the weeds and grass around and the corn, and when the snow comes they climb up on the outside of the shocks, and don't do any harm.

Now, to get at the value of keeping sheep, I want to ask those here acquainted with sheep, if a sheep will not do well upon a hill of corn a day, a good hill of corn, and nothing else — give them all the corn, and all the husks and leaves and everything. It has been my opinion that it would be a good feed for them, with nothing else, if fed to them properly. If that is true, about five acres, or five acres and a half will keep a hundred sheep, and give them a hill a day.

Mr. Allen — I think it would be well to give them some hay.

Mr. Clark — Yes, I do; but they will live on that, without any hay or straw, and do well.

A member — For how long a time?

Mr. Clark — Through the winter. They get say three or four ears of corn, and they will eat all that up in the first

place, and then they eat up the stalks, and on a cold day, twenty degrees below zero, they will leave hay in the yard and go out and work on the butts that are left.

Mr. Curtis — I can't quite agree with Mr. Clark in all the ideas he has advanced in regard to sheep. They are good in their place, but I hardly think it will stand the test to say that there are no weeds growing in this state that they will not eat. I have raised sheep for the last fifteen or sixteen years, and I know there are some weeds that sheep will not eat. For instance, mullein that grows in places in Wisconsin; I never saw a sheep that would eat mullein or sand-burrs; and thistles they will not eat unless they are starved to it. If they were starved they might possibly eat them, but they will not touch them if they have plenty of short nutritious grasses. So I don't like to see too much claimed for sheep. Farmers have got to do something else besides keeping sheep, to keep all the noxious weeds in this state down.

Mr. Clark — I stand corrected. I skipped over those weeds. They do not eat mullein; put some salt on and they will eat thistles. But I didn't find those weeds. There are many kinds that don't grow there. For instance, all round my place is morning glory and wild buckwheat, but they don't grow on my farm.

A member — You kept sheep from the first, that is the reason.

Mr. Clark — They are not there. And another thing, we have some low lands, with snap-dragon on; that washes down the river; but it never grows where my pastures are; other places I have to pull it up. I had some bottom land with some small timber on that I wanted to clear up, and it would cost me ten or fifteen dollars an acre to clear that up, but the sheep would do it and not charge me anything. You can go in a few years and plow right along. Last year I was fixing up some, that I only put a day's work on an acre on, and made it fit to plow.

There may be some other weeds that grow, because I don't know all about this, but I founded the statement on those

that grew here in an early day. Thistles didn't grow then, and we never had any burdock until I was gone to California a few years, and rented my farm, and the highways round my place got full of burdocks and other weeds. I haven't done anything but let out the sheep, and it is all clean.

Mr. Wilkinson—I think the idea Judge Gibbs intended to impress was that sheep made a clean farm; not that they would consume mullein and snap-dragon and cockle burrs.

Mr. Clark—They will eat snap-dragon, but not consume everything. If they would, they would be a valuable animal for that purpose alone, and say nothing about their wool and meat producing qualities.

A member—I wish to correct the gentlemen a little in regard to mullein. During the dry time of last season I had a flock of sheep on a piece of timber land where there was some mullein, and I was wondering what they had been living on, and I went over there one day and found that they had trimmed those mullein—made a nice job, and also bull thistles, they made them look pretty stubby; and the sheep had made out a pretty good living.

The Chairman—I suppose they did it as a matter of necessity?

Mr. Wilkinson—I would like to ask Mr. Allen or Mr. Clark one more question—if they do not consider it possible to very largely increase the number of sheep which may be kept on any good farm in Wisconsin, or anywhere else, for that matter, from what we formerly thought could be kept by largely growing fodder corn and clover for winter consumption; thus lessening the number of acres required for producing their feed, leaving a corresponding increase in the number of acres for summer pasturage, and by so doing increase largely, in proportion to the number of acres, the amount of stock of that kind which may be kept, making it, of course, more profitable.

Mr. Allen—I cannot speak as to fodder corn, but I can as to clover most emphatically.

Mr. Wilkinson—I met a gentleman from Fond du Lac, a

week or two ago, who keeps sheep, and is certainly traveling in the right direction, and he told me he raised fodder corn quite extensively for his sheep. The universal testimony is that sheep like corn fodder just as well as any other kind of stock, and do well on it. He told me that he grew it for his sheep as a special food; that his aim was to produce on a limited number of acres the amount of food to be gathered for his sheep, leaving a much larger number of acres for summering his sheep, and therefore increasing the capacity of his farm for keeping sheep, and making it so much more profitable.

Mr. Coleman—At the present day there are very few sheep in Clark county, where I come from. We are obliged to sell them because we cannot make them profitable. Perhaps it is because we have not been engaged in raising the fine wool species; perhaps that may be the reason of it. And perhaps when I go back I can tell our people up there that they are all behind the times in regard to food. I would like to ask, while I am up, about how many of these Merino sheep can be kept to an acre on a fair soil; and also whether they will stand the winters in the northern part of this state as well as the Cotswold, or some other coarse wool. That is the grade we get up there. They claim they are a hardier variety of sheep, and can stand the cold better. But the discussion here to-day seems to dispute that.

Mr. Allen — As far as my individual experience goes, the Merinos are most decidedly the hardier sheep, and I think they will stand exposure to the weather; although I would not advise any man to expose his sheep greatly. I think anything protected and cared for will do very much better than to have them exposed.

A member — I have kept some Cotswold in the same flock with fine wool sheep; and I have always noticed that the coarse wool sheep, in time of storm or snow will stay out longer than the others; and I believe a coarse wool sheep will stand more cold than a fine wool.

Mr. Anderson — I think it is time that somebody defended the mutton breed of sheep. Mr. Harding here is engaged in

that business extensively, and I would like to hear from him. I don't keep many sheep now. I fed largely some years ago, but the small flock I have now is a mixture of Cotswold and Oxford Downs. I am very well pleased with them. There came a buyer to my place this winter and wanted to buy what few lambs I had. I told him he could have the wethers, but could not have any ewes. I sold them to him and the two year old wethers weighed one hundred and seventy pounds a piece, and the lambs ninety-eight pounds a piece. I thought then if they had been full blooded Merino, such as those bred for wool alone—that variety came from Vermont—that the lambs would not have been more than half that weight. But there is a variety of Merino sheep good for mutton, that I have seen in the stock yards at Chicago frequently. And they are not the fancy breed sheep, bred for wool, with delicate constitutions, but they are a lunky, blocky built breed of sheep, and sell well for mutton. And if a man wants to breed for wool and mutton both, I think such a breed will do well and for every farmer who wishes to keep a few sheep I think the mutton breed will pay him as well as any other, and perhaps better. I am now raising Alsaac clover, cutting it pretty early and hulling it, and after it is hulled it makes as good feed for my sheep as red clover hay will do, put up in the best manner on purpose for hay. I had, I think, on one field this year about one hundred and ten bushels of that Alsaac clover, and about a ton and a half of excellent feed on the same field afterwards. This clover, especially the first year you cut it, has stubble amongst it, and sheep will select the clover amongst the stubble better than any other stock. Still, my horses and cows and colts did very well on it.

I think every farmer ought to keep a few sheep. There are some great disadvantages. And those are the dogs and wolves in this country, and the underbrush. The very place where sheep ought to be kept, the underbrush grows thickly and the wolves increase rapidly. Yet there is a very strong feeling against a bounty on wolves, and a very strong feeling against a tax on dogs. I always defend both measures,

and I was very unpopular amongst the dog owners in my district. I don't keep a dog any more on my farm. I think I can't afford to keep a dog; I want to keep sheep. And if every body kept dogs, I think we would have to go out of the sheep business. I said to some of my neighbors that don't keep a pig or a cow, that a man that can't afford to keep a pig or a cow ought not to keep more than half a dozen dogs any how. (Laughter). And if we could make war on the dogs and wolves, everybody might keep a flock of sheep, and they are an excellent thing on a farm.

I will agree with Mr. Allen in one thing. Keeping hogs is one of my specialties. I turn my hogs into my corn even if it is forty acres, and I don't waste any corn either, to speak of. I have had my sheep go into a field of corn, and I found they were not hurting themselves, and I thought I could fatten them in there with the hogs in the corn; and you can fatten your sheep very readily in that way, and sell them about Christmas or New Years.

There are many ways that sheep can be fattened, but I think so long as dogs and wolves are in existence it will be discouraging. I had some of my finest sheep killed with dogs, but there were some dogs died afterwards. Mutton becomes very unhealthy about my farm after being killed by dogs, and if dogs come round afterwards they are apt to die from eating too much mutton, or something else. (Laughter.)

Mr. Harding — My friend spoke my name, but as I could only hear a part of the remarks of the gentleman on the other side of the room, I don't know as I can answer him, but in my opinion, there is room enough for the different breeds of sheep; they do not come into competition. As regards the dog trouble, I live in a town where there are a great many hunting dogs, going over my farm, and I have had Cotswold sheep seventeen years, and I have made a practice of keeping dry cows or heifers all the time in the pasture with my sheep. I do not keep a dog myself, and as my cattle are not used to dogs, it is impossible for a dog to come inside that field. And I have never had a sheep killed or any trouble since I commenced to keep my cattle with my

sheep. Of course, in the winter time, I have them in the yard near the house, where they are not troubled.

Mr. Allen's remarks in regard to feeding Merino sheep and coarse wool sheep ought to be qualified, I think. He speaks of the coarse wool sheep. Now there are many of them mere grade sheep, bred in the very cheapest manner, with no attention paid to constitution and feeding qualities, and I want to say right here that they are a good many of them the worst mongrels that ever walked the earth, and they hadn't ought to be compared with what a good mutton sheep is. I don't claim that the coarse wool sheep are superior in their proper place at all to the Merinos. Every man that breeds stock should consider, in the first place, his market, his locality, and the business that he wants to follow; then he should choose the breed that, in his opinion, is the best adapted to his location; then give them good care, and there is none of the prominent breeds of all kinds of stock, cattle, sheep or hogs, that will not pay a good return if that course be pursued.

The market purposes of the mutton breed are entirely the reverse of the purposes of the Merino sheep. There are undoubtedly some classes of Merino sheep that are fair feeders for market purposes, as the mutton breeds in England and in this country and in Canada. They keep those sheep in small flocks, because they have small farms, as a general thing; they are near the market there, and mutton is more of an object than wool. I have fed some thoroughbred Cotswold wethers, and if a man feeds a few of them — and not particularly Cotswold, but any of the mutton breeds — if he feeds a few of them once, he will find it a pleasure, if he is a feeder, and loves to feed animals, to feed that class of sheep.

A few years ago, when mutton and wool were a little higher than they are now, a few wethers fed in that way realized, at three years' old, \$19.50 a piece for the mutton and wool. The mutton sold in the market in Milwaukee, and the wool sold at the going price to wool buyers.

There is not the least doubt but what the method of keep-

ing the Merino sheep, and the other breeds of sheep in some respects would correspond. In regard to feeding clover hay, and shock corn, there is no cheaper or better way to keep all kinds of sheep, I think than that; I think that is the foundation of the industry. In regard to the hardiness of the different varieties, and which will stand the most hardship, I think that is not a question that intelligent farmers should debate at all. I think they want to take whatever breed they have, and give them the best care that they can, subject to the surrounding conditions.

I would like to take this opportunity, as Judge Gibbs' health is not such as to permit him to be present, and he has sent a very valuable paper, to move that a resolution of thanks be extended to the judge for the very able paper that has been read.

The motion was carried unanimously.

Mr. Arnold — What do I understand you to say that you got for your mutton sheep?

Mr. Harding — This was a number of years ago, when wool and mutton were higher than at present. They averaged \$19.50 in the Milwaukee market.

Mr. Arnold — Please state how you got that out of one sheep?

Mr. Harding — There was ten of them, three years' old, and thoroughbred wethers. They were made up on purpose for sale. They sheared an average right through of 18 pounds of wool to a sheep. They were sold in Milwaukee on Washington's birthday. I consider when a man is doing any business that the matter of selling is just as important as the matter of feeding. Of course I don't speak of this as an average that the farmers can attain, I mean to show what it is capable of under certain circumstances. I have sold quite a number, I will say at other times in Milwaukee, at \$15.

Mr. Arnold — How much did they weigh?

Mr. Harding — Those that I particularly speak of, at that time, averaged a trifle less than 300 pounds.

Mr. Anderson — I bought some Cotswold ewes of Harding that shore fifteen pounds a piece.

Mr. Arnold — Mr. Harding says, "If a man is a feeder." I would like to enlarge upon that a little. It strikes me that the average man is not a feeder. There, I think is where he fails. We are not feeders. The effort, as a rule, with the farmer, is to keep his stock on what he cannot sell off his farm; in other words, to keep his stock on just as little as possible and have them live through; and that kind of feeding will never give the best results, no matter what breed he has. And another fact; all good feeding, and profit from feeding, depends in a great measure on the quality of blood. Or in other words, on whether the animal is capable of appreciating good treatment. Now, a scrub is not capable of appreciating good treatment, and won't respond to it; and it is sheer nonsense to undertake to feed a scrub and expect the best results. It is true that the result of breeding pure bred animals on cross-bred animals, often, in a direct progeny, produces the best result on the animal himself. That may be profitable. That progeny may be profitable for feeding purposes, but not for breeding purposes, and that is where the average farmer fails; he undertakes to grade up when there are many crosses on both sides. The principle of breeding is that we shall use a pure bred animal on one side or the other in order to get best results. But I believe in feeding, that all animals, in order to produce the best meat, when we are finishing up must be fed just the same as we would fatten a hog — give the animal all it can handle, all it can assimilate.

Mr. Allen — That is it, exactly.

Mr. Arnold — When you do that, you finish them up and make fine meat. And any butcher can distinguish an animal fattened in that way as a better product, and it will always bring a better price if placed in the right market.

Mr. Wilkinson — A gentleman on the other side of the room asked how many Merino sheep can be kept to the acre. I would like to hear something said on that point.

Mr. Clark — I can answer partly, if my theory is correct that a hill a day of good corn will keep a sheep, then one acre of corn will winter twenty sheep.

Mr. Coleman — I referred to pasture.

Mr. Clark — Make your own calculation about the pasture.

Mr. Dann — I would like to say a word on this question. It looks to me as though these men that speak were not farmers, for the general farmer of Wisconsin is poor, he has not got the sheds, the barn room, nor the millions to start with, and he has to take what he can get. Now my friend speaks of one hill of corn. That looks to me very curious, because four or five sheep will eat as much as a cow; that is my opinion. Now will a cow live on four or five hills of corn and have nothing else? Just look at it—no pasture! One man says they will live in the summer time on mulleins! (Laughter.)

My friends, all of you know that if you starve an animal in the summer you can't winter him good. He won't winter; he is poor in the fall, and he is dainty; he has no appetite, he will not eat anything. And if you don't take twice the care of him in the winter, and make up more than treble the time you saved in the summer, that poor sheep, or that poor animal, will die, in my opinion.

Now take the Merino sheep. I have a few sheep, but the butchers, in Madison, especially,—well, I will name one of them,—Mr. Rhodes, said he didn't want Merino sheep, they were good for nothing; the mutton wasn't good, he could not sell it. Now if we want sheep for all purposes, we want something else, let them be Cotswolds, South Downs or any other Downs you can pick out, but we want large sheep and hearty sheep. And a sheep that is fed well and does well in the summer time needs to be shedded every day there is a storm, because they will come from the field every time there is a storm, if you have got one. My sheep, an hour or two before a storm, will come up and want to get in. If they are left out in the storms in the winter or summer the wool is not so good. As this gentleman says, when they are fed on clover hay the wool is oily; that gives it a good substance, and the wool is good. We want that if we are farmers, we want good sheep if we can have them. But we can't wait; we have got to have our living, as the quaker

said, "we have got to do the best we can." If we have no sheds we have got to put up something temporary, or keep no sheep. If you have any kind of stock, thoroughbred Short-horn or anything, if you feed him well he will grow; if you don't he won't grow. Now I know my neighbors north of here said they got some stock from the University Farm, and put them in with the scrubs and gave them both the same quantity of milk and oats, and the scrub was just as big as the other one when it was a year old. If you have a sheep or colt or anything that is a small yearling, he will be a small animal when grown. You can't build it up. It must be built up from the bottom. You take a human being, and they must be built up from the foundation; and you know that, gentlemen; and you cannot take and starve animals in the summer time and make anything off of them in the winter.

Mr. Allen—I desire to emphasize the remark of Mr. Arnold, that the more you can get an animal to eat within a given time, providing that the food is properly assimilated, the more profit there is in feeding that animal. Just keep that in mind. Never let that animal get hungry if you can help it.

A member—While you are fattening him?

Mr. Allen—All the time, always. Never let your animals get poor; that is the way to do it.

Mr. Dann—He will be fat all the time, ready for market.

Mr. True—As this debate in reference to the breeds of sheep has taken a wide range, I wish to occupy a moment to present in a measure, the merits of a breed already mentioned, and this is the production of what may be called "a general purpose sheep." A term I rather object to, in the main, but still it is applicable, and the breed is useful to farmers who wish to keep a flock of ten to forty sheep. I speak from my own experience when I say that the most profitable sheep I ever found, in this particular, was a cross of a full-blooded Shropshire down buck with a full-blooded Merino ewe. It gave me a sheep of large size, compact form, giving a heavy fleece of wool that sold for just as

many cents a pound as the full-blooded Merino wool on the market, while it gave a sheep for mutton purposes very much superior to the Merino sheep itself. I think this was adopted among the sheep breeders of Iowa a year or two ago, as I saw by the report of their meeting. It was there considered as the best general purpose cross in the sheep line, that of the Shropshire buck with the Merino ewe.

A member — How do they herd, in numbers?

Mr. True — I can't speak as to that applied to large numbers, as my flock was a small one. But I would expect that it would be an improvement on the Merino in that particular, for, while it seems to retain all those traits of the Merino that are especially desirable, it adds to it the strength and size that enable it to stand the cold better than the small Merino.

Mr. Arnold — I don't like to say anything in a convention of this sort unless I think I know it—in other words, unless I am satisfied in my mind that I am correct, and that I have practiced what I preach. Now Mr. Allen endorsed what I said, but he endorsed me too far; he over did the matter. (Laughter.) I don't know that he insists on just what he did say. Now, early maturity is desirable; and in stock raising we are all, in a great measure, fattening at too early maturity. Early maturity is what wins in the stock show, but that does not produce the best article of mutton or beef. The best mutton or beef is that wherein the muscle is the best developed; because that is the the best and most nutritious part of the animal. Where you develop fat at the expense of muscle you will not produce a good article of diet, for there is but very little nourishment in fat, and muscle is very nourishing. Now, if you commence to fatten an animal from birth, you totally destroy that animal for breeding purposes. You might just as well starve the animal; the result will be just as good as to over feed it. If you endeavor to bring it to as early maturity as possible for mutton, what Mr. Allen says is correct, perhaps; but that does not make the best mutton, and it does not make the quality that will bring the first price.

In order to develop the best beef or mutton you want to keep the animal constantly growing from birth, and not constantly fattening. If you wish to sell your steers at two years of age, you don't need to push those steers more than two months; but keep them growing from birth; give them what they need to develop the best muscle and bone, and then, for the finishing off, give them all that they will eat.

Mr. Allen—I accept the amendment, that you should keep them growing, but keep them growing strong. I want to get the very best growth possible; that is what I mean.

Mr. Arnold—I have the greatest possible respect for Mr. Allen and Mr. True, because they are good feeders. But now I think Mr. True is a little off about crossing two distinct breeds. The experience of men proves that the crossing of two distinct breeds, where there is a great difference in the breeds, does not produce the best results, as a rule.

The crossing of coarse on very fine sheep has been recently tried in Europe, and the results were not satisfactory. You cross Cotswold on Merino, and while you may have a larger sheep, you don't have a sheep with a good wool, generally, as Cotswold. If the Cotswold has any fault, the wool is too thin; it dampens too easily. The Merino is right the other way; when it has once taken it in you can never get it out, and that is one reason why they are not as hardy in the winter climate as a mixed breed.

The science of breeding is this, in my opinion, that in order to produce the best results, in order to get a grade, you want to have weak blood on one side, that is, a mixed breed, and on the other the older the breed, the stronger the blood, the more certainty there is of perpetuating the characteristics of the animal. Now if you have a mixed race on one side, and a pure breed on the other, it will take from the pure breed the desirable qualities, and therefore you have good results; whereas, if you have two distinct breeds, there is a war of races, a war of bloods, to find out which can predominate, and the older or stronger blood will rule, or you may have an inferior or mixed progeny that will not be satisfactory.

Mr. True — Just one word. I believe very much as Mr. Arnold does in the general principles that he states. You recollect, when I used the term "general purpose sheep," I wished to qualify that, because I don't really believe that such an animal, as an approach to perfection, exists, any more than a general purpose cow. But I must take issue with Mr. Arnold on the principles of breeding. I suppose that there is something in the natural make up of the Down and the natural make up of the Merino, so that when they are crossed there is not that violence to nature's laws that occurs in the crossing of the large, coarse Cotswold or Leicestershire with the Merino. The Downs is a closely built, compact sheep, corresponding somewhat to a good sheep of Merino breed, only on a larger scale; and I have been surprised at the result attained by the cross I suggested. It has been uniform, and not, as we find in breeding the extreme, the large coarse wool with the Merino, where the lambs followed the breed of the sire or dam, but not with uniformity. In this case we get a very uniform result, and I think it will give great satisfaction to those men who wish to breed a few sheep for good mutton qualities, and at the same time get good returns for their wool.

Mr. Anderson — In crossing, wouldn't you rather use a fine wool ram on the ewes, in place of using a coarse wool ram on fine wool ewes?

Mr. True — I am aware that the hint thrown out by Mr. Anderson, is one generally accepted in horse breeding and other lines. But even with horses my experience has been satisfactory in breeding with a Percheron stallion and a small mare; and the result in this instance has also been so satisfactory, that I think perhaps the other plan is over-estimated.

Mr. Wilkinson — How many crosses were made?

Mr. True — Two.

Mr. Anderson — I had two Spanish Merino rams, one weighed 150, and one 170 pounds, that we crossed on our common sheep — large, coarse wool, ewes. I never crossed them on the full blood Shropshire or Oxford or Down or any

of those mutton breeds, but by crossing with our common large, native ewes, the cross was very good, and I was pleased with it. It increased the shearing qualities of the sheep very much, and the mutton was very good and salable.

Mr. Wilkinson — How was the second or third crossing?

Mr. Anderson — You must never do that. I never cross that way; I always breed from pure males.

Mr. Wilkinson — Away back in 1872, it became very fashionable to cross Merinos with the so-called coarse wools, and the first cross was good and satisfactory; but after another cross or two, the whole thing was bad and it was dropped.

Mr. Harding — I want to mediate a little between Mr. True and Mr. Arnold, from a farmer's standpoint. Their remarks are directed towards the crossing of the pure breeds. There isn't any doubt but that they can make a reasonably profitable sheep for the farmer, but the argument on the farmer's side is the expense. I take the ground that the pure breeds, as we have them, are better adapted to

the class of men that can afford to handle them; and from the farmer's standpoint, I would object very seriously to taking what they call a thoroughbred Merino sheep and breeding it with the large class of farmer's sheep through the country — grade sheep. I think there is no doubt but that with a judicious selection of a mutton sheep, those men that keep small flocks could improve them and make more money out of them; but I doubt very much the policy of taking a Merino sheep, which is much better for the purpose it is intended for, to keep it pure, and taking a mutton sheep, that is much better for the purpose that it is intended for, and breeding them together. The idea is that the ordinary farmer first swings from one side to the other. He purchases a mutton ram and crosses that on to his miscellaneous sheep once or twice, and then some other idea occurs to him and he swings back the other way, and then we have a miscellaneous bred lot of animals, that are neither good for one purpose or another. There isn't any doubt, as far as producing mutton for the market, that if he makes that cross

on the grade sheep of the country, that there is money in it; but when he takes the pure breeds, worth more money to be kept separate, I think it is not advisable for the general farmer to undertake it.

Mr. Curtis — I wish to state a little experience in crossing, a few years ago. I had some fine wool sheep that averaged 98 pounds per head on shearing. There was a great cry about the Cotswolds, and I made the cross, and when I got the lambs the sheep looked as though they were going to out-shear the fine wools altogether; but when I came to take the fleece off and weigh it, I found they fell short, on an average, one to two pounds in the fleece; there wasn't one cross would weigh as much as the pure wool itself, and I became disgusted with it, and thought that that kind of crossing was a disadvantage to the man that kept sheep, and I would never do it again.

A member — Did you improve in the weight of the sheep?

Mr. Curtis — When I sold them for mutton they weighed a few pounds more, but it took more to feed them. If you increase the weight of the sheep it takes more to feed them than it does a small sheep. Sheep or cattle usually consume feed in proportion to their live weight; and if you increase the size of the sheep it takes more to keep them. Taking that into consideration, with two pounds of wool less a head, it didn't pay.

Mr. Coleman — In the neighborhood where you keep sheep I want to suggest the keeping of a good wolf hound to protect the sheep. Those hounds are never known to trouble sheep, and you will not have a wolf in the vicinity. There was a hound kept in our neighborhood two years. His running annoyed me very much, and I objected to his running; but during the time that that hound was kept in the neighborhood we lost no sheep. Previous to that I knew of the loss of forty sheep, and sheep had been nearly driven out of our section by wolves. And since the hound left we have been seriously troubled again, and I think it is well to test that.

The chairman — Governor Rusk is present, and will address the convention.

Governor Rusk -- Mr. President, ladies and fellow farmers: When I was with you last night on the platform, I did not know that the president of your agricultural society was going to "give me away" so badly as he did. He said I had fallen and broken myself up. (Laughter.) I want to notify you that if I did get a fall I am yet on earth, and not smashed up. (Voice: "Good!") I don't want to make a speech, but I want to say to the farmers that are here, and to all here, farmers or not farmers, that I would be glad to see you up at my house this evening. I give a reception to-night to anybody who dares to come. (Applause and laughter. And I would be pleased to see you there. (Several members: "We'll all be there!")

Another thing I wish to say to this agricultural society is, that I, at the expense of about between six and eight hundred dollars, refitted this room, repainted and recarpeted it, for the farmers of this state, and, if anybody accuses me of extravagance, I want you to defend me. (Laughter.) We had pretty much gone through with the other rooms, and I couldn't see why we shouldn't give this its turn, and I did so, and I am glad to have had an opportunity to prepare a comfortable place for the farmers. (Applause.)

We heard last night that the farmers were the first people to be considered; that upon him we should depend for the balancing power. For, when everything else is gone, we return to the farmer, who was first in the land, to settle, to decide what is right, and what is wrong, simply because he stands upon his own feet and is not blown to and fro by the wind that might come up in great cities; that the influence of corporations and affairs that affect other people do not touch the farmer. He relies upon himself; he has the capital and he has the labor. I don't quite agree with my friend, Professor Blaisdell, when he says that the farmer is too much like an animal. I think the farmer is the best intellect we have produced to-day. From the farm have come the intellects that have been foremost in guiding this country to its safe harbor.

And now, if you will just come up and see whether I can

give you any entertainment to-night, I shall be pleased to see you. Good day! (Renewed applause and laughter.)

Professor Henry—I would like to say a word for my friend, Mr. Haaff, who is here, and who is to speak upon the subject of dehorning cattle, at two o'clock this afternoon in the Assembly Chamber, and I bespeak for him a large attendance. Let us go to the meeting unprejudiced and hear; and if any one can bring up anything on the other side, by all means let us have it. I will say that at the University farm we have some Jerseys, dehorned yesterday, and steers dehorned two or three months ago, and a large Jersey bull dehorned; and I invite you out there to see whether they are suffering much, and whether they are looking well.

The chairman—I will introduce to you, gentlemen, Mr. Haaff.

Mr. Haaff—"The proof of the pudding is in chewing the string." I see your Governor is a very politic man. He says, "Come up this evening and see whether I have got any entertainment for you or not." I say, come up at two o'clock, and see whether I have got any entertainment for you! (Applause and laughter.)

JUSTIN MORGAN, THE FIRST AND ONLY FULL-BLOOD HORSE— "WHAT I KNOW ABOUT HIM."

BY LOUIS CLARK, BELOIT.

From time to time for the last sixty years, or more, I have seen what purported to be a sort of pedigree of the Morgan horses, but no two alike, and none correct according to my understanding from many persons living in the town who knew the owner, Justin Morgan and the horse, from time he was three years old until he was quite an old horse, when he was sold and taken to another part of the state. It is not the object of this paper to eulogize the Morgan horse, but to give the facts in the early history of Justin Morgan, the most remarkable horse in my opinion that the states have produced.

He was a regular come-by-chance and regular non-descript. He had no record. Zera Colburne, who lived seventy years or more ago, was a prodigy in mathematics. After solving some intricate problem, if asked why it was so he would answer: "It's so koz tiz so." That horse was so because he was so, and that was all that was known about him. Much imaginary history of this horse has been indulged in, such as this, that his sire was some blooded horse brought here and left during the revolutionary war. These speculative ideas do not amount to a fact. I have known the Morgan horse since 1819, as I will hereafter relate, but have no interest directly or indirectly, more than citizens generally. I do not own one now, and never owned one as a stock horse.

Justin Morgan lived in Randolph, Orange Co., Vermont, a central portion of the state, now called Randolph Center — which from an early day has kept up what was called an academy where students were prepared for college. Here lived Justin Morgan in 1801, (when that horse was three years old) and he was the town clerk. My father moved from that town in 1808, I returned there in 1819, when twelve years old, and remained there eight years. While residing there I saw many horses that I was told were sired by the old horse. Some of them when exhibited on the green on public days could trot backwards quite fast. I was told that the old horse had been sold for one thousand dollars, and taken to the northern part of the state, not far from the Canada line.

Judge J. K. Parish, a man I knew very well, was born in that town in 1793 and died in 1881. He never lived in any other town, and was always a prominent man in the town, being almost continually in office. He was postmaster, and was elected many times as state legislator and many times as a judge. About 1875 I requested him to tell me what he knew about this horse. He said in substance, as follows: "Justin Morgan, our town clerk, went down into the state of Massachusetts one winter and taught singing school, and when he returned brought a three-year-old colt which he

had taken as part pay for his teaching. Peter Edson [a man I knew afterwards] traveled about the town with him insuring for \$1.00. He related a circumstance whereby he recollected his own age at the time this colt was three years old, which would fix the age of the horse as previously stated. His further statements agreed with my previously obtained knowledge. I married my wife in that town, which has caused me to make many visits there in the last fifty-six years. When Morgan horses have been ridden behind and talked about with those there that knew Morgan and the old horse, I have never heard any disagreement in regard to his history. On one of my visits there in the winter, my wife being with me, we were riding up and down those hills just after a thaw and a sudden freeze up, and when going down the hills after the Morgans at break-neck speed, my wife remarked that she thought it much more important to have our lives insured than when on the railroad. In regard to how much Morgan paid for the three-year-old colt, I never recollected hearing any particular sum stated, but no one ever pretended that any extra price was paid, or that there was any calculation to keep him for a stock horse. The country was new, rough and heavily timbered and settlers generally poor and money very scarce. Mr. Morgan spent the winter in Massachusetts teaching singing school and returned in the spring with this colt and some money, I suppose. It was the custom in those days when hiring help to make an agreement that one-half or a certain amount should be paid in grain or stock. Now the presumption is that the colt was taken under such a contract. Fifty dollars would be considered a good round sum for his winter's singing and that the price of the colt was agreed upon or appraised to him at about twenty-five or thirty dollars. How many owners the horse had in Randolph I do not know, but recollect very well that a farmer owned him at one time and he was used to draw logs in clearing up a new farm. It was customary to have what were called "logging bees." Oxen were generally used, but the owner of the Morgan horse, I suppose, was not able to own a yoke

of oxen. After I was old enough to assist in the clearing of land, much discussion was had in regard to the value of oxen that were good at a "dead pull," as hauling logs was called. After the labors of the "bee" were ended, some sports would be indulged in by the assistance of the New England rum. One of the items would be to try the mettle of the teams. I well recollect what was common report about the Morgan horse on one of those occasions. The owner of Morgan would wait until the horse was found that could start the largest log, then he would hitch on and start it with a number of men standing on it. It was not until some of his colts had matured that more than an ordinary value was attached to him outside of his work, and then his value increased moderately. If I ever knew I have forgotten about his color. The most of his get that I saw were chestnuts and dark sorrels. I often hear persons talk about "full blood" Morgans and nearly so. No colt could be more than half blood unless by breeding in and in. I have never known of this but suppose it has been done. As far as I know it has been an object to breed from larger mares to increase the size.

The strain of blood in that old and first Morgan is marvelous and wonderful. It is probable that no other horse ever lived that was his equal in handing down unaided and alone almost his equals for eighty-nine years. Take an 1886-colt and make a mathematical calculation of the degree of blood and it would come about as near full blood as a mill would to one thousand dollars.

Mr. Arnold—I don't wish to make any remarks, but I think the thanks of this convention are due to this old gentleman for his very interesting paper.

A motion to that effect was carried unanimously.

THE FUTURE PROSPECTS OF THE WISCONSIN
STATE AGRICULTURAL SOCIETY.

BY N. D. FRATT, RACINE.

In speaking of the future prospects of the Wisconsin State Agricultural Society, or in forecasting its to-morrow, I may be permitted to advert to its rise and progress, and even to sketch hastily the history of those first organized movements out of which this and kindred associations have grown, as stalk and corn from the planted seed. There are none to dispute that upon agriculture rests our national prosperity, and yet the fact, generally speaking, meets only with faintest recognition, even on the part of those who should be foremost in asserting and maintaining its supreme importance, marking as it does, "the position of a community upon the scale of civilization." This great paramount interest has scarcely a word of mention in our national history. While chronicling "the exploits of our soldiers, the daring of our sailors, the learning of our scholars, the careers of our business men," American history has no page devoted to that chiefest agent of our advancing civilization—Agriculture. And yet always and everywhere it has asserted its claims, in speech of its own, to larger and profounder recognition of its importance as an essential factor in the growth and prosperity of a nation. More than ever before, it to-day challenges our attention and regard as "eminently the art of the world's advanced age," and ignored as it may be in this commercial age, continually it enforces itself upon the notice and intelligence of the world with the repeated force of daily necessity, and more clearly reveals itself, with every progress made by each art and science in their respective courses, as the basis and support of all other arts and industries, and therefore entitled to corresponding recognition and encouragement. Organized helps are almost always the response only to compulsory calls. Oftenest this response comes from those whom the

helps are not immediately and directly to benefit. A most woeful account is given of our agriculture as it was conditioned in the first years following the close of the

REVOLUTIONARY WAR.

Buildings, stock, implements and tools were alike inferior, and there were obstacles and prejudices against any innovation in the established routine of practice. The meadows were left undrained, and the exhausted uplands bore but scanty crops, and were abandoned to weeds under the mistaken idea of fallow-rests. Farmers were obliged to leave their worn-out soil and seek new fields in the uncleared forests, and it has been well said that even the most successful cultivators knew as little of the chemistry of agriculture as of the problems of astronomy. The farmer who ventured to make experiments, to strike out new paths of practice, or to adopt new modes of culture, subjected himself to the ridicule of a whole neighborhood. For many years, therefore, the same routine of farm labor had been pursued. In the older settlements, the son planting just as many acres of corn as his father did, "in the old of the moon." The rotation of crops was almost unknown; the value of manures was little regarded; labor saving implements were never thought of, and the undersized horses, cattle and sheep were so badly cared for during the winter that they cast but faintest shadows in the spring. Upon so compulsory a call, the need being intensely urgent, a "society for the promotion of agriculture," the first of its kind in this country was formed in

PHILADELPHIA,

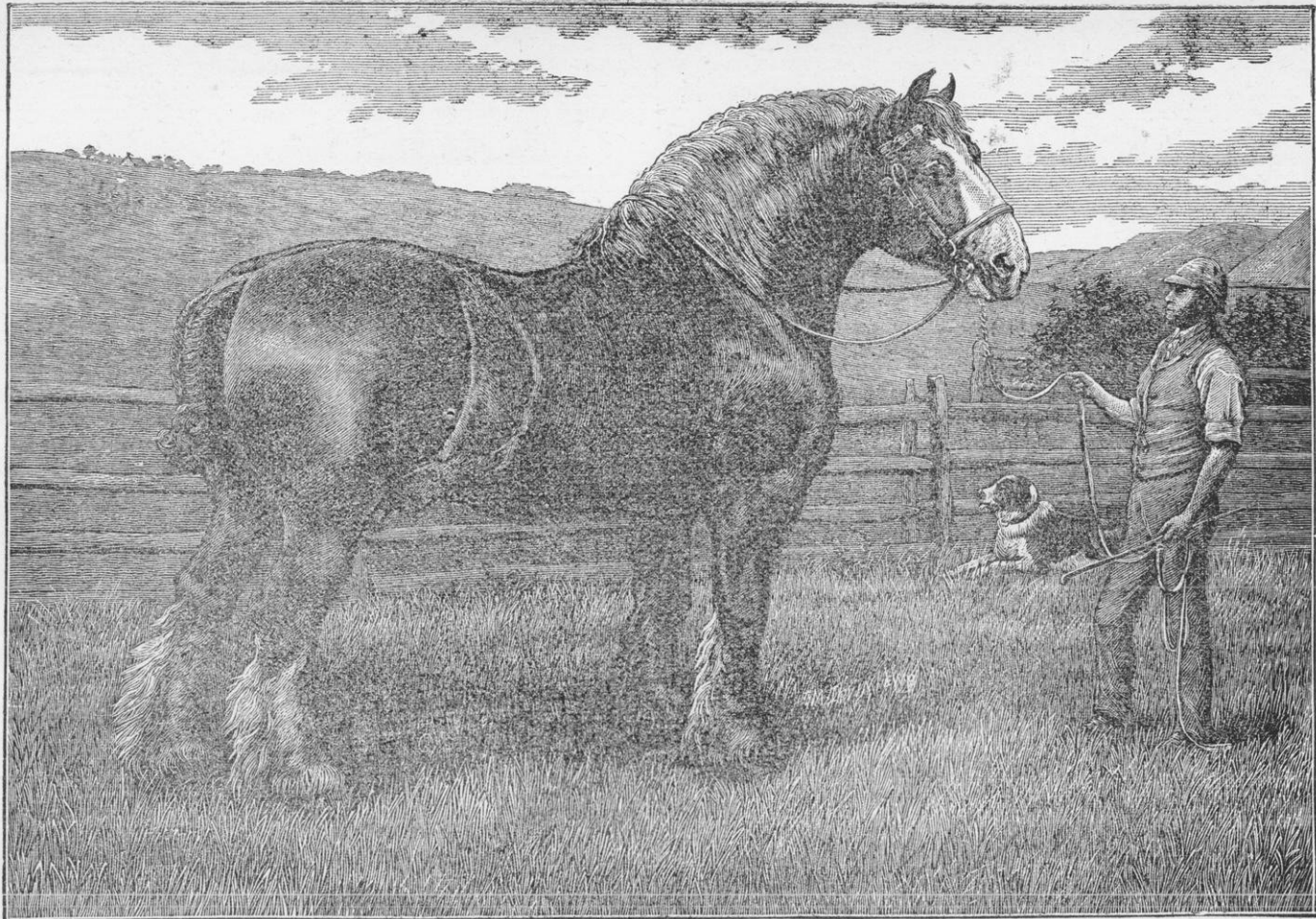
By a few men, not farmers, but professional men and merchants. This initial movement led to like movements in the principal cities, not among farmers, but business men, who were the first to see the very great importance, indeed the necessity, of doing something to advance the interests of agriculture in their vicinity. Their associated efforts were met, it is said, with ridicule by practical farmers, who jeeringly asked, What do these men know about farming more

than we? It dawned at last upon the dull perception of the stupid questioners, that the men about whom they jeered had valuable information to impart in relation to agriculture. And so it turned out, as it always has done, that the great improvers of agriculture have been, for the most part, those who have brought to bear on it the analogies and perceptions derived from other arts and sciences; a class of men of whom it has been remarked that they form the most intelligent and accurate of husbandmen. Their indefatigable attention makes more than amends for their ignorance of minutia; and having been at the pains to acquire a knowledge of the theory of their new pursuit. They establish their ideas on rational principles. Of the first society for the promotion of agriculture, organized at the then seat of government, General Washington was elected an honorary member on the 4th of July, 1785. Thus associating him with distinguished lawyers, physicians and merchants. Still intent on achieving the complete independence of their country. At once he took an active interest in the affairs of the Society, and in all its measures for promoting the one object it had in view, as everywhere, so here, his name was of commanding influence, and there were few to refuse to listen to the words spoken by the

FARMER OF MOUNT VERNON.

I mention this as showing that not only are great names associated with the profession of agriculture, but that to a few master minds, interested in all improvement, is committed the task of leading the lagging many into better ways and of lifting an honorable pursuit from the abasement into which it has fallen, by the stimulus of their knowledge and example, I cannot here forbear quoting from Washington's speech before the two houses of Congress, December 7th, 1796, in which he said: "It will not be doubted that with reference to either individual or national welfare, agriculture is of primary importance. In proportions as nations advance in population and other circumstances of maturity, this truth becomes more apparent, and





CLYDESDALE STALLION IVANHOE. OWNED BY CAMPBELL BROS., STOUGHTON, WIS.

renders the cultivation of the soil more and more an object of public patronage. Institutions for promoting it grow up supported by the public purse, and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end, none have been attended with greater success than the establishment of boards, composed of proper characters, charged with collecting and diffusing information, and enabled, by premiums and small pecuniary aids, to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement by stimulating to enterprise and experiment, and by drawing to a common centre the results, everywhere, of individual skill and observation, and spreading them thence over the whole nation. Experience, accordingly, has shown that they are very cheap instruments of immense national benefits." The suggestions contained in this extract received the attention of Congress to the extent of a reference and report, but, no final action was had, still the word spoken did not cease to speak, and very soon after, or as early as 1806, we find an organization, composed of members of Congress, officers of the federal government, and others, devoted to objects of public economy. Among the subjects receiving attention were: "our mechanical economy, or the means of abridging labor by useful inventions, implements, and apparatus," our

AGRICULTURAL ECONOMY,

or the means of producing the most abundant crops, under any given circumstances, without doing things by guess. This organization came to be known as the agricultural society at Washington. It was succeeded in 1809 by the Columbia agricultural society, organized by prominent gentlemen interested in agriculture, residing in Virginia, Maryland and the District of Columbia. This association is entitled to a more extended notice than we can give it, inasmuch as it was the germ of a national organization, embracing different states, and the initiative of agricultural exhibitions, now one of our national institutions. From the

planting of this seed numerous state and county agricultural societies, one after another sprang up, and exerted a broad and helpful influence. Agricultural literature began to be distributed, while state and county exhibitions tended to stimulate to improvements. And yet it is of record that agriculture, then, as since, and not unfrequently now, was regarded as a subordinate, if not a degrading employment. Farmers' boys were made to toil with worn-out tools until they generally escaped to the sea, or the city, while the professions were looked upon as the only stepping-stones to honor and a high social position. It is worthy of notice, however, that the most eminent of those who deserted the old homestead to enter upon "the golden chase of life," ever yearned for the bosom of mother earth, and finally returned to it, Jackson at the Hermitage, Calhoun at Fort Hill, Clay at Ashland, Webster at Marshfield. Each paid a practical homage to agriculture, and consecrated those spots as heart shrines, to be remembered with Mount Vernon and Lee Grange. Not stopping to trace the progress of agricultural organization and improvement in the United States during the intervening years, I pass to notice the first efforts here to improve our agriculture, and the beginnings of the history of

THE WISCONSIN STATE AGRICULTURAL SOCIETY.

At an early day there were a few among us to see with Webster, "That public improvements are brought about by voluntary association and combination." Hence the importance of agricultural societies, they bring men together for the same general object, and combine their intelligence, enterprise, and influence for the accomplishment of certain ends. In the winter of 1849, an article written by Dr. A. C. Barry, and published in the *Wisconsin Farmer*, calling the attention of our people to the importance and need of association as a means for promoting our leading industry, and recommended the organization of a State Agricultural Society, as a central and directing instrumentality, with auxiliary societies in each county. Such a society, with its subordinates, it was said, would stimulate to improvement, and

furnish mediums for mutual advice, counsel, instruction and encouragement, whereby the profession of agriculture, now undervalued, would be elevated in rank, and assurance given of steady, permanent growth in wealth and prosperity. Acting, as it would seem, upon the suggestions contained in this article, a considerable number of our leading farmers convened in Madison some time in April of the same year, adopted a constitution, and elected the officers of a State Agricultural Society: Erastus Drury, president; Royal Buck, secretary; Abraham Ogden, treasurer. From this small beginning, necessarily crude and imperfect, has been developed, or by an evolutionary process has grown the more shapely, perfect and commanding institution of to-day.]

I will now ask you to accompany me as I trace the successive steps by which it has reached its present high and influential position, that thus we may be better enabled to forecast its future, or to find in what has been, and now is, a foretelling of new and richer growths, and vaster reaches of influence in the years to come.

THE HISTORY *

of the Wisconsin State Agricultural Society, from the year 1851, when it became the successor of the State Agricultural Society of 1849, down to the close of the year 1886, may be divided into three periods; the first embracing the years 1851-1861; the second covering the succeeding decade; the third including the subsequent fifteen years. We may call the first the formation period of the society, during which it was growing in the knowledge and appreciation of the purposes of its existence, and learning to adjust itself to the measure of the needs which it was to supply. In the matters of administration, adaptation, and of work in general, it had everything to learn. Necessarily there was a groping for right ways, and out of weakness strength was to be developed for the fulfilment of its design. It came into being, and commenced its operations when Leonard J. Farwell was governor, in whom it found a warm and steadfast friend. Of life members it had five, and its chief officers were:

Henry M. Billings, president; Albert G. Ingham, secretary; Simeon Mills, treasurer. The first work it set itself about was arranging for a fair, which was held in Janesville, in October, 1851, where premiums were paid to the amount of \$140. The operations of the succeeding year were confined principally to the laying of a foundation for a library and museum, to correspondence, and preparation for a second annual fair, which was held in

MILWAUKEE,

at the "Cold Spring Race Course," on the 6th, 7th and 8th days of October. The receipts for the year are reported as having been \$2,748.45. Premiums and expense of fair, \$2,714.68; leaving a net balance in the treasury of \$33.77. Of life members there were now twelve. I am inclined to give the names of the advance guard of the great army to follow after: Erastus W. Drury, of Fond du Lac; Harvey Durkee, Kenosha; Andrew E. Elmore, Mukwonago; Erastus Fairbanks, St. Jonesbury, Vt.; Leonard J. Farwell, Madison; Benjamin Ferguson, Fox Lake; Martin Field, Mukwonago; Albert G. Ingham, Madison; Simeon Mills, Madison; Alexander Mitchell, Milwaukee; Martin Webster, Fox Lake. Embarrassed by the want of suitable accommodations, on application, Governor Farwell promptly placed rooms in the capitol at the disposal of the society. It also received material aid from the state, to the extent of \$500. In January, 1853, Elisha W. Edgerton, of Summit, succeeded to the presidency of the society; the secretary and treasurer being retained in their places. In February, the society was incorporated by act of the legislature, and a permanent appropriation made in its aid. Reports of its transactions for 1851-2 were published at the cost of the state. These reports contained brief accounts of the fairs, including the awards of committees and the annual addresses, together with communications from the officers of county societies, and from eminent scientific men and agriculturists. The work of the society during the balance of its initial period was quite like that of the two years just under notice. Fairs were held annually with varying success, and the additional

transactions were largely made up of correspondence, the collection of books of agriculture, and of grains, seeds, wools, etc., year after year, under all changes of

ADMINISTRATION.

We read in the reports that the various operations of the society have been in the highest degree gratifying, and that a spirit of agricultural inquiry has been awakened, giving encouraging assurance that its labors have not been in vain. At the same time it is noted that improvement in agriculture is slow, and does not keep pace with the development of other industries. The close of the first period and the beginning of the second, were marked by the breaking out of the rebellion, when the operations of the society were interrupted and for the most part suspended, by the diversion of the attention and resources of the state, in the raising, equipping, and putting into the field of regiments of men for the preservation of an imperiled Union. And none of us need be told that the succeeding four years were years of severe and exhaustive trial, consequent upon a gigantic civil war, which took thousands of our strong, able-bodied men from among the producing classes, and sowed the south with the graves of Wisconsin's dead. And we know that when the war of the rebellion closed there came the absorbing care and labor attendant upon a return to a state of peace, when the regiments employed in the field during the bloody contest were to be transformed into civic and domestic forces. Although such a change would require time, yet it is to be said to the praise of our people, that, "self-educated and self-governed, and accustomed to exercise their intelligence and freedom under written forms of law," they proved themselves capable, not only of enduring all the evils which the war brought upon them, but also of "passing peacefully and quietly through the most demoralizing changes which a transition from such a war to a state of peace could impose upon them." And right away our society took up anew its work which had been in abeyance, and our farmers began to lay widely and deeply the firm foundations of a new and increasing prosperity. The annual fair

was again restored, and the suspended operations of the society resumed, but, crippled in its resources, it did not soon recover lost ground. All state aid was withheld from it during the years of the war, nor was it granted again until the year 1873. The best possible use, however, was made of limited means and opportunities, competent and faithful men were at the helm of affairs, and they helped prepare the way for the better condition of things, which should mark the commencement of a new period in the history of our society, or a new era of progress and prosperity. During the twenty-one years of its existence, counting to 1873, the society had held eighteen annual fairs, had published thirteen volumes of Transactions, and in other ways had covered with its activities no small part of its assigned field. And this, too, while working without wages, and largely defraying the cost of its own board. It created its own revenues, and by its

ENTERPRIZE, INDUSTRY AND ECONOMY.

managed to "keep its head above water." It is to be noticed, also, that it had in these years increased its life membership from five, to not far from three hundred. Strength and influence came from these hundreds of strong and influential men. Reforms were introduced. The state came forward again with its aid. For correspondence the farmers' convention was established. Better accommodations were secured, opportunities multiplied, additional powers granted, and the society in many ways received recognition as the chief custodian of the industrial interests of the state. It is gratifying to look back over what we have denominated the third period in the history of the society, and to notice its deepening hold upon the confidence of our people, together with its increasingly wide and powerful influence, as seen in the doubling of the number of life members, the attractiveness and value of its annual exhibitions, the constantly enlarging proportions of its premium lists, the quickened mental activities of farmers, and the growing inclination to employ in agriculture money, business energy, and active enterprise, which are so success-

fully employed in other departments of business. To this it may be added, that a more direct and intimate relation between the society and the people, through the medium especially of the farmers' convention, has conduced to valuable results by securing co-operation in official labors, and the communication by addresses, lectures, and discussions of the best thought, the ripest experience, of the representative men of our state.

Thus hurriedly have I reviewed the history of the Wisconsin State Agricultural Society, from its earliest inception down through the thirty-seven years of its growth, stewardship and fluctuating fortunes. The sum of its achievements in its assigned field, of the beneficent changes it has wrought in and upon our agricultural and mechanical industries, and of its contributions to the wealth and prosperity of our state, is beyond computation or comprehension. We say this without thought of disparagement to other and kindred instrumentalities. We say it, too, believing, that the influence it has exerted, and the results it has accomplished, although of incomputable value, would have been greatly augmented by the help that was denied, and the encouragement to which it was entitled, but was withheld. But with all of neglect and non-recognition, the recipient often of only little dribblets of aid, its years, dating from that first planting in 1849, have been years of growth. And it has grown much as the solid oak grows; at the first, when little more than in the acorn state, it had to furnish proof of its right to live, by living, and when it rose up and fairly stood upon its feet, it had to take hold of things in order to walk. In accordance with the law of development or growth, it obtained a stronger hold upon life by its struggles to live.

STRENGTH WAS GAINED

through contention with weakness, and wisdom was bought at the price of slips and falls, of mistakes and blunders, and when at last there was a preparation for a larger occupancy of its wide field of labor, it readily adjusted itself to the dimensions of the great work awaiting performance, and more clearly apprehended the sacredness of the trusts con-

fided to its keeping. I may not seem to overlook or be oblivious of the fostering care of the state as an important aid to the growth of our Society through the struggling years of its early life, to the manhood of its maturity and usefulness. This care has taken many forms of expression, as seen in pecuniary help in time of embarrassing need, in the endowment of its principal office, in liberal annual gratuities, and in the many ways by which it has taken it into closest relations with itself.

Without stopping to raise the question whether the aid rendered by the state has been, in any considerable degree, commensurate with the vast interests it has in charge, it is but just to say that without such aid, the operations of this Society could not have been so important and extensive as are of record, nor could it have so availed in the elevation and improvement of agriculture and its kindred arts. Very likely that even now, generously fostered and aided by the state, the Society has not done all the good it was capable of accomplishing, and has come short of fulfilling the design contemplated in its establishment, or of fully subserving the purposes legitimately within its embrace, and intimately associated with the wealth and prosperity of a preponderating class of our people. Undoubtedly there have been errors of judgment, mistaken policies, defects of administration, disabling circumstances, always more or less attendant upon human frailty and imperfection. We may say this without in the least calling in question the intelligence and zeal of those employed in the service of the Society, or of underrating and depreciating the efforts of any given a share in the direction of its work. So far as it becomes me to speak, I do not hesitate to say that honesty, fidelity and impartiality have characterized the administration of its affairs; and that all of plan and policy and expenditure has had sole reference to guarding and promoting the interests entrusted to its charge, to the truth of this, the steady growth and ever broadening influence of the Society in the past, its high position to-day, and its

BRILLIANT PROSPECTS

for the future, bear eloquent witness. As an evidence or indication of the importance to which this Society has attained, and what is the future it has shaped for itself, I may refer not only to its annual expositions, which have been of increasing merit, utility and popularity, but to the growing value of its literature, as attested by an ever enlarging demand for it in this and foreign countries, and the highly complimentary notices it receives from the leading agriculturists of the country. Its contributions to sound agricultural knowledge are unsurpassed by those of any other state; and in its enlightened advocacy of agricultural reform, it is fully abreast, the most progressive of its contemporaries. And permit me to say here, that papers are read at the conventions of this Society which ought, because of the able treatment of the subjects in hand, and the important information they contain, to find a place in the home of every farmer; or it is better to say, they should be given a more general circulation than is possible by means of the published volumes of reports alone. It seems to me that money could not be more profitably employed than in printing the most important of these papers in cheap pamphlet form, and in distributing them among the thousands who need just the light these would shed upon the pathway of their calling. As now our Society enters upon a new stage of its existence, what are the signs of promise with which it is greeted? What of light does the present shed upon the future? Incidentally these questions have in part been answered—perhaps if we were to go back over the line of remark, we might find them fully answered. No doubt the past largely gives shape and color to the future, and all history is at once a

FACT AND A PROPHECY.

The growths of other days gives assurance of larger growths and an increased fruitfulness in days to come. Evening is lit by the promise of morning. Autumn is lit by the promise of Spring. So I come back to what I said but

just now, of the present high position of our Society, and of its brilliant prospects for the future, for the purpose of adding, that its prospects for the coming time are bright because of the eminent position to which it has attained, and this position has the light of promise in it because it has been won by long continued, patient and loyal service. And what does this teach us, but that the fulfilment of both prophecy and promise is contingent upon the continued presence and employment of all the elements, agencies, activities, and means of every kind, which, separately or in combination, have conduced to the growth, the ever-enlarging usefulness of our Society, and its elevation to high rank among the important institutions of the state. This also we should understand, that the Wisconsin State Agricultural Society must be more than it now is if it would live. As it turns toward the future it is met by new responsibilities and demands for wiser administration, and for more and better work, every step of its advance hitherto has brought it under new claims which must be met. If its membership, its influence, its resources, are far greater to-day than ever before, it can neither rightfully nor safely content itself with old methods, the same routine of operations, and the same partial or limited occupancy of its field of labor. But it is to be considered that if it would meet its new responsibilities, and act up to its new condition, and multiply its ten talents to ten more, and promote in a far larger degree the paramount interests it has in charge, large additions must be made to its resources; new and greater opportunities must be furnished it; wider room given it to work in, and an unobstructed way opened for it to the achievement of noblest results. I have referred to the recognition given this Society by the State, to its fostering care, and its appropriations to its needs. Let it be conceded that these have been adequate until now. But the question arises whether with

A CHANGE OF CONDITION,

and of circumstances, and the new responsibilities and duties awaiting assumption and discharge on the part of the Society, the state ought not to make more liberal contribu-

tions in its aid; whether, in view of the great leading interests to be promoted, we may not justly ask that our state, in imitation of the generosity of her adjoining sister states, appropriate a sum of money sufficient for the purchase of suitable grounds, and the permanent location of our society thereon. The plan of holding the fair, first in one place and then in another, upon the theory of doing missionary work, in educating the farmer, was established when the country was new, and associations were limited, and has been abandoned by the states of New York, Ohio, Pennsylvania, Indiana, Iowa, Nebraska, Minnesota and California. You have seen what Minnesota in an open-handed way has done for her Agricultural Society, adding \$100,000 to the magnificent gift of \$160,000 by Ramsey county. Missouri, it is said, has excelled even this noble example of liberality in aid of a leading industry. Why, therefore, may we not ask Wisconsin to give a like encouragement to agriculture?

As answering the requirements of our Society, I submit the following proposition: That the state make a liberal appropriation, say \$100,000, for the purpose already named, and that a commission of practical men be appointed, familiar with the wants of the society, to select and purchase a suitable piece of ground, accessible to the city of Milwaukee, and to contract for requisite buildings and improvements to be erected and made thereon, or such as would be acceptable to our society, and also a credit to the state. And this to the end, that the Wisconsin State Agricultural Society may be, in reality as in name, an enlargement of its functions, and an increase of its powers being understood — the head, the representative, the trustee, of all our industries, county and local societies being its tributaries, and owing it allegiance.

I have mentioned nearness to Milwaukee as desirable in the location of grounds and buildings. We have not to be told what it can do, and is disposed to do. It has the ability and disposition to make the annual exhibition of the Society, under the most unfavorable circumstances, grandly successful financially and otherwise. When elsewhere, by

reason of storms and mud, the Fair of last fall would have been in an important respect, a signal and most disastrous failure, involving a tremendous balance on the wrong side of the ledger; in Milwaukee, under all of disadvantage and gloomy portent, the active co operation and liberal contributions of its

GOLDEN FARMERS,

not only enabled the Society to meet all expenses, pay all premiums in full, liquidate an old indebtedness of about \$8,000 and to put into its treasury an unexpended balance of over \$3,000. And now I will say in conclusion, that the facts just recited, taken in connection with the other fact, that for five years to come the location of our Fair is to be in Milwaukee, make the immediate future of our Society to be one of glorious promise. Here is encouragement for redoubled effort to make our association more than ever an aid to intelligence and progress, whereby production will be cheapened, wealth enhanced, and the happiness of our people increased many fold.

DISCUSSION.

Mr. Anderson — Mr. Chairman, I certainly am very much opposed to some of the conclusions you come to in that paper. It is a very able paper, and the historical part of it is very good; but I am very much opposed to the farmers of Wisconsin having a hundred thousand dollars invested in a race course in Milwaukee for the purpose of encouraging trotting and fast running horses. (Loud applause.)

The chairman — I want to correct Mr. Anderson. There is nothing said in this paper about a race course.

Mr. Anderson — That is what I understand it will come to. You have appropriated, as I understand it, \$4,000, for that purpose next year, and if you establish it there it will come to that. You did make it a success by coaxing people to close up their stores and turn out, I know, I was there that day. One of the greatest failures this society ever had was

at Milwaukee a few years ago, when they didn't turn out there. And the greatest failures they have had in Illinois have been close to the city of Chicago. You can't interest those cities every year to go out and see our horse show and your pumpkin show. They would have gone out to see Barnum, if he had been there with his big show, just as fast as they would to see the Agricultural Society's Fair. The influential men of Milwaukee were got to close up their stores that day and go out, and that contributed largely; and I see you had only three thousand dollars after paying expenses, and there was \$4,000, contributed to your Society by life members at the meeting at that Fair. And those two hundred life members were added there for the purpose of out-voting the whole state of Wisconsin for the purpose of throwing the Fair there for the next five years. Now it is unconstitutional, it is not reasonable, it is not right to establish your fair anywhere for a certain number of years. You may have an election of new officers next year, and new members added that may vote at your next meeting to hold it somewhere else, and I don't think it right that we should be compelled to go to Milwaukee every year. I am very much opposed to this appropriation from the state of Wisconsin of \$100,000 for that purpose. The farmers of Wisconsin cannot be dragged hundreds of miles, with their stock, to Milwaukee every year. It will not do. We want a more central location, and I would rather have the State Fair held at say four different locations in the State, annually changing round for the convenience of the farmers. We want the Society for the benefit of the farmers, and not for the benefit of the fast horsemen of Milwaukee or anywhere else.

Mr. True — While I do not desire to enter into this discussion, it seems to me that the remark made by Mr. Anderson with reference to the financial result of the fair at Milwaukee, are not from a correct standpoint. He states that we made about \$3,000. I would like to have the treasurer of the Society, Mr. Arnold, give it.

Mr. Anderson — I see from the report of the president that

you have a balance of \$3,000 left. Your income from selling life membership tickets amounted to \$4,000.

The chairman — The society also paid off an old indebtedness of about \$8,000, and then had a balance of \$3,000 in the treasury.

Mr. Anderson — How much did you get from the state?

The chairman — \$4,000.

Mr. Anderson — \$4,000 from the state, and the same amount from life members, makes \$8,000.

Mr. Knowles — I would like to know whether the convention is to benefit the farmers of the state or the citizens of Milwaukee. It is a long way for us farmers to go clear to Milwaukee every year from the northern part of the state. If the intention is to benefit the citizens of Milwaukee instead of the farmers, then by all means, put it in Milwaukee.

Mr. Arnold — I don't know that the location of the State Fair is a proper question to discuss at this convention. But it makes no difference where the State Fair is located, this convention will always be held in Madison — a pretty central point, and a point where we like to come, especially when the legislature is in session, and the room will always be at Madison, the secretary's office will always be at the capitol.

Mr. Anderson — Can't you vote to remove the secretary's office at any time?

Mr. Arnold — I will guarantee you that I will never vote to do it, and we have something to say about it.

Mr. Anderson — Milwaukee will overbalance the rest of the state, with her two hundred members.

Mr. Arnold — Well, I see a danger growing up, with a larger life membership in any locality. This was the case at Janesville, has been the case at Madison, and is now the case at Milwaukee. The representative system is attempted to be inaugurated in the law, whereby each county sends representatives in the persons of its president and secretary who shall vote for the State Fair when the elections are held; but this large local membership of life members may

overpower that representative membership; and thus we are not what we purport to be, that is, the board is not strictly a representative body, or liable not to be. But I apprehend that these life members ordinarily, except where their interests are at stake, and there is a fight for location at times, are as heartily in favor of every enterprise, and everything we can do for the state and for agriculture, as these representative members are that are sent from the county societies. Now we took the Fair to Milwaukee last year—not because we wanted to benefit Milwaukee—I never voted for Milwaukee, or Madison, or any other place because I wanted to benefit those places, but a beneficial result is a necessary sequence to the location, which we cannot avoid. But you know that had we located our Fair at any other point than Milwaukee last fall, it must have been a great failure.

Mr. Anderson — Wasn't it a great failure at Milwaukee a few years ago?

Mr. Arnold — Yes; I presume it was. It is liable to be. There are ups and downs in everything. But the year before we had our Fair here, we had a better exhibition in every regard a year ago last fall, with every facilities for the farmers to be here. If you call this a central point, we had a central point, with good railroad facilities. With all these advantages, we ran in debt. When we started our Fair at Milwaukee we had a mortgage of four thousand dollars on our adjacent fair grounds here, and the officers of the Society gave their personal obligations for a thousand dollars nearly to carry it through and hold the Fair in Milwaukee. The condition of things was this: we had a fair ground here with buildings all out of repair. We could not hold a Fair here until we had expended from one to three thousand dollars on those fair grounds, with an empty treasury, and we had already given our personal obligations for a thousand dollars. We had no inducements offered to hold the Fair here from any source, but we did have inducements offered by the enterprising citizens of Milwaukee, to give us grounds with as good buildings as we had here—

new, fresh and clean, and what could we do as an agricultural society except to go to Milwaukee? There was no other alternative. Having once got there, they undertook to run the thing, and they did do it, and we very gladly did it so far as getting the money is concerned. But when they undertook to locate the State Fair there permanently for five years, they were going beyond their province, as our constitution provides that our board shall locate our State Fair every year.

Mr. Anderson — You were very glad they run it then; don't you think they will run it every year in Milwaukee?

Mr. Arnold — I am not particular who runs this thing, so long as it is run right.

Mr. Anderson — Ah, that is it!

Mr. Arnold — We owe a great deal to the "golden farmers" as they are, men who are not making their money in farming, men who are making their money in other business, and spending it for the improvement of us who are poor.

A member — That's so!

Mr. Arnold — And while I don't pin my faith to that class of men, I claim that they are spending a great deal for the benefit of agriculture, and we cannot afford to condemn them simply because they don't make that their leading business. Now I live in the northern part of the state, and I am not a horseman, I am a cattleman, and if the fair is at Milwaukee, I don't know but they will run it; but if they will run the fair so as to make it an educator for the farmers of the state of Wisconsin, and I can go there and get a better education in my business than I can any where else, I am willing to go there. It is my opinion that we cannot as successfully hold a fair in all kinds of weather at any other point as we can at a point adjacent to a great metropolis; therefore Milwaukee has the advantage of any other locality.

Mr. Anderson — Mr. Arnold's idea of what Milwaukee has done for the farmers, and mine, would hardly agree. I think that the farmers have done a great deal more for

Milwaukee than Milwaukee has ever done for us farmers. I recollect of going to the Plankinton some years ago, shortly after Mr. Plankinton first opened, and I said to him, "I am pleased to see that you have such a nice house here; it is a very nice place, and I think no hog-drover need be afraid to visit your house." He said, "You, the hog-drovers and farmers, are welcome to it, because you built it."

Now we farmers have built Milwaukee, we have built all these cities; it is the profit of handling our produce and the profits of selling their commodities that has built up Milwaukee, and now she wants to have the whole state pay tribute to her once a year in going hundreds of miles there to spend our money and carry stock there. And when you get there you will have to walk around on planks and have your boots pulled off in the mud, as I have seen it there often. I have been at Milwaukee when you could not walk on their track without planks, and the water ran over it, and last year I had to get a pair of overshoes, and then they were pulled off in the mud.

Now we have as good fair grounds at Madison as we have anywhere in the state, and I am not selfish, I wouldn't vote to have it located at Madison always. I am willing it should be one year as far north as Eau Claire, northeast, or Oshkosh, northwest, and one at Milwaukee. I will give her her share, but I wouldn't give Milwaukee any amount of money to locate it there when the state society has a good ground here, paid for, and a balance in the treasury. You have very fine grounds at Madison, much better than you have at Cold Spring Park in Milwaukee, and better, perhaps, than you could buy in the vicinity of Milwaukee, and the first thing you know, if you get that hundred thousand, you will want another hundred thousand to put those grounds in repair, and the first or second meeting you have, you will have as perfect a failure as you had before at Milwaukee, when people won't turn out. These things are all to be taken into consideration. I hold that we farmers don't owe Milwaukee as much as they owe us, because their prosperity is dependent on us more than our prosperity is dependent on them.

The chairman — When Mr. Anderson spoke before he made an incidental statement that seemed to reflect on the proposed management of the next fair. With reference to the amount that was appropriated for racing, I wish to correct this statement lest a wrong impression should go out in this meeting. It is true that we have appropriated the sum of \$4,000 for amusements and races at the coming fair in Milwaukee, but it must be borne in mind that we have added 33 1-3 per cent., or in that vicinity, to the aggregate of premiums to be offered at that fair, and those are distributed among many classes. The machinery department, the sheep department, the swine department, and so on, as we could best determine the importance of each; and I think you will find by comparison that speeding does not get more than its appropriate share in making up the receipts we hope to obtain in comparison with the other apportionment we have made.

Mr. Arnold — I want to add a word to that, because I think it is desirable that the farmers of the state of Wisconsin should understand something about the State Agricultural Society. We want the farmers interested in this Society; and the only interest I have in the Society, in fact, is simply to benefit the business I am engaged in, and for the benefit of farmers. Now we did increase the list. The amount we paid out, offered for premiums in speeding alone last year was about \$9,000. We increased that this year to \$15,000. We are going to have \$15,000 offered in premiums in amusements. The increase in the premium list is greater than the increase in the amusement line. For instance, in most departments one-third, and in many cases one-half is added. The premiums are doubled, and you must recollect that when we offer four thousand dollars in the amusement line, 27 per cent. of the whole amount, we give a certain percentage to horses, cattle and sheep, and we have got it down now to what we consider a fair basis in order to produce the best and most satisfactory exhibition.

Now here is \$4,000, 27 per cent., offered for amusement, and the speed ring is a part of the amusements. We will suppose that \$2,000 of that is offered as premiums for speed-

ing horses. Every time an entry is made in those classes they pay ten per cent.; if there are ten entries made in all the classes the Society don't pay out a cent. You will see that point. So, while we offer a thousand dollars, the probabilities are that we will pay from five hundred to a thousand dollars. The main object with these high-toned horsemen, is to show their horses and show themselves, and to advertise that line of breeding. That is the most there is to it, these men that go to agricultural fairs. It is not a trotting fair, it is done for the purpose of advertising the best standard bred horses, and while we will have some scrub races next fall, you will find some standard bred horses that will give you some fun.

Mr. I. C. Sloan — I only desire to say, that in my opinion, this agricultural society never will perform its best service to the state, until it has permanent grounds — permanently located at some place, year after year — with the grounds fitted up, where it shall be held, year after year. All our neighboring states are doing that — Ohio, Indiana, Iowa — the state has appropriated fifty to a hundred thousand dollars to buy grounds for the state fair so that it may be permanently located. If, as one of the speakers here suggested, our State Fair is movable, and held one year at La Crosse, and another in the northwestern part of the state, and another year in the southwestern part, it is simply a local fair. People of that section will make an effort to come out to it, but those from the more distant part of the state will not attend in any great number. Then it is a great tax and expense on the people of that locality to contribute money necessary to fit up things to have a fair. They can't afford to do it for the year or two that fairs will be held at that particular place. There is to them no adequate return for it. Their feeling of public spirit, and a desire to entertain this society properly if it come into their neighborhood, prompts them to do it, but it is more of a tax than they can justly afford to incur without getting any adequate return for it. And I think every member of this Society should use his influence to get from the state an ap-

propriation to buy ample grounds, and have them fitted up in a comfortable and convenient manner. Now whether the point where it shall be located shall be Madison or Milwaukee, it seems to me that the interests of the society should control, wholly. When men get upon the cars, or put their stock and manufactures and products upon the cars, to be taken and shown at a fair, it is not of very much importance whether they go a hundred miles more or less. And the place which will afford the greatest permanent support, and give the fair an income to put it in a prosperous condition, so that it will be an efficient agent of the agricultural interests of the state, should be the place selected. And wisdom on the part of every man interested in agriculture, requires that this merely local feeling of partiality and jealousy, should be put under foot, and he should look only to the interests of the society. And if I thought Milwaukee would support this annual fair in a more prosperous condition, I should say Milwaukee. For, let me say, prosperity for a fair, like prosperity for an individual in any business he pursues, is a necessity for carrying on that business in an efficient and thorough manner. And the permanent location that will support the fair best should be chosen, whether it be Madison or Milwaukee.

Capt. Schoeffel — On looking around this room, I find that I am the only representative of that class of people termed "the golden farmers," of Milwaukee. I was one of the committee appointed by the merchants' association, of Milwaukee, to raise money to put up temporary buildings to induce the State Fair to come there. But then, Milwaukee doesn't want the state of Wisconsin, with a barb-wire fence around it; we don't want to take the State Agricultural Society's fair to Milwaukee to locate it there, unless it is for the best interests of the Society to do so. I think I speak truthfully when I say that we have over one-fourth of the members of the Society in Milwaukee, but those members, I am satisfied, would vote willingly and gladly to locate it anywhere else if they could be convinced that that was the place that the Society could make the most money.

Now, I had some opportunity of finding the sentiment of the people of Milwaukee in relation to this Fair. Repeatedly the State Agricultural Society had come to us and offered to locate the Fair there under certain conditions. Four years ago, you remember, we raised a certain sum of money and came to Madison and made the proposition to locate the Fair at Milwaukee, or bring it there. They decided to stay in Madison. A year later they did the same thing. And we have been fooled so often that the merchants of Milwaukee refused absolutely to have anything to do with it. And it was under a request from others that they did anything at all. They did turn out and added some one hundred or one hundred and twenty-five members to the society, and I don't know that they ran things particularly; they were there, of course, and they cast their ballots. There was one delegation there that went away sorry, and I don't know of any other section, I may state, except that one, that had any fault to find with Milwaukee in its management. They certainly didn't try to run the fair, they didn't run it; they had nothing to do with it excepting to give it their support.

Now as to its location. Milwaukee is a city of 175,000 inhabitants. It has four theatres, it has an exhibition building, it has a number of public parks, it has its broad waters before it, there are plenty places of amusement after a Fair has closed, to spend the evening, it has ample hotel accommodations, it is a central point, easily reached from every part of the state, all railroads coming there. I notice by the paper that eighty-five trains leave Milwaukee daily eighty-four trains arrive there. We have every facility for entertaining and taking care of large crowds of people, and I don't know of any other place in the state where they have. But the wisdom of locating the State Fair in a large place has been demonstrated by other states. If any of you have ever visited the St. Louis fair you know that it the one event in Missouri, an institution that is looked forward to by the farmers from one year to the other. I was present on the grounds myself when over a hundred thousand people were on the grounds. It was estimated at one hundred

and fifty thousand, but I know, certainly, that there were over a hundred thousand people there.

They talk about making it a horse trotting affair. I don't know of any man who is a farmer but has some interest in horses, and city people certainly have an interest in horses, and if you are going to have good horses you have got to offer some inducements. Now in Milwaukee, with the present arrangement of the speed department, liberal purses have been offered, and good horses will be there to compete for them. A good superintendent has been placed in charge and he will see that there is no jockeying, where a string of horses come in and divide up all the purses and take the whole boodle. Now we offer liberal purses and inducements to exhibitors to come there, and I may state that you will not only have a success next year, as you had last, but a great deal more of a success. We have an exposition in operation at that time that draws people, and we have a great many other attractions that draw people. But, as I said before, the citizens of Milwaukee are not narrow enough or jealous enough, but what if there is any other place in the state that can offer as good inducements as Milwaukee can, they will say, "go, and we will be with you."

Mrs. M. E. Warren — I don't wish to say where I hope the Fair will be located, but I do wish it might be permanently located somewhere. I visited the fair ground in Toronto, Canada, and as I went through the buildings, I wondered why it was that they could have such elegant buildings; and the thought came to me that there the fair is permanently located in that place. Why can't we do so in Wisconsin? If we move the fair from place to place, of course our buildings have got to be temporary, and they do not furnish sufficient protection to the animals. A shanty is never as good as a good, strong building, and we cannot have anything but shanties if we continue to move the fair from place to place. And people with valuable horses are afraid to risk their horses in shanties that leak in every rain. Now as to this Fair in Milwaukee that was such a failure, if there

are any present that were there they will remember how that storm poured upon us during that Fair. I laid the blame principally upon the weather. I remember that my dress was ruined, my bonnet was washed off my head (laughing), and I had to get another to get home in, but I don't think the Milwaukee people were to blame for that. I blame them since that because they didn't have more water. (Laughter and applause.) Mr. Schoeffel failed to mention all the big institutions there! (Renewed laughter and applause.)

Mr. Arnold — They didn't have a lack of water. I never saw a more orderly Fair. There wasn't a drunken man on the ground, that I know of, nor a pickpocket. It was a temperance fair, if it was in Milwaukee.

Convention adjourned.

2:00 P. M.

The chairman — Ladies and gentlemen, I have the pleasure of introducing to you Professor Haaff, who will now address you on the subject of dehorning cattle.

Mr. Haaff — I am not a professor of anything — unless it be of respect for the ladies — I am a farmer.

Paul, you recollect, says, "let not him boast himself who putteth on his armor, but him that taketh it off." I have met the state of Illinois, and tried square issues with them, through their humane society, on the subject of dehorning cattle, and beat them. If, therefore, it shall appear to you in my talk that I am boasting, remember that I am the man who has taken the armor off. Now, I am here to-day to capture every heart that is here. There won't one man go out of this room when I get done, if the Lord spares my life for an hour, that will not be a sound convert to the principle of dehorning cattle — not one. (Laughter.) Oh, there may be some, you know — well, I must take off my coat. (Applause.) Why, the first thing a farmer does is to take off his coat. It is no disrespect on the part of a gentleman, in the presence of ladies, even, if he be a farmer, to take off his coat. (Removing it.)

Now, there may be those, and doubtless there will be those, of the Scribes and Pharisees that will go away and won't acknowledge anything; but they will be converted all the same; I will cut them to the heart. There may be those and doubtless there will be those—there necessarily must be those who, from prejudice will declare against me—that I am unworthy of belief, or even of consideration; that I am a montebank and a crank, but remember this, gentlemen, “the man convinced against his will, is of the same opinion still.”

You may be curious to know who the speaker is. You are indebted, for my presence to-day, to the persistency of the secretary of the State Board of Agriculture of Wisconsin, as I understand it, and not to the State Board at all. I owe every state board a grudge from the word go! (Laughter.) And I am able to fight them, and have done it, and am doing it at home. But I don't come here for any fight against anybody; it is not my place. (In answer to a whisper from the president:) No, sir; I take my coat off for the subject; not for the men. Now, gentlemen I shall not waste much time on preliminaries, but a French writer has said that a speaker should be *en rapport* with his audience before he launches into his subject. Pardon me, therefore, you of all shades of business, whatever you may be, if I say a word personally.

I was for years a teacher; I am still. I dreamed when I was a boy that I would own a farm. I own it. It has four thousand acres in it, and I live in the middle of it. And I am so far away from my neighbors that I can't hear them in the morning when they lick their young ones. (Laughter.) I lived on that farm for over twelve years. I purchased it. And, gentlemen, I had to wade through the waters of hard work and affliction in order to be able to own that farm. And when I went there all the world that knew me, held up their hands—all my personal friends and relatives, and all said, “This time he is beat.” I settled in there on five thousand acres that had one knob rising out of five thousand acres of water; and all around me I could hear the “kayunk!”

kayunk!" (Laughter), and various other animal noises that I could not repeat here and do justice to them if I tried. Thank God, whose servant I am, they are all gone! and as your professor said last night, two blades of grass grew where one grew before—blue grass grows on two thousand acres where nothing grew but swamp reeds so high that a man could lose himself within eighty rods of my house.

I am now engaged in manufacturing, having a couple of boys big enough to run my farm. I have a new gas engine. I am running it in Chicago. I have got hold of the best thing in the country; and when I have a couple of men with me to put in a hundred thousand dollars, we will make the best thing in world. I am looking for that kind of a man, and if I find him after I get through, we will make it go.

I tell you frankly again, that I don't stand here to boast over the societies of Illinois; not a bit. For their good deeds I honor them, and speak a good word for them anywhere and everywhere, and at all times publicly and in the papers. But when they attempted—I being of Black Hawk Vermont Morgan on my mother's side, with a Dutch Gray bottom on my father's, touched off by Scotch Clyde—which I believe makes about a Cleveland Bay, don't it? (Laughter.)—being of that stripe and of that character, and that blood, I here and everywhere denounce the infamous conspiracy of the board of health and the humane society of the city of Chicago, who attempted to play the Pharisee on a thing because it was new, and condemn a man and beat him unheard—and yet I beat them! (Laughter and applause.) I am one of those who, as a farmer, would like to see in every state in this Union, and particularly in my beloved state of Illinois, my cause succeed; and by the help of God, I will fight that battle, with my good friends of the *Tribune* and *Inter-Ocean*. My brother here (indicating Secretary Newton) and plenty of others in Wisconsin, I will fight that board and that humane society until such time as they shall recognize the principle, and act upon it, that a man is a man for a' that.

Now, gentlemen, I have discovered a process, accident-

ally, — and I have never boasted that it was any great thing, but of that judge ye, when I get done — I have discovered a process of handling cattle by which one-quarter of the hay can be saved in winter. Does that seem to you, from the bare statement, to be worthy of consideration? I have discovered a process by which, in these United States, two hundred human lives can be saved every year. Was I out of the way when I said on my trial of four days last winter, that I thought for that God would give me a credit mark at the day of judgment? I have discovered a process, — and I can prove to you these things that I say, and will proceed to do it — by which the lives of two hundred thousand cattle and horses can be saved yearly in this country — this blessed country, this grandest of all countries! This country which it makes my heart beat with joy to think that I am a humble citizen of, for which I would freely shed my life's blood, if it were a hundred lives, one after another! That's me. Is that boasting? I have discovered, gentlemen, a process by which one-half the manure on our farms can be saved. It sounds dirty, but it is a clean argument. I have discovered a process by which one-half the shed room can be saved. That ought to commend itself to those men, if there are any here, of that unworthy class who don't have sheds. (Laughter.) A man wrote me last week — and my wife sent the letter up to me at Chicago — “Do you think, Mr. Haaff, that it will be safe for me to dehorn my cattle, not having a shed, but having a grove for them to run in?” I wrote him back, “No, never! I am ashamed of you!” A man that don't own a shed for his cattle — I don't care if he is worth five hundred thousand dollars and owes fifteen! It is true, horns would tear them to pieces and injure them, but then, he can get rid of his horns.

I have discovered a process by which all loss in shipping cattle can be saved — all loss. And let me dispose of this branch of the subject right here. The *Drover's Journal* backs me in saying that there is but one way in which cattle can be safely shipped, and that is, in a car that is smooth on the inside, and no horns; with no internal working pro-

tuberances. I discovered that way; and because your friend out here at Rubicon, John Day, and his son George, and another party whose name don't occur to me, dared to ship their cattle in that way, it was proposed to prosecute them, by the Humane Society of Milwaukee. And I am very glad indeed to learn that our brother was so considerate that he invited the Humane Society of Milwaukee, etc., etc., etc., to be here. And I hope they are here; I can do their souls good before I get through with them.

I have discovered a process by which all loss—I used to say, nearly all loss,—now I say all loss; I emphasize it, *all loss*, of cattle by abortion can be saved. Does that seem to you a slight thing? I have myself been running one hundred and fifty breeders for years, and have had an annual loss of as high as twenty-five,—I don't know but more, if we had been particular to count them up. It is an awful thing, gentlemen, and when you come to the great west, where they only raise ten per cent. of the calves—that is all they get! I have discovered a process by which the animal economy can be changed; and I will take out my specimens, before I get through, and show you that it must be so.

Now I am laying out the ground. I will talk to you awhile on the subject, and then you break in, like good, practical farmers, and give me thoughts, question me; I want you to. I am here for that purpose. Either let me stand or fall by what I prove to you, not by what I say. As I told you this morning, after I was introduced, the proof of the pudding is chewing the string; and I want each one of you to get a piece of string in your mouth right away. (Laughter.)

There are divers and sundry little matters, gentlemen, that come in, in connection with this. For instance, ten per cent. of your grain in feeding cattle is saved; cows that give milk will give more milk if they have no horns; all these things come in as incidentals. I simply say, gentlemen, that it is the greatest discovery of the age, but I don't stand here to claim it personally. My friends have upbraided me because I don't go to work and monopolize it and get a patent for it. I would be ashamed, gentlemen, to patent a thing,

if I could do it, that would prevent a quarter of a loaf of bread from going into my brother's mouth, or of teaching this rising generation what is good for them! Give me credit for more than that; I would be ashamed to do it. But I have done this: I have got up a gouge for dehorning calves, and I am improving it, and in March they will cost a dollar. And at a large expense to myself I have got up a saw, and I am improving that. I will have them ready in March, when dehorning ought to begin, and that will cost a dollar. And I have refused to mix up any nonsense with it otherwise than to make it strong, as it ought to be for the business, and then sell it for a dollar. I don't need money badly enough to charge two prices for it. It is yours, and I give it to you. I will charge Mr. Newton for coming here, and I presume when I get through you will chip in and make it up; it will cost him twenty-five dollars and expenses. Now I think I have cleaned the ground all up, and I think we are ready to go to work.

In the first place I said to you that dehorning would save two hundred human lives yearly. Well, let us think about that for a moment. There are sixty millions of people in this country. There are a million and a half in Wisconsin. That would give five for the proportion of Wisconsin, that should have been killed by horns during the past year. I think I could squeeze five out from your state here if I should call for a show of hands. I guess there is no doubt about it at all. It gives ten for Illinois, and I know we had ten there. During my trial last winter of four days one death each day was reported to us freshly from people outside interested in this matter. Now that is all the proof I shall offer on that line unless I am compelled to.

Two hundred thousand cattle and horses die each year from horn thrusts, — directly and indirectly from horns. Let us consider on that a moment. There are, in round numbers, fifty millions of cattle in this country, and Texas alone has five millions. When I talked of the matter to an old Texan one time at the stock yards, in one of the stock yard's offices, in the presence of a lot of those men, he said

"I have no doubt that as many as that die in Texas alone." He said, "We have in that state what are known as screw worms. A fly attacks the animal anywhere there is the slightest break on the animal's body, and they blow it. In a few days it will begin to swell, and it will get half the size of your wrist, and there will be a mass of worms; and in two or three days they will have worked themselves into the vitals of the animal, and the animal is dead." He said, "the greatest loss we have had in Texas is from those screw worms, and I have no doubt that a hundred thousand cattle or more die from horns in Texas, through screws worms alone. If you will take that fifty million cattle, and allow, for the sake of argument, that a hundred thousand die yearly from horn thrusts, directly and indirectly, and a hundred thousand horses die, you will find, with your fifty million cattle and horses, more or less, as the case may be, that it is so small a per centage that you won't question it at all. You have in the state of Wisconsin, in round numbers, two million cattle, which would give you, out of the whole lot,—I haven't figured it, we will say, possibly a hundred, more or less,—no matter, figure it up yourselves, time is short here, and I must not take your time. You know this, you that are farmers, that every one of you has more or less cattle and horses killed in that kind of way. Now, the loss is something terrible; the loss on cattle and horses alone amounts to a million dollars.

Now on the question of feed. One quarter of the feed of hay is saved. I take it that no one here will question this proposition, in this climate, in an ordinary climate it takes two tons of timothy hay to winter a brute. One fourth of that of course would be half a ton. Now I have tried the experiment. I wintered about four hundred head of cattle and a hundred head of horses on my place, and I feed no grain, nothing but hay, and my pastures grow blue grass. On my own place I tried the thing for three years, putting up the hay in the field in stacks, with the modern machinery—I got mine at Peoria—and we have estimated about what would be two tons to the animal. After dehorning

the cattle we found that if they were fed two tons before, they would never run over a ton and a half with horns off.

Now you ask me how that is. You will say, "does the horn take up half a ton of hay? not directly. It don't take half a ton of hay to keep the animal up as far as the horns are concerned. But, see here, my friend. There is a horn (exhibiting one). And there is a shell (removing it). Here is the bone of the horn, and this is the shell. Here is the matrix at the base; here is a little jog; that is the point where we dehorn. That was my discovery. My discovery was that by cutting at a point up here the animal would bleed until he fell; by cutting at a point below here the animal's head would never heal up, the frontan sinuses, these little openings here would not close up. The reason of that is plainly and simply this: you examine that bone under a microscope, and it looks like ten thousand hairs compressed; God in his wisdom has made it so, that its composition is different from the composition of the frontal bone, which is its base. Now I discovered that by cutting at the right point, there would be no bleeding, the horn would never grow, and the hole would close up. There is the horn of a bull, three years old, that I dehorned; and it would be interesting, if I had time to tell the story, but I sha'n't be able to tell here one-fourth of what ought to be told here to-day. There, you can perceive (indicating portion of the skull) that the hole is filled up. It has been dug out with a pen knife a little. How did it heal? It healed by the process of granulation. That horn was a very little improperly dehorned. That was a bull that got into my land from a neighbor's, and I had a day's tussle with him with my saddle mare, and finally conquered him, and we came in, both of us tired out, and wringing wet. It was in September, and he had got into a herd of seventy heifers, where I didn't want him. And my boys, when I had gone to dinner, quietly took Mr. Bull's horns off. And, although we didn't know it, it was a neighbor's bull — for we don't interfere with neighbor's animals, but protect them. That is the kind of people we are. But I will say I was glad it occurred, and

my neighbor was also — Major James M. Allen, the man whose name you have seen connected with the Hennepin canal; he owns about three thousand acres of land adjoining mine.

But the process of granulation — It gave me an opportunity to prove to some of my neighbors that they were in the wrong. Some of them were willing to condemn me, because they said I was too independent. Now you who can see this will observe that there is clean bone on the back side, where the cut is made, except at the two points where the healing was, and there the healing took place by the process of granulation. I don't know as you all can see it, but, Mr. Chairman, you can readily see it for yourself. And you see that the composition is different; and this granulates and gradually fills up.

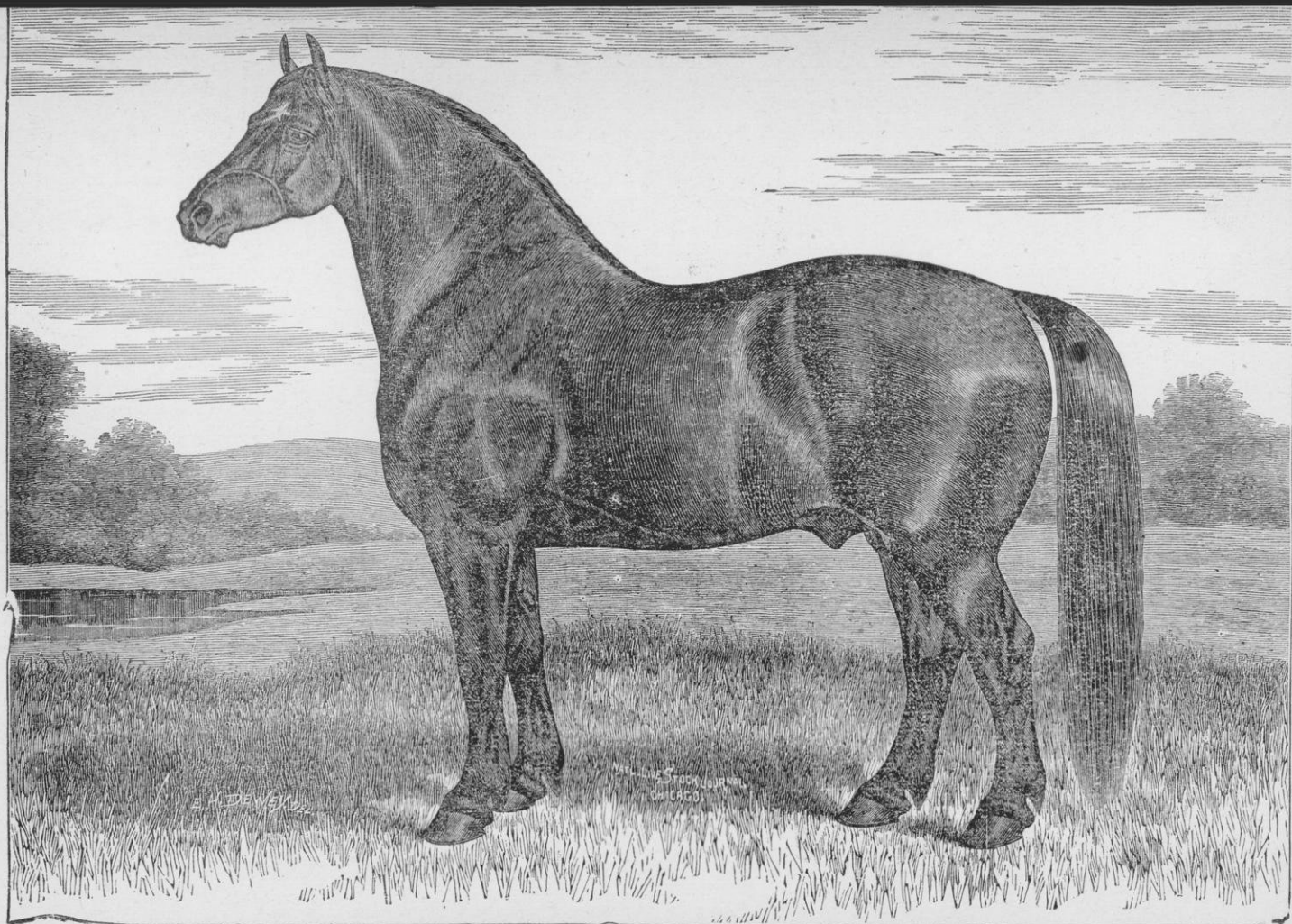
Now what I discovered was this: That if that horn had been cut where my thumb is, the process of granulation would never have taken place; that if that horn had been cut off where this thumb is now, the horn would continue to grow — less if the animal were older, more if the animal were younger. If the horn were cut at this point, it never would grow, and it would granulate, and you would have a complete muley.

A member—Just turn your hand around, please, so I can see it.

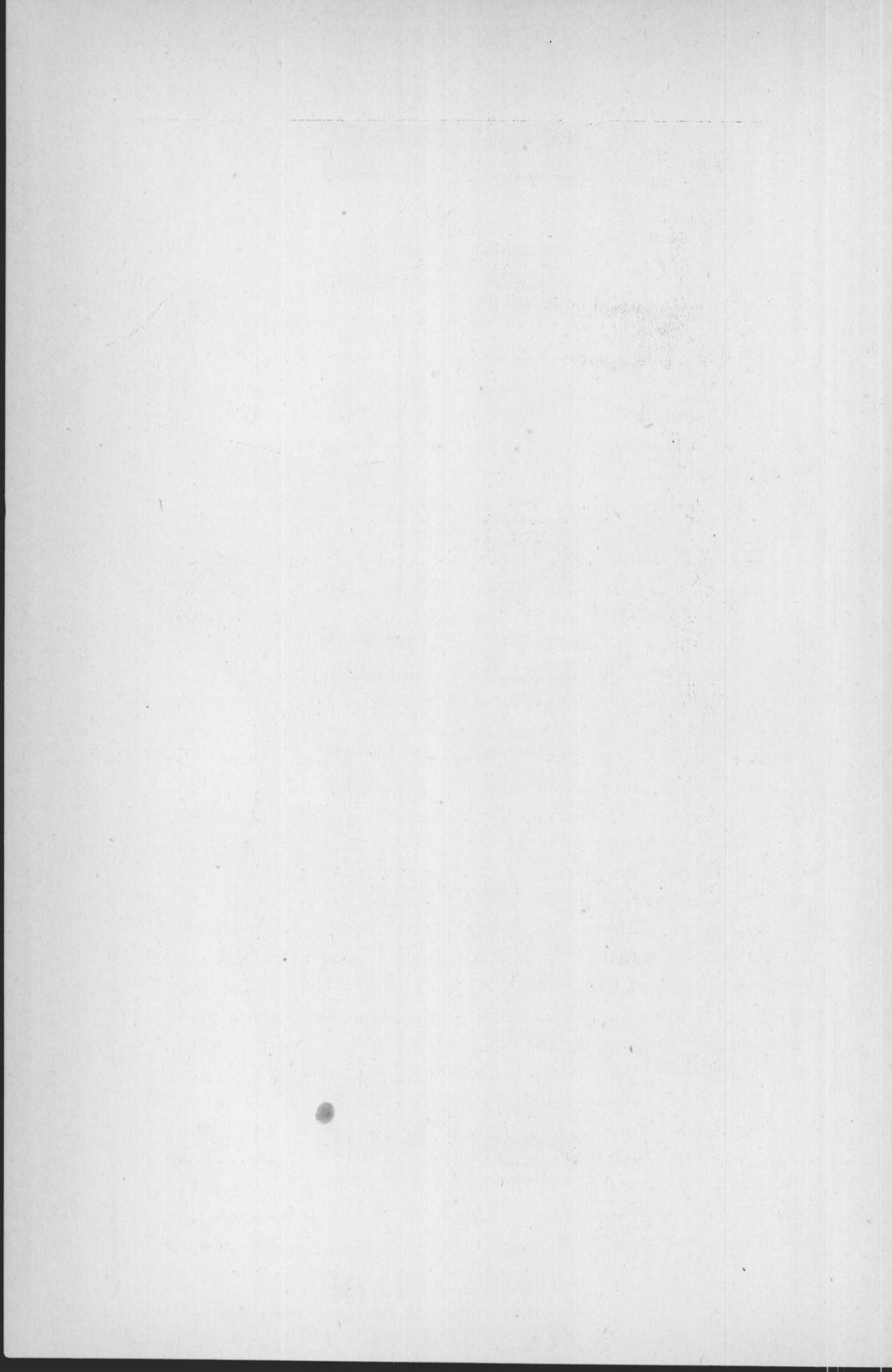
Mr. Haaff — You observe that jog; at that jog you must cut, and you are right. That is where the matrix joins the bone horn. And let me say, the horn is composed of four parts: the matrix, the fleshy substance at the base — at home, when your cows are in the stanchions, put your hand on their heads, and work the fingers down under the horn, and you will feel more plainly the matrix under the horn than you will on top. That little fleshy substance is a peculiar thing. It receives the circulation of the blood directly from the heart, and it reproduces the circulation up through the periosteum which covers this bone horn. Now, let me recapitulate: the horn has a matrix at the base, this bone horn, the periosteum, wound like a piece of paper right round it,

and, over all, this shell. When I find some fellows so wise that they think they know it all, and I don't know anything, I say the horn is composed of five parts; and I must tell you that that fifth part is the hole. And that hole in there is what will bother you more than all the rest. There is a joke there; maybe you don't see it. (Laughter.) A word about the filling. You talk to me about the pith. There is no pith in a horn at all. All cattle horns are hollow. Am I understood? All bovine horns are hollow. There is no such thing as hollow horns. True, as the veterinarians say, and not true, as the veterinarians say, there is such a thing as hollow horns. But the old farmer was right. Now watch me, and don't let me skip without explaining that. It is paradoxical in statement, but true in fact. There is this bone horn, the matrix at the base, the periosteum or membrane wrapped around, — and that, by the way, is an extension of the skin, that is the corium, the true skin; that is all it is, — and then the shell slipped over.

Now let us get at the cruelty business. Taking the horns off is a practice that has been called barbarous, cruel, inhuman. A man is a brute that does it. He ought to be prosecuted and imprisoned, — all that sort of stuff, without any investigation whatever. Now the truth of the matter is, that not one of these veterinarians, not a single book, — the encyclopedia Britannica comes the nearest to it of anything, tells the story of the horn. They all stop at the point where the horn grows, and about its growth, and if I have learned anything about the horn, it was in the way I will relate to you shortly. I want now to say to you this: Men invariably refer to the finger nail; they say the nail is like the horn. It is like this horn in make up, true, they say it is exceedingly painful to cut out or pull out a nail, true therefore, it must be so with the horn. Wrong, wrong and the facts don't warrant the conclusion. I will let you judge for yourselves, — suppose God in his wisdom had placed two fingers right up there (on each side of head). Suppose they were a foot or eighteen inches to three feet long. Suppose now over those fingers are stretched shee!



PERCHERON STAMION BERNADOTTE 26 PROPERTY OF I. L. HOOVER, CLINTON, WIS.



iron covers, something like that (horn). Suppose now the man goes out with his two fingers in the winter; what do you think would be the trouble with that man? Answer you, any of you. You that think in your minds that the horn is like the finger, what do you think would be the trouble with you?—there would be two frozen fingers there presently, wouldn't there? (Laughter.) You all of you see that.

Now what has the animal economy to do? It has to pump blood to the extremity of that bone horn to keep that membrane or periosteum alive. Is it needed there? Do you now see that the horn on the head compels the animal to labor for bare existence. Can you now appreciate the point when I say to you that a year ago this winter twenty-five per cent. of all the cattle in western Kansas, in Texas, in Montana, in all the territories there, died,—in the Indian territory it was forty,—can you now understand that with all those thousands upon thousands of cattle,—only infinite wisdom knows how many,—that died last winter, or have died during this last cold spell up in Montana and elsewhere,—can you understand that the labor of the animal economy was to keep blood enough pumped up in here to keep them from freezing? Isn't that so evident a proposition that you all see it? Don't you see, therefore, that instead of being inhuman, it is a kindness? And I have convinced hundreds of them.

My friends, a thousand farmers in the northwest dehorned their cattle this fall. I know it. I have got a few letters here, if I can get time to read them. They tell about one story, and tell it in pretty plain language too. It is good talk on this subject, it is actual experience, and every man can see by looking. But don't you see, my friends, that every animal that passes a winter in this state, or in the northwest, or west anywhere, or in Texas—because you know last winter the thermometer went down to eleven below zero in northern and western Texas—don't you see that the effort of every one of those poor brutes was to keep the horns warm? Can't you see it? And do you understand

this, when I state to you as a fact, from actual observation and experience in life, in more than one case, or ten, for that matter, that every animal that is exposed freezes first at the horns, freezes then at the extremities of the limbs, and freezes then along the back bone, then his blood congeals, and he dies. Last March three men came to my place from Montana to see me. They had ascertained that with them it was necessary to watch the herd, and in March, when the weather began to get warm, to cut the tips off of the cattle's horns like that (exhibiting horn), they observed that when the weather began to get warm the cattle didn't seem to eat anything. And said they to me—and I have asked others from Montana and elsewhere in the northwest, and they will tell you the same story—that in hundreds of cases when the tips are cut off matter will simply pour out of the ends of the horns, and the stench is unendurable. There is a young man by the name of Horace Gilbert, you may address him, any of you, at Geneseo, Illinois, if you are curious, and he will relate one instance among hundreds in my locality. For hundreds in my locality dehorn their cattle. Oh, of course you will find some who hate me so that they would not dehorn them though it saved them a hundred dollars a minute. But there are not many of that kind. Horace Gilbert keeps a dairy—fifteen or twenty cows—he is a young man, just married, and has set up in business in a small way. He dehorned cattle in April, and this same phenomenon occurred. He told me himself. His father-in-law, Deacon Powell, who has dehorned all his cows, tells the same story. With three of those cows the stench was so unendurable that they had to leave the stable.

Now those animals were all observable before by their poor condition; they were "off," as we say. Very well, those cattle that are off have chilled their horns, and they are undergoing all the horrors of Neuralgia that it is possible for a human being to undergo. That is the truth; and Horace found it so by sawing off the horns and seeing the matter pour out. And when I came around three weeks later he pointed out those three animals especially, to show how nicely they were doing and improving.

To go back to the Montana men, they say if we watch the cattle, we find that they eat scarcely anything the whole season, and if they are bullocks they won't be fit for market; and we have ascertained that if we cut off a little of the horn to give vent to this thing, they will begin to improve at once, and immediately fill up and respond, though they had no appetite at all before. Now, these are facts, and the conclusions are justified from the facts. I think the brain of every man will suggest to him that I have solved the problem. Now, I want to apply it to the old farmer. The veterinarian was right when he said there was no such disease as hollow horn, because all horns are hollow. In all these cases, every one of them, the animal will begin to improve in appetite, and, of course, in flesh, as soon as the horn is taken off. It shows where the disease is and what it is. As to the hollow horn part of the thing, the doctor is right, because all horns are hollow; there never is any pith in a horn, never! no such thing as pith. I have told you what the horn is composed of, the bone horn, the matrix at the base, the periosteum or membrane around between the shell and the bone, and the shell over it. That is all there is to it, that is the whole story. Now, when the farmer took his gimlet and bored in here at the base of the horn, he gave that sore horn vent, didn't he? Certainly, any of you see that. The Montana man gives it vent by cutting the end off, and the animal cures at once. The farmer bored in and put turpentine in; that is where the old farmer was mistaken; he was wrong there; the turpentine only added to the misery of the animal. It don't make much difference, though, because an animal in that condition has suffered incalculable misery. So you see, in all those cases the man that takes the horn off is a humanitarian. And now I go so far as to say that there is no case in which a man is not a humanitarian if he removes a horn. Why? Because horns are an injurious, unnecessary, excrescence. But the answer comes, "God put them there." So God put the wart on your hands when you were born, but your mother took it off. Again, they say, "But you are attempting to improve

on nature." So you are when you pare your horse's hoofs and your own nails. You are improving on nature every time; there is nothing in that argument whatever. "But they are necessary." They are not necessary, and you know it. You are convinced and convicted of that fact now. You know, every one of you, if you were put upon the stand here, that the few bosses control the food and control the water and control the shed room. You know that that is true, and that that is a fact. And I tell you that if the animals are dehorned, the yearlings, and even the calves know it as soon as the old ones. If you will try the experiment of dehorning everything you have got in the yard except the calves, my word for it, in three days the calves will be driving the old bullies around. (Laughter.) I will read it to you in letters from men in Kansas and all over, if you want it. And when I take that position you will all agree with me that there is some truth in it.

Now, as to the cruelty, let me say right here that there is very little feeling indeed in that periosteum in an animal, as a rule, after it is five or six years old. The older the animal is the less feeling there is in the horn. Why? Because God has so provided it that as soon as the horn gets its growth, this periosteum begins to die. You may prove that yourself in this way: You cut a very little from the top of the horn of a yearling, like that (exhibiting cut horn), and it will bleed; but you may cut the whole length of that little thing's horn down on one ten years old and very likely there will be no bleeding, and no suffering. The animal would care no more for it than if you were sawing a stick of wood. But you say, the animal makes a fuss. Very likely, any animal will do that that is not acquainted with stanchions. You put a young heifer or steer into stanchions, and let them find that they are confined in that or any other way, and they will begin to make a fuss; and, very likely, as Gilbert said, they will bellow, and that bellowing is your mistake, and not the fault in my argument. The animal don't bellow because he is hurt, he bellows because he is scared.

The proof of that thing is this: That in all the cases of

dehorning, in all the thousands dehorned, no death was known from dehorning. And there has been no instance that I have ever known or heard of in which the animal, if hungry, would not go to eating in one minute. Just as soon after the operation of dehorning is performed as he can reach food, if he is hungry, he will go to eating. If any of you doubt that, try it, and discover the fact for yourselves. As to the proposition that it saves one-fourth of the hay, to go back a little, it comes in this way. Flesh means repose, or rather, repose means flesh. Now see if I am a good feeder. You were talking this morning about feeding, and I would like a word with Mr. Arnold on one point, if I had time. I would like to say to him that a Short Horn heifer with a Hereford bull gives the best animal for the purpose of the bulk that grows; that is my judgment. But no matter about that here. Let us see if I am a good feeder. I will show you what kind of a feeder I am.

First, there must be no dogs. Why? Because dogs are a nuisance, and ought to be dehorned right under the chin, every one of them! (Applause and laughter.) Secondly, there must be perfect repose, perfect quiet, perfect peace of mind — allow the expression “of mind” for the sake of argument — perfect peace of mind is necessary to take on fat. Look over in the pigsty, and what is there? Perfect repose, perfect peace, perfect quiet. My blessed Bible and my Master tell me that love casteth out fear; and there is the highest condition of love that that quadruped is susceptible of. Am I right? Do you see it? Are your bovines in that condition? A very few of them. What is the trouble? The trouble is, my good lady, you may have your fine family cow at home, just as Mrs. Haaff has had. Oh! when we went from the city in 1874 to the farm, she did so want some nice little Jerseys! But when I went home from Chicago, one time and found her nearly killed by a Jersey bull, and when afterwards one of our girls had her clothing torn, and was dreadfully bruised from the horns of one of those gentle Jerseys, and afterwards, when I had my coat and vest ripped up in the back by as beautiful and quiet a little

heifer as ever lived, and the cold horn ran up my back, you understand, we began to think the beautiful Jersey was played out. There is the same trouble with the pig, if he tushes; and hence, when I had a thousand hogs on my place I used to take a cold chisel and mallet and take those tushes out; then they were quiet; they knew right off as soon as it was done, I tried it in thousands of instances. Take a cow; that cow knows her power, and will injure anybody with a thrust of her horn; but take those horns off — now, old Gray, in our herd, was the first of my cows dehorned; and afterwards she was so gentle you could take her by the ears and lead her. I went over to my friend Taylor's and dehorned his Holstein bull that weighed over a ton; and I saw him a while after, and he says, "I looked out of the window the other morning and there was my little boy leading that old Holstein bull down to the tank for water. And I ran out and I said, 'for mercy's sake! what are you doing?' And he said, 'oh, don't worry, pa, don't worry! Oid Dick is so tame and gentle now that the calves drive him!'" (Laughter.)

But I shall be answered in Hoard's *Dairyman* — and I hope there is a representative here. I owe that paper thanks and I know my friend is here from the *Breeders' Gazette* — I shall be picked up with the remark that Muleys fight. That is true; a bull is a bull, you keep him for that purpose. And each one of you would rather take your chances with an animal in the field, or in close quarters with horns off than with horns on. There was an animal I bought of A. A. Crane & Son, that they had used for three or four years. When I bought that animal in September, three or four years ago, he weighed 2,300 pounds and something, he was so fat, and he was unmanageable. He was a man killer. Frank Crane, a six foot, stout, strapping fellow, couldn't handle him, and his mother begged so about his going around with old Devon that they finally hired a courageous fellow, the biggest fellow they could find, to simply manage Devon; and then they didn't use him but little; they were afraid to. I was over there, and I heard this fellow roaring. I asked what is that noise? He said it was that bull. To

make a long story short, I bought him for a song. I put him into a bull rack where they sling them up to pare their toes, and I got a carpenter's saw, and I took those horns off with a carpenter's saw, and old Devon has been a useful bull on the place. There has been just one accident with him since — and somebody, I learn through Professor Henry, said that dehorning a bull would render him of no account. Now we had seventy beautiful calves out of Devon this fall, and I think his calves are better this fall than they ever were. But that is neither here nor there. This fall a gang of men were at work on my place on a contract ditch, and they went at this old fellow with rails and chunks of mud — you couldn't find a stone on the place, and they abused this fellow; and finally watching his chance, he knocked one of them over. If he had had his horns he would have killed him. But the very same day my little boy, sixteen years old, brought that bull down, and was there handling him in the yard with the rest of the cattle. And anybody that says dehorning is not a desirable thing so far as a man-killer is concerned, is mistaken. Now I could tell you stories of dehorning animals in various states, but it is not necessary. I will just mention one. Professor Carrial, of the asylum of the insane at Jacksonville, sent for me. They had an animal that had nearly killed two men on two different occasions. They had him shut up and tied up with a couple of ropes for about six weeks. I went down there and took his horns off; and some two months after the Professor wrote me a letter, and he used these significant words: "We have been using our old bull, so and so," — calling him by name, "and we find him every way easier to handle. Before you came he was like a bully with a pistol in his hand; now he is like a bully with a pistol in the other fellow's hand."

That tells the story of dehorning just as well as I could tell it if I should talk on the bull line for an hour. This fall, in my county, an imported Norwalk killed a man. Now I will tell that story, because it is on the other side, and want you to know it all, and if I skip anything it is

because I forget it. The owner of the bull went in beside him in a close stall, where he could not get away or climb up,—where there was no manger, even to get into, where he was accustomed to feed him in a little box, and the bull got him “in chancery,” for the simple reason that, though dehorned, he was a bull still, and he mashed the man, and the man never recovered from the blow; he died. Now in my judgment, no man who is not foolhardy, would ever go in front of an animal, cow or bull, under such circumstances. For my opinion is that the bovines know their strength to such an extent that if the mad freak comes on they will attempt to crush anybody they are not thoroughly afraid of. Mr. Bush, a member of the State Board of our state, was thrown by a bull and nearly killed; with the last throw the bull gave him he hung up limp over a barb wire fence until he was taken away; and he is no better than a dead man to-day, as far as the possibility of recovery is concerned, he will never recover. His condition is an awful one; it simply makes the tears come to my eyes when I think that it is possible for a thing like that to happen in this country, and liable to happen every day. Why, the other day I heard of a man who had to climb into a tree, and his Jersey bull shook the tree until he thought he was gone sure. It was a bitter cold day, and he staid there until he was nearly frozen; and finally he thought of a ruse, and he threw down his coat and the bull worked over the coat an hour or two, and got all the horning he wanted and finally went away, and the man went down and went to the house more dead than alive. Who wants to be in any such condition as that? (Laughter.)

Now to get back to the question of repose; that is the first essential to the taking on of fat; you all know that in feeding bullocks or hogs or swine, that after you get the animal into just the right condition he takes on fat very fast, and he eats comparatively little. Now therein is a saving of one-quarter of the feed. Let me describe to you the process of feeding on my place: We put our feed up in stacks; we aim to have so many tons, whatever there may be, enough

for three or four or five feeds for three or four hundred cattle together. And in the morning at nine o'clock you go down along here, and here is a big shed boarded up on all sides, with doors, I don't have the south side open. You go in there any time at twelve o'clock at night, and you find the cattle in those sheds. You speak to them, they know your voice — I have done it — and you can go through those sheds and never have an animal get up; they won't be disturbed, they won't go out. At eight o'clock to-morrow morning they will be there; at nine o'clock they will file out and go down, and the boys open the gate. They have got to go a mile; and if it is not in a blizzard, they will go out in the meadow, and the men with hay knives will cut off two or three hundred pounds of hay, and twenty or thirty cattle, as many as can stick their heads together about the hay will feed there; the men cut more in another place until ten or a dozen loads of hay are pulled out, and the fork is never used at all. And Deacon Powell swore on my trial last winter that he visited my place when I had wintered between four and five hundred head of cattle, and my cattle were in better shape on hay alone, without any corn — for I think it is a shame to feed them grain unless you are getting them ready for the shambles — better than his cattle were after being fed with all the timothy hay they could eat and corn every day. Now I could go to work and spend the whole afternoon in talking about side hill sheds. I have my sheds on a side hill like that, because there it is clean and dry. I never build a shed less than thirty feet wide, don't want them; and if they are forty or fifty feet wide, the better. And you will be astonished at the hundreds of loads of manure you will take out of that shed in the spring. Another thing, I set the posts double, and fill in between them, and have always warm weather in the shed. Does any one of you suppose that you can't have fat cattle on hay alone as I do? I tell you I have changed entirely on the subject of keeping cattle. I used to think I must go down south to raise cattle. What nonsense! We can beat the southern people to death. Why? Because, with the horns gone they

are like so many sheep together. And you can take a thousand head of cattle in Minnesota, and with the use of the straw from your wheat fields you can build close, nice places for a thousand head of cattle to go in, and your cattle are always warm, and will come out in the spring in nice shape.

I wasn't a farmer until I was forty years old, although I dreamed it. I never would have discovered this matter of dehorning if I had been brought up on the farm. But being forty years old and seeing how much I suffered in my family and person and pocket, I began to think. And gentlemen, when the American citizen begins to think on any subject, look out! (Applause). Look out! If he begins to think and to say in his heart, that in this glorious republic slavery shall go down, although it be Greek against Greek slavery has got to go. (Applause). And when he begins to ask for freedom from the trouble at home, all the humane societies between Wisconsin and Hell may get up holloa against him in vain! (Applause and laughter). I am holding to it, I fight with our Board of Agriculture, not because they do as the Board does here, as your honorable chairman and others I have met — and I mean no offense to those who go and take back seats, I don't expect you to endorse me — but at home I demand as a citizen of Illinois that the Board of Agriculture shall either endorse me, or else say I am a mountebank, unworthy of belief. Now ain't I right? If the Board of Agriculture of Illinois lives up to its privileges and duties it will not allow a man to go round revolutionizing the cattle business as I am, without either putting the stamp of approval or disapproval on what he does. And I am holding a fight to-day with the State Board of Agriculture of Illinois, which is too cowardly to say whether I am right or wrong, but spends its time and does its blowing in the summertime in the Sherman house in Chicago, and in the winter time at the Leland at Springfield laboring and log rolling with the legislature. (Applause). And I rise here to say what is the reason, what is to prevent our taking such men as Professor Henry — I won't say such men as

Professor Morrow, of Illinois, because he is too cowardly to say whether a thing is black or white—but I will say a man like your own professor, a perfect stranger to me, a man who stands out openly and above board, and takes the bull by the horns and takes them both off! (Applause and laughter). And now that Board of Agriculture, before I get through with them, will climb down on their marrow bones, and don't you forget what I tell you here! (Laughter). But says some one, "you claim to be a Christian, but I am afraid you have a hard heart. You can't find in your Bible that there was any dehorning done." That is where you haven't studied your Bible as well as I have, my friend. In the seventy-fifth psalm it says "all the horns of the wicked will I cut off, saith the Lord." (Prolonged laughter and applause).

About your Board of Agriculture, which has been so decent and so gentlemanly as to allow your secretary, Mr. Newton to get me here, I simply have to say this; I owe you an apology, for I have written to the secretary, one of the meanest letters about you that it was possible for a man to write. I did it in my heat, as David said, and I am sorry. I misjudged you, gentleman. You are willing to hear. Your presence shows it. I was fearful you would not hear, and I am like the boy who said to his father when he was going to lick him, "strike, but hear."

Now, my friends, there is one of the horns of this old bull here that I cut off. Having a bad tool, I didn't do a good job; but it shows the process of healing. Any man can see for himself what I did, who will take hold of the horns of a calf. I took hold of that horn and it was loose; and that is what set me thinking. What is that loose for? Let us follow it out. All bone is composed of cartilage. For some time after that horn was cut off you could take my pen-knife and cut it. It is undergoing a strange process of changing, changing, changing; and every veterinarian and physician will tell you that all bone is cartilage at the outset; that there is no feeling in bone whatever, or in cartilage. The bones of the infant are cartilage; they harden in

process of time. The horn, as I told you, is a little different. This thing is loose when it is young; when the animal becomes old—now, for instance, there was a twelve year old cow (exhibiting horn). I will thank any man who is curious to examine that and tell me how much that brute suffered in the cutting of that horn off. The membrane in there is scarcely more than the thinnest tissue paper. What would the feeling be? The feeling is nothing. I am right in this matter, and we are winning the fight right along. Nobody can stop it.

Now I want to say here as far as the other matters are concerned, that the increase of milk depends on the same condition as fattening. It is repose and quiet. The quiet the animal is in is beneficial; it is necessary that there is nothing to scare the animals.

Now I want to give my attention briefly to one or two things here before I forget them. I have said to you that horns are no good. There seems to be one exception. I will read the exception, which is the only instance I have found. (Reading from newspaper cutting.):

USED HIS BULL AS A GUARDIAN.—AN OHIO FARMER PUTS HIS PRIVATE PAPERS BEYOND HIS WIFE'S SEARCH.

CLEVELAND, Ohio, Dec. 22.—Before Judge Stone, in the common pleas court, William Fulton is suing for a divorce from his second wife, Rebecca. Fulton is a farmer of Independence township, and owns a finely kept place, worth \$30,000, with dairy attached. Three years ago he was married to his present wife, and, barring a honeymoon of three months, says he has had to jump around lively ever since. Mrs. Fulton has responded to Fulton's suit with a cross petition, but this was dismissed, and she is now contending for alimony. Her attorney questioned the husband; and the following interesting bull story was brought out amidst great laughter:

"Now," asked the lawyer, "didn't you keep a vicious bull to scare your wife with?"

"I kept a bull," responded Fulton, "but I had to, I couldn't sell him, he was cross; but I never thought of using him to scare my wife."

"What did you use him for?"

"Well, I used him as a sort of bank; or, rather, I made him guardian of my private papers. Nothing was safe about the house, and I could not keep a thing from my wife. All my personal papers I tied up and put in the bull's manger a little way above his head. They were pretty safe

there, as it wasn't safe for any one on the farm except myself to go near the animal. Mrs. Fulton threatened continually to burn the house, so I insured it, being determined to save myself from loss. The insurance papers were taken care of by the bull in the same manner. He was a pretty handy bull." (Laughter.)

With that single exception I have never found a case in which horns, in a domestic state, were anything but a nuisance.

Now here comes a character. A fellow — whatever you call him — you know him, he lives in this state, his name is William Horne. He hasn't been dehorned, but he ought to be! (Laughter.) He is a veterinary surgeon — at any rate, he says he is, but I think it is a violence to the name. I hope he is here to hear what I say. When I was in southern Indiana last March, a man who edits a Holstein paper called my attention to an article in the *Jersey Bulletin*, commenting on his strictures on my process of dehorning. I offered to meet the gentleman anywhere in Indiana, before any number of farmers, and we would leave it, after discussion, to the vote of the farmers. And if the farmers said I was right, he should pay me reasonable expenses and for my time, and if they said not, I would stand the brunt of the whole thing. I never heard anything more about him until the other day my wife sent this article to me. (Reading newspaper clipping.):

"DISHORNING."

Ah! Dishorning! Exactly. Dishorning! Let me say a word here. "Faix!" said Pat. "Oh," said the Englishman, "why don't you say 'faith,' as I do, and not say 'faix.'" "Don't need any bloody Englishman to be afther tachin' me how to pronounce the 'Hinglish' language!" (Laughter.) That is all I have got to say about it. Anybody that knows the English language knows that custom makes it. *De* is the word. It is as good from the Latin as "Dis" is; and I appeal to the professors here that it is against the proper construction of the English language to put two con——?

This man Horne, I presume, pronounces his name "Orn."

I don't want him to give me lessons in pronunciation, anyway. But I will read the article.

DISHORNING CATTLE.

"This cruel infliction of pain upon our horned servants, is receiving quite a sanction by some of the professors in our universities. In Hoard's *Dairyman* a whole column was given to the method of performing this useless and cruel operation."

"Useless!" That's good, after what I have told you here!

"Many of the people who are not in favor of this barbarism, are so lukewarm in the matter that they allow it to go on unrebuted, even when done in their immediate presence. Some of them I know well to be good citizens, and kind and affectionate fathers and husbands."

Taffy!

"How strange! How must the feelings of such men be blunted — kind to their families, and cruel to their domestic animals."

What a lie, what a fraud, that remark is.

"Some will say that safety demands it. I positively assert that it does not."

I positively assert that he is either one of two things — either a liar, or an idiot.

"I know of several effective methods of fixing the horns of a bull or cow, which insures comparative safety, so far as the horns are concerned, and does not cause any suffering."

I have examined them all, and I say they are no use. There was a patent published in all the papers. They call it a "bull tamer." I can produce a dozen men who have used the bull tamer, who say it is a fraud, and the animal can get away with it, right away. I know of a big Holstein bull that had an ironwood, three-inch square frame, bored through, the horns put through, with a bolt through the ironwood, and a nut put on and screwed down tight (indicating the arrangement) and yet I know the bull walked away from that thing. And as for this fellow, (exhibiting horn) look there and see what a bull will do. Look at the end of that horn, worn off for inches. Doing what? Tearing out two inch oak in his stable. He was hitched in a

corner like this (indicating), and could move his head a very little either way. There is no sense in such talk.

"Neither does it disfigure him, or rob the animal of his most prominent adornment."

That's good! especially when one of them is after you.
(Laughter.)

"The operation of dishorning is frightfully painful."

That's a lie.

"And it destroys to a great extent the real vital principles which are required of a bull."

I am not going to call that a lie, because it was a question in my own mind until I tried it. I have tried it for years, and I think I am competent to say that it does not.

"I know of the total ruin in one case, from dishorning, of a Jersey bull, who became entirely worthless for procreative purposes for ever after."

There may have been a case, but I don't believe it. I don't believe that. I have known a bull to be punched, just one punch with the horn of another, that entirely ruined him. And I defy him to say there wasn't a punch in the case he mentions here.

"I know of very serious results from the practice of dishorning, and I know of no good that can possibly result from it. It is a fact, well known to cattle men, that polled cattle do much injury."

It is not a fact known to cattle men. If there is a cattle man says that here, I call upon him to hold up his hand. There isn't one.

"It is equally well known that polled cattle are the most combative and quarrelsome animals among the whole bovine family. Such is my experience, and it is that of Mr. John Boyd, of Elmhurst, Chestnut Dairy, near Chicago. He has written a sensible, humane, manly letter to *Hoard's Dairyman* upon the sin and cruelty of dishorning cattle for any purpose. He, like myself, knows of cases of complete ruin in bulls after dishorning, vide Professor Henry's long paper upon dehorning (dishorning) cattle at the Wisconsin University."

Now you ask Professor Henry. I think he didn't say anything of the kind. He asked the question whether it does ruin him. You see, this man is careless about his facts.

"Mr. Boyd has my thanks for his humane position and good common sense. To dishorn cattle is a crime; and the barbarism should be punished."

Now then, it will take a bigger horn than William Horne ever was to make people believe that when they come to know the facts. I am going to read you now extracts from one or two letters I have received:

"CRESCENT, Iowa. — I was gratified on receiving an answer to my letter from Mrs. Haaff, for which honor please accept my thanks. But I yet desire to hear from the old man himself, for the reason that you are authority on this matter. Most everybody has heard that there is a man in the state of Illinois who has been dehorning his cattle for years, but only those that have read the *Western Rural* know but little about the matter. I am talking of dehorning every day, and I intend to keep talking until there isn't a horn left in this county, Howard county, Iowa. You will readily see why I want a letter from you. If I find a man in doubt, I can say, here is my authority. My experience has not extended very far, but here is the man who found this out, and he knows what he is talking about. I dehorned a heifer as soon as I could send and get the tools; and being a poor man, with only forty head of cattle, I thought one was enough to lose at a time. The next time I took two, and the next time eleven, and the next time I finished the job. Let me say here, I never will keep a horn over night if I get home in time to take them off. It seems like a small matter at first thought, but the more anyone thinks about it, the more it looms up to be an important matter to every cattle owner, and it has got to be adopted. I don't care how much the breeders of the polled cattle kick,— etc. It is bound to win. And if ever I come within a hundred miles of the man who gave us so good a thing without charging us a royalty, I will go to see him — etc."

Now, here is one from the owner of the Central Bank, Macpherson, Kansas. This man says:

"My man was in from the farm last evening. He says every "son-of-a-gun of a cow" is doing splendidly. They seem more than pleased with it. They eat from a rack with sides touching each other, etc. — where before dehorning they had hard work to snatch a mouthful without being disemboweled themselves. My man says everybody is talking of doing likewise, and before one year carloads of horns will go in this country."

I guess you don't care to hear any more. I am afraid I have already taken more time than I ought.

A member — You didn't finish on the calf's horn when you found it loose.

Mr. Haaff— Oh, yes! Up to two months of age a gouge with one whack dehorn the calf — up to two months of age. After that, in dehorning you have got to use your judgment. My friend, Professor Henry, I have learned since I have been here, dehorned, yesterday or the day before, a lot of calves. Now watch. The chances are that the professor will have some stub horns. He has exceedingly good judgment on short experience if he doesn't have, because the chances are that he has not struck the right spot. I have done it so many times that I know just exactly what to do. I have gone to work and got out printed instructions, which tells what a person should do, and I send them with each one of those tools sold, so there shall be no mistake about it. And I have this to say, if in dehorning the calves or yearlings you have stub horns afterwards, after you have done this thing a little you will become so familiar with it, that you won't think half so much of it as you do of castration.

Last winter, in the middle of a howling blizzard, these fellows got their lawyers together and sailed in on me. The neighbors clubbed together, a couple of hundred of them in my neighborhood, and came out to hear the trial, — were there, anyway. And they held an indignation meeting, and passed resolutions strongly condemning the action of the Humane Society in that they refused to give me a fair trial, and that they even got to work and got the veterinary surgeons to write letters and publish them in advance of my trial, to prejudice the public against me. They denounced them, and they went to the local papers there, and they presented those resolutions after they had passed them, and those resolutions were changed. Those resolutions instead of condemning the Humane Society excused the Humane Society, and they lied again in saying in their report that the case against me was dismissed. Whereas, in point of fact, they attempted to dismiss it at the end of the fourth day, and I refused to have it dismissed, and claimed that, under the statutes of our state, the evidence being in, I was entitled to a verdict of the court, and got it, and was honorably discharged. And then I branded them for their lies in the *Chicago Tribune*.

When you come to dehorn your cattle have a little patience,—and, by the way, before I go I must give you an idea of how it is done. Has anybody a little piece of string? (borrows a piece.) I used to take one three or four-inch ring. Now I take two two-inch rings and fasten them in the end of a three-quarters inch manilla rope, flexible and nice, that won't kink up. I lay this over the neck of the animal in the stanchions, in that shape (indicating.) That rope is now hanging, with the two rings, over the neck of the animal, dropping down here behind the ears. Then I bring the rope through this ring in this way, and bring it round the neck so as to leave the rings under the chops. I fetch them over the nose in that way, (indicating) and then draw it as tight as I can, and then have a couple of men, or one heavy fellow, to draw these up and draw the nose and turn it up in this shape. I turn it round like that, and it throws the horn out to me, you see, like this (illustrating with string and horn). Now your second ring comes in play, I put the end through the second ring, and I draw it tight so the animal can't move its nose at all. It wants three or four men in dehorning cattle. Then I take my saw, and I cut quicker than lightning, and that is the end of it. I pitch that out, and then the boys understand it, and they loosen, you turn round and take the other horn off. Frequently the animal will be in such shape that you can take both horns off at one time. I have a saw,—because you break a common saw,—the first you know you have got them broke, the blade is too large,—I am having saws now made at my own expense. This thing is costing me a pile of money.—That trial cost me hundreds of dollars.—When the animal's head is drawn up and strung up in this way, no matter how much the animal bellows, remember that is because it is scared.—No matter how much it thrashes, it can't hurt itself.

Here is a letter asking if a cow is within a few days of calving, do you have any trouble? I never knew of but one case in the world, and that was carelessness. The man said that the animal got its foot in a hole, and I killed it. Now

you go at this as I tell you; get your tools ready, and when it comes March you arrange these things as I tell you, and don't you do it any other way. The animal stands here, and it hangs by the head, and if it falls it will hang by the horns. Now any of you that has pulled an animal out of a mud hole knows that it don't hurt him to hang by the horns. And if it is a cow with calf, the foetus inside is perfectly safe. Why? Because the animal has to strike upon the hip. When you get through, turn it out, and, as I said before, it will go to eating.

Now, I am very much obliged to you. If I have said anything that don't exactly square with anybody's ideas of propriety, I am sorry. I am a gentleman; I believe I am. I believe I am a Christian. I mean to treat every man fairly. But when a man comes in the way of progress, I don't care if he multiplies himself like the Philistines, and is as big as the biggest one of them, I am going to ride over him if I can, for the sake of the argument! (Great applause.) If you wish to ask me any questions all, I shall be glad to answer them. There may be points which I have omitted.

A member — I wish to inquire about that book. Can we get it here or send to your address?

Mr. Haaff — I have fifteen or twenty here. You can leave me your names.

A member — How long ought that rope to be?

Mr. Haaff — Fifteen or sixteen feet. Don't start dehorning without plenty of rope. And don't be in a hurry about the first one. And when you get up there don't begin to quake and to get the buck fever. (Laughter.)

I ought to say another thing to you. There is a specimen right there (a skull). I have omitted a very essential point; just give me your attention a moment. I didn't show you how the head is made. Now the animal's head is composed, not of one — oh, what a mistake I should have made if I had gone without mentioning that! Oh, my! I must take my coat off again. (Laughter.)

Why, I haven't answered the ladies at all. Here the cruelty part of the business comes in. You think you see it

when the horn is knocked off. But let me tell you about that. When the horn is knocked off, that is a horse of another color. Do you see that seam there in the skull? (Indicating.) That is the suture. The suture in the human head and horse's head runs across that way. The suture of this animal's head is down in front. Don't you see that when you strike the horn you tend to spring the two bones apart? When you strike the horn you spring them apart, and tend to produce congestion of the brain; that is what hurts so. Why, knocking a horn is the most cruel thing in the world. I knew a man had a bull coming at him, and he dodged it and he hit the bull's horn a blow with a club, and the bull fell at once, as if he had been hit in the forehead with an axe. John Jennings was asked on my trial if he ever dehorned a brute, and he said he dehorned one. He was a mighty man of valor in the war,—used to carry a banner way up here (indicating), and one day, when he held the banner here, there was a man just whispering in his ear here, and a ball came and killed the man. John was a brave man. He was asked how he dehorned that animal, and what he said was this: There was a three year old heifer came at me one day, full tilt,—you know our high bred cattle are more nervous and sensitive than other cattle,—this animal came at me, and as it went past I took a firm grip of the horn, and the horn came off, and the animal went on. The hurt was awful, because the spring at the suture springs the brain inside. I can show you right here (skull). There is the suture. Now with the horn sticking out here, if you strike that horn you inflict fearful pain on that animal, because you separate those bones. I don't knock horns off; God forbid. Now you saw up here, and the animal don't take any harm. You can put your hand down three inches before you reach the end of the bone when you cut a horn off. It ain't near the brain at all. We humans have no frontal sinuses to speak of. Some times we are afflicted with catarrh—but the animal has the horn way up here and here are the frontal sinuses in the animal—I am very glad indeed that I thought to call attention to that.

Professor Henry — Mr. Jones, of Wyoming, is in the room somewhere, I think. I understand that he has dehorned a great many cattle, and I wish he would state in a few words whether he endorses Mr. Haaff or not.

Mr. Haaff — Mr. Sandford, of East Middleton, is here also. I would like to hear from him.

Mr. Sandford — Two years ago I wrote to Mr. Haaf, asking him about his method of dehorning cattle. Mr. Haaf had so many letters and inquiries that he could not answer himself, but the whole method was published in the *Western Rural*. I got the paper about ten o'clock and read the whole proceeding; and in less than ten minutes after I dropped the paper, I had one horn off a heifer. The next morning after I dehorned this heifer, I was scared when I found that the thermometer was thirty degrees below zero. I thought that that heifer was dead sure. And I went out to see the heifer, and the steam was coming out of the holes where the horns had been, and the heifer was chewing her cud as well as ever. I have dehorned sixty or seventy-five head for myself and my neighbors, and never seen any bad results. I would not to-day take a hundred dollars for what I know about it, if I could not learn to do it. I don't keep any horns on my place, and won't if I can help it.

Mr. John W. Hinton — If I have permission — I won't speak again here — I will not speak again in this association. I can solemnly assure you that it strikes deeper and reaches higher, than a good many of you perhaps think. If I have permission I will state it briefly. If I am rightly informed there has been a rule formulated, or a resolution passed, or an agreement come to, to prevent any paper being read before this association, on what is commonly called the protective tariff question, and to prevent any discussion or debate on that subject. I hope my information is correct, and that the same exclusive ideas will prevail and control here, that have prevailed and controlled in the government and guidance of those children of state protection.

(Reads at length from manuscript, at the conclusion of his paper.)

The chairman — Is it the pleasure of the convention to now adjourn?

Professor Henry — There are a great many farmers here who are not satisfied in regard to dehorning; they want more information, and if the room could be cleared from those who wish to go, the others could remain and discuss the matter.

Mr. Jones — On Wednesday before the cold Thursday and Friday we had, I dehorned my cattle, several neighbors came to help me. I had a vicious Holstein bull that was the cause of my anxiety, to dehorn. We dehorned him and 107 others. We started about ten o'clock, and we were through by three o'clock, and they all did splendidly. On Thursday, the following day, the mercury was froze up all over the neighborhood, and still the cattle did finely; and since then I helped my neighbors saw off two hundred head, and I haven't heard one dissatisfied with the operation. We dehorned four Holstein bulls in the neighborhood. I dehorned one ugly, vicious one; and since then he is as quiet as can be. How long he will remain so of course I don't know.

Mr. Haaff — He will remain so until you corner him and provoke him.

Mr. Jones — I lost one cow, but it wasn't from dehorning. I fixed a place for dehorning out in the shed, and we took our cows from the barn out there, and in taking that cow out there she was wild when she saw so many people; there must have been ten there to witness the operation; she jumped around at the end of a long rope, and she threw herself and we couldn't get her up. We dehorned her, but I am confident she was hurt inwardly, it wasn't the dehorning that injured her. That night of course the cows didn't give as much milk, but the next morning they gave full as much, and they gave as much right along. My brother-in-law cut off ninety odd head afterwards, and he says his cows give more milk; but I guess he fed them a little more. (Laughter).

Professor Henry — We dehorned a couple of calves day before yesterday. One bled badly from one horn; the oth-

ers didn't bleed much. That night the calves drank their milk and acted as though they were well.

A member— How old were those calves?

Professor Henry— One was a day old. I say they drank their milk. One wasn't away from the cow, the other was five or six weeks. I will report their exact age when I report.

A member— What do you use for dehorning calves?

Professor Henry— I use the same apparatus that Mr. Haaff does. I don't want to supplement Mr. Haaff particularly, but I want to draw out other testimony. We have had the testimony of Mr. Jones, of Wyoming, that he dehorned a hundred head on his farm, and two hundred for his neighbors, and of Mr. Sandford that he dehorned something like sixty. On the university farm the first we dehorned was a vicious Jersey bull. He never killed a man, but he broke one man's collar bone, and only by mere chance had our men escaped being killed by him. Dr. Woodford came and we put the bull in stanchions. The horns were large and powerful; the bull had worn the horns down until the ends were as thick as that (indicating). I have seen him put a horn, when as blunt as that through an inch pine board nailed to studding. He is a very powerful bull. The doctor cut off his horns, he did nicely, cut off at the right point; that bull is not tame. He has plunged at my men since then. Once in the pasture one of the men barely escaped him. If he had had a horn he would have struck the man. And once he charged on a man but slipped on a wet floor and missed him. You see, in that case, it hasn't changed the disposition of our bull. He is as vicious as ever; but I would rather have a bull hit me without horns than with them. He is a six year old bull, and since dehorning him he is a surer getter, if anything, than before, and I believe he is good for four years yet, unless he should become impotent. Now you can afford to buy a good bull if you can keep him for ten years. You see that, and I am very urgent in regard to the bulls.

Then, in regard to other cattle, we had twelve steers, and

I wanted to put six steers in one room and six in another, and I didn't want them tied. In that experiment I wanted them to run loose. And they would fight each other, and hook each other, until we got a saw and sawed their horns off. We had plenty of men to help, to lead them in and fasten them, and men to turn them loose again, and my foreman dehorned six steers in fifteen minutes by the watch. Of course they would thrash and bellow and throw themselves, but we have had stock throw themselves, and bellow and roll their eyes when we were simply getting them on the scales to weigh them. You know how that is.

I believe it hurts. So does it hurt for a person to go to the dentist and sit in a chair and have half a dozen teeth out, and we do that sometimes for our digestion, or even for our looks; and if we can suffer that much pain for ourselves, those cattle that are suffering all the time, can do it.

Mr. Phillips— How did the cattle behave afterwards?

Professor Henry— Just like a lot of Merino sheep. I will give anybody in this room five dollars that will go among those steers and pick out the boss or the weakest one. They crowd up to the feeding trough like sheep. The weakest one runs where he pleases, and they will almost walk on one another, and are never in fear of being prodded by the stronger ones. Now the farmers can see this on the farm if they like. I think in the matter of economy in room and feeding, it was worth \$50 in that lot of steers to take off their horns. That is, if I were a feeder, working for the market, for dollars and cents, I would not have the horns back for fifty dollars.

Mr. Bender— I would like to ask about those young calves. Did you press your fingers right down to the head?

Professor Henry— Oh, yes; you must find the place.

Mr. Bender— Do you cut it right off at the place where the joint appears to be?

Professor Henry— The horn is a skin growth. It belongs wholly to the skin at first. In later life it attaches itself to the skull. Anybody knows that who has taken a calf and rubbed the horns back and forth, knows that they can be moved at first.

A member — You just cut them off where the hair and skin touches the horn?

Professor Henry — You have got to get the matrix out.

Mr. Haaff — Cut to the matrix, and while they are one to three years old you must cut into the matrix a little. The peculiar thing about it is this: that while you don't in every instance strike the joint below, you still go, so leave enough to heal, but not enough to grow. That comes by experience. No man can tell without trying it. There is this: if you get some stubs you can cut them off again.

Professor Henry — We are experimenting. I am not here to say that dehorning is the best thing yet, but it seems to me the best. I would go on, from my experience, if I were a practical farmer, and dehorn all my cattle. You may be laughing a year or two from now about this, and saying "there was a dehorning craze, and a great blow over this, but it died out." Now I look ahead to all these possible events, and I am hedging against the future; but I say as far as my experience has gone, and from my letters from and conversation with those who have tried it, it is all right. And it is not like advising you to buy this new kind of stock, or that patent remedy. You can do this, and it won't cost you five dollars; so if you do wrong it is not much loss.

Mr. Haaff — How in the world is anybody going to be advised wrongly here? I have letters enough here from men that have been doing it over a year. That can't be mistaken. I have dehorned my cattle for nearly seven years. How can any body be fooled to-day? I don't see.

A member — Does it have a tendency to produce a muley generation?

Mr. Haaff — That is a thing I didn't speak of. You take the calves and operate on them for six generations, and you have got to procure some muleys; I tell you it is so. It is on the principle that like produces like. The rule is this: wherever there is direct arterial circulation nature produces itself every time; but where the circulation is capillary, nature is liable to skip; that is why you get muleys in your

own herd, and don't know how. In the horn from the matrix up, the circulation is capillary. It is just like taking my handkerchief and holding one end of it in a basin of water, and the water is sucked up. For instance, if you chase an animal and get him hot, and dehorn him then, the blood will fly like everything, because you have pumped the blood from the heart up into the matrix. So when you dehorn your brutes you want to have them perfectly quiet, and then they won't average a spoonful of blood to a horn.

Mr. Bender — Suppose you cut wrong; is there any danger of bleeding to death?

Mr. Haaff — Yes; they will bleed until they fall. One of my neighbors dehorned a two year old Holstein heifer. He said he wouldn't bother Mr. Haaff; any fool could dehorn an animal. He left two stubs, and they had the greatest kind of a time to get the blood stopped. It is easy to see how it was. If he had taken it off here at the right point, as your doctor will tell you, there is a coating to the artery that collapses and dries up; that is the tendency: but if you cut above, where the secondary circulation is, then the periosteum is just like the handkerchief in the water; it is sucking blood out of the matrix; that is all there is to it.

A member — If he had known, couldn't he have sawed that horn again, a little lower down?

Mr. Haaff — Yes, sir. When you have an animal with a horn knocked off, and he is suffering, and all that bleeding will stop in a minute by the watch.

Mr. Wilkinson — Is it right at the point of the shell that you dehorn?

Mr. Haaff — That is a good general rule. You can feel the matrix right there. After they are dehorned they won't bother you a bit. In my pasture all my cross fences are two wires.

A member — Now about healing up?

Mr. Haaff — If you get an old animal and don't cut it right you will have a hole there.

Professor Henry — I will say to the farmers that we dehorned some of our steers too long, and the horns are grow-

ing, as you will see if you visit the farm. But they are all right.

Mr. Haaff — They are all right for future experiments.

Professor Henry — Our steers gained a little over two pounds a day for forty-two days after cutting the horns off.

Convention adjourned.

WEDNESDAY EVENING, FEBRUARY 2, 7:30 P. M.

Mr. Arnold in the chair.

The chairman — This convention, as a rule, is made up in a great majority, of representative farmers. There are no spring chickens; and whatever we may say or do in this convention is looked upon as some indication of the sentiment of the farmers of the state of Wisconsin. Therefore the importance, in adopting or rejecting any resolution, that we do it with deliberation; and for this reason I suggest to you, gentlemen, that you appoint a committee on resolutions, to whom all resolutions shall be referred, before action by this convention.

Mr. Allen — I move you, sir, that there be a committee of three persons appointed.

The motion was unanimously carried.

QUERIES.

BY A. D. MCGILVRA, BARABOO.

At a time like this when the price of all meat products is at a low water mark, we naturally speculate on the profits of the various kinds, and ask ourselves which, with our facilities, it is best for us to raise. I have devoted some time on the Wisconsin State Census Report of 1885, seeking to use it as an aid in determining the question for myself, and will give you its figures as briefly as possible and then propound my query. We have on hand in Wisconsin, ac-

ording to the Report, 1,196,200 hogs, valued at \$4,472,658, or a fraction less than \$4 each. Total number of hogs slaughtered, 1,047,156, valued at \$10,323,772, or about \$10 each. Of cattle we have on hand 1,543,899, valued at \$26,062,598, or about \$17 each. Total number slaughtered 221,377, valued at \$5,981,486 or \$27 each. Now since each hog slaughtered was worth \$10, two and one-half hogs or a trifle more, are required to make the value of the average beef. Query — Which would you rather raise for profit, one beef or two and one-half hogs? Another problem arises right here — one of per cent. — which to us swine breeders, is very satisfactorily answered by the figures themselves. I will give the solution, but in order to be fair toward our brethren, the owners of cattle, we must add two more items of cattle products, viz.: butter and cheese, value respectively, according to the report, at \$5,850,402 and \$2,984,813, making the total value of cattle products \$14,816,701, or 56 per cent. of the capital, as it must be remembered the cattle on hand were valued at \$26,062,598, while with a hog capital of only \$4,472,658, its produce sold for \$10, 323,776, or more than 260 per cent. of the capital.

Again, when it is remembered, that to make cattle raising in the highest degree remunerative the expenses for buildings, etc., greatly exceed those necessary for successful and profitable hog raising. Do I err in estimating the hog the best paying of all our farm animals? That such is the case these figures seem to prove. But by what you have heard it must not be inferred that I am antagonizing cattle breeders in the least. I own cattle myself and have on hand now, half as many cattle as hogs, and only wish I had more. In my opinion cattle and hogs are mutually helpful in increasing the profits of the farm, but we hear and read so much now-a-days about the profits of the world-admired cow and bullock, and so little about the almost universally despised hog, that a word in his behalf is no more than a merited tribute to one of our greatest benefactors.

CAPITAL AND LABOR.

BY GEO. S. PARKER, JANESVILLE.

(Before reading, Mr. Parker said: I don't know but I am one of those your honored president has just referred to, as "spring chickens." Perhaps you may not endorse all my paper; but if you do not, I hope it will be honestly, for the conclusions have been obtained honestly, and the work has been done as well as I could).

To even the most casual observer, the condition of our industrial world is the occasion of the gravest concern.

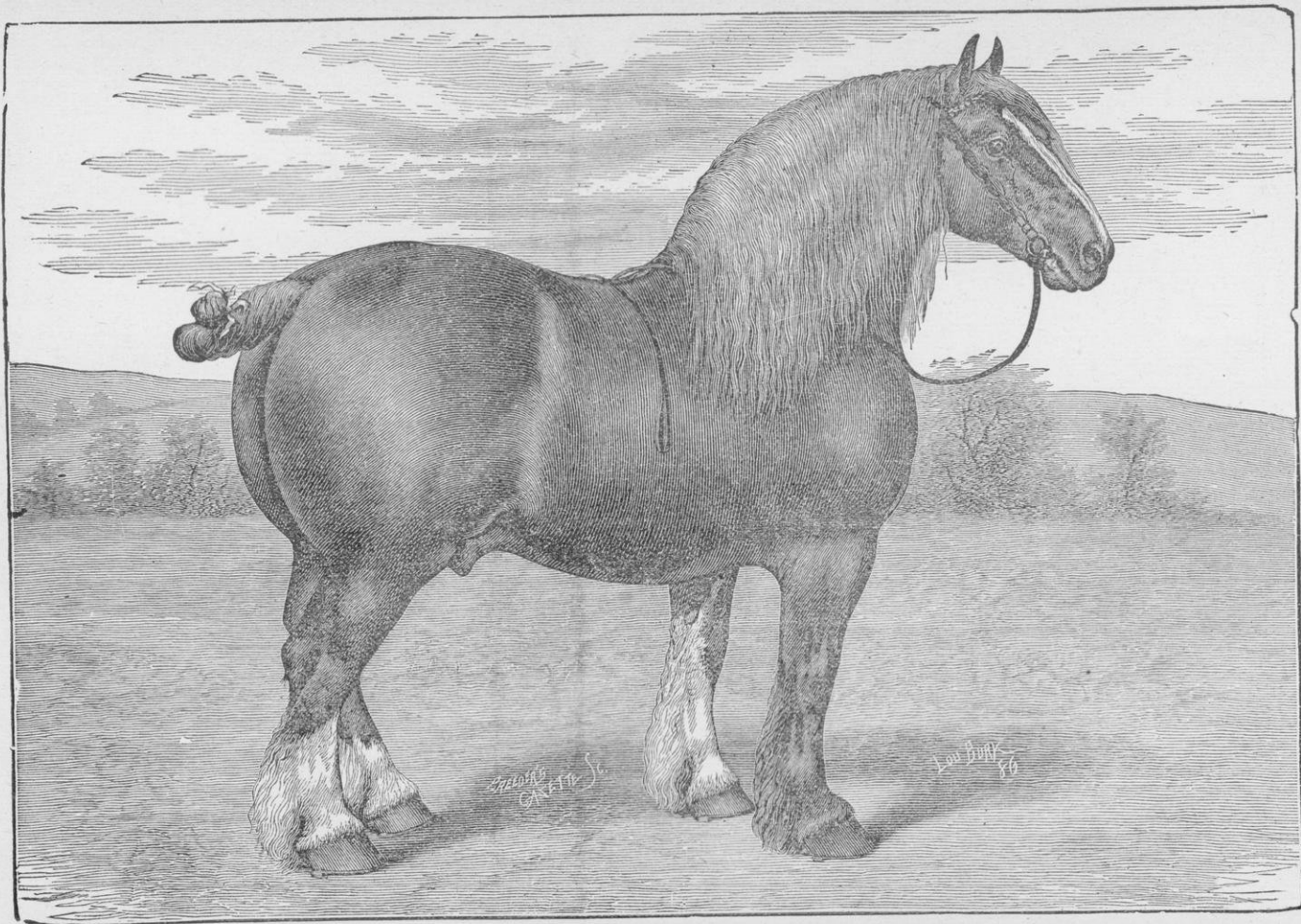
Happily, though, at the present time the outlook is brightening and we are beginning to entertain hopes of a good time coming. But the condition through which we have just passed, the wide-spread discontent which it produced, the hostile relations which the two great motor forces in (capital) production took toward each other, and the universal depression in business (and prosperity) admonish us to seek the causes of such a state of things, and provide against their recurrence, if possible.

Not only last year, but a cursory glance down the vale of years reveals to our gaze periodical depressions in business followed by revivals, like the pendulum of a clock, swinging too and fro. Each of these depressions has brought hard times in its wake, with failure and conflict, suffering and woe. I need not cite to you the years of '37, '57, '67, '73 and '78 for proof of my words, but suffice it to say, since these periods recur at regular intervals, the thinking people of our time are bestirring themselves to find the causes of such crises and the remedies for them. That this question is demanding more and more of the people's time, and is being studied in all its bearings, let the number of books and the unusual space given to it in our magazines and newspapers testify. Fifteen states in our Union have bureaus of labor statistics or departments analogous to them, the major part of which have been established since '83. In

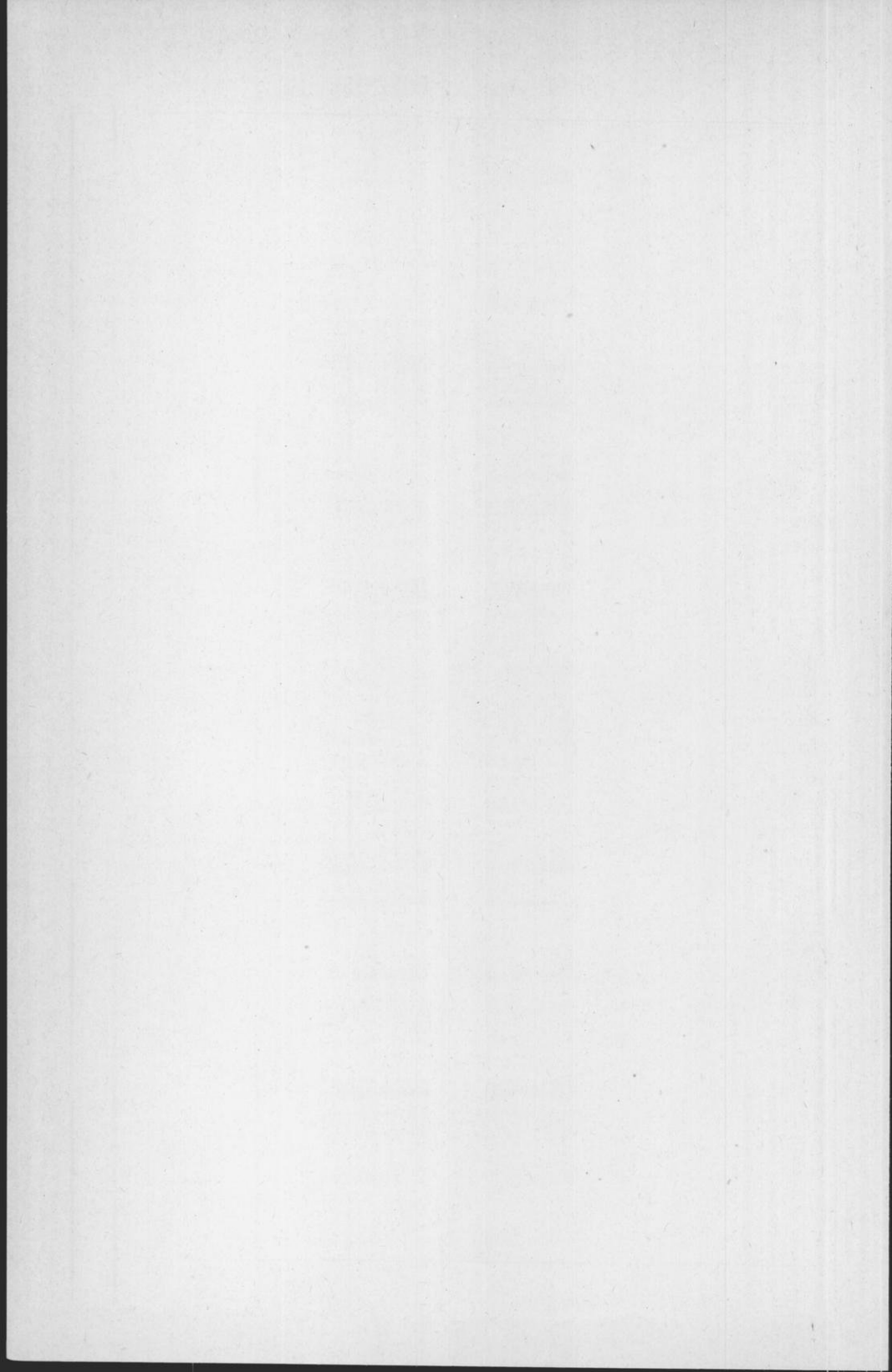
1884 the national congress passed an act establishing a Bureau of Labor, but it was not until January, 1885, that any commissions were issued; when Carroll D. Wright was made commissioner. These institutions are peculiarly American, as no other country has as yet established any department similar to them, though all have been afflicted more or less with industrial depressions. Since it is from the past alone that we can get the wisdom which is to direct us aright in the future, let us take a hasty glance backward and see what have been the relations of labor and capital. In conversation with the editor of a leading state paper lately, the remark was made by him, that at the present time, there was no conflict between the representatives of labor and those of capital. If this is true why is it that so much of our valuable time has been and is increasingly given to this subject? Why is it that demagogues and charlatans have harped upon the rights of the working-man until we almost believe that he is a hot-house plant needing to be watched and cared for as tenderly? What meaneth the number of actual collisions that have taken place, where brutal and unlawful force has been used and bloodshed often been the result? In short, why do boycotts and lockouts, strikes and riots, follow each other in such quick succession? Yes, there is a conflict between the representatives of labor and those of capital; a conflict, too, which is assuming large proportions, stretching over the whole country and dividing the people by an invisible but a keenly-felt line. A conflict which is unsettling business relations, driving our confidence from the trading world and making possible these hard times. A conflict which is driving capital from profitable industry and locking it up where it is of use to no one. A conflict which is making the laborer distrust his employer, rearing a reckless, shiftless, irresponsible man. A conflict with unlawfulness on the one side and lawlessness on the other. The extent of this conflict is gigantic; in New York City alone during the first eleven months of the year 1886 there were 1,500 strikes—more than an average of five a day to every working

day in that time. Taking the whole country as a unit, we would have a number that would appall the ordinary man; some no doubt were of small importance, but all were conspiracies or organized efforts on the part of the working-man, after quitting work in a body, to force their employers to accede to their demands. This is a strike, and is almost always accompanied by unlawful means. The boycott is the effort of a body of men to limit the consumption of another person's production, and this, too is often accompanied by unlawful means. The lockout is the conspiracy of employers in keeping men away from their work, leading often to acts of lawlessness. A riot, the goal towards which the others are but steps, is the assembling of the mob and the doing of acts in a violent and reckless manner, often accompanied by the loss of life and property. That a part or all of these have taken place all over our land every one knows. That in all of them we find arrayed on the one side the representatives of labor and on the other the representative of capital is true. That there is a conflict between labor and capital must be patent to every one, and one, too, which is sapping the life blood of our country and threatening the stability of our government. The question naturally arises how was this conflict brought on, and what can be done to remove it. To answer the first we must observe the course the two elements have pursued in the past, and the attitude they took towards each other. Let us take capital first, which though, not first as an element in Production, was the first to begin the oppressions which are bearing fruit to-day. History records that labor was performed first by slaves at the bidding of a certain class made master, by birth and riches. From slavery, labor passed into a system of serfdom and villeinage, thence to a measure of freedom, but bound to the soil or to a family. At length as the world marched onward, freedom was granted, and manual labor, instead of being degrading, became the reverse. But freedom was not gained in its entirety, because in England, in the Fourteenth century laws were made by the powerful lords that laborers should not

receive more for their work than a certain sum, though the demand exceeded the supply. So on down through the ages the history of labor has been written by the iron hand of its oppressor — capital. In our own country, younger in years and with entirely changed conditions, the circumstances have been different, but the results the same. Even to the present time capital the oppressor; labor the down trodden; capital in authority; labor in a state of serfdom; until the latter force has arisen in its might and struck many a hard and telling blow. This power of capital is about us on all sides; it stalks forth in our midst at high noon; and the most of us see it with complacency; yea, almost with assent. He who speaks of it and describes its influence is held up as an enemy to society. Aye this powerful force often finds a way to envelope the bold man who throws down the gauntlet. But we have only to look about us to see its might. It enters every legislative body in our land, and has laws enacted for its benefit. It controls largely our municipal corporations and gets its will done by the use of "boodle." It is potent in nearly every election that occurs, and sees to it that its myrmidons are made public servants. It enters our courts of justice, and with its golden shekels weighs down the scale of the blind goddess, though justice be in the other pan. If you doubt me, let me ask you to follow a step farther and see the powerful railroad corporations with their moneyed lobbies in congress and every state legislature. Jay Gould testified before the senate committee that large sums were paid to influence nominations and elections in the interest of the railroads. They grind down their employes to bear subsistence wages and have been known to make contracts with them by which they were not to be held responsible for any damages to life or limb. In the matter of rates, irresponsible managers put on all the traffic will bear and wring the hard-earned wages from the poor man to swell the millions the capitalists possess. In this matter let me quote the senate committee: "There are four men representing the four great trunk lines between Chicago and New York who possess



BLYTH BEN, 4239. ENGLISH SADDLE HORSE. IMPORTED 1886 BY GALBRAITH BROS., JANESVILLE, WIS.



and not unfrequently exercise power which the congress of the United States would not venture to exert. They may at any time, and for any reason satisfactory to themselves, by a single stroke of the pen, reduce the value of property in this country by hundreds of millions of dollars. An additional charge of five cents per bushel on the transportation of cereals would have been equivalent to a tax of \$45,000,000 on the crop of 1873. With the rapid and inevitable progress of combination and consolidation these colossal organizations are daily becoming stronger and more imperious. These men recognize no responsibility but the stockholder, and no principle but personal and corporate aggrandizement." The famous Hepburn committee, in New York, brought to light that the railroads would charge the great capitalist concerns like A. T. Stewart & Co. $\frac{1}{2}$, $\frac{1}{3}$, or even $\frac{1}{4}$ as much as the small firm struggling for existence. In 1883 when it was ascertained that the wheat and corn crop of Kansas were a success the railroads at once advanced the rates above those of the year preceding so as to impose an additional burden on the crop of \$1,500,000. It would seem but a waste of time for me to continue to show you how capital, in the hands of the railroads has oppressed labor; not only its direct employes, but affecting the merchant, the mechanic and farmer. My audience know these abuses better perhaps than myself. I have taken the railroads as affording the best example of the most flagrant oppressions of labor by capital. The Standard Oil Company of which the Hepburn committee says: "That mysterious organization whose business and transactions are of such a character that its members decline to give a history or description of it lest their testimony be used to convict them of crime," is but another example. It bought a seat in the United States senate that it might the more easily watch legislation. The unseemly scramble for such positions and the continual triumph of the wealthy capitalist is but another proof of this power. The grants of the Broadway charter by the aldermen of New York through the influence of money is yet another evidence of the enormous influence exercised by

capital. One other charge yet remains — that against the justice of our courts. In New York city they can convict a poor man in a day, but cannot get at the cases of the "Boodle" alderman with their ill-gotten wealth in six months. In Washington, that Mecca of politicians and cranks, there was discharged from custody the other day a man who had swindled many a poor widow and laboring man out of their mites, leaving them to endure misery and half starvation, while he lived in affluence. His case was in the courts a number of years, and he goes scott free, while a poor man with starvation staring him in the face, was sent to prison for six months for stealing five loaves of bread.

The senate committee on labor and education, which reported at the last session of congress, took four large volumes of testimony upon these matters, and through them all we find the oppressions of capital clearly shown in whatever part of the country the subject was investigated. This, then, is one of the great causes of our present industrial condition — I might say the great cause — the oppressions of capital through a long continued period. What has been the course of the other co-ordinate element under the conditions we have just enumerated, let us inquire? Its course might be likened to a volcano which has been quiet for a long time; but down deep in the bowels of the earth gases are continually forming which, when the proper time comes, will burst forth, hurling aside its barriers and carrying damage and ruin in all directions; so, too, this element of labor, having at last reached the limit of its patience, rises in its might, and, striking back at its oppressor, capital, carries ruin and misery in its course; while the whole world stands aghast at its vehemence and the business portion reels at the shock.

Can we blame labor for rising in force against the power which tramples on its rights? No! We cannot blame it for asserting its just demands. "They have rights who dare maintain them," sings the poet — trite, but true, even here.

But they must receive the just condemnation of every true-minded person when they overstep the boundaries of

law and order, bring on riot and bloodshed and carry misery and suffering to many thousand of homes in our land. Having endured their many wrongs and oppressions from capital, it is hardly to be expected that in their retaliation they would confine themselves strictly within the law. Blessed with but little education, toiling ever under the banner of "Root, Hog or Die," who can wonder that they are oftentimes governed by passion, often led by charlatans into wrong and error from which they themselves suffer. They wield an immense power which they have hardly begun to realize as yet; were they to exercise it, it would seem as though the mouth of hell had opened and cast forth a million fiends to stir up strife and bloodshed. With this phase of my subject you are all too familiar for me to expand it further. It is receiving the greater part of the attention of those who are studying the question, and is given more space in our papers and magazines than it deserves. The retaliation of labor is only a natural sequence of the events which have occurred in the past. It is only a symptom of the disease, the cause of which lies back in the oppressions of capital. The cure, therefore, must be directed to removing the cause, not to relieving the symptom. In a late number of the *North American Review*, no doubt, many of you have seen Pierre Lorrillard's denial that there was any conflict between labor and capital, but admitting that there is a conflict, he substitutes for the latter the word monopoly, saying that the retaliation of labor is against monopoly. He must grant us then that capital has become an enormous monopoly, judging from the wide extent and vehemence of the conflict. I do not think he has helped the matter much, for in nearly every case capital has taken the side of monopoly against labor. He has called one of the combatants by a better name perhaps, but one which ought to bring the blush of shame to our cheeks.

What effect has this condition of things had upon the country? It has fostered a hostile feeling between the two motor forces in Production, which of all else ought to be united by the closest possible ties. This has caused financial distrust, a withdrawing of capital from circulation, a

curtailment of almost necessary expenses on the part of a great many, and carried misery into the homes of the poor. It has effected disastrously every market in which you, my fellow farmers, are vitally interested; made it still harder work to make both ends meet at the year's close, and brought the extra care and worry incidents to hard times. Yea, it has cast a blight over our country, has caused man to regard his neighbor with distrust and almost to believe this existence an evil.

What, then, are the true relations of labor and capital, since the present conditions are not sufficient? Your honored secretary has given my subject the heading of "Capital and Labor." The true order is labor first and then capital. The elements of Production are three Natural Agents — Labor and Capital. Natural agents, very frequently known as Land, comes from Him whose bounteous hand gives every good and perfect gift. Labor is supplied by the hand of man, and capital is the result of the self-denial and saving of labor. The first is an indispensable condition; the second almost so; for though nature, in tropical regions, may furnish sufficient to supply the bodily wants of man he must exert himself to pick the fruit so lavishly given. The third, capital, can be dispensed with, as it had to before it was accumulated. But without it the present condition of the Nineteenth century could never have been reached. With the increasing complexity of the hard times, capital becomes more and more necessary; but it too would be utterly useless without its willing co-worker — labor. Hence we should not give it undue importance or allow its interests to blind our eyes to the interests of the others. Capital should not thrive without labor does. They should go hand in hand, and mutually help each other. The present condition is wrong, when we see enormous fortunes made in a short time, undue power given to capital in all departments of our life, while the conditions of the laboring man has not relatively been advanced.

"New occasions teach new duties.

Time makes ancient good, uncouth

They must upward still and onward

Who would keep abreast of truth"

This conflict cannot settle the problem. One of the elements cannot kill off the other. While one may for a time oppress the other, it cannot long endure; the wrong done to one by the other will react upon the other and disastrously too:

“For mankind are one in spirit, and an instinct bears along,
Round the earth's electric circle the swift flash of right or wrong;
Whether conscious or unconscious, yet humanity's vast frame,
Through its ocean sundred fibres feels the gush of joy or shame—
In the gain or loss of one *class*, all the rest have equal claim.”

In the language of Pierre Lorillard, “Why should labor be jealous of capital?” Might as well expect the earth to be jealous of the clouds, which, holding condensed moisture, return it in rain that the parched land may be enabled to produce food for its famishing thousands. Labor is but a commodity, the only commodity a poor man has with which to make his living; and he should be allowed the privilege of offering it for sale in the dearest market and expect a fair price for it. It differs from all other commodities, though, in that it is inseparably connected with a human personality. If I sell you wheat or corn, it matters not to me what you do with it. But if I sell you my labor what you do with it affects me most vitally. There belongs to it, then, beside the commodity rights, personal rights; and the latter demand the greater share of our attention. “The interests of labor and capital are identical up to a certain point, i. e., in securing by the management and utilization of economic power the largest possible product.” Afterwards in dividing the product between them they diverge, and the problem is how to reconcile the two so that a fair and equitable division may be made.

To this end let us seek what remedies will tend to do away with the present conflict, and work for the upbuilding of society. In the first place, I am not so sanguine that any remedy or set of remedies any one may propose, will do away with the strife at once. A disease which has been running such a long time will require a relatively long time to be eradicated. Moreover, the element of capital will

have to be forced to acknowledge labor's rights; for it was not till labor presented itself in such a position that capital was willing to listen." Then also labor must be taught that capital has its rights, and demands a fair hearing. To gain this I think education is the great lever which can be used for good. The capitalist, though he is now called an educated man, must be taught that labor has its dues, that its representatives are human beings like themselves, with the same feelings and desires, the same aspirations and ambitions; that the amassing and perpetuation of immense fortunes in a family are dangerous to the safety of the state and the life of the race. For was not Rome's life sapped by their old patrician aristocracy with their immense fortunes. Labor should be taught the broad truths of humanity, the true principle of political economy, and that eternal justice is one of nature's great laws. The principle of the Golden Rule is as divine in its teaching to-day as it was ages ago, and a more frequent use of it would be productive of greater good. A better feeling then should be inculcated between labor and capitol, and their true relations taught. To this end let us have compulsory education laws of nine months in the year, to the age of at least sixteen years, and let every school clerk see that they are enforced under severe penalties. Let the study of civics be required by law, to be taught in all schools as soon as the children are able to comprehend this subject. This will include the "Theory of property, real and personal, production and distribution of wealth, government, and the duties of citizenship, prevention of vice, sanitation, public elementary education, and higher education, as furnishing the directive power of society." (The citizen) The nation has its roots in our public schools, and national life is being fed from this source. Let the "sons of toil" educate themselves and their children to an understanding of affairs, state and national. Many seems to think it not their province or duty to make any effort to change, or in any way to elevate humanity, and thereby add their mite to the happiness of the race. Let them be taught that all should make some sacri-

fices for the general good. That this is a government of the people, by the people and for the people; and only as all people participate honestly and wisely, will good government and general prosperity be the result. With a better educated people the influence of the anarchist, socialist, and the demagogue over the unlearned element of labor would be minimized. Our immigration laws should receive our attention next, if we would get rid of these leaders; for it is a notorious fact that these persons are nearly all foreign-born. No one ought to be allowed to enter our portals who in the past has advocated these un-American ideas. Though we boast of our liberties, our land ought not to be made the dumping ground for the refuse of the old world. Besides this class we find that the skilled labor of our country is largely composed of foreigners. Commissioner Peck, of the New York Labor Bureau, says upon this subject:

“The broad result is that we are largely dependent upon foreign skilled labor. Our supply of mechanics is daily augmented by the skilled labor of Europe, and while this foreign element is not equal to the skilled labor which is retained in Europe, it is, in the main, vastly superior to that produced in our own country. Whether unrestricted immigration be or be not a national blessing may be disputed, but a visit to the workshops of the state will demonstrate the truthfulness of the statement that the large minority of our tradesmen and mechanics are foreigners. Indeed, in many trade and industrial establishments there is not a single American at work. Nearly all positions of trust and responsibility, in the mechanical departments, are in the hands of foreign-born workers, and most of the boys and young men learning trades are either foreign-born or the sons of foreign-born workers. And the opinion is now very generally expressed and accepted that most of the labor troubles of the last few years have been precipitated, not by whole trades, but by sections of them, and that these sections were largely controlled by foreigners, or natives who had from association imbibed foreign ideas on the labor question.”

To obviate the necessity of depending on the old world for our skilled labor I would advocate the doing away with such apprentice laws or trade regulations as are largely found which limit the number of apprentices there may be in any trade at one time. I would urge the establishment of trade schools, including agricultural ones, in all parts of our country, that American boys and girls may become skilled artisans. Why is it, as Commissioner Pecks says, that foreign skilled labor is better than the American product? Why? because of the trade schools found in the different countries. Benighted old Russia even has them; one in Moscow with an annual expenditure of \$140,000. So, too, in almost every manufacturing city on the continent they are found; Sweden has 300. Add to the practical instruction given in such schools, the creation of a healthy public sentiment by them and the half our problem is solved. Bearing directly on this point of immigration is my next, the naturalization laws. That a person totally ignorant of our laws should, after a year or two's residence here enter into a full participation of our political organization is an anomaly not easily explained. I would urge here the extension of the time to at least five years, and require the applicant to read and write fairly before he be allowed to vote. Thus might we strive toward the goal of having better public servants, with less ship-shod legislation. At present our legislative assemblies seem constituted for the purpose of devising ways and means for spending the public moneys. Our public servants place self above all else, the general good, last. What incentive is there, then, to poor men to lay up their earnings when the capitalist (and they are becoming more and more our legislators) enact laws which tax him heavily, and fritter away the proceeds uselessly. Rather is he urged to strike a ruinous blow at the wealthy. Let us have less legislation. In what we do have let there be more common sense and honesty in it. Let us have more legislators of the John Adams type, who sold his stock in the United States bank when he became a public servant, believing no man ought to allow himself the chance to be biased in public matters by personal interests.

The above all are indirect remedies whose effects will require time to be felt. To come down to things which more directly affect the parties in question, and which seek to remove some of the existing difficulties. First, the assessment and taxation laws. To-day, when a poor man has a home or a home or a farm mortgaged for a part of its value, he is taxed for the property and the holder of the mortgage for its face. Let the mortgaged property be assessed at its true value, and taxed for this amount less the face of the mortgage. Let the property of rich and poor bear their just proportion of these burdens. Allow a note or mortgage to be outlawed and uncollectable if it has not borne its share of taxes as witnessed by the assessor's stamp. In this connection I would advocate the establishment of a legacy tax. That is on the death of the owner, a tax of 5 per cent. on all fortunes of \$100,000, and over, up to \$200,000. Then a tax of 10 per cent.; on fortunes above a million, let the taxes be increased to 20 per cent. This would not be oppressive to the heirs, would considerably reduce the burden of taxation and would render impossible the perpetuation of immense private fortunes which were the ruin of Rome, and are the bane of England and Ireland to-day. Second, I would advocate the publishing in our papers, labor market reports, similar to the commodity reports of the present time. The reports might read something like this: Wages of this class so much per day; supply good; demand good. Wages of that class so much per day; supply poor; demand large, etc. While fully recognized the immobility of labor, yet it should have the largest possible chance to better its condition. Moreover, this publication would tend to equalize the wages in different parts of our country—a consummation devoutly to be desired. Next we should have laws enacted which would prevent the unholy speculation in food products, corners and trading in futures. This will tax the ingenuity of the law-makers, but that it is necessary I think all will agree. These ghouls endeavor, by every means in their power, to bring about fluctuations in the prices of the staple articles of food, while every change seriously aggravates any industrial difficulties existing and

wrings from the poor and needy a cry of suffering and woe. Then, too, we should have laws against the "watering of stock" and the floating of the market of such which has not the absolute property behind it.

"Many corporations are organized for floating stocks and with a glowing prospectus the stock is floated. The result, under such circumstances, is disastrous to all engaged and the morals of the community in which such transactions take place are more or less damaged." Fourth, The establishment of boards of arbitration similar to Prud Hommes, of France. These are composed of employers and laborers, and their decisions are enforced by civil sanctions. The Prud Hommes consist of two committees, a general and a special; the latter meets weekly, takes cognizance of all disputes and gives its decisions in a short time. If the decision is not satisfactory, it is carried to the general board, which meets at stated times and the decisions here are final.

These tribunals in France have settled over ninety-five per cent. of the disputes between employer and workmen, which, considering the hot temperament of the French character, is remarkable.

Lastly, the scheme of profit-sharing seems to me to be one of the best remedies yet offered for solving this industrial problem. It is an outgrowth of co-operation. Co-operation, pure and simple, is a communistic plan; where all are put on the same level, and each looks after the interests of his fellow. Profit-sharing, on the other hand, puts all on a just equality, allows the full working of the principle of self interest, and inculcates habits of saving, thrift, economy and industry. Briefly it is this: "The employer shall receive the prevailing rate of interest on his actual capital as a part of the legitimate expenses of production. The workmen receive the ordinary rate of wages. For the skill, knowledge and management of the proprietor, and for his being liable to the risks of the establishment, he is entitled to a larger share of the profits. Under this system, while the workingmen, taking no risks of the enterprise, except that of employment, are entitled to the smaller share of profits but the two forces together arrange for a division of the

profits on a just and equitable basis." This system is very simple in itself, just to all the parties concerned, and is a combination of all that is good in the wage system and co-operation applied to production. It has been tried and nearly always with success. Work has been steadier and more sure. Each man feels himself a man. The employer looks on his workmen in the true light as associates. This system has an excellent effect on the morals of the workmen; it stimulates hopefulness and cheerfulness in the laborer. It brings out the best moral elements of both workmen and employer. Conflict ceases and harmony takes the place of disturbance. "It converts the industrial association of employer and employes into a moral organism in which all the various talents, services and desires of the component individuals are fused into a community of purpose and endeavor."

The two great causes, then, of our present industrial conditions are the oppressions of capital through a long continued period, and the vehement retaliation of labor against this oppression. The two great remedies are compulsory education in proper direction, and profit sharing.

And now in conclusion let me say, if I have not handled this subject in a way you had expected, or if some of my schemes are crude and uncouth, remember my head is not encircled with a hoary crown indicative of wisdom; I have not brought to this subject extended study, deep thought, nor a life-long experience.

The subject is such a large one that one could not expect much within the limits we are allowed. Besides it is receiving so much attention that it is hard, as a friend said the other day, to get anything new upon it. But it is one of the most important questions before the country to-day, and yet it is only in its incipiency. It is destined to try the foundations of government. We are not like the countries of the old world, with an imperial power and a mighty mailed hand, in the shape of a standing army, to do our beck and bidding; to overawe the rabble into submission when they become too bold. Here the poorest man is a sovereign with the ballot in his hand.

It has been the custom of the young generation to envy their forefathers in the heroic work they had to do in laying and rearing the foundations of this government; and to rail against the times, because they have not the same chance to make themselves heroic like their progenitors. But I say unto you, here is a field of labor as wide as the earth, and as far-reaching as human existence. Here is a work as heroic as any of the Crusaders ever conceived. Here a battle ground where Titans must wage the contest. And on how well you do your work depends the future stability of our government. Shirk the work and the grandeur of the beginning will pale into a close of ruin and chaos. Meet it boldly and work it out rightly, and we will continue our march onward and upward—a glorious example to the whole world.

Lo! plenty ripens round us, yet awakes the cry for bread
The millions still are toiling, crushed and clad in rags, unfed,
While sunny hills and valleys richly blush with fruit and grain,
But the paupers in the palaces rob their toiling fellowmen.

Yea, too, on lighted streets, where stand homes of comfort and love, uniformed policemen must watch less the firey vandalls who skulk from shade to shade, rob not the passer-by of life, and lay their homes in ruins. In mighty factories which supply the world with produce, puny children and sickly women work their lives away, putting their life blood into the cloth they wear, while their sisters fritter their lives away in idleness or fashion. All about us we see stalwart men, as well as the weak, toiling day in and day out in order that the wolf may be driven from the door, while their brothers lord it over them or live a useless life in gaiety and pleasure. Here then is the problem. To give to those who have naught when there is plenty for all, and to instil the principle. "Peace on earth, good will toward men."

DISCUSSION.

Mr. Anderson — Mr. Chairman; I have been so well pleased with that paper, that I think it is unnecessary for any person to discuss it. It certainly has thrown out some of the finest hints to us farmers of any paper I have heard. There is only one thing that I think the paper lacks, and that was in saying nothing about the farmers having education in their branch of industry. He recognized the necessity of schools for education in the mechanic arts, but not in the greatest of arts, and in which it is more needed than in any other art or occupation in this land, and that is, in agriculture. I hope to see the farmer as well educated as the mechanic or the business man or the professional man. And as the population of our cities is increasing much faster than the population of the country, and there is so much dissatisfaction in the cities among the working classes, I think that perhaps the safety and the welfare of this whole country may finally depend upon an intelligent, conservative rural population. To have such, we must have schools to educate those young men who want to live upon their farms, that is, educate them in their own branch of industry. Wisconsin hasn't got those, and she ought to have; and I want to say here, to the members of this legislature, that if you do your duty to your constituents and the state of Wisconsin, you will not long let her hang behind such states as Michigan and other states. Therefore, found agricultural schools and colleges. Our rural population needs this education, and ought to demand it, and, as I said before, the time may come, and come sooner than we expect, that the city population will overturn our institutions in this country, unless we have an intelligent, conservative, rural population to counteract them. Now, the wealthy men of this country are as much interested in this rural population and this education as we are, if it come into riot, as it undoubtedly will come unless there is a change between the powers of capital and labor, as has been recently exhibited.

Another thing I would recommend in that paper is this: Any taxation of a farmer for what he owes as well as for

what he owns, is wrong. Many years ago I introduced into the legislature, into the senate of this state, a bill to prevent that. I could not find a lawyer in the city of Madison, not even your Attorney General, who would assist in drawing up a bill. I, being a farmer, did the best I could; but it was impossible to pass such a measure. You could have passed it in the house, but not in the senate. There were too many money lenders there. The tax on real estate and personal property, that is upon our farms, is oppressive. Many men in this country who have incomes much larger than any of our farmers, pay no taxes on that income. A man who has no income can't afford to be taxed very heavily, and those incomes ought to be taxed. And therefore I agree with Mr. Parker, that mortgages ought to be taxed, and notes ought to be taxed, and ought to be outlawed where they have not received the stamp of the assessor. (Applause.)

Mr. Parker — God forbid that I should say anything, or express any sentiment in my paper, adverse to the farming class, or the agricultural class, as my friend Anderson has called it. I was raised on a farm all my life; and if the gentleman will pay attention to what I said, he will see that I stand on the same ground as he. I advocate the establishment of trade schools -- and agriculture is the best trade on earth. (Applause.)

WHAT SHALL WE FEED OUR HOGS?

BY PROF. W. A. HENRY.

The Census of Wisconsin for 1885, shows a total of 1,047,156 hogs slaughtered, bringing to the farmers the sum of \$10,323,776. By comparing these figures with the returns from some of the other industries, we can get a better idea of its magnitude; from cheese and butter together a total of \$8,835,215 was received, from wool \$1,337,088, so that the pork product of the state for 1885, exceeded the total receipts in the state for butter, cheese and wool.

With an industry of such magnitude, it is of the utmost importance to carefully study its method and management. While the aggregate sales for the state, foot up over ten millions if the pork has cost all or nearly all of that sum for production, there is really little left except the pay for the mere labor of producing this vast amount of human food. Are we sure even of good wages in all cases, let alone any profit beyond this? With prospects for low prices to prevail in coming years, it stands us in hand to study the most economical method of production, if in the future this industry is to maintain its present magnitude and if we are to be left anything for capital and labor invested.

By methods of breeding and selection I need not here stop to describe we find our stock of hogs possessed of wonderful ability to put on fat and maturing at a date that seemed impossible a half century ago, but with these advantages have come the evils entailed by the forcing system. Pigs are tender at birth and die very easily; if luckily they survive the dangers that beset their birth, they fall a prey to other diseases that threaten them later on. The great law of compensation seems to run through all these matters and though the model pig as to style and early maturity has come he has brought along with him a host of troubles, that go to make pork raising a business just as full of risks and cares as a generation or two ago when the form was less perfect and the natural time for maturing longer.

While there are hosts of those who bewail the degeneracy of the modern pig claiming there is little good in him, there are others who by watchful care in breeding and rearing go on to success. To such the modern pig is a genuine improvement over the old style, and they utter no complaints at present conditions nor longings for the old style breeds.

As I understand it this is the status of the modern breeds and present conditions: We have better animals than formerly, animals superior to the old ones, but to get the returns from them commensurate with their worth we must

give better care and attention than formerly. *The better the breed the more the care and feed.*

It seems to me that the statement cannot be controverted that we have not studied the feeding of hogs half so closely as we have the breeding. With proper attention in this direction our modern breeds are all we can desire. This brings me to my subject proper: What shall we feed our hogs?

Chemistry and experiments show that animal life is maintained and growth secured through groups of organic compounds, known under the general names of carbohydrates and protein along with fats and mineral matters, the latter for the most part going to nourish the bony structure.

Feeding trials at the German Experiment Stations show that in order to make the best of the feeds and get the best growth in the animals we must supply the pigs with a certain amount of protein and carbohydrates, proportional to the weight of the pigs, and with a certain ration one to the other. I quote here at length from the last annual report of our experiment station, from matter prepared by Dr. Armsby.*

The body of an animal consists mainly of four classes of substances, viz.:

1. Water; which makes up from 40 to 60 per cent. of the weight of the live animal, and is just as essential a part of its tissues as any other ingredient.

2. Ash, or mineral matters; amounting to from 2 to 5 per cent. of the weight and constituting a considerable proportion of the bones and a smaller proportion of the soft tissues.

3. Fat; varying greatly in amount according to the condition of the animal, but seldom falling below 6 per cent. or rising above 30 per cent.

4. Protein; a name given to an important group of substances, of which washed lean meat or the white of egg may be taken as the type. They all contain about 16 per

*Third Annual Report of the Agricultural Experiment Station of the University of Wisconsin, pp. 77-79.

cent. of the element nitrogen, which is entirely lacking in the three other groups, and are remarkably alike in their general properties. The organic part of the bones, the ligaments, tendons and muscles which bind together and move the bones, the skin, the internal organs, the brain and nerves, in short, all the working machinery of the body, are composed very largely of protein. Consequently this group of substances is of great importance, and a due supply of it in the food, particularly to growing animals, is indispensable.

The following table shows more in detail the average chemical composition of different animals, in different stages of fatness.

Average Composition of Live Animal.

	OX.			CALF.	SHEEP.					SWINE.	
	Well fed.	Half fat.	Fat.		Fat.	Lean.	Well fed.	Half fat.	Fat.	Very fat.	Well fed.	Fat.
Water	66.2	59.0	49.5	64.6	67.5	63.2	58.9	50.9	43.3	57.9	43.9
Ash	5.9	5.2	4.4	4.8	4.0	3.9	3.8	3.3	3.1	2.9	1.9
Fat	8.7	17.5	30.5	14.1	10.2	15.5	21.3	31.9	41.4	24.2	42.3
Protein	19.2	18.3	15.6	16.5	18.3	17.4	16.0	13.9	12.2	15.0	11.9
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In the food of the animal, we find the same four groups of substances which we do in the body of the animal, viz., water, ash, fat and protein, and in addition large quantities of a class of bodies called carbohydrates. Starch, sugar and woody fiber are the commonest representatives of this class. They contain no nitrogen. With the exception of the woody fiber they are readily digested.

What purpose, now, do these ingredients of the food serve in the animal economy? To simplify matters, we may leave out of account the water and ash. The chief supply of water to the animal is in its drink, and we do not employ fodder for the sake of its water. The ash is essential to the well-being of the animal, but any reasonably sufficient ration

will abundantly supply the small amount required by the body. There remain to be considered the protein, fat, and carbohydrates. The protein of its food is used by the animal to supply the wear and tear of its working machinery, which, as above stated, is largely composed of this substance; to supply the material for growth in the case of young animals; for the production of wool in sheep; and for the casing of the milk in milking animals. For these purposes it is absolutely indispensable. No other substance can be worked over into protein by the body. The amount of protein which the ration must contain will vary with the nature of the animal to which it is fed, but a certain minimum amount is always necessary.

The fat and carbohydrates of the food serve two purposes in the animal economy. First, they are burned as fuel to keep the animal warm, and to supply the force necessary for its internal and external motions. For this purpose a pound of fat is about 2.5 times as valuable as a pound of carbohydrates. Second, the carbohydrates and fat serve as sources of fat. Their relative value in this respect has not been determined, but it is not improbable that it is about the same as for the production of heat. Finally, when more protein is fed than is needed for growth and repair, this also is utilized as fuel or as fat forming material. For fuel it is worth about 1.1 times as much as the carbohydrates, as a fat producer less than six-tenths as much. An unnecessary use of protein for fuel or fattening, however, is not usually economical, because it is commonly the most expensive ingredient of the food to produce or buy.

In view of these considerations, it is plain that, in feeding for different purposes, different amounts and proportions of digestible protein, carbohydrates and fat will be required in the ration. The attempt has been made to formulate in what are called feeding standards, the requirements of various kinds of animals in this respect, and Wolff's standards in particular have been widely circulated in this country, and have been the subject of no little discussion.

Wolff, in his Feeding Tables, gives the following table to

show the amount of the several food substances required by the pig in various stages of growth:

TABLE I.—FEEDING STANDARD.

Pounds of Nutritive Substance Required by Pigs per Day and per Head.

AGE IN MONTHS.	WEIGHT	Total organic sub- stance.	Nutritive (digestible) substances.		Total nutritive sub- stance.	Nutritive ratio.
			Protein.	Carbohydrates and fat.		
2-3.....	50 lbs	2.1	0.38	1.50	1.88	1:4.0
3-5.....	100 lbs	3.4	0.50	2.50	3.00	1:5.0
5-6.....	125 lbs	3.9	0.54	2.96	3.50	1:5.5
6-8.....	170 lbs	4.6	0.50	3.47	4.05	1:6.0
8-12.....	250 lbs	5.2	0.62	4.05	4.67	1:6.5

Our next table shows just how much of each of these nutritive substances there is in 100 pounds of our common food for hogs:

TABLE II.—FEEDING TABLE.

Amount of Nutritive Substance in 100 Pounds.

FOOD ARTICLE.	Protein.	Carbohydrates and fat.	Nutritive Rate.
* Peas.....	19.71	50.79	1 to 3.0
Barley.....	9.66	66.18	1 to 6.8
Oats.....	9.72	58.25	1 to 6.0
Rye.....	8.48	62.22	1 to 7.3
Wheat.....	9.49	65.57	1 to 7.0
Corn.....	9.11	77.50	1 to 8.4
Sorghum seed.....	7.63	75.38	1 to 9.8
Oil meal (old process).....	25.87	54.97	1 to 2.1
Oil meal (new process).....	27.67	42.80	1 to 1.6
Rye bran.....	10.07	51.65	1 to 5.1
Wheat bran (roller mills).....	12.03	51.64	1 to 4.3
Wheat bran (old process).....	10.16	53.95	1 to 5.3
Wheat shorts.....	10.25	34.57	1 to 3.3
Sweet skim-milk.....	3.5	6.75	1 to 1.9
Buttermilk.....	3.0	7.9	1 to 2.6

* These articles have from ten to fifteen pounds of water per hundred in them with the exception of the last two of the list which contain about ninety pounds of water and ten of solids in one hundred pounds of substance.

By "nutritive ratio" is meant the proportion of protein to carbohydrates and fat; the fat being in every case reduced to its equivalent of carbohydrates, by multiplying it by $2\frac{1}{2}$, and adding thereto.

Let us familiarize ourselves with these last two tables and see to what conclusion our study leads us. Wolff shows that a fifty-pound pig requires thirty-eight one-hundredths of a pound of digestible protein and one and a half pounds of digestible carbohydrates and fat daily in order to make the best gain consistent with economy in feeding. This shows a nutritive ratio of one to four; that is, we must feed one pound of protein to each four pounds of carbohydrates and fat. When the pig has grown to a 250 pound hog, we should feed one pound of protein to each six and a half of carbohydrates and fat.

We see in this what we would naturally expect; the older the pig grows the less need there is for feeding lean meat making food.

Examining the table of feeding articles we note that corn has a nutritive ratio of one to eight and four tenths; that is, when fed to the hog or other animal he gets over eight pounds of carbohydrates and fat to one of protein. As the pig requires one of protein to four of carbohydrates, we have given him in corn a food entirely too poor in protein or too rich in carbohydrates; express it which ever way you may choose.

To give sufficient protein to the pig by feeding corn we must feed him about twice as much carbohydrates as he should get, thereby supplying an excess of fat making food. Farmers understand this in practice, and express it by saying: "Corn is too fattening or heating."

Studying our tables of foods we note that peas are very rich in protein, having one pound of protein for less than every three of carbohydrates. Peas then are too rich in protein or lean making food, even for pigs, and much too rich for grown hogs. Here then we have a food which can be grown on the farm, that can be mixed with corn with benefit. Wheat shorts is another food rich in protein; too rich in fact,

to be fed the most economically alone, and is one of the best to mix with corn for hog feeding.

Skim and buttermilk are also rich in protein and most valuable adjuncts in feeding young pigs. The dairy farmer has excellent opportunity to keep healthy thrifty hogs and should study to utilize his by-products of skim and buttermilk to the best advantage.

Let us study the two tables again to see how we shall proceed to make up a ration for swine. Suppose we have 100 pigs weighing, say fifty pounds each; by the next to the last table we see these 100 pigs will need in one day thirty-eight pounds of digestible protein and 150 pounds of digestible carbohydrates. Suppose we have corn or corn meal and shorts on hand to feed them with; in what proportion shall we mix the shorts and middlings to get both sufficient quantity and proper proportions?

Suppose we were to mix 200 pounds of shorts with 150 pounds of corn meal; how would this compare with our wants as figured out by the table. Take first the 150 pounds of corn meal:

$$150 \times 9.11 = 14.66 \text{ pounds protein.}$$

$$150 \times 77.50 = 116.25 \text{ pounds carbohydrates.}$$

With the 200 pounds of shorts we have:

$$200 \times 10.25 = 20.50 \text{ pounds protein.}$$

$$200 \times 34.57 = 67.14 \text{ pounds carbohydrates.}$$

Adding the amounts of protein together we have:

$$14.66 + 20.50 = 35.16 \text{ pounds protein.}$$

$$116.25 + 69.14 = 185.39 \text{ pounds carbohydrates.}$$

The requirements were 38 pounds of protein and 150 pounds of carbohydrates. With this mixture we lack nearly 3 pounds of protein and have an excess of over 35 pounds of carbohydrates.

By this we see, that in our first trial we have taken too large an amount of corn meal for our ration.

By increasing the shorts to 300 pounds, and reducing the corn meal to 75 pounds, we get by the same process of multiplying and adding, a ration of 37.58 pounds of protein and 161.83 of carbohydrates. This is still too much in carbohydrates and not quite up to the standard in protein.

By taking 325 pounds of shorts and 50 pounds of corn meal, we get 37.37 pounds of protein, and 151.10 pounds of carbohydrates; figures near enough for all practical purposes.

I have given the above to enable those who desire to use these tables, how to calculate rations.

Of the necessity of a better knowledge of how to feed our hogs, I need not here stop to argue. While Indian corn is one of the very best feeds, both in what it costs and its results, we have produced it so abundantly that we have abused its use, and the hog, of all animals on the farm, has suffered most in this regard.

[The remainder of this lecture was devoted to explaining feeding trials at the Experiment Station, when part of a litter of pigs was fed a ration rich in carbohydrates, and the rest of the litter was fed a ration rich in protein. The reader will find this experiment given in full, with illustrations, in the report of the Experiment Station, which is bound with the report of the State Society.— SECRETARY.]

DISCUSSION.

A member (referring to the description of the experiment given) — How old were those pigs?

Professor Henry — One hundred days old at the beginning of the trial.

Mr. Haff — I want to ask you a question: the three pigs on your left, the corn fed pigs, were in a capital condition to have the cholera or some other disease?

Professor Henry — That deduction I want you to make rather than I. Isn't that your idea?

Mr. Haff — That is it exactly. They were just in a fit condition to become, if they were not, diseased hogs.

Mr. Fish — When you butchered those hogs, Professor, what was the live weight of the two different lots?

Professor Henry — The three proteine fed pigs were about 16 per cent. heavier. They weighed 116 to every 100 of the others.

Professor Henry — It would have been better for the farmer and for the pigs both; better for the proteine and the corn fed, both.

Mr. Wright — At the present prices of oats, bran and shorts, which is the best to buy, according to the experience you have had?

Professor Henry — Oats are the best feed you can get; but they are too expensive for ordinary feed; let the livery stable men have them. If you have a nice animal, or one you want to lift over a difficult point, feed them; but when it comes to feeding pork at four cents you can't make anything feeding oats. Bran and shorts, one or the other, as you can get them, is the very cheapest food you can buy, simply because we are near the great wheat mills. If you lived down east it would be different, and I want our Wisconsin farmers to see the importance of it, because the price of those foods is going up rapidly.

The chairman — I think it is desirable to explain that a little. What Professor Henry says is a confirmation of what all good farmers know. We knew it, but we didn't know the reason why it was so; his experiments have proven exactly why the bones of the hogs fattened on this kind of food are stranger than those fattened on that kind of food. Now the Professor says that those foods, such as bran, containing nitrates, are the foods that forms bone and muscle, and we all know that those are the foods that will best develop bone and muscle; and he advises us to buy that because it will produce the best result. I think he may be misconstrued. I don't think he advises that kind of food in fattening, to finish off the animal, and I don't think he intended to convey that.

Professor Henry — I thank the chairman for correcting me. It is correct that the nearer we approach to maturity and the more we wish to fatten the animal, the more carbo-hydrates we may feed with safety,— such foods as corn and barley. And I would say now, if I may be allowed to digress, that in fattening steers the farmers will find it greatly to their advantage, instead of feeding so much corn,

either ground or in the ear, to feed bran or shorts with it. There is no food so good to feed steers as bran.

Mr. Fish— I want to ask one more question in regard to those pigs. Suppose you had both lots of pigs alike on the bran and shorts for one hundred days, and then decreased the bran and fed half corn; would you have had equally as good results or better on both lots, — of course if they were fed alike they would have been about alike.

Professor Henry — Yes; I think I would. Now my experiment was not to see how to make the cheapest pork, I wanted to see if I could make a difference in the pork. The work may cost between five hundred and a thousand dollars to feed those pigs before that work is put before the farmers; but what is the difference? What matter what the first telephone cost as long as you now have a patent on the thing and can charge ten dollars for every instrument? No matter if the first telephone cost a hundred thousand dollars; it is the principle we want, and I am trying the experiment right along. I have left off the dry blood, I know the farmers choke over that, — that gags them, and I am trying if without that I cannot produce a great difference.

Mr. J. C. Martin — I would like to know your opinion of cooking food.

Professor Henry — We are experimenting just as rapidly as we can on the question of cooking food. It is not positive yet with us, but if I can take what is done in the other experiment stations and then our own work, I will say that it is almost positively proven that for ordinary fattening purposes with ordinary feed, it does not pay to cook the food. If you have sick hogs, if you have hogs out of order, or sows with litters, it may possibly pay: but for making pork at four cents a pound, I think it does not pay.

Mr. S. C. Fish — I have often heard the remark made among the farmers that before they would pay the present prices for bran and shorts or ground feed, they would have their wheat ground up and feed that. Now I want to ask the Professor the relative value of the wheat grain as compared with the value of the bran and shorts for feeding pigs and cattle.

Professor Henry — If you are fattening hogs for the market the whole wheat ground would be nearer a perfect food, but in the getting of a given amount of food for a dollar, bran is cheaper than wheat by half to one third. If a farmer can buy some corn and put it with bran to feed his hogs he will do better than to feed wheat. The inside of the wheat grain is pure starch; and, as the world goes now, it is good enough for human food, but it isn't good enough for hogs. (Applause and laughter.)

Mr. Toole — Do you think that there is any connection between hog cholera and corn feeding?

Prof. Henry — Most certainly; food affects the constitution of our stock, and so, indirectly, its liability to disease.

And now, before we adjourn, I wish to say one word in behalf of our experiment station. It has been living, I think, upon a very small appropriation. We have not complained, I don't complain now of the amount. But a bill has passed the senate at Washington appropriating fifteen thousand dollars to each state for experimental work. If the lower house can be induced to pass the senate bill, and President Cleveland sign it, we would then have our income at least doubled, and of course we could do a great deal more work. The present sum we have to work on is a sort of maintenance rate; it is just about enough to keep the station alive, but it don't give us much for working after we are kept alive. It is like feeding a cow enough to keep her system up, but leaving nothing for milk. And I hope before this convention adjourns there will be a resolution passed favoring that bill before the lower house.

We issue each year a large number of station reports and occasional bulletins. Those farmers that desire these papers will receive them free as fast as issued, by leaving their names and post office addresses with me. I suppose we have the names of two-thirds of the members of this body; but if you have friends that would like to receive these reports and bulletins, remember they are free. We are having calls for them from Germany — I had one the other day from Arizona, and they come from Washington Territory.

And our little station here in Madison — I must say it — we are getting a good deal of remark. And with our institutes and our station we are going to become one of the grandest states of agriculturists in the northwest; let us hang together and pull together as we are doing now, and our success is assured. (Applause).

9:00 A. M., THURSDAY, February 3rd.

President Sanger in the chair.

PRACTICAL EDUCATION FOR THE FARMER'S BOY.

BY CONDÉ HAMLIN, PRIN. HIGH SCHOOL, BEAVER DAM, WIS.

An education to be practical must be an education that can be utilized by its possessor. In the view of many who measure utility by dollars and cents only, a practical education is too often synonymous with the most meagre knowledge requisite for the transaction of business immediately engaged in. Those who hold such views affirm that an ability to read an ordinary paper, to sign one's name, and perhaps, to add a column of figures is a practical and consequently a sufficient education.

To the three R's, others would add geography, grammar or composition, history, and, perhaps, civil government, and this fuller list comprises what, in the opinion of most people, is considered a practical education. We hear so many changes rung on this word "practical," a word especially pleasing to the American ear, that I shall attempt to measure the education so designated above by it. Though many think that an education has been made practical when the humanities, higher mathematics, and sciences have been eliminated, let us see whether this remainder as generally taught, will stand the test of its own measuring rod. To do this we must examine the method of teaching for, if practical studies are neutralized by impractical instruction, a force is destroyed by its own power.

First on the list, both in importance and time devoted to it, is arithmetic, *the* study in the eyes of the farmer's boy, for even as a boy he perceives its great utility; but how is arithmetic usually taught him? Judging from experience, he is crowded through the book, which with wonderful inconsistency is usually dubbed, "So and So's Practical," he works on the examples much as he would solve a Chinese puzzle, for the sake of the result given in the list of answers, and when that result is obtained, it matters not whether he understands the combination of numbers on his slate or not, the work is generally in the estimation of teacher and pupil finished.

As a result of this sort of work, when he leaves school, he estimates his knowledge of this all important science by the number of times he has "ciphered" from cover to cover, and not by his understanding of the principles involved. The celebrated painter, Opie, when asked with what he mixed his colors, answered, "Brains." Would that our pupils were always taught to use brains or judgment in their work, developing each part by reason, thus strengthening that important faculty! Then a rule would not be to them a cabalistic saying to conjure knowledge with and to be forgotten in the moment of need like the "Sesame" of Ali Baba, but a mere statement of results of reason which have become a part of their mental existence. Upon examination this so-called practical arithmetic is found to contain a mass of curious matter, the relic of days when the number of studies being fewer, it was necessary to supply drill work of this kind to keep the scholar out of mischief. There are tables of measurements never used by the ordinary man, curious problems in arithmetical and geometrical progression, puzzles in alligation, probabilities, compound interest, and life insurance and problems in finding the contents of figures such as a carpenter would never be guilty of making — all in all, a collection of examples the parallels of which a man never meets in practical life. Questioning will too often reveal the fact that our boy in search of a practical education is devoting as much time to these well-nigh useless subjects as to the four fundamental operations, upon his

expertness in which depends all business success, or to the subjects of interest or percentage, a knowledge of which is in almost constant requisition. He is more likely after his experience with common fractions to be able to laboriously calculate how much $\frac{13}{21}$ ths of $\frac{37}{69}$ ths of an apple are than to be able to expeditiously use fractions whose denominators are 3, 4, 5, 8 or 10, and which are constantly used by the business man. He is almost invariably unable to draw up a common note or check. While teachers acted as animated guide-posts, with index finger pointing a general direction, such a result was to be expected, but the present demands more improved methods of instruction. And so long as arithmetics are not compiled with regard to the transactions of daily life, we must depend upon the teacher for a proper estimation of the relative value of the subjects usually crowded into the text-books on this subject.

Probably while so much energy is being misapplied as above described, the boy's mother-tongue is almost entirely neglected as to its use in speaking and writing. If grammar is taught, and it is very often neglected on account of the pupil's dislike and the teacher's ignorance of the subject, our boy learns some to-him-incomprehensible definitions and mumbles over some stereotyped forms of parsing, developing about as much reason as the pupil showed who, parsing the word "cow," in the sentence, "Mary milked the cow," said that cow is a "pronoun, third person, singular number, feminine gender, and stood for Mary because if she hadn't, Mary couldn't have milked her." Even while pursuing this study, his careless and incorrect expressions are allowed to pass uncorrected, rambling sentences are unpruned, and too often our boy leaves the school-room unable to write a common business or social letter that might not be mistaken in appearance for a production of Josh Billings or Artemus Ward. Certainly a practical education should comprise the ability to write and to speak with a fair degree of correctness and, if possible, with fluency, but what can we expect when an applicant for a teacher's certificate says there are two genders, "man and woman"; and another informs the directors, that he will teach that the earth is

round or flat, as they prefer. I do not mean to argue a general condition from individual examples, but drift-wood shows the direction of the current, and it will certainly do no harm for parents to watch with care the school work of their children.

The work in geography is generally too largely concerned with capes which ornament a sea-coast for which only a sailor has any use; with the unknown interior of the "Dark Continent," or with the boundaries of indefinitely known countries in Asia, instead of primarily dealing with the boy's own country, the location and industries of its great cities, the adaptability of different sections to different products, the means of inter-communication, and then, if time allows, its connection with the other civilized parts of the world. Our country is so large that it is almost a world in itself; most of us expect to spend our lives here, and it is a sad commentary on many courses of study that our children have a better idea of other countries than of their own. To them the word Vienna, brings as vivid a picture as the word Chicago; they can tell the location of Calcutta better than the location of St. Paul; to bound their own county would be impossible to a large number, while many have a lingering superstition that north is "up-hill," and south is "down-hill."

Most of the text-books on United States history give a disproportionately large part to colonial history which is valuable as history but not of as much practical use to the pupil as a knowledge of events and progress since 1776. The later periods of history are more pregnant with value, but as a rule pupils are acquainted with events inversely as they approach their own time and threshold. What is learned generally resembles a sheaf of dates and disconnected facts bound together by the cord of memory. As the cord usually weakens soon, the knowledge is scattered and our boy remembers the history of his country as a memorizing task to be thought of with a shrug, and in the future everything bearing the name of history is likely to be avoided. The origin and general views of the great parties of the country are left unexplained; the deeper lesson of the struggle of

mankind to better its condition, the wealth of experience to be obtained from the life of nations and of individuals is left undeveloped. The date of a battle, the number engaged, the number killed and wounded are carefully memorized in ignorance of the fact that a number of the battles which changed the destiny of the world were fought with, comparatively speaking, a handful of men; that many sanguinary conflicts have had absolutely no result except in lessening the world's population — indeed some of the grandest victories in the march of progress have been gained without bloodshed.

If this boy of ours reaches civil government in his search for a practical education, he is set at work learning; "We, the people of the United States, in order to form a more perfect union," etc., and necessarily half comprehends the constitution he memorizes, over the meaning of whose clauses our best statesmen have debated in many instances without reaching a conclusion. As a citizen he will vote for town, county and state officers and directly for only one United States official, but he leaves school to learn by accident or inquiry who the town, county and state officers are, how they are elected, and what their duties are.

To the studies enumerated above which ought to be studied and studied rightly in the common school, it seems there ought to be two additions with which without doubt you will heartily agree: Book-keeping, that the farmer's boy may know how to keep his accounts in a regular and approved manner, to know at any moment his resources and liabilities; and Physiology, taught especially with the view of impressing hygienic laws that the farmer's boy may know something of his physical being and how to best care for his health. [Physiology is now taught in our common schools.]

It has seemed logical before discussing the question as to what and how much education is practical to thus inquire whether the ordinary branches are taught in the most effective manner. If not, the first requisite for obtaining a practical education for the farmer's boy is to have him instructed in a common-sense way, thus saving time, of which he has

little enough for school, and gaining better results. The great object of education is to teach a child to think, and not to induce mental dyspepsia by poking him full of facts as the geese of Strasburg are rammed full of ground corn to enlarge and congest their livers. Do not place the blame entirely upon the teacher, for the sentiment of the community is directly and almost wholly responsible. Vedder says: "What comfort some pedagogues might derive from the thought that wise pupils can learn as much from a fool as from a philosopher." We are too prone to satisfy our conscience with such negative wisdom while we allow our children to be the victims of positive injury. Let efficient and practical instruction be demanded, and a reasonable compensation offered, and it will be forthcoming. Our farmers carefully look after the condition of their barns (indeed, like a class of Pennsylvania farmers, their barns are sometimes better than their houses); their cattle are fed, watered and cared for with exactness, any new piece of machinery which seems of value is promptly purchased; but the school-room where his boy is to gain an education by which he is to have a fair chance in the world, the teacher whose influence is so terribly powerful, are left almost entirely to the chances of fate; supplies are too often grudgingly given with the idea that the teacher will not earn his pay if auxiliaries are allowed, forgetful that the pupils, their own children, are the real losers or gainers, and forgetful of the fact that, if it is worth while to hire a good workman, it is the truest economy to provide him with efficient tools. Year after year, our Fourth of July orators proclaim that on our public school system rests our national prosperity. If this is so, it is strange that our grand country has not made an assignment, for it is amazing that we, as a people spasmodically pay liberally for popular education, boast of our generosity and take no personal interest in seeing that the work is well done; but, as a nation, we pay our money to keep up our national pride and quiet our conscience, and then take more interest in raising a blooded colt or prize stock than in fitting our sons to break the record in the race of life or carry off the blue ribbon in this "Vanity Fair."

Part of the education outlined above is so practical and necessary that it is generally conceded that it ought to be demanded by law; none of us would care to be ignorant of the remaining branches. How much further is education practical for the farmer's boy? After some thought it seems that the most tenable position is that there is no material discrimination to be made between the farmer's boy and any other boy. "No system of education is worthy the name," says Herbert Spencer, "that is not a ladder with one end in the gutter, the other in the university." Are we to frighten the farmer's boy off the ladder after he has mounted the first two or three rounds? The amount of literary education to be obtained by the farmer's boy is determined by his ability, means and opportunities; its utility is dependent on his own character. There are people who succeed with an inferior education, while others fail, after receiving the best that schools can afford. Education, however, in its ordinary sense, referring to a more or less general literary culture, is certainly as valuable in itself to the farmer's boy as to any other. In addition it has, of course, a value relative to the farming classes, not value in the selfish class view, but in respect to the general public. Aside from the materialistic view, that upon the products of the farm depends the very existence of mankind, the farm and the history of any country are closely connected. Egypt for centuries has been the hand-maiden of other countries, because her farming classes were, by nature of the climate and the despotism of rulers, repressed; from the combination of the beauty of his surroundings in ancient Attica, and the strength gained by tilling vine-clad hills, the Athenian was evolved who has posed before the world as the model of beauty and intellect; the legions of the farmer soldiers of Rome, with their knotted muscles, bore the eagles to world-wide supremacy; the German farmer's son, with brawn from the field and brain from the school, unified a collection of provinces into one of the great powers; the farming classes of France paid the war indemnity with a rapidity that has no parallel in financial history.

In the United States there are 15,000,000 voters. One-half

of these are connected with the soil and naturally are the conservative element of the country; not necessarily so now but surely so in time of need. Attached to the land, a possession which is material and over which they can exercise an absolute lordship, to them the word "country" has a meaning that is not comprehended by wage-workers in city factories. Less intensely affected by the fluctuations of the world around them, the farming element is pre-eminently the strong element of any country and especially so of our own, where permanency of government depends on the stability of the masses. The united vote of the farmers can practically carry any measure for which it is cast and it is logical ground in these days of iconoclastic attacks on time-honored principles that the farmer's boys should be educated sufficiently to detect the fallacies of Henry George or of the many doctrines hostile to society. If anyone is disposed to look upon this as an ultra-cautionary measure, let him consult the history of the French and English farming classes, remembering that other republics much more compact than ours have lasted 500 years while we are yet in our infancy. "If a nation expects to be ignorant and free, in a state of civilization," says Jefferson, "it expects what never was and never will be." To be sure we live under the conditions of the nineteenth century and that is all the more reason for using the means Providence has placed at our disposal.

Every day adds a regiment; every year adds a nation from across the sea to our people. Our government with curious inconsistency requires those born in this country and brought up under its institutions, to serve an apprenticeship four times as long before being made a participator in the government. What is there to offset this potent influence exercised by those who are practically ignorant of the powers they are abusing? Nothing but the intelligence of its citizens and especially of the farmers, among whom so many emigrants settle.

It is the nature of man, and especially of an American to strive for something higher. Without ambition, indeed, must he be who, in an age which science has made the

grandest of history, feels no pride in trying to keep step with the march of progress, but is willing to drop into a Rip Van Winkle lethargy, while the world moves on. In the early history of the country farmers played a most important part, but in later days this influence has weakened and farmers, who ought to be well represented in the highest positions, both from principle and numbers, have allowed other professions to usurp their places because, as a class, they have failed to educate themselves to the required standard. As a result, the farmers pay the bulk of the taxes and other classes control the expenditures. From the time when Cincinnatus was taken from the plow to guide the destiny of Rome down to the time when a farmer's boy, who had received an education, won his reputation as one of the great generals, farmers have occupied, and are now occupying, positions of the highest importance in the state. To obtain honors, one must deserve them; to deserve them, one must be fitted for them; and never before was the need of education more urgent than at present, and, as the transient conditions which may make the poor man of to-day the millionaire of to-morrow pass away, the need of thorough and systematic training will be more keenly felt. Yet the schools at the cross-roads have not proportionally kept up with the progress of town and city schools though the great majority of children enter their doors and receive no other education.

From the farm as a reservoir are drawn the supplies of energy which make us a great nation; the human sacrifices which are offered to our Juggernaut of progress. The men who in the great commercial or political centers are managing colossal interests, were on the farm when boys or their fathers were. As they fall in their places, they are succeeded by other country boys for the prematurely silvered hair and exhausted constitution furnish no heirs worthy to succeed to their places of influence. The wit that makes the world laugh, the beauty that holds it entranced, are the result of generations of hard-headed but cultured farmers, who unconsciously were adding to the

world's treasures by storing up health and brain power as they followed the plow in the furrow. A subtler chemistry than our text-books know, combines the oxygen of country air, the phosphates of healthful food, the practical wisdom handed down at the fireside, the cultured education into the vigorous brains which have made the world. It produces a Washington, a Gladstone or a Grant. It is a chemistry whose mysteries we should seek to know, but whose formulæ are completely understood by the great Creator alone and let not those who ponder how to improve the strain of animals, debate about the advisability of trying to improve the human race.

But there is another and higher value in education. It widens the boy's view of life until it no longer seems a keen pursuit of the "almighty dollar"; it shows him the independence of his position and, making him the equal of those in other professions, satisfies him with the farm. Nothing would so greatly calm the feverish desire of our people for something "big" — a desire which has made us a nation of extremists, as the influence of a well educated farming class. The wisest of the ancients said: "Wisdom is better than rubies; and all the things that may be desired are not to be compared to it." It lifts a man up and out of his narrow self, broadens and ennobles him. It widens the boundaries of the farm and brings him into sympathy with a world; it gives him an estate no wealth can purchase, a well-stored mind, and tends to make him more of an ideal American citizen.

No one would wish to champion the view that the more a man becomes a man in the fullest sense of the word, the less he is fit for farming. Some of the greatest men after winning the highest intellectual and political triumphs, have been glad to return to the farm and there have passed their happiest days. Many examples will occur to you besides the Roman emperor who wrote to his colleague: "If you could see the cabbages I have planted with my own hand, you would never ask me to remount the throne"— or the Father of Our Country, who gladly laid aside the cares of office to return to his beloved Mount Vernon.

With the farmer's boy's technical farm training, it has been left to others to deal. It certainly comes under education in its complete sense, but not under education as generally understood. The carpenter learns his particular trade in the work-shop; the blacksmith, at the forge; the sailor, on the ship; the merchant, in the store; the farmer, on the farm.

Educators have not yet decided that it is the duty of the state to furnish trade schools; but inasmuch as state societies and a natural bureau of agriculture have been established, it would seem that the extreme importance of agricultural interests, the necessity of applying general and particular principles of many sciences to many varying circumstances have made an exception in favor of farming. The economic conditions of the country are rapidly changing. Land is becoming more valuable, and anything which will enable us to wring more from it, to economize its fertility, to make two blades of grass grow where one grew before, is worthy our attention and support as a people.

It has been computed that the money wasted in the state of New York in the vain search for coal beds, where geological laws would have shown that no coal could be found, would have supported the school system of that state for many years. If this be true, who would dare to attempt to compute the loss that has occurred through the ignorance of the farming classes? a loss which might have been a gain to the wealth of the country and the intelligence of her people.

And finally the germ of our liberty sprouted in the furrows of the new world. The grandest document of liberty was drawn up and signed by farmers, and Lexington, Concord, and Bunker Hill will bear witness to the heroism of farmer soldiers to the remotest limits of time. Considering that the invention of farming machinery to uplift the farmer's condition has been the pride of American genius and considering the part that farmers took in organizing and conducting this government, we may well call our civilization, without conceit the grandest in history, "the civilization of the farm." Time will require the farmers to protect this legacy bequeathed them by their forefathers.

THE PROBLEM OF CATTLE FEEDING IN WISCONSIN.

BY A. O. FOX, OREGON, WIS.

Mr. Chairman, Ladies and Gentlemen:—No one in this splendid audience can regret more deeply than myself the unfortunate selection which Mr. Newton has made of the person to treat upon this subject, which is of such deep and vital importance to every farmer in Wisconsin. No one of you can possibly appreciate more keenly than I, the great benefit to be derived from the sound, conservative counsel, of maturer years. There are men in this state, whose familiar names I might call, whose age and ripe experience would entitle their opinions to far greater consideration than mine. Knowing this, had Mr. Newton invited me here, I would most assuredly have said No. He did not even give me this privilege. The only invitation I had, was the receipt of one of these printed programmes of this meeting with my name among the list of speakers. There was not much choice left for me; I had either to go ahead or back out. I don't know much about the backing out business, so I concluded to go ahead, although I had much rather sit here and learn from abler, older men, than to speak, and take the chances of falling into the errors of the Shakspearian character, who was "trying to tell the world, what the world was all his life trying to tell him."

This subject is of so great importance and occupies so vast a field that to do justice to it in a brief essay is impossible. I shall simply undertake to delineate the salient features in as clear a light as possible, so as to fix in your minds the prominent facts, with the hope that by future thought and discussion they may be elaborated upon. I believe the honest purpose of these conventions and of our institutes, should be to extend a helping hand to those of our following who are tediously plodding in the dark, who are overworked, empty-handed and dissatisfied with the returns for their hard labor, the moneyless farmers, they are the men I

wish to talk to. This should be no mutual admiration society. The successful farmers, or as they are sometimes called, the monied farmers, the rich farmers, do not need advice from anyone, nor will they thank you for it if you give it. They, having acquired means, know very clearly what suits them best to do with it.

I wish it understood, therefore, that I address myself directly to the former class, who are working and toiling with little or no capital, who have no large barns nor expensive appliances and are not able to build any. I want to encourage you. I want to demonstrate to you that you can by careful management and study of the details of your feeding, make good profits on your cattle with very little money tied up in buildings, and nearly all of it invested in your stock and feed, where it may be made to turn quick and reasonable profits.

I want to tell you that if you have a farm in Wisconsin you ought to be happy. You are living in the very garden of the great Northwest. You have the greatest diversity of farming, the best climate, the best market facilities, the best schools and social advantages; and while you may not live to become millionaires, you can live to enjoy all the reasonable healthful comforts of life. You can live to see your farms and stock improve, your fences get stronger, your buildings more substantial, the interior of your homes such as to gladden the hearts of your wives and children. You can give your children an education that will teach them to appreciate their surroundings, teach them to become good and useful citizens, and when at last you are called upon to leave them for the great unknown, you will have, that for which many a millionaire would give his pile, but which money can not buy — their love, gratitude, and everlasting blessing.

My purpose here, is not to lay out elaborate systems, and advise you how to spend what little you have got, but to try to help you save it, to economize it, to add to it, until such time, as you may be able to build your big barns, and buy your equipments, without borrowed money.

In my paper, which I am about to read, I will discuss only the simplest methods, such as can be followed without one dollar's additional outlay, and will give you facts and figures that you can take home and use in your own barn yards and pastures.

THE PROBLEM OF CATTLE FEEDING IN WISCONSIN.

To the general farmer of Wisconsin, the cattle revenues are derived chiefly from two sources — those of dairying, and feeding for beef. I will speak only of the latter. Leaving the technical subject of breeds undiscussed, there comes the vital propositions: What class of cattle are best adapted to our needs for making beef? How can we produce them the cheapest and feed them with the greatest economy? At what age had we best sell, and at what time, or times of the year shall we sell? In determining these questions, we are at once presented with the prime economical factors of demand, supply and cost of production. From about the 1st of September to the end of each year may be seen trainload after trainload of western grass cattle, amounting to thousands daily, sold upon the Chicago market. The net return to their grower is found by only deducting from their selling price, the commissions, cost of labor, transportation, and interest on capital. Now add to this the interest on the money invested in our farms and the exorbitant real estate taxes, which we have to pay, and we have approximated the price which we would have to get for the same cattle. It is plain to see the folly of our attempting to raise and sell this class of cattle, or compete against them. We must produce a class of cattle which they can not, and place them upon the market at such times of the year, as are impracticable for them to get there with theirs. We need only spend a day in the Chicago stock yards to learn which class of cattle are the most sought, the hardest to get and fetching the highest price.

Here is a copy of the Chicago *Drover's Journal*: I guess every stockman in Wisconsin knows that paper. In its review of the cattle market it says:

"Values were stronger for good to choice qualities, while inferior to fair cattle sold slowly, at unimproved rates. There were some thin and rough cattle extremely hard to sell."

This short paragraph has a great weight of meaning in it, and affords us a splendid lesson if we only comprehend it. Values were strong for choice qualities; while inferior cattle sold slowly; rough cattle were extremely hard to sell.

Among their sales they quote as follows:

Shipping and export range from \$4.00 up to \$5.35 per 100 lbs.; dressed beef range from \$3.00 to \$4.35 per 100 lbs.; common and mixed lots range from \$1.40 to \$3.70. This latter price, \$3.70 being for some steers averaging 1,260 lbs., while among export cattle, we notice one sale of some grade Short Horn yearlings averaging 1,357 lbs. at 5.50 per 100 lbs.

In order to make comparisons of their qualities, I have selected two sales from each sort as near an average as possible, and cattle whose weights are nearly the same. They are as follows: There were 37 shipping steers, averaging 1,190, sold for \$4.15, while 39 dressed beef steers, averaging 1,185 (only 5 lbs. less), sold for \$3.50, a difference of 65 cents per 100 lbs. Another lot of shipping cattle, averaging 1,520 lbs., sold for \$4.62½ while a lot of dressed beef cattle, averaging 1,521 (one lb. heavier), sold for \$4.25, a difference of 37½ cents per 100 lbs.

Again those choice grade yearlings, averaging 1,357, sold for \$5.50, while a lot of dressed beef steers averaging 1,375 (18 lbs. the heaviest), sold for \$4.90, a difference of 60 cents per 100 lbs.

These sales serve to show us that the price is not governed wholly by the weight; it is the finish; the quality and ripeness; the ability to dress, the most net meat, which makes it valuable.

Another fact; those heaviest steers are 3 to 4 years old, and the last year's gain is exceedingly small in proportion to the enormous amount of food consumed; so that if sold at the same, or even a higher price than the medium weight steers (which are a year younger) they do not net near so much money. This I know from my own experience, and I believe I am backed by the better authority, of the most successful feeders in the states, among whom Mr. Wm.

Lysaght, of Belleville, Wisconsin (now of Monroe), who has repeatedly topped the Chicago market, with his blocky, pony built, young grade steers, at 20 to 30 months old. I have had the good fortune to know this very intelligent gentleman intimately; and among his many kind words of encouragement and advice, I shall never forget his constant reminders, that the profits lay in the quick maturity of the young beasts. Mr. Lysaght began in debt for a farm of 200 acres, with a capital of about \$500. Through his energy, foresight and splendid executive ability, he accumulated about him, acres by the thousands; and there could always be found in his splendid pastures, beasts, that for quality and finish, could not be surpassed at any of our fat stock shows. Mr. Lysaght is a man of broad intelligence; a keen observer of men and institutions, a high toned gentleman of princely liberality toward the needy, and withal a shrewd far sighted, conservative business man.

His departure from the ranks of Wisconsin stock men, is a deplorable loss; but while he is now retired from the farm, his influence will never cease. His splendid example has been an impetus to many a Dane County farmer, that to-day is shown in the energy, thrift, and prosperity of those who were thrown about him, the better quality of their stock, and the improvement of their farms and methods. How few farmers in this state will leave such a record behind them.

Again, Mr. John Gillett, the most successful feeder of the state of Illinois, has made the statement that a steer must not be kept longer than twenty-four to thirty months of age if he is to secure the greatest net return to his feeder.

My neighbor, Mr. Patrick Sherlock, who has about one hundred steers in his feeding yards, shows by his weights that the best gains are on his two year old cattle, as compared with his three year olds. The experiments of the Ontario School of Agriculture, in Canada, also verifies those statements. In their report they give the figures to show that the food required to keep a beast, is directly in proportion to his age and weight.

At a recent meeting of a cattle association, held in Chi-

cago, Professor Sanborn of the Missouri Agricultural College (who has been making some experiments in feeding), stated, "that not one cattle grower in one hundred had any adequate idea of how wonderfully rapid the cost per pound of putting on flesh increases, as beasts advance in age."

The feeding experiments going on under the auspices of the Chicago Fat Stock Show, although done in several states and under various conditions, all point conclusively to one fact: The older a beast grows, the more he eats and the less he gains in proportion.

Our common, native cattle, fill about the same place in the market with the western stock, and sell for about the same prices, sometimes less if anything.

Most of the western cattle and our common natives, are from three to four years old when marketed, while our best high grades are easily made ready at one year to two and one-half years old.

These thick, meaty young grades, always bring from one cent to four cents higher price per pound than the other sort.

Here is an advantage of at least one year's time and at least two cents a pound higher price, besides the fact that they have consumed less food to make a greater gain.

There is another very important fact — when we buy our feeders we can buy the young cattle for a great deal less price per pound than older cattle; and when we *sell* them, we have two profits: one, in the increased weight which we put on, and the other, a very handsome profit in the increased value and price per pound of the original carcass over its first cost. We must be alive to these facts and advancing. We must elevate our standard of excellence by a careful selection of such cattle as will make strong, thrifty feeders, capable of digesting and assimilating the greatest amount of food that can be developed in the shortest possible time into thick, deep-set mellow beef. If we would reap the high prices, our steers must be of the fine boned, blocky, short legged sort, with a deep, well filled heart and shoulder, a straight back well ribbed up, and straight lined underneath. They should have smooth, deep hips, not too

wide, with heavy flanks, carried well down to the hocks. Their heads should be set well up on a short well crested neck. There should be a ruddy, lusty look about their faces, with full, bright, pleasant eyes. They must be soft handlers in the skin, which should be covered with a fine, thick, mossy coat of hair.

I think Mr. Randall, in his book, "American Sheep Husbandry," quotes some one as giving the three great requisites of a good sheep, in these words: 1st, constitution; 2d, constitution; 3d, constitution. We may make a like comparison with our beef cattle, and require: 1st, substance; 2d, substance; 3d, substance.

I can not refrain from telling a story on an old Scotch gentleman who was once called upon to act as one of the judges upon sheep at a fair where I was exhibiting some Shropshire Downs. The expression the old gentleman used carried so much meaning. He and the other judge could not agree as to which sheep was the best. The favorite with the other judge was a tall, rather lathy sheep, with a good deal of day-light under him, while the Canny Scot had selected a broad, deep, short-legged one, so near the ground as to deceive any but a practiced eye. Finally, with arguing, the Scotchman lost his patience, and pointing with indignant pride at his choice, raged out: "O, mon, ken ye nae see hoo he cuvers the ground." That is the sort of steers that can always be fed to a profit. They must *cover* the ground.

Now, I want to describe our scrub cattle, to make the distinction clear as noonday, and to do so, I will quote the language of one of the most successful breeders and feeders of cattle in Europe, Mr. Wm. McCombie, of Tillyfour Aberdeen Shire, Scotland, chiefly to whose energy, foresight, and grand judgment, coupled with that of Mr. Hugh Watson, we have to-day the splendid Polled Angus breed of cattle.

In an essay by him upon the subject of cattle and cattle men, delivered before the Chamber of Agriculture, he was describing the difference then existing between the native Galloways and the Aberdeen and Angus cattle.

In speaking of the Galloways, he said: "They have too much thickness of skin; too much timber in their legs; they are too thick in their tails; too deep in their necks; too sunken in the eye for being very fast feeders; it is difficult to make them ripe; you can bring them three-fourths fat, and there they stick." Again he says: "Thick legs, thick tails, sunken eyes, and deep necks, with thick skin and bristly hair, always point to sluggish feeders."

If we were all to try our level best, do you think any of us could write a better description of the scrub cattle which we have in almost every town in the state, especially in the northern part of the state. Mr. McCombie was one of the most successful cattle feeders of his day in Scotland. He was brought up to it, from a mere lad, under his father. He was not content with standing at the head in every show ring and market in his native country, but went to the great international show in France, and on to the great Smithfield, in England, coping in these places with the best cattle in Europe, winning the blue ribbons, both in the stall and on the block, with his Black Polled Angus Doddies.

Having disposed of the question as to what class of cattle are the most profitable for feeding, we are now presented with the proposition, "How shall we produce them?"

As it is not my intention to open discussion as to the relative merits of the various breeds, I will close this question right here by stating, that so far as my observation extends I believe our most successful cattle men have obtained the best results by a judicious selection of our best native and grade cows, and of sires from the best Short Horns of the Booth and Cruickshank families. By this means we obtain a compact, easy maturing carcass, that can be finished for the butcher with a minimum of feed. The cows are of a very profitable sort, both as breeders and in the dairy. The next proposition for us to determine is how can we mature our cattle, with the greatest economy of time and feed, and with the smallest amount of capital. How shall we market them so as to meet the least competition? These questions bring us to the various systems of feeding, all of which

probably, have their especially good features, varied by peculiar location.

I have never had any experience in a high system of stall feeding. I believe in having large, plain comfortable barns, in practical improved machinery, and equipments for economising time, labor and feed, when built consistent with acquired means. The Silo, too, may have its places, especially in the dairy, and to supplement the root crop in a strictly breeding establishment, although the experience of our Professor Henry; of Professor Wallace, of Edinburg, and others, are timely admonitions to us that the Silo is not yet a necessity to the cattle feeder of Wisconsin. But these things all require the application of accumulated capital, and therefore do not come within my purpose, nor admit of treatment here.

Nearly all cattle feeders in this state, are, like myself, more vitally interested in the plan of feeding in straw yards with sheds, and of summer feeding and grazing. The outdoor system commends itself, especially to men of small capital, who, of necessity must keep all their money in their stock.

In reference to the question of marketing; we know that the great drive of all the western stock; and the poorest stock in our own country, is marketed in the fall months, of September, October and November, and some in December. Now if nearly everybody is trying to get rid of their surplus at that time, why hadn't we better try to sell at some other time; earlier than they can get ready or later than they can hold. That gives us the benefit of the summer market from the 1st of June to the middle of August, and again the winter market, from Christmas to the middle of March. I say the middle of March, because there is sometimes a very bad market from the middle of March till the middle of May, on account of a great many corn fed cattle being sent forward, to get them out of the way before spring's work. There are also a great many thin cattle bought in the fall, by a class of feeders who have little or no grass lands, consequently no provision is made for summering their cattle. They must therefore place these cattle

on the market during these spring months. It is true that owing to various other causes, we sometimes experience a splendid market in the early spring, as we probably shall this coming spring, but I should dislike to be obliged to sell during this short period. When cattle are held late into winter, it is generally safest to plan the feed supply so as to be able to carry them over this critical period, should the market not be in satisfactory condition. By this plan we can generally manage to have a few good cattle ready for the winter market, and others following that will be ready to sell in summer. But the cattle that are intended to go on to grass should be wintered with especial care to avoid loss of weight in the spring.

I was early taught to believe that a beast intended to go on to grass in the spring should not be crowded with high feeding in the winter. My own experience has demonstrated the truth of this. If he has been fed too high, there will be a dead loss for at least thirty days, and frequently longer, especially if the season is wet and the pasture composed of new seeding of timothy and clover. If, however, it is old timothy sod or blue grass sod, they will not fall away so much, and when they once begin to gain, it will be very rapid.

To illustrate this grass question I will give you my scale weights, made upon three different bunches, last summer. It will bring out one statement for which I expect to be closely criticised; but my scales have demonstrated for the past eight years, and I am now fully convinced, that although clover is one of our most valuable grasses, it will not put on the pounds and ounces of thick butcher's meat nearly so well as an old June grass sod or old timothy and June grass mixed. We will go back to our weights again, to show the gains and losses met with upon turning cattle out in spring, and the weights obtained on the various kinds of pasture. Last spring, on May 5th, I turned to pasture twenty-five head of steers that had been fed pretty full rations, although not at all forced. The pasture was composed of timothy and alsike, about four years old. The cattle were from twenty to twenty-six months old, or what

would commonly be called two year olds in spring. The twenty-five weighed when turned out 28,920, average 1,156. We stopped feeding them shock corn, but gave them a noon feed of crushed corn on the cob for about twenty days. June 1st they were weighed again, just twenty-six days from the previous weighing. The twenty-five weighed 30,560 pounds; average, 1,640 pounds; gain, 1,222 pounds; equal to a gain of just two and one-half pounds per day per steer. This is fully better than an average gain, (immediately following turning out), for steers that have been pretty heavy fed before going out; but the noon feed of crushed corn was of great assistance to prevent their shrinking. We have had meal fed cattle not gain a pound on grass at first; even with their rations kept up. We also put twenty-five other steers out on an old blue grass pasture, and five others into a clover field. This bunch of thirty steers had been wintered on moderate rations of shock corn and oat straw; they were what might be called good, thrifty stockers. The bunch of twenty-five put on blue grass weighed when turned out, 74,390 pounds: average, 975 3-5 pounds. Their rations were taken entirely off. At the end of the twenty-six days they weighed 27,040 pounds, averaging 1081 7-8 pounds. This shows a gain of 2,650 pounds, or 106 pounds to the steer in twenty-six days; equal to 4 1-13 pounds gain per day to each steer. The five that were put into the clover field weighed, when put in, 5,300 pounds. They were taken out at the end of fourteen days, and weighed 5,240 pounds, showing a loss of sixty pounds in fourteen days, twelve pounds to the steer, or over eight-tenths of a pound loss per day per steer.

Our experience in turning on to clover in the spring, or early summer has nearly always been on a par with this. We do not always get such large gains on old blue grass; as with the above twenty-five head that gained four and one-thirteenth pounds per day each; but we have always found it could be relied upon, to make steady, rapid gains, running from two and one-half to three and one-half pounds per day, and to develop thick, meaty cattle that always sold well and butchered well.

Permit me to leave my subject just a moment to call attention to another valuable feature of blue grass.

In mid-winter, when all other grasses are withered and rotten, this grass, fresh and cured like hay, lies upon the ground in great thick mats, from six to eighteen inches long. Until the latter part of winter, when the snow becomes deep, hard and crusted, this cured grass is worth its weight in gold for brood cows and brood mares — the latter of which will live there comfortably till near the 1st of March, and if allowed to, they will go back again in April as soon as the bulk of the snow is off, and do well until foaling time. By this means I keep my stock horses at a cost of about \$35 per horse per year, and get strong, vigorous colts.

Now let us go back to our scales again. These weights serve to illustrate, that if we intend to turn to grass in the spring, and not market till mid-summer, our cattle will do much better not to be forced in the winter feeding. They must of course be kept gaining. Such cattle generally make from two and one-half to three and one-half pounds gain per day from the middle of May till the middle of August, without any rations.

The question of feeding grain in troughs in the field in summer, depends so largely upon the condition of the pasture, and of the cattle, also, of the price of grain in the locality, that it hardly admits of treatment here; only to say, that from our own experience, I think that moderate rations of grain fed in pasture, to first class cattle, is always money safely enough invested, and that rather than resort to heavy force feeding in the cold winter months, we are safer and have a surer profit to keep part of the grain for summer use. By this course I have had cattle net me free of all expense \$5 per month, per steer, for fifty days, fed on grass in summer. Computing their cost, their selling price, feed and interest, it figured up at the rate of just 150 per cent. per year, but having made such rapid gains early in the season, it would have been ruinous to hold them in anticipation of their keeping it up. Having given you some facts and figures on summer feeding I will now speak of

WINTER FEEDING.

For winter feeding I am very partial to the shock corn system with hogs as an auxiliary. I believe it is the cheapest feed we can produce, and there are several strong economical advantages connected with its use. In the first place, with it we need little or no hay, — without it we must have hay. Ear corn without hay, is not a suitable ration, with which to feed for any length of time; even with good straw, the cattle soon tire of it; — they will not fatten well, without greater and better variety of feed. When grain is fed alone, without a constant supply of good fodder, to be mixed and eaten simultaneously with it, there is less of the grain digested, from the fact, that much of it is not returned to the mouth as cud, for remastication. It passes directly into the second stomach, and is never remasticated, nor properly acted upon by the gastric juices.

If this statement is doubted it can be easily demonstrated in your own cow stable; — by changing from ear corn to shock corn, or any ration where the coarse feed and grain are eaten simultaneously, — a careful examination of the excrements will place it beyond doubt. This fodder of shock corn, when properly cut, is nearly equal to the best tame hay in nutriment. This fact has been developed by the best feeders, and is backed by analyses of our best chemists, from whose researches we can learn a great deal of value to us, concerning the proper mixing of the various foods, — their relative digestability and nutritive qualities. If you husk your corn it is done late in the fall, when the days are short, and usually so late that the ground can't be plowed till spring. If your help is careless, or the weather bad and corn down under the snow (as is often the case), a portion of it never gets into the wagon.

In Wisconsin it takes a good average husker to husk an acre a day; few will do more. An acre of corn husked the old way (leaving the stalks and fodder in the field to make manure) is worth \$12 to \$14 at the crib. (The stalks left in the field generally make manure by flying to pieces, and scattering all over your neighbor's land.) It will take a

good acre of hay, with the acre of corn, to winter one steer. The hay is worth \$12; the corn and hay together are worth about \$25, at a low estimate; and have required two acres of your good land to produce them. Suppose you cut and shock your corn. On our farm a very ordinary acre of shock corn weighs, when thoroughly cured and dry, in the winter, 5,000 pounds or more. The weight will vary, according to quality and dryness, from 5,000 to 7,500 pounds per acre; but I have generally found 5,000 pounds to be a safe average in an ordinary crop. If you cut your corn the land can be fall plowed; the men can begin cutting on one side of the field, and cut the long way of the field clear across; then you can start a couple of boys with the teams and plows to follow up the corn cutters. By this means the corn land is all plowed in the fall, except where the rows of shocks stand. These narrow rows are quickly plowed in spring, and by going down on one row and back on the next you avoid dead furrows. This advantage is very great, insuring an early matured crop the next year.

The work of cutting and shocking is done in early fall, when the days are long, bright and cool. A good average hand will cut and shock an acre and a half per day. (I have men who have averaged nearly two acres a day through the cutting), but any good, fair hand will average an acre and a half per day, at one dollar per day, by which one operation you not only secure your corn (every ear of it, too), but you also gather your hay crop in the shock, getting both done for one-third less cost than you used to pay for just your husking alone.

Now, I am going to demonstrate to you, that one acre of good shock corn will fatten your steer in fine shape, so that your acre of shock corn is doing the work which took the other two acres to perform, leaving you half as much more land for pasture or other uses. The ear of shock corn being enveloped in the thick, soft husks, is much easier chewed, and when swallowed, the mass of husk and corn enter the first stomach together, from which they are properly returned, for remastication and the necessary salivary action, before going to the second stomach for further digestion.

The ear in the husk is more toothsome to the cattle, they are less liable to get off their feed, and will gain during the six months of winter feeding, an average of 2 pounds a day, besides keeping one to two shoats following each steer. Last year I had one yard of thrifty yearlings that averaged somewhat better than 2 pounds per day during the time they were up, which was 140 days. When yarded they averaged 982 pounds. They were sold in 140 days, averaging 1,267 pounds, equal to a gain of 285 pounds to the steer, or just 5 pounds over 2 pounds gain per day, per steer. They were fed exclusively on stock corn. It took 7-10ths of an acre per steer to put on the 285 pounds in 140 days, and the sale of the cattle brought me just \$32 per acre for the corn, besides the keeping for me of the shoats, and a nice lot of manure left in the yard sufficient to manure six acres very heavy. It could have been made to cover eight acres spread the ordinary thickness.

I will cite another illustration. On the 17th of November, '86, just past, I weighed one bunch of our fattening two year old steers, forty (40) in number, and yarded them for winter by themselves. On December 17th, '86, (just thirty days), they were weighed again. Some of the best bred graded Short Horns showed gains of 100 pounds each, in the thirty days. The lowest gain made by any high grade, being 80 pounds, while the highest gain made by the common and poorest bred was 65 pounds, some 45 pounds and some no gain at all. In spite of the bad gains on the inferior cattle, this entire yard of 40 steers, gained in the thirty days 2,700 pounds, equal to an average gain of $67\frac{1}{2}$ pounds per steer in 30 days, or $2\frac{1}{4}$ pounds per day, per steer.

It took just five and three-fifths acres of very ordinary shock corn to produce this 2,700 pounds gain. The five and three-fifths acres weighed, cured and dry, 27,216 pounds, so that we find it took 27,216 pounds of cured dry shock corn to produce 2,700 pounds gain on the cattle, or about 100 pounds of shock corn to make ten pounds of gain. Estimating this gain of ten pounds in flesh, at the very low price of four cents, it shows the value of the shock corn to be forty cents per 100 pounds, which in this particular field

is equal to \$19.44 per acre, value in the cattle flesh produced, besides the keep of the hogs and the manure. We have generally found it a low and safe estimate to allow \$2.50 per acre for the keep of the hogs. Adding this to the above \$19.44 it gives us \$21.94 as the return per acre, from the field of shock corn which I am now feeding, besides the manure, which we have not figured.

The gain on this lot of steers is, however, worth more than four cents per pound, so that the final result will show a better return than we have here estimated. These figures not only serve to show the gains which can be made on cattle in open sheds. They show which class of cattle make the profits. They show just what one acre of very ordinary shock corn, fed in open yards, will produce.

J. B. Lawes, the celebrated English experimenter, in his cattle feeding, found that with their high concentrated foods, and with their mild climate, it required twelve to thirteen pounds of feed to produce one of gain.

The late John Johnson, of Geneva, New York, one of the most successful cattle feeders in the eastern states, found that with oil cake, corn meal and hay, his steers, fed in sheds, made one-half to three pounds per head per day. His average being about two and one-eighth pounds. Comparing these figures with those produced by our cheap shock corn, it is very interesting and gratifying; we certainly have reason to feel encouraged.

We find we can not put on such certain, nor as good gains in winter, as on grass in the summer, without very heavy feeding; but the light gain on the steer is made up in a great measure, by the carrying of the hogs, and the grand body of manure left after the winter feeding is over. We, therefore, follow both systems of winter and summer feeding, for the two combine nicely, and serve to give us better opportunities to reap the benefit of the best markets at both seasons of the year.

The item of manure, which I have not reduced to figures, is a very considerable one. With the manure we make, we are able to broadcast very thickly, forty acres per year. We find it takes the excrement of about five head of cattle to

manure one acre thoroughly, giving it a deep rich coat. The quantity of bedding used, and the way of watering the cattle, will determine largely the value of the manure. I regard it as imperative, that fattening cattle must have plenty of clear fresh water before them constantly. The water must be of moderate temperature, not ice water. With the improved pumps and windmills now in use, it is within the means of every feeder to have fresh well water constantly delivered in his feeding yard.

Don't drive the cattle to the creek, they don't get the water often enough, and it is too cold when they do get it, you are apt to excite the cattle too much, and further, the loss of manure is too great. I have seen it done a great deal, and I know it is a pernicious practice, and a very considerable source of loss to the man who follows it. Cattle should remain quietly in their feeding yards, from the time they are guarded in fall, until marketed, or turned out to grass in spring.

For a feeding yard I would suggest a southern slope, protected on the north, west and east if possible, with a thick young belt of timber. In this sheltered spot, build your sheds, and deliver the water from your windmill. Be careful not to locate the yard so as to take the wash of any ravines or water courses. If you can find a place that would make you a basin shaped yard, so much the better. We must figure to save the manure as much as possible. Those of you who are familiar with the character of Wisconsin, can readily understand that nearly all of these conditions can be found, or cheaply improvised, on nearly every farm.

I hope you will excuse the savor of egotism in my quoting so often from my own private memoranda. I do not hold up my system of feeding as an example to be followed, but I have used my figures to prove the principles which must underlie any and all successful systems of feeding. I wanted to be clearly understood, and I believe statements backed by plain figures are more easily understood and better remembered. I have tried to present the statements free from any hobbies, and although some of them may not be

quite as accurate as they should be, I believe none of them insecurely founded.

Mr. Fox closed extemporaneously as follows:

Our agricultural interests are to-day paramount to all others in the state. The great advantages of Wisconsin, both in climate and proximity to the best markets in the world, renders stock growing one of the most permanent sources of wealth to our people.

Cattle feeding is one of its most important branches. I hope the time is near when we shall have become so well up in it that we shall no longer tremble at the competition which now is driving us so hard, but that we shall understand every avenue of our business, and will know to a certainty how cheapest to produce, the greatest substance and the best quality of that which commands the highest price, and how to do it in the shortest possible time.

To accomplish these ends, necessitates, not only a broader, clearer understanding of the details of our business, but a more comprehensive view of all things about us. We must have a broader understanding of the laws and institutions under which we live, and which we, above all classes, are so heavily taxed to support. We must be alive to the requirements of the markets of the world, and study how to place our products there with the greatest net return to us. We must, as a class, become educated to a better understanding of these things if we would become organized, powerful and effective. We must work less with our hands and more with our heads. We must mix brains with our business, mix brains with our corn, brains in the culture of everything that grows, if we would succeed.

When these changes shall have been accomplished, we need no longer fear the ravages of corporation legislation. There need be no more agitation of the labor question on the farm. Then may we hope that the generation of sons who may succeed us, will not come home from college with their minds "stuffed with the vulgar errors of the wise," their hearts turned from their good old country home. Then they will not prate with the classic Emerson, of the farm, as "the asylum for man to hide his misfortunes;" of the

farmer as "the man whose plants have drugged him and robbed him of his energies." Yes, Emerson, the Boston idol, the great American sociologist, said this. O, we ought to take such men by the necks and teach them that *Wisconsin* farmers have not lost all their energies yet!

Friends, we must not let this be. We must know that it is "not in our stars but in ourselves that we are underlings." It remains with us, by our successes, by our examples, by what we make our homes, to teach our sons to love the farm, to honor it and to seek it as the highest, the grandest, the noblest following on the face of God's footstool.

DISCUSSION.

Pres. Sanger — Mr. Fox apologizes for having been forced into the preparation of this paper by Mr. Newton. Let me say that we hope that Mr. Newton will always be as successful in pressing in men to read papers as with Mr. Fox. (Applause.) The next in order is a paper by George Harding of Waukesha.

Professor Henry — Cannot we have some discussion on this paper? Unless the other paper is exactly in the same line, I wish the importance of this paper might be impressed upon us before we leave it.

Pres. Sanger — Whatever the pleasure of the convention is, we will do.

A member — I would like to hear from Mr. Sherlock, the gentleman who cut his fodder.

Mr. Sherlock — Mr. Chairman, ladies and gentlemen: I have for a number of years fed quite a few cattle on my farm. I have never been quite satisfied with the results of feeding shock corn in the ordinary way of scattering it in my feeding lot. I have attended many of our agricultural fairs, and concluded that cutting would be a good way of saving the fodder, and making the refuse in better shape to put out as manure. This fall, at the Milwaukee Fair, I bought a six-horse power engine and a heavy cutter. I have a barn 20x40, with 14-foot posts, and a shed connected, and I set my engine into that, and I can cut forty loads at a

time. Seventy-five head of my cattle I am preparing for the Chicago market. I have two self-feeding racks in my feed yard, made with roof-shaped bottoms, so the feed slips down as the cattle eat it. I have also three feed tables which I have the ten men fill with feed. They are fed three times a day, and the refuse is taken to my stock cattle, thirty-five in number. I have not fed more than four tons of hay since the 28th of November, since I commenced feeding. I have fed up to this time, sixty-five acres of corn. I had thirty-five head of two year olds, and I find by weight they have gained a pound and three-quarters a day in seventy-eight days' feeding.

I bought in Milwaukee a bunch of forty head of cattle, which were not quite as good as those on my own place, because they were shipped a long distance, and re-shipped out, the effect of which everybody knows. I find those cattle have gained, in the same period, one and one-half pounds a day.

I run 140 hogs after my feeding steers, yet I find I have to feed corn. All my stock are doing well. I would recommend it to all farmers feeding any number of cattle. I think it is a saving of thirty to forty per cent. of feed on cattle, and they do better. In sloppy weather a man saves all his feed, and his cattle will eat such feed better than hay or grain. I think, with the labor figured in, it is going to leave a nice profit over the ordinary way of feeding.

In answer to questions from several members Mr. Sherlock stated:

I cut the corn half an inch in length, ears and all, just as it comes from the field. The roller that feeds the knives crushes the ears. I have had no trouble from its making the cattle's mouths sore, my cattle have never been off the feed since they have been in the yard. It takes about five hands to run the machine. I generally have a team and two wagons or sleds, one at the barn unloading, and one in the field loading. I don't stack my corn; I leave it in the shock. It don't get covered with snow at this time of year particularly. Of course it is no worse to take it in that way than to feed it. The cost of the machine, the

whole outfit and preparing for it, was about \$800. I put 144 hills in a shock of corn, twelve hills square. It dries out some. When I commenced cutting I noticed that it started the heat a little, but in the winter I don't experience any trouble at all. I have had no experience in feeding sheep this way. The corn cures good in the shocks; it is always in good shape.

Professor Henry — Do you believe that it would pay a farmer to husk his corn and then to grind it and feed the meal in preference to your method?

Mr. Sherlock — No sir; the expense is too great.

Professor Henry — I would like to ask Mr. Fox if that is his idea?

Mr. Fox — I agree with Mr. Sherlock that there is no money in husking the corn and grinding. And, further, the corn meal will not put on as much flesh as the shock corn, fed husk and all.

Professor Henry — I asked it for this reason: our farmers very often get under the impression that better farming means the grinding and cooking of the feed. It seems to me that if it is the experience of these gentlemen that they can feed a hundred head of steers in their way with profit, farmers feeding a smaller number can get a good lesson in their work.

Mr. Fox — I have never experimented with cooking at all, but I have with grinding. I have dropped the grinding.

Mr. Sherlock — As far as that is concerned, the Standard Cattle Company, of Wyoming, put up a very expensive shed a year ago last September, large enough to shed 3,500 head of cattle, each being in a separate stall. They cooked and cut everything, and ground it, and it was a flat failure. There was also another case at Cedar Rapids, Iowa, where a syndicate of gentlemen undertook to start the same system. One hundred and fifty head of their cattle were all diseased. And that is one cause of our diseased cattle, I presume, feeding cooked food.

In answer to questions, Mr. Sherlock said:

I used the ordinary dent corn. It is the medium size. There is some that ripens in ninety days, and some in 120.

It is the ordinary Illinois corn. Mine ripens from the 1st to the 15th of September.

Mr. Arnold — I find, in going over the state of Wisconsin, that the farmers generally believe that the best way to fatten cattle in the winter time is to tie them up and confine them so they won't be worried. Every man who finds somebody that agrees with him in his particular hobby, immediately calls that person his friend, and Mr. Fox is my friend. (Laughter.) We farmers, like everybody else, have our hobbies, and there are a good many cranks among us; but I apprehend that, with all our faults, there are some virtues. And though we sometimes get a little bit cranky, I don't believe that the bottom of the world will fall out if we don't follow this particular way of feeding. Neither do I believe that the world will all go to pieces if we should not dehorn all our cattle this spring, or as soon as we get home. (Laughter.)

I believe it is a scientific fact that when cattle or other animals, are confined, there is a loss of muscle, which commences very soon after their confinement; and the best feeding must be that which will develop the best muscle. And as muscle weighs more than fat, and is more nutritious, certainly the best feeding is that which develops fat and muscle together. So voluntary exercise in the open air, with pure air and good water, must produce the best quality of beef, and we should have some interest in making good beef as well as in making profit. Now the experiments all show that this manner of feeding affords the most net profit. It don't make any difference what the gross profits are, the only question for us farmers to consider is, what are the net profits; that is the question, and, together with that, the pleasureableness of the enterprise. We want to have our farming in such shape that it can be enjoyed.

There is certainly a great saving of expense in the way of buildings in this out door feeding. I believe, I have tried it, and I think I know it, that deep, open sheds, with a good bed for the cattle to lie upon, is a better accommodation for fattening, and for all kinds of cattle, even, except the cow that is giving milk, or the young animal that can't endure

severe cold. The full-fed animal enjoys the cold. You crowd a lot of fattened steers, in full feed in close stalls, where they have a vitiated atmosphere, and a man of common sense ought to know that an animal could not thrive in that condition. And I am glad to know that we have got young men in the state of Wisconsin that are really setting examples for older farmers. I tell you it is a pride to the state of Wisconsin that we have a few young men growing up among us that are advanced farmers, and that are examples to the whole United States, to say nothing of the state of Wisconsin! (Applause.)

Professor Henry — I should be glad if Mr. Fox or Mr. Sherlock would give us a little more information in regard to their sheds, and how their fodder is handled. I would like to have Mr. Fox give us his method of handling his fodder in getting it from the shock to the steer; whether he lets it stand in the open ground until winter, or whether he houses it.

Mr. Fox — We are feeding out this winter, 125 acres of shock corn, to about 150 head of cattle, that includes all sorts, and about fifty or sixty horses. One man has, up to the time of this last storm, which crusted the snow, hauled all the feed for that amount of stock, another man helping him at the yards in various ways. We furnish that man with four old, long sleds, equipped with the simplest kind of racks, and one team. If it is a stormy day he don't need to go out, because if it has been a fine day before, he has got his four sleds all full. That man hauls right into the yard, and dumps from those sleighs into ordinary mangers and racks made of rails, poles, etc.

Professor Henry — How expensive are your sheds?

Mr. Fox — I suppose I could take two hundred dollars and build a better lot of sheds than all I have got.

Mr. Arnold — That shows for itself.

Mr. Fox — I built some of my sheds by taking the sides off of old barns that I bought and making a roof of them, and putting cheap shingles on that cost \$1.75 a thousand laid down at the farm, and cutting posts in the woods to support that roof. I have a shed that is fifty feet on one side and

sixty on another, twenty-five feet wide, and cost sixty or seventy-five dollars, I don't remember which.

Professor Henry — How much does it cost in wages, or how many men does it require, to handle the feed for 150 head of cattle and 40 horses?

Mr. Fox — Two men will take care of my feeding all right. I keep more men, but I have a great deal of other work, fencing and getting out timber for firewood and for the market in Madison. But two men tend strictly to my cattle business and keep it up. On Saturdays we generally put on extra teamsters in order to get our Sunday supply of feed, so as not to have to go to the field on Sunday.

Mr. Clark, of Galesville — Doesn't it require a great deal of work to loosen the corn set in shocks that way from the ground?

Mr. Fox — Not ordinarily; it does just now, after this rain storm, but we have a heavy iron hook made by the blacksmith out of a plow share for the purpose, quite heavy, about six inches wide at the butt end, twenty inches long, and running to a point, shaped something like a half moon, with a heavy handle, and as the man goes round the shock, he can cut clear through the shock, and after he has walked round it and struck it that way it is loose.

Mr. Clark — How many hills of corn do you put in a shock?

Mr. Fox — The same as Mr. Sherlock does, 144.

Mr. Arnold — Do you cut it all at once, or cut the first half, let it stand, and finish it afterwards?

Mr. Fox — No, sir; the way we found of accomplishing the most is for a man to carry his knife by his side, letting it slip on the hill, counting as he goes along. When he comes to the right place for the shock he crosses and ties four hills diagonally, and starts out empty to the outside of this particular shock, and carries the corn back, goes out empty and comes back full.

Mr. Arnold — If you cut the six inside rows first and set it up one day and the next day finish it, you avoid heating.

Mr. Fox — We never had the corn heat but once. That

was the second year I cut corn — eight years ago. I didn't understand it, but it was a lesson to me. I have never had it heat since; there is no necessity for it if a man understands it. That time I cut too soon, and cut right along in the foggy, murky weather. The corn was too green, and the weather damp and hot — the worst possible condition for cutting corn.

Mr. Seymour — I wish to ask a question in regard to your experiment in turning cattle out to clover. I understand the time the cattle were on clover was fourteen days, and that there was a loss in the fourteen days. If that was continued the twenty-six days there might not have been so much loss.

Mr. Fox — I am satisfied from former experience that there would have been a greater loss. They were taken out simply for this reason. That man was a Scotchman, and never had any experience in feeding in this country. He used to go out in our blue grass and ask me if those cattle were not going to die; he thought the grass was so dry they couldn't eat it. And he used to tell me about that nice clover field down there. To gratify him, I had those five picked out, and said, "I want you to watch those cattle and not let them lose too much. I let him do the watching, and when he was satisfied they were losing — and it didn't take him long to find that out — he says, I guess we better take those cattle up and weigh them, and we did so.

Mr. Arnold — Please tell the difference between blue grass and June grass, if you know the difference.

Mr. Fox. — When I was at school I regret that I didn't use my time as well as I should. Consequently, I am not much of a botanist. But, using the burr-oak botany I have, I can distinguish no difference.

Mr. Arnold — Yes, sir! (Laughter and applause.)

Prof. Henry — Stick to the burr-oak botany.

Mr. Fish — Will you please explain how your sheds are constructed so they can all get under them.

Mr. Fox — They are all open on the sides — I want to say in regard to the blue grass, that my father was brought up in the old country and understood grasses pretty well, and

about twenty years ago he commenced getting this blue grass and shaking it about the farm in small quantities; and when I was a little shaver, just able to take a basket round in front of me, and an old-fashioned sickle, he used to send me out in the field to cut those heads and put them in the basket, and he would take them out where the boys had burned brush, or wherever he thought best. That grass was brought from Kentucky originally. I have shipped in Kentucky blue grass seed and sowed on our same farm in several places, and I can distinguish no difference between those grasses sowed at different times, and the June grass which is all over the country. There may be a difference, but I don't know it.

Mr. Seymour—Haven't you discovered that the stem of this Kentucky blue grass keeps green longer than the stem of that original grass you find in this country?

Mr. Fox—No, sir; I have not.

Mr. Seymour—I find that there is such a grass in the neighborhood where I live. It has the appearance of ordinary June grass in every other respect, but remains green to the very head a long time after the other is dead ripe.

Mr. Fox—You know there are many grasses we confuse. There may be two or three different grasses in this state called June grass, but that is something that I know nothing about.

Mr. Allen—A very interesting discussion arose in the northern part of this state as to the distinction between those June grasses, and a gentleman there made an explanation. He said there is a resemblance between June grass and wire grass, and many persons mistake one for the other. But though they look very much alike, the difference is marked, and they are as distinct as timothy and blue grass. The wire grass is inferior, and not to be compared with June grass.

Mr. Arnold—I wish to ask Mr. Fox in regard to his experience with corn fed in the shock as compared with corn fed after the additional expense of handling and cutting with a cutter costing, say \$800, and whether he thinks there is sufficient advantage gained to pay for the investment.

Mr. Fox — That is a very pertinent question, and one that ought to be given a great deal of consideration. I will say this: I believe the method of Mr. Sherlock is a valuable one. I believe he has shown me a saving of thirty per cent. of his fodder. And he is working this winter under the disadvantage that most of his cattle are cattle he bought up north, most of them coming four years old. And it is a proof of what I stated a while ago, that the rapid gains are made on young beef; his cattle are old, and cannot gain as much as they otherwise would. If his were all two year old cattle, I think there would be a very different showing in his gains, although his gains are fair, and there is a great saving in the feed.

Mr. Arnold — If they were eight years old, they would not gain more than half a pound, would they?

Mr. Fox — I have had no experience with steers of that age, I can't say. (Laughter.)

Mr. Clark, of Galesville — I think you have said, Mr. Fox, that you had steers a year old that would weigh nine to eleven hundred, or even to thirteen hundred, perhaps. I would like to know how you got them to that weight at that age.

Mr. Fox — I have some yearlings of our own raising that will weigh to-day better than thirteen hundred weight. They haven't got their two year old teeth yet. But I could not, by any system of feeding we have followed, produce those weights at that age on calves or cattle we buy. The best yearling we can buy generally will average, going into winter, not a great deal over eight hundred pounds. The lot I wintered last winter started in at over nine hundred pounds. They were a nice lot, about half of our own raising, the other half I bought from a gentleman in Iowa County that were of his own raising, and had a good deal of Short Horn blood in them.

Mr. Clark — I would like to know how you feed yours to get that weight.

Mr. Fox — We raise our calves two on a cow. We arrange the calving in such a way that two cows calve nearly simultaneously, and one cow raises both those calves, the

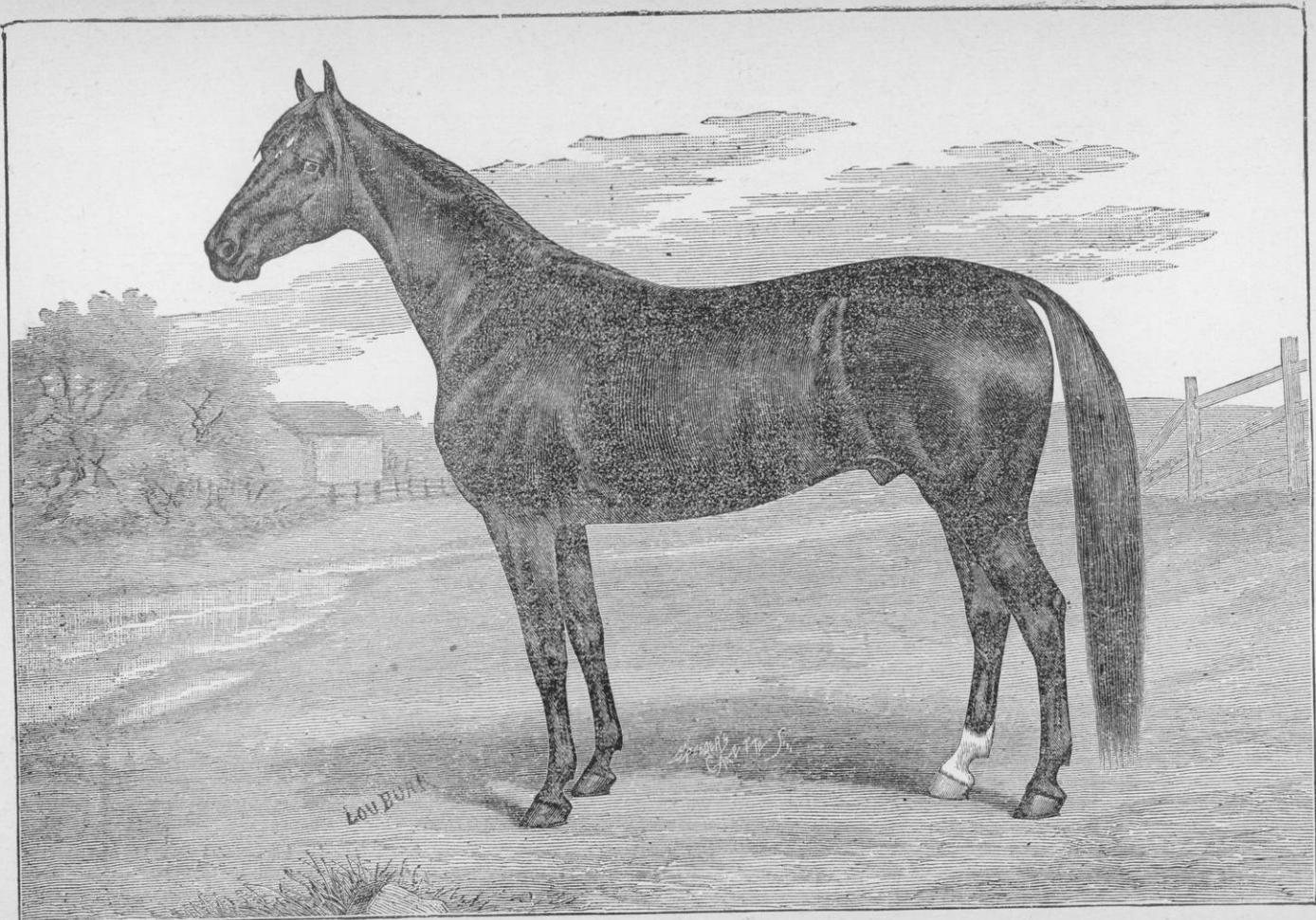
calves being put to the cow morning and evening, and not running with her. There is an Elgin dairy man who takes our surplus cows. The calves are fed a little bit of oats before they are weaned. We like oats pretty well for that purpose, and we put them on the meadow, if we can, where the grass has been cut. I like a nice, tight young pasture for the calves; they are apt to go into winter quarters with a better condition of stomach. After we put them in, in the winter, they get oats and bran, and a very little corn-meal or shelled corn. We find that they digest shelled corn even better than the older cattle if fed in moderate quantities. I like to feed just enough shelled corn so the calves get mellow and sappy and nice; but the oats and bran are given to them in about as full quantities as they will eat slick and clean, with a relish.

Mr. Clark— Do you feed your calves and yearlings, after they are one year old, through the summer with oats?

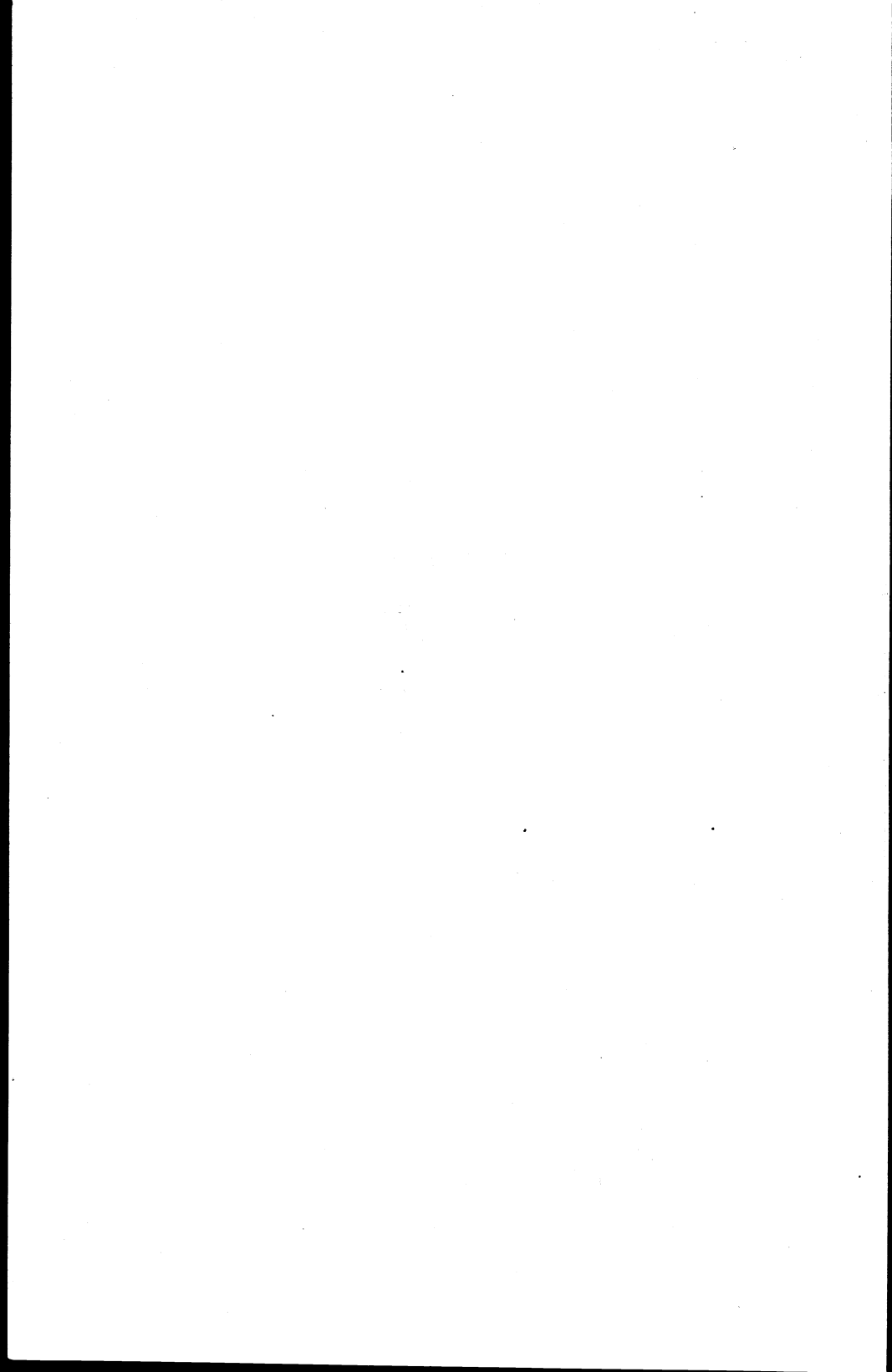
Mr. Fox— No, sir, except occasionally when we wanted to accomplish a special purpose with the yearlings. If they are far ahead, and very fleshy, and there is a very good chance of marketing them soon at a high figure, we force them along; but I never practice that at any other time. Our yearlings come into winter fat, because they go onto the grass in good shape, and their powers of assimilation are better and stronger than those of the cattle we buy; and consequently, when winter comes, they are the best cattle we have got.

Mr. Fish— I didn't get a proper understanding of your mode of feeding; whether you fed in the shed or in the open yard.

Mr. Fox— I have my yards principally arranged on a side hill, so that the upper part of the hill is just an open area. There is nothing there at all. It is inclined to be stony, and has a hard bottom, and I keep that for wet weather. In the spring, and during all the dry weather in the fall and winter, we feed in the yards, in large mangers; throw the shock corn right over in there. If the weather is nasty we just go round the fence to this patch where it is hard and stony, and there is very little of the fodder wasted by that means;



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the cattle pick it all out from under their feet, better than out of the mangers.

Mr. Fish — In your opinion what percentage of your corn fodder is not consumed, in comparison with your neighbors after being cut.

Mr. Fox — I think there is probably a difference of about 20 to 30 per cent. as near as I can understand from Mr. Sherlock's figures and being in his yard. But there is one thing about it, if the shock corn is fed very carefully there is no excessive waste, except during this wet time. We have to figure to avoid that. Mr. Sherlock has a great advantage there. When it is wet weather his feed is nice and dry, and in as good shape as though under a barn that cost him ten thousand dollars, while actually it is under an improvised shed, and I wouldn't give him ten dollars for the whole rig (Laughter), except for the utility of it.

Mr. Fish — I desire to arrive at some conclusion as to the advisability of cutting feed; whether the waste in feeding the other way would compensate for going into this expensive method of cutting it?

Mr. Fox — I haven't cut sufficient to know anything about it. All the opinion I have is formed from talking with Professor Henry, who has cut feed, and Mr. Sherlock and others in similar circumstances.

Mr. True — Mr. Fox has stated that he raised two calves on one cow, and he has also stated that he has raised grade Short Horn steers. Does he wish to imply that the cows that raised two calves were grade Short Horn cows? Is that correct?

Mr. Fox — That is correct.

A member — I thought they didn't give any milk.

Mr. Fox — I can't tell you much about that. We milk from five to six cows, have all the butter we can use, — we set two tables, one for the men and one for ourselves, and we use butter freely, and sell our surplus cows to one man in Elgin. The last lot of cows I sold him in November, — the cow market was bad — and they averaged me just fifty dollars a head. Now I don't believe they would pay those prices unless they could get something by sitting there, (in-

dicating milking). I could tell a pretty good story on Mr. Newton here, and our worthy ex-secretary, Mr. Babbitt, — I don't know as I ought to tell it.

Several members — Tell it! tell it!

Mr. Fox — Well, to edify the dairymen, who seem to be in the minority here, I will. Mr. Newton and Mr. Babbitt were down to my place last summer, and payed me a very nice visit. There were some little milk pans setting out round the house, and in the course of the conversation Mr. Newton said, "you keep Short Horns, don't you?" I said yes. "I thought so," he said, "by the size of those milk pans." "Why, what about the milk pans." "Well," he says, "I know something about those Short Horns. I went down to Beloit a couple of years ago and bought some from Babbitt. He said they belonged to the milking strain." "Why, I said, "didn't they?" "Well, yes," he said, "they did. When I got them home I had to strain the best I knew how to get two quarts!" (Roars of laughter.)

Mr. Sherman — If we cut our corn when the first ears are glassed in the field, and prevent it from heating in the shocks without any expense, would we gain any greater or less profit than to let it stand until all of it was ripe?

Mr. Fox — I don't know about that. The course we have always followed is to watch the field carefully, and when we find the corn is glassed and beginning to dent a little we begin cutting. The season is very short, and if you wait for the corn to mature thoroughly you are liable to encounter a frost that will damage you more than starting in a little early would; and furthermore, the fodder is not nearly as good if the corn is dead ripe.

Mr. Lewis Clark — I would like to say a word in regard to this question of cutting corn. I think, from what I have heard from different ones, that I have more experience with it than any man in this convention. I may be mistaken, but I think I have. I commenced farming on a farm of 240 acres near Beloit, near the state line, in 1847. I came from Genesee county, New York, converted to that idea of using corn, and on that farm I have cut up all the corn I ever raised. I have preferred to cut it rather early, when the

corn is glassing; I do not wish to have the ears ripen, and if I lost anything in the ripening of the corn, I more than made it up in the value of the fodder. I set up a hundred hills; I believe I have, some years, set up more, and set it up all at once, and I never have had it heat but one year, that was, I think two years ago, I had a little that heated, and some of that was some of the Yankee corn that I bound up. I prefer binding and hauling, using it as I would tobacco. Take about the last of November, or some time after it is cured, go out when it is a little damp, and one man will bind as fast as a couple of men will haul. Bind it with twine and put it into a barn or stacks. It is very convenient in feeding in such times as it is now, when corn is frozen in, and then we don't have to go out all the unpleasant days to get it. I have a machine that cuts up corn and all. You can put on a horse power, but I have not done that largely, but when we have time we use that, and cut it, and I find it a great saving. If I want any shelled corn I buy it. I take a load of oats and go into Beloit and sell it, and turn round and buy the amount in shelled corn. I feed some shelled corn all the time, and I think there is a profit in cutting up the corn when we can.

THE CLYDESDALE HORSE.

BY ALEX. GALBRAITH, JANESVILLE, WIS.

In asking your attention for a short time to the subject of the Clydesdale horse, I do not wish to appear as a special pleader or advocate of this particular breed of draft horses, but simply to give a short and necessarily imperfect history of the breed, with such general observations as I judge may be of some interest to those present.

Much has been written from time to time on this subject, and it would require the talents of a genius to serve up something that would combine the charms of novelty with a strict adherence to fact and history. What I have to state is "a plain unvarnished tale," gathered from actual experi-

ence and standard writers, and without the slightest attempt whatever, at fine phraseology or original conception.

The history of the Clydesdale horse proper, dates back only to the beginning of last century, but to get at the origin of the breed we must go as far back as the year 1066, when what is known in British history as the Norman Conquest took place, and in which William, Duke of Normandy, invaded England, accompanied by the Earl of Flanders, and a strong force mounted on the very finest chargers in the world. These were Flemish horses, said to be descended from a combination of the strong, black horse of Flanders, the Arabian bay, and the original Asiatic white horse, and they subsequently became so popular in Great Britain that a century afterwards King John imported one hundred of them into England for the purpose of improving the draft horses of that country. These Flemish stallions are described as follows: "Color 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 fringed from the fetlock to the upper end of the cannon bone 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 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 frame work, and in size and quality of bone he never was and probably never will be excelled."

Early in the 14th 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 his English possessions—the strong probability being that these horses were also of Flemish stock. These stallions were crossed

on the native Scotch mares of about 1,300 lbs., very much in the same way as draft stallions are being used on American mares at the present day.

To come now to a much later date, it is reported that the Duke of Hamilton brought over from Flanders into the Clydesdale district six black stallions for the purpose of improving the Scotch breed of horses about the middle of the 17th century, but at all events it is certain that a Scotch farmer named John Patterson, of Lochlyoch, in the upper ward of Lanarkshire and the valley of the river Clyde, brought from England into his own district a black Flemish stallion for the use of himself and his neighbors, and from that horse is descended in a straight line the well known Lampits mare, dam of the noted Glancer, alias Thompson's Black Horse, which was foaled about the year 1810. From this time downwards a correct record has been kept of nearly all the colts bred in that country till the present day, this being rendered less difficult on account of the comparatively limited area over which the breeding of Clydesdales was carried on 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 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, he partakes in a large degree the color, endurance, and hardihood so characteristic of the breed. There has undoubtedly been a vast improvement effected during the last half century in the breeding of Clydesdales, and while the original stock contained the elements of what was really good and substantial, the climate, soil and pasture of Scotland, and especially of the Clyde valley, were specially favorable to the development of bone, muscle and general strength and hardiness; but probably the most powerful agencies of improvement are to be found in the careful and judicious selection of the best and most suitable stallions and mares, the result of intelligent ideas on the science of breeding, also the castration of nearly all inferior or unworthy colts and the friendly rivalry engendered and promoted by competition for premiums at

local and provincial shows or fairs throughout Scotland. The Highland and Agricultural Society which was organized in 1784, for the purpose of improving the condition of the Highlands of Scotland, has been of incalculable benefit in awakening the people to the necessity of improving their stock, and their annual exhibitions are held in rotation at all the principal towns with liberal premiums offered for competition in all the various classes.

The modern Clydesdale may be described as a horse of from 16 to 16½ hands high, weighing at maturity in fair flesh from 1,700 to 1,900 pounds, although some weigh 2,000 and over. The prevailing colors are bays and browns with white markings, these being the most popular shades, but there are quite a few blacks and also an occasional grey. Chestnuts are rarely met with unless when crossed with English Shire blood. The Clyde horse has a fair sized head with considerable width between the eyes; profile straight, ears moderately long and active, which are large and prominent, expressive of vigor and mildness of temper; under jaws cleanly cut, neck of good length and well arched on to the shoulders, which are deep, powerful and tolerably sloping. His chest is broad and full, denoting a good constitution; his back short, firm and pretty straight; body round and ribs well sprung, with short couplings; lengthy quarters; arms and thighs powerful and well muscled; hocks broad and clean; cannon bone flat, strong and cordy, with nice fringe of long hair from knees and hocks to fetlocks; pasterns sloping and elastic; feet good size, strong and tough, with heels square and prominent; large knees and joints; general appearance noble, symmetrical, and majestic.

The popularity of the Clydesdale is due in a great measure to action and general disposition. In trotting the action is level and straight, knees and hocks well bent and reaching forward with much life and elasticity getting well over the ground. In walking his superiority over other breeds is quite apparent, as the stride is long and swinging and the whole gait expressive of activity and power. This enables him to get pretty quickly over long distances with very heavy loads, indeed the strength and willingness of these

horses is very apparent to any one who has seen them moving rapidly along the crowded streets of Glasgow and noted the fact that two-horse carts or wagons are quite unknown in Scotland. While full of spirit and vigor the temperament of Clydesdales is as a rule, mild and docile, easily broken to work and very pleasant to handle.

The manner in which Clydesdale horses set themselves to pull heavy loads is noteworthy. He plants his hind feet far forward under his body, his fore feet deliberately thrown straight forward 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 load of four or five tons quite cheerfully. Some horses might make a sudden dash 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 upwards without any trouble or hesitation. Not the least important characteristic of the Clydesdale horse is that peculiar impressive faculty which he invariably shows when crossed with native or grade mares, the produce in most every case being a strong useful animal, with marked resemblance to the sire.

The Clydesdale work horse, as used in Scotland, shows I think a measure of greater intelligence than any other animal I have come into contact with. In the cart he is guided entirely by word of command, while in the plough he shows a degree of sagacity and intelligence that is positively surprising.

Any one who has witnessed a Scotch plowing match can not fail to have noticed the careful "measured step and slow" which these horses take as their masters hold the plough handles (or "stilts" as they are called), like grim death trusting to the horse's 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 fifty or sixty teams decked with ribbons and with their highly polished harness glanc-

ing in the bright 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 most imposing, and once seen, not easily forgotten.

Formerly the valley of the Clyde was the principal breeding district, but nowadays Clydesdales are raised with almost equal success in nearly every county in Scotland, and the foreign demand of late years has been so great that breeders have found much more profit from raising this class of stock than any other, and consequently breed more. Of recent years the demand has steadily increased, not only from Canada and the United States, but also from South America, Australia, and several of the continental countries of Europe. During last year no fewer than 700 registered Clyde horses, in addition to a considerably number that were not registered, have been imported into this country, and the demand increases all the time.

The system of stallion hiring in Scotland is worthy of notice. The farmers of certain districts club together and select a stallion, usually at the Glasgow Spring Show, held about March 1st. They usually guarantee a certain number of mares, say eighty, at a fee of \$10 for each mare, and another \$10 if the mare proves to be with foal. They also pay the stallion owner a premium, ranging from \$300 to \$500, payable at end of season. The system has had quite a long trial and has worked well, giving breeders an opportunity of getting the same horse year after year into a particular district in the event of him breeding satisfactorily, or changing on to another horse if the reverse should be the case. It also enables the stallion owner to change his ground should he consider it advisable to do so, as would be the case if the type of mares in a particular district did not "nick" well with his horse. Of course, the very best horses earn a vast deal more money, some few of them being hired as high as \$4,000 for the season.

FRUIT FOR THE FARM—THE APPLE.

BY GEO. P. PEFFER, PEWAUKEE, WIS.

With most farmers when we have discussed about apples, the subject of fruit is exhausted, feeling the extent of ruin of fruit trees, fully developed, from the severe continuous cold winter of 1885. Perhaps a few items on the apple question would be of interest to some of you here.

In traveling through our state for the last two seasons it looks sickening to behold the extent of the ruin of orchards, and but few live trees that showed health, west of the first tier of counties from Lake Michigan, except where there was some natural protection or more suitable site for an orchard than the average are located. In our journeying looking up some of our best seedlings, and also our most talked of new Russians, in parts of our state north and west, we come to the conclusion that the apple can yet be grown, as we found most everywhere yet remnants of a few trees that showed health and vigor. Among the iron clad recommended some years ago we found the Duchess of Oldenburg, Tetofsky and Alexander, also quite a number of crab apples, and where these had not been planted, sometimes a hardy, natural seedling or Talman Sweet, a Wolf River, or a Wealthy, or Fameuse, and in one locality three large trees of Canada Red. This has not been much disseminated, and should be planted for trial more extensively. It is a long keeper, free from black specks, a dull red, good size and fair quality winter apple, and appears as hardy as the Duchess in that locality, and in our own orchard it is one of our best trees, standing on the top of a ridge or knoll.

Speaking of my own grounds, there is a ridge some forty-five or fifty feet above the level land, east and also west of it, it runs nearly north and south. On the east side of this ridge, about all the recommended iron clad varieties are uninjured with the exception of Ben Davis, which has been taken from the list some years ago. On the west side, and partly facing the southwest, we lost of all the recommended

varieties, even Duchess, Hyslop and Transcendant Crabs, but further towards the north, and where an evergreen tree belt broke the southwest and west winds, and as far towards the rise of this ridge as this grove breaks the wind, the Wealthy, Duchess, Alexander, Tetofsky, top graft Transcendant, Red Duck, Clark's Orange, Yellow Bellflower seedling, and two seedling pear trees, all over twelve years planted, are perfectly sound and healthy, but Fameuse, Haas, Pewaukee, Colvert, Talman Sweet, Northern Spy, Westfield Seeknofurther, Golden Russet, Yellow Bellflower, and Fall Orange, are more or less injured. All varieties exposed to the south or southwest were killed by the bark being burst off from the wood, either during the fall or spring, when the change of temperature from below freezing point run up into the eighties in one day. It could not have occurred during the winter, as there was no thaw for eighty-three days, and the bark and wood were constantly shrinking from the effects of the continuous cold the same as a continuous drouth evaporating the sap. This sudden thawing swelled the bark, but the wood being yet shrunk from this continuous frost, separated from the bark, and where there was no shelter to break this hot air current, the suddenness of the change separated the bark completely, but where it showed more gradually less harm was done. I have noticed an instance on a perfectly level piece of land where there was a strip of timber about twenty or twenty-five rods wide and forty rods long, running lengthwise east and west, where a couple of farmers had their buildings and orchards located some fifteen or twenty rods from the west end of this wood lot. They must have been relatives, because their buildings and orchards were of the same size and pattern, the distance from the road, which run north and south, about the same, their fields and fences apparently the same, only one was on the south side of this wood lot, the other on the north side. The orchards appeared to be the same age and the varieties alike, but the orchard on the south side had only four or five live or green trees, apparently Duchess and Transcendant crab, while the orchard on the north side had not a dead tree in it as far as I could discover. The country

all around it was cleared and anyone would have thought the north orchard naturally would be the one where the trees must have been frozen to death, as that had the most exposure to the cold winds, but not so, the hot sun and south winds did the mischief. I can relate other instances from observations, and so can any one that is an observer. I say the sudden changes from cold to hot has killed our trees two years ago, and it made but little difference what the varieties were.

Hardy varieties we must have to stand with varieties that ripen their wood early, and laid up a better supply of solids, cold will not shrink them up as much as varieties where the new wood has not ripened up well, a late growth is not desirable in any variety of apple, plum, pear, bush or vine. Any way of culture to hasten maturity is beneficial. Any contrivance to keep a low or even temperature, either by much shelter, by tree belts, or burying with earth, is good if not overdone and kept on too long in the spring.

Varieties of fruit trees if the seed itself is planted when it is to grow in the garden or orchard, the root will penetrate further or deeper in the soil, and will not be effected by the sudden changes in the weather as soon, and will ripen up better in the fall, after the second year, than trees of several years' growth.

Seeds that are saved from a fruit that was isolated when in bloom, will produce the same, or nearly the same, fruit as the parent tree.

Seeds saved from fruit not isolated and exposed when in bloom, to other varieties that are in blossom at the same time, are uncertain what the fruit will be, as the pollen from varieties quite a distance off can fertilize the blossom, it being carried by wind or bees or other insects from flower to flower, and no one can tell what the fruit will be of such a seedling.

Seeds saved from fruit that had been pollenized by hand or artificially, will be sure to bear fruit with only the two varieties used to raise this seed from, if neither of them were already hybrids, in that case there will be only a very small variation and often of a better fruit.

Multiplying by grafting or budding does not improve the

variety, nor does it improve its hardiness, the only way to acclimate is by reproducing from seed generation after generation and crossing the hardy varieties with one another, all new or different varieties, are originated in that way naturally, no matter in what country their home is, there they are best.

There are now many varieties of late importations of Russians, counting several hundreds on trial in our state and the northwest, among them are many that mature their wood and fruit very early, and are just what is wanted in localities where no fruit of later varieties can be grown. If we only can get a few late keeping varieties of them that will ripen their wood as early as the early sorts that have already fruited and are good quality, no doubt our state will be supplied with home-grown apples, but thus far all those fruited of any size and good quality, no long keepers have been found among them, with us at least. The Duchess, Wealthy, Tetofsky, Alexander, Talman Sweet, McMahan's White, Wolf River, Orange Winter, Clark's Orange, Fall Spitzenburg and others, on our Society's recommended list will be about as safe to plant, if the site or locality as hinted at before, is considered. We know what those are in quality and keeping, but of those newer kinds we do not know, because those called long keeping winter varieties thus far have proved only late fall or early winter sorts, and their quality is much disputed.

Fifty-eight years ago we had just such a winter as 1885-6, and don't think we will have another like it very soon, and those are probably more safe to plant and be satisfactory.

The President — I appoint as the committee on resolutions, Prof. Henry, Mr. True and Mr. Allen.

Adjourned.

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2:00 P. M., THURSDAY, FEBRUARY 3d.

President Sanger in the chair.

Mr. Arnold — Yesterday afternoon there were some resolutions offered in this convention, before we had a committee on resolutions. It has been customary for this convention to have a committee on resolutions, to which all resolutions are referred, that we may have an opportunity for mature reflection, and have the committee give the subject some consideration and recommendation before final action. For the purpose of having all resolutions that have come before this convention, or that may come before this convention, properly considered, I move you that all motions adopting resolutions that have been acted upon by this body previous to this time, be reconsidered.

Mr. Anderson — I second the motion.

The motion was unanimously carried.

Pres. Sanger — All resolutions in the hands of the secretary will be turned over to the committee on resolutions, of which Professor Henry is chairman.

HEALTH OF ANIMALS.

BY V. T. ATKINSON, V. S., STATE VETERINARIAN.

Mr. President, Ladies and Gentlemen: When honored with a request to address this assemblage, I was at first in grave doubt as to what I could say that would be either interesting or instructive. Micawba like, waiting for something to turn up, I chose a subject broad enough to permit me to say almost anything in relation to health of animals. At first it was my intention to talk about stable management, taking up ventilation, lighting, exercise, feeding, etc., but on mature reflection I concluded that a discussion on such diseases as are likely to be wide spread in their extent and especially disastrous to the community in which they appear, would be better suited to the occasion.

I refer to the various Panzootic, Enzootic, Epizootic and Zymotic diseases, and for the purpose of making more clear what I will say further on, I will briefly explain the meaning of these several terms. A disease is said to be sporadic when it occurs in isolated cases and is not the result of any recognizable influence. Panzootic diseases are such, as are common to a number of different species of animals, and spread over large tracts of country. Enzootic diseases are such as are peculiar to localities and due to certain local influences, sometimes developed periodically. Epizootic diseases extend over a wide range of territory and are not the result of local influences or peculiar to localities. An Enzootic disease may become Epizootic. Belonging to this class, are the Zymotic or contagious diseases, from a Greek word meaning leaven. This class which I propose considering briefly, owe their maintenance and extension to the presence of a virulent element or specific virus, some of which have been demonstrated to be living organisms, which, when once introduced into a susceptible being, are diffused throughout the body, operating in the manner of a ferment, and during the period of incubation, develop that strength which is necessary to interfere with the natural functions of the various organs and produce the phenomena peculiar to the disease. I have thus far used the word contagious only; the word infectious is sometimes used as synonymous. This distinction should be made. A contagious disease is one in which the specific virus is in a fixed or solid form, and is transmitted only by inoculation. An infectious disease is one in which the active principal exists in a volitable form and is disseminated through the atmosphere. A disease may be either purely contagious or infectious, or both. With this introduction I will briefly consider some of the characteristics of a few of the more common diseases that are liable to appear among us.

In the horse the peculiar scourge is glanders, which is defined as a specific contagious disease, originating spontaneously in the equine species and transmissible to man and other animals. Contrary to the generally received impres-

sion, this disease is purely contagious, and generally spreads slowly, if it were not that it is surely fatal to both man and animals, and in its chronic form the symptoms are so obscure and easily concealed as to offer rare opportunities to unprincipled dealers, it would not be of much importance. Unfortunately, however, it too frequently happens that a miserable old plug suffering from chronic glanders is passed through a number of different hands, and while the animal itself apparently suffers very little inconvenience from chronic nasal discharge, which is the only symptom to attract attention, other horses or mules with which he comes in contact are attacked with the disease in its acute form and die in a short time, attention being attracted to the original case only after great loss has been sustained. In making my official investigations, I frequently find the original case the best preserved of all the afflicted. I will not lengthen this paper with a description of its symptoms, for they are frequently so obscure as to puzzle even an expert. A case illustrating this peculiar feature of the malady occurred in one of the northern counties where a large lumber company had lost horses to the value of \$6,000 or \$7,000 from some unknown cause. Upon investigation, I found eight horses in the place suffering from glanders, which were destroyed, and I have reason to believe the disease was stamped out. As a word of caution in this connection, I would say, that a chronic nasal discharge should always be regarded with suspicion, especially so if accompanied with indolent swelling between the jaws and a history that would indicate contagion.

Our cattle interests have been in danger of an invasion of contagious or zymotic pleuro-pneumonia, this disease differing from glanders spreads by volitable principal, and may be transmitted through the air for considerable distance. Its peculiar feature is insidiousness owing to the great lack of noticeable symptoms. Animals which have been exposed to its influence can not afterwards safely be associated with other cattle, for although no symptoms of the disease may have been noticed, it is possible that a mild attack may have occurred and the diseased portion of the lung become

encysted and remain so for some time, when the cyst may be dissolved and the disease again disseminated. As it has attracted a great deal of attention and recently been a just cause for alarm among our stock men, a brief review of the situation in Chicago may be of interest. It was first discovered in Illinois in July, 1884, and on inquiry was found to have been imported with some Jersey cattle brought from Ohio to a sale in Virginia, Cass County, from there cattle were taken to Rushville, Jacksonville, Springfield, Danvers, Peoria and Geneva, establishing points of infection at each place. From Geneva, the point nearest our state line, it again spread to Sterling, St. Charles and Elmhurst, Ill., Cynthiana, Ky., and Fulton, Mo., till in the spring of 1885, fourteen points of infection were established. About this time it was for a second time the subject of legislation by the Illinois legislature, when a law was enacted creating a board of live stock commissioners and appropriating \$50,000 to be used in stamping out the disease. Shortly afterwards congress appropriated \$100,000 for the same purpose, to be used by the Bureau of Animal Industry in cooperation with the various states. In the fall of the same year, if my memory serves me rightly, the live stock commission announced that they believed the state of Illinois to be free from the plague. The outbreak in Missouri was also promptly stamped out, and from appearances at that time the cattle interests of our state were reasonably safe. Appearances, however, were deceiving, for unobserved the malady was gradually extending its domain, and acquiring wider foot hold, till this fall it was again discovered in the City of Chicago in several of the large distillery stables, and inquiry established the fact that fully 5,000 animals in the city and Cook County had been exposed to its contagious influences in such a way as to be liable to develop the disease at any time. Upon the discovery the board of live stock commissioners seemed seized with consternation.

The money at their disposal was wholly inadequate to pay for stamping out, which was considered to be the only safe method. It was at first hoped that aid might be had from the National Bureau of Animal Industry, and a part of the

\$100,000 appropriated by congress might be applied, but this was found impossible, as the national law provides that compensation for animals slaughtered, shall be made upon appraisements by state authorities, and that none but diseased animals shall be paid for, while the laws of Illinois provide that no diseased animals shall be paid for, consequently no appraisalment could be had. After the establishment of quarantine of the infected premises, which was done under Illinois law, and paid for by the National Bureau, the situation remained unchanged for some time, with the exception of the numerous deaths which occurred as the result of the disease; and one killing for scientific demonstration. Among the live stock brokers of Chicago, the announcement of the outbreak was hailed with jeers, and it was a common belief that the whole trouble was an old cow disease, and the young and vigorous animals were not susceptible to it; it is also said not to be identical with the disease which I have mentioned, as existed in Peoria, Springfield and other places, that it was claimed was a disease peculiar to Jerseys. It was not long, however, till a number of steers in one of the stables was attacked and began to die, the disease evincing no discrimination. Since that time a large number of animals have been destroyed. But the situation is even now no more free from danger than it was at first, for the infected stables have been refilled without disinfection, by permission of the Board of Live Stock Commissioners, a piece of folly which to my mind is wholly inexcusable. I can see no good that can come of such a procedure, while on the other hand the chances are of indefinite perpetuation of the contagion if the practice is continued, which will of course necessitate the continuation of inter-state quarantines, and the consequent embarrassment to commerce. A number of cases in this state supposed to be pleuro-pneumonia, have been reported. Investigation, however, has in every case proved the suspicion to be unfounded. Those cases, although sorrow enough to the owner, sometimes have a ludicrous side as shown by two telegrams which I found awaiting on my re-

turn from a trip to the northern part of the state, last fall. The first read "come immediately, case of equine pleuropneumonia," the second dated a day later from the same party, said, "the cow is dead, don't come."

Splenic apoplexy, or what is commonly called Texas Fever, may possibly appear among us at any time during the summer months. Cattle coming from the gulf states, although themselves apparently healthy, if allowed to associate with northern cattle, disseminate a disease which terminates fatally in a few hours. Fortunately, however, the animals which have contracted the disease have no power of spreading it, and frost destroys the germ.

Another great loss has annually been sustained by our farmers from "Swine Plague," or what is commonly called Hog Cholera. A very careful study of this disease has been made under the auspices of the Bureau of Animal Industry, and although no infalible remedy or protection has been discovered, it has been pretty clearly demonstrated that a thorough disinfection will free infected premises from the germ, always bear in mind that those germs will both live and multiply in manure heaps, old straw piles and like substances, and the disinfection to be perfect must include all such surroundings. Now, Mr. President, I feel that I have taken quite as much time as so dry a subject will warrant. If any person desires further information I will gladly give it if in my power, but there is so much that cannot properly be said before a mixed audience, that it is difficult to make the subject interesting.

President Sanger — We are just in receipt of a dispatch explaining the absence of Mr. Thompson. (reads).

"To T. L. NEWTON:

"Col. S. D. Thompson, secretary of the American Percheron Horse Breeder's Association, who had agreed to address your board this week, but who is now in France, cables me desiring I should express to you, and through you to your board, his regrets that urgent official duties abroad have prevented him from keeping his engagement. He appears to day, by special arrangement, before the agricultural commissioner of France in

the general interest of American draft horse importers, to prevent an order for the cessation of the exportation of draft stallions from France, as a probable war measure; and trusts that his services there will be of greater benefit to the draft horse breeders of Wisconsin, than to be there with you at Madison in person.

"A. L. DODGE,

Assistant Secretary American Horse Breeder's Association."

DISCUSSION.

Mr. Arnold — I would like to know how a man is going to tell when a horse is affected with glanders in the first instance, and how to break the disease up a little.

Dr. Atkinson — In distemper there is another set of symptoms somewhat similar, but the diagnosis symptoms of true glanders are three: a nasal discharge, ulcer of the membrane of the nose, and swelling between the jaws. Each one has a peculiar characteristic. The discharge in glanders is sticky, and generally from one nostril; when it is it adheres so closely round the edge of the nostril as to make it appear smaller than the other one. The ulcer of the membrane develops as a little pustule. When that opens it has a ragged appearance, and gradually eats down deeper into the tissues below it. The swelling between the jaws is situated on the same side that the discharge is, generally, and is hard and tender to the touch, and indolent; that is, it does not suppurate. It differs from the distemper in that respect.

Mr. Arnold — How do you distinguish it by the look of the inside of the nostril from an ordinary distemper?

Dr. Atkinson — If the mucus membrane lining the nostril be leaden colored, and if the ulcers characteristic of glanders are low enough down to be seen, they may be readily recognized. Sometimes, though, they are too far up in the head to be seen, and the leaden color is the only diagnostic symptom. If you have a characteristic condition of that kind existing, and a history indicating contagion, you have a very good diagnosis. If the disease in any animal reaches a fatal termination, you have farcy development, where little buds form on the side of the neck and on the extrem-

ities, those open, discharge a small amount of matter, heal up, and new ones form.

Mr. Arnold — How long after the animal is first affected does it become contagious?

Dr. Atkinson — As soon as the disease is established. It is purely contagious, and cannot be transmitted until the discharge is established.

Professor Henry — There is one subject I would like to have the doctor give us a little more light upon — the state of Wisconsin has its outlet at Milwaukee, and Chicago stock is being shipped from the Chicago stock yards into our state for fattening and other purposes. I would like to ask the doctor if he considers our horned cattle here, in their present healthy state, in any way in danger from the situation at Chicago.

Dr. Atkinson — I certainly do. Last fall it became my duty to investigate the situation in Chicago, and, on my return after making the investigation, I recommended his Excellency, Governor Rusk, by proclamation, to quarantine against the state of Illinois, and it was done. That is all we could do under our laws. Cattle are not admitted from the state of Illinois except on a certificate from the State Veterinarian of Illinois, or one of his assistants, that they have not been exposed to contagious pleuro-pneumonia, and that they believe them to be free from any danger of transmitting the disease. Of course those certificates may fail; there may be some one there who will not do exactly what he should do, but we have to rely upon them, and in that rests our danger, and there is a feeling developing that that don't amount to much. I have been particularly suspicious of the stock yards all the time and have exacted affidavits of everybody who tried to ship from the stock yards.

Mr. C. V. Guy — Does pleuro-pneumonia develop spontaneously.

Dr. Atkinson — No, sir; we have no evidence of any such thing. All evidence tends to contradict that. It is a purely contagious disease.

Mr. Guy — Do you recollect a discussion where a man had

the disease among some Holstein cattle—I think it was among the first eastern cattle ever imported into the state—and we were discussing at that time whether or not it was developed by his manner of treating the cattle, or whether it was imported. Do you recollect it?

Dr. Atkinson—The same argument was brought up in Chicago, as to whether it was not developed from unsanitary surroundings. But I don't think the germ can be developed spontaneously in this country. There is no evidence of it.

Mr. J. M. Fish—I would like to have you explain how cattle are affected with pneumonia.

Dr. Atkinson—The whole thing lacks symptoms. That is where the danger lies. A herd may be pretty badly affected and still not attract the owner's attention. A slight cough in the morning is generally the first noticeable symptom, and unless the thermometer is used and the temperature ascertained, there would be nothing really alarming about it. A further diagnosis may be made by auscultation, tapping over the chest like that and listening.

Mr. J. M. Fish—Is the animal in pain?

Dr. Atkinson—No, they don't seem to suffer much inconvenience until the disease is advanced. Of course, in pleuropneumonia they must suffer, where the lungs are hepatized so as to produce suffocation.

Mr. J. M. Fish—Do they die of starvation, or does the disease carry them off?

Dr. Atkinson—That depends largely on whether the disease has assumed a chronic form or not, and whether a large enough piece of the lung is affected to interfere with the breathing. In that case they would waste away. Where they died of an acute attack of the disease, where the disease was far enough developed to prevent the circulation of the blood, they would not waste away, they would die before they had time to pass into that condition.

Professor Henry—Do you think the Jersey is more susceptible to the disease than the Short Horn, Holstein or Polled Angus?

Dr. Atkinson—I do not. I don't think it makes any se-

lection at all between the different breeds — there is nothing to indicate that.

Mr. Fish — Do you think the disease can be transmitted by promiscuous shipping in stock cars?

Dr. Atkinson — You have opened a very wide question there, and one not fully decided. At a meeting of the Veterinary Sanitary Association, in Chicago, that question was discussed at length, and Dr. Gadsen, of Philadelphia, an old observer of the disease, insisted that it could not be disseminated in that way. But it was a prevalent opinion among the members that no such thing was safe; and it was on the strength of that discussion that exposure was tried by re-stocking diseased stables.

Mr. Fish — If it be the case that it may be transmitted in that way, it certainly would not be safe to use the cars in which diseased cattle have been shipped.

Dr. Atkinson — Of course it must always be borne in mind that the virus has not an indefinite life. It is comparatively delicate, and dies in a short time of its own accord unless it is in favorable surroundings. And, although, there is no doubt some danger from the stock cars we use, I don't think it is as great as it is commonly estimated. I don't think, now that the city of Chicago has been shut up, and the cattle are not allowed to be put in the cars, that there is much danger from that source. I think there would be greater danger from getting diseased cattle into the yard. But they tell me they are watching them carefully, and there are none allowed to go in. I made as careful an investigation as I could, and it certainly looked as though they were cautious in that direction.

Prof. Henry — I would like to give a case of this disease that I saw at Peoria. I was there when the Jersey outbreak occurred there, and talking with one gentleman who got it into his herd. He said, "I don't know how it got to my herd, but this infected cow that came from Geneva was put into a stable in town before she was taken out to the farm. She didn't appear well there, and a man went in, a veterinarian, to attend her, and," he says, "I had him come over to my stable to attend a cow there calving, and he came direct

from this stable where he had gone to see this sick cow, to mine. At that time he didn't know that this cow brought from Geneva had pleuro-pneumonia, and so thought nothing of coming directly to my place. And," he says, "I can't think of any other way of getting the disease." Now I saw them shoot down two cows that day, and he had lost several before, and the other party lost a great many. Now, if it is that kind of a disease, think of what it is going to be when we get it into Wisconsin! Do you remember when it got into Cape Colony, Africa, what happened? When the Negroes there came from one tribe to another with their teams, they would be met at the border land by natives with spears, and they would not let them pass. That is the kind of quarantine they kept up, and that is the kind we ought to keep against Chicago. Not a single animal ought to be allowed to come in except under the strictest observance of the laws.

I know a gentleman who shipped in stock lately, and he said his passport cost him five dollars, and he said he didn't think it amounted to anything. A man went out and looked at his cattle, and came back and wrote out his certificate. I think we are menaced by a danger that our farmer's don't begin to appreciate. I think if a man should drive his cattle along in front of your house you would be in danger. An animal might break loose and get into your field, and your cattle might be infected. You could not handle cattle, buy or sell, and everybody would be afraid to have a neighbor, whose herd was infected, walk into his barn and look at his cattle. It would make us almost like savages.

Mr. Arnold — How long may a horse linger after he has the glanders?

Dr. Atkinson — That is a difficult question to answer, because the disease assumes two or three forms — the acute, sub-acute and chronic. During the war there was cases of what they called "seeders," and horses affected with chronic glanders didn't seem to suffer much from it, but horses taking it from them would die quickly. Horses with it in a chronic form may live some time — two or three years. In

an acute form it generally kills them off in two or three months.

A member — May they not get well?

Dr. Atkinson — No, sir; they don't recover.

Mr. Sherlock — How is the disease transmitted, by direct contact?

Mr. Atkinson — By direct contact.

Mr. True — May a case of distemper develop into glanders?

Dr. Atkinson — It is possible, it does. The disease may originate spontaneously in the equine species, either horse or mule. The mules have it in the acute form always. I never knew a mule to have it in the chronic form.

Mr. Allen — Would it be advisable for us, as a body of farmers, to take steps in reference to trying to secure legislative action by this state? What course would you recommend?

Dr. Atkinson — Relative to what?

Mr. Allen — We want to pass some resolution, or get some expression from this convention to present to the legislature recommending some action on their part as to some measure to be adopted, to send to the national legislature.

Dr. Atkinson — I was in this body this morning, and there was something done, I don't know whether it was that.

Pres. Sanger — I would state for the information of Mr. Allen, that I handed a resolution, at noon to-day, to Mr. James, to be presented to the house to-morrow, asking our representatives in congress to vote for the Miller bill.

Mr. J. C. Clark — What is the general appearance of cattle affected with pleuro-pneumonia?

Dr. Atkinson — There is nothing about it, until the disease is far advanced that would attract attention. After it is well established, there is a dropping off of the milk, if it is a milch cow.

Mr. Allen — Do they have a cough?

Dr. Atkinson — They cough when they first get up in the morning, or when excited.

Mr. J. C. Clark — Is there a difference in the breathing?

Dr. Atkinson — Yes; but that is not likely to attract attention unless you take it by the watch.

Mr. Allen — How long will it continue before death?

Dr. Atkinson — That is variable. With some cattle, three or four weeks.

Professor Henry — As the man led one of those animals I spoke of out into the corn field, where she was dispatched, she played along the road and nipped the clover heads and seemed to be fairly well. But one of her lungs was found to be quite seriously diseased. Her mate, that was killed the same day, had one diseased lung that weighed seventeen pounds; the well lung weighed four. You can imagine the condition of her lung. It is the most insidious disease, it seems to me, that can get upon our farms, and when it gets there and remains there, it is going to make us more trouble than all the glanders and hog cholera put together.

Mr. J. M. Fish — What condition do you find the lungs in, Doctor?

Dr. Atkinson — Hepatized, turned into a condition similar to liver, with broad bands of white scattered through it.

Mr. Allen — Will you tell us how an ordinary person can distinguish the disease and form an opinion about it?

Dr. Atkinson — I am afraid that would be impossible to tell. The disease might be recognized if you had a history to assist you. Now if any man here has an idea that this thing can originate spontaneously, I want to disabuse him of it. We are in no danger unless it is brought among us. And unless there is a history connected with the case it is impossible to recognize it. If there is such a history, and the animal is found coughing, and the breathing is more rapid, then other symptoms would be obtained by the temperature, and by an examination of the chest by tapping it and listening for the dead spots.

Mr. Allen — Where would you tap the chest?

Dr. Atkinson — All over; the whole side of the chest. It requires some experience.

Mr. E. W. Fase — What is the test in temperature?

Dr. Atkinson — Anything over 103° Fahrenheit is suspicious.

Professor Henry — I am afraid that some of our farmers will go home, and if they have a sick cow they will telegraph to you that they are afraid it has pleuro-pneumonia. There was a case where some parties sent word to the governor to send them a doctor. They were scared to death, thought they had contagious pleuro-pneumonia; and the governor sent them a doctor, and when he got out there, there were two little calves tied in a corner, with the flies buzzing around them, worth about three dollars and a quarter. (Laughter.)

Mr. C. E. Warner — I am requested to ask whether the milk of the diseased cow is infectious?

Dr. Atkinson — No; the disease is peculiar to the bovine species. Dr. DeWolf stoped the use of the milk of the affected cattle, but there is no reason to suspect that the milk or flesh would disseminate the disease. Of course it is unwholesome, it is not something you would care to use.

Mr. Goodwin — It is very necessary that we should distinctly understand that this thing cannot be quarantined against. Professor Henry made reference to an inspection that was made in the Chicago stock yards. Now, a veterinarian can just as well inspect a bunch of cattle there by sitting on a fence and looking at them, as he can in any other way. He can tell just as much about them under certain circumstances. A carload of cattle may come into the Chicago stock yards and be exposed there or elsewhere, contract the disease in such a way that they can communicate it, and at that time there is not a veterinary surgeon that lives that can tell that they are infected, not one. Isn't that so?

Dr. Atkinson — That is so.

Mr. Goodwin — You can't quarantine against the thing. The only thing you can do is to stamp it out, kill and burn, and the sooner we understand that distinctly, the better for us. Your veterinarians can sit on the fence just as they do. That is the way they inspect cattle in the stock yards. They sit on the fence and inspect them, and write out their certificates, and they can do it that way

as well as any other way. The only way to tell anything about it is to get a correct history of the cattle; that is the only way you can get a clue to the thing at all. As I say, they may come in contact at some time at some point with the disease, and there is not a man on top of the foot-stool that can tell it. And yet they will be in a condition to go out in the country and scatter that disease broadcast; and it is about time that the farmers understood that they have got to come right down and go to their representatives in congress, and demand something that is effective, something that goes right straight to the point. We are tired of these local quarantines that interrupt trade and commerce and do no good at all, — absolutely no good, because the thing can't be quarantined, and I hope that this convention will take such action as will let the Wisconsin representatives in congress know that their support to some effective legislation is demanded by the farmers of this state. (Loud applause).

Mr. Fish — I would like to ask this gentleman if they can't tell a sick animal, how are they going to stamp it out? How do they know whether to kill it or not?

Mr. Goodwin — I said for a certain period they can't tell whether that beef is affected with pleuro-pneumonia or not. After the disease progresses they can distinguish it. Veterinarians can. The only way to stamp it out is to kill all those that are diseased, and to kill all those that are even suspected of having been exposed to the disease, and burn. I think that is about the only way, at any rate, I think it is the safest way.

Dr. Atkinson — Burning is very good disinfection; and to burn stables, cars and everything else where those diseased animals have been kept. It requires what physicians call heroic treatment; no homeopathic treatment will do.

A member — If you kill all those suspected of having been exposed you would have to kill nearly all the cattle in Wisconsin.

Mr. Goodwin — You needn't kill any cattle in Wisconsin yet, but there are a number about Cook county that want to be killed.

Mr. Allen — What measures did the Canadian folks take in regard to that disease.

Dr. Atkinson — As nearly as I know, they killed everything infected, and everything exposed. In regard to what the gentleman said about the inspection of cattle in Chicago, I specially requested the agents of the inspectors at the stock yards to pay great attention to the history of the case, and rely more on that than on the appearance, unless there was something in the appearance that would absolutely indicate disease.

Mr. Spaulding — Do I understand you that the disease can not be communicated by the use of cars in which diseased animals have been shipped?

Dr. Atkinson — That is what the board of live stock commissioners are now trying to demonstrate. They killed all the cattle in the infected stables, and have now refilled them with other cattle to see whether they will take the disease or not.

Mr. Allen — How long since those places were filled again?

Dr. Atkinson — Two or three weeks. It is not long enough to specially develop it.

Mr. Allen — I think it is pretty clearly demonstrated.

A member — Can this disease be carried from one herd to another on the principle of the germs floating in the air?

Dr. Atkinson — That is one of the things we are in doubt about. It is not clearly demonstrated that it can be disseminated in any other way than by the association of the animals; but from the fact that it has a vital principle it is inferable that it can.

A member — Then might it not be carried in a car.

Dr. Atkinson — It is supposed that it can be transmitted that way, but, as I said before, Dr. Gadsen insisted that it could not.

Mr. Williams — Could not the cars be disinfected by white-washing them?

Dr. Atkinson — That is a disinfection. The action of the lime when it is absorbed — the oxygen tends to destroy germs. Let me say here in connection with the short lect-

ures at the University, I intend delivering lectures on veterinary science. We expect to have a model of the horse for the purpose of studying its anatomy. The model has not all arrived yet, but we have a part of the model here, which I will show you. (A model of a horse's hind leg was here brought in, and the doctor exhibited and explained models of several forms of spavin.)

Mr. Fish — What is your opinion about the breeding of animals afflicted with spavin; is it transmitted to their offspring?

Dr. Atkinson — They don't transmit the diseased condition of the bone, but they transmit a condition that is liable to become diseased.

Mr. Scoville — What do you consider to be the cause of it?

Dr. Atkinson — If they are predisposed to it, have faulty or weak joints, and they are exposed to injury, slipping and spraining and such like.

A member — Can you do anything in the way of feeding to avoid it?

Dr. Atkinson — None of our authorities recommend any such treatment as that, any particular diet.

A WOMAN'S IDEA OF KINDNESS TO ANIMALS.

BY MRS. MARY E. WARREN, FOX LAKE, WIS.

"In the beginning God created the heavens and the earth." And darkness was upon the face of the deep. All beneath him was a black, chaotic mass, and God said, "let there be light, and there was light." This was the first day's work in the creation of the world, and we are still seeking light. On the second day he divided the waters, and on the third day he caused the grass and all vegetable life to start. On the fourth he made the planets, and hung them in their respective places. The sun to rule by day, and the moon and stars to rule by night. He said they should be for signs and for seasons, for days and for years. And no

amount of human ingenuity and Yankee invention has ever been able to change them. Man may work his animals all through the silent night, but he cannot compel the sun to shine on them. On the fifth day God created the beasts of the field and the fowls of the air, and everything that crawled upon the face of the earth. So far he had created very little intelligence. He realized that he must have a shepherd. Then God in His wisdom conceived the idea of man. He wanted an intelligent being. A being that could properly manage this great agricultural and stock farm. He did not need anyone to create, but simply to guide and renew from time to time, and properly carry out His great and wise plan. He said, I will make man, and I will make him in my own image; he shall be but little lower than the angels; I will give him the powers of reason, and will put in him a living soul. And thus man was created, male and female created he them, and blessed them, and said: Behold! I bequeath to you not only the tree bearing fruit, and the herb yielding seed, but the beasts of the field, the fowls of the air and the fish in the sea; all are thine; but he added, thine are mine, thus maintaining His supremacy over all. He realized even then that man could govern all his great possessions better than he could govern himself; but all beneath the eye of man was his. Truly man was monarch of all he surveyed.

 Their right, there was none to dispute,
 From the center all around to the sea,
 He was lord of the fowl and the brute.

This completed the sixth day's work, and on the seventh day he rested and blessed and sanctified and made the day sacred. In all this great plan we find no unkindness, no pit-falls for the feet of the unwary, no goads or instruments of torture for animals, and now we must descend from the perfect original, to the imperfect present. While we realize that much is done for the comfort of animals, and good men are trying to improve, the improvements. Still we know that many who use and care for God's creatures need a work of improvement on themselves, for vari-

ous are the ways and means of being unkind to the animals entrusted to their care, both by ownership and as hired help, and this paper is designed to show briefly a very few of the ways in which animals are treated unkindly, or where kindness would be a great advantage. I know it is generally conceded that women have very little knowledge of these matters, but here let me assure you that few men observe unkindness to animals sooner than women, or sympathize with them more deeply. The smart young "Gehu" when taking his young lady for a drive, little realizes as he lashes his horse and drives him beyond reason, the sympathy for the horse and contempt for the driver that is raging in the heart of the young lady, if she be a common sense girl. We consider the horse the most intelligent, noblest and most valuable and most abused of God's creatures. When we see a poor emaciated horse driven, we conclude one of three things, if not all, are the cause, he is either overworked and abused, underfed or diseased either of which will humble his proud spirit, and all bespeak ignorance and unkindness.

The fat, sleek and finely groomed horse is looked upon as in no need of sympathy, but if he could talk he would sometimes make bitter complaint to his masters. We have seen him when brought out by the groom, to be placed before the carriage, when he had our sympathies, for the groom seemed to forget that the horse had four feet instead of two, and instead of guiding him when he tries to walk around in his own dignified manner, he spins him around like a top, and doubles his symmetrical body up like a hoop, and if in his excitement he steps over or on the thill, he receives several jerks on his unoffending mouth, with a number of blows from the extreme point of the leather encased whip of this modern Hercules, with a profane accompaniment. By this time the horse which is the groom's superior, is convinced who is "boss." He neither disputes or resents it, for his mouth still aches, and a few spots on his dappled coat still sting from his unnecessary lesson, and from the effect of an ungoverned temper, but he tosses his head and prances away at his master's bidding with no thought of complaint.

Another class will drive a horse until he is exhausted for want of a drink, not a drink that degrades and impoverishes, but a cool, refreshing draught of water, so plenty and free ever since the dividing of the waters from the land. Another class are those who go to town and leave their teams hitched to a post until night, and perhaps way into the night, with a cold rain or snow beating into their faces and on their bodies. Their blankets, if they have any, are under their feet, and when people pass them they will put out their noses, as if mutely asking protection, while their master, made in the image of God, is in the saloon playing pool, and regaling himself with that which degrades and destroys every vestige of the divine likeness, and leaves in its place the opposite. Finally he starts for home, or the place where his family stay, when he has to trust to "horse sense," in order to get started in the right direction. Then if there are two of them a dispute arises about which shall drive. It is finally settled however, that each shall take one rein. They go first in one direction, then in another; the poor horse has to yield his superior sense to the spirit of Gambrenus. They finally by chance or Providence reach home, and if there is a wife or a boy there, the horses are cared for; if not, they continue their fast until reason once more resumes its sway. Then every thing must stand round for his head aches, and his hair pulls. I would not be personal, but of course there is none of the class described within the sound of my voice.

It is very amusing sometimes to see with what complacency people will say, "we have a law for the prevention of cruelty to animals." We admit it, we know to, that this is not the only law that encumbers our statutes, and excites the ridicule of the law breaker and mirth of the law maker, but there are many ways in which an animal may suffer which the law would never notice. And the horse is not the only abused animal. I once knew a farmer, who tried to accustom his cattle, sheep and horses, to do without water, through the winter, but just as he got them accustomed to it, they died; then he gathered up their bones, and experimented in making fertilizers, and now he is a traveling preacher in Minnesota and boards around.

The man that is unkind to his horse, will be unkind to his cattle, and will not hesitate to scold and beat the cow that furnishes him milk, butter, cheese and beef. He can not drive his stock from one pasture to another, without disgrace to himself and abuse to his cattle by a display of temper and profanity, and sometimes, in driving his pigs, he will lose his temper and wish he could kill the brutes, which, on reflection, would give very little satisfaction, for the pig has no fear of death before his eyes, and no future to dread, and if you can only make the pig think you don't want him right where you do want him, he will go there fast enough. The perversity of pig nature and human nature is much the same. All domestic animals, from the horse to the faithful watch dog and mousing cat, are almost human in their susceptibility to kindness, and the man who does not realize this is not the one to handle them. If we enhance the comfort of our animals, we enhance their value; hence, we can not afford to disregard the principles of kindness from a financial standpoint.

The colt is never made baulky by kindness, or the cow ugly. The successful man is the kind man, as a rule, kind in handling his stock and in feeding and sheltering. The man or farmer who understands his business and is properly educated need not hesitate to ask the most refined lady in the land to share his home and interests, for the man who is prepared and fitted to be a farmer in its truest, best sense, is fit to be a king and ruler as God designed him to be, and when God bequeathed to him his great estate, He expected him to renew the earth, and his possessions, but the creating He did himself. He made the cattle with horns; doubtless the cruel practice of dishorning did not belong to his plan, and in our eagerness to renew we had better not try to re-create or change the original. If the horns are in the way had we not better make beef of the offenders, and raise only the hornless, for many generations will pass away before we can establish the belief that the practice of dishorning cattle is not cruel and barbarous. This is an age of progress, new ideas and practices appear with every

generation, we should accept only those that are an improvement, and in accord with the original plan written on each lesson, we read the fact of our own eternity. All grow old and die, and on our faltering footprints of to-day youth presses, beautiful youth in all its forms, the lofty trees, and all nature's care renewed each spring, they put on their garments of youthful verdure regardless of our sleeping beneath them. And after the flight of untold centuries the freshness of that far away beginning lies, and will continue to lie, and as the fair beginning still remain, so let the lessons of kindness remain. We can remain and improve without marring the design. Kindness in every walk of life brings happiness. The man who is unkind to his animals will be unkind to his family. Kind words fall like oil on the troubled waters of the human heart; the kind word to the beggar, the cup of water to parched lips have all helped to swell this broad river of mercy that leads to eternity, and will not be lost in the moral garden of the Lord. Every time we refrain from harshness or cruelty we have gained one step in the ladder that leads to success, and finally to God and heaven.

We are not fit to be rulers unless we love our subjects and seek their highest good, even though they be animals. Too many of us are like the butternut tree, we impoverish the soil on which we grow, by a cultivation of moroseness, instead of love and tenderness, and thus make all things unhappy, for fear if we should show a little sympathy they will go wrong and pursue the very course to make them go wrong. Some natures, like the butternut, are so cold, selfish and absorbing they chill and impoverish every thing that comes in contact with them. Others are like the olive tree that enriches the soil on which it grows; they are radiant, affluent souls who enrich life by their presence, whose smiles are full of blessing and whose touch is balm and healing, like the touch of him of Nazareth, we would prefer this olive tree from whose branches blessings and benisons descend. And in conclusion let me say, that if my weak effort will be the means of sending one man home to his family before his manhood trails in the mud, or before

his brain is on fire, or influence one kind deed, or saves one dumb creature from blows and abuse, or in any way helps some one to conquer self, and thereby become "greater than him that taketh a city," my point will be gained and hopes fulfilled. It is well for us to ripen if possible "without shriveling," and keep our hearts warm with tenderness and loving kindness, and with gratitude to God, whose attributes of power we feel, unseen, yet present; untouched, yet always felt. We should be satisfied with nothing short of this approval of heaven and our own souls, remembering that great achievements and grand successes can not be made in a day, or to stand forever, unless founded on right principles and right acts; but when thus builded you have a foundation less perishable than marble, which is the everlasting principle of truth and right.

Swift years but teach us how to bear,
 To feel and act with strength and skill,
 To reason wisely, nobly dare,
 And speed our actions as we will.

Press onward through each varying hour;
 Let no weak fears your course delay,
 Immortal being! feel your power;
 Pursue the bright and endless way.

Mr. Fish—I move a vote of thanks to Mrs. Warren for this interesting paper.

The motion was carried.

Convention adjourned.

7:30 A. M. THURSDAY.

President Sanger in the chair.

A PLEA FOR A BETTER PARENTAGE.

MRS. VIE. H. CAMPBELL, EVANSVILLE, WIS.

"A corrupt tree bringeth forth evil fruit. By their fruits ye shall know them."

In bringing this subject before you, for your consideration this evening, I am well aware that I am taking a "new departure;" that I am going out through avenues that have closed, in quest of knowledge which has, until quite recently, been considered not proper for general discussion. And, although the programmes of this and similar conventions have, interspersed all through them, topics relating to the improvements of our domestic animals, which are considered perfectly proper subjects to be freely discussed in open sessions, all allusions to the methods of perfecting the human race are carefully and studiously avoided. Not from any consciousness of superiority gained, nor from a lack of desire for self-improvement, but because of certain existing false notions of life and its relations which have hedged us about with barriers called modesty and propriety, beyond which very few men or women have dared to go. Therefore, at the risk of running the gauntlet of severe criticism have I attempted to make a plea for better parentage. And I ask that you will for the time being, lay aside all pre-conceived notions of delicacy and false modesty, that we may consider the science of human development. I trust that what I may say will not jar too harshly upon ears too sensitively attuned, for my sense of right makes me speak the truth, inasmuch as "the truth shall make you free." Silence in these matters has so long been enjoined that the present condition of the race and its outlook for future progress declares that speech is golden.

When we contemplate the seething, surging, illimited sea of humanity spread out in grand expanse before us, with its mistakes and its failures; its vices and its virtues; its white caps, its billows that run mountain high; its smooth surface, whose calm, unruffled depths mirror back the light of

truth and reason; its hidden reefs, upon which many lives have been stranded; its peaceful harbors; its malstroms, into which thousands are annually whirled into eternity; its ports of safety, and its octopus which never relapses or relinquishes its hold upon its victim until his destruction is accomplished. When we contemplate all these, our task seems a herculean one, and we almost fear that our efforts may prove futile. But when we reflect that if the laws that tend toward the perfection of the physical health were observed by but a single generation the next one would be physically beautiful. Likewise, if the laws which serve to build up the physical and moral nature of mankind were carefully adhered to by this generation, the next generation would be morally beautiful, then our task seems much easier.

Humanity can never be raised by the mass, but must receive its upward tendency through the elevation of the individual. Whatever tends to develop or advance the individual man, also materially tends to promote the elevation and advancement of the entire human race. The vices of one person affect a whole community to a greater extent than ever before. The perfect education of man broadens his faculties, quickens his perceptions, and gives him a leverage upon the world around him.

"Man, know thyself," is a command given through a Divine inspiration. To properly understand ourselves is to hold the key which unlocks God's hidden designs and purposes. His manifestation will then no longer be termed miracles nor riddles, but the beautiful outworkings of Divine laws only unrevealed because we have not developed to that higher degree necessary for their perfect understanding. When we have advanced, figuratively speaking, until we can stand on Pisgah's glorious height with cultured intellect and quickened perception, we shall be enabled to view the beauties of the plane of truth spread out before us, drinking deep draughts of inspiration that shall prove as "cups of healing" to the race. Thought flows outward from the infinite mind unceasingly, and as we develop and ascend to higher planes we are able to grasp advanced and mature thought. What have seemed to us as freaks of nature or

mysterious visitations of Providence, will, when viewed by the clearer light of truth and knowledge, be found to be the results of laws that everywhere surround us, and we in our mental blindness did not understand them. There are no freaks nor accidents in nature. What we have carelessly termed as such are but the penalties which we suffer from a disregard of the law; ignorantly perhaps, but the law exists just the same, and so do its penalties. If the individual suffers, so also, through the law of sympathy, which acts and reacts like the waves of the ocean when met by a disturbing influence, is the entire race affected. The law of restitution, like Shylock, demands its pound of flesh, and will be satisfied with no less. Once forfeited, once violated, no interposing agency can avert the infliction of the penalty, only the Divinity which is within the breast of every man, no matter how low in the scale of humanity he may be, can work out the redemption. That indwelling germ of divinity, if given the conditions for growth and expansion which accrue from right education, will solve the problem of the salvation of the entire human family. The time has come when knowledge must no longer be withheld. Children who have arrived at years of discretion should be taught the laws of heredity and the transmission of acquired faculties. No study is of greater importance than the study of Anthropology.

Said a clergyman to me not long since; "I believe that there is as much, I will not say more, need of the doctrine of heredity being taught as of the doctrine of regeneration." I replied that long ago it had been settled in my own mind that right generation precluded the necessity of regeneration. The well born child needs no plan of redemption, for his salvation from evil tendencies is well assured and in the blind directness of the impulses of a little child we clearly read his nature and his path of progress. In those types of character upon whom we are accustomed to look as the Savior's of the world, the Divine natures were foreshadowed in the spontaneous expressions of childhood, which were the outgrowth of hallowed influences at the inception of

life. What blessed responsibilities are laid upon us at the dawning of maturity. What a bond of sympathy is established between us and every mother's heart the wide world over. Through this sympathy the whole world is made kin, and the cords of unison connecting each mother's heart will ever vibrate in sympathy when struck by affection's hand. When we begin to realize the great responsibility which the Divine Author has laid upon us when He gave unto us motherhood we tremble before its awful magnitude, for to us is not only given the moulding of the body but also the moulding of the immortal soul. And it is an outgrowth of the Infinite love and wisdom that woman was endowed with keen sympathy, quick perception and unerring intuition — qualities that enable her to grasp and transmit Divine attributes to the expanding soul.

The total disregard, by parents, of God's laws governing the inception of life results in the filling of our insane asylums, our prisons and our alms-houses. Children with frail bodies and feeble minds are living rebukes to parental transgressions. More forcibly than any appeal I can make comes the plea from those children, children scarred from the very birth by the fathers who have invoked their young lives. Do you hear it? It is a cry full of pathetic woe; a cry for an inheritance of pure, untainted blood and unscarred brain; a birthright unwarped and invitiated. Ah! how this cry swells all along the land, from sea to sea, and from lake to gulf. How it comes from the isolated farm and from the crowded city.

Each generation suffers the penalty of the transgressions of preceding generations. Consequently subsequent generations are entitled to certain rights and privileges which we of the present generation are, as regards the future welfare and advancement of the race, in duty bound to respect. Our duties as race-builders are grave ones. The simple and almost general use of intoxicants was not considered deleterious to perfect health one hundred years ago, but on the contrary was thought to conduce to health and to prolong life. These are matters of growth and development, and

when viewed in the light which shines upon us in the afternoon of the nineteenth century, become serious questions.

We have found that the results of the use of stimulants and narcotics, tea and coffee are apparent in defective brain and degeneration of nerve tissue. We are to day suffering from the effects of the jug in the house of our grandfathers, and we are lending our aid to perpetuate the inheritance. Our ancestors, of more phlegmatic temperaments, and living in a slower age, could partake of stimulants with less damaging results to themselves than can we of a faster age; but the result of their habits are our intensified temperaments. The keenly, nervous temperament of our modern civilization, fine and beautiful as its outworkings are, is far more liable to sudden collapse and ruin than a slower, less nervous temperament of a less finely organized and highly developed civilization. The disturbance which the use of alcohol and tobacco causes, works irreparable injury to it. These disturbances are of daily occurrence, and are manifested in paralysis, apoplexy, brain diseases, idiocy, insanity, crime and suicide and so on to the end of a terrible list.

These are the penalties that we pay for our ignorance and neglect; and when we look further and find that nature retains her habits so tenaciously that no taint of nerve disease can be entirely eradicated, a study of these causes and their consequent effects becomes the all-absorbing duty of the present. Moderate drinking indulged in by one generation always leaves its impress upon the subsequent one in defective brain or nerve organization.

This degeneration of nerve tissue does not always manifest itself in an appetite for strong drink but it manifests itself in the form of hysteria; in the performance of spasmodic and excessive amounts of labor, as well as an utter detestation of any kind of labor; in lack of will-power, forgetfulness and lack of mental and moral perceptions. We find those who are affected in this way incapable of any degree of moral strength, having little or no conception of truth.

When we commence the study of human progress there

are two propositions that present themselves to us at the very outset, viz.: The subject of heredity and the subject of hygiene. Heredity culminates at birth and hygiene is the first line of environment which begins at birth. Of how much of our personal liberty have we been defrauded because our ancestors did not understand these primal laws? Consider the awful legacy that has been left to this generation, and that this fearful legacy is to be transmitted to posterity! What a terrible curtailment of the boasted personal liberty we hear so much about whenever we attempt any kind of legislation against the use of intoxicants. What idea of personal liberty can our children have who have inherited from us habits and vices which warp and vitiate the future man? Stamping on them ineffaceably an appetite for whiskey and tobacco; predestinating them by an inexorable law to frail bodies and frailer souls; forging for them fetters stronger than those which bound Prometheus to the rock; furnishing the vultures in the person of the liquor venders whom we are protecting by the strong arm of the law while they feed upon the vitals of their helpless victims.

And so we go on, regardless of the laws of inheritance, thinking of naught save the indulgence of our own desires, forging chains for our offsprings, chains that fetter the soul as well as the body, and then we boast of our American freedom, and pray that the chains may be stricken from the slave all over the world. We shall not cease to perpetuate a race of slaves until we have banished from our use alcohol and tobacco in any form, and tea and coffee. I know that a great many will not agree with me, but "the cup that cheers and not inebriates," certainly stimulates, and after a few years the re-action will manifest itself in certain nervous headaches and nervous prostrations. If a cup of tea rests you, oh mother, when you partake of it after over-exertion, then you may be assured that it affects your system in much the same way, although in a milder one perhaps, that the glass of liquor or the cigar does your husband; and beware of it for there is danger lurking there. Many cling to the idea that we must have alcohol for medi-

cal purposes, and it may take another generation of education in this especial direction to uproot the error. The experience of two temperance hospitals, one in England and one in our own country, in Chicago, in successfully treating every kind of disease without the use of any form of alcohol, is fully convincing that it is entirely unnecessary. Many a mother has given to her unborn child a thirst for stimulants, because she thought a little brandy or a tonic of some kind was necessary for her comfort, and our family physicians, although coming in the guise of friends, have, by their prescriptions, proven dire enemies; and when we think of the many who have become hopeless victims to the opium habit through their prescriptions of morphine and similar drugs, when all the body needed was rest and relaxation, no drugs, only nature's recuperative forces, then we feel that it is time to cry to our medical colleges, that are yearly graduating "whole schools" of these physicians of every school, to call a halt. Surgeons and trained nurses we do need, but not doctors. They will never be able to repair the damage they have done. We have employed them and had faith and blind reverence for them already too long.

Dr. Felix Oswald says, "Diseases plead for desistance rather than assistance." He further says that "that there are only two or three forms of disease which cannot be entirely trusted to the healing power of nature.

It is very rarely that woman receives any especial training for the duties of maternity. We prescribe her sphere yet constantly limit its field of operations and possibilities. The ancient Spartans, proud of the attributes belonging to a nation of soldiers—physical robustness and powers of endurance—gave their women a system of thorough manual training. A certain amount of exercise in the gymnasiums was required of them each day, that they might be enabled to attain the highest bodily vigor, while the Greeks cultivated the asthetical and imaginative nature, and surrounded them with beautiful works of art. But we of this age demand a universal culture, hence we fail in our duties as parents when we provide a broad system of training for one

sex and limit the system for the other. Our children were not given to us with the great difference existing in their natures that we have developed with our dissimilar methods of training. As we look through the vegetable and animal kingdoms we see that the fact of sex does not widely differentiate the broader fact of life, its environments and its pursuits. Therefore the wide difference and separation which sex is called in to explain on the plane of humanity can only be accounted for on artificial grounds. You will remember that woman was given to man to be his help-meet and the illustration of her being taken from his side was given in a figurative sense to show that she was to stand by him, his equal through life. The world needs the

“Two heads in council, two beside the hearth,
Two in the noisy business of the world,
Two in the liberal offices of life;
Two plummets dropped to sound the abyss of science
And the secrets of the mind.”

Motherhood is the crowning glory of womanhood, even as fatherhood is the crowning glory of manhood, and the race will not make material advancement unless each makes equal progress. Hon. Matthew H. Carpenter, Wisconsin's gifted and lamented senator, said: “Commencing with the barbarism of the east and journeying through the nations to the bright light of civilization in the far west, it will everywhere be found that just in proportion to the equality of women with men in the enjoyment of social and civil rights and privileges, both sexes are advanced in refinement and all that ennobles human nature.”

Just as the Mohammedan mosque is considered too sacred to allow woman to enter its holy walls, just as in the lands of the Orient the motherhood of the race has been dwarfed in soul, defrauded in intellect and debased in morals, by being kept veiled and secluded, so also has the womanhood — and through it the manhood — of this country been wronged and her offspring defrauded because she has been dwarfed and fettered and denied the right of participation in the government to which she is amenable, and not from

any degree of inferiority, not from lack of patriotism, enthusiasm or interest in the laws of the country of which she is a citizen, but simply because she is a woman. What the human race has lost by the limitation of the possibilities of its womanhood can never be estimated. We are appalled when we think of the awful wrong done our colored brother by keeping him in bondage, a wrong which the race will be slow to outgrow; but what of the wrong our own race is suffering from to-day through the mental slavery of its women?

The spectacle of waste is always a sad one; we regret the destruction of cities by fires, by earthquakes; we mourn the lives sacrificed to the demon intemperance; we bitterly bewail the loss of the grand and noble lives that were offered up on the altar of freedom during our late war; but what are all these when compared with the wasted lives of women all over land — wasted energies, or energies worse than wasted, because spent in idle pursuits, which, if rightly applied, would make the world better and prove an unending joy to the possessor.

The laws of heredity teach us the power of motherhood to impress her conditions upon her offspring making them weak, cringing and narrow, or morally strong and upright in their natures and capable of developing the highest type of manhood.

In an address presented before this convention Tuesday evening, the importance of an education for farmers and their sons was strongly urged. Heredity teaches us that noble sons are born of noble mothers. Therefore, if you would seek to advance the conditions of your descendants give our women the very best opportunities possible for the full development of their physical, moral and intellectual natures. Do not permit any narrowness in their education if you would avoid a curtailment of the possibilities of the next generation.

Every mother's first duty is to her children, and that duty never ceases. If a mother's loving counsel is essential to her minor children, it is equally essential and beneficial after they have attained majority. The highest patriotism and

loyalty should be inculcated and developed in the home. But how is this to be accomplished, if by restricting and narrowing woman's education and influence we cause her to become indifferent in these matters? We fetter her in such a way that she cannot use her faculties, and if from their disuse she becomes narrowed, shall we censure her?

Government in a country like ours is an educator. It is potent and constant in its influence upon every individual who is required to take part in it. Man gains political wisdom and intellectual strength from the exercise of his rights of citizenship, and so closely are the affairs of the state interwoven with the business prosperity of the individual that to be successful one must take part in these affairs, and by doing so must of necessity grow in knowledge, in experience, in wisdom, and all that pertains to good citizenship and true manhood. But this great avenue of education is closed to women, and why? It is closed to her although her property, her home and her happiness depend upon the wise and prudent administration of the government under which she lives. It is not closed to her because her home demands all of her care and attention, for every mother who possesses a sufficient degree of intelligence to properly train the children God has given her and to wisely order her home duties, finds ample time for duties outside her own little domain, and both she and the inmates of her own household are blessed by the extension of her kind influence and charity.

They do not live the broadest, freest, grandest life, who stay

"Beside the hearth forever;
The heart and not the absent hands,
The home ties hold or sever,
And they who guard for other homes,
The bliss themselves have tasted.
Hold far too dear love's priceless gold,
To let it e'er be wasted.
All Christian life is richer, for
Broad duties well attended,
And light from many a rescued home
With our home life is blended."

When the changes which two or more generations have brought out shall have been effected in our homes, the little petty details of house keeping which so wear upon our mothers will have dropped out of home requirements, and woman will have more opportunities and time for broadening her sphere of usefulness, then men will have a larger place in the home, as woman gains a larger standing room in the world which her efforts have made more homelike, then motherhood will not be diminished but fatherhood will have become more magnified.

Frances Willard prophetically says that "when the white cross gospel shall have been embosomed in young manhood's life for one blessed generation; the sanctities of fatherhood shall be seen to exceed all others to which a manly spirit can attain in this state of existence, and the malarious dream of wicked self indulgence shall slowly but surely give place to the sacred self restraint which waits to crown with all good fairies' gifts, the little life which noble love alone may dare invoke."

The day is already dawning when the womanhood of America will demand a higher standard of character and purer habits of life and its manhood will not be slow to respond. The time has come, in the language of Cicero, when there shall not be one law for Rome and another for Athens, or in other words, the time has come when there shall not be one law for men and another law for women. If our people are to be a people who love "justice and right," we must lay the foundation by a universal law that shall be for all classes and both sexes, a law that shall be just and immutable and will exist forever. The sex shall no longer limit the penalties of the transgressor. The future safeguard of the race demands it, the present condition of the race requires it.

Each century, each generation has its own burden which the tide of years has rolled up for it and laid upon it as its load in the march of time. This then is the work for the lands of this generation, we must guide and lead or else we may become stumbling blocks in the pathway of reform.

“And if at once you may not
Declare the greatness of the work we plan,
Be sure, at least, that ever in our eyes
It stands complete before us, as a dome
Of light beyond this gloom — a house of stars
Encompassing these dusty tents — a thing
Near as our hearts and perfect as the heaven
Be this our aim and model, and our hands
Shall not wax faint, until the work is done.”

AGRICULTURAL EDUCATION.

BY H. C. ADAMS, MADISON.

An education in agriculture could be obtained from various sources, none of which could give complete knowledge. First in order came the farm, where the boy learns his farm lessons, but which will never make a thorough farmer. Next the agricultural paper exerts a tremendous influence in the education of the farmer, the county and state fairs have a great value, and the farmers' institute their special field of educational work, doing a good, but necessarily incomplete work.

The agricultural school gives not only knowledge, but discipline. The farmer needs both. He may be as complete master of his own fortunes as any man who breathes. The problems of his business are constantly coming to him in a “questionable shape,” and his success depends largely upon his mental capacity to solve those problems. That man in the carriage factory rubbing spokes and that other man doing nothing but iron hubs know what their work is to be each day. Nature has made no such groove in which the farmer can run through recurring seasons. Light, heat, air, frost, the mist, the dew and the rain, changing soils; animal life with its subtle underlying laws, give him new conditions each year with which to manufacture his product. Agriculture is said to be the oldest of arts and the latest in development. It has made more progress in the last fifty years than in the whole previous history of the world. In-

vention has lifted the burdens of labor. The chemist may not be the farmer's hired man, but he is working for him. We are learning something of farming from geology, much from botany, and we are beginning to breed our stock not by guess-work or moonstruck superstitions, but by the established principles of physiology. The whole world of agriculture is stirring with the inspiration given it by trained and intelligent thought. The movement is one to reduce the uncertainties of the farmer's life—to make him less a creature of circumstance, to make him more completely master of the tools which he uses. The time is coming when the farmer who does not know the principles which underlie his business will be looked upon as a sea captain is who knows nothing of the art of navigation.

The agricultural colleges of the United States were primarily designed to teach those sciences which together form the broad base of the art of agriculture. Afterward the idea of general industrial education was incorporated and provision was made for instruction in the mechanic arts. The act of 1862 did not exclude classical studies from these schools. Neither did it require them. The object was to establish colleges for people in workshops and upon farms, where they could obtain at the same time mental discipline and knowledge of their business. The idea that this kind of education is possible, President White, of Cornell University, says, "is rooted in our planet, and will hardly be pulled up by narrow literary men who hold the time-honored studies to be most respectable, or by narrow so-called practical men, who disbelieve in book learning, or by narrow religious men who fear that geology may harm Genesis."

Nearly all the states receiving the land grant of 1862 partially nullified the act of congress by appropriating that grant for the use of their state universities. In place of the agricultural colleges designed by the national legislature, we had a lot of agricultural departments tucked in under the wings of state universities, and so closely hid that the only evidence of their being was in their catalogues. So far as students are concerned, the agricultural depart-

ments have been flat failures without exception. Because they have been failures, the enemies of agricultural schools claim that agricultural education is a humbug, exhibiting in their statement the wisdom of the man who berates religion because some church members are sinners. The teaching of agriculture in literary institutions has usually been carried on very much as a threshing machine is run with nothing to thresh. The course is all right, the professors are all right, but the boys are not there, and there is no fruitage, because there is nothing to work on — no place to plant the seeds of knowledge. Prominent among this class of colleges is Cornell, with eight students in agriculture; the university of California, with two; and Wisconsin, with a list of, I think, of three graduates in this department; Minnesota, with two graduates since its establishment, and Georgia, with six, furnish a list which will give us an average for this class of schools.

A few of the states instead of permitting their universities to swallow the agricultural college land grant have taken the means provided by congress and established separate schools. These schools have received a strong support in a large attendance of students. Michigan heads the list with an agricultural college which has won its way into the confidence of all the people of that state. In its early history the farmers fought it and the state university tried to crush it, but it had sturdy friends and it has lived to be loved by its enemies for the good it has done. The legislature readily grant all appropriations asked, students fill it to its utmost capacity and the state university looks upon it as a friend and a helper. This college has connected with it a farm of 676 acres. The students are required to work three hours per day, because, as the authorities of the college stated it, "to accomplish the objects of the institution, it is evident that the student must not in acquiring scientific education, lose either the ability or the disposition to labor upon the farm." By this labor students are enabled to pay part of their expenses. In the department of practical agriculture, they are taught drainage, breeds of domestic ani-

mals and their adaption to particular purposes, feeding of animals, farm economy, mixed husbandry, rotation of crops, farm law and agricultural literature, besides the elements of all those sciences relating to agriculture.

Iowa has an independent agricultural college with an income from the land grant of 1862 of \$40,000. It is crowded with students.

Mississippi, in 1880, took away by act of legislature the land grant of '62 from the state university and divided it between two agricultural colleges — one for the whites and one for the blacks. Before separation, the agricultural department was empty. The first year of the establishment of the separate schools they were filled with 539 students.

Kentucky has taken a similar action and the agricultural college which, under the control of the state university, was an empty humbug, placed upon its own feet contained, in 1882, 244 students.

Kansas reorganized her agricultural college in 1873, and placed it upon a thoroughly industrial basis. There were 224 boys and 88 girls in attendance in 1882. The president states that 75 per cent. of the students come from farms and a large portion of the balance from the houses of mechanics.

The record is clear. Standing on their own feet agricultural colleges have been successful. Standing as departments of literary institutions they have failed of their purpose. The drift in the average college or university is away from any business which involves manual labor. It dignifies as it should the labor of the mind, but degrades as it should not the labor of the hand. It is not ridicule so much which drives the boy from his idea of studying agriculture, as the idea of being singular, of not going with the crowd. Very few boys have their mental cast so strongly made that college influences do not reshape them. They go into the college as farmers and come out as ministers, lawyers and physicians, because the talk, the thought of the college and its whole atmosphere is saturated with the idea of professional life. The result is that from the higher colleges of the land we get one and one-half per cent. of the graduates back upon the farm. Of the 1,800 graduates of

Hamilton college, eighteen are farmers. Of the 1,100 graduates of Wisconsin university, fifteen are marked as tillers of the soil. On the other hand, the president of the Agricultural college of Maine states that of the 156 graduates of that school less than 12 per cent. have entered the so-called liberal professions.

President Fairchild, of the Kansas Agricultural college, says: "Of our graduates a few are teachers; the rest are farmers, businessmen and mechanics."

Prof. Beale, of the Michigan college of agriculture, states that 60 per cent. of their graduates are engaged in agricultural pursuits or in business closely allied thereto. Prof. Whitney, of Michigan, a gentleman who was a teacher for twenty years, and who has been all over this state as a grange lecturer, claims that the best teachers in the common schools of Michigan come from the agricultural college. From this statement of facts we draw the conclusion that separate schools of agriculture give us trained farmers, while the average college robs the farm and overcrowds the professions.

The friends of agricultural education neither expect nor desire to make all farmers' boys farmers, but they do hope and expect to hold a reasonable percentage. They know as well as any class of men that the political, business and social life of the nation needs that constitutional vigor and that moral fibre bred in country air and country homes. But they want more of the best blood, more of the cream of their own class upon the farm. Farmers complain that they pay more than their share of the taxes and do not have the power they should have in state and nation. The power of any class of men in a free country is dependent on their brain force rather than their numbers. The farmers have enough brain force, but it is undeveloped, it is latent. Education will make it available. Agricultural education will make it available upon the farm.

Here in Wisconsin the state handed over to the State university the land grant designed for the establishment of an agricultural college. There was a good defence for that action twenty years ago. The university was weak and

needed help. To-day the university is strong as it deserves to be. The state cannot treat it too well or too liberally. It is an overflowing fountain of that knowledge which is an antidote for the poisonous theories of Anarchists and Communists, and which makes strong and lasting the foundations of law and order by the saving grace of right reason. The state simply owes it to itself to treat the university with an open hand. The university and its friends owe to it themselves that they treat other educational movements than their own with intelligent generosity.

The friends of a separate school of agriculture would take nothing from the resources of any existing educational institution. They seek not to tear down — not a substitution, but an addition. Their position is not altogether a humble one. The state not only diverted this land grant from its original purpose; but it sold the lands for a song, in order to settle up the state and satisfy land speculators. Iowa had the same grant in acres that Wisconsin had. Her agricultural college fund amounts to \$500,000. Ours amounts to \$244,000. Does not the state owe something to the cause of agricultural education? What would an appropriation for an agricultural school mean? Would it be simply a sop thrown to the farmers? By no means. It would simply be a business investment on the part of the state. An investment in knowledge for the purpose of profit. Wisconsin farms average 32 bushels of corn per acre, 13 bushels of wheat, 30 bushels of oats, 1.1 tons of hay. The average cow fools away her time making less than 100 pounds of butter per year. More hogs are kept over than are sold every year and are then disposed of at a loss. This is not a good showing. What is the matter? Land, climate and soil are all right, there is plenty of muscle to carry on the business. The Wisconsin farmer is simply short in the matter of knowledge. An intelligent system of agriculture would double the product of our farms within three years. Double the product and you increase the assessed value of the farms — increase the value of the farms, and all real estate

values go up. We then have either lighter taxation or an increased revenue.

The agricultural school will not produce this result at once, but it will work in that direction. It should come, not because the farmers want it or do not want it, but simply as an agency in the development of the material interest of a great state and as a means of giving attraction, dignity and power to the farmer's profession.

DISCUSSION.

Mr. S. J. Seymour introduced the following resolution:

Resolved, That it be the sense of this convention that it is the duty of the legislature of this state at the present session to provide the means for the establishment of an agricultural college for the state of Wisconsin.

Pres. Sanger — Put your resolution in writing and send it up.

Mr. Curtis — Is there to be any time for the discussion of the paper we have listened to?

Pres. Sanger — If the convention wishes to discuss it, of course we will do so. We will discuss that subject now, or after Mr. Arnold has read his paper, as the convention desires.

Mr. Arnold — I may say that I have a paper on an entirely different subject, and if this convention sees fit to discuss this question the balance of the evening, — perhaps it would be more profitable. I am not anxious to read my paper at all. I would suggest, if I should read my paper, that we discuss the question before us, as the first paper is also entitled to some consideration and discussion.

Mr. Curtis — The papers read are connected with each other, and it seems to me they ought not to pass unheeded and without any discussion. It is not often that we listen to such papers. But I do not wish to crowd my friend Arnold off at all.

Mr. Arnold — I suggest that we discuss these two papers

before we proceed to anything further, and make a motion to that effect.

The motion was carried unanimously.

Mr. Curtis — I want to compliment my friend Adams on three things: one is his selection of a subject; another is, he got upon the right side; and the third is, he treated it in a very able manner, as it seems to me. I could not but think, as we were listening to it, what a magnificent thing it would be if the principles laid down in that paper could be carried out in the state of Wisconsin. The people of the state have been asking the legislature to give them an extra appropriation for the use of this work. I know of my own knowledge that that money, that appropriation is needed. I know it is needed sadly. I believe that a large majority of the farmers of this state are in earnest in asking for it. I believe they ought to have it. That the superintendent ought to have all he asks for, all that we can use in an economical manner, whether it be more or less. It aids as no other institution in this state ever has aided the farmers to get an education in their special lines; such an education as they have never had the opportunity to get before. Those of us who are getting old and grayheaded, who cannot have the benefits of agricultural schools in any other way, can get something here. We can get a knowledge here that we can get nowhere else. Through these institutes the best of our farmers can get together and rub up and freshen each other's ideas, and get new thoughts from each other that will be of almost inestimable value to the farmers of the state. But Mr. President, we don't reach, we cannot reach the class that is to come after. They, except in a few cases, do not attend our institutes. We cannot reach them, and the institution may die out. Those of us who have aided and assisted to carry on the principles taught there are not ourselves educated as we wish we were, as we have often and long wished to be. We are educating ourselves, as we are trying to aid others, in an indifferent way. One little incident that happened a few days ago: we had one of the professors of the Agricultural College of Michigan with us. In his addresses before us, which were on insects injurious to

agriculture, there was one single class of insects that had annoyed me almost beyond endurance. I had studied all the books and all the papers I could find. I had worked and tried, but failed to get any knowledge of how to protect myself against them, and I have time and again within the last fifteen years seen a time when I would cheerfully have given a thousand dollars for the knowledge he gave us, and gave the people of the state, at a cost to the state of, I think, about somewhere from \$50 to \$75. Mr. President, there are many such points as this, very many of them that we can get, the farmers cannot reach because they do not know them themselves. This corps of professors and teachers will be spending their time studying and reaching out, and with their apparatus, their instruments and their experiments, they are able to obtain knowledge that we, the practical every day tillers of the soil, never can get of our own unaided help, and we need them. Michigan needs them, and we need them here. Mr. President, I believe honestly and sincerely, that with the aid of these institutes, we could have the principles laid down in my friend Adams' paper carried out, if the legislature would aid us, assist us in carrying them out. I believe that old as I am, I may yet live to see the day when the farmers of Wisconsin shall be the grandest set of farmers in the United States of America. (Great applause).

Mr. Arnold — We are now. We are the best farmers in America. (Renewed applause). We are that kind of fellows now. We have the best reports; the best reports of any state in the Union come from the State of Wisconsin, and these gentlemen that come from other states say we are the most wide awake set of farmers they find anywhere. We have better institutes than they have in any other state in the Union; still we want them better still, and we are going to have them.

Mr. Sayre — It does very well for our Brother Arnold who has been at these institutes to get up and talk about the farmers of Wisconsin being so advanced and such nice fellows, and so well up with the times, but it is not for us fellows here —

Mr. Arnold — You have been there too.

Mr. Sayre — I don't take any word back that I said about the farmers, and the wide awake way we manage each other, but this is the point I want to reach to-night; the farmers that commenced here forty years ago found a virgin soil; we found everything. All we had to do was to use a little muscle, and a great deal of it too, and we did it. That day where a man went on new soil and broke it up is past. We have accomplished grand results. I do not deny any praise to the farmers of Wisconsin. But now our environments and those which are to come to our boys are changed. They can't break the sod, they can not raise the stock we have raised nor at such low prices. Their whole surroundings are different from the surroundings we had when we came. What is a boy going to do? In the first place his farm is not as fertile as it was in the fifties and sixties. How is he going to bring it back? He has got to use brains. How will he get the necessary knowledge? I will take the institute as a stepping stone; that is the first. It is not prolonged enough, it is not educational enough. It does well enough for us old farmers, but the boys must have an education that will enable them to build up these farms. Where will they get that knowledge? In the agricultural schools in the first place. And so it is in the breeding of stock. He has got to keep up with the times, and indeed in every single thing on a farm a boy has got to have more brains now than we had to have twenty-five or thirty years ago. We had muscle then, and we accomplished what we did accomplish grandly, but the boy has different surroundings and a more difficult problem, and it is only by a system of agricultural education that he can be provided with a knowledge which he requires. There are a great many objections, and the objections come up constantly, that the boys and the girls attending these schools are graduated away from the farm. In a little conversation which our friend spoke of only last week, one of the professors of the agricultural college in Michigan was asked the percentage of graduates that become farmers. I forget the percentage but it was a large one, and he turned around and he said

this, "the percentage of boys who go on to the farm from our institution is greater than the percentage of young men who study law and go into the law, and greater than the percentage of young men who study medicine and go into medicine." Our percentage is larger than either of those cases, and that man was well informed and you can believe what he said. I only wish to bring this up to emphasize the fact that with the present surroundings we require a new education for our boys, and that education we must give them.

Mrs. Alura Collins Hollister — I did not hear anything said about the girls. The gentleman has not said —

Mr. Sayre — May I interrupt the lady? Every time I used the word "boys" I want to put in the word "girls" too. (Laughter and applause).

Mrs. Hollister — I was only going to say that I never knew a farmer to get along, unless his wife knew something. (Applause and laughter).

Mr. Kellogg — A lady down on the programme to-day gave us one of the best papers at Mount Sterling of any paper we had during the week. She is a widow, and has taken up the dairy and the farm, and is more successful to-day, in dollars and cents, than the majority of the farmers of the state. While I speak a moment of the institute work, the interest manifested by the farmers throughout the state where I have been, has been shown by the crowded halls and crowded churches. At Mount Sterling the church was crowded to its utmost, from the beginning to the end; and when I learned from one of the papers that ground can be renovated by clover cheaper than we could draw manure a mile, I made up my mind I would go home and quit paying fifty cents to a dollar a load and drawing it two miles; and if these are facts and if farmers know them, why not have better farms? Let us have more stock and better improved farms all over the state. It has been said that the institute work is for the benefit of the farmers now upon the farm, and the agricultural college will be for the benefit of the boys. This institute work cannot be dropped, there is too much at stake now. The intelligence manifested by those whom I meet at

the institute is such that everyone feels interested, everyone — I will make one exception. There was one man who told me at Edgerton that he had been to two institutes, and it was the last one he was going to. Almost the first man that came into the hall at Whitewater, was this same farmer. (Laughter.)

Mr. Babbitt—I came to this convention about 12 o'clock to-day, and when I came I was inclined to be of the opinion of Brother Arnold, that the farmers of this state were the grandest set of men on earth. But, Mr. President, I understand by hearing Mr. Adams' address that there is one thing that the farmers of this state need. I think that the drift of his whole paper rested in this: that the farmers of the state of Wisconsin must use their brains and think. Now, I understand that a resolution was offered here last night by a gentleman for whom I have the highest respect; I know him to be a cultured man, a man of intelligence, and a man of experience. But his resolution was offered and passed immediately, without thought or reflection, as resolutions have been in the habit of being passed by this farmers' convention for the last four or five years to my absolute knowledge, unless they were torn up and thrown under the table by some designing fellow who had an interest in the society.

When that resolution was passed, the farmers did not think that the railroads of the state of Wisconsin have done more for this grand state than the legislature ever did, or even seemed to dare to do. Now, I am talking what I know, and from the standpoint of a farmer. Some of you, perhaps, would call me something else, but I experience great joy these days in being at home, in seeing my men bring, at the least calculation, three cords of fertilizer from the city, and spread it on the snow. It has been the custom of the railroads of this state to carry to and from your great fairs your products for exhibition, free of charge. One year ago they had given out and instructed their agents all over this state to charge half rates one way. I went to the managers of the different railroads in this state, and I said to them: "Gentlemen, this order comes so late that I am afraid the farmers of the state will be dissatisfied; they will come

to the fair, and then when they find out that they have got to pay going back half of this freight, it will be a serious matter to them. They will have their products at the fair, and many of them can not receive the intelligence in time that you are going to charge them for half-rates." What did the railroad managers do? With a magnanimity that the state of Wisconsin never showed, and as I said, never dared to show, they rebated over \$12,000 to the farmers of Wisconsin, in the item of freight alone! Now, gentlemen, on another occasion, perhaps I made as strong a speech, at least as I was able to make, as a farmer, against monopolists. I am opposed to monopoly; I despise it among farmers, among politicians and among railroad men, and among every other class of men; I deplore its insinuating arrogance. But we have got to look things squarely and honestly in the face, and if we publicly admit here that we are not capable of running our farms so they will pay, I am sure that we have not the right, or at least I am sure that it is short-sighted policy, for us to undertake to tell the railroads how they should run their business, especially by cycloning resolutions through our conventions. I understand thoroughly that this is not advocating the policy side and following fashions of to-day, but Mr. Babbitt never has been afraid to speak and express his honest opinion, for the reason that he has no future political aspirations, and therefore he is fool enough to tell the truth. (Laughter.)

Now gentlemen, this farmers' institute that you have been talking about and applauding so highly, what has been one of the greatest means of its success? I understand from a gentleman who knows, that last year they received in the line of passes over twenty-seven hundred dollars, and this year many hundred more, and you farmers! travelled on those passes too, "all around the circle." (Applause and laughter.) And still you have the brass — nothing else — to rush through without debate a resolution of censure unthinking — there is the point, unthinking — and you censure the railroads for treating you decently and respectfully, as they treat other interests in this state. And I have no doubt if some patriot should have introduced a resolution, denounc-

ing the passage of the pending Inter State Commerce bill, it would have gone through with a whoop, when there is not one railroad manager in twenty—unless it be an eastern magnate holding millions of western bonds, who knows how it will affect the great west and the western farmer. It is all well enough, probably, for you who want to gain the good will, and particularly the votes of our citizens, to come out and be honest in profession, and dishonest in heart. But I don't believe in that doctrine at all. I believe it would be far better for you to pass a law compelling all railroads you incorporate, to give a pass to every legislator that comes here, than censure extended courtesy. I believe that to be the squarest doctrine; I believe it would be good common sense. I ought not perhaps to speak in this kind of way, but as I have said before I have got some of those Short Horns they they tell about down in the Agricultural Rooms that they had to strain themselves so tremendously to milk. (Applause and laughter.) And they will take care of me for they can raise calves that will raise one hundred pounds of increase in every month they live, and I can exchange them for the sheckels. Consequently I am satisfied. Now I hope that you gentlemen will forgive me for suggesting the idea that you think before you run through resolutions headlong. I laid myself under severe criticism on my own part when I have been reflecting about these things, that I often tore up the resolutions before they got to the body, and I regret the writer did not tare up the resolution before he offered it.

Mr. Anderson — Will you please state it was not a farmer that introduced the resolution.

Mr. Babbitt — If he had been, undoubtedly I would not have paid quite as high a compliment to him as I did when I first opened. But that gentleman is abundantly able to take care of himself, and I see him here, and I almost begin to tremble myself to think that I should dare to speak to my fellow farmers and impress upon them the fact that they have just as many rights in the state as any lawyer or as any judge, or as any legislator; and I feel that I am in the strongest sympathy with plans for education, and that

the state of Wisconsin can well afford to give one million dollars — and nothing else will answer — towards the creation of a school where farmers' sons could be educated, and where the same principles would apply as apply at West Point, giving, for instance, every agricultural society in the state the privilege of appointing so many students, and after they have been educated at the expense of the state, bind themselves to return to the farm and give back, as the educated soldier of this Union does, his labor for so many years, in the cause of agriculture. I speak as a farmer to farmers.

I don't believe that any farmer of Wisconsin, or legislator of the old Badger State, was ever bribed with a pass. The legislature which passed the Potter law vindicated the sovereignty of the people, and the eminent jurist, Ryan, sustained the law, and a new legislature was elected on purpose to repeal the law. The bribery of a pass did not enter into the contest or count a cent. The legislator did just what he pledged himself to do before his election.

I am totally opposed to any of your hundred thousand dollar appropriations. Why, Brother Broughton down here in his grange store does three times that amount of business. You can not educate the farmers of this great state, in nine hundred towns, on an appropriation of a hundred thousand dollars, or on a resolution rushed through on high tide. If you want to be educated, have an institution which will be an honor to you, an honor to your sons, and an honor to your daughters. Let us have a co-education; an education which shall make men and make women, and when they come out educated, they will come with such an education as every farmer has a right to have, and which every statesman ought to have. We will then have a commonwealth of equals, and none will be the peer of the farmer's boy and farmer's daughter. (Great applause.)

Mr. Sloan — Mr. Chairman: I was a little surprised at some of the sentiments that fell from the lips of the last speaker. But since it has come, I heartily agree with it. I think the railroads of this country have been a very great benefit to the country. No man, looking about him at pres-

ent could well conceive how such a country as this, so productive, so prosperous, could get along without the benefit of the railroads. It is time, I think, in the history of those corporations, for thoughtful men to be inquiring as to what is just and right in regard to our dealings with them. Now it is the experience of every farmer, I think, that the railroad corporations of this state are charging on all local freights, two or three times as much as would be a just compensation for their services in transporting property, and at least a third more than would be a just compensation for transporting persons. They are paying an interest upon the common stock and the bonds of three or four times as much as those railroads cost. Three or four times as much as they can be built for to-day, or could have been built for at any time within the last fifteen or twenty years, or perhaps more.

It costs a farmer to transport a hundred pounds of grain from the city of Madison to the lake shore a hundred miles distant, as much as it costs him, after he gets it to the lake shore, to transport it a thousand miles to the seaboard. If these rates are too high, what is the remedy? It is through the legislature of this state; they have it in their control; they have the power to pass laws in regard to local traffic, prescribing the rates which the railroads shall charge. Shall the legislature exercise that power, will the legislature exercise that power? Need I ask that question, when every legislator who comes to the capital of the state of Wisconsin comes with free transportation in his pocket, not only for himself, but for his family and friends. That has been so for years. There was one time, one year, in the history of the state of Wisconsin, when the railroads themselves refused to issue passes to the legislature. What was the consequence? What is known as the Potter law, cutting down their rates on passengers and freight, was passed at once. They restored the passes in a year or two then that restraining and prohibiting law was repealed. Now what is this transaction of giving passes to men in office, in legislative office. Is it offered to them as a bribe? The trouble about it is that men who would spurn and resent the offer of money, who would

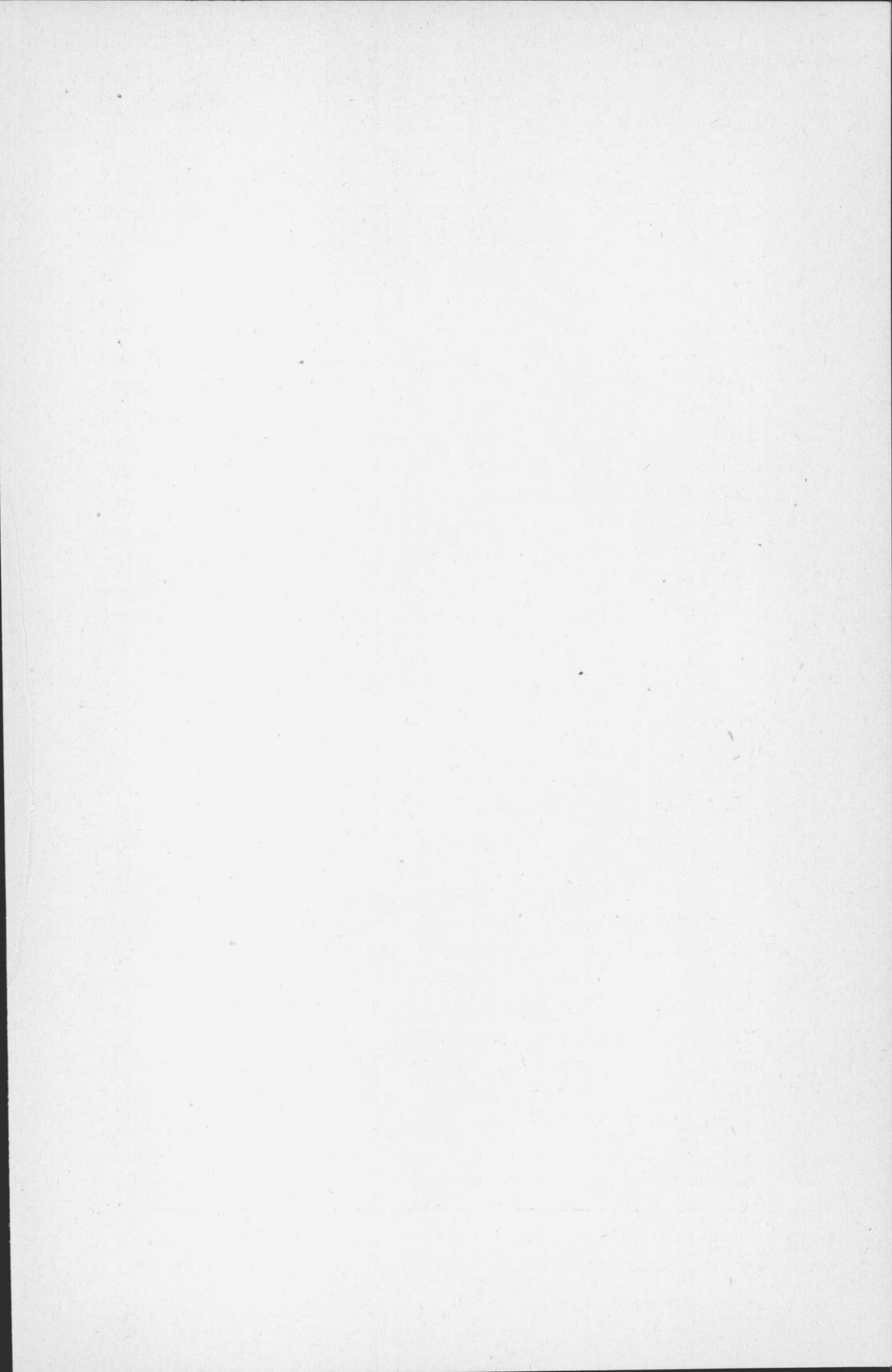
regard it as an insult which they never would forgive, if they were offered five hundred or a thousand dollars to aid in the halls of legislation, the projects of the railroad companies, yet are willing to accept passes. That is the most insidious of all species of bribery that can exist on the face of the earth, because it is unconscious bribery. Men do not understand that it is in the form or shape of bribery, but still, do you suppose a man can act as independently if he has a free pass in his pocket as he would act without one. Why, it is not but three or four years ago that a representation was made in the legislature of the state of Massachusetts that some member of that body was riding on a free pass, and that body at once appointed a committee to inquire into the fact; and the presumption is, if it had been found true he would be expelled from that body as not being in a position to act as a free, independent, unbiased legislator.

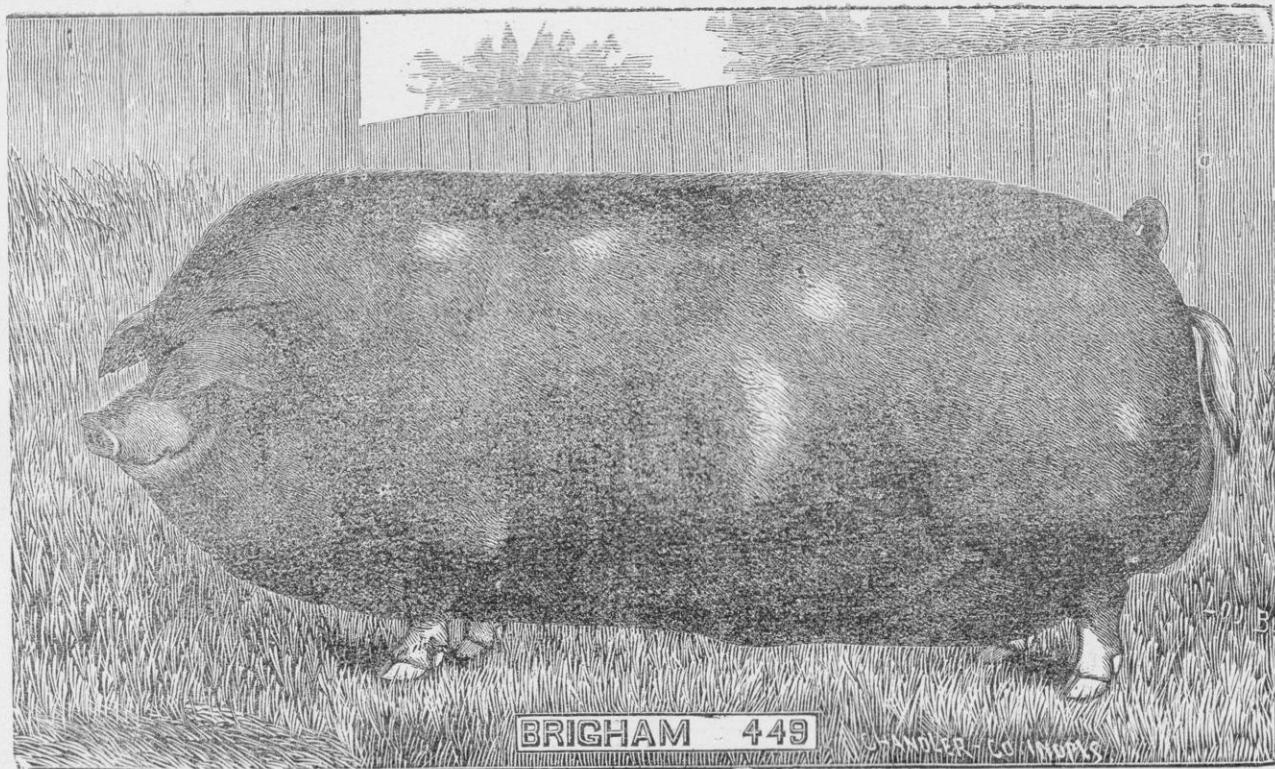
A member — He ought to be.

Mr. Sloan — One of the circuit judges in the state, sitting on the bench, — I speak it to his honor, — had a case where a juryman was challenged in a railroad suit because he had a free pass in his pocket. And the judge, thinking it over after the adjournment of court, sat down to his desk and wrote a letter, returning his pass. He said if that was a species of interest that would disqualify a man as a juror from sitting in a case, it would certainly disqualify a man from trying the case as a judge. It seems to me that this has become a very widespread evil. It is said that a great many members of this convention have come here from their homes on free passes. Very likely that may be true; but remember they are not in office. They are not called upon to vote upon acts which favor the interests of these railroad companies. And it is well known that under this system of favors which railroad companies extend to the legislators of this state, they have possession of the legislature of the state, wherever railroad interests are involved. And unless human nature is to be changed, it always will be so as long as this system of free passes exists. They do not send free passes unless they expect some return

for them. If a man takes their transportation and when matters which interests them comes up votes against them, he, I think, is committing a species of fraud upon the railroad company. He is not paying consideration for the favors he has received. If he knowingly is influenced by a pass, no matter what you may call it, it is certainly a form of corruption. Now if the farmers of this state, represented here in convention from all parts of the state, an intelligent class of men, are in favor of having this thing go on, are in favor of having the railroad companies, in all local rates, impose very much more than a just compensation, why, let them say so, and nobody ought to complain. The railroad men are like all other men. They are like farmers, like anybody else who are put in the place they are in; they act in the good old way, the simple plan, let him take who has the power, and let him keep who can. It is an action which governs men when they have the means to tax the community.

Now I should be glad to hear from Mr. Babbitt, or from any other gentleman, some reason to justify the railroad corporations of this state furnishing all the officers of the state with free transportation. It is said that from our state fairs they carry passengers at less rates, they carry property at less rates; but they make a profit by it. The increased amount of traffic, of passenger traffic upon the road, pays them three or four times as much as though the fairs were not held, even at these low rates. They can afford to carry and return the property. They do it as a matter of business. No shrewder men exist on the face of the earth; no men know what will pay and what will not pay better than the managers of the railroad companies of this country. They are the ablest and shrewdest men of the whole community, and therefore they fix cheap rates for any great exposition or any great gathering of people, to induce crowds to ride on the roads, and it returns them ten dollars for one they give. And yet this is urged as a reason why they should be allowed in their daily business to take from the agriculturists of this state, millions of dollars every year, which is in excess of a fair compensation. In 1872,





POLAND CHINA, OWNED BY GEO. WYLIE, LEEDS.

before the Potter law was passed, Russell Sage, manager of one of the large railroads running through this state, sitting in his office in New York, wrote with a mere stroke of a pen, "increase a third." We had a large grain crop in 1872. This had been almost a failure for two or three years before that but there was a large and abundant crop. Mr. Sage issued an order, sitting in his office in Wall street, increasing the rates of freight twelve and one-half per cent. It was against the protests of some of our managers, but they were increased upon the order of a single man. That very order took from the hard working farmers of this state, eight hundred thousand dollars in money, in four months — money that had been gained from the earth by the straining sinews and hardened hands of the men who labor. They may do it at any time, under the system by which they manipulate the legislature of a state. Nobody desires that a railroad company shall transport passengers and goods at less than a good, fair, liberal compensation, but when it comes to taking more, taking it out of the men who have won it from the earth, then, I will not term it robbery, but it is an unjust exercise of the power they have. We must use them. Some one said, if you don't like the terms of these railroad companies, don't have your property transported by them. You enter into a bargain, make a bargain and it is a bargain you are constrained to keep. The surplus products of this world would rot down in the granaries of the farmer unless they were transported to market. It was a matter of necessity and compulsion on the part of the people to patronize them.

I suggest this as a restraint that ought to be imposed. They are chartered by the state, they are supposed to be incorporated for the public benefit and to subserve the public interests. With proper regulation, they would minister to and serve the public benefit. But with the power to gratify their greed from the products of the industry of the state, instead of a benefit, it becomes a burden to the people. One of the great means which enables them to carry out their plans, and keep the legislative hands off of them is by this very system of free passes. Men that can not be bribed, that

are above the offers of money, are purchased in this way. The congress of the United States has begun to move in this matter and in the discussion of the inter state commerce bill, Senator Wilson of Iowa said, there is in one part of the state a failure of the corn crop, in another half of the state it is abundant, but he declared it cost them more to transport across that state, corn from the outlying regions to where it was carried, than to carry it to New York to day.

Mr. O. J. Arnold — I rise to a point of order, Mr. President, I think this discussion is entirely foreign to the question. The matter for discussion is Mr. Adams' paper.

Mr. Babbitt — Go on, go on.

Mr. Sloan — I should not only be surprised but I should be truly discouraged if a convention of representative farmers fail to condemn this practice of putting free transportation in the hands of the legislators of the state. You can not get a tax levied on an express company in the state, or any of the carrying companies because of this insidious method of purchasing men. Now you can see how it is. A man with a free pass in his pocket can ride up and down the state without paying any fare, and the conductor being respectful to him, why he would feel mean if, when he was called upon to take action in regard to some measure affecting the interests of the company, he didn't vote as their interest required.

I have said much more than I intended to, but in view of the remarks Mr. Babbitt made, that he was surprised that that resolution was passed, I only desire to express my surprise that any man who claims to be a farmer, and to have the true interests of the state at heart, could oppose it. (Great applause.)

Mr. Babbitt — I desire to say for the last four years or more as secretary of the State Agricultural Society, I had a pass over the Northwestern Railroad, and rode on it. And if I had not that pass, I think that the travelling I have done would have made this Society bankrupt. I would like to say that as I have stepped out of that office, I have no pass in my pocket from the Northwestern Railroad. But, gentlemen, I can not agree with Mr. Sloan in all that he said.

Your secretary of the State Agricultural Society here advertises that you may return, those of you have paid regular fare, may return for one-third fare.

Mr. Fish — They don't do it.

Mr. Babbitt — Excuse me, they do. They have agreed to do it as I understand it. Now I want to know what the difference is, as long as they can afford to carry you for one-third fare, I want to know that the difference is between the little pig and the squealing hog? (Laughter.)

Now, gentlemen, you have got to be honest with yourselves in this matter. What I rose for, particularly, was to say that the farmers of Wisconsin ought to think, and if they thought, inasmuch as they have got to have appropriations for this body — we might just as well let the cat right square out of the bag here — there is no use of undertaking to do other people's business. Let the farmers consider a resolution honestly when it comes in; and, as they have to work brain, and body and soul to tend to their own business, let them tend to that and not legislate on politics or religion or tariff. Now I think I am —

Mr. Seymour — I rise to a point of order. I consider all this discussion on the railroad question out of order at this time. It is all good, I like to hear it, but it is very plain that it is out of order at this time.

Pres. Sanger — I think the gentleman is mistaken, it is not out of order. The convention gave its unanimous consent that we take up the discussion and choke off a man from reading his paper, and the consequence is we have gone into a very wide discussion, and the chair will indulge anything that comes along. (Cheers, laughter and applause.) (Cries of "Babbitt," "Babbitt.")

Pres. Sanger — Mr. Babbitt has yielded the floor. Mr. Dow has the floor.

Mr. Dow — I am not a graduate of any agricultural college, and I do not know that I ought to say anything here to-night. I should not have said a word had not this discussion reached the position it has now. But, Mr. President, I believe that this is one of the most important subjects that ever interested any agricultural convention. The railroads

are among the grandest of our institutions. They are what we want, what we must have. They are of the greatest importance to the agricultural people of this country. We should not—in the language of the western country where I have been and where we use slang phrases sometimes—we should not “kick” if they charge those prices, if they will only make it equal. Now we live in a country that produces all the necessaries and luxuries that mankind need, and it is in abundance and superabundance in one part of the country and there is a scarcity in another part of the country; and there is nothing more important to the farmer, and the masses of the people in general, than cheap transportation, both of freight and passengers; and for this reason, in saying just what the railroads should do, I say that it is of the utmost importance to the farmers of this country that they should see to it that the railroad companies do not discriminate against them. It is not in consequence of the large charges, but in consequence of the inequality of charging excessive rates in one place and then running so cheaply into another place; the granting of passes to one class and the charging of double price to another class. If we are to have free passes, let us have them equally distributed.

I am kicking because I have no pass in my pocket. (Applause and laughter.) I perhaps should feel as well towards the railroad as any of those members of the legislature, if I could step up to the agent of the railroad and say, “Here, I would like a pass, so for the coming year I can pass over these railroads when and where I choose, and not be bothered to buy a ticket when I get to the depot.” But, sir, I have not a pass, and I ask none if the rest will not take any; but if they are going to be distributed up here by the thousand and hundred thousand, in Madison, I do not like to sit quietly here and say nothing, and pay my fare when I work hard for my money.

Now I didn't graduate, as I said, from any agricultural school. Here in your city you have schools and you graduate from different schools. There is the graduate from the ward schools and from the high schools, and then some

go to the university and graduate there. In regard to agriculture, I graduated in a quarter section of land down here in old Rock county, and I am now in the high school, and I will say here that I have learned something to-day that I never dreamed of while I was down there on that quarter section of land. One thing is the dehorning of cattle. I was almost converted to the idea that that was a good thing; and I believe, Mr. Chairman, if this sort of thing goes on, that by and by, some man that has to milk for a living, will be in favor of showing to us the grandeur of the idea of "*detailing* cattle!" (Great applause, laughter and confusion.) I think that I should be converted to that idea if he can carry it so far as to say that we can not only detail, but retail, and have it taken off when we go to milking, and put on after we get through. (Laughter.)

But, Mr. President, just a word further in regard to the railroads and I will close, for I do think that this is a subject that the farmers of this country ought to agitate. I didn't think of its coming up here to-night, but as it has come up, I hope they will keep agitating it until we can exert an influence over these grand, and great, and glorious corporations that govern our railroads in this country, so that they will equalize the tariff in the land. We do not want them to charge us as they did when I was out in Dakota. They charged me for bringing from New York City, an article to Chicago, and then from Chicago, to where I was in Dakota, — and it was about as far from Chicago to where I resided as it was from New York to Chicago — they charged me four times as much for carrying it the short distance as they did for carrying it the long distance. I tell you there is nothing that I love more than equality. There is nothing grander for the people of this country, for the farmers and for the merchants, for the mechanic and for the laboring classes. That is what we demand, equality. Give us equality. If you are going to charge one man five cents a mile for riding over your road, charge them all alike. If we consider that you are doing what the law allows you, we will not grumble, but do not deadhead over half of the travel and charge all the rest double price.

Mr. Babbitt — If they had charged you the same rates to Dakota, would you ever have got back in the world? Would you have come back here to this convention?

Mr. Dow — I think I would. I think if I had known Brother Babbitt was going to be here and stir up this railroad question, I think I should have come clear from Dakota to have heard it, and I am glad we have had the remarks of Judge Sloan on the question. But what is more than all the remarks made is the thought that sinks deep down into the minds of these people here, who are the judges of the commonwealth, and it leads out to control, to some extent, the doings of the great corporations of this country. I do not wish to say a word against the railroads, because they are indispensable. We must have them. They are doing us a grand work. But we say this, as they said of old, give us equality. Do by each man alike.

Give us all a portion of the free passes. I would not object to free passes, if they would distribute them all alike; but when they come here and say to certain ones here, "you take this pass" and they turn the cold shoulder on some of us. They say, "what do you want a pass for? what reason have you got for a pass? why do you ask for it?" why I tell you the pass that comes free, comes free to all alike, and let them be distributed throughout the state. Let each one have a pass to come to the capital and return, or go for a short ride, and nobody will kick. But this is impossible. You would do better to do away with every free pass and reduce the fare to two cents, or two and a half cents a mile. This is all I wish to say. I don't want to dictate, I simply wish to say that I am glad the agitation has come up, and I hope it will be felt in this legislature, and that they will consider whether they are voting on all railroad questions just at they would, if they didn't have any pass in their pockets, or could not demand passes for their friends. Let us have this policy of reduced fares and reduced rates, and transport from ocean to ocean of this grand country, the luxuries and necessaries of life as cheaply as possible, and the whole people will have the benefit of the variety of climate, and soil,

and production of this, the grandest country of the globe. (Great applause.)

Mr. Allen — This is a very serious question. They sent me a pass, to be sure, and I am a little bit ashamed of it, but when I come to think of paying up the interest on that old railroad mortgage I gave them thirty years ago, I don't feel very bad about it. (Applause and laughter.) Nevertheless this pass system is a most pernicious one, as far as the legislative business of the country is concerned. It is reported that the railroads of this state gave to the members of the legislature and to the state officials last year more than 3,000 passes, and I understand that they have greatly exceeded that number this year. Now, then, let us take one little item for consideration: The railroads of this state paid last year, \$756,000 in this state treasury, as taxes upon their revenue and income. Now, sir, the railroads of this state are estimated at \$225,000,000 of dollars; last year the railroads cost about \$170,000,000. If the railroads had to pay their taxes as the farmer pays his taxes, which are a little more than two per cent. last year, they would have paid \$4,500,000 instead of \$750,000. Consequently the railroads made in every single pass they issued, in the saving of taxation alone, more than \$1,244. A fine speculation, wasn't it gentlemen? (Laughter.) With just as much propriety would a man say, he could go and live upon the hospitality of a friend, for a whole year, eat his victuals, sleep in his bed, ride in his coach, and do everything and anything he had a mind to, and not be under any obligation to that friend. It is preposterous; he can not do it. When a man accepts a pass he accepts it with an understanding, if it is not expressed, with an understanding that he is under obligation to give a consideration to the railroad company for the pass. It is impossible for them to do otherwise. It is said they give us cheap fare down here. The railroads are getting up excursions all the time to go anywhere you want to go; they do it as a matter of financial economy. They can make four times as much by carrying four or five hundred persons as they could carrying twenty or thirty or forty. Now, then, with reference to the freight; the dis-

criminations they make. I tried last winter, when I traveled over this state selling fertilizers, salts and land plaster. I did my best in favor of the resolution introduced in this farmer's convention last year, and I went to the railroad companies myself, personally, and made a request that they reduce the rates on this fertilizer. Now, then, the railroads in the state of Michigan transport that material from Bay City to Chicago for one dollar per ton, 330 miles. They do it as a business transaction; but when it gets into this state they charge two cents and two and a half cents per mile per ton, seven times as much as the railroads in the state of Michigan charge. Now then, they propose to send it from the state of New York to Chicago for \$1.60 per ton, over 600 miles, and here to run to Milwaukee, in this state, they charge \$2.00 a ton, while they run for \$1.60 a ton, almost seven times as far. Consequently, I say, they charge seven times as much in this state. Now, one-fourth of the business of the railroads of this state comes from the farmers of this state. This fertilizer thrown on the farms of the state increases the production, and they get a profit for carrying that production out of the country. Those two little things I have mentioned should be considered. (Applause.)

Several members — "Adams! Adams!"

Mr. Adams — I don't wish to make a speech on this pass question at all; I consider the discussion entirely out of order. I wish to make just simply one suggestion, with reference to the intelligent settlement of that question. I will say to the farmers of this state, instead of coming up here, as many of them have, with passes in their pockets, and declaiming against this system, and insisting that the legislature should hamper itself with laws, and control railroad corporations with laws, preventing the use of passes, that they simply begin at the other end, and send us men here who will not be bought up with a pass. (Applause). And then after you have sent them here, don't make life a burden to them, asking for passes for yourselves, your wives, your children, your sisters, your cousins and your aunts. (Applause and laughter). Now then, a resolution has been introduced here by a gentleman, the chair requested him to

have it sent up in writing; it has been sent up in writing. It is now before this convention. I move that action be taken upon it at this time.

Mr. Lewis Clark — One word in answer to the gentleman first, if you please. I can not state the place, but I know that when one or two members of a state legislature have gone up without any passes in their pockets, it destroyed their influence entirely, in all the cases throughout the entire legislative session.

Prof. Henry — It seems to me that there has been one remark dropped here that ought to be enlarged upon. If a farmer or a voter will accept a pass he is venial, and is bought up to the extent that he can be bought up, and I don't think such men ought to come up here, fresh with those passes — and many of them have asked for the passes — and scold the legislature upon the same subject. This resolution is narrow. It simply asks that the legislature and certain judges shall not accept passes. Now, I say, let us take the mote right out of our own eyes and brighten them, and say, farmers shall not take passes.

Mr. Williams — I claim no man ought to take a pass. It ought to be a state's prison offense for any man to sell himself by taking a pass.

Mr. Anderson — I second the motion of Mr. Adams to take up the resolution.

Pres. Sanger — The gentleman brought the resolution to the desk and handed it to somebody, and that somebody that has the resolution is not here. If the gentleman had handed the resolution to the chair, it would have been acted upon long ago.

Mr. Fish — I simply wish to say the resolution Mr. Babbitt referred to, I have voted upon. I thought at the time I did it intelligently, I think so still. I think if our members of the legislature are not sufficiently paid, that it is the duty of the state of Wisconsin to pay their fare, and pay it in money, and then it will not be necessary for them to take passes from the railroad companies. This agricultural society advertised that the railroad companies, on account of the increase of travel, as I supposed, would transport the

members back at one cent per mile. But I am told that the Northwestern, at least, refused to do it. I infer it is simply because there has been so many passes granted; they could not afford to carry out that promise they had made. If they didn't, I don't see why the agricultural society advertised it so.

Pres. Sanger — They did make it.

Mr. S. C. Fish — I have come to this place a number of times, and never came on a pass. But I did have a member come to me two years ago, not a particular friend of mine either, come and put out his white hand, as soft as silk "How do you do, sir; when did you come up; if I had known you were coming, I could have sent you a pass. Have you got anything to go back on?" I simply told him I had bought a round trip ticket, and I could get home. Says I: We farmers of North Geneva didn't expect anything from you, nor did I ask anything, nor did we expect anything or get anything this winter from him. We were told in a nominating convention, that the iron interests, and railroad interests needed looking after, and our member was the man to do it, because he could do that kind of business, and never a word was said in regard to the agricultural interests needing anything. Mr. Babbitt is a friend of mine, but when he comes here and says the farmers didn't vote intelligently on that resolution, I think it is an insult; that is the way I look at it. If Mr. Babbitt had ridden four years on a pass, and the state of Wisconsin was not able to pay him, it may be for his interest to say that we didn't vote intelligently.

Mr. Seymour — As the chair has ruled against me once, on my point of order, and has informed me that I sent my resolution to the wrong man, I will read my resolution and present it to the convention, before giving it to the chair or the secretary, or anybody else. (Applause.)

Pres. Sanger — The gentleman insinuates that the chair has acted unfairly. I wish to be distinctly understood that I mean to be fair and just. When you came here and handed your resolution to a reporter, I was not responsible for it.

Mr. Goodwin— I would like to state that in obedience to the rule adopted at this session, that all resolutions should go to the committee on resolutions, I sent that resolution to the chairman of such committee, he has it in his possession.

Mr. Adams— I would inquire if it has been adopted as a rule of this convention, that all resolutions offered at any time shall go to the committee on resolutions without debate. Is that the fact?

Pres. Sanger— The motion affected only such resolutions as had been passed.

Mr. Adams— So I understand.

Pres. Sanger— The resolution is open to discussion; will the gentleman please read it.

Mr. Arnold— I didn't so understand it, that it affected only such resolutions as had been passed. It has been a custom in this society to have a committee on resolutions to which all resolutions were referred, and my motion made last night was for the purpose of having a committee consider all resolutions before final action.

Mr. Anderson— I call Mr. Arnold to order. The chair has made a decision, has asked the resolution to be read. Mr. Arnold is out of order. I insist on my point of order.

Mr. Arnold— Mr. Anderson cannot call me to order.

Mr. Anderson— I ask the president to call you to order. That gentleman (Mr. Seymour) has the floor.

Mr. Arnold— I have been recognized and have the floor. I propose to talk as I please. (Laughter.)

Mr. Anderson— I call on the chair to decide that point of order.

Mr. Arnold— I call the gentleman himself to order. (Laughter and applause.)

Pres. Sanger— I wish Mr. Arnold would allow the gentleman to read his resolution, then discuss it.

Mr. Arnold— That is satisfactory to me, exactly.

Pres. Sanger— The motion made last evening was perhaps stated correctly by Mr. Arnold, but the chair in putting the question, put it that it should affect all resolutions that had been passed. I, perhaps, made the blunder, and if it is

a blunder, I made it myself. Under the circumstances the gentleman will read his resolution.

Mr. Seymour — Before reading the resolution now, I wish to say that I graduated upon a small quarter section of land only one hundred and twenty-five acres —

Mr. Arnold — Read your resolution.

Mr. Seymour — In the town of Sauk. I don't propose after having offered this resolution, carried it to the chair and handed it to the man I supposed it should go to, I don't propose to sit down quietly and hear all this discussion, and not say anything more. I will now read the resolution. If not worded exactly as the other, it means the same thing.

Resolved, That it is the sense of this convention that it is the duty of the legislature now in session, to provide a means for the establishment of an agricultural college.

I move the adoption of the resolution.

Mr. Anderson — I second the motion.

Mr. Arnold — You propose to take away their passes and then ask them to provide means.

Mr. Seymour — If I have to say something on the pass question, I will.

Mr. Arnold — I move this resolution be referred to the committee on resolutions.

Motion seconded.

Pres. Sanger — We have read the resolution, all in favor of the resolution say aye, (Aye!) contrary minded, say no, (No!) the ayes —

Mr. Hammond — I call for a division on that vote.

Mr. Adams — The chair has not decided.

Pres. Sanger — A division is called for. As many of you as are in favor of the reference, stand up.

Mr. Arnold — Before the final motion is put, we have the right to discuss this matter upon the question, whether this resolution shall be referred to the committee on resolutions.

Mr. Adams — The gentleman has no right to discuss it while we are taking a division.

Mr. Anderson — Not at all, he is out of order. I will have to call Mr. Arnold to order again. (Applause and laughter.)

The motion to refer was lost.

Pres. Sanger — The resolution is before the house.

Several members rise.

Mr. Fish — I wish to say one word.

Pres. Sanger — There is a gentleman behind you that has stood up half an hour. I will recognize him. (Applause and laughter.)

Mr. Hammond — I came in late. I have had very little benefit from the early part of this discussion. I had no time to take any part, but my sensibilities were roused and I thought that I could take the floor and say a word. I have had a little experience in Dakota, of which my brother spoke; and I wondered while he was talking, why it was we had such high rates on the western part of a division, and I came to the conclusion that it was because it was worth so much more to get from Chicago to Bismarck—

Pres. Sanger — The resolution before the house does not refer to any railroad question. (Applause.) The question is on the resolution.

Mr. Hammond — I want to say just one word on the question, then. I feel that this whole matter is an insult to this intelligent body of legislators. I am fully convinced that Wisconsin has reason to be proud of the men who have been sent up here to make her laws. I have had the privilege of becoming acquainted with a good many of these representative men; I have so much confidence in them, and I think I know so well that a pass would not change their mind one moment —

Pres. Sanger — The gentleman is out of order, I must call him to order again. (Applause and laughter.) The question is on the adoption of this resolution.

Reads resolution.

Cries of "question," "question."

Mr. Allen — I desire to record my testimony, in brief, in favor of that resolution.

Mr. R. P. Green — I don't think this discussion has been very interesting or instructive. I don't think it is the duty of the legislature here to pass a law on the subject without hearing more of the sentiments of the people who sent them

here, than a few farmers present. Another thing we have the farmers' institutes. If a man has got a turn of mind to learn, he will learn any way, and if he is going to be a dummy, you put up colleges all over the state, and will still be a dummy.

Mr. True — In as much as the question now up has assumed some importance, and it is desirable that we have plenty of time for deliberate action on the question of agricultural education, I move this convention do now adjourn until nine o'clock to-morrow morning.

Mr. Anderson — I second the motion.

Carried.

Convention adjourned.

9 A. M., FRIDAY, February 4.

Pres. Sanger — The first business will be whether we shall take up the unfinished business of last evening.

Mr. True — I desire to correct an impression in the minds of many in regard to my motive in moving for an adjournment last evening. I did it in what I considered the interests of good order, and intelligent discussion of the question of agricultural education, as those who are present now, will bear me witness. The discussion was very much scattered last night, and the last speaker that claimed the floor (Mr. Hammond), was clearly out of order, and was so decided by yourself, in the presentation of his views. Now I wish to state here that I am fully in accord with the sentiments expressed by Mr. Adams, in his paper, and that I fully sympathize with the resolution, introduced by my friend, Mr. Seymour, with reference to the action that is asked for at the hands of the legislature; and therefore I move that one-half hour of this morning be devoted to the discussion of the resolution introduced by Mr. Seymour.

Carried.

Pres. Sanger — During the discussion I wish to call Mr. Arnold to the chair, as it is the first time I have presided at any meeting, in my life. If I have made any mistakes, it is due to my inexperience, not because I wish to be stubborn.

Mr. Arnold — I prefer you keep your place.

Pres. Sanger — If you don't take the chair, I shall call Mr. Rusk to the chair, he is the one that found the most fault.

Mr. Arnold (on taking the chair) — Before we proceed further, I desire to make an explanation. I am heartily in accord with all agricultural education. I did endeavor to have this referred to a committee — not to forestall debate by any means — but that we might have an orderly convention. We lose all character, all influence, by this rambling talk upon everything under God's Heavens, except the subject under consideration. In order to have any influence, we must have some kind of order. A man must know enough to confine himself to the subject under consideration. The question for discussion now is the resolution as presented by Mr. Seymour.

Resolution read.

Mr. Seymour — Mr. Chairman, I don't wish to say but a very few words in regard to that resolution. I introduced it for the purpose of calling out a discussion on the vital question, presented in Mr. Adams' paper. As there has been no discussion in regard to that, I thought that would be a very good way to bring out discussion. I merely wish to explain now, the meaning of the resolution. I don't wish that this convention shall undertake to dictate to the legislature what it ought to do; I tried to find some other words to express my meaning, but I could not very well, and so I left it as it is. I think at this time, it is evident to yourself, and to all the gentlemen present, that this matter has been thoroughly discussed by the people and the press, and in many cases in institutes that have been held, and I am of the impression that the people are ready for action, in that direction, by the legislature, but it seems to me we ought not to adjourn without taking some action, if we do not pass a resolution of that kind. If it is not satisfactory let it be amended in such a manner, as to express the wish of this convention. For my part, I feel that it is the duty of the legislature to perform what it did not do when it granted that land grant fund to the university. I would not say one word against the university. We are all taxing ourselves for the benefit of the university, that it may edu-

cate our sons and our daughters, free of tuition. We are doing that, and now we should endeavor to give the farmers a chance to have their children educated in the interests of agriculture, as was intended by congress, when that act was passed. Mr. President, I have nothing further to say at the present time.

Mr. McCready — Mr. President, to understand the resolution properly, I would ask Mr. Seymour if he intends that the agricultural college will be a new building, built on this property out here, and still be in connection with the university, or does he intend that the state should acquire property in some other part of the state, and establish a new institution altogether.

Mr. Seymour — I didn't know as that needed any explanation. My idea is that the legislature, at the time it granted this governmental aid to the state university, departed from its duty. Perhaps it did the best it could under the circumstances. Perhaps it did not know hardly what to do with it, and it finally took that course. As every addition to a university has proved a failure so far, and those that have been established separately, have proved a success, it seems to me that it ought to be a separate institution, whether located in this place or near this place or near some other. I have no particular choice in the matter, as far as I am concerned, but I would say a separate, independent institution, entirely independent of the state university. When I want it to provide means, I mean not only necessary to purchase land and build that institution, and conduct it, but other means that are necessary. It certainly would be necessary and best to have men appointed to visit other institutions of this country and ascertain what means they have provided, and in what manner, what has been their success, that we may take advantage of any mistakes they have made, and of their experience. I don't think it would be best to go into this matter in a hurry, it is best it should be done deliberately, that we may know what we are about. For that reason, I would suggest that commissioners, or something of that kind, should be appointed to examine

into the matter, and get what information can be obtained from other sources before commencing.

Mr. Adams— If there is any gentleman here that wishes to take the negative side of this matter, I should very much prefer to hear from him, in place of talking myself. We have heard one side of the question discussed, but we have heard very little from the other side, and I am perfectly willing to give way if any gentleman wishes to talk. (Pausing). If they do not desire to, I would like to say that the aim here in Wisconsin, of the men who believe in an agricultural college, is to establish a separate school.

The aim is not to locate the agricultural college in some city amid the influences of a city, both good and bad, as they are, but to put the school in the country, where the interests are agricultural, where the atmosphere around that school will be one in which a boy will build up within himself, some respect for that calling he is studying. Where the people think about farming, where they talk about farming, where they have got land enough to carry on the experiments they want to carry on, where they will have land enough so we can employ the labor of those boys, and pay them for it, and enable them to pay part of their expenses by the labor of their hands, and at the same time, while earning money by honest industry, keeping themselves strong, healthy and vigorous physically. Now there is a great deal of talk going on about putting gymnasiums into the older institutions of this country. They find in an ordinary college course, the boy goes down physically. The different institutions all over the United States are spending twenty-five, fifty and seventy-five thousand dollars for gymnasiums. Now, here in our agricultural college, we expect to get our gymnasium right out upon the farm, where the boy will not only get exercise, but where he will get air, fresh and pure; it is the best kind of a gymnasium in the world. Now the gentleman has alluded to the advisability of appointing a commission to investigate this subject. Over in Canada they did precisely the same thing. In the Province of Ontario, they appointed a commission,

and that commission made a thorough study of the subject of agricultural education in the United States. They looked through the records of all these institutions and their conclusion was unanimous, as given to the legislature of that province, that agricultural education in the United States, where it was lodged in departments of universities, was invariably a failure, and where they had established separate schools, it was invariably a success. That was the report which they made, and the Province of Ontario established an agricultural college, and although the department of agriculture in their literary institutions had failed, the moment that the school of agriculture was established on a separate basis, the boys filled it, and are filling it to-day. They come from England, Ireland and Scotland and different sections of Canada. They came over in such numbers from England, that they were obliged to limit the number of students to twenty, because English boys were coming in and filling up the schools.

What have they accomplished? They have got a good farm, run according to business principles. They have got forty thousand dollars worth of stock in the institution, and the boy who goes to that agricultural school, can, not only read about good Holsteins, Jerseys and Ayrshires, but he can see them right there before him, at their best. He can see them as they ought to be, and in that school, he can learn how to keep books; he can learn something about landscape gardening; learn something about taking care of trees, and learn something about taking care of hogs. There is not a dozen farmers in Wisconsin that know how to take care of a hog. I tell you we can find out these things in these schools; find it out in a systematic, orderly way. In this matter of obtaining knowledge in agriculture, there is the same advantage in a school of agriculture that there is in a law school for the lawyer. A lawyer can go into an office and pick up certain points of law and principles, but they come into his mind, not by any system or any method. He is simply wasting his time when he goes into a law office. He will learn, he can do far better to go into a school, where the principles are systematically and logically taught, and

ground himself in the foundations of the knowledge, and the men who aim to be lawyers tell us that fact. Nine out of ten of them got their education in that way. Of course they supplement it in a law office, but first they go through a law school. You never hear lawyers declaim against law schools, as you hear farmers declaiming against schools of agriculture. You never hear physicians running down their medical colleges, as you hear the farmers do their agricultural colleges. Those men know that these institutions have a practical value.

They stand under them and by them, because they build up their profession in knowledge and power. I say that the farmers of Wisconsin are not loyal to themselves, they are not loyal to their own interests, they are not loyal to the state, when they ridicule and denounce this system of agricultural education, which would tend to make them men, equal and able to meet men of other classes upon the same ground of intelligence, and knowledge and business capacity.

Now, then, I say, here in Wisconsin we have got the money to do this thing, and we don't want to do it as a mere matter of sentiment, but we want to have a school here where our boys can go to get an education in farming, and get it cheap. It costs a good deal of money to go through the state university. I believe in that course. At the same time the expense bars out thousands of boys in this state who would like to go. Now, in our agricultural school, with its two years' course, such as it is designed to have, a course which is right between the common school and the university, forming a connecting link, they can go in there, and by the labor of their hands they can pay half the expenses of their tuition. So, I say, it will not draw from these other institutions, but from the common schools. It will lift boys up to a little higher plane, give them an education which will, perhaps, stimulate them to go on still further and get the more complete course, which we get in the state university. It would have another effect in acting as a feeder to the best educational institutes which we have in the state to-day. This movement is not aimed against the state uni-

versity, but it is simply aimed to educate as many as possible of the farmers of this state in their business, and, as I said last night, increase our property, increase our revenue, reduce our taxes, and increase the available funds which we have to carry on the machinery of the state.

I find in every meeting I have attended, where there are farmers, and this question is presented, upon the basis of fact, that we get the sympathy of almost all the men who are upon the farms. When they misunderstand it, when they don't know what the friends of agricultural education want, they are prejudiced against it. But a clear statement of the case will almost invariably bring to its support the men who are making their living upon the farm. I hope that the resolution will be adopted.

Mr. Peet — I don't know whether I have a right to speak upon this floor or not.

The chairman — You have, sir, go ahead.

Mr. Peet — I suppose that I am an educated man, having a diploma from a college, having my certificate from a Theological seminary, and having a membership in societies in Europe and in this country, so that I do not undertake to keep track of them, and having been an editor of a scientific paper, the only magazine of the kind on the Continent, which has a circulation in Europe, in Africa and all parts of the world. I suppose, being a specialist, I can appreciate the value of a special course, and of a high literary course, perhaps, as much as any man on the floor; yet I can realize, more and more, the value of a practical education to the farmer. And I want to say that, having been a citizen of Wisconsin every since my boyhood, having seen the growth of the state and of all the industries in it, and then realizing that agriculture has not, by any means, made the progress that it demands, I can realize more and more the value of an agricultural college, and the necessity of it to bring up the farming interest, as a specialty, to the level of the other interests in the state. Now I believe that the legislature has assisted, and is assisting the newspapers every year, making a donation of one hundred dollars to every newspaper in the state. I believe that the legislature has assisted,

raised money for the use of charitable institutions, and we are thankful for that, we have them scattered all over our state. I believe that the legislature has appropriated money for the normal schools, so that those engaged in the work of instruction can go to the normal schools and receive a practical education for that work. I believe there is scarcely any industry, or any interest in our state but that has had more or less assistance by appropriations or funds for the purpose of educating the people for their work. But has the farmer anything? Has the farmer ever received anything except that money that was appropriated in 1862 to the state university? I do not know of anything. Those who are perhaps better informed will tell me whether the agriculturists of this state have received anything from any source for the purpose of educating their sons and daughters for their own profession.

This is a day of specialties. I can realize that there is a division of labor, and if the mining interest must have mining schools, the engineers must have schools for engineering, those going into machinery have technical schools, and schools of technology are established in Boston, New York, and in many parts of our country, where those who are to work upon machinery, who are to be the inventors of machinery in our country receive large endowments, why should the agriculturists be behind?

I was amused last night at the turn the discussion took. In my own simplicity and sincerity and honesty of purpose I sometimes find myself carried off my feet by those who are politic and intriguing in their course. I find myself undetermined, and I sometimes think I can sympathize with the farmers in that respect; but I would say I felt like saying last night that the idea of your being bull-dozed, when I know that the farmers of this state are fully in accord on this question, and the idea that they shall be carried off their feet is preposterous.

Now I have the privilege of preaching while I am carrying on this special work. I have a general congregation. Gentlemen come to my house who are interested in the mounds in this state, from England. They are interested

more there than they are here; there is a great deal of ignorance here on that subject, and a great deal of intelligence abroad. When men come to my house and visit me for the purpose of becoming informed on my specialty, I take those gentlemen and I invite them; one gentleman, a member of the societies in London, a distinguished man, came to my house, and I invited him to spend the Sabbath. I said to him, "Now, I want you to look at my farmers; I have professional men, merchants, in my congregation; but look at my farmers! I am proud of them, and I want you to look at them." And he did it, and entered into discussion with them and listened to the Sabbath School, and he was perfectly amazed. Why, there is nothing like it in England, he says.

Now all we want is that law carried into effect as intended by congress in appropriating the land. The money has been used to educate everybody but farmers. Out of the three hundred thousand dollars that has been gained from agricultural college land, there has been—I don't know the exact number—perhaps half a dozen graduates at our agricultural college. Some of you can figure up how much that is to each scholar.

I am not selfish in this matter. I have no children attending that school. Mr. Adams has no children attending agricultural schools. They didn't have it when I had a boy attending the school. I kept my boy working on the farm a few years, and he went a portion of the time to a school, yet he lacked very much of knowing what he would learn in Michigan. Let any farmer read the reports of those schools, and if he has any brains at all he will see that there is no farmer in the state of Wisconsin that is capable of teaching the branches taught at those schools; if there were they wouldn't take the boys and bother with them. You might as well talk about private schools to educate all the children in the country without public schools; it won't do. I hope the resolution will pass. Perhaps the resolution ought to be amended so as to claim that the legislature should return to us the money that the state has taken from us and let it go for the purpose it was intended for when

congress made us that grant. That land belonged to us, and the income from that land belongs to us; and if we are liberal enough to give the state the interest on that money for twenty years, and then ask for only half the principal, no man ought to whine. (Applause.)

Mr. Flint — This question has been discussed from year to year at these meetings of the farmers of Wisconsin, and I think the hour is now striking when the universal public sentiment of the farmers of the state demands a separate school, a separate college. I do not rise for the purpose of instructing these intelligent friends of the agricultural institution of Wisconsin, but I rise to say that, twenty years ago, with others that had part in the legislation of this state, I voted for the state university to receive—I voted for the forty thousand dollars appropriation which Dane county gave to this institution, and we supposed that that was the best that could be done at that time. In the able and interesting and very exhaustive statement of Mr. Adams last evening, covering this whole subject, I think we could readily comprehend the true standing of the case: that in every place where a separate agricultural institution had been established, success had attended the effort; and otherwise failure as invariably came, as it has practically in Wisconsin. I hope we shall take hold now at the present session of our legislature, and inaugurate this movement. We have had discussion, we have had consideration, and the time has come for us to act.

Mr. Stickney — When we were all boys I think we admitted to ourselves, at least, that a suggestion from our mothers went much further with us than a positive assertion as to the propriety of certain conduct, or what it was our duty to do. Some how or other it took a better hold of our minds, and influenced us more, and with the consent of Mr. Seymour, I wish to offer, as a substitute for his resolution, just the same thing in a little different wording:

Resolved, That it is the sense of this convention that our state has urgent need of a separate agricultural college, and that the legislature now in session are respectfully requested to provide the means, and the necessary legislation, for such a college.

Mr. Seymour — I will accept the substitute.

Pres. Sanger — Before the motion is put, I wan't to say that I am in sympathy with this movement. I don't want to take the time of the convention too long, but I believe we all feel that we haven't sufficient cohesiveness among us farmers, and that the reason of it is a lack of general information. We think we know something about our occupation, and, in a great measure, we do. I believe the farmers of the state of Wisconsin are as wide awake, and as intelligent as the farmers of any other state in the Union, but this is no reason why we should not seek further, and desire to bring up our sons and make them better farmers, and we will. If we do not have the influence in the state and in the nation that we should, in fixing the public sentiment we must acknowledge that it is on account of our general ignorance. Other occupations are making constant drafts from us, taking from us our best intellects. We are filling up the ranks of the business men and professional men by a constant draft upon the farm. Therefore the great necessity of our being an intelligent class, an intelligent part of the community, and it is my opinion that nothing can so much conduce towards this end as an agricultural college.

The resolution (substituted) was adopted unanimously.

Mrs. M. E. Warren — I have to leave in a few moments, I have a resolution here I would like to read.

Pres. Sanger — You may read it.

Resolved, That the farmers of this convention, and especially their wives, tender a rising vote of thanks to Mr. Newton for the comprehensive and artistic mottoes that decorate the walls of the agricultural rooms.

Pres. Sanger — This will be considered as a privileged resolution; we will act upon it at once.

The resolution was adopted.

Pres. Sanger resumes the chair.

SCIENCE OF BREEDING.

BY A. A. ARNOLD, GALESVILLE.

Theory may be correct or false, but science is ascertained truth. When applied, if the theory proves correct, it is then entitled to the cognomen of a science. Theory and science may be the result of accident. Newton's mind grasped the theory of gravitation when he saw the apple fall. It applied to all bodies and has been accepted by the civilized world. It is now a science, it is no longer Newton's theory, it is ascertained truth.

The theory and practice in breeding has developed the fact that certain practices and rules produce certain specific results. With these ascertained truths we have the science of breeding.

Speculative minds have always claimed that education will change character; but experience proves that a good breed is safer with a defective education, rather than a bad breed with a good education. Blood will tell, and I have my doubts whether in human nature there is any advantage gained to the community or state, by having the educated knave or the educated fool in the place of the uneducated knave or fool. With a limited education, a limited mind may be of some use to the world, but a pampered or over fed brain unfits the person for position in life, where he might be otherwise useful.

Diversity of mind, character, instincts, and physical proportions come to us, and the brute creation by the natural law of entailments, and "the sins of the parents are visited on the children unto the third and fourth generation."

It is a fine and philanthropic theory that would educate the colored race up to the mental status of the Caucasian, but facts are stubborn things and educate as we will, and theorize as we may, blood determines everything, and no manner of training can compensate for defective breeding or bad blood. The principle that like begets like is universal and applies to all that procreate their species. The intelli-

gent application of this principle is the true science of breeding, that every stock raiser should appreciate in order to insure success, and its results are as certain as that two and two make four in the science of numbers. Every character and quality in the animal is hereditary. It is derived from some ancestor near or far related: it was born with it and is in its blood to grace and make useful or to torment and deface. Were this not the fact we might be totally indifferent as to the family our sons and daughters chose from in selecting their partner in life. It is as easy for some to be bad as it is for others to be good. Tendencies are bred in, and education, surroundings and associations only control for the time being. Good qualities may be bred in and thus the bad qualities gradually bred out, and this is the art or application of the science of breeding.

The more there is of the good blood, the less the opportunity there is for the bad blood to crop out. Man is so far as the laws of breeding are concerned not exempt from these laws; he is only an animal and so far as applicable we may learn some valuable lessons in breeding domestic animals.

Herein there is some opportunity for the use of good judgment which when proved by results afford a satisfaction not found in any other branch of farming. A business that demands no brains affords us little satisfaction. Changes originated by breeding, that, is artificial selection, are in some species very marked, producing external and even structural differences, which if they were permanent and originated by natural laws, would confessedly be regarded as sufficient to establish difference of species. But the fact that thoroughbred animals when neglected or allowed to go wild, tend to revert to the original type, and the no less important fact that animals of the most widely different varieties of the same species will with a few exceptions breed freely with each other, producing fertile young, which is rarely the case with those of different species, are held by many to show a radical difference between varieties or breeds and species.

Any defect in animals may be remedied by judicious

breeding, and as heretofore remarked, the good points breed in and the bad breed out. This, however, may not always be obtained by one cross; the progeny may in itself show perfection, but to ensure permanency it must be followed up and the blood purified more and more. The power to transmit to offspring the quality of the parent depends principally upon purity of blood or one kind of blood, and this is that which determines more than any thing else, the real value of the breeding animal, (its prepotency or power to transmit to offspring like good qualities.) All pure blooded or pedigreed animals have been obtained to start with by judicious inbreeding, this by selecting and mating only the best or those possessing the desirable characteristics of the family, and the breed is only established when there is uniformity; until this is obtained, to call it a breed, is only a misnomer, for we only know of a brute by this uniformity in character.

A Short Horn calf may be white, roan or red, for these colors have obtained as far back as the breed has been known, but no amount of explanation could satisfy an expert that a black or brindle or a line backed was a full blooded Short Horn. That a spotted animal was a Devon, a red and white was a Poled Angus, or that any thing less than a white faced was a Hereford. Certain characteristics always go with the full blood of any kind, and the continued breeding together of animals of the same blood and the same characteristics gives them the prepotency or power to transmit that marks the full blood desirable for crossing on stock not having equally desirable qualities: for this reason among stockmen the bull is considered one half the herd.

A cross bred animal is often in itself better than the parent on either side; for instance, the progeny from the pure bred Short Horn bull and the native cow may and should get shape and quality from its sire, while the vitality and instinct of the dam may give it activity, hardihood and powers of assimilation so as to render it more profitable than either ancestor for other than breeding purposes, while it would be but little better than a scrub for breeding purposes, the tendencies in nature being to go backward

rather than forward unless there be a continuous infusion of the good blood.

This breeding back shows the importance of pedigree, it being apparent that the animal should not only be good in itself but all its ancestors for many generations back.

I once had a pure white calf come from a Short Horn cow and sire, and on examining the pedigree could find none of its ancestors that were white, until I traced back nine generations.

This was not a bad sign in a Short Horn as at one time there were more white than roans or red in the breed. I sold this animal to a neighbor and its progeny, (and he was sure on cows of miscellaneous breeding) were mostly white or roan, thus also proving that when any personal peculiarity manifests itself in an animal if this peculiarity is co-existent with the breed, it is as persistently transmitted as the characteristics of the breed itself. Were this not the case all former characteristics of the breed might be bred out, and with bad breeding and handling a good quality as well as a bad quality, might be lost to the breed. To explain, the original Short Horn was a superb milker. By the handling they have had and the course of breeding followed this quality has to some extent been bred out so that now they are regarded more particularly as a beef breed, but when the original quality crops out this is as certainly transmitted by that individual as other and later characteristics. Every part and quality can be improved by judicious breeding and handling, so on the contrary by bad handling and bad breeding they will gradually be bred out, so that the breeds are only maintained by selecting the best and the breeder, who makes the most judicious selections for this purpose is the safer and better man to buy from.

Instinct or brute reason is developed by the necessity of caring for themselves, consequently the pampered animal shows less instinctive qualities than the animal that has been uncared for or wild, therefore, the more careful the treatment, the less qualified are they for caring for themselves. This manifests itself in mankind; the greater the

care taken of us by others, the less capacitated we are made for caring for ourselves.

Thus we see also that some well bred and handled animals demand good care and attention to produce best results, while less care may be necessary for the animal that has always shirked for itself; instinct or reason is stronger but they are less appreciative and never respond to good treatment like well bred animals.

Therefore the often remark "I never get paid for the care of my stock;" the trouble is they never had a breed that could appreciate good treatment.

Instinctive qualities generally predominate in the female, and reason and instinct being so nearly allied the female more generally determines these qualities in the offspring. Quality or physical proportions and powers are more apt to follow the sire, while mind in the human race or instinct, which is the most similar to mind in dumb brutes, follow the mother. A boy may be strong and healthy if he has a strong healthy and temperate father, but he will not have a strong vigorous brain if he has a fool for a mother.

Smart men are most universally born of strong, vigorous brained mothers, and while we may depreciate the weakened frames and constitutions of American women caused by confinement indoors away from the invigorating influences of sun and air, the generation is maintained by the strong, healthy men obtained in active outdoor business life. Spirit is also mostly derived from the mother, consequently we see in animal husbandry that the nice spirited colts come from spirited mares.

Any animal should have a good head to be of much use, intelligence or brain being the directing power to the whole organism. When you have a good head you have half the good qualities of the whole animal as when you see a good head you generally see an animal with a correspondingly good body.

Education, in other words (keep and handling), is thought by some sufficient guarantee of quality, but all men of experience in handling well bred stock know that no manner of handling can compensate for lack of quality in blood.

The best of blood may, however, prove of little value for procreation if the keep and handling is such as to injure vitality, for wherever this is lost or injured in the parent it must show in the offspring. This we see exemplified in the listless, puny, worthless offspring of the ill-kept, the overworked, or the overfed. Thus we see that good points can be bred in and then only maintained by good handling and keep. If the farmer is too shiftless in mind and habit to keep and handle well, there is but little use for him to pay much attention to breed. When the only object in view in keeping stock is to pay at least expenses, there is little money or pleasure in the business, no matter what the stock or breed. The man that begrudges feed should be prevented by law from ever having stock of any kind. The farmer that loves to see his stock eat will always get well paid for indulging the passion. Keeping and caring for stock fosters in us the growth of the best and most unselfish parts of our nature that tends to the greatest happiness.

Crossing of full bloods of different breeds has not generally been as productive of good results as the crossing of full blood on natives or those of mixed ancestry.

With the full bloods, the potency of each breed is struggling for the mastery, while with the full blood on the one side and the defective breeding on the other, the defective or mixed race yields to the stronger blood and the offspring takes the desirable quality of the full blood. With full bloods on both sides the characteristics of the offspring will determine which parent has the strongest or oldest breeding.

I consider, however, that in breeding hogs a square cross between Berkshire and Poland China, or Berkshire and Chester White a great improvement in the progeny for fattening purposes over either breed.

The Berkshire is a stronger and abler breed with stronger instincts, therefore has greater potency. The desirable quality in this breed is hardihood, muscularity, and activity.

This should be the mother, and thus makes her the better adapted to motherhood. The Poland China or Chester

White with their larger frames and more sluggish dispositions and habits for the sows will give the young pigs qualities for growth and fattening not possessed by the pure blood Berkshire, while the greater muscularity and vitality obtained from the Berkshire dam will render them better feeders with more lean meat than the Polands or Chesters, will fatten faster and stand on their feet well on the "Ra," rounding up a perfectly natural porker.

Climatic influences and local surroundings in a great measure effect quality, therefore the importance of affording as near as practical the same facilities as the best specimens enjoyed when the best types are produced. Doubtless the mild climate and humid atmospheres of England and Holland afford a constitution best adapted to the production of milk, and we may not expect to keep up the flow in our dry atmosphere while in other desirable points our climate may afford equal or greater facilities.

Vitality is the prime essential in any animal, for herein lies the power to exist at all. Good vitality is especially indicated by well developed nostrils; a well rounded form, with a short head and deep jaws. Food and air are the two fountains from which life is maintained, and the animal that lacks power to assimilate and appropriate both of these is of but little value for any purpose.

Well arched ribs leave ample room for the action of heart and lungs, and indicate a healthy and roomy stomach.

Breeding from immature animals is one of the most prolific causes of deterioration in size and quality and should never be allowed. Immature animals have not the proper vitality to produce good, vigorous offspring. They are often greatly reduced in size and quality, and if long continued will ultimately ruin the produce for any purpose. The parents also suffer and never develop the good points they otherwise would. This practice maintains more particularly with swine growers, but it cannot be too strongly condemned. Animals submitted to this treatment will run out as fast as by partial starvation.

Other points than those named, such as a good ham or loin are more material on the butcher's block, but the points

named accompany the best beef qualities and I think milk qualities, and without their proper development must ultimately fail as breeders.

In cattle I believe the best muscular development is found in the Devon which I would place at the maximum or 100: Herefords at 95; Short Horns, Poled Angus, Red Poled and Galways at 90; average natives, Ayrshires and Guernseys at 80; and Holsteins and Jerseys at 70.

In hogs, I place the Berkshires for muscularity at 100, and in sheep the Southdown is as to muscularity what the Devon and Berkshire are as to cattle and hogs, each being the strongest of their race according to size.

A great variety of opinions maintain as to the strength or muscularity of the different breeds of horses, but it is generally more useful for draft purposes according to size of animal, more strength being concentrated in the same individual, therefore more easily utilized.

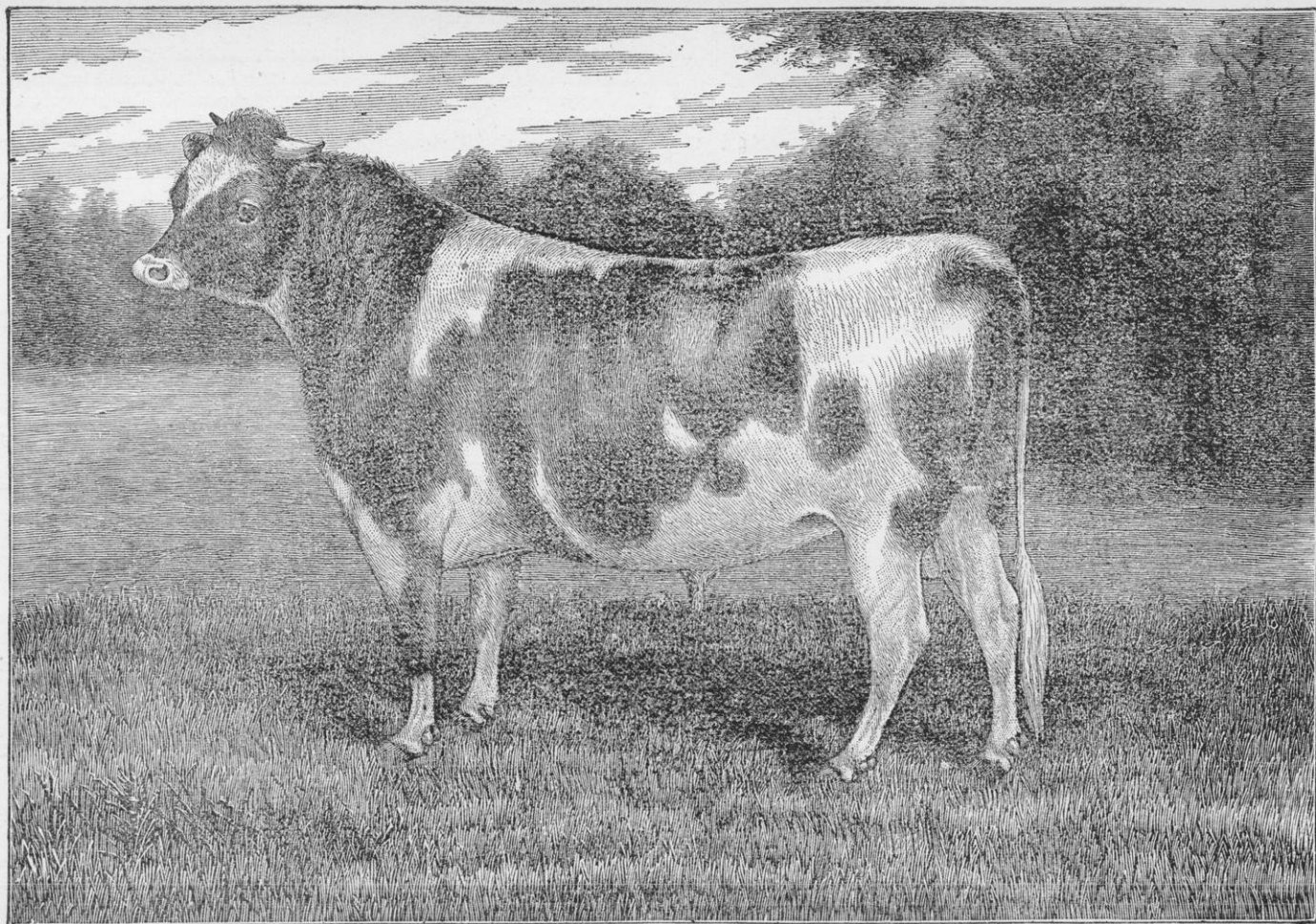
Good digestion and powers of assimilation, together with proper muscular development as well as breed are important as these to a great extent, determine hardihood (an indefinite term) but a quality not to be overlooked in our climate.

No animal should be used for a breeder in this climate without a good coat of hair, for a thin coat indicates a delicate constitution. Fine hair indicates easy keep and powers of endurance, while coarse hair must invariably accompany hard keepers. Muscularity in all breeds depends much upon exercise. Fattening or milking with lack of exercise, waste the muscles and if long continued render the animal less valuable for any purpose.

Breed we see does not determine milk qualities as all females of all breeds of cattle furnish their young with milk and no breed has a monopoly of this one quality; there are good and bad milkers in all breeds, still, there is no doubt, but what this quality can be increased or diminished by breeding, handling and feed, the same as any other quality.

Crowding, stimulating to excess, over feed, and lack of exercise, will ruin any cow in a short time and render her useless for any purpose. Horses that have been worked to their greatest speed are not the ones that have generally





produced the most uniformly fast colts, neither will you find the progeny of these record makers in the dairy line equal to their dams. Nature must not be taxed to its utmost for long periods without relaxation, if so deterioration instead of improvement must be the consequence.

Giving milk is a maternal function and best results at the pail and in the progeny can only be obtained by judicious treatment. She should have like any other animal, a good nervous organism, but not of a nervous temperament; nervousness or rather lack of control of nerve, never helped any animal for any purpose. A quiet intelligent expression of countenance, with strong feminine characteristics, generally in themselves indicate the good milch cows in all breeds.

Farmers often remark that after feeding all winter, their cattle weigh but little more than when put in their stalls. Immediately on confinement muscle begins to waste; if well fed, fat accumulation commences in the place of muscle and this being lighter often barely compensates for the loss of muscle. Cattle fed in the open air make the best beef, and if properly arranged with wind breaks as protection from storms, and warm beds to lie on, fed on unground or coarsely ground grain afford the most net profits. A steer should be raised and fattened the same as a hog; kept constantly growing from birth, and when finishing off, be put on full feed, or all that the animal machine can handle. This treatment will make nice, tender, juicy beef, that will sell for big prices if placed in the right market.

It is folly to build up the animal and then by neglect or from penuriousness let it waste away only to be compelled to rebuild, thus wasting time and money. The best breeding and the best feeding consists not so much in the accumulation of fat as growth of muscle. Muscularity, as shown, is increased by breeding and training, which together develop and maintain the most perfect organisms. Miscellaneous breeding will end in having no better stock than the native or scrub. Choose the breed best suited to the object desired, and breed only from the best animals with

the best pedigrees. Select within the breed, animals containing in themselves and their ancestors the points desired, and then with good handling, success is assured.

DISCUSSION.

Mr. Ames, of Oregon— Please explain, Mr. Arnold, what you consider immature breeding?

Mr. Arnold— The best results in progeny in all cases is doubtless at the time when the animal has arrived at maturity. That is the time when you may expect the very best results. Before that they can not have sufficient vigor; after that the animal may greatly decrease in vital power, so that common sense will indicate that the very best results may be expected when the animal is at best maturity. It is customary among farmers to put it at sixteen or eighteen months old. In cattle, eighteen months to two years, and in young mares, two to three years old, which I don't believe produces the best results.

Mr. Adams— You don't intend to apply it to dairy cows?

Mr. Arnold— If you want to develop milking qualities, it is a great deal the result of handling. In order to develop the best cow, it is generally considered best, I believe, that she should have a calf when about two years old, and then, perhaps, keep her in milk for about two years before she has another calf, and I doubt not you may have a better cow. But when you are talking of a cow, simply to make that cow useful as long as she lives, regardless of her progeny, you are talking of one thing, and when you talk about good breeding you are talking of another thing. I think men should keep these things distinct. I am not talking about a cow at all, except as I incidentally refer to it.

Mr. S. C. Fish— I would like to ask Mr. Arnold if a great injury is not done to animals by keeping the males too closely confined, would they not obtain stronger muscles, bone and constitution, if they had more exercise?

Mr. Arnold— What we want to know is, how to keep the animal in the condition which will give the greatest vital

power and endurance, when you have got to that place you have reached the right point. When you have so much exercise that you weaken him, of course the extreme is the other way, and equally erroneous. There no doubt but what a great deal of damage is done in that way.

I would like to hear some opinions about another matter. It is a theory of mine, more than it is, strictly, the science of breeding — that the female transmits to offspring mentality, or with dumb brutes, the instinctive qualities; whereas the sire transmits the physical proportions more generally; that we owe our intelligence more to our mothers, or, in dumb brutes, they owe their instinctive qualities more to the dam than to the sire.

Mr. Adams — What do you mean by instinctive qualities? Explain that a little.

Mr. Arnold — It is the ordinary mentality there is in brute creation.

Mr. Adams — That is the nervous force, isn't it?

Mr. Arnold — Everybody has nervous force; they could not live without it. It is an indefinite term. A person may have a great deal of nervous force and still be an ignorant.

Mr. Adams — But not an animal.

Mr. Arnold — An animal may have a great deal of nervous force and still be a fool, a lunk head. It is a certain power that comes to brutes instinctively. For instance, we have some mares or horses on the farm that are broad between the eyes, and have intelligent eyes, we say that animal has got some brains; the animal seems to know exactly what is right and what is wrong, and is easy to be controlled; the other is what we call a lunk-head; you never can teach him anything. You breed from one mare and you will have honest, spirited, intelligent qualities; breed from another, and the colts will be wrong-headed, no matter what the sire may be; that is an opinion I have, and I believe it is carried out by experience.

Mr. Anderson — I would like to say on this subject that my experience is that some mares will breed out themselves always, no matter what horse you choose; other mares will

breed after the sire. That is my experience in breeding horses, and I breed as many as most farmers do, perhaps. But I can't agree that the mare will universally furnish that instinctive intelligence Mr. Arnold speaks of, and others again give us lunk-heads, as he calls them.

Mr. Arnold — I won't pretend to say that this thing will carry out the principles of breeding, the blood being clear on both sides, and a pure blooded animal upon a mixed race would determine all those qualities to a great extent, no matter what the dam might be; a pure blooded sire, if there be defective blood on the other side, should generally transmit all his qualities; but the mentality, I believe, is more often derived from the dam.

HINTS ON GROWING POTATOES.

D. T. PILGRIM, WAUWATOSA.

When I was invited by the secretary to take part in the exercises of this convention, I refused to do so for the very good reason I knew there would be those present who could talk so much better than I could. I preferred to be a listener but was informed by the secretary that it was the duty of every farmer to do all he could to make the convention a success. I wish to say at the beginning that speaking in public is not my fort; however, I will do the best I can and that is all any one can do.

The subject I have chosen is, "Hints on Growing Potatoes." This subject should be of very great importance to all the farmers in the country.

First, there is a certain class of farmers who never think of their seed potatoes until time for planting, then he calls to the hired man, John, where are the seed potatoes? Oh! there are a few down cellar I think, and when they are brought up, they are a small lot of trash, with sprouts from one foot to eighteen inches long, the sprouts are then broken off, the potatoes planted, and nine times out of ten they prove any thing but satisfactory.

They were a mixture of all varieties that was ever grown on the farm, and very inferior as to size for market purposes.

Second, there are others who never make any calculation where they will plant until it is time, and then they will begin to wonder where their potato ground shall be.

Well, there is an acre in the back field, it has not had any manure for eight or ten years, I guess that will do for this time. So it is planted and with ordinary cultivation the crop proves a failure.

Now, it is a fact that this valuable crop is treated in this way by a great many men who are called farmers. Then there are others who have been successful in raising this same crop; they are the men who have a plan or system of farming that everything on the farm has its place, and everything in its place.

You must have a thorough plan of rotation of your crops.

You must know at least one year beforehand what and where to plant and sow, then you are on the high road to success. I will now give you my plan of selecting seed, for I know that it is just as essential to have good potatoes for seed as it is good corn, wheat, or barley. I select at time of digging, taking neither the largest nor the smallest, but of the medium, as near the shape of the parent as possible, keeping each and every variety separate. Place them in a good cool cellar until time for planting, then cut them as near two eyes as possible, mix with land plaster, then they are ready for planting.

Now for the field, first having the ground well plowed, harrowed and rolled, then mark one way three and one-half feet apart, drop seed in the mark about eighteen inches apart, then cover with a hoe. As soon as the seed begins to break the ground, then start the cultivator and hoe, and keep them moving as much as possible until the vine is about one foot high, then hill up with a double mould-board plow. And now wait until time for digging; dig with a common sense digger, taking alternate rows; pick into bushel boxes; if the market is favorable, draw direct from the field and save labor.

I will now mention how I treat the bugs. Mix one pound of paris green with one hundred pounds of land plaster; use often and freely. It will destroy the bugs and make a number one fertilizer for the potatoes. Plant one-half of your crop early and the other late; be sure that your land is in a high state of cultivation, but never under any circumstance use fresh barnyard manure on the land the same year of planting, and then be assured that you will have an abundant harvest.

So let us all aim for a higher and more useful life, with good principles to guide us that we may be better fitted to teach by practice as well as theory. Let us elevate our calling, remembering it is just as honorable to be farmers or farmers wives if we only fill our places with honor, as it would be to be lawyers, doctors or ministers. And we can command respect as our just due if we will only try to improve ourselves in the same proportion as we do our land. Let us then sow the good seed of truth and virtue, plant a firm and honorable principal in our boys and girls, and work faithfully to keep them as well cultivated as we would a field of potatoes or a garden of choice plants, and rest assuredly we shall have an abundant harvest.

PREHISTORIC FARMING.

BY REV. S. D. PEET, CLINTON, WIS.

The history of agriculture in the United States is known but the agriculture which existed in the prehistoric times is not so well known. I have taken this as the subject of my address and shall consider it under three heads.

First. Was there such a thing as prehistoric farming in this country?

Second. What was the difference between that and farming in historic times?

Third. What practical lessons are we to learn from the subject?

I. The evidence that agriculture was practiced in prehistoric times.

I present here a map of North America during prehistoric times, showing the employments of the people at the time of the discovery, and the different classes of archæological tokens which have been found.

The maps are divided into belts which correspond closely with the geographical divisions of the continent. One belt embracing the regions in the neighborhood of the Arctic Sea, which was occupied by fishermen. The second belt embraces the great forest region, which is found in the neighborhood of Hudson's Bay, and from the mouth of Hudson's Bay to the chain of the Great Lakes. This region seems to have been occupied by hunters. The third belt takes in all that region which we call the United States, extending from the chain of the Great Lakes to the Gulf of Mexico, and from the Atlantic Ocean to the Pacific. It is a region which was occupied by people who were agriculturalists. They were cultivators of the soil, even though some of them retained their hunting habits. The region may be divided into two parts: 1st. That which embraced the Mississippi Valley, and the regions along the Atlantic coast. 2nd. That in which the great mountain ranges are found, and extending as far as the Pacific coast. In this part the people were agriculturalists, but they carried on agriculture by irrigation and lived in communistic houses, which we call Pueblos. There were those on either side of this belt, and scattered through the interior of it, who could hardly be called agriculturalists. They were wandering tribes who came down from the north, and brought their hunting habits with them. They intruded themselves into the midst of the Pueblos, and retained their wild life even when the Pueblos were in a high state of civilization. Included among these were the inhabitants from California, who seem to have followed quite a civilized people, their people having long since passed away but having left traces of themselves buried deep beneath the lava beds and gravel heaps, of that state. The natives of California are among the most degraded of all the indig-

enous tribes, but this ancient race seem to have been much more advanced.

A fourth belt is found in the southern part of the continent commencing with the north line of Mexico, and running down to the Isthmus of Panama. This embraces the so-called civilized races; Aztecs, Taltice, and other tribes. Here agriculture was practiced, but society, has gone beyond the state where agriculture was the predominant employment, and where the other occupations overshadowed this.

It will be seen from the map that the employment as a predominant industry was confined to the United States. The prehistoric times resembling the historic in this respect. It would seem as if the natives had anticipated us, and had learned what portions of the continent were suitable to agriculture. This should be said of the native population, they did not use any forced measure, they took nature as she was, and received such gifts as she had to bestow and never forced agriculture into inhospitable regions, or drove nature to produce that which was not favored by soil or climate. We in our days overcome barriers, carry our imported wheat and other small grains far into the north, and at times try to make the cultivation of corn reach the same lines of latitude that our wheat does. We have spread the limits of agriculture beyond what it was in prehistoric times and yet for the native products, it is always a forced measure. We find, however, this difference between the historic and the prehistoric maps; the social status of the people has materially changed.

The temperate regions now are occupied by the highly civilized races, but the torrid are occupied by a people no more advanced than they were in prehistoric times. The magnificence of the cities in Central America has been described. It is in contrast with the squalidness which now prevails there. The savage disposition and war-like exploits of the natives of the northern states, are known to history; but these may be contrasted in another way to the high state of civilization which prevails here. The torrid zone seemed to be favorable for cultivation in prehistoric

times, but the temperate zone in the historic period. This is the first map. There is another point to be considered. It will be noticed from this map that the continent is divided into similar belts, but that the belts are sub-divided. This is a map of the prehistoric tokens, the tokens being divided as follows: 1st. Those supposed to belong the Esquimaux. 2nd. Those which belong to the hunter races of the north. 3rd. The tokens of the mound builders. 4th. The tokens which are embraced under the general name of the Pueblos. This leaves the fifth division for the monuments of the civilized races, the races of Mexico and Central America. It will be noticed from this map that the mound builders occupied the region which we call emphatically the agricultural part of the continent. The mound builders were certainly agriculturalists. We propose to show this from a description of their relics, we have a number of relics in our hands, some of them gathered in our own state; some in Tennessee and Ohio, some in Colorado, and some as far west as Oregon. They represent the stone age of America of which copper may constitute a sub-division, for copper and stone relics serve the same purpose. We have seen from the map that there were several main divisions, but that the region embraced in the United States was largely agricultural during the prehistoric times. The geographical distribution of these relics show how extensive agriculture was. The relics are not all of them agricultural, nor do they all belong to the same time, or period, but they show a preponderance of agriculture in all the regions mentioned. If we take the relics from the different parts of the country and put them together we shall find that a large proportion of them were used in industrial and peaceful pursuits, some of them are domestic utensils, useful only for cooking and household purposes among the mound builders, all of them in the same stone age.

We take the relics and place them together, copper and stone indiscriminately and ask how many of these were used for agricultural purposes. We find a number of classes of relics. 1st. Some of them are supposed to be weapons of war such as spear heads, arrow heads, dirks and maces. 2nd. Some

of them were used by hunters. These would embrace the same as those mentioned: spear heads, arrow heads, dirks and knives, but in addition we would place with them fleshers, and a number of relics which were used for dressing and rubbing skins. 3d. Beside these we have stone axes, chisels, gauges, knives of various kinds, awls, drills and various other tools which were used for mechanical purposes, wood craft and mechanical arts were common. 4th. After this we have drills, awls, needles, perforators of various kinds showing that domestic life was common. Cloth was woven, skins were tanned and garments made from them, pottery vessels were molded, and all the conveniences of domestic life were supplied by utensils made from stone, pottery, clay, shell and wood. This list of relics would not be complete unless we include the agricultural implements. These are very numerous in certain localities and embrace such implements as hoes, spades, and what have been called plows. Beside these there are pestles and mortars which were used for planting corn, and pipes for smoking tobacco, which are to be associated with agricultural tools as they show what products were used.

This examination of the relics of the stone age helps us to understand the relative importance of the different industries. The relics are very rude and yet they have about the same proportion to one another that the weapons, tools, utensils, and implements have in modern times, and show that agriculture was as important a part of industry as any other, and perhaps was the predominant employment of the people. It is, however, a general picture and perhaps it would be better to take our own state and examine the relics, earth works, and other tokens of Wisconsin and see what the state of agriculture here was in prehistoric times. There is this peculiarity about the state of Wisconsin, that we had mines both lead and copper which were known to the prehistoric people. So we have one class of tools, namely, miners, tools additional to those found elsewhere. We have also copper relics in more abundance than in any other state. The inhabitants of Wisconsin used copper be-

cause it was to be had and was more convenient than stone and yet they were in about the same condition as other people who belonged to the stone age. They were hunters, miners, fishermen, but they also lived in villages and practiced agriculture about the same as other mound builders; the main difference being that they erected mounds in the shape of animals and placed them around the villages and corn fields as protection and garden divinities.

We turn then to the examination of the relics and mounds in Wisconsin. As to the relics we would say that we have about the same variety and we find that the agricultural tools were as important here as elsewhere. An examination of the relics of the Historical Society reveals the fact that there are spades, plows, axes, knives, associated with arrow heads, also chisels associated with spear heads, and copper drills or awls associated with lances, showing that agriculture, wood craft, mechanical arts, domestic purposes were served by these relics as well as the hunting and warlike weapons bear a small proportion to the whole number. There are, however, other evidences of agriculture, besides the relics. Among these we place the corn hills and garden beds which are still visible. It is remarkable that there are more of these left in the state of Wisconsin than in any other state of the union. Ancient cornfields are found by the sides of nearly all our lakes. Some of them are quite extensive, covering at times forty acres of land. There are also garden beds in various localities. These differ from the corn hills in that they are plats of ground arranged in rows with paths between them. Some of them being straight like ordinary garden beds; some of them being placed at angles to one another as if the design was to make them ornaments. It is probable that they were used for the purpose of raising beans, squashes, and sometimes tobacco.

The garden beds differ from the corn hills in that they are much more elaborate and regular in their arrangement and show much more pains taking. The beds were generally six feet wide, had sunken paths of two or three feet between them. They varied in length, sometimes were three or four or six hundred feet in extent and covered many

acres. They were placed on the bottom lands on the south side of a hill so as to be sheltered from the north winds, or upon the western slope of a hill so as to receive the sun in the after part of the day. The provisions made for the defense, protection, of agriculture in Wisconsin is noticeable.

We have said that the peculiarity of the works here, is that they were made in the shape of animals, imitation of all the wild animals which once lived upon this soil. It seems strange to find garden beds, corn hills, village residences, coches and pits for storing grain, all guarded by such animals as the wolf, panther, eagle, turtle, fox, buffalo, squirrel and wild goose. These animals were not tamed, nor were they buried beneath the mounds, but their shapes were imitated and their habits and attitudes depicted by the effigies. A peculiar superstition prevailed here. A superstition which seized made the animals divinities, and relied upon them for protection. Clans among the Indians were frequently named after the animals, and there was a charm about these clan names which made the people feel as if the animals were their ancestors. There was the same custom here, but they placed the clan sign or name in the mounds; or rather, built the mounds after the shape of the animals whose names the clan bore.

The life of the people was strangely blended with animal life and yet the earth was tilled and the animal effigies were used as protectors for their fields against the depredation of animals. Hunters coming out from hunter life into agricultural pursuits, carried animal names and shapes with them and made these divinities to protect them.

We have then in Wisconsin, the earliest stage of agriculture, and find here that transition between the hunter and the agriculturalists very marked. Illustrations of this ideas are numerous. There is in Waukesha county, a village which was guarded by panthers. The panther effigies surrounding the village, and near by a panther effigy guarding pits or coches.

At Milwaukee there is a wolf effigy, guarding a mound wherein was a pit for the storing of grain, and over both

was a series of corn hills; the pits and effigies being strangely blended. At Indian Hill there were formerly four effigies of panthers, excavated in the soil, and around the effigies were corn hills, and not far distant garden beds. The designs probably being in placing the excavation in the midst of the corn field to make them hiding places for the one who was to watch the animal depredaters upon the field.

Near Mayville there is a large field or plat of garden immense effigy in the shape of a serpent, or a natural ridge which is changed into a serpent effigy 1000 feet long, and just beneath the shadow of this serpent, is a large plat of garden beds so placed that the effigy and the hill should surround three sides of it leaving only one side unprotected.

At Ft. Atkinson, there was formerly an effigy of a panther, a bird and a bear; all arranged near a corn field as if placed there for defense of the field against the depredations of the bear who was known to be fond of the roasting ears.

At Green Lake there are effigies of squirrels, foxes, wild geese and other birds in the midst of a corn field.

At Lake Koshkonong there are effigies of various kinds, extensive corn field covering forty acres of land. The corn fields, may to be sure have belonged to a later race, but it is probable that the same fields were cultivated by different races. The effigies having been the emblem of the earlier races, some of the relics having been left by the later races. We think we have said enough to show that agriculture was prevalent in prehistoric times and that the relics, mounds, earth works, would not be understood unless we take this into the account. We are to consider how the employments, the superstitions, the customs, the amusements, dances and feasts, were all blended together, and that there were no separate classes in those days, no divisions of labor, and no such thing as the exaltation of city life as contrasted with the rural life. All were on one common level.

II. With this review of the evidences of the farming, we turn to the peculiarities of agriculture in prehistoric times.

1st. We take up the products of the soil. The first product that we shall mention is maize or Indian corn. This is supposed to have been originally a wild product as wild corn is even now found among the mountains of Peru. It differs from the common corn in that the husk is wrapped about each kernel very much as the silk is in domestic corn. Maze or Indian corn was found in nearly every part of the country. Ferdinand De Soto saw great fields of it as he travelled across the Gulf States and even beyond the great river which he discovered and in which he was buried. Champlaine, the voyager, found it growing in the north from Penobscott Bay to the east side of Lake Huron; there were clearings in the wilderness; patches of corn, beans, tobacco, squashes, and esculent roots, lay near the wigwams of the natives. Marquette and the Jesuit Fathers saw corn fields near the villages as they traversed the Fox river and went down the Wisconsin, 200 years ago. Coronado, the Spanish explorer, who, after the conquest of Mexico, passed out into the wild wastes of New Mexico and Colorado, at last came to the region of the Zuniz and the seven cities of the Cibola, where he found the natives with their domestic fowls, turkeys, and the grain which they had raised. Mulberries, flax, sun-flowers, were the products of the soil.

The Pilgrim Fathers, during the first winter of their settlement, depended upon the corn which had been raised in that bleak region. And the settlers at Jamestown harbor lived upon the corn which the natives sold to them. Maze was found by the Spaniard Pizarro, as far south as Peru and Chili; and there were stores of it upon the mountains. Everywhere, wherever the early explorers and discoverers went, they saw this and became convinced that it was an American product. Corn was known long before the discovery. Beds of it have been found blackened with age in the mounds of Ohio. Corn cobs have been taken out from the shelter caves of Utah. Stone hoes and other tools designed for the purpose of cultivating corn have been dis-

covered in Tennessee, and corn fields have been found in Wisconsin. This seems to have been the chief and staple article of food. The tillage of maize extended over nearly 100 degrees of latitude and it is supposed that it had been in cultivation for many centuries. It takes a long time for a wild plant to come to a state where it depends upon man to propagate it and where it does not revert to its original wildness. This was the only cereal which extended so far.

There was a sacred character to the maize. Many myths have gathered around it. Plant lore seems to have made this the special object for story. The following are the traditions or myths which have gathered round it: The western Indians say that the Great Spirit descended to the earth in the form of a beautiful squaw, and when she first touched the ground with her feet there sprang up the Indian corn. The Ojibwas believe that the spirit or master of life came down in the shape of a beautiful young man dressed in green and having green plumes on his head. That a youth who was fasting wrestled with this master of life, and on the seventh day was able to overcome the vision. He buried the phantom in the ground and carefully weeded the soil and kept it fresh and soft for it was told him that he should have the pleasure of seeing the green plumes of his sky visitor shooting up through the ground. At last, the plant bending with its yellow fruit and gracefully waving its green leaves and yellow tassles in the wind, stood before him. He invited his parents to the spot to behold the new plant. It is the spirit grain, said his father, and they prepared a feast and invited their friends, and this was the origin of Indian corn. The maize seems to have been very much admired by the natives. In Peru it is said that the palace gardens of the Incas were ornamented with maize; with all the grains, stalks, and leaves, wrought out of gold, and in one instance, a corn field of considerable size representing the maize in its erect and natural shape was seen in the gardens made of gold and silver.

Tobacco is another product which belongs to prehistoric agriculture in America. It differs very much from the maize for it was mainly used for medicinal purposes or as a nar-

cotic which had effect upon the mind. It was like the black drink employed in sacred feasts and in various ceremonies. But was not used to any excess as it is in modern days. The pipes which have been found in the mounds and upon the surface are very small, so small as to surprise modern smokers. There were, however, different ways of using tobacco in prehistoric times. It was used in the form of snuff by the Peruvians, by the Mexicans rolled up in cigars, by the North American tribes in small pipes as we have said.

The medicine men used it to bring on a kind of madness. The Sachems smoked it when they opened their councils, and when they smoked their pipes of peace.

These two, maize and tobacco, are the native products which we have given to the world. It seems strange that they should have spread so rapidly. John Nicot carried the first tobacco from Lisbon to France in 1560, about 300 years ago and his name is now perpetuated in the word nicotine, the oil of tobacco. But there is no race upon the face of the earth that does not use it at the present time. It has gone into the interior of Africa, to the top of the mountains of Tibet in Asia, to the cold regions of the north of Europe and America, to the central parts of Australia, and to the distant islands of the sea. More rapidly than corn, or any useful product, it has made its way, but it has not changed in character. For social purposes it is highly prized by many; but its poisonous nature should be understood. It undermines the constitution of the boys who use it and brings cancer and other diseases upon the men. The raising of tobacco has increased in our state but the question is whether it is not supplanting other useful products, and whether it will prove profitable in the end. Corn has elements in it which support life, animal life and human life. Corn has proved a great blessing to the world and we are thankful that as an American product it has been introduced to the world.

Beside the maize or corn there were many other products such as beans, squashes and various melons. The early historians all speak of the villages as surrounded with corn

fields; but around the houses were little garden plats of beans and squashes which belonged to the individuals. The communistic style of living then prevailed. There was no property in severalty, everything belonged to the tribe.

2. Agriculture in prehistoric times was conducted under the shadow of a great fear; superstition prevailed. The weather was personified. There were four quarters to the sky and a divinity ruled over each one. Beside these there were divinities of the upper regions and of the lower. The north was white, the east red, the south yellow, the west blue. There were rain gods and thunder birds, and the serpent representing the lightning.

Agriculture undoubtedly reached a greater height at the south than here, not so much of the hunter state there nor so much of the animal worship. There were pyramids overlooking the corn fields and sun worship prevailed there as animal worship did here. Nature was full of divinity. Nothing could be planted and nothing grow unless there was the favor of the divinity. The plant itself was a divinity or had a divinity in it, and everything connected with the plant was supernatural. There were to be sure mechanical contrivances to protect the grain and preserve it. It is not unlikely that some of the long walls found in Ohio were used as fences to protect the fields and as covered ways to enter the villages. A wall four and one-half miles long enclosed 80 to 120 acres at Fort Ancient. Parallel walls seven miles long at Portsmouth, formed covered ways between the enclosures where religious ceremonies were performed but they may have protected the field which lay between them and the river. At the south there were walls and ditches and extensive fish ponds. At the west, in Arizona and Colorado, the farmers preserved their stores in quite a different way. The village or house was built into the side of a high cliff 1000 feet high, and above the village there were narrow chambers where the grain was stored. The cellar stairs went up instead of down, and were made by cutting holes in the rocks for the hands and feet. What would we think of climbing up 1000 feet to get to our front door and then 300 or 400 feet higher to get to the pantry and

cellar. The farmers had two fields one above the other. A farm in the valley and a farm on the mesas or high cliffs, and lived between the two by building their houses into the cliffs. In some places the people dwelt in villages but a whole village contained in a single house. 3000 people at times crowded into one of these communistic buildings. The fashion of living in flats as they do in the city at present, prevailed in America in prehistoric times. It seems to be an American institution, the same as bangs. The squaws wore bangs long before white women thought of it.

Agriculture reached its highest point in Mexico and Central America. The descriptions of the gardens and palaces which formerly prevailed in Mexico read like a romance. In fact, these are so striking that some have been led to doubt whether they are true. But the historians, Prescott and Bancroft, repeat the story.

Cortez, the conqueror, found in the city of Mexico royal pleasure gardens laid out with labyrinthian walks winding through the dark foliage where were sparkling fountains, shady groves of cedar and cypress, ponds well stocked with fish, aviaries filled with birds of every hue and species, besides extensive menageries. Marble galleries supported by jasper pillars looked out upon large gardens wherein were groves of trees and fountains filled with fish. Each pond was surrounded by a tessellated marble pavement and shaded by clumps of trees. Montezuma passed much of his time among the plashing of fountains and odors of flowers. The Aztec monarchs had equally splendid country residences; a broad road ran between high hedges. The hall of gold had its walls adorned with all kinds of precious stones, plates of silver and brilliant colored sea shells. Gorgeous flowers transplanted from distant climates, filled the spacious halls with the odors of the tropics. The richest viands were served up for the King; delicate bread made from the finest maize flour; pastry, sweet-meats, and a magnificent dessert of fruit, were served after the solid food.

III. We next turn to the question, what practical lesson can we derive from the prehistoric times? One lesson has reference to the plow.

The plow is one of the greatest inventions ever made. It compares in historic time with the bow and arrow in prehistoric times and was to ancient history what the steam engine is to modern. The beginning of the plow was in prehistoric times but it was evolved and fully developed in historic. A sharp stick was the first agricultural tool; this was the primitive plow. The natives used it in three ways loosening the soil by three motions. First, the stick was a simple prod, made a hole in the ground. Second, it was used as a spade, struck into the ground obliquely and raised the soil by leverage. Third, it was dragged over the surface like a hoe, and loosened the soil by scratching it. The plow grew out of the sharp stick; a beam was attached to the stick, or a crooked stick was used which had a beam and handle together. This was the first step. The second was to make the stick double so as to be held in both hands; the beam, a little heavier, and the end of the stick with a flare to it. The third was to place upon the end of the stick a piece of metal which would act as a plow share. This was the primitive plow. It was about as rude as the spade and hoe of the stone age, and did scarcely any better service. The fact is, if we compare the copper spades with the primitive Oriental plow, we could say that the prehistoric tool was superior to this.

The plow share, however, introduced a new era in agricultural tools. The plow share is a greater invention than the plow itself. It introduced new mechanical principles. It is the inclined plane and the lever combined, and works through the soil on the principle of a screw. It worms itself along under the ground. It is like the arch, but an arch reversed. There were false arches before the true arch was discovered. So there were bogus plows before the true plow was invented. The arch was a great discovery. The secret of the arch is that the weight is thrown over from the keystone to the ground on either side. It is like a pulley reversed. The weight pushes over the keystone just as a rope pulls over a pulley or wheel and axle. The weight is carried to the ground over the arch and never rests or sleeps but is transferred just as if it was a rope in motion. The plow is

like the arch: it lifts by the transfer of the weight along the inside of the arch. There is no dead weight in the plow. It is calculated to set the weight in motion.

2d. Another lesson which we learn has relation to the seeds and plants which we are using. The American farmer, it appears, has imported nearly all his seeds and all his stock. There is very little which he raises as a native product. About the only ones being the maize and tobacco of which we have spoken. Is it not singular that we should have so many foreign products, and creatures about us. The natives had domestic animals before the white men came and they seemed to do well with that which the country naturally produced. We have never undertaken to domesticate any of the animals and we use but few of the native plants. Some might say that it is easier for us to introduce the plants and animals domesticated elsewhere and take advantage of the improvements in seeds, and advance in breeding practiced in the Old Country. We ask the question, however, how do you know that they are adapted to the soil and climate of this country? It is but a few years since the farmers learned that they could raise the small grains in Dakota. Wheat was known to be adapted to northern climate but oats and barley were matters of experiment. We have succeeded in that and we think we shall succeed with our other articles. We think we can carry our cattle and our horses wherever we go, raise sheep and hogs everywhere. Some imagine they can take their corn and get a good crop of it if they go to the North Pole. Others think that they can take fruit of any kind and go North or South and get good harvests of fruit. We must remember, however, that all of these once grew wild and have been domesticated; fruit, seeds, cattle, horses. There are limitations to them all. The farmers of America have a lesson to learn from prehistoric times. We are getting beyond the days of cheap lands and the choice of homesteads. The days will come when people will have to take poor land and make the best of it, or pay high prices for what they get. The question arises, how are we use the land which now lies waste? We are almost at the foot of

the mountains and must look up to the high lands and ask whether we can raise any thing on them. The Great Plateau is different from the Mississippi Valley. Is it always to remain barren?

It will be impossible for us to raise the same crops on the air Continent, that we do on the land Continent. The great plateau of the west constitutes about half of the area of this Continent. Besides this there are many mountain ranges scattered over different parts. How are we to learn about the products which will be best to raise in these mountain regions. Are there no products to come from the mountains? Is the farmer to stand and look up and say that there is a line beyond which he can not go. The miner can go there, the railroad man, the lumberman and the herdsman; but the agriculturalist must remain below. Now, prehistoric science brings in a lesson here. There are products in South America, in Mexico, and in New Mexico, which the natives have been cultivating for many years, and have found the mountains useful. Expeditions to the mountains of Puru and the sources of the Amazon have already brought to light the Cocoa. Our intercourse with Mexico, has taught us the value of the Magney plant, or the American Aloe which is useful for food, for making paper, cordage and many other purposes.

In reference to this subject of studying native plants, it should be said that there are many articles which are coming into extensive use which once grew wild. To illustrate, the celery in proving a great nerve tonic. It originally grew in the marshy places from Sweden to Algeria and Egypt. It has been found in California, Fuzoa and New Zealand. It is an improved wild plant which does not tend to revert to the wild form.

We have the cranberry which is a useful article and is very well adapted to some of our sandy marshes. May there not be some plant which can be raised upon the sandplaine and so make that large portion of our state which now lies waste productive and useful. We have been introducing millet and sorgum; millet from Egypt and sorgum from farther east. Possibly we may find some seeds or grasses or canes in our

own country which may be modified by cultivation and made to grow where we want them to as well as the foreign products. We suggest to the experiment station that the native products of America should be tested and see if we can not get from them as much variation and improvement from them as we do from imported stock and seed. It is well known that corn and potatoes have been improved by cultivation and new varieties introduced. May it not be that other native products may be improved.

3d. We close this address by a few words on the social aspects of the subject. We learn that society was divided in prehistoric times into various grades according to the prevalence of agriculture. The three grades, savagery, barbarism, and civilization, are mainly dependent upon this. In savagery there is no agriculture; in barbarism it prevails but in somewhat a rude state; in civilization it reaches its highest grade and produces its effect in the wealth of the nation. In America, savagery was prevalent in the northern part of the continent, the cold regions. Barbarism was found in the temperate regions throughout the United States. Civilization in the warm climates, Mexico and Central America and Peru. This advantage was enjoyed in Mexico, that they dwelt in the midst of a mountain region and on the side of a mountain lake, but had a tropical region below them but near at hand.

These states of society have been sub-divided by Mr. Lewis H. Morgan, into three subordinate stages, as lower, middle and upper condition of savagery; lower, middle, or upper condition of barbarism. He makes the basis of this sub-division the means of subsistence, as for instance the lowest savages lived upon fruits and roots; those in the middle state upon fish; and the higher state upon wild animals. This would embrace all the hunters under the head of savages. Subsistence through cultivation of the cereals introduced the state of barbarism. The domestication of animals introduced the middle state of barbarism. The Peruvians with the lamas as beasts of burden and the Zunis with their domestic fowls were in this state. The introduction of the plow and field agriculture brought the

people from barbarism into civilization. Civilization was, however, in their country introduced without the plow. That is, if we take the ground that the Mexicans and Taltecs were civilized.

Perhaps it would be better to call their culture barbarism, for the barbaric magnificence of the kings, and of the poverty of the people are in strong contrast here as they are in all barbaric countries. The plow evidently lifted the common people in the old world from barbarism into civilization. The nomadic state preceded the sedentary in the old world. But when the people became stationary and the plow began to do its work, civilization set in. At first, learning was confined to the priests, and power to the kings. The people had no power. During the three stages of civilization, the people have come up by degrees to be better informed, and to have the power of the government in their own hands. We may say that the plow has helped forward this result. Unlimited subsistence through field agriculture, have accomplished the end. Go the world over and you will find this to be the case. Millions in Egypt were held subject to the dominion of one man. Subsistence was gained by the people, but the few lived in luxury and surrounded themselves with magnificence. The same was the case in Assyria, Babylonia, and in ancient Greece. The plow was introduced but there was no property in severalty. The demesne belonged to the King. The same system continued through the middle ages up to the time of the discovery of America. America is the only country in the world where agriculture has done its legitimate work. The only place where civilization and agriculture have worked together in harmony, and where the farmer gets the results of his own toil.

Property in severalty and landed estate was introduced as early as the days Kleisthenes of Greece, B. C. 500. But the landed property was held in the hands of the few. Letters and art advanced. Philosophy and religion improved. But the people who cultivated the soil were boors and were in great subjection. Civilization meant living in the city. Civis was the name for city. The people in the

city were politicians; politai, the word from which politician is derived means inhabitant of a city. But the people the oi polloi, were despised. At last, however, the Agririan laws were passed, and the people who dwelt in the fields had some power.

Cincinattus, you remember, left his plow and went to defend the state. The farmers came at last to be respected. The Plebians came into power. This was the inheritance which the old world left to the modern world. Society has been struggling up ever since, to the point where agriculture should be the best and freest employment and where the farmer should have as much power and intelligence as the politician; and where wealth should appear in the rural districts and the people who owned the land should have the privilege of making laws. History teaches this lesson. The drift is not toward the overthrow of landed estates and to the destruction of property in land, but it is the other way. Landed property is the foundation, and all other wealth is the superstructure. This is the grandest feature of American civilization and the main source of all hope for the future. If the property were not in the hands of the people who till the soil and intelligence as prevalent in the rural districts as in the cities, we should expect a hopeless struggle between the two classes, the capitalists and the laborers. We maintain that the plow has worked the masses from the condition of serfs to that of free men, from slaves to land owners. We maintain that the plow is to hold the people in their place; a balance of power will be with those who follow the plow. And the problems of labor are as likely to be worked out in the field as in the forum, the market place, or the city.

DISCUSSION.

Mr. Arnold — I move that the Committee on Resolutions now report. Carried.

Prof. Henry — Your committee beg leave to submit the following resolution, introduced by Mr. J. M. True, with the recommendation that it pass:

WHEREAS, Almost the entire destruction of the cattle industry of the country is threatened by the existence of contagious pleuro pneumonia at Chicago and other points; and

WHEREAS, There can be no relief from this scourge except by means of stringent national legislation; and

WHEREAS, The executive committee of the Consolidated Cattle Grower's Association of America has drafted and had introduced in both houses of congress a bill known as the Miller bill, (H. R. 10359) which provides sure means for the full extirpation of this plague; therefore

Resolved, That the farmers of Wisconsin now in convention assembled, respectfully but earnestly urge their honored representatives in our National congress to give its hearty support to the said Miller bill, as we believe it to be the only measure now before congress calculated to render the necessary relief.

Mr. S. C. Fish — I move its adoption. Carried.

Prof. Henry — I have two resolutions somewhat similar in character, introduced by Mr. Owen. The committee recommend their adoption. The first is:

WHEREAS, It is evident from observations made in many portions of the state that there are large tracts of swamp or overflowed lands, which have not been listed to the state as contemplated by the act of Congress of Sept. 28, 1850; and

WHEREAS, It is of great importance to the agricultural interests of the state that all such lands shall inure to our state as contemplated by said act, and the proceeds thereof be expended to reclaim such lands; therefore,

Resolved, By the agricultural society in convention assembled, that the legislature is hereby petitioned to enact such laws as shall provide for the listing of such lands by the people, in behalf of the towns or counties of the state, also the prosecution of such claims before the general land office and elsewhere as may be necessary to accomplish such result.

Mr. Owen — I move its adoption, and I will say a few words. I have been somewhat connected with this swamp land matter for several years now, and I think I know a little about it. But all I know about it is from reading the swamp land book published in 1882, and any one of that has that book can find out as much as I have.

The state has been very unfortunate in its method of selecting these swamp lands. The law contemplates that every forty acres, the majority of which is swamp or wet or overflowed shall inure to the state. The plan adopted is

to make a selection by the field notes. Where field notes show that certain tracts are swamp, the department at Washington will agree to it. Now, you know the surveys are made in this way: They commence at the south-east corner of the section, run half a mile, and note what kind of land it is, whether it is swamp, or burr oak openings or whatever it is, and if there is a creek through it they note that, and from there they go to the next corner, and all around the section until they come to the starting point. They run outside lines and none but outside lines. All of you know that there are sixteen forties in a section, and it is an impossibility for anyone, by reading those notes to tell the character of the inside forties, and the selection by that method is just equal to a smart guess, if it is equal to that, that is all it can be. Now, the state has been prosecuting this method, and it has, at various times, received a large amount of swamp lands, but the general government comes back on us whenever they find by the testimony of any applicants for homestead or anything of that kind, and they take that land away from us, and they don't give us anything back. Now, I can see very well that we are never going to have this until the towns will take it up, or the counties where there are no towns, and the people do this work themselves. The commissioners of the public lands have got too much work to do; they don't tend to those swamp lands at all, and the swamp lands have been stolen in every direction, and applied to every other use almost, and we want to get the towns awake to this, and select those swamp lands, commence at the beginning, take off all we are not entitled to, and all the state has received, and demand the balance. The law says it is the duty of the secretary of the interior to make accurate lists of all these lands and send them to the different states; but the result is that they don't do it. Their reports are very incorrect, so incorrect as this: I didn't suppose the town of Newport had more than a section of swamp land. I asked the clerk how many swamp land sections they had in that town, and he said, well, we have got six. That would be a good many acres, and he told me all they ever drew was 160 acres of

swamp land money. With other towns it is the same way, and it is a general thing through the state. I hope this motion will prevail, that the towns can go to work for themselves and see that they get justice.

The resolution was adopted.

Professor Henry — The committee report the following resolution, and recommend its adoption:

WHEREAS, It appearing that there are about 71,000 acres of indemnity lands, obtained by the state in lieu of swamp and overflowed lands taken up by soldier's warrants, be it

Resolved, That it is the sense of the farmer's convention, that the said lands should be disposed of by the commissioners of public lands in large parcels or quantities so as to close them all out, by public sale to the highest bidder, at as early day as practicable, for the benefit of the different localities entitled thereto, and that we hereby ask our representatives in the legislature to enact such laws as may seem necessary for this object.

Resolved, That copies of this resolution be transmitted by the secretary of this society to both senate and assembly, with a request that the same be publicly read from their desks.

Mr. Arnold — What is that resolution? I don't quite understand that.

Mr. Owen — The state has never tried to market these lands, and they are not in market now. They can not be sold at less than three dollars an acre, and when the legislature passes an act to put them in the market they are subject to entry, and you and I can go and take our choice of those lands, and the remainder will be there until somebody else goes and gets them. There was a man here not long ago that wanted to buy a whole section of that land. He said, he would be willing to give ten dollars an acre. He is a dealer in some manufacture that requires hardwood and that section had hardwood on it, and if it was worth ten dollars an acre he would give it. Now, if we make these subject to private entry they will be picked over and over, and how much will the towns and counties make out of it? My impression is that there are so many people up north now, looking for mineral lands and timber lands, and speculators of all kinds, so that "the woods are full of

them," and they have got more money than they know what to do with, and my opinion is this: That if we put those in the market in bunches, such as in certain towns and counties, at auction, and sell them to the highest bidder, all together, and make the good lands sell the poorer ones, we shall get something, ten shillings an acre, or maybe five dollars an acre, and that is better than to continue as we are thirty years more.

Mr. Adams — It seems to me that this is something we can very profitably let alone. I may be mistaken about it, but I certainly don't want to vote on a resolution of that kind without thorough investigation. It is impossible for this convention to investigate a subject of that kind as it ought to be investigated. The fact is, the tendency in this state is to sell our lands too quick, rather than to hold them too long. The tendency is to let them drift into the hands of speculators in large bodies, instead of having them picked up by individuals as we want them picked up. The state, ordinarily, don't lose anything by holding its public lands, and I will suggest an't move, the indefinite postponement of that resolution.

Mr. Owen — I hope that motion will not prevail. I belong to a town where we have \$600, indebtedness, and we have got 692 acres of those lands belonging to us. We want those lands to pay that indebtedness. We don't want this thing to continue forever, we want some time to have an end to it.

Mr. McCready — In what part of the state do those lands lie?

Mr. Owen — Some in the northwest and some in the northeast.

Mr. McCready — Are they going to be benefited by the new railroads building in the northern part of Wisconsin?

Mr. Owen — Probably some of them are.

Mr. McCready — It seems to me likely that those lands will be doubled and trebled in value in a very few years, by the building of those new railroads, you should take that into consideration.

A member — What means this ten dollars an acre for

swamp lands with hardwood timber? Doesn't this gentleman know that hard wood timber doesn't grow on swamp lands?

Mr. Owen — That is not swamp land.

Mr. Cantwell — I move as an amendment to Mr. Adams' motion that this whole business be referred to a committee to report one year hence, and let them bring the matter up properly.

Mr. Adams — I accept the amendment.

The motion was carried.

Professor Henry — The committee recommend the adoption of the following resolution:

WHEREAS, In his advancement to better methods and practices in agriculture, the farmer is confronted by problems which he has neither the time nor means to solve personally; and

WHEREAS, Experiment stations established in several states of the Union have demonstrated their great value in enlarging our knowledge of the principles embodying our calling; therefore.

Resolved, We, the farmers of Wisconsin, hereby express our gratification at the passage of a bill in the U. S. Senate to provide for the liberal maintenance of Agricultural Experiment Stations.

Resolved, That we urge upon our representatives in Congress to press the measure to a successful passage at the earliest possible date.

The resolution was adopted.

Prof. Henry The committee recommends the adoption of the following:

WHEREAS, The railroads of this state receive for their business more than three-fourths of their freight from the farms of this state; and

WHEREAS, These farms have become impoverished by long and continued cropping, so as to necessitate the using of special fertilizers, in order to keep up the fertility of our lands, and because the freights upon all our railroads are so high as to very greatly preclude the farmers from obtaining plaster, or salt, which has come to be so fully recognized as a great benefit in securing good crops of clover, and the salt to make the grain fill well; therefore,

Resolved, That it is the sense of this farmers' convention that the railroads of this state shall give special rates for carrying salt, lime, land plaster, commercial and other fertilizers.

Resolved, That the secretary of the State Agricultural Society and the officers of the Experiment Station are respectfully requested to present the justice of the above measure, to the railroads of the state, through the railroad commissioner.

Mr. Arnold — I move to amend that by saying that it is the opinion of this body that it is in the interests of the railroads and the people.

Mr. Anderson — Railroad officers are smart enough to know that themselves.

Prof. Henry — If a man sends a machine to the factory for repairs, and will make application to the agent, there are some of the roads that will allow him to send that machine back at half price; but when it comes back from the factory to him again, it is at full price. Land plaster, or fertilizer of any kind, helps the farmer, and the railroads get a larger traffic when that crop is grown. The railroad companies ought to see that it is to their advantage to carry these things cheaply that the farmer is to throw upon his land. It is something of a speculation with the farmer, and the railroad companies ought to join in that speculation with the certain assurance that if it succeeds they will have more freight to carry to the cities.

Mr. Sherburn, of Dunn county — I would be ashamed to receive fertilizers brought to my door at special rates after what has been said in this convention about passes, etc., and I hope the resolution will not be adopted. (Applause and laughter.) We found fault with them, and now ask them to grant the farmers the privilege of getting fertilizers cheaply. Let the members of this convention go home and let their noses grow a little longer, and then come back here and recommend legislation.

Mr. Allen — It will be remembered by some that I introduced substantially the same resolution as this last winter; it was passed by this farmers' convention, but for some reason unexplainable to me, it didn't get to the railroad commissioners to whom it was to be referred. I came here four times last winter to see the railroad commissioner, and he said he didn't receive a copy of it and consequently he could not act on it. I stated last night the position the railroads in Michigan take upon this question, and the difference between them and the railroads here. We ask nothing for loading or unloading it, but simply ask them to carry it in their cars when they are going to draw them back empty.

Mr. Sherburn — I live seventy miles this side of St. Paul. The St. Paul elevators are filled with our grain, and they get that grain delivered to Milwaukee and Chicago at seven cents a bushel. A great portion of it goes right by my door, while I can't get a bushel delivered in either of the cities for less than fifteen cents a bushel. There is some of their discrimination! I would be ashamed to throw plaster on my farm, and I don't think the farm would ever pay for it, if it were brought to me at a less rate when —

A member — You must be in favor of the interstate commerce bill?

Mr. Sherburn — I am, and I am not in favor of asking railroads to discriminate in favor of the farmers after what was said last night.

Mr. S. C. Fish — I wish to say a word about the discriminating of railroads.

The Chairman — That is hardly in order. The question is on the changing of the wording of that resolution? Do you insist on the changing of that resolution?

Professor Henry — The committee accepts the amendment.

The resolution, as amended, was adopted.

Prof. Henry — The committee recommends the passage of the several resolutions:

Resolved, That the thanks of this convention are due, and hereby tendered.

1st. To his Excellency Governor Rusk, for the additional evidence of his watchfulness of their interest, manifest in the complete and tasteful fitting up of the State Agricultural Rooms.

2d. To the members of the Assembly, for courtesies extended in the use of their chamber for these meetings.

3d. To the several speakers who have so ably contributed to the success of this Convention.

4th. To the press, which through its efficient reporters, has so fairly and fully disseminated the proceedings of our meetings; and

5th. To the several railroad lines that have by their liberal generosity added to the inducements for the farmers of our state to attend our Convention.

(Applause and laughter on reading of last clause.)

Professor Henry — We didn't mean it to take this shape the farmers are just thinking about.

Two members — I move it be adopted.

A member — I move to strike out the last.

Mr. Seymour — I move to strike out of that last resolution the words, "liberal generosity." It is a matter of speculation and interest to the railroads to carry those passengers at half price.

Motion seconded.

Mr. Adams — I don't like to take up time in this discussion, but I don't think this amendment ought to prevail. I think a courtesy coming to us from a railroad company, is just as much a courtesy as if it came from a private individual. We want justice from the railroad companies, and we will have it, and we, as men, certainly ought to treat them with becoming respect and courtesy.

Mr. McCready — Any railroad that has not extended any courtesies to us is not included. If the railroads are doing us an injury the courts are open, and, let us appeal to them for redress.

The amendment was lost, and the resolution, as reported, was adopted.

Professor Henry — The committee report the following resolution back without recommendation:

Resolved, That this Convention heartily approves of the joint resolution introduced in the legislature by the Hon. John Winans, of Rock county, providing for the submission to the people of an amendment to the constitution of the state, prohibiting members of the legislature and judges of courts of record from accepting free transportation from railroads, and respectfully request all the members of the legislature to vote for such resolution.

Mr. F. Wilcox — I move the adoption of that resolution.

Mr. Arnold — After the discussion last night, and what we know of the make-up of this convention, I think it is better that we adopt some resolutions that will embrace the situation, and at the same time cover this point. And I would suggest as a substitute the following:

WHEREAS, It is apparent that for all benefits conferred, the recipients would be ungrateful to not reciprocate if opportunity offers; and,

WHEREAS, The custom of giving railroad passes has become an oppression on the railroad corporations themselves, it being apparent from the large number of farmers and others in this convention being here on passes obtained from their local representatives; and,

WHEREAS, These passes are mostly bestowed upon those that can best afford to pay their own fare and not upon the poorer classes; and,

WHEREAS, We believe the custom is corrupting in its influence; therefore be it

Resolved, That it is the sentiment of this convention that any legislation that will put a stop to the system will be in the interest of the people and good government.

Mr. Allen — I second the motion.

The substitute resolution was adopted.

The Chairman — The question is now on the adoption of original resolution.

The original resolution was adopted. (Great laughter.)

Mr. Dann — I am disgusted to see farmers playing like little boys here, going first one way and then another, taking up time; time is valuable to me, and I suppose it is to most men. And why do you go on with this farce?

Mr. True — I understand that the business contemplated by this convention has now been fully performed; and I ^{trust} that this convention do now adjourn.

Mr. Arnold — I would like to have the sense of the convention in regard to farmers' institutes, and I move that it is the sense of this convention that these farmers' institutes are doing good among the farmers of the state of Wisconsin.

Motion carried.

The Chairman — There was a committee to be appointed in regard to swamp lands resolution. I will appoint as such committee Mr. Bender, Mr. Adams, and Mr. Owen.

Convention adjourned *sine die*.



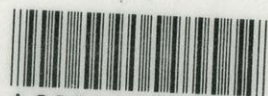
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