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1892

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TRANSACTIONS

OF THE

Wisconsin State Agricultural Society

Together with the Addresses and Papers Presented at the Annual
Farmers' State Convention held in the Rooms of the
Society, in the Capitol at Madison, February, 1892.

VOL. XXX.

COMPILED BY

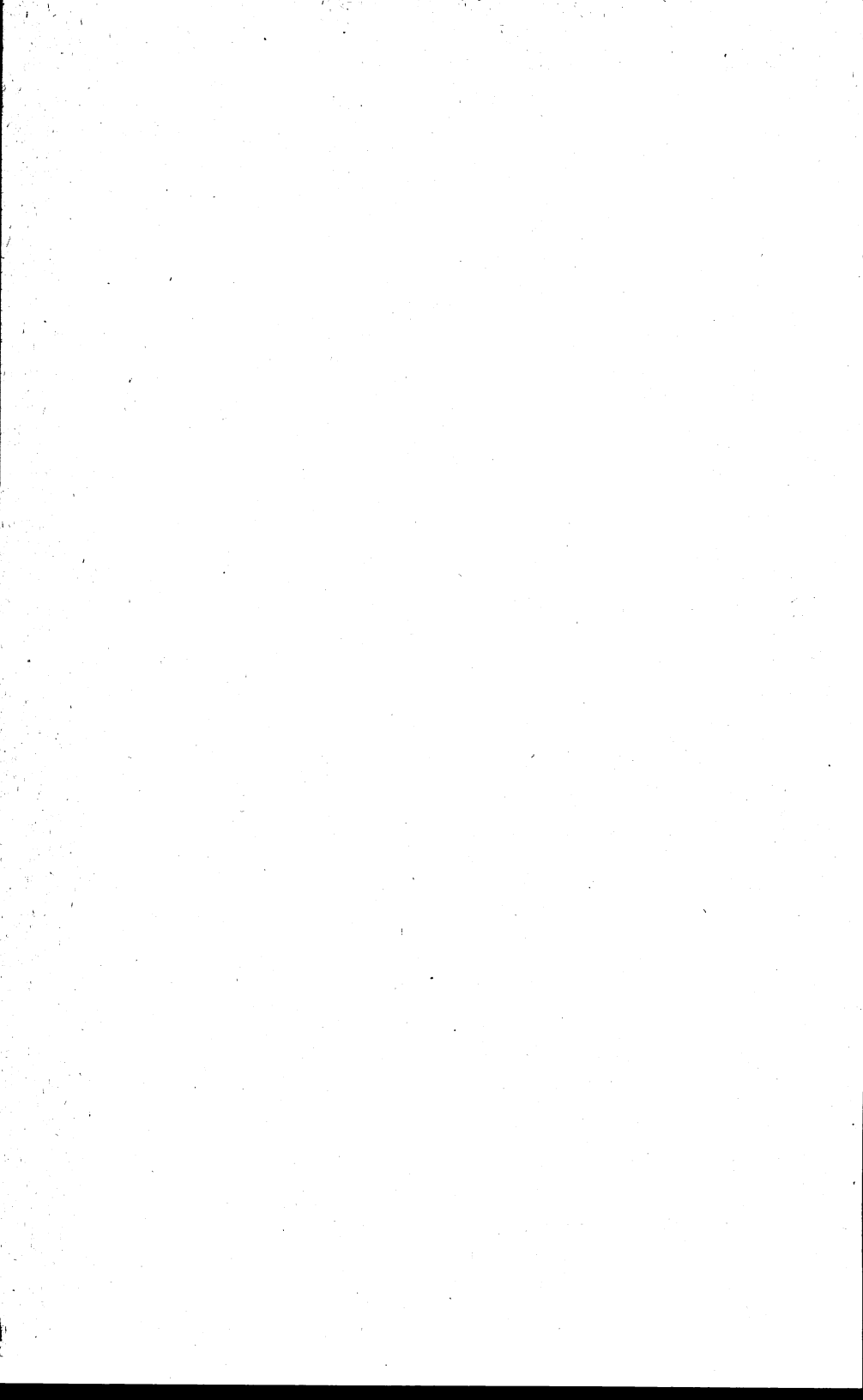
JOHN M. TRUE, Secretary.



MADISON, WISCONSIN.

DEMOCRAT PRINTING COMPANY, STATE PRINTERS.

1892.



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FEB 8 1904

LETTER OF TRANSMITTAL.

To His Excellency, GEO. W. PECK.

Governor of the State of Wisconsin.

I am again permitted to present to you an Annual Report of our State Agricultural Society; a volume that we are confident illustrates the high standing and progressive character of Wisconsin Agriculture.

With permanent Fair Grounds, and an assurance of ability to so fit them up, as to make them a complete credit to the State, the society feels confident of greatly increased success in its further work.

JOHN M. TRUE,
Secretary.

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OFFICERS

OF THE

WISCONSIN STATE AGRICULTURAL SOCIETY.

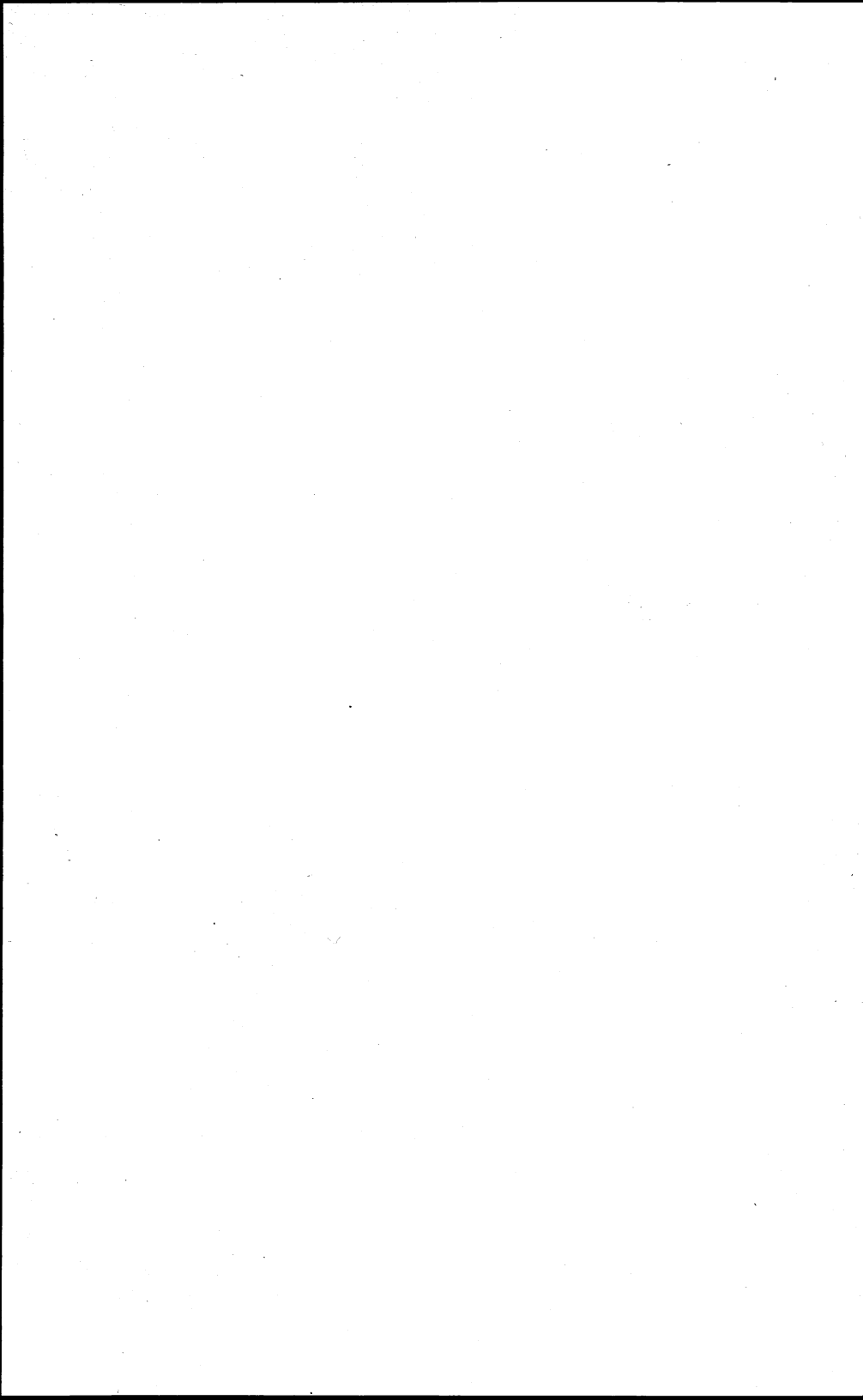
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JOHN M. TRUE, <i>Secretary</i> ,	Madison
CYRUS MINER, <i>Treasurer</i> ,	Janesville
<i>Ex President</i> , JOHN L. MITCHELL,	Milwaukee

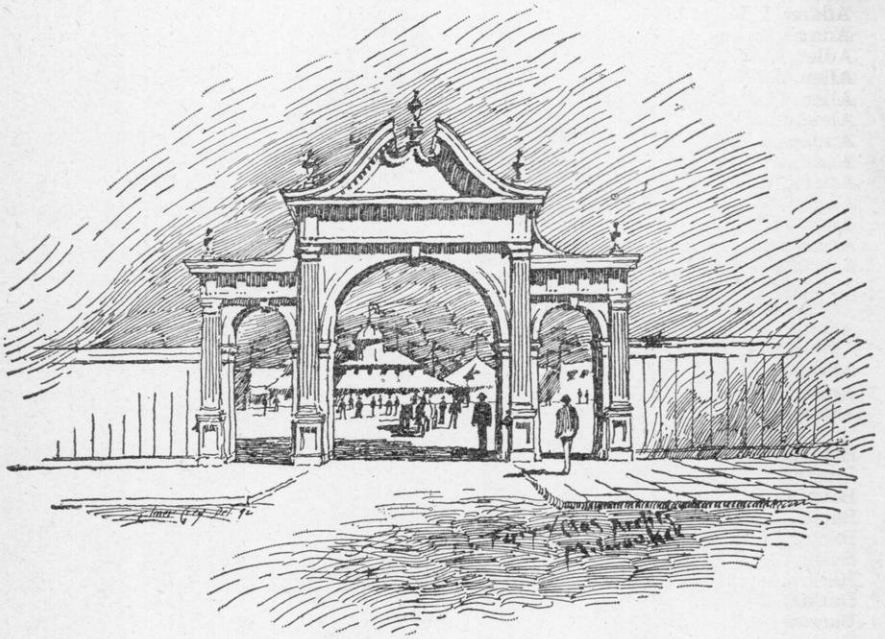
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T. L. NEWTON,	Beaver Dam
WM. FOX,	Baraboo
J. G. BOYD,	Milwaukee
DANIEL WILLIAMS,	Summit
H. D. HITT,	Oakfield
A. A. ARNOLD,	Galesville
J. M. SMITH,	Green Bay
WM. WILSON,	Wausau
HANS B. WARNER,	Ellsworth

ADDITIONAL MEMBERS:

H. D. MCKINNEY,	Janesville
H. C. ADAMS,	Madison
C. M. CLARK,	Whitewater
C. M. COTTRILL,	Milwaukee
C. T. FISHER,,	Wauwatosa
E. C. SMITH,	Markesan
S. D. HUBBARD,	Mondov
J. H. WOODNORTH,	Waupaca
C. A. YOUMANS,	Neillsville
GEO. WYLIE,	Leeds
PROF. T. C. CHAMBERLIN,	Madison
PROF. E. A. BIRGE,	Madison





Main Entrance, Wisconsin State Fair Grounds.

LIST OF LIFE MEMBERS.

Name.	Residence.	Name.	Residence.
Abresch, C.	Milwaukee.	Beckwith, S.	Dartford.
Ackerman, Philip..	Milwaukee.	Beer, Richard	Milwaukee.
Adams, H. C.	Madison.	Bement, E.	Oregon.
Adams, L. L.	Janesville.	Bemis, Jervis.	Janesville.
Adams, James.	Milwaukee.	Benedict, J. D.	Bristol.
Adler, E. D.	Janesville.	Benedict, W. G.	
Allen, J. W.	Whitewater.	Benjamin, D. M. ...	Milwaukee.
Allen, C. F.	San Francisco.	Benson, S. W.	
Alexander, O.	Pine Bluff.	Bergenthal, Wm. ...	Milwaukee.
Anderson, Matt. ...	Milwaukee.	Best, Jr., Chas.	Milwaukee.
Andrus, L. E.	Janesville.	Bigelow, F. G.	Milwaukee.
Angell, R. R.	Sun Prairie.	Bigelow, Wm.	Milwaukee.
Angell, Wm. H.	Chicago.	Billings, Earl.	Madison.
Armour, P. D.	Boscobel.	Bird, I. W.	Madison.
Armstrong, L. G. ...	Galesville.	Bird, T. E.	
Arnold, A. A.	Milwaukee.	Birkel, F. G.	Milwaukee.
Asmuth, Anton. ...	Farmington.	Bishop, John C.	Fond du Lac.
Aspinwall, D. M. ...	Milwaukee.	Black, John.	Milwaukee.
Atkins, A. H.	Madison.	Blatz, A. C.	Milwaukee.
Atwood, R. J.	Portland, Ore.	Bliss, C. M.	
Auer, Louis.	Milwaukee.	Bostwick, J. M. ...	Janesville.
Auerbach, S. B. ...	Milwaukee.	Bostwick, R. M. ...	Janesville.
Babbitt, Clinton, ...	Beloit.	Bonnell, James. ...	Milwaukee.
Babbitt, Arthur O.	Beloit.	Bonnell, Lansing ...	
Babbitt, D. H.	Auburn, N. Y.	Boomer, Elbert. ...	Beaver Dam.
Bacon, E. P.	Milwaukee.	Boorse, Henry.	Granville.
Bacon, W. D.	Waukesha.	Boorse, J. H.	Granville.
Bailey, A. P.	Sun Prairie.	Boorse, W.	Granville.
Barlass, Andrew. ...	Emerald Grove	Boyce, A. A.	Lodi.
Barlass, David.	Emerald Grove	Boyd, Francis.	Milwaukee.
Barrow, E. S.	Milwaukee.	Boyd, J. G.	Milwaukee.
Bartels, J. L.	Milwaukee.	Boyd, R. B.	Milwaukee.
Barth, Peter.	Milwaukee.	Boyle, W. J.	Milwaukee.
Bartlett, L.	Milwaukee.	Boynton, A. L.	Milwaukee.
Bartlett, O. Z.	Milwaukee.	Brabazon, J. R. ...	Delavan.
Barnard, H. C.	Milwaukee.	Bradley, C. T.	Milwaukee.
Bass, Jas. W.	Janesville.	Bradley, Edward ...	Milwaukee.
Bates, A. C.	Milwaukee.	Bradley, W. H. ...	Milwaukee.
Baumbach, C. von.	Milwaukee.	Brand, F. C. G.	Milwaukee.
Baumgartner, H. ...	Milwaukee.	Braza, Ben.	Wauwatosa.
Beaumont, E.	Hartland.	Brockway, E. P. ...	Milwaukee.
Becher, J. A.	Milwaukee.	Brickner, G. H. ...	Sheboygan Falls.
Bechtel Daniel.	Milwaukee.	Brigham, D. M. ...	Milwaukee.
Beck, C. A.	Milwaukee.	Brown, Frank G. ...	Madison.
Becker, Washingtn	Milwaukee.	Brown, F. E.	N. W. Station, Milwaukee.

Name.	Residence.	Name.	Residence.
Brown, J. Austin..	Chicago.	Chase, Geo. H.....	Milwaukee,
Brown, Rudolph M.	Wauwatosa.	Chase, Lucien D....	Milwaukee.
Brown, Thos. H....	Milwaukee.	Cheney, Rufus....	S. Evanston, Ill.
Brown, Wm. W....	Merton.	Children, E.....	E. Dubuque, Ia.
Bruce, A. T.....	Madison.	Chipman, A.....	Sun Prairie.
Bryan, John.....	Portage.	Chipman, C. R....	Waunakee.
Bryant, D. D.....	Madison.	Church, W. W....	
Bryant, Frank H....	Madison.	Clapp, G. W.....	Oregon.
Bryant, Geo. E....	Madison.	Clark, C. M.....	Whitewater.
Bryant, Jr., Geo. E.	Madison.	Clark, David J....	Milwaukee.
Bryden, J. A.....	Milwaukee.	Clark, John H....	Madison.
Buening, Job H....	Milwaukee.	Clark, Lewis.....	Beloit.
Burger, A.....	Milwaukee.	Cochrane, John....	Waupun.
Buestrain, Henry..	Milwaukee.	Cogswell, A. W....	Galesburg, Mich
Bull, Stephen.....	Racine.	Colby, Chas.....	
Bullard, James....	Bridgewater, S. D.	Colladay, W. M....	Stoughton.
Bump, N. P.....	Janesville.	Colman, Ed.....	Fond du Lac.
Bunker, Geo.....	Madison.	Colton, J. B.....	Madison.
Bunde, Louis W....	Milwaukee.	Colvin, W. W....	Milwaukee.
Burchard, H. L....	Milwaukee.	Cook, W. H.....	West Point.
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Burnham, Miles...	Bloomington Pra., Minn.	Cornell, James....	Oakfield.
Burnham, Jr., A..	Milwaukee.	Cornwell, H. H....	
Burnham, John T.	Milwaukee.	Corrigan, John....	Milwaukee.
Burroughs, Geo....	Milwaukee.	Corrigan, J. E....	Milwaukee.
Byrne, John A....	Madison.	Cottrill, C. M....	Milwaukee.
		Cottrill, W. H....	Appleton.
		Cox, G. G.....	Mineral Point.
Camp, H. H.....	Milwaukee.	Cramer, John F....	Milwaukee.
Campbell, J. G. J..	Milwaukee.	Crampton, N. B....	Madison.
Campbell, M. Y....	Milwaukee.	Crawford, E. B....	
Campbell, Henry..	Evansville.	Crawford, J. N....	Mukwanago.
Campbell, Vie H..	Evansville.	Crawford, John B.	DeSmet, S. Dak.
Cantwell, M. J....	Madison.	Crawl, Jno.....	Center.
Capron, Geo.....		Cribb, Geo. C.....	Milwaukee.
Carr, Joseph S....		Crilly, John J....	Milwaukee.
Carr, Nathan B....	Madison.	Crocker, J. T.....	Chicago.
Carey, Ed. A.....	Fond du Lac.	Crosby, J. B.....	
Carlton, W. D....	Sun Prairie.	Crossett, B. F....	Janesville.
Carpenter, S. D....	Carthage, Mo.	Cudahy, P.....	Milwaukee.
Carpenter, J. H....	Madison.	Culver, Caleb E....	Shopiere.
Carpenter, J. E....	Windsor.	Cummings, Wm....	Randolph, Ia.
Carpenter, M.....	Milwaukee.	Curtis, Dexter....	Madison.
Carter, A. M.....	Janesville.	Curtis, D. W.....	Fort Atkinson.
Carver, P. S.....		Curtis, F. C.....	Rocky Run.
Cary, Edward L....	Milwaukee.	Cuppell, Charles...	Milwaukee.
Chandler, E. H....	Milwaukee.	Cutting, J. W....	
Chandler, J. C....	Madison.	Currie, James....	Milwaukee.
Chapin, Chas. A....	Milwaukee.		
Chase, Enoch....	Milwaukee.	Dahlman, Anthony	Milwaukee.
Chase, Clarence....	Milwaukee.	Daly, John L.....	Eagle.
Chase, Clifford....	Milwaukee.	Daniels, W. W....	Madison.
		Danks, E. P....	Stoughton.

Name.	Residence.	Name.	Residence.
Darling, K. A.	Fond du Lac.	Enos, Elihu	Waukesha.
Darwin, A. G.		Esterly, Geo. W. ...	Whitewater.
Daubner, Geo. H. ..	Brookfield Cen- ter.	Falk, Frank R.	Milwaukee.
Davidson, Adam..	Verona.	Farlow, Simeon ...	Burnett Junct.
Davis, N. P.		Farnsworth, J. H. .	Fond du Lac.
Davis, Patrick.		Farwell, L. J.	
Davis, W.	Center.	Fay, Charles H.	
Day, F. T.	Milwaukee.	Fenn, G. W.	Janesville.
Dean, E. B.	Madison.	Ferguson, Benj.	Fox Lake.
De Hart, J. L.	West Lima.	Ferguson, D.	Milwaukee.
Delaplaine, G. P. .	Madison.	Field, W. W.	Odebolt, Iowa.
De Lamatyre, W. A.		Fifield, D.	Janesville.
Demore, A. B.	Chicago.	Fifield, J. G.	Janesville.
Des Forges, Geo. .	Milwaukee.	Finch, Lorin.	Janesville.
Dever, Thos. P. ...	Milwaukee.	Finney, F. N.	Milwaukee.
De Voe, A. B.	McFarland.	Firmin, F. H.	Hastings, Neb.
De Wolf, E.		Fisher, C. C.	Center.
Dexter, Chas. J. ...	Milwaukee.	Fisher, C. T.	Wauwatosa.
Dexter, W. W.		Fisher, Elijah	Center.
Dickerman, J. A. .	Madison.	Fisher, N. D.	Florence.
Dickinson, O. B. .	Milwaukee.	Fisher, Seth.	Center.
Dittmarr, J. F. ...	Wauwatosa.	Fisher, S. W.	Center.
Dodge, H. S.	Milwaukee.	Fitch, D.	Madison.
Dore, John S.	Fresno, Cala.	Fitch, Wm. F.	
Dore, Timothy.	Milwaukee.	Fitzgerald, H. J. .	Milwaukee.
Doolittle, W. J. ...		Fitzgerald, R. P. .	Milwaukee.
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Drake, John R.	Milwaukee.	Flowers, J. M.	Oconomowoc,
Drakeley, Samuel. .		Fohey, Michael.	Milwaukee.
Dunham, M. W.	Wayne, Ill.	Folds, Geo. H.	Sioux Falls, S. Dak.
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Durand, W. T.	Milwaukee.	Foley, Jr., John ...	Milwaukee.
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Durr, Emil.	Milwaukee.	Foote, A. E.	Milwaukee.
Dwinnell, J. B.	Lodi.	Foote, E. A.	Footville.
		Ford, J. C.	Madison.
Eastman, John S. .	Madison.	Fox, A. O.	Oregon.
Eaton, J. O.	Lodi.	Fox, William.	Baraboo.
Echlin, John O. ...	Janesville.	Fowler, Jas. S.	Milwaukee.
Edgerton, E. W. ...	Milwaukee.	Frank, A. S.	
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Ehlers, C. F.	Milwaukee.	Frankfurth, Wm. .	Milwaukee.
Elderkin, E. S.	Elkhorn.	Fratt, N. D.	Racine.
Eldred, John E. ...	Milwaukee.	Frattinger, Peter. .	Milwaukee.
Elliott, Jas. T.	Racine.	Freeman, C. F.	Milwaukee.
Elliott, E.		French, Jonathan. .	
Ellis, J. A.		Friedman, Ignatius	Milwaukee.
Ellsworth, Isaac. .	Milwaukee.	Fueldner, Herman.	Milwaukee.
Ellsworth, Lem. ...	Milwaukee.	Fuller, E. M.	Madison.
Ellsworth, W. J. ...	Madison.	Fuller, F. D.	Madison.
Elmore, A. E.	Green Bay.	Fuller, M. E.	Madison.
Elmore, R. P.	Milwaukee.	Fuller, Miss F. L. .	Madison.

Name.	Residence.	Name.	Residence.
Galbraith, James..	Janesville.	Hansen, Guido	Milwaukee.
Gallagher, A.	Milwaukee.	Hansen, John E. ...	Milwaukee.
Gammons, Warren	Middleton.	Hansen, Oscar C. ...	Milwaukee.
Ganes, John W.	Lowell.	Hansen, Theo. L. ...	Milwaukee.
Gates, D. W. C.		Harding, George ..	Waukesha.
Gaylord, Aug.		Harris, Jas.	Janesville.
Garrett, G. W.	Milwaukee.	Hartman, F. W.	Milwaukee.
Gartner Andrew...	Milwaukee.	Harvey, J. W.	Knoxville,
George John S.	Milwaukee.	Hasbrouk, W. H. ...	Tenn.
Gettelman, Adam..	Milwaukee.	Hastings, S. D.	Madison.
Gibbs, Charles R. ...	Whitewater.	Hatch, Eugene.	
Gilbert, Thomas. ...	Oregon.	Hausmann, Jos. ...	Madison.
Giles, H. H.	Madison.	Hauxhurst, Sidney	Milwaukee.
Gilligan, John.	Milwaukee.	Hawes, Jasper T. ...	Willow Lake,
Gilman, Henry	Sun Prairie.		N. Dak.
Goes, Geo. W.	Milwaukee.	Hawes, W. N.	East Middleton.
Goodnow, H. D.	Madison.	Hayes, A. J.	Milwaukee.
Goodrich, Ezra.	Milton.	Hazen, Chester.	Ladoga.
Goodrich, John R. ...	Milwaukee.	Hazleton, Geo. C. ...	
Goodrich, T. W. ...	Milwaukee.	Heil, Jacob.	Milwaukee.
Gordon, G. E.		Helmer, A. M.	Milwaukee.
Gould, L. D.		Helms, Christian ...	Milwaukee.
Graham, Alex.		Hempstead, H. N. ...	Milwaukee.
Grant, W. J.	Milwaukee.	Hendee, C. A.	Milwaukee.
Grau, A. M.	Milwaukee.	Hennis, Louis.	Milwaukee.
Gray, Thos. S.	Milwaukee.	Henry, W. A.	Madison.
Graves, J. W.	Hudson.	Heyn, Hermann. ...	Milwaukee.
Graves, R. T.	Ripon.	Hicks, J. H.	Oshkosh.
Graves, S. W.	Rutland.	Higbee, A. T.	Fort Atkinson.
Green, David C.	Milwaukee.	Hilderbrand, And..	Milwaukee.
Green, N. S.	Milford.	Hilderbrand Fred..	Layton Park.
Green, Richard.	Middleton.	Hiles, Geo.	Milwaukee.
Greenleaf, E. B. ...	Milwaukee.	Hill, J. H.	Madison.
Greenman, C. H. ...	Dover Center,	Hill, J. P. W.	
	Minn.	Hill, H. J.	Madison.
Greulich, Andr. F..	Milwaukee.	Hill, Robert.	Chicago.
Grinnell, J. F.	Farmer's	Hinkel, John.	Milwaukee.
	Grove.	Hinkley, B. R.	Summit Center
Groom, John.	Milwaukee.	Hinkley, Frank D.	Milwaukee.
Grover, F. B.	Rolling Prairie.	Hinrichsen, H. L. ...	Milwaukee.
Grubb, W. S.	Baraboo.	Hinsey, John A. ...	Milwaukee.
Gurnee, J. D.	Madison.	Hintze, C. F. A. ...	Milwaukee.
		Hirsch H.	Milwaukee.
Hackendall, E.	Milwaukee.	Hitt, H. D.	Oakfield.
Hacker, T. L.		Hodges, L. F.	Milwaukee.
Haight, J. M.		Hodson, C. W.	Janesville.
Haight Nicholas ...	Madison.	Hoff, J. J.	Milwaukee.
Haisler, M. J.	Milwaukee.	Hoffman, Chas. G..	Milwaukee.
Hall, Augustus. ...		Hogan, Gilbert. ...	Elyria, Ohio.
Hall, H. P.		Hollister, Rufus M.	Dakota.
Hallock, Youngs. ...	Middleton.	Holstein, W. A. ...	Milwaukee.
Hamilton, A. K. ...	Fond du Lac.	Home, W. M.	Milwaukee.
Hammond, E. S. ...		Hopkins, Jas.	
Hammond, L. M. ...		Hopkins, B. B.	Milwaukee.
Hanks, A. S.	Milwaukee.	Hopkins, E. C.	Milwaukee.

Name.	Residence.	Name.	Residence.
Hopkins, H. C	Oconomowoc.	Kershaw, C. J.	Chicago, Ill.
Hoskins J. W	Milwaukee.	Keyes, E. W	Madison.
Hoven, Math.	Madison.	Kiewert, Emil	Milwaukee.
Howie, D. N.	Milwaukee.	Kimball, M. G.	
Hoxie, B. S	Evansville.	Kindling, Louis . . .	Milwaukee.
Hoyt, F. E.	Rochester.	Kingsley, Geo P. . . .	Janesville.
Hoyt, J. W.		Kipp, B. A.	Milwaukee.
Hoyt, E. D.	Wauwautosa.	Kiser, J. C.	Oregon.
Hubbard, S. D	Mondovi.	Kiser, W. C	Tetonka, So. Dak.
Hudson, John	Madison.		
Hume, Wm	Oshkosh.	Klein, Peter J.	Milwaukee.
Huntly, Danl.	Appleton.	Klein, Geo	Ft. Atkinson.
Hurlbut, E.	Oconomowoc.	Knapp, G. A.	Fond du Lac.
Hurson John	Milwaukee.	Knapp, J. G.	Limona, Fla.
Hutchins, C A	Madison.	Knapp, Wm. A	Fond du Lac.
Hutson, J. S	Stoughton.	Kneland, James. . . .	Milwaukee.
Hyde, Edwin	Milwaukee.	Knight, Ed	Myrtle, N. Dak
		Knowles, Geo.	Milwaukee.
Ilsley, Chas F	Milwaukee.	Knowles, Geo P. . . .	Fond du Lac.
Inbusch, J. H	Milwaukee.	Koch, H. C	Milwaukee.
Ingham, A. C		Koch, John C	Milwaukee.
Iverson, J. C.	Milwaukee.	Kopmeier, John	Milwaukee, 120 Canal St.
Jackman, Hiram . . .		Koss, Rudolph	Milwaukee.
Jacobs, Wm	Madison.	Kraus, Fred	Milwaukee.
Jacobs, Jr., Wm . . .	Madison.	Krull, Robt	Milwaukee.
Jeffrey, Geo.	Milwaukee.		
Jenkins J. G	Milwaukee.	Ladd, M. L.	Mendota, Ill.
Jenks, S. R.		Lafeber, James. . . .	Wauwatosa.
Jenkins, J C	Janesville.	Lamb, F. J.	Madison.
Jerde, L. P		Landauer, Max.	Milwaukee.
Jerde, M. P.		Lando, Julius.	Milwaukee.
Johnson, John A. . .	Madison.	Lapham, Henry	Summit.
Johnson, Jr., John .	Madison.	Larkin, B. F.	Madison.
Johnson, Jos	Hartland.	Larkin, C. D	Milwaukee.
Johnson, M. B		Larkin, C. H.	Milwaukee.
Johnson Fred J. . . .	Milwaukee.	Larkin, Daniel	Madison.
Johnston, R. A. . . .	Milwaukee.	Lawrence, W. A. . . .	Janesville.
Johnston, W. A. . . .	Minneapolis.	Lawrie, James	Milwaukee.
Johnston, John. . . .	Milwaukee.	Lawton, J. G.	De Pere.
Johnson, C. H.	Sun Prairie.	Lazier, Ed	Rochelle, Ill.
Jones, E. D	Fond du Lac.	Learned, J. M	
Jones, John N.	Madison.	Leidersdorf, B.	Milwaukee.
Josslyn, E. S.	Milwaukee.	Leitch, Jr., W. T. . .	
		Leitch, W. T.	
Kane, A. L.	Milwaukee.	Lennox, B. G	Chicago, Ill.
Keenan, Mathew. . . .	Milwaukee.	Leslie, John	
Kellogg, Geo J	Janesville.	Lester, Waterman. . .	
Kelly, Thos. L	Milwaukee.	Lewis, Calvin E, . . .	Milwaukee.
Keogh, Edward	Milwaukee.	Lewis, John L.	Madison.
Kerin, John	Wauwautosa.	Lindsay, E. J.	Milwaukee.
Kern, J. B. A	Milwaukee.	Little, Thos. H	Janesville.

Name.	Residence.	Name.	Residence.
Lockwood, John...		Meehan, P.....	Milwaukee.
Lucy, O. K.....	Columbus.	Mehl, John.....	Milwaukee.
Ludlow, A.....	Monroe.	Meinecke, Jr., A.....	Milwaukee.
Luening, A. F.....	Milwaukee.	Meinecke, Jno.....	Milwaukee.
Lunzmann, C.....	Milwaukee.	Melindy, Miss M.	
Lyman, L. H.....	Madison.	A. M.....	Milwaukee.
Lynch, T. M.....	Janesville.	Mendel, H. M.....	Milwaukee.
Lysaght, Wm.....	Monroe.	Merrill, Alf.....	Madison.
		Meyer, W. H.....	Milwaukee.
Macomber, S. D...	New Lisbon.	Millard, A. F.....	Milwaukee.
Mahoney, George..	Milwaukee.	Miller, B. K.....	Milwaukee.
Main, A. H.....	Madison.	Miller, John.....	Milwaukee.
Manegold, A. F.....	Milwaukee.	Miller, Chas B.....	Madison.
Manegold, Jr., Chas	Milwaukee.	Miller, Roswell...	Chicago.
Mann, Andrew L...	Madison.	Miller, Fred.....	Milwaukee.
Mann, Curtis.....	Oconomowoc.	Miller, Jr., B. K...	Milwaukee.
Mann, Fred M.....	Milwaukee.	Millett, Chas. O...	Beloit.
Mann, Henry.....	Milwaukee.	Mills, Simeon.....	Madison.
Mann, J. E.....	Madison.	Miner, Cyrus.....	Janesville.
Mann, J. G.....	Milwaukee.	Miner, G. B.....	Milwaukee.
Mannwaring, Wm.	Black Earth.	Mitchell, G. Stanley	Milwaukee.
Marshall, Samuel..	Milwaukee.	Mitchell, John L...	Milwaukee.
Martin, A. C.....	Ashton.	Mock, B.....	Milwaukee.
Martin, C. L.....	Janesville.	Mohr, Oscar.....	Milwaukee.
Martin, Nathaniel.		Mooney, R. D.....	Brown Deer.
Martin, S. W.....		Moore, B F.....	Fond du Lac.
Mason, G. A.....		Morden, Edward...	Milwaukee.
Matthews, A. R....	Milwaukee.	Morehouse, L. H...	Madison.
Matthews, E. P....	Milwaukee.	Morgan, James....	Milwaukee.
Maxon, Glenway...	Milwaukee.	Morgan, Thomas...	Milwaukee.
Maxon, O. T.....	S. Evanston, Ill.	Morrison, W. H...	Madison.
May, A. C.....	Los Angeles,	Moxley, A. R.....	
	Cal.	Mueller, Louis J...	Milwaukee.
Mayhew, F. L.....	Milwaukee.	Mueller, Oscar.....	Milwaukee.
Mayhew, T. W.....	Milwaukee.	Mullen, James.....	Milwaukee.
McCarty, F. D.....	Glenn Harbor,	Murray, Geo.....	
	Mich.	Myers, A. V.....	Milwaukee.
McConnell, L. J...	Madison.		
McConnell, Wm. N	Dartford.	Nash, C. D.....	Milwaukee.
McCord, Sam'l....	Milwaukee.	Nason, S. L.....	Nasonville.
McCormack, J. G..	Madison.	Neacy, M.....	Milwaukee.
McDermott, Wm...	Fond du Lac.	Needham, J. P...	Wauwatosa.
McDonald, A.....	Alloa.	Nelson, Cassius B..	Madison.
McDonald, John...	Fond du Lac.	Newcomb, S. B....	Cold Spring.
McDowell, H. C...	Oconomowoc.	Newcome, C. W....	Milwaukee.
McFetridge, E. C..	Beaver Dam.	Newton, I. S.....	Middleton.
McGeoch, P.....	Milwaukee.	Newton, T. L.....	Beaver Dam.
McKenna, Martin.	Madison.	Neuser, Henry.....	Milwaukee.
McKerrow, Geo...	Sussex.	Nichols, L. T.....	Berlin.
McKinney, H. D...	Janesville.	Nieman, L. W.....	Milwaukee.
McLaren, W. P....	Milwaukee.	Norris, C. W.....	Milwaukee.
McLaughlin, J. H.	Milwaukee.	Norton, J. B.....	Madison.
McNeil, David....	Stoughton.	Nowell, W. A.....	Milwaukee.
McPherson, J. P...	Springdale.	Noyes, A. F.....	Beaver Dam.
Meehan, James....	Milwaukee.		

Name.	Residence.	Name.	Residence.
Nunnemacher, Rob	Milwaukee.	Pilgrim, D. T.	Wauwatosa.
Nunnemacher, R..	Milwaukee.	Pilgrim, Jr., D. T..	Wauwatosa.
Ober, R. P.		Pinney, S. U.	Madison.
Oberman, Geo. J..	Milwaukee.	Pleiss, August.	Milwaukee.
Ogilvie, Robt. B....	Madison.	Plumb, J. C.	Milton.
Olcott, J. B.	Oshkosh.	Plumb, T. D.	Madison.
Olcott, John D.	Milwaukee.	Plummer, B. G.	Wausau.
Oliver, Joseph B....	Milwaukee.	Polzinsky, Jos.	
Olney, C. W.	La Cygne, Kan.	Pond, Samuel A.	Janesville.
Ormond, Wm M.		Poppert, Geo.	Milwaukee.
Orr, George H.		Porter, G. E.	Eau Claire.
Osborne, W. H.	Milwaukee.	Porter, Wm. H.	Marshall.
Otjen, O. S.	Milwaukee.	Powers, D. J.	
Ott, George V.	Lawtey, Fla.	Powers, W. J.	Black Earth.
Pabst, Fred.	Milwaukee.	Pratt, E. E.	
Pabst, Jr., Fred.	Milwaukee.	Pratt, Oris.	Spring Prairie.
Pabst, Gustav.	Milwaukee.	Pres. St. Peter's Val-	
Palmer, E. W.	Fitchburg.	ley Farm Club.	
Palmer, Henry.	Verona.	Preusser, C.	Milwaukee.
Palmer, H. L.	Milwaukee.	Prichard, Miss M. E.	Janesville.
Palmer, J. S.	Baraboo.	Quinn, Jeremiah.	Milwaukee.
Palmer, O. M.	Oregon.	Rademacher, Wm.	Milwaukee.
Palmer, J. Y.		Rawson, C. A.	
Park, W. J.	Madison.	Ray, Charles.	Milwaukee.
Parker, C. H.	Beloit.	Raymond, S. O.	Geneva.
Parkinson, A. C.	Columbus.	Reed, Harrison.	Madison.
Parnley, Ira.	Center.	Resague, A. C.	Janesville.
Parsons, P. B.		Rexford, J. D.	Janesville.
Partridge, Jno S.	Whitewater.	Reynolds, John.	Ranney.
Patten, L. F.	Janesville.	Reynolds, Thomas.	Madison.
Patton, Jas. E.	Milwaukee.	Rice, E. M.	Whitewater.
Paul, Edward J.	Milwaukee.	Rich, A. W.	Milwaukee.
Paul, John H.	Genessee.	Richards, Griffith. .	Cambria.
Paulson, Aug. A.	New Holstein.	Richardson, D.	Middleton.
Payne, H. C.	Milwaukee.	Richardson, H.	Janesville.
Payne, Wm.	Janesville.	Richardson, James.	
Peck, Geo. W.	Madison.	Richardson, R. J.	Janesville.
Peffer, G. P.	Pewaukee.	Richmond, A.	Whitewater.
Peffer, Miss Kate F.	Pewaukee.	Richter, Frederick.	Milwaukee.
Pember, R. T.	Janesville.	Riebsam, C. R.	Madison.
Pereles, Jas. M.	Milwaukee.	Riordan, Chas.	
Pereles, Thos. J.	Milwaukee.	Robbins, J.	
Perrine, L. W.		Robbins, J. V.	
Perry, B. F.	Madison.	Robinson, Geo I.	Milwaukee.
Petley, James.	Milwaukee.	Roe, J. P.	
Pettit, C. H.	Milwaukee.	Rogers, C. C.	Milwaukee.
Pettit, L. J.	Milwaukee.	Rogers, C. H.	Milwaukee.
Pfister, Chas.	Milwaukee.	Rogers, D. G.	Milwaukee.
Phillips, A. J.	West Salem.	Rogers, H. G.	Milwaukee.
Phillips, J. P.		Rogers, J. S.	Burlington.
Pier, C. K.	Milwaukee.	Rogers, Lawrence.	
Pierce, C. L.	Milwaukee.	Rohlfing, Wm.	Milwaukee.

Name.	Residence.	Name.	Residence.
Rosenkranz, O. L.	Milwaukee.	Umith, A. A. L.	Milwaukee.
Rowe, Richard W.	Madison.	Smith, A. E.	Milwaukee.
Rowe, W. E.	Mazomanie.	Smith, Angus	Milwaukee.
Rucker, A. M.	Milwaukee.	Smith, E. C.	Markesan.
Ruggles, J. D.		Smith, J. M.	Green Bay.
Rusk, Jeremiah M.	Washington, D. C.	Smith, J. Morris	
Rust, Julius	N. Grenfield,	Smith, M. C.	Janesville.
Ryder, James K.	Waterloo.	Smith, S. B.	Vernon.
		Smith, Winfield	Milwaukee.
		Snell, H.	Madison.
Salisbury, Abraham	Milwaukee.	Snyder, E. A.	West Granville
Salisbury, D. F.	Oregon.	Snyder, Fred	Milwaukee.
Salisbury, R. W.	Paoli.	Solper, Chas.	Milwaukee.
Sanborn, Jas. S.	Milwaukee.	Somers, Peter J.	Milwaukee.
Sanderson, H. B.	Milwaukee.	Spaulding, D. J.	Black Riv. F'lls
Sanderson, R. B.		Spencer, James C.	Milwaukee.
Sanderson, Wm.	Milwaukee.	Spencer, John C.	Milwaukee.
Sanger, Casper M.	Waukesha.	Spencer, R. C.	Milwaukee.
Sarles, John H.	Boscobel.	Sprecher, John	Madison.
Savland, John	Milwaukee.	Squire, Thomas B.	Waterloo.
Sawyer, H. W.	Hartford.	St. John, J. W.	Janesville.
Sawyer, James	Milwaukee.	Stadler, J. C.	Milwaukee.
Schley, Bradley G.	Milwaukee.	Stafford, H. H.	Milwaukee.
Schœffel, Geo. J.	New York.	Stanley, Wm.	Vienna.
Schuter, Chas.		Stapleton, J. A.	Milwaukee.
Schweitzer, Theo.	Milwaukee.	Stark, Chas. G.	Milwaukee.
Seamans, S. H.	Milwaukee.	Stark, Edward J.	Milwaukee.
Seaver, J. E.	Darien.	Starke, Conrad	Milwaukee.
Seville, Jas.	Lodi.	Steele, Chester	Milwaukee.
Sexton, Wm. F.	Milwaukee.	Steensland, H.	Madison.
Sharp, J. W.		Stelloh, Henry	Root Creek.
Shaw, Charles H.	Milwaukee.	Stephenson, F. M.	Menomonee, Mich.
Shaw, Geo. B.	Eau Claire.		
Shaw, J. B.		Stephenson, Isaac	Marinette.
Shea, Edward	Milwaukee.	Stevens, J. T.	Madison.
Shea, Thomas	Milwaukee.	Stewart, C. R.	Carson, Minn.
Sheldon, A. H.	Janesville.	Stewart, G. H.	Colorado Springs, Colo.
Sheldon, D. G.	Madison.		
Sheldon, S. L.	Madison.	Stickney, Chas.	Wauwatosa.
Sheperd, Clarence	Milwaukee.	Stickney, J. S.	Wauwatosa.
Sherman, Adelmair	Janesville.	Stilson, Adelbert	Oshkosh.
Sherman, Amaziah	Janesville.	Stilson, Edgar	Oshkosh.
Sherman, H. B.	Burnett Junct.	Stockman, Jno.	Milton.
Shipman, S. V.	Chicago, Ill.	Stoltz, H. L.	646 Island Ave., Milwaukee.
Sholes, Chas.	Milwaukee.		
Simmons, C. J.	Monroe.	Stone, G.	Beloit.
Simonds, Wm. L.	Milwaukee.	Storm, Wm.	Madison.
Simpson, E. B.	Milwaukee.	Stowe, La Fayette.	Sun Prairie.
Skelly, Chas.	Janesville.	Street, Richard	Waukesha.
Skinner, E. W.	Sioux City, Ia.	Sutherland, C.	Madison.
Skinner, Geo. J.	Sioux Falls, So. Dakota.	Sutton, J. J.	Columbus.
		Swain, W. W.	Madison.
Sloan, I. C.	Madison.	Swan, E. A.	Wauwatosa.

Name.	Residence.	Name.	Residence.
Swan, N. J.	Wauwatosa.	Van Slyke, N. B. . .	Madison.
Swan, O. J.	Wauwatosa.	Vaughn, A. W. . . .	Lodi.
Tallman, W. H. . . .	Janesville.	Vernon, Ralph C. . .	Madison.
Taylor, E. T.	Mukwonago.	Viall, Andrus. . . .	Madison.
Taylor, H. A.	Washington, D. C.	Vilas, Chas. H. . . .	Chicago, Ill.
Taylor, Wm. R. . . .	Cottage Grove.	Vilas, Wm. F.	Madison.
Tenney, D. K.	Chicago, Ill.	Vilter, Ernst.	Milwaukee.
Tenney, H. A.	Madison.	Vogel, Fred	Milwaukee.
Tenney, Samuel A. .	Hartland.	Wackerhagen, E. . .	Racine.
Terwilliger, Jas. . .	Madison.	Waggstaff, S. M. . . .	
Terwilliger, Sid . . .	Madison.	Wagner, Julius. . . .	Milwaukee.
Thayer, M. A.	Sparta.	Wait, J. B.	
Theurer, Fred.	Milwaukee.	Wall, E. C.	Milwaukee.
Thom, H. C.	Madison.	Walker, W. A.	Milwaukee.
Thomas, Amos	Good Hope.	Walsh, Michael. . . .	Milwaukee.
Thomas, E. P.	Milwaukee.	Warren, Fred C. . . .	Fox Lake.
Thomas, W. H.	Pewaukee.	Warren, J. H.	Janesville.
Thompson, H. M. . .	Mosinee.	Webster, S. R.	Danville.
Thorp, J. G.	Eau Claire.	Weigler, August. . . .	Milwaukee.
Thorson, John	Milwaukee.	Weisel, Peter.	Milwaukee.
Tibbits, Geo. M. . . .	Milwaukee.	Weiner, Jacob.	Milwaukee.
Tierney, Kyron		Welch, William. . . .	Madison.
Todd, J. G.	Janesville.	Wellauer, Jacob . . .	Milwaukee.
Tolford, J. W.	Neillsville.	Werner, John	
Torgerson, Lars . . .		West, Henfy	Madison.
Torry, R. D.		West, Henry H.	Milwaukee.
Townley, Jno.	Moundville.	West, S. C.	Milwaukee.
Tratt, F. W.	Whitewater.	Weston, John	Burnett.
Treat, Geo. E.	Milwaukee.	Whaling, J. M.	Milwaukee.
Treat, R. B.		Wharton, J. S.	Milwaukee.
True, John M.	Baraboo.	Wheeler, George F. .	Milwaukee.
Tucker, Joseph J. . .	Chicago, Ill.	Wheeler, Guy	Janesville.
Tuttle, A. G.	Baraboo.	Wheeler, J. M.	Wauwatosa.
Tweedy, Jr., J. H. . .	Milwaukee.	Wheeler, L. A.	Milwaukee.
Twining, M. S.	Monroe.	Wheelock, W. G. . . .	Janesville.
Uihlein, Alfred. . . .	Milwaukee.	Wheelwright, Jesse .	Middleton.
Uihlein, August. . . .	Milwaukee.	Whitcombe, H. F. . .	Milwaukee.
Uihlein, Henry.	Milwaukee.	Whitney, W. F.	Milwaukee.
Usher, Ellis	Milwaukee.	Wicks, Thomas. . . .	
Van Brunt, W. A. . . .	Horicon.	Wightman, H.	
Vance, David.	Milwaukee.	Wilcox, C. F.	Janesville.
Vance, Frank L. . . .	Milwaukee.	Wilkin, T. S.	Milwaukee.
Van Cott, Albert B. .	Madison.	Wilkins, A. W.	Milwaukee.
Van Etta, Jacob. . . .	Madison.	Wiley, O. S.	Benton Har., Mich.
Van Kirk, N.	Chicago, Ill.	Williams, C. H.	Baraboo.
Van Norman, G. B. . .	Milwaukee.	Williams, D.	Darien.
Van Orden, J.	Baraboo.	Williams, Daniel . . .	Summit.
Van Schaik, I. W. . .	Milwaukee.	Williams, J. P.	Madison.
		Williams, Randall. . .	Janesville.

Name.	Residence.	Name.	Residence.
Williams, S. B.	Madison.	Wright, O. W.	
Wilson, Zebina	Palmyra.	Wurster, Jacob.	Milwaukee.
Wilson, William ...	Wausau.	Wylie, Geo.	Leeds.
Wilson, William ...		Wylie, Geo.	Elkhorn.
Wolcott, H.	Milwaukee.		
Wolf, W. H.	Milwaukee.	Yewdale, Merton H	Milwaukee.
Wood, J. W.	Baraboo.	Youmans, C. A. ...	Neillsville.
Wootton, Robert ...	Madison.		
Worthington, B. M.			
Wright, D. H.	Madison.	Zimmerman, G. J. .	Milwaukee.
Wright, Geo.	Mt. Horeb.	Zimmerman, V. ...	Milwaukee.
Wright, J. S.	Emerald Grove	Zinn, A. C.	Milwaukee.
Wright, Josiah T. .	Janesville.	Zwietusch, Otto ...	Milwaukee.

MORTUARY.

Abbott, Chauncy,
 Adams, Isaac,
 Allen, H. M.,
 Allen W. C.,
 Allis, E. P.,
 Arnold, J. M.,
 Atwood, Chas. D.,
 Atwood, David,
 Ayers, J. W.,
 Bacon, I. P.,
 Bailey, M. T.,
 Baker, R. H.,
 Barnes, Geo.,
 Barron, H. D.,
 Barry, James,
 Baxter, Geo.,
 Bayley, F. W.,
 Beecroft, W. G.,
 Bemis, Fred,
 Benedict, S. G.,
 Bennett, A. A.,
 Billings, H. M.,
 Blair, Francis J.,
 Blanchar, W.,
 Blossom, Levi,
 Boomer, E. J.,
 Postwick, Perry,
 Bowen, J. B.,
 Bowman, J. M.,
 Braley, A. B.,
 Briard, W. A.,
 Briggs, F.,
 Brodhead, E. H.,
 Brown, B. F.,
 Brown, T.,
 Brown, J. J.,
 Burnham, Geo.,
 Burnham, John L.,
 Bush, Samuel,
 Husjaeger, A.,
 Button, Henry H.,
 Campbell, C. M.,
 Carpenter, J. A.,
 Carter, Guy,
 Cary, I.,
 Casar, Wm.,
 Case, J. I.,
 Chandler, Sam.,
 Chapman, T. A.,
 Chase, H.,
 Child, John,
 Clark, C. R.,
 Clark, Satterlee,
 Coit, D. R.,
 Coleman, W. W.,

Corey, J.,
 Cottrill, J. P. C.,
 Craig, A. J.,
 Crocker, Hans,
 Cross, J. B.,
 Curtis, L. S.,
 Curtis, Seymour,
 Daggett, M. L.,
 Daggett, S. S.,
 Dahlman, John,
 Davis, G. L.,
 Davis, Jno.,
 Davis, S. B.,
 Dean, John S.,
 Dean, N. W.,
 Dewey, Nelson,
 Dickson, J. P.,
 Dodge, J. E.,
 Doris, John,
 Dorn, M. M.,
 Doty, E. P.,
 Dousman, H. L.,
 Dousman, J. B.,
 Drury, E. W.,
 Dunn, Andrew,
 Dunn, Wm.,
 Dunning, Abel,
 Durkee, Chas.,
 Durkee, H.,
 Elson, Chas.,
 Ellsworth, O.,
 Emmons, N. J.,
 Fairbanks, E.,
 Fernley, John,
 Field, Martin,
 Fifield, L.,
 Fitch, W. G.,
 Foote, Sidney,
 Fowle, Jacob,
 Fox, W. H.,
 Friend, Elias,
 Froedert, Fred,
 Furlong, John,
 Furlong, Thos. T.,
 Grady, F. M.,
 Gernon, Geo.,
 Gillett, R. E.,
 Goodrich, G.,
 Grant, Albert,
 Grant, S. B.,
 Green, Anthony,
 Green, Geo. G.,
 Greenman, H. D.,
 Green Samel,
 Gregory, J. C.,

Grover, E.,
 Guernsey, Orrin,
 Hall, S. H.,
 Hanchett, A. M.,
 Hancock, B.,
 Hanford, A. G.,
 Hanstran, Peter,
 Harrington, N. M.,
 Harvey, L. P.,
 Helfenstein, J. A.,
 Hibbard, W. B.,
 Hill, P. B.,
 Hiner, W. H.,
 Hobart, L. J.,
 Hodge, Robert,
 Hoefinger, Carl,
 Holbrook, James,
 Holt, David,
 Hopkins, B. F.,
 Hopkins, J. C.,
 Hughes, Wheldon,
 Hunt, J. W.,
 Huntington, C. P.,
 Hutson, Sol,
 Jacobs, H. C.,
 Janssen, E. H.,
 Johnston, Hugh L.,
 Johnson, J. C.,
 Juneau, Paul,
 Kellogg, L. H.,
 Kellogg, L. T.,
 Kendrick, C. D.,
 Kent, A. C.,
 Kellogg, Rufus B.,
 Kershaw, W. J.,
 Kimbal, John,
 Kingsley, S. P.,
 Klauber, Samuel,
 Kneeland, Moses,
 Lapham, I. A.,
 Larkin, W.,
 Lewis, H. A.,
 Luddington, H.,
 Luddington, Jas. L.,
 Lynde, W. P.,
 Mabie, E. T.,
 Macy, J. B.,
 Masters, E. D.,
 Matteson, Clinton,
 Matts, J. H. B.,
 McBride, Alex.,
 McCullough, Andrew,
 McDill, A. L.,
 McDougal, G. W.,
 McGregor, Alex.,

McIndoe, Walter D.,
 McKenna, David,
 Mears, W. A.,
 Merrill, S. S.,
 Miltimore, Ira,
 Mitchell, Alex.,
 Mix, E. T.,
 Morse, D. S.,
 Morse, Sam'l,
 Moseley, G. F.,
 Mosher, J. C.,
 Nazro, John,
 Newton, Ephraim,
 Nott, B. F.,
 Paddock, Geo.,
 Paine, Geo.,
 Page, H. L.,
 Page, H. M.,
 Park, John W.,
 Perkins, P. M.,
 Perry, Eli.,
 Pfister, Guido,
 Phelps, Warren A.,
 Pinckney, B.,
 Plankinton, John,
 Porter, W. F.,
 Post, D. T.,
 Power, D. G.,
 Prichard, P. M.,
 Proudfit, Andrew,
 Reed, Herbert,
 Reynolds, John,
 Reynolds, Mich.,
 Reyzer, J. O.,
 Richards, Richard,
 Roddis, T. R.,
 Rodermund, John,

Rogers, Anson,
 Ross, W.,
 Rowley, N. C.,
 Ruble, Simeon,
 Russell, Harvey,
 Sage, E. C.,
 Sanderson, Ed.,
 Schandien, Emil,
 Schutt, U.,
 Scollan, Frank,
 Scott, S. B.,
 Seiben, John,
 Sexton, Kellogg,
 Sexton, L.,
 Sherman, Geo.,
 Sherman, J. M.,
 Sherwood, J. C.,
 Shipman, A. C.,
 Sinclair, Jeff.,
 Slaughter, A. B.,
 Slaughter, G. H.,
 Slocum, G. A.,
 Smith, Adam,
 Smith, Geo. B.,
 Smith, H. L.,
 Smith, J. B.,
 Smith, S. W.,
 Smith, W. E.,
 Spaulding, Jos.,
 Spaulding, Wm.,
 Stannard, A. C.,
 Stevens, G. C.,
 Stilson, Eli,
 Strong, H. P.,
 Sullivan, James,
 Talmadge, John J.,
 Terry, F. H.,

Thomas, M. J.,
 Thompson, Dr. W.,
 Thompson, J. H.,
 Thompson, Ole,
 Throop, B.,
 True, W. H.,
 Utter, Joseph,
 Van Nostrand, A. H.,
 Vilas, Henry,
 Vilas, L. B.,
 Vilas, L. M.,
 Walrab, Sylvan,
 Warren, W. R.,
 Webb, James, A.,
 Webster, James,
 Webster, Martin,
 Weed, Chas.,
 Wells, D. L.,
 West, A. H.,
 Wheeler, W. A.,
 White, A.,
 White, C. W.,
 White, W. A.,
 Whittelsey, T. T.,
 Willard, J. F.,
 Williams, C. L.,
 Williams, Daniel,
 Williams, G. M.,
 Williams, Stephen G.,
 Wilson, H. O.,
 Wolcott, E. B.,
 Woolley, J. T.,
 Worthington, D.,
 Worthington, Geo.,
 Wright, N. A.,
 Young, J. E.

Certified List of Officers of Industrial and Agricultural Societies for the year 1892.

OFFICERS OF DISTRICT ORGANIZATIONS.

Name of Society.	Name of President.	Post Office.	Name of Secretary.	Post Office.	Name of Treasurer.	Post Office.
Adams County Agricultural Society	S. S. Landt	Friendship	W. E. McGowan	Friendship	G. W. Waterman	Friendship.
Arcadia Agricultural and Driving Association	D. Bigham	Arcadia	George Mathys	Arcadia	A. F. Hense	Arcadia.
Barron County Agricultural Society	N. Washburn	Chetek	J. E. Cartwright	Chetek	H. F. Nichols	Chetek.
Brown County Fair and Park Association	R. J. Hagemeister	Green Bay	D. W. Fidelity	Green Bay	H. B. Baker	Green Bay.
Brown County Agricultural and Mechanical Assn.	H. W. McGeehan	De Pere	John Smith	De Pere	J. S. Chase	De Pere.
Buffalo County Agricultural Society	J. W. Whelan	Mondovi	Alex. Lees	Gilmanston	Jas. T. Brownlee	Mondovi.
Burnett County Agricultural Society	C. Anderson	Grantsburg	And. A. Anderson	Grantsburg	Simon Thoreson	Grantsburg.
Burnett County Agricultural Society	James Dake	Reedsburg	A. F. Lawton	Reedsburg	A. P. Ellimood	Reedsburg.
Baraboo Valley Agricultural Society	Henry Lark	Reedsburg	W. F. Lewis	Patch Grove	H. C. Euke	Reedsburg.
Blake's Prairie Agricultural Society	John Ruka	Boscobel	Ed. Meyer	Boscobel	M. B. Pitman	Boscobel.
Boscobel Driving Park and Agricultural Society	Hugh Goggins	Chilton	L. D. Dorschil	Chilton	G. N. Kersten	Chilton.
Calumet County Agricultural Society	C. A. Youmans	Nellisville	R. W. Balch	Nellisville	Alonzo Brooks	Lynn.
Clark County Agricultural Society	E. S. Purdy	Portage	J. E. McDonald	Portage	Kennedy Scott	Rio.
Columbia County Agricultural Society	Hugh Porter	Seneca	Fergus Mills	Seneca	James Fisher, Jr.	Eastman.
Crawford County Agricultural Society	J. F. Miller	Cumberland	H. S. Comstock	Cumberland	S. W. Hines	Cumberland.
Cumberland Agricultural and Driving Park Assn.	Geo. Dow	Madison	G. E. Gill	Madison	Samuel Brown	Madison.
Dane County Agricultural Society	John T. Smith	Beaver Dam	Wm. A. Shepard	Beaver Dam	D. B. Holt	Danville.
Dodge County Agricultural Society	H. C. Seber	Sturgeon Bay	Wm. A. Lawrence	Sturgeon Bay	C. L. Nelson	Danville.
Door County Agricultural Society	Geo. Galloway	Menomonie	O. W. Massee	Louisville	J. B. Chickering	Sturgeon Bay.
Dunn County Agricultural Society	Thos. McCaul	Tomah	M. L. Hineman	Tomah	L. T. Benjamin	Tomah.
Eastern Monroe County Agricultural Society	Delos Abrams	Lancaster	Rich'd Meyer, Jr.	Lancaster	W. J. McCoy	Lancaster.
Grant County Agricultural Society	G. T. Hodges	Monroe	Robt. W. Ertin	Monroe	G. D. Fisher	Brodhead.
Green County Agricultural Society	Louis Loan	Dodgeville	Ben. Thomas, Jr.	Dodgeville	F. W. Stratman, Sr.	Dodgeville.
Iowa County Agricultural Society	H. A. Bright	Black R. Falls	G. M. Hull	Black R. Falls	J. J. McHillivray	Black R. Falls.
Jackson County Agricultural Society	John Whitteit	Summer	Jos. Stoppenbach	Mauston	Geo. J. Kespert	Jefferson.
Jefferson Co. and Rock River Valley Agri. Society	S. C. Plummer	Mauston	O. S. Sisson	West Salem	Wm. Smith	Mauston.
Juneau County Agricultural Society	B. E. Edwards	West Salem	T. E. Lockerty	La Crosse	Wm. P. Magill	Bangor.
La Crosse County Agricultural Society	S. D. Steele	Phlox	W. E. Hogan	La Crosse	J. C. Lewis	La Crosse.
La Crosse Inter-State Fair Association	John McQuillan	Lodi	C. C. Townsend	Lodi	J. B. Dwinnell	Antigo.
Langlade County Agricultural Society	S. W. Quaid	Merrill	E. C. C. Gardner	Merrill	John Hinz	Lodi.
Lodi Union Agricultural Society	W. W. Quinn	Wausau	Thos. Skinner	Wausau	John Keifen	Merrill.
Lincoln County Agricultural Society	John L. Woy	Westfield	Wm. Cheney	Merritt's Land	L. A. Lang	Westfield.
Marathon County Agricultural Society	John Day	Sparta	H. D. Hardacker	Hortonville	E. W. Robie	Sparta.
Monroe County Agricultural Society	John Reynolds	Thiensville	D. H. McGinley	Saukville	Ira Scott	St. Stephensville.
Outagamie County Agricultural Society	P. J. Ryan	Durand	W. H. Huntington	Durand	Thomas Halpan	Cedarburg.
Perlin County Agricultural Society	L. G. Spanney	Ellsworth	P. C. Dennison	Ellsworth	A. W. Hammond	Durand.
Pierce County Central Fair	S. N. Busswell	Amherst Jct.	J. N. Peterson	Amherst	J. T. Bowers	Ellsworth.
Portage County Agricultural Society	Wm. M. Blanding	St. Croix Falls	Lester B. Dresser	St. Croix Falls	J. O. Foxen	Amberst.
Polk County Agricultural Society					John Connors	St. Croix Falls

Certified List of Officers of Industrial and Agricultural Societies for the year 1892 — Continued.

Name of Society.	Name of President.	Post Office.	Name of Secretary.	Post Office.	Name of Treasurer.	Post Office.
Price County Agricultural Society	Siegfried Meier	Ogema	Julius Koehler	Phillips	Geo. Osterman	Phillips.
Richland County Agricultural Society	J. L. R. McCollum	Twin Bluffs	F. W. Burnham	Richland Cen.	T. M. Hart	Richland Cen.
Rock County Agricultural Society	J. E. Gleason	Janesville	E. B. Heimstreet	Janesville	S. I. James	Janesville.
Sauk County Agricultural Society	J. M. True	Baraboo	J. S. Hall	N. Freedom	W. Marrott	Baraboo.
Seymour Fair and Driving Park Association	Peter Tubbs	Seymour	F. R. Dittmer	Seymour	W. M. Michelstetter	Seymour.
Shawano County Agricultural Society	L. Rollman	Shawano	W. W. Hollister	Shawano	F. O. Perry	Seymour.
Sheboygan County Agricultural Society	C. H. Pope	Sheboygan	Henry W. Kalk	Sheboygan Falls	Albert O. Heald	Sheboygan Falls
Sheboygan Exposition and Driving Park Company	T. M. Blackstock	Sheboygan	E. E. Paritzer	Sheboygan	W. J. Blotom	Sheboygan.
Southwestern Wisconsin Agricultural Society	James Spensley	Mineral Point	Henry T. Weil	Mineral Point.	Phil. Allen, Jr.	Mineral Point.
St. Croix County Agricultural Society	A. D. Richardson	Hudson	Alban Bergs	Hudson	Chas. Donohue	Hudson.
Trempealeau County Agricultural Society	N. J. Thompson	Little Black	Geo. L. Latrunk	Little Black	T. H. Miller	Madford.
Trempealeau County Agricultural Society	N. H. Carhart	Hale	E. F. Clark	Galesville	W. B. Thompson	Galesville.
Walworth County Agricultural Society	F. A. George	Lagrangs	W. A. Legg	Whitehall	L. H. Whitney	Whitehall.
Washington County Agricultural Society	R. J. Lean	West Bend	O. H. Stratton	Elkhorn	L. G. Latham	Elkhorn.
Waukesha County Agricultural Society	W. P. Rix	Waukesha	Joseph O'Brien	Waukesha	George W. Jones	West Bend.
Waupaca County Agricultural Society	O. P. Clinton	Weyauwega	G. F. H. Barber	Waukesha	Edward Foster	Waukesha.
Waushara County Agricultural Society	Wm. H. Reas	Wautoma	A. L. Hutchinson	Weyauwega	D. Woffer	Weyauwega.
Wisconsin Industrial Agricultural Society	J. S. Burdick	Ives Grove	J. T. Ellarson	Wautoma	Geo. P. Walker	Wautoma.
Wisconsin Agricultural and Mechanical Assn.	H. C. Williams	Grand Rapids	A. B. Hayes	Union Grove.	Chas. M. Dietrich	Racine.
Wood County Agricultural Society	Geo. L. Williams	Grand Rapids	E. E. Brundage	Grand Rapids	F. J. Wood	Grand Rapids

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 the 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 cereals 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 1858.

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 of all 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 wilfully and without leave enter any fair grounds 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 be 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 fairs 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 the land so exempt shall not exceed forty acres.

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 capital, 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 423, LAWS OF 1889.

AN ACT to appropriate to the Wisconsin State Agricultural Society ten per cent. of its paid premiums.

SECTION 1. There is hereby annually appropriated to the Wisconsin State Agricultural Society ten per centum of its paid premiums.

SECTION 2. On the presentation of the sworn statement of the secretary of said society, setting forth the amount due each year under this act, the secretary of state shall issue his warrant for the same which shall be paid by the state treasurer out of any money in the state treasury not otherwise appropriated.

CHAPTER 526, LAWS OF 1889.

AN ACT to provide for and regulate the printing, binding and distribution of the reports of state officers, departments, institutions and societies.

SECTION 5. And further, there shall be printed annually upon the approval and order of the commissioners of public printing, ten thousand copies of the transactions of the Wisconsin State Agricultural Society, the same to embrace the reports of the county and other agricultural societies, and such matters pertaining to the agricultural industries of the state as shall be deemed important; provided the whole number of printed pages shall not exceed four hundred. Seven thousand copies of the transactions of the Wisconsin State Horticultural Society; the same to embrace such abstracts of reports of county and other horticultural societies, and such matters pertaining to the horticultural interests of the state as shall be deemed important, provided that the whole number of printed pages shall not exceed two hundred. Eight thousand copies of the transactions of the State Dairyman's Association, the same to embrace such other matters pertaining to the dairy interests of the state as shall be deemed essential; provided, that the whole number of printed pages shall not exceed two hundred. Twelve thousand copies of the report of the Agricultural Experiment station of the state university; provided, that the whole number of printed pages shall not exceed two hundred and fifty. Two thousand copies of each of said reports to be bound separately in cloth, all others singly in paper.

SECTION 6. The reports provided for in the preceding section shall be distributed as follows, through the superintendent of public property: Fifteen copies to each member of the legislature, fifty copies to the State Historical Society, ten copies to each county agricultural society and district industrial association, which embraces two or more counties and furnishes the State Agricultural Society a report of its proceedings, to each of the four societies named in the preceding section, fifty copies of the reports of the other three societies, twenty-five copies of each of the reports to the library of the state university, to the governor, lieutenant-governor, secretary of state, state treasurer, attorney-general, state superintendent of public instruction, railroad commissioner and insurance commissioner twenty-five copies each; to the state superintendent of agricultural institutes fifty copies; to the superintendent of public property, commissioner of labor statistics, adjutant general, quartermaster general, state board of health, each ten copies; to each public library in the state two copies; to each state normal school two copies; to each of the state charitable and penal institutions, one copy, and the remaining copies to the respective societies for distribution by their secretaries.

SECTION 7. In no case shall the number of printed pages in any report provided for the act exceed the maximum number specified, except upon

written request of the officer submitting the same, and then only upon previous written approval of a majority of the commissioners of public printing, such application and approval to be filed with the secretary of state.

CHAPTER 381, LAWS of 1891.

AN ACT to authorize the commissioners of public lands of the state of Wisconsin to loan a portion of the trust funds of the state of Wisconsin, to the Wisconsin Agricultural Society for the purchase of lands near the city of Milwaukee, and the erection of suitable buildings thereon

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. The commissioners of the public lands, with the approval of the governor of the state of Wisconsin, are hereby authorized, in their discretion, to loan of the trust funds of the state a sum not exceeding one hundred and fifty thousand dollars to the Wisconsin State Agricultural Society, to be used by such society for the purchase of not less than one hundred acres of land situated within ten miles of the county court house in the city of Milwaukee; provided, the lands so to be purchased shall first be approved by the said commissioners as to quality and price; and, provided further, that the amount so loaned by such commissioners shall not exceed two-thirds of the purchase price of the lands to be purchased by said society. And the said Wisconsin State Agricultural Society is hereby authorized to borrow such amount of said commissioners and to issue to the state of Wisconsin, by the proper officers thereof, bonds therefor. Such indebtedness shall bear interest at the rate of four per cent. per annum, payable annually, and the principal so loaned shall be paid twenty years from the date of such bonds, and such bonds shall mature and be fully paid within twenty years of the date of their issue.

SECTION 2. Said bonds shall be secured by a first mortgage upon the real estate so purchased, which shall be free and clear from any and all lien or incumbrances prior to said mortgage. Such bonds and mortgage shall be in form to most fully protect the state in every contingency and shall, before acceptance, be approved as to form and execution by said commissioners. And said mortgage shall contain proper provision for the keeping of the buildings of said society upon such lands, insured for the benefit and protection of the state at all times during the pendency of such mortgage.

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

Approved April 22, 1891.

CONSTITUTION.

ARTICLE I.

OF THE NAME AND OBJECT OF THE SOCIETY.

This society shall be known as the "Wisconsin State Agricultural Society." Its objects 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 successor shall have been elected, and all of whom, together with the ex-presidents 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 at 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 as 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 agriculturists 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 the 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 examinations, 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 endorse or disapprove 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 incidental 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 of the minutes of the preceding meeting.
2. Reading of the minutes and reports of the Standing committee.
3. Reading of 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 committee.
8. Unfinished business.
9. Miscellaneous business.

The 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.

MINUTES
OF
EXECUTIVE BOARD MEETINGS.

During Fair Week of 1891.

PLANKINTON HOUSE,
MILWAUKEE, Sept. 4, 1891.

Board called to order. President Parkinson in the chair.
Quorum present.

Moved by Secretary True that additional premiums of a ribbon and diploma for best stallion and best mare in each class be given. Carried.

Adjourned.

JOHN M. TRUE,
Secretary.

WEDNESDAY, Sept. 16, 1891.
PLANKINTON HOUSE, MILWAUKEE.

Board called to order. President Parkinson in the chair.
Present Messrs. Hubbard, Doyan, Miner, Cox, Boyd, McKinney and Parkinson.

Protest offered by J. C. Newell against an award in class 5, Coach horses. On motion the decision of judge was sustained.

A protest in manufacturers department was referred by the Board to the Superintendent of that department.

The matter of filling 2:30 pacing race was referred to Messrs. Boyd and McKinney for arrangement.

Adjourned.

JOHN M. TRUE,
Secretary.

THURSDAY EVENING, Sept. 17, 1891,
PLANKINGTON HOUSE, Milwaukee.

Quorum present. President Parkinson presiding.

On motion of Assistant Superintendent Vernon, the Board voted to re-open the judgment of Best Coach Stallion any age or breed, and instruct the superintendent to select a new judge to act.

Adjourned.

JOHN M. TRUE,
Secretary.

FRIDAY EVENING, Sept. 18, 1891.

The protest of Davis & Benedict on award of judge in Delaine Merino class was presented, and after discussion dismissed.

The protest of several exhibitors against the award of Roundy, Peckham & Co.'s special premiums for best peck of potatoes, was fully considered and the action of the board approved.

The president and secretary of the society were authorized in their discretion to sell or otherwise dispose of the property of the society upon the Cold Spring grounds.

Adjourned.

JOHN M. TRUE,
Secretary.

SPECIAL MEETING OF EXECUTIVE BOARD.

MADISON, Nov. 6, 1891.

President Parkinson presiding. Also present Messrs. Mitchell, Miner, True, Fratt, Cox, Boyd, Fox, Wilson, Adams, Newton, Cottrill, Fleming and Clark.

President stated as the object of the meeting the reception of the report of the committee on selection of State Fair site, and as chairman of committee he reported the recommendation of the purchase of the Stevens farm from E. C. McFetridge, consisting of 160 acres of land, at \$850 per acre, \$136,600; two-thirds, \$90,666 cash, and one-third, \$45,334, to

be secured by a second mortgage at 4 per cent. interest payable on or before ten years from date, on condition that the C. & N. W. R. R. agree to construct a spur line into the grounds, from its main line, at or near North Greenfield, before the time of holding the State Fair of 1892. Also that Mr. McFetridge grade the road lying along the east side of said farm to a width of forty feet; and further that a public donation to the State Agricultural Society of \$25,000, be secured, payable within twenty days of date of purchase.

On motion of Mr. Mitchell the report of the committee was accepted, and their action unanimously approved.

On motion of Mr. Mitchell, the president, secretary and treasurer of the society were authorized to execute any papers necessary in arranging for purchase of grounds and securing the purchase price thereof.

On motion of Secretary True, Messrs. Parkinson, Boyd and Cottrill were appointed a committee to proceed with grading of track on new grounds, as soon as contract of sale is properly signed.

On the question of the proposed sale of the "old fair grounds" in Madison, remarks were made by Mayor Rogers, Senator Vilas, Col. Bryant, B. J. Stevers, Esq., Gen. Fairchild and Pres. Curtis.

On motion of Mr. Newton, the state fair site committee, Parkinson, True, Miner, Cottrill and Fratt — were authorized to arrange for sale of these grounds, and the president, secretary and treasurer were authorized to sign deeds of conveyance thereof.

Resolution of Mr. Newton in approval of action of fair site committee, was adopted.

Adjourned.

JOHN M. TRUE,
Secretary.

DECEMBER MEETING.

MADISON, Wis., Dec. 3, 1891.

Meeting of executive board called to order by the president. Present: Parkinson, True, Miner, Fox, Adams and Newton.

Treasurer Miner submitted his annual report, which was, on motion of Mr. Adams, referred to an auditing committee of three to report to meeting of society December 4. Committee, H. C. Adams, T. L. Newton and R. B. Ogilvie.

The following resolution, introduced by Secretary True, was adopted:

Resolved, That a committee of five be appointed, of which the president shall be chairman, charged with the platting of State Fair grounds, with exception of locating track; also locating grand stand, stables and other buildings that will be required for fair purposes, and that such committee be authorized to procure plans of buildings, let contracts for their construction, and have charge of the full performance of all necessary work for preparation of grounds for use for fair purposes, except as are already provided for by duties of track committee.

The chair appointed as additional members, True, Fratt, Miner and Newton.

Adjourned.

JOHN M. TRUE,
Secretary.

AGRICULTURAL ROOMS,
MADISON, Feb. 1, 1892, 7:30 P. M.

Roll called. Present, Messrs. Fratt, Newton, Fox, Boyd, Williams, Arnold, Smith, Wilson, McKinney, Clark, Fisher, Hubbard, Wylie, Parkinson, Miner and True. Minutes of last meeting read and approved.

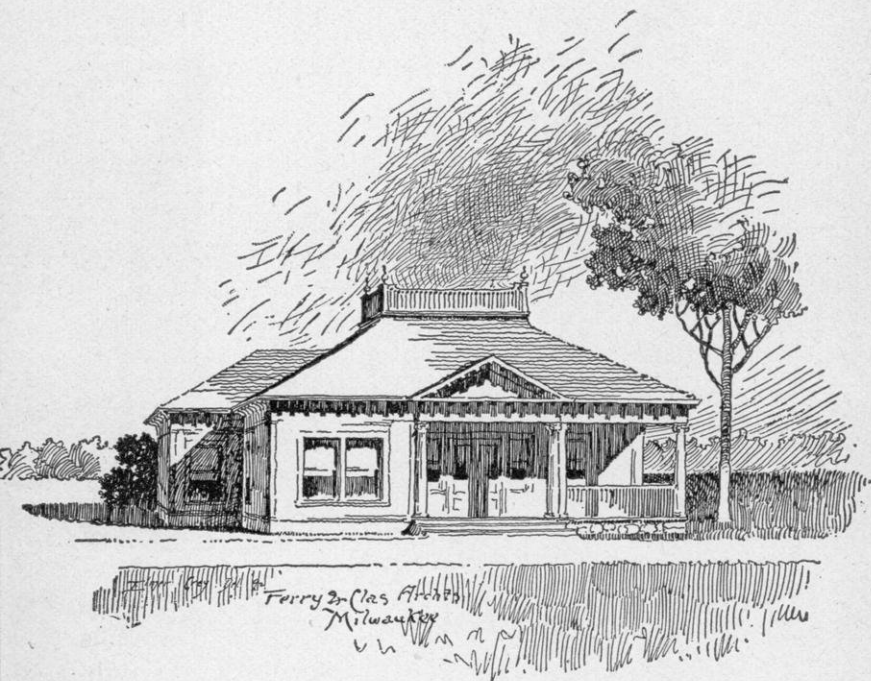
On motion of Mr. Newton Secretary True was authorized to receive sealed bids for advertising on State Fair grounds for one, two or more years, and to let the same to the highest bidder.

On motion of Secretary True the committee on Improvement of Grounds was increased to six, Mr. Cottrill being added to the committee.

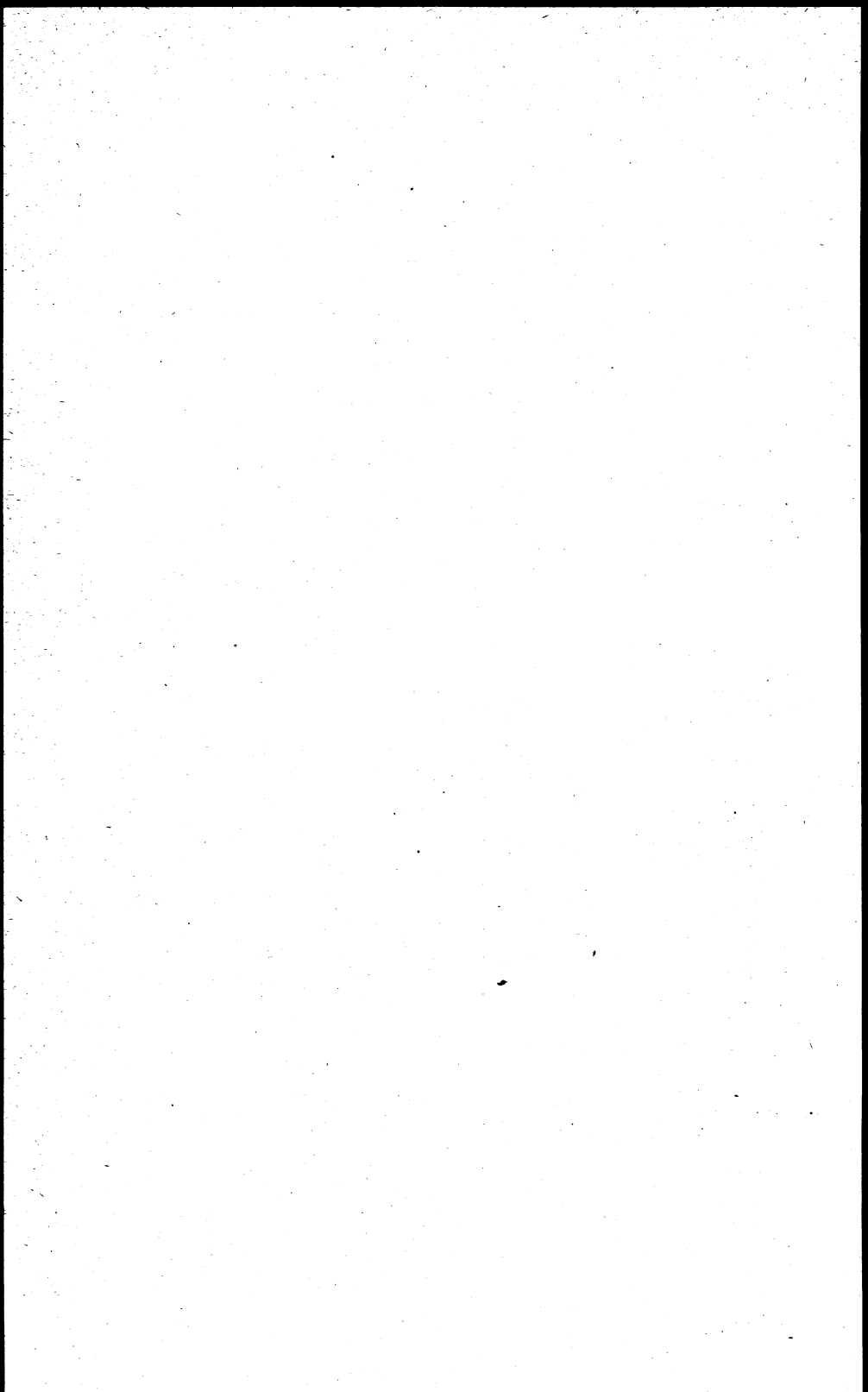
The reports of Superintendents Hubbard, Fox, Wilson, Beaumont, Clark, Hoxie, Hitt, Fisher and Mrs. Campbell were read and accepted.

Adjourned.

JOHN M. TRUE,
Secretary.



Office, Wisconsin State Fair Grounds.



AGRICULTURAL ROOMS,
MADISON, Tuesday, Feb. 2, 9:30 A. M.

Meeting called to order, President Parkinson in the chair.

On motion the Board proceeded to elect the following superintendents:

- Horses.—C. A. Youmans, Neillsville.
- Speed—J. G. Boyd, Milwaukee.
- Cattle—A. A. Arnold, Galesville.
- Sheep—C. M. Clark, Whitewater.
- Swine—Geo. Wylie, Leeds.
- Agriculture—Wm. Fox, Baraboo.
- Dairy—Daniel Williams, Summit.
- Fruits and Flowers—M. A. Thayer, Sparta.
- Machinery—T. L. Newton, Beaver Dam.
- Manufactures—H. D. Hitt, Oakfield.
- Fine Arts—H. C. Adams, Madison.
- Woman's Work—Vie H. Campbell, Evansville.
- Marshal—S. D. Hubbard, Mondovi.
- Forage—C. T. Fisher, Wauwautosa.
- Gates—C. M. Cottrill, Milwaukee.
- Transportation—E. C. Smith, Markesan.

A resolution fixing the amount of premiums to be offered in the several departments at the next fair was discussed, amended and adopted.

Committees were appointed on revision of premium list for the several departments.

Also a committee on revision of rules.

Adjourned.

JOHN M. TRUE,
Secretary.

TUESDAY, 3:30 P. M., Feb. 2.

Reports of committees on horses, sheep, cattle, swine, agriculture, dairy, fruits and flowers and manufactures accepted.

Superintendents of poultry, fine arts and woman's work were granted more time.

The Committee on Revision of Rules recommended the following:

Rule 2, page 15 amended to read as follows: "By making application to superintendents of departments one week previous to the fair."

Rule 4, Page 15.

Agents representing manufacturers can make entries in their own names or as agents of such manufacturers as they represent, but must pay separate entry fees for each manufacturer.

Rule 6, Page 15.

Pedigrees shall be posted in plain sight in stalls or pens in order to entitle animals to compete for premiums.

Page 19, Sale of Lots.

Buildings erected by purchasers of lots must be built under the supervision of the President and Secretary, and be of a satisfactory character and appearance.

Adopted.

On motion of ex-Secretary Newton it was decided to offer two premiums for the best exhibition of machinery.

On motion of Mr. Fratt, the president, secretary and treasurer, were instructed to borrow such sums of money as might be necessary for the uses of the society.

On motion of Mr. Hubbard, judges to be paid \$5 per day and actual traveling expenses.

Adjourned till 8.30 A. M., February 3, at which time the board was to receive the World's Fair committee.

JOHN M. TRUE,
Secretary.

ADJOURNED MEETING,

FEB. 3d, 8.30 A. M.

The board met with Messrs. J. M. Coburn and Kirkland and Mrs. John Winans of World's Fairmanagers. Addresses

were made by Messrs. Coburn, Kirkland, President t Parkinson, and others.

Adjourned.

JOHN M. TRUE,
Secretary.

ADJOURNED MEETING,

6 P. M., February 3.

President Parkinson Presiding.

On motion of Mr. Wilson, voted that the dates assigned to Wisconsin by Western Fair circuit be accepted: September 12th to 17th inclusive.

Adjourned.

JOHN M. TRUE,
Secretary.

MINUTES
OF
SOCIETY MEETINGS.

The annual meeting of the society was held in Milwaukee Thursday evening Sept. 17, 1891.

President Parkinson in the chair. Records of previous meetings read by secretary and approved.

Mr. Arnold moved that the assistant secretary be instructed to cast the ballot of the meeting for the present principal officers, which motion prevailed without dissent, and such action being taken, A. C. Parkinson was duly elected president, John M. True secretary and Cyrus Miner treasurer.

Mr. Newton offered a resolution that the life membership fee be raised from \$20 to \$40. Laid over under the rules.

The following resolution introduced by Mr. C. C. Rogers was adopted:

Resolved, That all the real and personal property belonging to the Wisconsin State Agricultural Society now at Madison, Wisconsin, be sold to the best possible advantage, and that the executive committee are hereby authorized and directed to negotiate such sale, and that the proper officers of the society are hereby directed to execute and deliver such instruments of conveyance as shall be necessary in the premises.

On motion the election of the vice presidents from the several congressional districts was referred to the membership present from the respective districts and the meeting became informal to allow such action to be taken.

The following list of vice presidents was reported:

1st District — N. D. Fratt, Racine.

2d District — T. L. Newton, Beaver Dam.

- 3d District — Wm. Fox, Baraboo.
- 4th District — J. G. Boyd, Milwaukee.
- 5th District — Daniel Williams, Summit.
- 6th District — H. D. Hitt, Oakfield.
- 7th District — A. A. Arnold, Galesville.
- 8th District — J. M. Smith, Green Bay.
- 9th District — Wm. Wilson, Wausau.
- 10th District — Unfilled.

On motion of Mr. Fratt the reports of the several delegations were accepted and the gentlemen reported as elected as vice-presidents.

On motion of Mr. Newton the president was authorized to fill the vacancy in the position of vice-president for the tenth congressional district, and Hans B. Warner, of Ellsworth, was appointed.

On motion of Mr. C. C. Rogers a committee of three was appointed consisting of Rogers, Fratt and Wylie, to report a list of additional members of the executive board. The committee reported as follows:

- H. C. Adams, Madison.
- S. D. Hubbard, Mondovi.
- Geo. Wylie, Leeds.
- C. M. Cottrill, Milwaukee.
- C. A. Youmans, Neillsville.
- C. M. Clark, Whitewater.
- E. C. Smith, Markesan.
- C. T. Fisher, Wauwautosa.
- H. D. McKinney, Janesville.
- J. H. Woodnorth, Waupaca.

Report of committee accepted and members reported elected.

Adjourned.

JOHN M. TRUE,
Secretary.

ANNUAL DECEMBER MEETING,

AGRICULTURAL ROOMS,

MADISON, Wis., December 4, 1891.

The annual December meeting of the Wisconsin State Agricultural Society was called to order with President Parkinson in the chair. Quorum present.

The committee appointed to examine the reports of secretary and treasurer for the year ending December 2, reported same correct. After accepting said report the society adjourned.

JOHN M. TRUE.

Secretary.

TREASURER'S REPORT.

To the Officers and Members of the Wisconsin State Agricultural Society:

GENTLEMEN — I have the honor to hand you herewith treasurer's annual report, showing the financial transactions of your society for the year ending December 3, 1891.

CYRUS MINER, *Treasurer.*

Dated at Madison December 3, 1891.

RECEIPTS.

Amount of balance from the year 1890.....	\$7,111 30	
Amount from loans.....	3,000 00	
Amount from state appropriation.....	4,000 00	
Amount from percentage on premium.....	1,669 10	
Amount from sale of tickets.....	17,971 55	
Amount from rents, per Secretary True.....	912 00	
Amount from rents, per J. G. Boyd.....	500 00	
Amount from rent of stalls.....	403 00	
Amount from membership fees.....	340 00	
Amount from subscriptions of Milwaukee brewers.....	500 00	
Amount from subscriptions of Milwaukee bankers.....	425 00	
Amount from Plankinton House subscription....	500 00	
Amount from rent of shafting.....	45 00	
Amount from transportation.....	103 00	
Amount from sale of forage.....	169 00	
Amount from ground privilege.....	1,538 30	
Amount from entry fees per Secretary True.....	706 00	
Amount from entry fees per J. G. Boyd.....	2,900 00	
	\$42,793 25	

DISBURSEMENTS.

Paid warrants of 1890.....	298 12	
Paid warrants of current year.....	39,078 61	
	39,376 73	
Balance on hand.....		\$3,416 52

SECRETARY'S WARRANT ACCOUNT.

No.	To whom and for what issued.	Amount.
1	Miss Lou Hart, treas. clerk.....	\$5 00
2	Cyrus Miner, state fair association fees	5 00
3	Cyrus Miner, treasurer's salary.....	100 00
4	J. J. Richardson, judging cattle.....	25 00
5	J. H. McLaughlin, bus.....	25 00
6	Western Farmer Co., advertising annual meeting.....	2 25
7	H. Hess, premium.....	5 00
8	Mrs. Eva J. Marshall, judge Woman's department.....	5 00
9	Nellie G. Gratz, premium.....	2 00
10	T. L. Newton, December salary.....	150 00
11	West Stationery Co., merchandise as per bill.....	2 30
12	Newton & Wenz, stickers, stencil and exchange.....	5 18
13	Western Union Telegraph Co., telegrams.....	2 65
14	P. J. Somers, attorney for Mary Pieha, of injuries received at state fair, 1890. Full settlement	500 00
15	R. Hastreiter, maps	5 00
16	Jas. E. Moseley, rollers for diplomas.....	75
17	F. L. Fuller, December salary.....	83 33
18	Cyrus Miner, money paid for W. S. A. S.	49 35
19	T. L. Newton, expenses in Milwaukee, getting up specials.....	50 00
20	Miss M. E. Fuller, assistant proof-reader for 1889 and 1890.....	10 00
21	Western Union Telegraph Co., telegrams.....	5 10
22	Kartack Bros., labels	1 05
23	J. H. Pickrell, vol. 35, American Herd Book, Short Horn	3 05
24	Nathan Bradbury, work in office.....	5 00
25	M. H. Murphy, representative Manitowoc county.....	10 80
26	John M. True, secretary's salary	150 00
27	F. L. Fuller, assistant secretary, salary.....	83 33
28	J. G. Boyd, expenses	7 00
29	C. M. Cottrill, taxes in Milwaukee.....	4,332 03
30	C. T. Fisher, expenses board meeting	8 00
31	C. M. Clark, expenses December board meeting	13 00
32	E. Beaumont, expenses December board meeting	11 00
33	H. D. Hitt, expenses December board meeting.....	6 25
34	M. T. Grattan, speaker.....	50 00
35	H. K. Loomis, expenses February meeting	13 78
36	T. L. Newton, expenses February meeting.....	6 55
37	A. W. Vaughn, expenses February meeting.....	5 56
38	A. A. Arnold, expense February meeting.....	15 44
39	S. D. Hubbard, expense February meeting.....	11 50
40	O. S. Sisson, expenses.....	4 00
41	H. C. Adams, expenses	2 75
42	W. W. McClurg, expenses.....	24 00
43	W. U. Tel. Co., telegrams.....	5 35
44	F. G. Biglow, rent of Cold Spring grounds.....	250 90
45	Newton & Wenz, muslin for banners.....	112 45
46	University Glee Club, mu-ic.....	20 00

TREASURER'S REPORT.

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No.	<i>To whom and for what issued.</i>	<i>Amount.</i>
47	J. M. True, expenses of speakers..	\$48 40
48	Jas. E. Patton & Co., painters' materials.....	21 25
49	F. L. Fuller, February salary.....	83 33
50	John M. True, secretary's salary.....	150 00
51	Wm. Fox, expenses, February meeting.....	5 75
52	H. M. Bock, mileage, etc., fair 1890.....	12 76
53	W. U. Tel. Co., messages.....	1 50
54	Mrs. M. M. Marchant, reporting convention.....	100 00
55	C. E. Hanchett, rubber stamp.....	85
56	F. L. Fuller, March salary.....	83 33
57	John M. True, Secretary's salary.....	150 00
58	A. C. Parkinson, expenses during legislature.....	45 36
59	Madison Democrat, printing programmes.....	41 80
60	Jas. E. Patton, paint.....	2 20
61	Jas. E. Patton, paints.....	2 70
62	Western Union Telegraph Co., messages.....	3 15
63	Jas. E. Patton, paint.....	2 70
64	F. B. Hanchett, design for premium lists.....	14 50
65	C. E. Clough, painting banners.....	121 15
66	F. L. Fuller, April salary.....	83 33
67	John M. True, April salary.....	25 00
68	John M. True, April salary.....	125 00
69	W. U. Tel. Co. messages.....	2 65
70	F. G. Bigelow, rent of Cold Spring Grounds.....	350 00
71	S. D. Hubbard, expenses special meeting.....	15 94
72	A. A. Arnold, expenses special meeting.....	12 00
73	John M. True, expenses procuring specials.....	23 59
74	C. M. Cottrill, expenses legislative work.....	102 23
75	F. L. Fuller, May salary.....	83 33
76	John M. True, May salary.....	150 00
77	D. S. Harkness, printing tickets.....	50 00
78	S. S. Landt, attendance at fair 1890.....	12 60
79	Western Union Telegraph company, messages.....	3 75
80	Wm. Fox, expenses special meeting.....	8 25
81	Milwaukee Journal advertising.....	12 00
82	F. L. Fuller, June salary.....	83 33
83	John M. True, June salary.....	150 00
84	J. W. Whalen, attendance at fair 1890.....	26 63
85	Andrews & Thayer, livery.....	9 00
86	D. S. Harkness, printing.....	67 59
87	John S. Eastman, advertising expenses.....	50 00
88	C. E. Clough, advertising expenses.....	50 00
89	State Journal Printing company, printing.....	25 65
90	John Pritzlaff hardware company, tacks.....	4 30
91	Journal company, subscription.....	3 75
92	N. Bradbury, work.....	12 00
93	F. L. Fuller, July salary.....	83 33
94	J. M. True, July salary.....	150 00
95	Fair Publishing House, printing.....	13 00
96	Herald company, Milwaukee, advertising state fair sites.....	8 50
97	Cramer, Aikens & Co., advertising state fair sites.....	10 00
98	The Sentinel company, advertising state fair sites.....	18 00

No.	To whom and for what issued.	Amount.
99	F. G. Bigelow, rest Cold Spring grounds.....	\$250 00
100	J. M. True for C. E. Clough, advertising expenses.....	25 00
101	Western Union Telegraph company, messages.....	3 45
102	Sackett Wire Tag company, tags, fair 1891.....	15 20
103	F. L. Fuller, August salary.....	88 33
104	John M. True, August salary.....	150 00
105	James G. Boyd, work on grounds.....	55 00
106	John S. Eastman, advertising expenses.....	10 00
107	C. E. Clough, advertising expenses.....	50 00
108	August Ehrman, labor.....	1 50
109	D. S. Harkness, printing.....	30 00
110	Goodrich Trans. company, freight on tents.....	11 23
111	S. North, work on grounds.....	5 00
112	Harder's Military Band, music for Tuesday.....	78 50
113	C. L. White, 4th money, 2.27 trot.....	50 00
114	H. A. Treadwell, 3rd money, 2.27 trot.....	75 00
115	W. S. Williams, 2nd Money, 2.27 trot.....	125 00
116	Bud Doble, 1st money, 2.27 trot.....	250 00
117	W. S. Hagerman, 4th money, 3.00 trot.....	50 00
118	Gus. Trent, 3rd money, 3.00 trot.....	75 00
119	Hawley Cole, 2nd money, 3.00 trot.....	125 00
120	J. F. Ayers, 1st money, 3.00 trot.....	250 00
121	P. J. Ryan, representative Pepin county.....	24 50
122	Baraboo Band, music.....	70 00
123	Palmer Bros., 1st money, 2.40 trot.....	250 00
124	Adam Vogel, 2nd money, 2.40 trot.....	125 00
125	Geo. S. Doud, 3rd money, 2.40 trot.....	75 00
126	J. G. Gilbert, 4th money, 2.40 trot.....	50 00
127	H. E. Crow, representative Crawford county.....	18 00
128	Geo. S. Doud, 1st money, 2.24 trot.....	250 00
129	J. F. Dailey, 2nd money, 2.21 trot.....	125 00
130	Adam Vogel, 3rd money, 2.24 trot.....	75 00
131	Uihlein Bros., 4th money, 2.24 trot.....	50 00
132	Julius Shielman, representative Lincoln county.....	21 00
133	R. R. Young, representative Lincoln county.....	24 30
134	Prof. S. Hensler, Juvenile Band.....	60 00
135	S. S. Landt, representative Adams county.....	17 00
136	Bud Doble, for Nancy Hanks and Monbars.....	2,500 00
137	J. E. Gleason, representative Rock county.....	10 68
138	Geo. Howard, 4th money, 2.33 trot.....	50 00
139	R. J. McTrye, 3rd money, 2.33 trot.....	75 00
140	Fred Pabst, Jr., 2nd money, 2.33 trot.....	125 00
141	Gus. Trent, 1st money, 2.33 trot.....	250 00
142	W. H. Reas, representative Waupaca county.....	15 08
143	Wisconsin Farmer, advertising.....	75 00
144	C. E. Clough, works on grounds.....	40 00
145	Wm. Hooper, representative La Fayette county.....	17 00
146	John W. Horn, South Western Industrial Society.....	18 20
147	Ransom A. Moore, representative Kewaunee county.....	14 00
148	John W. Ganes, representative Dodge county.....	12 14
149	John Smith, representative Brown county.....	12 54
150	W. M. Field & Bro., premiums.....	100 00

TREASURER'S REPORT.

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No.	<i>To whom and for what issued.</i>	<i>Amount.</i>
151	H. M. Bock, representative Richland county ..	\$14 76
152	C. A. Youmans, representative Clark county.....	21 38
153	Leslie & Burwell, premiums.....	100 00
154	Currant & Sanderson, premium.....	70 00
155	N. H. Carhardt, representative Trempealeau county.....	19 50
156	E. H. Canfield, assistant superintendent poultry.....	18 00
157	Mrs. A. P. Ellinwood, representative Baraboo Valley Agricultural Society....	16 40
158	Mrs. Ellen Root, expert judge	5 00
159	N. Washburn, representative Barron county ..	29 00
160	John Dey, representative Outagamie county ..	24 20
161	E. W. Palmer, judge in department G.....	5 00
162	C. W. Potter, representative Juneau county.....	15 80
153	Peter Tubbs, representative Seymour Park Association	11 56
164	J. W. Morse & Son, premiums.....	150 00
165	Mike Smith, engines.....	65 00
166	M. L. Riddle, assistant machine department	34 00
167	E. C. True, special premium clerk.....	52 50
168	Henry Lord, representative Blakes Prairie.	20 00
169	Lewis Loun, representative Iowa county.....	21 48
170	J. V. Cotta, judge in fruit department.....	10 00
171	James W. Wilson, representative Marathon county.	20 60
172	W. Wilson, expenses, spring board meeting.....	15 20
173	W. Wilson, superintendent poultry department.....	47 45
174	A. W. Vaughn, railroad fare, oil and sundries.....	65 63
175	F. K. Van Wagner, representative Vernon county.....	20 00
176	Alfred B. Andrews, gate keeper.....	14 00
177	Wm. N. Pennell, gate keeper.....	14 00
178	H. C. Gilmore, gate keeper.....	14 00
179	Robert Morton, gate keeper.....	14 00
180	L. W. Coe, gate keeper.....	14 00
181	D. S. Harkness, gate keeper.....	14 00
182	Henry Bentley, gate keeper ..	14 00
183	C. H. Sweetland, gate keeper.....	14 00
184	Dr. Wadsworth, gate keeper.....	3 50
185	H. B. Frantz, gate keeper.....	14 00
186	Tom Harey, gate-keeper.....	\$14 00
187	Wm. Stanton, gate-keeper.....	14 00
188	J. E. Faber, gate-keeper.	12 25
189	J. W. Decker, expenses as dairy expert.....	25 18
190	L. A. Davies, speed trial.....	700 00
191	W. P. Rix, representative, Washington county	9 74
192	Alex A. Arnold, superintendent, cattle.....	53 63
193	W. S. Hagerman, 4th money, 2:50 trot.....	50 00
194	I. Stephenson, 4th money, 2:30 trot.....	50 00
195	W. T. Williams, 3rd money, 2:20 trot.....	75 00
196	B. E. Jones, 2nd money, 2:20 trot.....	125 00
197	F. Pabst, Jr., 1st money, 2:20 trot.....	250 00
198	J. J. Somers, 3rd money, 2:50 trot.....	75 00
199	W. E. Lewis, 2nd money, 2:50 trot.....	125 00
200	Gus Trent, 1st money, 2:30 trot	250 00
201	E. Beaumont, services as superintendent D.	45 00

No.	To whom and for what issued.	Amount.
202	E. Beaumont, expenses special board meeting.....	\$5 70
203	Ed. Waters, labor.....	12 50
204	A. P. Ellingwood, services as superintendent of grounds.....	70 00
205	M. R. Doyon, assistant treasurer.....	30 00
206	Waldo Sweet, judge, manufactures.....	5 00
207	E. D. Jones, as istant, manufacture department.....	17 50
208	H. D. Hitt, superiatendent, manufactures.....	59 56
209	T. D. Wadsworth, labor.....	4 00
210	C. Hendrickson, express wagon.....	8 00
211	T. J. Fleming, superintendent, dairy.....	45 00
313	Paul Ketting, assistant, dairy.....	21 00
213	B. S. Hoxie, superintendent, fruits and flowers.....	45 00
214	B. S. Hoxie, railroad fare, etc.....	11 66
215	T. J. Fleming, railroad expenses.....	5 75
216	E. C. Eldridge, judge, fine arts.....	20 00
217	Mrs. Paul Asch, assistant superintendent, fine arts.....	28 00
218	H. C. Adams, superintendent, fine arts.....	58 65
219	B. Henwood, work in fine art department.....	20 00
220	H. C. Williams, services as assistant, agricultural department.....	12 00
221	F. C. Mansfield, poultry judge.....	15 07
222	E. F. Taylor, watchman.....	2 00
223	Horace De Long, ticket seller.....	21 00
224	C. J. Crocker, livery for Vaughan.....	3 00
225	E. S. Taylor, ticket seller.....	21 00
226	Chas. B. Conrad.....	21 00
227	Ed. Fifield, ticket seller.....	21 00
228	R. C. Nicodemus, ticket seller.....	21 00
229	E. B. Helmstreet, ticket seller.....	21 00
230	Hiram Murdock, ticket seller.....	21 00
231	Chas. Stevens, ticket seller.....	21 00
232	Frank Randall, ticket seller.....	21 00
233	I. C. Brownell, ticket seller.....	21 00
234	J. P. Miner, ticket seller.....	21 00
235	John O. Hall, representative, Sauk county, assistant agricultural department.....	32 70
236	J. H. Mock, marshal's horse.....	14 00
237	S. Terwilliger, assistant marshal.....	17 50
238	Le Grande Lippert, judge agricultural department.....	17 00
239	John M. Parkinson, entry clerk.....	31 00
240	Wm. Fox, superintendent agricultural department.....	52 20
241	Miss Kate Peffer, entry clerk.....	23 00
242	G. A. Kartack, entry clerk.....	22 00
243	Mollie Hyland, entry clerk.....	22 00
244	Mary E. Chadwick, entry clerk.....	24 00
245	D. Converse, assistant superintendent fruits and flowers.....	21 00
246	Genevieve T. Bartels, entry clerk.....	27 00
247	Josephine Totto, entry clerk.....	31 00
248	Lucy Jones, entry clerk.....	21 00
249	G. G. Cox, marshal's assistants.....	385 40
250	F. W. Adamson, entry clerk.....	29 00
251	Frances M. Hall, entry clerk.....	35 00
252	John W. Ganes, assistant.....	75 00
253	E. W. Woolcott, Woman's Relief Corp, redeemed dinner tickets.....	93 75

TREASURER'S REPORT.

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No.	To whom and for what issued.	Amount.
254	C. M. Clark, superintendent sheep department.....	\$43 00
255	C. M. Clark, paying judges.....	10 00
256	Andrew Winter, labor on track.....	12 00
257	Chas. Becker, labor on track.....	16 50
258	Geo. Denby, labor on track.....	19 50
259	Michael Kenney, labor on track.....	9 00
260	Theo. Labor, assistant superintendent speed department.....	33 50
261	Ernst Hornlein, work in speed department.....	12 00
262	Plankinton House, board treasurer.....	31 75
263	Cyrus Miner, treasurer, attendance fair '91.....	30 00
264	John Corson, on two horses that did not start, 5 per cent. entrance money refunded.....	50 00
265	S. D. Hubbard, superintendent harnesses.....	75 72
266	M. P. Bankin, music Milton Junction band.....	58 50
267	Void.....	
268	Milwaukee Industrial Exposition, railroad tickets.....	7 75
269	Cyrus Miner, treasurer, paid notes and interest.....	3,062 66
270	Mrs. A. L. Coe, assistant superintendent department L.....	21 00
271	R. W. Holmes, judging butter.....	10 00
272	American Trotting Association, annual dues.....	50 00
273	J. Longenber, lumber as per bill.....	131 56
274	J. H. Yewdale & Sons, printing.....	357 50
275	Steinman & Co., lumber.....	175 97
276	J. E. Patton & Co., mdse as per bill.....	15 91
277	Hoffman & Billings, mdse as per bill.....	11 71
278	H. Niedecken & Co., paper.....	13 05
279	River-side Printing Co., lists, etc.....	420 70
280	Germania Society, rent of hall.....	15 00
281	James Morgan, ribbon.....	
282	S. A. Chapman & Co., ribbon.....	8 51
283	H. R. Bond & Co., lime and coal.....	13 50
284	Geo. L. Vesper, work on fair grounds.....	39 75
285	C. E. Clough, work on fair grounds.....	20 00
286	John Lyon, work on fair grounds.....	36 00
287	Journal Co., advertising cards.....	50 00
288	Milwaukee City Registrar, water.....	50 00
289	Wm. Meyer & Son, 'bus.....	5 00
290	Newton & Wenz, premium ribbons.....	122 45
291	Cream City Bill Posting Co., distributing fans.....	2 00
292	Cosack & Co., advertising matter.....	165 00
293	Byron Button, bill posting.....	1 50
294	L. W. Howie, coal.....	31 22
295	D. S. Harkness, printing.....	25 00
296	Wisconsin Agriculturist Co., advertising.....	100 00
297	Breeders' Gazette, advertising.....	25 00
298	Clark's Horse Review, advertising.....	25 00
299	Chicago Horseman, advertising.....	25 00
300	Hoard's Dairyman, advertising.....	75 00
301	Peck's Sun, advertising.....	12 00
302	Sentinel Co., advertising.....	80 00
303	News Pub. Co., advertising.....	36 00

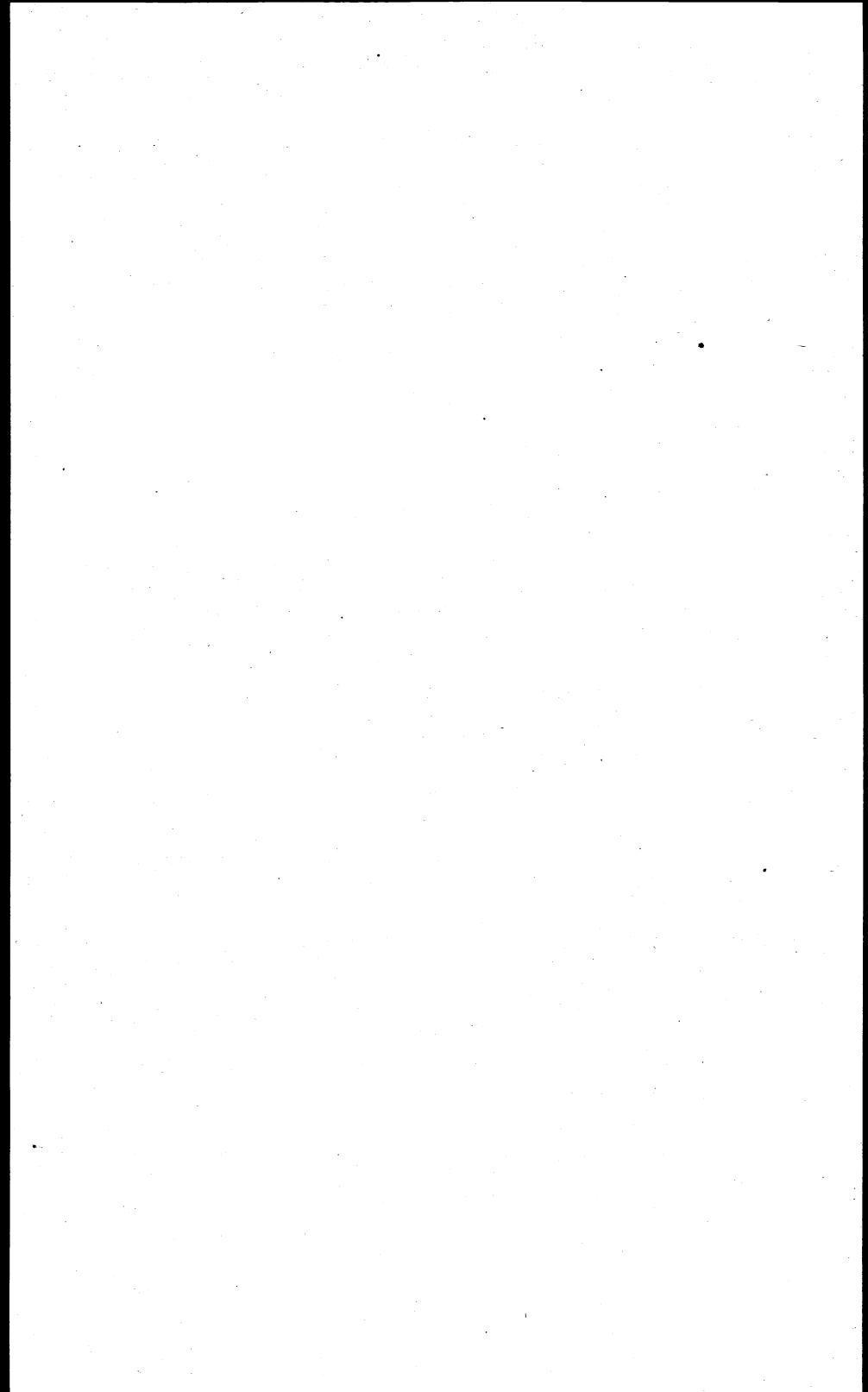
No.	To whom and for what issued.	Amount.
304	Milwaukee Telegraph, advertising.....	\$16 50
305	A. J. Phillips, superintendent transportation.....	65 00
306	A. J. Phillips, expenses, transportation department...	102 50
307	John Harriman, livery.....	4 00
308	Yenowine News, advertising.....	36 00
309	Minnie E. Prichard, services as assistant.....	50 00
310	John Eastman, advertising expenses.....	23 90
311	Lowell & Crone, rent of show cases.....	25 40
312	M. J. Haisler, cartage, etc.....	9 00
313	M. J. Haisler, superintendent of gates.....	30 00
314	Cramer, Aikens & Cramer, advertising.....	50 00
315	Andrus & Thayer, livery.....	21 00
316	George Ryan, forage.....	234 93
317	James L. Foley, forage.....	267 51
318	John Ryan, forage.....	52 44
319	S. B. Swan, forage.....	28 91
320	Henry Vogel, forage.....	48 47
321	Philip Paul, forage.....	15 92
322	Chas. Taylor, forage.....	110 32
323	C. T. Fisher, forage.....	127 69
324	C. T. Fisher, superintendent and assistant forage.....	116 00
325	R. H. Odell, assistant in advertising.....	5 00
326	Western Union Tel. Co., telegrams.....	8 99
327	Riverside Printing Co., advertising.....	1 00
328	Jas. G. Boyd, balance of repair on track and buildings.....	212 00
329	Jackson I. Case, added money to Wis. Horse Breeder Ass'n.....	350 00
330	Plankinton House, board bill.....	135 80
331	Nathan Bradbury, work.....	45 00
332	Julius Andrae, order for bicycle contest.....	50 00
333	F. L. Fuller, September salary.....	83 33
334	J. M. True, September salary.....	150 00
335	P. Stresan, expenses judge dairy department.....	10 00
336	A. L. Boynton, livery for Mr. Miner.....	15 00
337	Wakem & Stone, premiums.....	36 00
338	R. C. Vernon, assistant in horse department.....	46 20
339	A. C. Parkinson, expenses as president.....	95 81
340	M. J. Cantwell, printing.....	49 25
341	DeClerque & Hirschman, advertising.....	10 00
342	"Columbia," advertising.....	5 00
343	Banner & Volksfreund, advertising.....	3 00
344	Seebote, advertising.....	12 00
345	Saturday Star, advertising.....	3 60
346	Robert Chivas Post, G. A. R., use of chairs.....	5 00
347	Murray & Co, rent of tents and freight for same.....	161 75
348	Newton & Wenz, muslin.....	1 95
349	Geo. L. Williams, representative Wood county.....	13 10
350	B. S. Hoxie, printing and stamps.....	3 25
351	Bernie Johnson, work department I.....	15 00
352	Geo. Wylie, assistant superintendent cattle.....	21 50
353	J. W. Chamberlain, assistant in milk test.....	10 00
354	N. N. Palmer, judge in dairy breed cattle.....	5 00
355	S. R. Webster, judge beef breed cattle.....	15 00

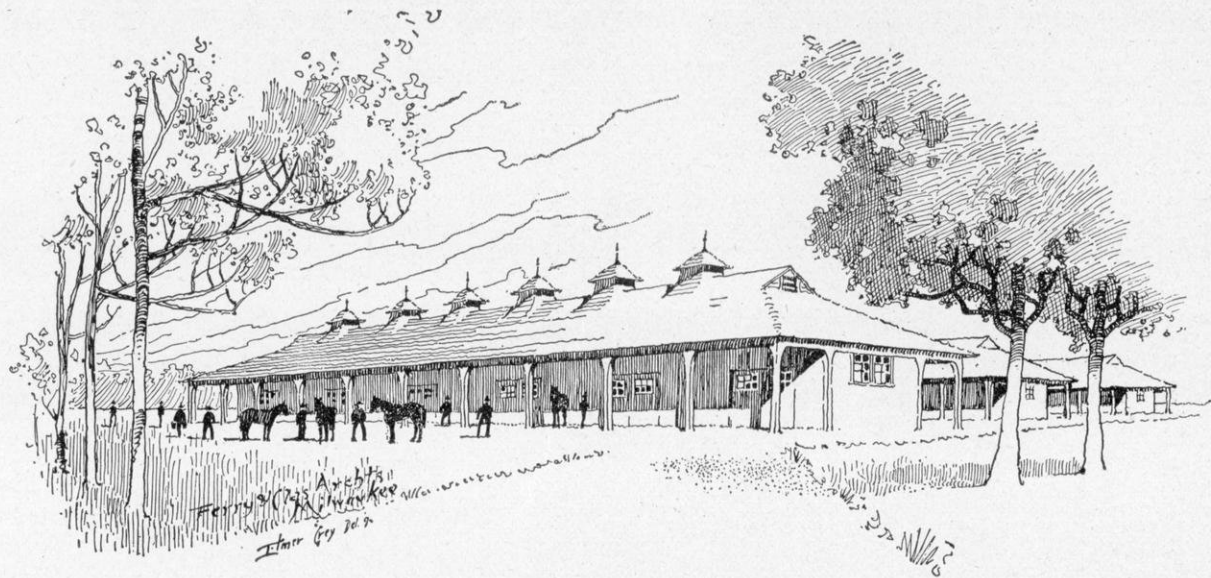
TREASURER'S REPORT.

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No.	To whom and for what issued.	Amount.
356	C. P. Goodrich, judge dairy cattle.....	\$15 00
357	R. B. Ogilvie, premiums.....	24 00
358	R. B. Ogilvie, premiums.....	224 00
359	Herold, advertising.....	15 00
360	W. N. Aldrich, premiums.....	40 00
361	Geo. Allen & Sons, premiums.....	120 00
362	Chas. Abresch, premiums.....	5 00
363	Eliza Armstrong, premiums.....	6 00
364	Mrs. N. E. Allen, premiums.....	18 40
365	Miss Ella Austin, premiums.....	21 00
366	H. A. Briggs, premiums.....	68 00
367	T. C. Browa, premiums.....	25 00
368	J. R. Brabazon, premiums.....	195 00
369	Henry Brueckel, premiums.....	3 00
370	Browning, King & Co.....	10 00
371	Mrs. L. M. Buell, premiums.....	21 00
372	Miss Birkel, premiums.....	8 00
373	Ferdinand Brehm, premiums.....	5 00
374	H. J. Buehen, premiums.....	12 00
375	Genevieve T. Bartel, premiums.....	48 00
376	Claude Beabe, premiums.....	11 00
377	Carrie Baerward, premiums.....	3 00
378	Hattie Bramer, premiums.....	3 00
379	I. N. Chamberlain, premiums.....	37 00
380	Cooper & Newell, premiums.....	15 00
381	C. M. Clark, premiums.....	20 00
382	J. E. Corrigan, premiums.....	35 00
383	Currie Bros., premiums.....	65 00
384	Currie Bros., premiums.....	20 00
385	B. N. Cooley, premiums.....	34 00
386	Currant & Sanderson, premiums.....	263 00
387	Thos. Clark, premiums.....	186 00
388	Cosgrove Live Stock Co., premiums.....	211 00
389	Mrs. Anna Crawford, premiums.....	3 00
390	J. G. Carr, premiums.....	4 00
391	H. C. Christians, premiums.....	15 00
392	Columbus Carriage Co., premiums.....	28 00
393	F. H. Chappel, premiums.....	29 00
394	E. W. Drowatsky, premiums.....	3 00
395	W. P. Dittmar, premiums.....	5 00
396	Mrs. John Dey, premiums.....	1 40
397	W. P. Denelt, premiums.....	15 00
398	A. D. De Land, premiums.....	20 00
399	John Dorsch & Sons, premiums.....	44 00
400	J. C. Davis, premiums.....	17 00
401	Davis & Benedict, premiums.....	147 00
402	J. H. Dixon, premiums.....	32 00
403	Mrs. A. P. Ellinwood, premiums.....	3 00
404	John Esch & Son, premiums.....	5 00
405	C. F. Eaton, premiums.....	1 00
406	Mrs. Arthur Elliott, premiums.....	66 00
407	F. W. Effinger, premiums.....	3 00

No.	To whom and for what issued.	Amount.
408	Geo. Ellinwood, premiums	82 00
409	Mrs. Thomas Fogg, premiums	4 00
410	M. C. Foley, premiums	4 00
411	Peter Fruttinger, premiums	2 00
412	Mrs. E. W. Fisher, premiums	10 00
413	Mrs. A. H. Foster, premiums	39 00
414	Mary E. Farnham, premiums	6 00
415	John Frick, premiums	72 00
416	Wm. Fox, premiums	55 00
417	A. J. Frazer premiums	11 00
418	B. T. Fowler premiums	32 00
419	H. M. Fields & Bro., premiums	84 00
420	Mrs. A. E. Gilbert, premiums	3 00
421	Mrs. Geo. Glaty, premiums	14 50
422	C. N. Griffith, premiums	11 40
423	H. J. Grell, premiums	1 00
424	Isaac Gale & Son, premiums	35 00
425	Chas. H. Green, premiums	31 00
426	Mrs. Eliza Greengo, premiums	5 00
427	E. Gillett, premiums	15 00
428	A. L. Greengo, premiums	25 00
429	Gillett & Son, premiums	153 00
430	F. B. Grover, premiums	35 00
431	W. L. Gilbert, premiums	20 00
432	Flora Hackendall, premiums	10 00
433	Mrs. J. Hamilton, premiums	42 00
434	Mrs. W. C. Harden, premiums	4 00
435	Mrs. S. M. Hough, premiums	1 00
436	Mandie F. Hillman, premiums	11 00
437	Anna A. Helberg, premiums	7 00
438	Mrs. Stella Heimstreet, premiums	1 00
439	Mrs. G. W. Hudson, premiums	1 40
440	Henry Hess, premiums	38 00
441	F. W. Hiac, premiums	18 00
442	Helgeadorf & Kellogz, premiums	5 00
443	F. F. Hoyt, premiums	5 00
444	Joseph Himes, premiums	3 00
445	Hansen Empire Fur Co., premium	10 00
446	Chas. Hirschninger, premium	59 00
447	Hays & De Bolt, premium	3 00
448	Chas. T. Hill, premium	29 00
449	Geo. Harding, premium	125 00
450	Geo. C. Hill & Son, premium	186 00
451	Jacob Heyl, premium	68 00
452	J. J. Hannan, premium	15 00
453	A. H. Hartwig & Co., premium	65 00
454	Mrs. A. H. Jeffery, premium	8 00
455	Mrs. E. A. Johnstone, premium	2 00
456	Franklin Johnson, premium	4 00
457	Geo. Jeffery, premium	36 00
458	Reinert Jensen, premium	6 00
459	S. A. Jones, premium	58 00





Speed Stables, Wisconsin State Fair Grounds.

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460	D. B. Jones, premium.....	\$57 00
461	Rob't Jones, premium.....	10 00
462	Mrs. J. G. Kestol, premium.....	11 00
463	Mrs. H. W. Kellogg, premium.....	1 40
464	F. A. Kielsmeir, premium.....	37 00
465	A. L. Kier, premium.....	3 00
466	Frank Korn, premium.....	1 00
467	Mrs. C. C. Kingsley, premium.....	14 00
468	G. J. Kellogg, premium.....	22 00
469	W. T. Kelsey, premium.....	4 00
470	R. S. Kingman, premium.....	190 00
471	Kellogg Stock Farm.....	99 00
472	John S. Eastman, advertising.....	125 00
473	Mrs. H. M. Simmons, judge woman's department.....	10 00
474	Mrs. A. C. Hall, judge woman's department.....	10 00
475	Herman Lohagen, premium.....	3 00
476	Ella Leonard, premium.....	3 00
477	Lake Shore Creamery, premium.....	30 00
478	G. Lammers, premium.....	5 00
479	F. A. Lydston, premium.....	25 00
480	Lintink & Sons, premium.....	5 00
481	L. C. Lull, premium.....	3 00
482	J. C. Loomis, premium.....	24 00
483	Love Bros., premium.....	42 00
484	A. J. Lovejoy & Son, premium.....	102 00
485	J. C. Love & Son, premium.....	8 00
486	Leslie & Burwell, premium.....	247 00
487	Mollie Moffit, premium.....	3 00
488	Florence Hart Miner, premium.....	62 00
489	Katherine Mosher, premium.....	3 00
490	Mrs. Cyrus Miner, premium.....	11 00
491	Mathews Bros., premium.....	42 00
492	J. N. Morgan & Co., premium.....	2 00
493	Milwaukee Buggy Co., premium.....	10 00
494	J. S. McGowan, premium.....	55 00
495	H. S. Moorehouse, premium.....	36 00
496	H. N. Macham, premium.....	48 00
497	Geo. McKerrow, premium.....	314 00
498	R. H. Mill, premium.....	31 00
499	Void.....	
500	Void.....	
501	Void.....	
502	Void.....	
503	Void.....	
504	Void.....	
505	Void.....	
506	Void.....	
507	McCauley & Brown, premium.....	76 00
508	W. M. McConnell, premium.....	103 00
509	J. W. Martin, premium.....	113 00
510	J. W. Morse & Son, premium.....	321 00
511	Mrs. Anna H. Nilson, premium.....	1 00
512	Mrs. Theo. L. Newton, premium.....	10 00

No.	To whom and for what issued.	Amount.
513	Neville Bros., premium.....	\$37 00
514	North Western Carriage and Sleigh Co., premium.....	25 00
515	W. A. Nicholls, premium.....	20 00
516	Mrs. E. J. O'Neil, premium.....	2 00
517	L. L. Olds, premium.....	11 00
518	Mrs. D. T. Pilgrim, premium.....	2 00
519	Mrs. E. Phelps, premium.....	1 00
520	Chloe Pierce, premium.....	2 00
521	Dora L. Putnam, premium.....	20 00
522	Mrs. G. P. Pepper, premium.....	20 00
523	Geo. Poppert.....	25 00
524	Mrs. O. Pratt, premium.....	56 00
525	Miss Kate Pepper, premium.....	4 00
526	J. S. Palmer, premium.....	55 00
527	Geo. P. Pepper, premium.....	14 00
528	A. S. Phillips, premium.....	18 00
529	E. W. Palmer, premium.....	2 00
530	D. T. Pilgrim, Jr., premium.....	32 00
531	D. T. Pilgrim, premium.....	5 00
532	Palmer & Noblet, premium.....	188 00
533	J. H. Pitcher, premium.....	72 00
534	Pabst Stock Farm, premium.....	234 00
535	Roebel & Reinhardt, premium.....	105 00
536	Reynolds Bros., premium.....	10 00
537	A. W. Rich & Co., premium.....	15 00
538	G. W. Ringrose, premium.....	54 00
539	Mrs. C. H. Root, premium.....	41 00
540	E. G. Roberts, premium.....	123 00
541	C. W. Rowe, premium.....	69 00
542	Rust Bros., premium.....	224 00
543	E. L. Rawson, premium.....	86 00
544	H. G. Rogers, premium.....	20 00
545	Mrs. E. A. Swan, premium.....	2 00
546	Mrs. O. J. Swan, premium.....	1 00
547	Mrs. W. E. Swan, premium.....	6 00
548	Miss Bertha Schluenster, premium.....	2 00
549	Mrs. W. Sweeney, premium.....	1 00
550	Mrs. W. C. Stevens, premium.....	13 00
551	Mrs. Schley, premium.....	1 00
552	Smith & Eastman, premium.....	20 00
553	Schwartz Stove Co., premium.....	5 00
554	Stoughton Wagon Co., premium.....	8 00
555	Storer & Abbott, premium.....	8 00
556	D. M. Sechler Carriage Co., premium.....	5 00
557	Skidmore & Hendrickson, premium.....	9 00
558	T. C. Smith & Co., premium.....	20 00
559	Wm. Springer, premium.....	2 00
560	H. J. Schoonmaker, premium.....	5 00
561	J. G. Schmidt, Jr., premium.....	5 00
562	M. E. Spring, premium.....	10 00
563	A. Selle.....	4 00
564	C. M. Sanger, premium.....	239 00

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No.	<i>To whom and for what issued.</i>	<i>Amount.</i>
565	Mrs. M. A. Thayer, premium.....	\$6 00
566	Mrs. F. W. Tratt, premium.....	8 00
567	J. M. Thomas, premium.....	5 00
568	Mrs. A. L. Tenney, premium.....	21 00
569	C. Tredupp, premium.....	80 00
570	Geo. Townsend, premium.....	29 00
571	Henry Tarrant, premium.....	18 00
572	Wm. Toole, premium.....	7 00
573	L. Trowbridge, premium.....	2 00
574	W. W. Thompson, premium.....	78 00
575	F. B. Tindall, premium.....	33 00
576	Frank L. Turrell, premium.....	5 00
577	F. W. Tratt, premium.....	261 00
578	E. B. Thomas, premium.....	68 00
579	Uihlein Bros., premium.....	174 00
580	Mrs. Eliza Var Dorn, premium.....	2 00
581	Mrs. S. A. Van Valkenberg, premium.....	3 00
582	Mrs. H. M. Wilson, premium.....	5 00
583	Mrs. S. A. Warner, premium.....	2 00
584	Mrs. A. G. Watson, premium.....	10 00
585	Mrs. Fred C. Warren, premium.....	1 00
586	Mrs. Mary E. Warren, premium.....	15 00
587	Steven Hollensack, premium.....	35 00
588	F. D. Widder, premium.....	25 00
589	White Sewing Machine Co., premium.....	10 00
590	Philip M. Waterson, premium.....	3 00
591	E. Wrightman, premium.....	10 00
592	C. Wynoble, premium.....	31 00
593	N. Washburn, premium.....	16 00
594	Nelson West, premium.....	20 00
595	H. P. West, premium.....	88 00
596	R. B. Warner, premium.....	23 00
597	John F. Wegg, premium.....	11 00
598	Frank Wilson, premium.....	106 00
599	J. J. Williams, premium.....	20 00
600	Edward Williams, premium.....	25 00
601	Yorgey & Rich, premium.....	11 00
602	John C. Zimmerman, premium.....	2 00
603	Chas. T. Hill, premium.....	3 00
604	L. L. Olds, premium.....	2 00
605	John M. True, advertising, stamps and expenses.....	60 65
606	S. R. Webster, judge.....	8 00
607	John M. True, redeemed tickets.....	5 25
608	Wm. Rothe, feed.....	169 59
609	V. H. Campbell, superintendent woman's department.....	58 81
610	Leo R. Campbell, assistant, woman's department.....	27 50
611	Miss E. R. Campbell, helper woman's department.....	15 00
612	Germania, advertising.....	15 00
613	T. A. Chapman, supplies for fine arts.....	9 97
614	Gimbel Bros., supplies.....	23 75
615	Democrat Printing Co., printing and subscription.....	22 00
616	D. B. Jones, premium.....	5 00

No.	To whom and for what issued.	Amount.
617	Minnie C. Sterns, premium.....	\$1 00
618	L. L. Olds, premium.....	1 00
619	Western Union Tel. Co., telegrams.....	12 85
620	W. C. Sanger, bicycle contest.....	100 00
621	C. C. Hubbard, work.....	61 50
622	State Journal Printing Co., printing.....	7 00
623	J. H. Yewdale & Sons Co., printing..	16 25
624	Western Farmer Co., printing.....	8 00
625	S. D. Steele, judging swine.....	15 00
626	Fuller F. L., screen material.....	10 70
627	Prichard, Miss M. E., work.....	10 00
628	Chase, A. L., board (Ogilvie).....	3 75
629	Current & Sanderson, premium.....	10 00
630	Wilson, Frank, premium.....	6 00
631	Advance, advertising.....	10 00
632	True, John M., October salary.....	150 00
633	Fuller, F. L., October salary.....	83 33
634	Prichard, M. E., work.....	12 50
635	Hall, F. M., work.....	2 50
636	Hirschinger, Chas., freight.....	2 50
637	Downs, L., judging horses.....	10 00
638	Clough, C. E., balance on advertising and work.....	138 51
639	Johnson & Co., soap, duplicate specimen.....	3 00
640	True, John M., extra expense fair site commission.....	28 42
641	James, H. D., music at fair.....	13 50
642	Bigelow, F. G., rent Cold Spring grounds.....	250 00
643	International Fair Association fees.....	10 00
644	Pearce, J. I., board of Miss Fuller at convention of Fair managers.....	13 50
645	Fratt, N. D., expense of board & site Com. for year.....	88 98
646	Northwestern Mail, advertising.....	8 00
647	True, John M., and fair circuit, expense of Illinois fair association.....	21 68
648	True, John M., November salary.....	150 00
649	Fuller, Frank L., November salary.....	83 33
650	Birkel, Anna, premium.....	2 00
651	Brisbane, W. H., redeemed dinner tickets.....	1 00
652	Western Union Telegraph Company, telegrams.....	6 00
653	American Short Horn Breeders' Association herd-book.....	8 01
654	Hilgendorf & Kollge, hardware.....	45 47

LIST OF AWARDS AT STATE FAIR.

DEPARTMENT A—HORSES.

CLASS 1. *Percherons.*

STALLIONS.

Best stallion 4 years and over.

No.	81	H. A. Briggs, Elkhorn, Wis.	\$25 00
	974	Pabst Stock Farm, Milwaukee, Wis.	15 00

Best stallion, 3 years and under 4.

	974	Pabst Stock Farm, Milwaukee.....	20 00
	974	Pabst Stock Farm, Milwaukee.....	12 00

Best stallion 2 years and under 3.

	645	Kellogg Stock Farm, De Pere, Wis.	20 00
	874	Pabst Stock Farm, Milwaukee.....	10 00

Best stallion 1 year and under 2.

	81	H. A. Briggs, Elkhorn, Wis.	15 00
	81	H. A. Briggs, Elkhorn, Wis.	8 00

Best stallion colt under 1 year.

	974	Pabst Stock Farm, Milwaukee.....	15 00
	974	Pabst Stock Farm, Milwaukee.....	8 00

MARES.

Best brood mare and colt.

	974	Pabst Stock Farm, Milwaukee.....	20 00
	974	Pabst Stock Farm, Milwaukee.....	15 00

Best mare 4 years old and over.

	81	H. A. Briggs, Elkhorn, Wis.,... ..	\$20 00
	645	Kellogg Stock Farm, De Pere, Wis.	12 00

Best mare 3 years old and under 4.

No.	645	Kellogg Stock Farm, De Pere, Wis.....	\$20 00
	645	Kellogg Stock Farm, De Pere, Wis.....	10 00

Best mare 2 years old and under 3.

	974	Pabst Stock Farm, Milwaukee.....	15 00
	645	Kellogg Stock Farm, De Pere, Wis.....	8 00

Best filly 1 year old and under 2.

	645	Kellogg Stock Farm, De Pere, Wis.....	15 00
	645	Kellogg Stock Farm, De Pere, Wis.....	8 00

Best filly under 1 year.

	974	Pabst Stock Farm, Milwaukee.....	12 00
	645	Kellogg Stock Farm, De Pere, Wis.....	6 00

BREEDING RINGS.

Best breeding stallion, as shown with three of his colts, either sex under 4 years old.

No. 81 H. A Briggs, Elkhorn, Wis..... Gold medal.

Best brood mare as shown by two of her colts, either sex under 4 years.

974 Pabst Stock Farm, Milwaukee..... Gold Medal.

Kellogg Gold Medal for best colt bred in state.

974 Pabst Stock Farm..... Milwaukee.

CLASS 2 — *Clydesdales.*

STALLIONS.

Best stallion 4 years old and over.

No. 927 R. B. Ogilvie, Madison, Wis..... \$25 00

Best stallion 3 years old and under 4.

927 R. B. Ogilvie, Madison, Wis..... 20 00

Best stallion 2 years old and under 3.

927 R. B. Ogilvie, Madison, Wis..... 20 00
 927 R. B. Ogilvie, Madison, Wis..... 10 00

Best stallion 1 year old and under 2.

927 R. B. Ogilvie, Madison, Wis..... 15 00

Best stallion colt under 1 year.

927 R. B. Ogilvie, Madison, Wis..... 15 00
 927 R. B. Ogilvie, Madison, Wis..... 8 00

MARES.

Best brood mare and colt.

No. 927 R. B. Ogilvie, Madison, Wis..... \$20 00
 927 R. B. Ogilvie, Madison, Wis..... 15 00

Best mare 4 years and over.

927 R. B. Ogilvie, Madison, Wis..... 20 00

Best mare 2 years and under 3.

927 R. B. Ogilvie, Madison, Wis..... 15 00
 927 R. B. Ogilvie, Madison, Wis..... 8 0

Best filly under 1 year.

927 R. B. Ogilvie, Madison..... 12 00

BREEDING RINGS.

Best breeding stallion, as shown with three of his colts, either sex, under 4 years old.

No. 927 R. B. Ogilvie, Madison..... Gold Medal.

CLASS 3 — *English Shires.*

STALLIONS.

Best stallion 4 years and over.

No. 416	H. M. Fields & Bro., Cedar Falls, Iowa.....	\$25 00
416	H. M. Fields & Bro., Cedar Falls, Iowa.....	15 00

Best stallion 3 years and under 4.

416	H. M. Fields & Bro., Cedar Falls, Iowa.....	20 00
416	H. M. Fields & Bros., Cedar Falls, Iowa.....	12 00

Best stallion 2 years and under 3.

416	H. M. Fields & Bro., Cedar Falls, Iowa.....	20 00
416	H. M. Fields & Bro., Cedar Falls, Iowa.....	10 00

MARES.

Best mare 4 years and over.

416	H. M. Fields & Bro., Cedar Falls, Iowa.....	20 00
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CLASS 4 — *Other Pure Bred Draft Horses not included in Classes 1, 2, 3.*

STALLIONS.

Best stallion 3 years and under 4.

No. 590	H. H. Hartwig & Co., Watertown, Wis.....	20 00
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CLASS 5.— *Cleveland Bays, French Coach, Hackneys and Oldenburgs.*

STALLIONS.

Best stallion 4 years and over.

No. 572	Jacob Heyl, Milwaukee, Wis.....	\$25 00
167	Cooper & Newell, Whitewater, Wis.....	15 00

PREMIUM AWARDS.

57

Best stallion 3 years and under 4.

590	A. H. Hartwig & Co., Watertown, Wis	\$20 00
416	H. M. Fields & Bro., Cedar Falls, Iowa.....	12 00

Best stallion 2 years and under 3.

416	H. M. Fields & Bro., Cedar Falls, Iowa.....	20 00
416	H. M. Fields & Bro., Cedar Falls, Iowa.....	10 00

MARES.

Best brood mare and colt.

974	Pabst Stock Farm, Milwaukee, Wis.....	20 00
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Best mare 4 years and over.

974	Pabst Stock Farm, Milwaukee, Wis.....	20 00
974	Pabst Stock Farm, Milwaukee, Wis.....	12 00

Best mare 3 years and under 4.

416	H. M. Fields & Bro., Cedar Falls, Iowa.....	20 00
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CLASS 6 — *Trotting Horses.*

STALLIONS.

Best stallion 4 years and over.

No. 1243	Uihlein Bros., Truesdell Wis	\$25 00
321	Geo. E. Ellinwood, Racine, Wis.....	15 00

Best stallion 3 years and under 4.

1243	Uihlein Bros., Truesdell, Wis.	20 00
321	Geo. E. Ellinwood, Racine, Wis.....	12 00

Best stallion 2 years and under 3.

321	Geo. E. Ellinwood, Racine, Wis.....	20 00
1243	Uihlein Bros., Truesdell, Wis	10 00

Best stallion 1 year and under 2.

1124	C. M. Sanger, Waukesha, Wis.	15 00
162	J. E. Corrigan, Milwaukee, Wis	8 00

Best stallion colt under 1 year.

1243	Uihlein Bros., Truesdell, Wis	15 00
1243	Uihlein Bros., Truesdell, Wis	8 00

MARES.

Best brood mare and colt.

No. 1243	Uihlein Bros., Truesdell, Wis	\$20 00
162	J. E. Corrigan, Milwaukee, Wis.....	15 00

Best mare 4 years and over.

974	Pabst Stock Farm, Milwaukee, Wis.....	20 00
1243	Uihlein Bros., Truesdell, Wis.....	12 00

Best mare 3 years and under 4.

321	Geo. E. Ellinwood, Racine, Wis	20 00
1243	Uihlein Bros., Truesdell, Wis.....	10 00

Best mare 2 years and under 3.

321	Geo. E. Ellinwood, Racine, Wis.....	15 00
572	Jacob Heyl, Milwaukee, Wis.....	8 00

Best mare 1 year and under 2.

1243	Uihlein Bros. Truesdell, Wis.....	15 00
1243	Uihlein Broe, Truesdell, Wis.....	8 00

Best filly under 1 year.

162	J. E. Corrigan, Milwaukee, Wis.....	12 00
1243	Uihlein Bros, Truesdell, Wis.....	6 00

BREEDING RINGS.

Best breeding stallion, as shown with three of his colts, either sex under 4 years.

321	Geo. E. Ellinwood, Racine, Wis.....	Gold Medal.
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Best brood mare as shown with two of her colts, either sex, under 4 years.

1243	Uihlein Bros., Truesdell, Wis.....	Gold medal.
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CL A

ft Horses.

Best brood^d mare and colt.

No. 484	W. L. Gilbert, Prospect, Wis.....	20 00
582	J. J. Hannon, De Pere, Wis.....	10 00

Best mare or gelding 4 years and over.

1207	E. B. Thomas, Dodges' Corner, Wis.....	12 00
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Best sucking colt or fillies.

1207	E. B. Thomas, Dodges' Corners, Wis.....	10 00
582	J. J. Hannon, De Pere, Wis.....	5 00

Best full blood stallion, as shown with 3 of his grade colts.

1207	E. B. Thomas, Dodges' Corner, Wis.....	25 00
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CLASS 9—*Grade Roadsters.*

Best brood mare and colt.

No. 109	T. C. Bourn, Waukesha, Wis.....	\$20 00
172	C. M. Clark, Whitewater, Wis.....	10 00

Best filly or gelding 2 years and under 3.

974	Pabst Stock Farm, Milwaukee, Wis.....	10 00
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Best sucking colt or filly.

172	C. M. Clark, Whitewater, Wis.....	10 00
109	T. C. Bourn, Waukesha, Wis.....	5 00

Best 3 colts of either sex any age, all the get of one stallion. The stallion not required to be shown. Colts not necessarily owned by one exhibitor.

10	W. H. Aldrich, Spring Prairie, Wis.....	25 00
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CLASS 10—*Heavy Draft Horses.*

Best pair of mares or geldings or mare and gelding weighing 3200 pounds or over.

No. 927	R. B. Ogilvie, Madison	\$20 00
974	Pabst Stock Farm, Milwaukee	10 00

CLASS 11—*Matched Horses — Roadsters.*

Best pair matched carriage horses and roadsters not under 15 hands, 3 inches.

1365	Edward Williams, Milwaukee, Wis	\$25 00
572	Jacob Heyl, Milwaukee, Wis	15 00

Best single carriage horse or mare, not under 15 hands, 3 inches.

572	Jacob Heyl, Milwaukee, Wis	20 00
493	F. B. Grover, Milwaukee, Wis	10 00

Best pair roadsters, 15 hands.

493	F. B. Grover, Milwaukee, Wis.....	25 00
10	W. H. Aldrich, Spring Prairie, Wis.....	15 00

Best single roadster, 15 hands.

1041	H. G. Rogers, Milwaukee.....	20 00
612	Robt. Jones, Thompsonville	10 00

Best draft stallion any age or breed.

927	R. B. Ogilvie, Madison.....	\$25 00
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Best coach stallion any age or breed.

590	A. H. Hartwig & Co., Watertown.....	25 00
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Best standard bred trotting stallion any age, to be judged by Wallace's scale of points.

1243	Uihlein Bros., Truesdell, Wis.....	25 00
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DEPARTMENT B.—CATTLE.

CLASS 14.—*Short Horns.*

Best bull 3 years and over.

No. 1124	C. M. Sanger, Waukesha, Wis.....	\$20 00
1124	C. M. Sanger, Waukesha, Wis.....	15 00

Best bull 2 years and under 3.

161	I. N. Chamberlain, Beloit, Wis.....	15 00
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Best bull under 1 year.

1124	C. M. Sanger, Waukesha, Wis.....	8 00
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Best cow 3 years and over.

1124	C. M. Sanger, Waukesha, Wis.....	20 00
1124	C. M. Sanger, Waukesha, Wis.....	15 00

Best heifer 2 years and under 3.

1124	C. M. Sanger, Waukesha, Wis.....	15 00
1124	C. M. Sanger, Waukesha, Wis.....	10 00

Best heifer 1 year and under 2.

1124	C. M. Sanger, Waukesha, Wis.....	10 00
1124	C. M. Sanger, Waukesha, Wis.....	8 00

Best heifer under 1 year.

1124	C. M. Sanger, Waukesha, Wis.....	8 00
1124	C. M. Sanger, Waukesha, Wis.....	5 00

AGED HERD.

One bull and four females 2 years old and over.

1124	C. M. Sanger, Waukesha.....	40 00
161	I. N. Chamberlain, Beloit.....	20 00

SHORT HORN COW.

Best Short Horn cow with two of her offspring.

No. 1124 C. M. Sanger, Waukesha..... \$25 00

Best four Short Horns, either sex under 4 years of age, get of one sire,
bred and owned by exhibitor.

No. 1124 C. M. Sanger, Waukesha..... 25 00

SWEEPSTAKES.

Best cow 2 years and over.

1124 C. M. Sanger, Waukesha, Wis..... 25 00

Best bull, 1 year old and over.

1124 C. M. Sanger, Waukesha..... 25 00

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CLASS 15— *Galloways and Polled Angus.*

Best bull 3 years and over.

No. 724 Leslie & Burwell, Cottage Grove \$20 00

Best bull 2 years and under 3.

724 Leslie & Burwell, Cottage Grove 15 00

Best bull 1 year and under 2.

724 Leslie & Burwell, Cottage Grove 10 00

724 Leslie & Burwell, Cottage Grove.. 8 00

Best bull under 1 year.

724 Leslie & Burwell, Cottage Grove..... 8 00

724 Leslie & Burwell, Cottage Grove..... 5 00

Best cow 3 years and over.

724 Leslie & Burwell, Cottage Grove..... 20 00

724 Leslie & Burwell, Cottage Grove..... 15 00

PREMIUM AWARDS.

63

Best heifer 2 years and under 3.

No. 724	Leslie & Burwell, Cottage Grove.....	\$15 00
724	Leslie & Burwell, Cottage Grove.....	10 00

Best heifer 1 year and under 2.

724	Leslie & Burwell, Cottage Grove.....	10 00
724	Leslie & Burwell, Cottage Grove.....	8 00

Best Heifer under 1 year.

724	Leslie & Burwell, Cottage Grove.....	8 00
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AGED HERD.

One bull and four females 2 years old and over.

724	Leslie & Burwell, Cottage Grove.....	40 00
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YOUNG HERD.

One bull and four females under 2 years, females to be bred by exhibitor.

724	Leslie & Burwell, Cottage Grove.....	40 00
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GALLOWAY OR POLLED AUGUS COW.

Best Galloway or Polled Augus cow, with two of her offsprings.

724	Leslie & Burwell, Cottage Grove.....	25 00
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Best four galloways or polled augus, either sex under 4 years of age, get of one sire bred and owned be exhibitor.

724	Leslie & Burwell, Cottage Grove.....	25 00
724	Leslie & Burwell, Cottage Grove.....	15 00

SWEEPSTAKES.

Best cow, 2 years old and over.

724	Leslie & Burwell, Cottage Grove.....	25 00
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Best bull, 1 year old and over.

724	Leslie & Burwell, Cottage Grove.....	25 00
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CLASS 16.— *Herefords.*

Best bull, 3 years and over.

No.	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	\$20 00
	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	15 00

Best bull 2 years and under 3.

	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	15 00
	163	Thos. Clark, Beecher, Ill.....	10 00

Best bull 1 year and under 2.

	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	10 00
	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	8 00

Best bull under 1 year.

	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	8 00
	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	5 00

Best cow 3 years and over.

	163	Thos. Clark, Beecher, Ill.....	20 00
	163	Thos. Clark, Beecher, Ill.....	15 00

Best heifer 2 years and under 3.

	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	15 00
	163	Thos. Clark, Beecher, Ill.....	10 00

Best heifer 1 year and under 2.

	163	Thos. Clark, Beecher, Ill.....	10 00
	163	Thos. Clark, Beecher, Ill.....	8 00

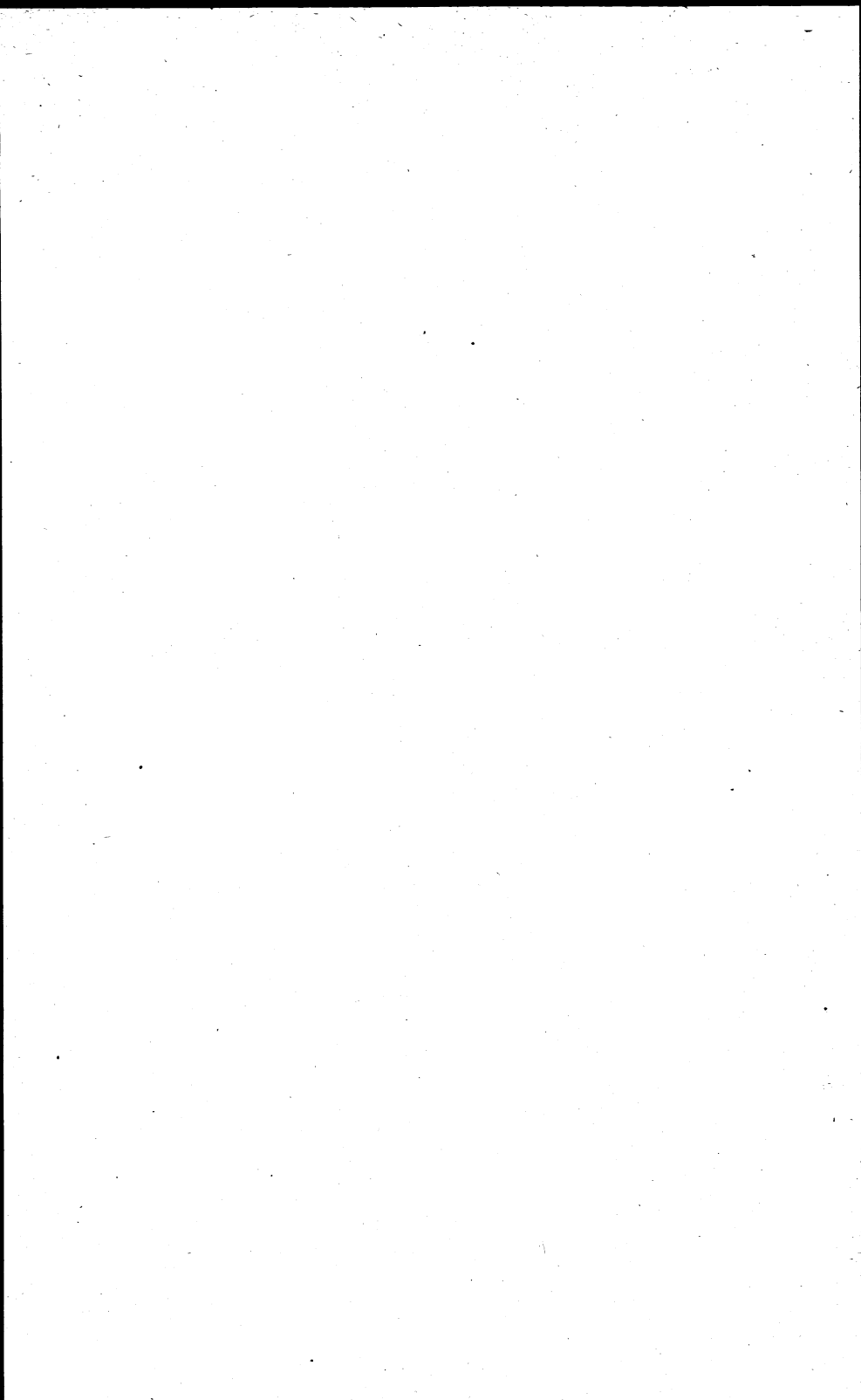
Best heifer under 1 year.

	163	Thos. Clark, Beecher, Ill.....	8 00
	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	5 00

AGED HERD.

One bull and four females 2 years old and over.

	163	Thos. Clark, Beecher, Ill.....	40 00
	176	Cosgrove Live Stock Co., Le Sueur, Minn.....	20 00





Dairy Building, Wisconsin State Fair Grounds.

PREMIUM AWARDS.

65

YOUNG HERD.

One bull and 4 females under 2 years. Females bred by exhibitor.

No. 176	Cosgrove Live Stock Co., Le Sueur, Minn.....	\$40 00
1382	J. J. Williams, Berlin	20 00

HEREFORD COW.

Best Hereford cow with 2 of her offspring.

163	Thos. Clark, Beecher, Ill.....	25 00
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Best 4 Herefords, either sex, under 4 years of age, get of one sire, bred and owned by exhibitor.

176	Cosgrove Live Stock Co., Le Sueur, Minn	25 00
163	Thos. Clark, Beecher, Ill.....	15 00

SWEEPSTAKES.

Best cow 2 years old and over.

163	Thos. Clark, Beecher, Ill.....	25 00
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Best bull 1 year old and over.

176	Cosgrove Live Stock Co., Le Sueur, Minn.....	25 00
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149

CLASS 17 — *Devons.*

Best bull 3 years and over.

815	J. W. Morse & Son, Verona.....	\$20 00
1049	E. L. Rawson, Oak Creek.....	15 00

Best bull 2 years and under 3.

815	J. W. Morse & Son, Verona.....	15 00
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Best bull 1 year and under 2.

815	J. W. Morse & Son, Verona.....	10 00
1049	E. L. Rawson, Oak Creek.....	8 00

Best bull under 1 year.

No.	815	J. W. Morse & Son, Verona.....	\$8 00
	815	J. W. Morse & Son, Verona.....	5 00

Best cow 3 years and over.

	815	J. W. Morse & Son, Verona.....	20 00
	815	J. W. Morse & Son, Verona.....	15 00

Best heifer 2 years and under 3.

	815	J. W. Morse & Son, Verona.....	15 00
	815	J. W. Morse & Son, Verona.....	10 00

Best heifer, 1 year and under 2.

	815	J. W. Morse & Son, Verona.....	10 00
	1049	E. L. Rawson, Oak Creek.....	8 00

Best heifer, under 1 year.

	815	J. W. Morse & Son, Verona.....	8 00
	815	J. W. Morse & Son, Verona.....	5 00

AGED HERD.

One bull and four females, 2 years old and over.

No.	815	J. W. Morse & Son, Verona.....	\$40 00
	1049	E. L. Rawson, Oak Creek.....	20 00

YOUNG HERD.

One bull and four females, under 2 years. Females to be bred by exhibitor.

No.	815	J. W. Morse & Son, Verona.....	\$40 00
	1049	E. L. Rawson, Oak Creek.....	20 00

DEVON COW.

Best Devon cow, with two of her offspring.

No.	815	J. W. Morse & Son, Verona.....	\$25 00
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Best four Devons, either sex, under 4 years of age, get of one sire, bred and owned by exhibitor.

	815	J. W. Morse & Son, Verona.....	\$25 00
	1049	E. L. Rawson, Oak Creek.....	15 00

PREMIUM AWARDS.

67

SWEEPSTAKES.

Best cow 2 years and over.

No. 815 J. W. Morse & Son, Verona..... \$25 00,

Best bull 1 year and over.

815 J. W. Morse & Son, Verona..... 25 00

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40 7

CLASS 18—*Red Polls or Polled Norfolks.*

Best bull 3 years and over.

No. 812 J. W. Martin, Richland City..... \$20 00

182 Currant & Sanderson, Lost Nation, Iowa..... 15 00

Best bull 2 years and under 3.

1207. E. B. Thomas, Dodges' Corner 15 00

Best bull 1 year and under 2.

182 Currant & Sanderson, Lost Nation, Iowa..... 10 00

812 J. W. Martin, Richland City..... 8 00

Best bull under 1 year.

182 Currant & Sanderson, Lost Nation, Iowa..... 8 00

812 J. W. Martin, Richland City..... 5 00

Best cow. 3 years and over.

182 Currant & Sanderson, Lost Nation, Iowa..... 20 00

812 J. W. Martin, Richland City..... 15 00

Best heifer, 2 years and under 3.

182 Currant & Sanderson, Lost Nation, Iowa..... 15 00

182 Currant & Sanderson, Lost Nation, Iowa..... 10 00

Best heifer, 1 year and under 2.

182 Currant & Sanderson, Lost Nation, Iowa..... 10 00

812 J. W. Martin, Richland City..... 8 00

Best heifer, under 1 year.

No. 812	J. W. Martin, Richland City.....	8 00
182	Currant & Sanderson, Lost Nation, Iowa.....	5 00

AGED HERD.

One bull and four females, 2 years old and over.

182	Currant & Sanderson, Lost Nation, Iowa.....	40 00
812	J. W. Martin, Richland City.....	20 00

YOUNG HERD.

One bull and four females, under 2 years. Females to be bred by exhibitor.

182	Currant & Sanderson, Lost Nation, Iowa.....	40 00
812	J. W. Martin, Richland City.....	20 00

RED POLLED OR POLLED NORFOLK COW.

Best Red Polled or Polled Norfolk cow with two of her offsprings.

182	Currant & Sanderson, Lost Nation, Iowa.....	25 00
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Best four Red Polls or Polled Norfolks, either sex under four years of age, get of one sire, bred and owned by exhibitor.

182	Currant and Sanderson, Lost Nation, Iowa.....	25 00
812	J. W. Martin, Richland City.....	15 00

SWEEPSTAKES.

Best cow 2 years old and over.

182	Currant & Sanderson, Lost Nation, Iowa.....	25 00
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Best bull 1 year old and over.

182	Currant & Sanderson, Lost Nation.....	25 00
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CLASS 19 — *Holsteins.*

Best bull 3 years and over.

No. 496	Gillett & Son, Rosendale	\$20 00
1050	Rust Bros., North Greenfield	15 00

Best bull, 1 year and under 2.

1050	Rust Bros., North Greenfield	10 00
1050	Rust Bros., North Greenfield	8 00

Best bull calf under 1 year.

1050	Rust Bros., North Greenfield	8 00
496	Gillett & Son, Rosendale	5-00

Best cow, 3 years and over.

1050	Rust Bros., North Greenfield	20 00
496	Gillett & Son, Rosendale	15 00

Best heifer, 2 years and under 3.

496	Gillett & Son, Rosendale	15 00
1050	Rust Bros., North Greenfield	10 00

Best heifer, 1 year and under 2.

1050	Rust Bros, North Greenfield	10 00
496	Gillett & Son, Resendale	8 00

Best heifer, under 1 year.

1050	Rust Bros., North Greenfield	8 00
496	Gillett & Son, Rosendale	5 00

AGED HERD.

One bull and four females, 2 years and over.

496	Gillett & Son, Rosendale	40 00
1050	Rust Bros., North Greenfield	20 00

YOUNG HERD.

One bull and four females under 2 years. Females to be bred by exhibitor.

1050	Rust Bros., North Greenfield	40 00
496	Gillett & Son, Rosendale	20 00

HOLSTEIN COW.

Best Holstein cow with two of her offspring.

No. 1050	Rust Bros., North Greenfield.....	\$25 00
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Best four Holsteins, either sex, under 4 years of age, get of one sire, bred and owned by exhibitor.

1050	Rust Bros., North Greenfield.....	25 00
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SWEEPSTAKES.

Best cow 2 years and over.

1050	Rust Bros., North Greenfield.....	25 00
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Best bull 1 year and over.

496	Gillett & Son, Rosendale.....	25 00
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1377

CLASS 20—*Guernseys.*

Best bull 3 years and over.

No. 1213	F. W. Tratt, Whitewater.....	\$20 00
584	Geo. C. Hill & Son, Rosendale.....	15 00

Best bull 1 year and under 2.

584	Geo. C. Hill & Son, Rosendale.....	10 00
1213	F. W. Tratt, Whitewater.....	8 00

Best bull under 1 year.

1213	F. W. Tratt, Whitewater.....	8 00
584	Geo. C. Hill & Son, Rosendale.....	5 00

Best cow 3 years and over.

1213	F. W. Tratt, Whitewater.....	20 00
584	Geo. C. Hill & Son, Rosendale.....	15 00

Best heifer 2 years and under 3.

584	Geo. C. Hill & Son, Rosendale.....	15 00
1213	F. W. Tratt, Whitewater.....	10 00

PREMIUM AWARDS.

71

Best heifer 1 year and under 2.

No. 1213	F. W. Tratt, Whitewater.....	\$10 00
684	Geo. C. Hill & Son, Rosendale.....	8 00

Best heifer under 1 year.

684	Geo. C. Hill & Son, Rosendale.....	8 00
1213	F. W. Tratt, Whitewater.....	5 00

AGED HERD.

One bull and four females, 2 years old and over.

1213	F. W. Tratt, Whitewater.....	\$40 00
584	Geo. C. Hill & Son, Rosendale.....	20 00

YOUNG HERD.

One bull and four females under 2 years. Females to be bred by exhibitor.

No. 1213	F. W. Tratt, Whitewater.....	\$40 00
584	Geo. C. Hill & Son, Rosendale.....	20 00

GUERNSEY COW.

Best Guernsey cow with two of her offspring.

No. 1213	F. W. Tratt, Whitewater.....	\$25 00
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Best four Guernseys, either sex under 4 years of age, get of one sire, bred and owned by exhibitor.

1213	F. W. Tratt, Whitewater.....	25 00
584	Geo. C. Hill & Son, Rosendale.....	15 00

SWEEPSTAKES.

Best cow, 2 years and over.

No. 1213	F. W. Tratt, Whitewater.....	\$25 00
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Best bull 1 year and over.

1213	F. W. Tratt, Whitewater.....	25 00
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CLASS 21 — *Jerseys.*

Best bull 3 years and over.

No. 810	Wm. N. McConnell, Ripon....	\$20 00
642	R. S. Kingman, Sparta.....	15 00

Best bull 2 years and under 3.

810	Wm. N. McConnell, Ripon.. . . .	15 00
642	R. S. Kingman, Sparta.....	10 00

Best bull 1 year and under 2.

809	McCauley & Brown, Madison.....	10 00
809	McCauley & Brown, Madison	8 00

Best bull under 1 year.

810	Wm. M. McConnell, Ripon.....	8 00
642	R. S. Kingman, Sparta.....	5 00

Best cow 3 years and over.

642	R. S. Kingman, Sparta.....	20 00
809	McCauley & Brown, Madison.. . . .	15 00

Best heifer 2 years and under 3.

642	R. S. Kingman, Sparta.....	15 00
810	Wm. N. McConnell, Ripon.....	10 00

Best Heifer, 1 year and under 2.

809	McCauley & Brown, Madison, Wis...	10 00
482	A. L. Greengo, Colgate, Wis.....	8 00

Best heifer under 1 year.

809	McCauley & Brown, Madison, Wis.....	8 00
642	R. S. Kingman, Sparta, Wis.....	5 00

AGED HERD.

One bull and four females, 2 years old and over.

642	R. S. Kingman, Sparta, Wis.....	40 00
725	Le Feber & Johnson North Greenfield, Wis....	20 00

YOUNG HERD.

One bull and four females under 2 years. Females to be bred by exhibitor.

No. 642	R. S. Kingman, Sparta, Wis.....	\$40 00
725	Le Feber & Johnson, North Greenfield, Wis.....	20 00

JERSEY COW.

Best Jersey cow with two of her offspring.

No. 809 McCauley & Brown, Madison, Wis. \$25 00

Best four Jerseys, either sex under 4 years of age, get of one sire, bred and owned by exhibitor.

No. 810 Wm. N. McConnell, Ripon, Wis. \$25 00

642 R. S. Kingman, Sparta, Wis. 15 00

SWEEPSTAKES.

Best cow 2 years and over.

642 R. S. Kingman, Sparta. 25 00

Best bull 1 year old and over.

810 Wm. N. McConnell, Ripon. 25 00

417

CLASS 22—Herds.

BEEF HERD.

Consisting of one male and four females belonging to one individual or firm.

1124 C. M. Sanger, Waukesha. Diploma

BEST DAIRY HERD.

Consisting of one male and four females belonging to one individual or firm.

1213 F. W. Tratt, Whitewater. Diploma

The National Shorthorn Breeders' Association offer the following Prizes to encourage dairy qualities in Shorthorns:

For the cow three years old and over making the most butter in a two days' test on the Fair Grounds

1 A. A. Arnold, Galesville. \$100 00

1 A. A. Arnold, Galesville. 50 00

MILK TEST—SWEEPSTAKES.

(Entries limited to Wisconsin.)

Best milk cow of any breed 3 years old and over, making the most butter in a two-days' test on the Fair Grounds.

No. 1050 Rust Bros., North Greenfield.....Diploma

The American Hereford Cattle Breeders' Association offer the following special premiums to be awarded at the Wisconsin State Fair of 1891:

HEREFORD BULLS.

Best bull 3 years and over.

No. 176 Cosgrove Live Stock Co., Le Sueur, Minn..... \$10 00

Best bull 2 years old and under 3.

176 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

Best bull 1 year old and under 2.

176 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

Best bull under 1 year old.

176 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

HEREFORD COWS AND HEIFERS.

Best cow 3 years old or over.

163 Thos. Clark, Beecher, Will county, Ills..... 10 00

Best heifer 2 years old and under 3.

176 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

Best heifer 1 year old and under 2.

163 Thos. Clark, Beecher, Will Co., Ill..... 10 00

Best heifer under 1 year old.

163 Thos. Clark, Beecher, Will Co., Ill..... 10 00

HEREFORD HERD.

Best herd to consist of bull 2 years old or over, cow 3 years old or over, heifer 2 years old and under 3, heifer 1 year old and under two, heifer under 1 year old.

163 Thos. Clark, Beecher, Will Co., Ill..... 20 00

PREMIUM AWARDS.

75

HEREFORD — THE GET OF ONE SIRE.

Best four calves of either sex under 4 years of age, by same
sire.

No. 176 Cosgrove Live Stock Co., Le Sueur, Minn..... \$10 00

Special Prizes.

HEREFORD.

Best female, any age.

No. 163 Thos. Clark, Beecher, Will Co., Ill..... \$10 00

Best male, any age.

176 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

Steers sired by registered Hereford bull; best 2-year-old.

163 Thos. Clark, Beecher, Will Co., Ill..... 10 00

140

DEPARTMENT C — SHEEP.

CLASS 23.— *American Merino.*

Best ram, 2 years old and over.

No. 961	J. H. Pitcher, Eagle.....	\$10 00
248	J. H. Dixon, Brandon.....	8 00
603	D. B. Jones, Weiner.....	4 00

Best ram, 1 year and under 2.

613	S. A. Jones, Hustisford.....	10 00
961	J. H. Pitcher, Eagle, Wis.....	7 00
603	D. B. Jones, Weiner, Wis.....	3 00

Best ram lamb.

603	D. B. Jones, Weiner, Wis.....	10 00
248	J. H. Dixon, Brandon, Wis.....	7 00
603	D. B. Jones, Weiner, Wis.....	2 00

Best ewe, 2 years and over.

603	D. B. Jones, Weiner Wis.....	10 00
961	J. H. Pitcher, Eagle, Wis.....	8 00
248	J. H. Dixon, Brandon, Wis.....	4 00

Best ewe 1 year and under 2.

603	D. B. Jones, Weiner, Wis.....	10 00
818	R. H. Mill, Palmyra, Wis.....	7 00
603	D. B. Jones, Weiner, Wis.....	3 00

Best ewe lamb.

603	D. B. Jones, Weiner, Wis.....	10 00
818	R. H. Mill, Palmyra, Wis.....	7 00
961	J. H. Pitcher, Eagle, Wis.....	2 00

Best ram and five ewes any age.

961	J. H. Pitcher, Eagle.....	10 00.
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CLASS 24—*Oxford Downs.*

Best ram, 2 years and over.

No.	802	Geo. McKerrow, Sussex	\$10 00
	802	Geo. McKerrow, Sussex	8 00

Best ram, 1 year and under 2.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex.....	3 00

Best ram lamb.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex	2 00

Best ewe, 2 years and over.

	1389	Frank Wilson, Jackson, Michigan	10 00
	1389	Frank Wilson, Jackson, Michigan	8 00
	802	Geo. McKerrow, Sussex.....	4 00

Best ewe, 1 year and under 2.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex.....	3 00

Best ewe lamb.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex.....	2 00

Best ram and five ewes any age.

	802	Geo. McKerrow, Sussex.....	10 00
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CLASS 25—*Cotswolds.*

Best ram, 2 years and over.

No.	565	Geo. Harding, Waukesha.....	\$10 00
	565	Geo. Harding, Waukesha.....	8 00
	565	Geo. Harding, Waukesha.....	4 00

Best ram, 1 year and under 2.

No.	565	Geo. Harding, Waukesha.....	\$10 00
	565	Geo. Harding, Waukesha.....	7 00
	565	Geo. Harding, Waukesha.....	3 00

Best ram lamb.

	565	Geo. Harding, Waukesha.....	10 00
	565	Geo. Harding, Waukesha.....	7 00
	565	Geo. Harding, Waukesha.....	2 00

Best ewe, 2 years and over.

	565	Geo. Harding, Waukesha.....	10 00
	565	Geo. Harding, Waukesha.....	8 00
	1389	Frank Wilson, Jackson, Michigan .	4 00

Best ewe, 1 year and under 2.

	565	Geo. Harding, Waukesha.....	10 00
	565	Geo. Harding, Waukesha.....	7 00
	1389	Frank Wilson, Jackson, Michigan.....	3 00

Best ewe lamb.

	565	Geo. Harding, Waukesha.....	10 00
	565	Geo. Harding, Waukesha.....	7 00
	565	Geo. Harding, Waukesha.....	2 00

Best ram and 5 ewes any age.

	565	Geo. Harding, Waukesha.....	10 00
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CLASS 26 — *South Downs.*

Best ram 2 years and over.

No.	802	Geo. McKerrow, Sussex.....	\$10 00
	802	Geo. McKerrow, Sussex.....	8 00
	802	Geo. McKerrow, Sussex.....	4 00

Best ram 1 year and under 2.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	576	Charles T. Hill, Brookfield.....	3 00

Best ram lamb.

No.	802	Geo. McKerrow, Sussex.....	\$10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex.....	2 00

Best ewe 2 years and over.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	8 00
	802	Geo. McKerrow, Sussex.....	4 00

Best ewe 1 year and under 2.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	7 00
	802	Geo. McKerrow, Sussex.....	3 00

Best ewe lamb.

	802	Geo. McKerrow, Sussex.....	10 00
	802	Geo. McKerrow, Sussex.....	2 00

CLASS 27 — *Shropshire.*

Best ram, 2 years and over.

No.	5	Geo. Allen, & Son Allerton, Ills.....	10 00
	485	E. Gillett, Western Union.....	8 00

Best ram, 1 year and under 2.

	5	Geo. Allen & Son, Allerton, Ills.....	10 00
	5	Geo. Allen & Son, Allerton, Ills.....	7 00
	5	Geo. Allen & Son, Allerton, Ills.....	3 00

Best ram lamb.

	5	Geo. Allen & Son, Allerton, Ills.....	10 00
	5	Geo. Allen & Son, Allerton, Ills.....	7 00
	650	W. T. Kelsey, Prairie du Sac.....	2 00

Best ewe, 2 years and over.

No. 5	Geo. Allen & Son, Allerton, Ills.	\$10 00
5	Geo. Allen & Son, Allerton, Ills.	8 00
5	Geo. Allen & Son, Allerton, Ills.	4 00

Best ewe, 1 year and under 2.

5	Geo. Allen & Son, Allerton, Ills.	10 00
5	Geo. Allen & Son, Allerton, Ills.	7 00
5	Geo. Allen & Son, Allerton, Ills.	3 00

Best ewe lamb.

5	Geo. Allen & Son, Allerton, Ills.	10 00
5	Geo. Allen & Son, Allerton, Ills.	7 00
650	W. T. Kelsey, Prairie du Sac, Wis.	2 00

Best ram and five ewes any age.

5	Geo. Allen & Son, Allerton, Ills.	10 00
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CLASS 28 — *Delain Merinos.*

Best Ram 2 years old and over.

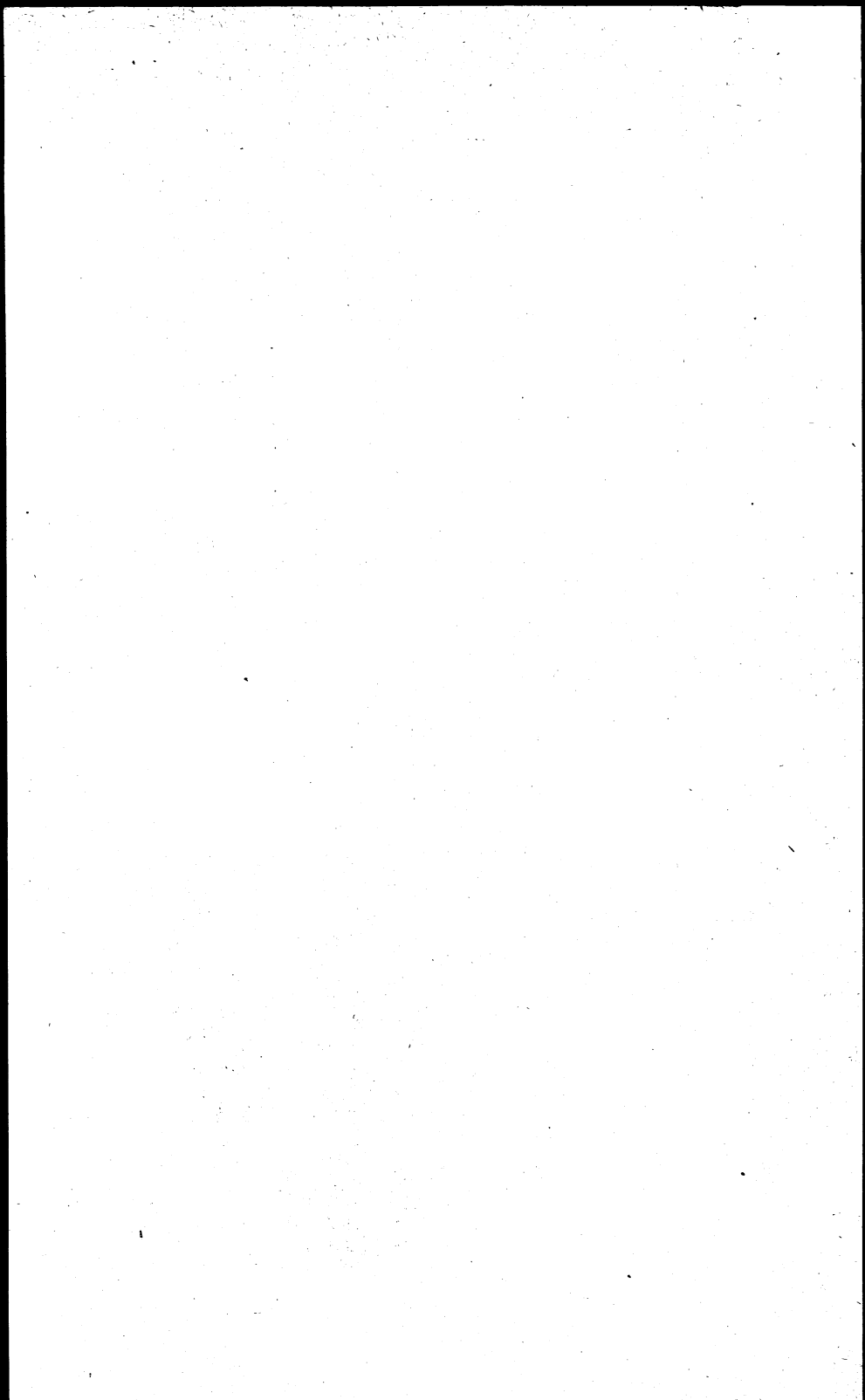
No. 613	S. A. Jones, Hustisford.	10 00
961	J. H. Pitcher, Eagle.	8 00
242	Davis & Benedict, Woodworth.	4 00

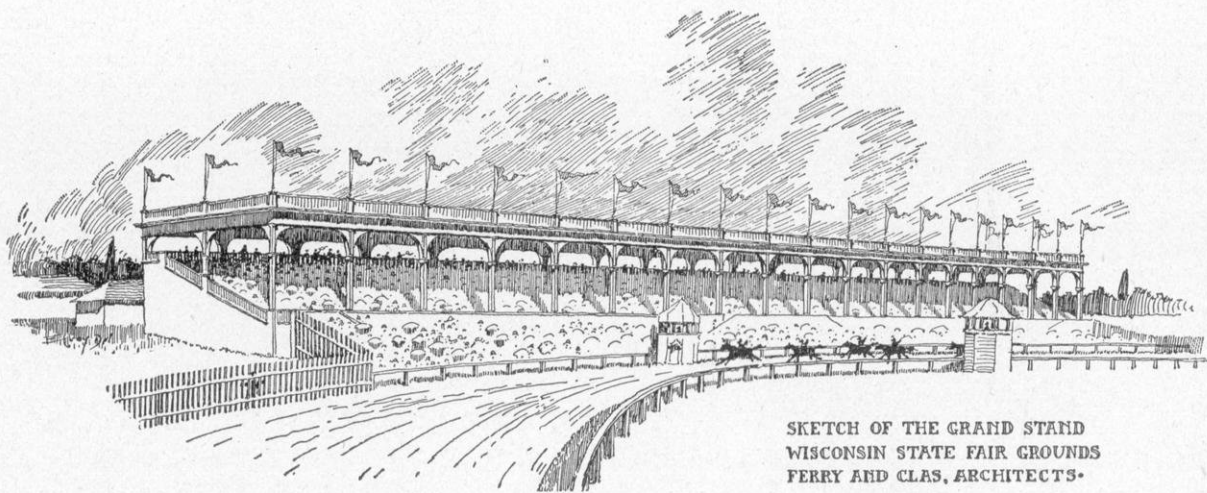
Best ram 1 year and under 2.

613	S. A. Jones, Hustisford.	10 00
613	S. A. Jones, Hustisford.	7 00
248	J. H. Dixon, Brandon.	3 00

Best ram lamb.

242	Davis & Benedict, Woodnorth.	10 00
961	J. H. Pitcher, Eagle.	7 00
242	Davis & Benedict, Woodnorth.	2 00





SKETCH OF THE GRAND STAND
WISCONSIN STATE FAIR GROUNDS
FERRY AND CLAS, ARCHITECTS.

PREMIUM AWARDS.

81

Best ewe 2 years old and over.

No. 961	J. H. Pitcher, Eagle.....	\$10 00
613	S. A. Jones, Hustisford.....	2 00
242	Davis & Benedict, Woodnorth.....	4 00

Best ewe 1 year and under 2.

248	J. H. Dixon, Brandon.....	10 00
818	R. H. Mill, Palmyra.....	7 00
603	D. B. Jones, Weiner.....	3 00

Best ewe lamb.

961	J. H. Pitcher, Eagle.....	10 00
603	D. B. Jones, Weiner.....	7 00
242	Davis & Benedict, Woodnorth.....	2 00

Best ram and 5 ewes any age.

81 8	R. H. Mill, Palmyra.....	10 00
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DEPARTMENT D—SWINE.

CLASS 29—*Poland China.*

Best boar 2 years old and over.

No. 801	H. N. Maxham, Diamond Lake, Ill.....	\$15 00
1369	John F. Wegge, Burlington.....	7 00

Best boar 1 year and under 2.

1042	C. W. Rowe, Whitewater.....	12 00
801	H. N. Maxham, Diamond Lake, Ill.....	8 00

Best breeding sow 2 years and over.

No. 403	B. T. Fowler, Whitewater.....	\$15 00
1042	C. W. Rowe, Whitewater.....	7 00

Best breeding sow 1 year and under 2.

801	H. N. Maxham, Diamond Lake, Ill.....	12 00
1042	C. W. Rowe, Whitewater.....	6 00

Best boar pig over 6 months and under 1 year.

1042	C. W. Rowe, Whitewater.....	8 00
1369	John F. Megge, Burlington.....	4 00

Best sow pig over 6 months and under 1 year.

738	J. C. Love & Son, Waukesha.....	8 00
1129	A. Selle, Mequon.....	4 00

Best boar pig under 6 months.‡

403	B. T. Fowler, Whitewater.....	6 00
403	B. T. Fowler, Whitewater.....	3 00

Best sow pig under 6 months.

1042	C. W. Rowe, Whitewater.....	6 00
403	B. T. Fowler, Whitewater.....	3 00

SWINE BREEDERS' PREMIUM.

Best boar pig under 6 months old.

403	B. T. Fowler, Whitewater.....	5 00
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HERD SWEEPSTAKES.

Best boar any age.

1042	C. W. Rowe, Whitewater.....	15 00
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Best sow any age.

801.	H. N. Maxham, Diamond Lake.....	15 00
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Best boar and four of his get, the latter to be under 1 year old and bred and owned by the exhibitor. Competition confined to Wisconsin herds.

1042	C. W. Rowe, Whitewater.....	15 00
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CLASS 30 — *Chester White and Jersey Red.*

Best boar 2 years old and over.

No. 963 Palmer & Noblet, Springfield..... \$15 00

Best boar 1 year and under 2.

963 Palmer & Noblet, Springfield..... 12 00

Best breeding sow 2 years and over.

963 Palmer & Noblet, Springfield..... 15 00
 963 Palmer & Noblet, Springfield..... 7 00

Best breeding sow 1 year and under 2.

963 Palmer & Noblet, Springfield..... 12 00
 963 Palmer & Noblet, Springfield..... 6 00

Best breeding sow with litter of sucking pigs, not less than four in number, and not over 6 months old.

963 Palmer & Noblet, Springfield..... 15 00

Best boar pig, over 6 months and under 1 year.

963 Palmer & Noblet, Springfield..... 8 00
 963 Palmer & Noblet, Springfield..... 4 00

Best sow pig over 6 months and under 1 year.

963 Palmer & Noblet, Springfield..... 8 00
 963 Palmer & Noblet, Springfield..... 4 00

Best boar pig under 6 months.

963 Palmer & Noblet, Springfield..... 6 00
 963 Palmer & Noblet, Springfield..... 3 00

Best sow pig under 6 months.

963 Palmer & Noblet, Springfield..... 6 00
 963 Palmer & Noblet, Springfield..... 3 00

SWINE BREEDERS' PREMIUM.

Best boar pig under 6 months old.

963 Palmer & Noblet, Springfield..... 5 00

HERD SWEEPSTAKES.

Best boar any age.

No. 963	Palmer & Noblet, Springfield.....	\$15 00
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Best sow any age.

963	Palmer & Noblet, Springfield.....	15 00
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Best boar and four of his his get, the latter to be under 1 year old, bred and owned by the exhibitor. Competition confined to Wisconsin herds.

963	Palmer & Noblet, Springfield.....	15 00
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CLASS 31—*Berkshire.*

Best boar 2 years old and over.

No. 729	A. J. Lovejoy & Son, Roscoe, Ill.....	\$15 00
169	B. N. Cooley, Coldwater, Mich.....	7 00

Best boar 1 year and under 2.

729	A. J. Lovejoy & Sons, Roscoe, Ill.....	12 00
169	B. N. Cooley, Coldwater, Mich.....	6 00

Best breeding sow 2 years and over.

729	A. J. Lovejoy & Son, Roscoe, Ill.....	15 00
169	B. N. Cooley, Coldwater, Mich.....	7 00

Best breeding sow 1 year and under 2.

729	A. J. Lovejoy & Son, Roscoe, Ill.....	12 00
729	A. J. Lovejoy & Son, Roscoe, Ill.....	6 00

Best boar over 6 months and under 1 year.

729	A. J. Lovejoy & Son, Roscoe, Ill.....	8 00
1385	Wakem & Stone, Madison.....	4 00

Best sow pig, over 6 months old and under 1 year.

169	B. N. Cooley, Coldwater, Michigan.....	8 00
729	A. J. Lovejoy & Son, Roscoe, Ills.....	4 00

PREMIUM AWARDS.

85

Best boar pig, under 6 months old.

No. 1385	Wakem & Stone, Madison.	\$6 00
169	B. N. Cooley, Coldwater, Michigan	3 00

Best sow pig, under 6 months.

1385	Wakem & Stone, Madison.	6 00
169	B. N. Cooley, Coldwater, Michigan	3 00

SWINE BREEDERS' PREMIUM.

Best boar pig under 6 months old.

No. 1385	Wakem & Stone, Madison.	5 00
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HERD SWEEPSTAKES.

Best boar any age.

No. 729	A. J. Lovejoy & Son, Roscoe, Ills.	15 00
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Best sow any age.

729	A. J. Lovejoy & Son, Roscoe, Ills.	15 00
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Best boar and four of his get, the latter to be under 1 year old, bred and owned by the exhibitor. Competition to be confined to Wisconsin herds.

1385	Wakem & Stone, Madison	15 00
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CLASS 32 — *Essex, Small Yorkshire and Cheshire.*

Best boar, 2 years old and over.

No. 1389	Frank Wilson, Jackson, Michigan.	\$15 00
802	Geo. McKerrow, Sussex	7 00

Best boar, 1 year and under 2.

1389	Frank Wilson, Jackson, Michigan	12 00
1389	Frank Wilson, Jackson, Michigan	6 00

Best breeding sow, 2 years and over.

No. 1389	Frank Wilson, Jackson, Michigan	\$15 00
802	Geo. McKerrow, Sussex	7 00

Best breeding sow, 1 year and under 2.

802	Geo. McKerrow, Sussex	12 00
1389	Frank Wilson, Jackson, Michigan	6 00

Best boar pig, over 6 months and under 1 year.

802	Geo. McKerrow, Sussex	8 00
1389	Frank Wilson, Jackson, Michigan	4 00

Best sow pig over 6 months and under 1 year.

1289	Frank Wilson, Jackson, Mich.....	8 00
802	Geo. McKerrow, Sussex	4 00

Best sow pig under 6 months.

802	Geo. McKerrow, Sussex.....	6 00
1389	Frank Wilson, Jackson, Mich.....	3 00

Best boar pig under 6 months.

802	Geo. McKerrow, Sussex.....	6 00
1389	Frank Wilson, Jackson, Mich.....	3 00

SWINE BREEDERS' PREMIUM.

Best boar pig under 6 months old.

802	Geo. McKerrow, Sussex	5 00
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HERD SWEEPSTAKES.

Best boar any age.

1389	Frank Wilson, Jackson, Mich.....	15 00
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Best sow any age.

802	Geo. McKerrow, Sussex	15 00
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Best boar and four of his get, the latter to be under 1 year old, bred and owned by the exhibitor. Competition to be confined to Wisconsin herds.

802	Geo. McKerrow, Sussex, Wis.....	15 00
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CLASS 33 — *Victorias.*

Best boar 2 years old and over.

No. 242	Davis & Benedict, Woodworth	\$15 00
485	E. Gillett, Western Union	7 00

Best boar 1 year and under 2.

242	Davis & Benedict, Woodworth	12 00
86	J. R. Brabazon, Delavan	6 00

Best breeding sow 2 years and over.

242	Davis & Benedict, Woodworth	15 00
242	Davis & Benedict, Woodworth	7 00

Best breeding sow 1 year and under 2.

242	Davis & Benedict, Woodworth	12 00
86	J. R. Brabazon, Delavan	6 00

Best breeding sow with litter of sucking pigs, not less than four in number, and not over six months old.

242	Davis & Benedict, Woodworth	15 00
86	J. R. Brabazon, Delavan	7 00

Best boar over 6 months and under 1 year.

576	Charles T. Hill, Brookfield	8 00
242	Davis & Benedict, Woodworth	4 00

Best sow pig over 6 months and under 1 year.

86	J. R. Brabazon, Delavan	8 00
242	Davis & Benedict, Woodworth	4 00

Best boar pig under 6 months.

242	Davis & Benedict, Woodworth	6 00
86	J. R. Brabazon, Delavan	3 00

Best sow pig under 6 months.

576	Charles T. Hill, Brookfield	6 00
86	J. R. Brabazon, Delavan	3 00

SWINE BREEDERS' PREMIUM.

Best boar pig under 6 months old.

No. 242	Davis & Benedict, Woodworth.....	\$5 00
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HERD SWEEPSTAKES.

Best boar any age.

No. 576	Charles T. Hill, Brookfield.....	15 00
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Best sow any age.

242	Davis & Benedict, Woodworth.....	15 00
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Best boar and four of his get, the get to be under 1 year old, and bred and owned by the exhibitor. Competition to be confined to Wisconsin herds.

242	Davis & Benedict, Woodworth	\$15 00
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DEPARTMENT E — POULTRY.

CLASS 34 — *Asiatics.*

Best pair Light Brahma fowls.

No. 581	Hays & Diebolt, Madison.....	\$3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Light Brahma chicks.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Dark Brahma fowls.

735	Love Bros., Waukesha.....	3 00
735	Love Bros., Waukesha.....	2 00

Best pair Dark Brahma chicks.

86	J. R. Brabazon, Delavan.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair Buff Cochin fowls.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Buff Cochin chicks.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair of Partridge Cochin Fowls.

735	Love Bros., Waukesha.....	3 00
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Best pair Partridge Cochin chicks.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair White Cochin fowls.

No. 1052	E. G. Roberts, Ft. Atkinson.....	3 00
1376	R. D. Warner, Whitewater.....	2 00

Best pair White Cochin chicks.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Black Cochin fowls.

86	J. R. Brabazon, Delavan.....	3 00
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Best pair Black Cochin chicks.

1052	E. G. Roberts, Ft. Atkinson....	3 00
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Best pair Langshan fowls.

86	J. R. Brabazon Delavan.....	3 00
814	H. S. Moorhouse, Elkhorn.....	2 00

Best pair Langshan chicks.

735	Love Bros., Waukesha.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best display of Asiatics.

86	J. R. Brabazon, Delavan.....	10 00
1052	E. G. Roberts, Ft. Atkinson ..	5 00

Best pair American Dominique fowls.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Dominique chicks.

814	H. S. Moorhouse, Elkhorn.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair Plymouth Rock fowls.

735	Love Bros., Waukesha.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

PREMIUM AWARDS.

91

Best pair Plymouth Rock chicks.

No.	814	H. S. Moorhouse, Elkhorn.....	\$3 00
	86	J. R. Brabazon, Delavan ..	2 60

Best pair White Plymouth Rock fowls.

	1052	E. G. Roberts, Ft. Atkinson	3 00
	814	H. S. Moorhouse, Elkhorn.....	2 00

Best pair White Plymouth Rock chicks.

	86	J. R. Brabazon, Delavan.....	3 00
	963	Palmer & Noblet, Springfield.....	2 00

Best pair Wyandotte fowls.

	86	J. R. Brabazon, Delavan.....	3 00
	963	Palmer & Noblet, Springfield.....	2 00

Best pair Wyandotte chicks.

	963	Palmer & Noblet, Springfield.....	3 00
	963	Palmer & Noblet, Springfield.....	2 00

Best pair White Wyandotte fowls.

	86	J. R. Brabazon, Delavan.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair White Wyandotte chicks.

	963	Palmer & Noblet, Springfield.....	3 00
	1376	R. D. Warner, Whitewater.....	2 00

Best pair Golden Wyandotte fowls.

	814	H. S. Moorhouse, Elkhorn.....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Golden Wyandotte chicks.

	814	H. S. Moorhouse, Elkhorn.....	3 00
	814	H. S. Moorhouse, Elkhorn.....	2 00

Best display American breeds.

	86	J. R. Brabazon, Delavan	10 00
	814	H. S. Moorhouse, Elkhorn.....	5 00

ENGLISH.

Best pair colored or silver gray Dorking fowls.

No.	86	J. R. Brabazon, Delavan	\$3 00
	613	S. A. Jones, Hustisford	2 00

Best pair colored or silver gray Dorking chicks.

	1376	R. D. Warner, Whitewater	3 00
	613	S. A. Jones, Hustisford	2 00

FRENCH.

Best pair Houdan fowls.

	1052	E. G. Roberts, Ft. Atkinson	3 00
	86	J. R. Brabazon, Delavan	2 00

Best pair Houdan chicks.

	1401	Yorgey & Rich, Horicon	3 00
	1401	Yorgey & Rich, Horicon	2 00

POLISH.

Best pair Black Polish (white crested) fowls.

	1052	E. G. Roberts, Ft. Atkinson	\$3 00
	814	H. S. Moorhouse, Elkhorn	2 00

Best pair Black Polish chicks.

	86	J. R. Brabazon, Delavan	3 00
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Best pair White Polish fowls.

	86	J. R. Brabazon, Delavan	3 00
	1376	R. D. Warner, Whitewater	2 00

Best pair Silver Polish fowls.

	86	J. R. Brabazon, Delavan	3 00
	1376	R. D. Warner, Whitewater	2 00

Best pair Silver Polish chicks.

	86	J. R. Brabazon, Delavan	3 00
	735	Love Bros., Waukesha	2 00

PREMIUM AWARDS.

93

Best pair Golden Polish fowls.

No. 1052	E. G. Roberts, Ft. Atkinson.....	\$3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair Golden Polish chicks.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

GAME.

Best pair brown red fowls.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair brown red chicks.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
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Best pair black breasted red game fowls.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

Best pair black breasted red game chicks.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
735	Love Bros., Waukesha.....	2 00

Best pair Pyle fowls.

86	J. R. Brabazon, Delavan.....	3 00
735	Love Bros., Waukesha.....	2 00

Best pair game any other variety fowls.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair game any other variety chicks.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

HAMBURGS.

Best pair Black Hamburg fowls.

86	J. R. Brabazon, Delavan.....	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Black Hamburg chicks.

No.	86	J. R. Brabazon, Delavan.....	\$3 00
	1376	R. D. Waruer, Whitewater.....	2 00

Best pair Silver Spangled Hamburg fowls.

	1401	Yorgey & Rich, Horicon.....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Silver Spangled Hamburg chicks.

	1401	Yorgey & Rich, Horicon.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

SPANISH AND LEGHORNS.

Best pair Black Spanish (white face) fowls.

	86	J. R. Brabazon, Delavan.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Black Spanish chicks.

	86	J. R. Brabazon, Delavan.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

White Leghorn fowls.

	735	Love Bros., Waukesha.....	3 00
	735	Love Bros., Waukesha.....	2 00

White Leghorn chicks.

	86	J. R. Brabazon, Delavan.....	3 00
	735	Love Bros., Waukesha.....	2 00

Brown Leghorn fowls.

	1052	E. G. Roberts, Ft. Atkinson.....	3 00
	735	Love Bros., Waukesha.....	2 00

Brown Leghorn chicks.

	86	J. R. Brabazon, Delavan.....	3 00
	963	Palmer & Noblet, Springfield.....	2 00

Best pair Rose Comb White Leghorn fowls.

	86	J. R. Brabazon, Delavan.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

PREMIUM AWARDS.

95

Best pair Rose Comb White Leghorn chicks.

No.	86	J. R. Brabazon, Delavan.....	\$3 00
	814	H. S. Moorhouse, Elkhorn.....	2 00

Best pair Rose Comb Brown Leghorn fowls.

	1052	E. G. Roberts, Ft. Atkinson.....	3 00
	86	J. P. Brabazon, Delavan.....	2 00

Best pair Rose Comb Brown Leghorn chicks.

	1052	E. G. Roberts, Fort Atkinson ...	3 00
	1052	E. G. Roberts, Fort Atkinson ...	2 00

Best pair Black Minorca fowls.

	814	H. S. Moorhouse, Elkhorn.....	3 00
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BANTAMS.

Best pair Golden Seabright fowls.

	1052	E. G. Roberts, Ft. Atkinson....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Golden Seabright chicks.

	735	Love Bros., Waukesha.....	3 00
	735	Love Bros., Waukesha.....	2 00

Best pair Silver Duckwing Game fowls.

	1052	E. G. Roberts, Ft. Atkinson.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Silver Duckwing Game chicks.

	1052	E. G. Roberts, Ft. Atkinson.....	3 00
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Best pair Black Breasted Red Game fowls.

	735	Love Bros., Waukesha.....	3 00
	1052	E. G. Roberts, Ft. Atkinson ...	2 00

Best Black Breasted Red Game chicks.

	86	J. R. Brabazon, Delavan	3 00
	1376	R. D. Warner, Whitewater.....	2 00

Best pair any other variety fowls.

No. 1376	R. D. Warner, Whitewater.....	\$3 00
1052	E. G. Roberts, Ft. Atkinson	2 00

Best pair any other variety chicks.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

TURKEYS.

Best pair Bronze Turkey fowls.

86	J. R. Brabazon, Delavan	3 00
1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Bronze Turkey chicks.

86	J. R. Brabazon, Delavan	3 00
814	H. S. Moorhouse, Elkhorn.....	2 00

Best pair White Holland Turkey fowls.

612	S. A. Jones, Hustisford.....	3 00
1052	E. G. Roberts, Ft. Atkinson	2 00

Best pair White Holland Turkey chicks.

613	S. A. Jones, Hustisford.....	3 00
86	J. R. Brabazon, Delavan	2 00

Best pair wild turkey fowls.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
735	Love Bros., Waukesha.....	2 00

Best pair wild turkey chicks.

86	J. R. Brabazon, Delavan.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

WATER FOWLS.

Best pair Toulouse geese.

1052	E. G. Roberts, Ft. Atkinson....	3 00
814	H. S. Moorhouse, Elkhorn	2 00

Best pair Embeden geese.

1052	E. G. Roberts, Ft. Atkinson.....	3 00
86	J. R. Brabazon, Delavan.....	2 00

PREMIUM AWARDS.

97

Best pair White China geese.

No.	86	J. R. Brabazon, Delavan.....	\$3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Pekin ducks.

	1376	R. D. Warner, Whitewater.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

Best pair Aylesbury ducks.

	735	Love Bros., Waukesha.....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Rouen ducks.

	1052	E. G. Roberts, Ft. Atkinson.....	3 00
	1376	R. D. Warner, Whitewater.....	2 00

Best pair Muscovy ducks.

	86	J. R. Brabazon, Delavan.....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

Best pair Cayuga ducks.

	613	S. A. Jones, Hustisford.....	3 00
	1052	E. G. Roberts, Ft. Atkinson.....	2 00

PEA FOWLS.

Best pair pea fowls.

No.	1052	E. G. Roberts, Ft. Atkinson.....	3 00
	86	J. R. Brabazon, Delavan.....	2 00

PIGEONS.

Best pair English carriers.

No.	644	Edw. Kroening, Milwaukee.....	Diploma.
	726	A. J. Luebke, Milwaukee.....	Diploma.

Best pair Starlings.

	726	A. J. Luebke, Milwaukee.....	Diploma.
	644	Edw. Kroening, Milwaukee.....	Diploma.

Best pair Jacobins.

	644	Edw. Kroening, Milwaukee.....	Diploma.
	726	A. J. Luebke, Milwaukee.....	Diploma.

Best pair Turbits.

- No. 726 A. J. Luebke, Milwaukee Diploma.
 644 Edw. Kroening, Milwaukee Diploma.

Best pair Tumblers.

- 644 Edw. Kroening, Milwaukee..... Diploma.
 644 Edw. Kroening, Milwaukee..... Diploma.

Best pair Mooreheads.

- 726 A. J. Luebke, Milwaukee..... Diploma.

Best pair Swallows.

- 726 A. J. Luebke, Milwaukee..... Diploma.

Best pair Barbs.

- 727 A. J. Luebke, Milwaukee..... Diploma.
 726 A. J. Luebke, Milwaukee..... Diploma.

Best pair Trumpeters.

- 726 A. J. Luebke, Milwaukee..... Diploma.

Best pair Owls.

- 644 Edw. Kroening, Milwaukee..... Diploma.

TURKEYS.

Best pair Narragansette chicks.

- 613 S. A. Jones, Hustisford..... Diploma.

Best pair Narragansette fowls.

- 613 S. A. Jones, Hustisford..... Diploma.

DEPARTMENT F—1. AGRICULTURE.

CLASS 35 — *Field Products.*

Best sample spring wheat (Rio Grande or China Tea).

No. 1378	H. P. West, Fayetteville.....	\$5 00
1381	Nelson West, Fayetteville.....	3 00

Best sample spring wheat (Fife).

1377	N. Washburn, Rice Lake.....	5 00
977	D. T. Pilgrim, Wauwatosa.....	3 00

Best sample blue stem spring wheat.

482	A. L. Greengo, Colgate.....	5 00
976	D. T. Pilgrim, Jr., Wauwatosa.....	3 00

Best any other spring variety.

976	D. T. Pilgrim, Jr., Wauwatosa.....	5 00
256	J. C. Davis, Oshkosh.....	3 00

Best White Winter wheat.

976	D. T. Pilgrim, Jr., Wauwatosa.....	5 00
1378	H. P. West, Fayetteville.....	3 00

Best Red Winter wheat.

1130	M. E. Spring, Baraboo.....	5 00
498	Mrs. Elizabeth Greengo, Colgate.....	3 00

Best Rye.

1206	Frank L. Turrell, Bay View.....	5 00
1377	N. Washburn, Rice Lake.....	3 00

Best Oats.

1131	J. G. Schmidt, Jr., Campbellsport.....	5 00
405	A. J. Fraser, Vernon.....	3 00

Best White Schonen oats.

No. 584	Geo. C. Hill & Son, Rosendale	\$5 00
1378	H. P. West, Fayetteville.....	3 00

Best Barley.

1378	H. P. West, Fayetteville.....	5 00
976	D. T. Pilgrim, Jr., Wauwatosa.....	3 00

Best Scotch Barley.

1378	H. P. West, Fayetteville.....	5 00
1381	Nelson West, Fayetteville.....	3 00

Best Buckwheat.

1378	H. P. West, Fayetteville.....	5 00
1381	Nelson West, Fayetteville.....	3 00

Best Flax Seed.

1378	H. P. West, Fayetteville.....	5 00
256	J. C. Davis, Oshkosh.....	3 00

Best Timothy Seed.

1143	H. J. Schoonmaker, Wauwatosa.....	5 00
1378	H. P. West, Fayetteville.....	3 00

Best Clover Seed.

727	J. C. Loomis, Alma Center.....	5 00
1204	F. B. Lindall, Caldwell.....	3 00

Best variety of Red Top.

1378	H. P. West, Fayetteville.....	3 00
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Best Hungarian Millet.

1381	Nelson West, Fayetteville.....	3 00
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Best of any other variety.

1378	H. P. West, Fayetteville	3 00
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PREMIUM AWARDS.

101

Best Field peas.

No. 156 J. C. Davis, Oshkosh..... \$3 00

Best peas of any other variety.

405 A. J. Fraser, Vernon..... 3 00
 498 Mrs. Elizabeth Greengo, Colgate..... 2 00

Best Navy beans.

727 J. C. Loomis, Alma Center..... 5 00
 482 A. L. Greengo, Colgate..... 3 00

Best beans of any other variety.

256 J. C. Davis, Oshkosh 5 00
 1377 N. Washburn, Rice Lake..... 3 00

Best Dent corn, white.

1378 H. P. West, Fayetteville 5 00
 256 J. C. Davis, Oshkosh..... 3 00

Best Dent corn, yellow.

1378 H. P. West, Fayetteville 5 00
 1381 Nelson West, Fayetteville..... 3 00

Best Flint corn, white.

1204 F. B. Tindall, Caldwell 5 00
 1203 W. W. Thompson, St. Francis... 3 00

Best Flint corn, yellow.

1130 M. E. Spring, Baraboo 5 00
 1203 W. W. Thompson, St. Francis... 3 00

Best Dutton corn.

727 J. C. Loomis, Alma Center..... 3 00

Best bushel corn in the ear, any variety.

1378 H. P. West, Fayetteville..... 5 00
 727 J. C. Loomis, Alma Center..... 3 00

Best quality and display of tobacco leaf.

1204 F. B. Tindall, Caldwell 5 00
 1203 W. W. Thompson, St. Francis... 3 00

Best six pumpkins.

No. 1203	W. W. Thompson, St. Francis.....	\$3 00
1441	John C. Zimmerman, Butler.....	2 00

Best display of grains on straw or stalk.

1378	H. P. West, Fayetteville.....	5 00
1377	N. Washburn, Rice Lake.....	3 00

Best exhibition of field products grown in the state, including not less than twelve varieties in all, each sample to be free to compete for the foregoing individual prizes, both quality and number considered, and and being not less in quality than as above specified.

1378	H. P. West, Fayetteville.....	\$20 00
976	D. T. Pilgrim, Jr., Wauwatosa.....	10 00

CLASS 36 — *Garden and Vegetable Produce.*

Best Early Rose or Ohio potatoes.

No. 922	L. L. Olds, Clinton.....	\$3 00
1203	W. W. Thompson, St. Francis.....	2 00

Best Beauty of Hebron.

976	D. T. Pilgrim, Jr., Wauwatosa.....	3 00
727	J. C. Loomis, Alma Center.....	2 00

Best any other variety of early potatoes.

602	Reinert Jensen, St. Francis ..	3 00
1202	W. W. Thompson, St. Francis.....	2 00

Best Snowflake potatoes.

1203	W. W. Thompson, St. Francis.....	3 00
970	E. W. Palmer, Fitchburg.....	2 00

Best Burbank Seedling potatoes,

727	J. C. Loomis, Alma Center.....	3 00
1372	C. Wynoble, St. Francis.....	2 00

PREMIUM AWARDS.

103

Best any other variety of late potatoes.

No.	405	A. J. Fraser, Vernon	\$5 00
	727	J. C. Loomis, Alma Center.....	2 00

Best and largest variety of potatoes.

	922	L. L. Olds, Clinton	5 00
	1203	W. W. Thompson, St. Francis.....	2 00

Best Yellow Nansemond Sweet potatoes.

	1378	H. P. West, Fayetteville.....	3 00
	1203	W. W. Thompson, St. Francis	2 00

Best Red Bermuda Sweet potatoes.

	1203	W. W. Thompson, St. Francis	3 00
	1378	H. P. West, Fayetteville.....	2 00

Best four quarts Lima Beans, shelled.

	1381	Nelson West, Fayetteville.....	2 00
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Best Turnip beets.

	1204	F. B. Tindall, Caldwell	3 00
	1203	W. W. Thompson, St. Francis.....	2 00

Best Long Blood beets.

	1372	C. Wynoble, St. Francis	3 00
	1203	W. W. Thompson, St. Francis	2 00

Best Mangel Wurtzel.

	1372	C. Wynoble, St. Francis.....	3 00
	1203	W. W. Thompson, St. Francis	2 00

Best Red Wethersfield onions.

	1203	W. W. Thomson, St. Francis.....	3 00
	1377	N. Washburn, Rice Lake	2 00

Best Yellow Danvers.

	1203	W. W. Thompson, St. Francis	3 00
	1372	C. Wynoble, St. Francis ..	2 00

Best white variety of onions.

No. 1203	W. W. Thompson, St. Francis	\$3 00
1372	C. Wynoble, St. Francis	2 00

Best Drum Head cabbage.

1203	W. W. Thompson, St. Francis	3 00
855	W. A. Nichells, Waukesha	2 00

Best three cabbages in any other variety.

1372	C. Wynoble, St. Francis	3 00
1204	F. B. Tindall, Caldwell	2 00

Best Long Orange Carrots.

1372	C. Wynoble, St. Francis	3 00
1203	W. W. Thompson, St. Francis	2 00

Best Horn Carrots.

1372	C. Wynoble, St. Francis	3 00
1203	W. W. Thompson, St. Francis	2 00

Best head Cauliflower.

1203	W. W. Thompson, St. Francis	3 00
885	W. A. Nichells, Waukesha	2 00

Best ten heads Celery.

885	W. A. Nichells, Waukesha	3 00
1220	L. Trobridge, Milwaukee	2 00

Best twelve ears Early Sweet Corn.

1207	E. B. Thomas, Dodge's Corner	3 00
1203	W. W. Thompson, St. Francis	2 00

Best twelve ears Late Sweet Corn.

1203	W. W. Thompson, St. Francis	3 00
161	I. N. Chamberlain, Beloit	2 00

Best six egg plants.

885	W. A. Nichells, Waukesha	2 00
1203	W. W. Thompson, St. Francis	1 00

PREMIUM AWARDS.

105

Best six watermelons.

No. 885	W. A. Nichells, Waukesha.....	\$3 00
1203	W. W. Thompson, St. Francis.....	2 00

Best six Nutmeg melons.

1207	E. B. Thomas, Dodges' Corner.....	3 00
1204	F. B. Tindall, Caldwell.....	2 00

Best parsnips.

1372	C. Wynoble, St. Francis.....	3 00
1203	W. W. Thompson, St. Francis.....	2 00

Best twelve large red peppers.

1203	W. W. Thompson, St. Francis.....	2 00
885	W. A. Nichells, Waukesha.....	1 00

Best twelve large yellow peppers.

1203	W. W. Thompson, St. Francis.....	2 00
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Best peck vegetable oysters.

1272	C. Wynoble, St. Francis.....	2 00
1203	W. W. Thompson, St. Francis.....	1 00

Best six Hubbard squashes.

602	Reinert Jensen, St. Francis.....	3 00
1372	C. Wynoble, St. Francis.....	2 00

Largest squash of any variety.

1372	C. Wynoble, St. Francis.....	3 00
1203	W. W. Thompson, St. Francis.....	2 00

Best twelve tomatoes.

322	F. W. Effinger, Root Creek P. O.....	3 00
855	W. A. Nichells, Waukesha,	2 00

Best Flat Turnips.

1203	W. W. Thompson, St. Francis.....	3 00
885	W. A. Nichells, Waukesha.....	2 00

Best Rutabagas.

976	D. T. Pilgrim, Jr., Wauwatosa.....	3 00
977	D. T. Pilgrim, Wauwatosa.....	2 00

Best exhibition by professionals, including not less than five specimens of vegetables, nor less than twelve varieties in all, both quality and number of varieties to be considered.

No. 1203	W. W. Thompson, St. Francis	\$5 00
885	W. A. Nichells, Waukesha	3 00

Best exhibition by non-professionals, including not less than five specimens of vegetables, nor less than twelve varieties in all, both quality and numbers of varieties to be considered.

1204	F. B. Tindall, Caldwell	5 00
1381	Nelson West, Fayetteville	3 00

HONEY.

Best sample twelve pound or more of comb honey in most marketable shape.

497	Chas. H. Green, Waukesha	5 00
482	A. L. Greengo, Colgate	3 00

Best sample extracted honey, five pounds or more, in most marketable shape.

497	Chas. H. Green, Waukesha	5 00
482	A. L. Greengo, Colgate	3 00

Best bee hive for comb honey.

497	Chas. H. Green, Waukesha	2 00
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Best bee hive for extracted honey.

497	Chas. H. Green, Waukesha	2 00
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Best honey extractor.

497	Chas. H. Green, Waukesha	2 00
482	A. L. Greengo, Colgate	1 00

Best colony of Italian bees in observatory hive.

497	Chas. H. Green, Waukesha	5 00
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Best wax extractor.

497	Chas. H. Green, Waukesha	2 00
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PREMIUM AWARDS.

107

Best display of apiarian tools and fixtures.

No. 479	Chas. H. Green, Waukesha.....	\$4 00
482	A. L. Greengo, Colgate.....	2 00

Best samples comb foundation.

497	Chas. H. Green, Waukesha.....	2 00
488	Isaac Gale & Son, Waukesha.....	1 00

Best samples bees wax, five pounds or more.

497	Chas. H. Green, Waukesha.....	2 00
488	Isaac Gale & Son, Waukesha.....	1 00

DEPARTMENT F — 2 — DAIRY.

CLASS 38 — *Cheese and Butter.*

FACTORY CHEESE.

For each exhibit of three cheese, or not less than 150 pounds, made at any time, and awarded forty points and over in a scale of fifty points or perfection, shall be designated, "Grade No. 1," and draw a pro-rata share of:

No. 1201	J. M. Thomas, Dixon.....	5 00
1127	Smith & Eastman, Saukville.....	5 00
411	John Frick, Plymouth.....	5 00
1384	F. D. Widder, Sheboygan Falls.....	10 00
737	G. Lammers, Cedar Grove.....	5 00
257	A. D. De Land, Sheboygan Falls.....	5 00
1371	Steve Wollensack, Watertown.....	5 00
84	H. J. Buchen, Cascade.....	5 00
82	Ferdinand Brehm, Sheboygan.....	5 00

FACTORY CHEESE — CHEDDAR SHAPE.

Best three boxes of cheese made at any time, of not less than 150 pounds.

No. 1371	Steve Wollensack, Watertown.....	\$30 00
1127	Smith & Eastman, Saukville ..	15 00
411	John Frick	7 00

FACTORY CHEESE — FLATS.

Best four boxes of cheese made at any time, of not less than 120 pounds.

646	F. A. Kielsmeier, Hika, P. O.....	30 00
257	A. D. De Land, Sheboygan Falls.....	15 00
84	H. J. Buchen, Cascade.....	7 00

YOUNG AMERICA CHEESE.

Best three boxes of not less than four in a box, made at any time.

411	John Frick, Plymouth.....	20 00
1384	F. D. Widder, Sheboygan Falls.....	15 00
646	F. A. Kielsmeier, Hika P. O.....	7 00

SCHWEIZER CHEESE.

For the best four Schweizer cheese, of not less than 150 pounds, made at any time.

411	John Frick, Plymouth.....	30 00
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CREAMERY BUTTER — FROM GATHERED CREAM.

For best three tubs of butter, of not less than 60 pounds each, made at any time.

728	Lake Shore Creamery, Beaver Dam.....	30 00
258	W. P. Dennett, Reedsburg.....	15 00
881	Neville Bros., Gray's Lake, Ill.....	7 00

CREAMERY BUTTER — FROM WHOLE MILK.

For best three tubs of butter, of not less than 60 pounds each, made at any time.

881	Neville Bros., Gray's Lake, Ill.....	30 00
168	H. C. Christians, Johnson's Creek.....	15 00
486	H. J. Grell, Johnson's Creek.....	7 00

PREMIUM AWARDS.

DAIRY BUTTER.

For the best package of dairy butter made at any time.

In this class butter may be in eight pound bailed boxes, or in any tub of twenty-five pounds or less (no jars allowed).

No. 972	Mrs. G. P. Pepper, Pewaukee.....	\$20 00
490	C. N. Griffith, Whitewater.....	10 00
579	Mrs. G. W. Hudson, Mukwanago.....	1 40
490	C. N. Griffith, Whitewater.....	1 40
3	Mrs. N. E. Allen, Beaver Dam.....	1 40
244	Mrs. John Dey, Hortonville.....	1 40
647	Mrs. H. W. Kellogg, Ripon.....	1 40

PRINT BUTTER.

For best exhibit of not less than ten pounds.

3	Mrs. N. E. Allen, Beaver Dam.....	15 00
411	John Frick, Plymouth.....	10 00
1374	Mary E. Warren, Fox Lake.....	5 00

BUTTER IN NOVEL FORMS OR DESIGNS.

For best exhibit of not less than ten pounds.

1223	Mrs. A. L. Tenney, Hartland.....	15 00
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GRANULATED BUTTER.

Best jar granulated butter.

Butter in this class must be shown in glass jars of not less than two quarts each.

1046	Rock River Creamery, Waupun.....	5 00
241	E. W. Drowatsky, Tomah.....	3 00

DEPARTMENT G — FRUITS AND FLOWERS.

CLASS 39 — *Fruits grown by professional growers.*

APPLES.

Best display of varieties not to exceed twenty.

No.	563	Chas. Hirschinger, Baraboo.....	\$10 00
	170	F. H. Chappel, Oregon.....	7 00

Best display of ten varieties.

	170	F. H. Chappel, Oregon.....	6 00
	563	Chas. Hirschinger, Baraboo.....	4 00

Best five varieties adapted to northwest.

	651	Geo. J. Kellogg, Janesville.....	6 00
	170	F. H. Chappel, Oregon.....	4 00

Best five varieties, winter.

	170	F. H. Chappel, Oregon.....	3 00
	969	A. J. Phillips, West Salem.....	2 00

Best show seedling apples, not less than five varieties.

	563	Chas. Hirschinger, Baraboo.....	7 00
	973	G. P. Pepper, Pewaukee.....	3 00

Best seedling winter apples, adaptation and quality considered.

	973	G. P. Pepper, Pewaukee.....	3 00
	563	Chas. Hirschinger, Baraboo.....	2 00

Best Seedling Summer apple, adaptation and quality considered.

	563	Chas. Hirschinger, Baraboo.....	3 00
	969	A. J. Phillips, West Salem.....	2 00

Best Seedling Fall apple, adaptation and quality considered.

	969	A. J. Phillips, West Salem.....	3 00
	973	G. P. Pepper, Pewaukee.....	2 00

PREMIUM AWARDS.

111

Best show of ten varieties of new Russian apples.

No.	563	Chas. Hirschinger, Baraboo.....	\$5 00
	401	Wm. Fox, Baraboo.....	3 00

Best plate Duchess of Oldenburg.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Famuse.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Golden Russett.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Pewaukee.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of St. Lawrence.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Tallman Sweet.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Utter.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Alexander.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate of Plumb Cider.

563	Chas. Hirschinger, Baraboo.....	1 00
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Best plate Wealthy.

401	Wm. Fox, Baraboo.....	1 00
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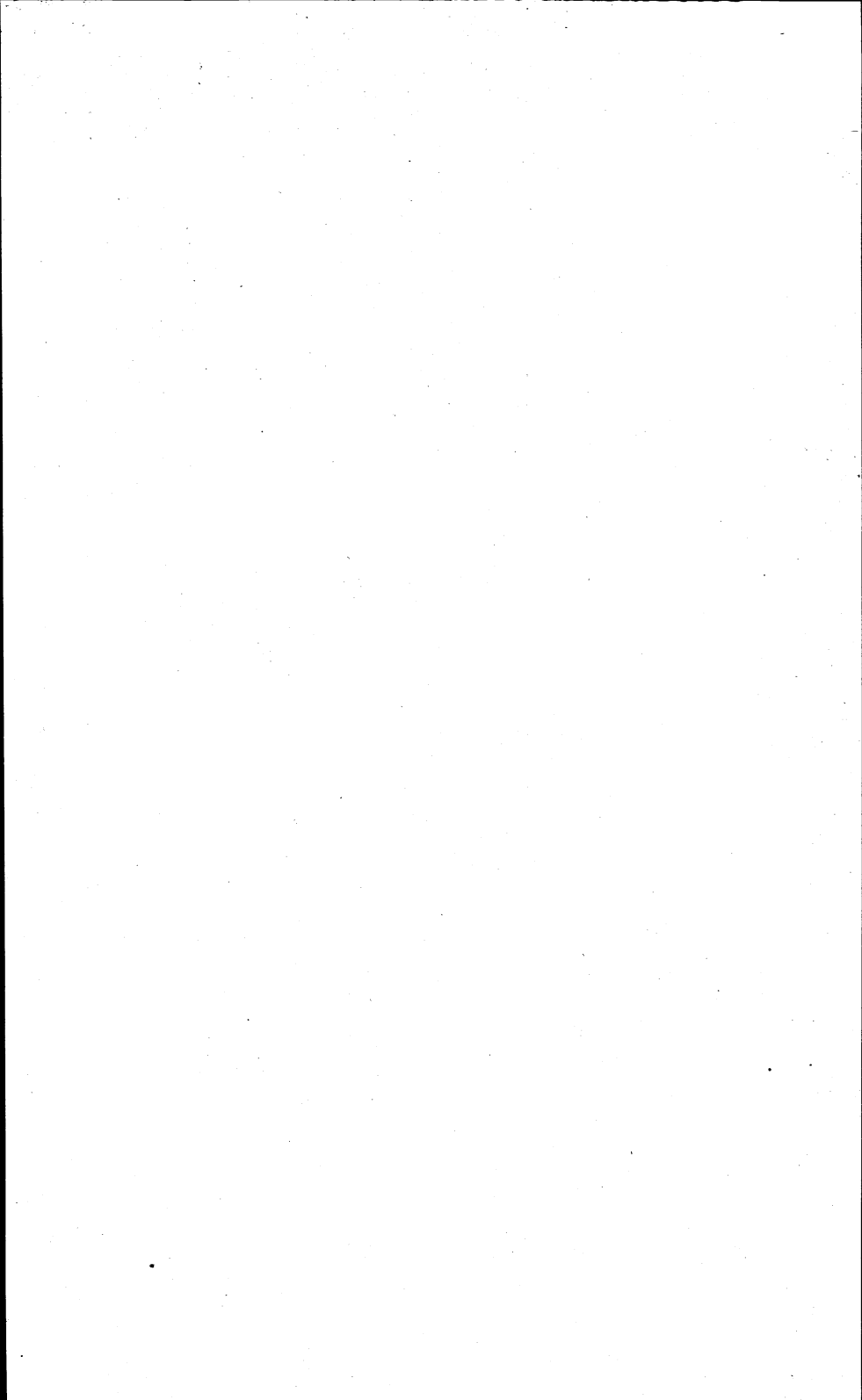
Best plate McMahan's White.

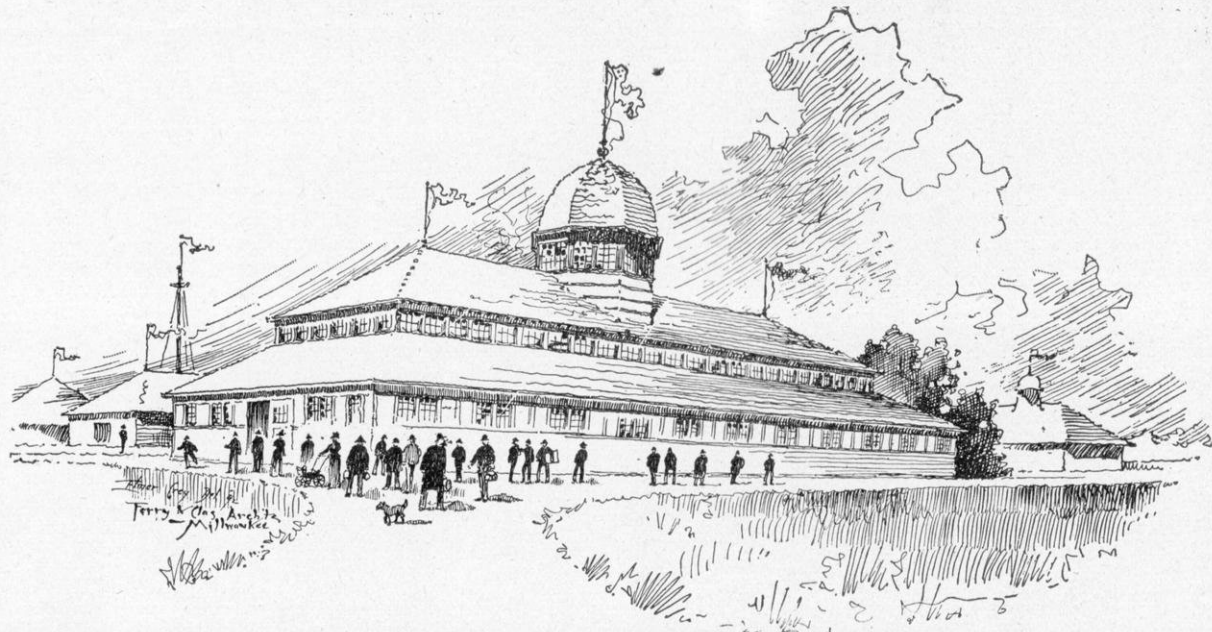
969	A. J. Phillips, West Salem.....	1 00
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Best plate Newell's Winter.

563	Chas. Hirschinger, Baraboo.....	1 00
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		Best plate Wolf River.	
No.	969	A. J. Phillips, West Salem	\$1 00
		Best plate Haas.	
	170	F. H. Chappel, Oregon	1 00
		Best plate Fall Orange.	
	563	Chas. Hirschinger, Baraboo.....	1 00
		Best plate Repkamalenka.	
	170	F. H. Chappel, Oregon.....	1 00
		Best plate Longfield.	
	770	F. H. Chappel, Oregon.....	1 00
		Best plate Yellow Transparent.	
	488	Isaac Gale & Son, Waukesha.....	1 00
		Best plate Hibernal.	
	373	G. P. Pepper, Pewaukee.....	1 00
		Largest apple.	
	969	A. J. Phillips, West Salem.....	1 00
		Handsomest apple.	
	488	Isaac Gale & Son, Waukesha.	1 00
PEARS.			
		Best three varieties.	
	973	G. P. Pepper, Pewaukee.....	2 00
	563	Chas. Hirschinger, Baraboo.....	1 00
		Best Flemish Beauty.	
	973	G. P. Pepper, Pewaukee	2 00
	401	Wm. Fox, Baraboo.....	1 00





Agricultural and Horticultural Building, Wisconsin State Fair Ground

PLUMS.

Best three varieties.

No. 651	Geo. J. Kellogg, Janesville	\$2 00
563	Chas. Hirschinger, Baraboo	1 00

Best collection of native.

651	Geo. J. Kellogg, Janesville	2 00
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Best plate of native.

563	Chas. Hirschinger, Baraboo.....	1 00
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CLASS 40 — *Grapes and Crabs by Professional Growers.*

GRAPES.

Best and greatest display of varieties, not more than twenty, three specimens each.

No. 401	Wm. Fox, Baraboo.....	\$10 00
488	Isaac Gale & Son, Waukesha	5 00
651	Geo. J. Kellogg, Janesville.....	2 00

Best ten varieties.

401	Wm. Fox, Baraboo.....	5 00
488	Isaac Gale & Son, Waukesha.....	3 00

Best five varieties.

651	Geo. J. Kellogg, Janesville.....	3 00
488	Isaac Gale & Son, Waukesha.....	2 00

Best Concord.

651	Geo. J. Kellogg, Janesville.....	2 00
488	Isaac Gale & Son, Waukesha.....	1 00

Best Delaware.

651	Geo. J. Kellogg, Janesville.....	2 00
401	Wm. Fox, Baraboo	1 00

Best Worden.

No.	401	Wm. Fox, Baraboo	\$2 00
	488	Isaac Gale & Son, Waukesha.....	1 00

Best Moore's Early.

	401	Wm. Fox, Baraboo	2 00
	488	Isaac Gale & Son, Waukesha.....	1 00

Best Brighton.

	488	Isaac Gale & Son, Waukesha.....	2 00
	401	Wm. Fox, Baraboo.....	1 00

Best Early Victor.

	401	Wm. Fox, Baraboo.....	2 00
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Best Duchess.

	488	Isaac Gale & Son, Waukesha	2 00
	401	Wm. Fox, Baraboo.....	1 00

Best Empire State.

	401	Wm. Fox, Baraboo	2 00
	488	Isaac Gale & Son, Waukesha	1 00

Best Wilder.

	488	Isaac Gale & Son, Waukesha	2 00
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Best Lindley.

	488	Isaac Gale & Son, Waukesha	2 00
	401	Wm. Fox, Baraboo	1 00

Best single variety, quality to rule.

	651	Geo. J. Kellogg, Janesville.....	2 00
	401	Wm. Fox, Baraboo.....	1 00

Best seedling grape, originated in Wisconsin, three specimens.

	401	Wm. Fox, Baraboo.....	3 00
	401	Wm. Fox, Baraboo.....	2 00

Best plate Lady.

	401	Wm. Fox, Baraboo.....	1 00
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PREMIUM AWARDS.

115

Best plate Niagara.

No. 401 Wm. Fox, Baraboo..... \$1 00

Best plate Lady Washington.

401 Wm. Fox, Baraboo..... 1 00

Best plate Vergennes.

401 Wm. Fox, Baraboo..... 1 00

Best plate Salem.

401 Wm. Fox, Baraboo..... 1 00

Best plate Agawam.

401 Wm. Fox, Baraboo..... 1 00

Best plate Merrimac.

488 Isaac Gale & Son, Waukesha..... 1 00

Best plate Worden.

401 Wm. Fox, Baraboo..... 1 00

Best plate Moore's Early.

973 G. P. Pepper, Pewaukee..... 1 00

Best plate Brighton.

401 Wm. Fox, Baraboo..... 1 00

Best plate Concord.

651 Geo. J. Kellogg, Janesville..... 1 00

CRABS.

Best and greatest variety named, not to exceed ten.

969 A. J. Phillips, West Salem..... 4 00
 563 Chas. Hirschinger, Baraboo..... 2 00

Best plate Hyslop.

969 A. J. Phillips, West Salem..... 1 00

Best plate Transcendant.

No. 488	Isaac Gale & Son, Waukesha.....	\$1 00
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Best plate Whitney No. 20.

969	A. J. Phillips, West Salem.....	1 00
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Best plate Russet Seedling crab.

869.	A. J. Phillips, West Salem	2 00
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Sweepstakes on fruit of all kinds.

Best collection fruit of all kinds.

563	Chas. Hirschinger, Baraboo.....	12 00
401	Wm. Fox, Baraboo....	9 00
488	Isaac Gale & Son, Waukesha.....	6 00

CLASS 41—*Fruit by non-professional cultivators.*

APPLES.

Best display of varieties not to exceed twenty.

No. 964	J. S. Palmer, Baraboo.....	\$10 00
608	Geo. Jeffrey, Milwaukee.....	7 00
1215	Henry Tarrant, Janesville.....	3 00

Best display of ten varieties.

1215	Geo. Townsend, Baraboo	6 00
922	L. L. Olds, Clinton.....	4 00
817	J. S. McGowan, Janesville.....	2 00

Best five varieties adapted to northwest.

1215	Henry Tarrant, Janesville.....	7 00
964	J. S. Palmer, Baraboo.....	5 00
1214	Geo. Townsend, Baraboo.....	2 00

PREMIUM AWARDS.

117

Best five varieties winter.

No. 608	Geo. Jeffrey, Milwaukee.....	\$3 00
1215	Henry Tarrant, Janesville.....	2 00
601	Franklin Johnson, Baraboo.....	1 00

Best show of seedling apples, not less than five varieties.

1373	E. Wrightman, Weyauwega.....	10 00
499	C. P. Goodrich, Ft. Atkinson.....	5 00

Best winter seedling apple, adaptation and quality considered.

1368	Philip M. Waterson, Weyauwega.....	3 00
643	A. L. Kier, Prospect.....	2 00

Best summer seedling apple, adaptation and quality considered.

817	J. S. McGowan, Janesville.....	3 00
964	J. S. Palmer, Baraboo.....	2 00

Best fall seedling apple, adaptation and quality considered.

817	J. S. McGowan, Janesville.....	3 00
1214	Geo. Townsend, Baraboo.....	2 00

Best show of ten varieties of Russian apples.

1214	Geo. Townsend, Baraboo.....	5 00
603	Geo. Jeffrey, Milwaukee.....	3 00

Best plate of Duchess of Oldenburg.

96s	J. S. Palmer, Baraboo.....	1 00
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Best plate Famuse.

817	J. S. McGowan, Janesville.....	1 00
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Best plate Golden Russet.

1215	Henry Tarrant, Janesville.....	1 00
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Best plate of Pewaukee.

964	J. S. Palmer, Baraboo.....	1 00
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Best plate of St. Lawrence.

964	J. S. Palmer, Baraboo.....	1 00
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Best plate Tallman Sweet.

No. 601 Franklin Johnson, Baraboo..... \$1 00

Best plate of Utter.

1135 Wm. S pringer, Weyauwega..... 1 00

Best plate of Alexander.

499 C. P. Goodrich, Ft. Atkinson..... 1 00

Best plate of Plumb Cider.

1214 Geo. Townsend, Baraboo 1 00

Best plate of Wealthy.

1215 Henry Tarrant, Janesville 1 00

Best plate of McMahon White.

1215 Henry Tarrant, Janesville 1 00

Best plate of Newel's Winter.

964 J. S. Palmer, Baraboo..... 1 00

Best plate Wolf River.

1135 Wm. Springer, Weyauwega 1 00

Best plate Haas.

922 F. F. Olds, Clinton 1 00

Best plate of Fall Orange.

964 J. S. Palmer, Baraboo..... 1 00

Best plate Longfield.

1214 Geo. Townsend, Baraboo 1 00

Best plate of Yellow Transparent.

601 Franklin Johnson, Baraboo..... 1 00

PREMIUM AWARDS.

119

Best plate of Antonofka.

No. 1214 Geo. Townsend, Baraboo \$1 00

Best plate of Hibernial.

1214 Geo. Townsend, Baraboo 1 00

Best plate Switzer.

1214 Geo. Townsend, Baraboo 1 00

Largest apple.

654 Frank Korn, North Greenfield..... 1 00

Handsomest apple.

499 C. P. Goodrich, Ft. Atkinson 1 00

PEARS.

Best three varieties.

608 Geo. Jeffrey, Milwaukee..... 2 00
 654 Frank Korn, North Greenfield..... 1 00

Best Flemish Beauty.

608 Geo. Jeffrey, Milwaukee..... 2 00
 648 A. L. Kier, Prospect 1 00

PLUMS.

Best three varieties.

817 J. S. McGowan, Janesville..... 2 00
 608 Geo. Jeffrey, Milwaukee..... 1 00

Best collection of natives.

608 Geo. Jeffrey, Milwaukee..... 2 00

Best plate of natives.

817 J. S. McGowan, Janesville..... 1 00

CLASS 42 — *Grapes and Crabs by Non-Professional Growers.*

GRAPES.

Best and greatest display of varieties, not more than twenty.

No.	817	J. S. McGowan, Janesville.....	\$10 00
	964	S. S. Palmer, Baraboo.....	7 00
	1214	Geo, Townsend, Baraboo.....	3 00

Best ten varieties.

	817	J. S. McGowan, Janesville.....	5 00
	964	J. S. Palmer, Baraboo.....	3 00

Best five varieties.

	817	J. S. McGowan, Janesville.....	3 00
	964	J. S. Palmer, Baraboo.....	2 00

Best Concord.

	969	A. J. Phillips, West Salem.....	2 00
	817	J. S. McGowan, Janesville.....	1 00

Best Delaware.

	1214	Geo. Townsend, Baraboo.....	2 00
	964	J. S. Palmer, Baraboo.....	1 00

Best Worden.

	817	J. S. McGowan, Janesville.....	2 00
	1214	Geo. Townsend, Baraboo.....	1 00

Best Moore's early.

	817	J. S. McGowan, Janesville.....	2 00
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Best Brighton.

	1214	Geo. Townsend, Baraboo.....	2 00
	499	C. P. Goodrich, Ft. Atkinson.....	1 00

Best Duchess.

	817	J. S. McGowan, Janesville.....	2 00
	964	J. S. Palmer, Baraboo.....	1 00

Best Empire State.

	964	J. S. Palmer, Baraboo.....	2 00
	817	J. S. McGowan, Janesville.....	1 00

PREMIUM AWARDS.

121

Best Wilder.

No. 964 J. S. Palmer, Baraboo..... \$2 00

Best Lindley.

817 J. S. McGowan, Janesville..... 2 00

Best single variety, quality to rule.

964 J. S. Palmer, Baraboo..... 3 00

499 C. P. Goodrich, Ft. Atkinson 1 00

Best seedling grape, originated in Wisconsin, three specimens.

817 J. S. McGowan, Janesville..... 3 00

499 C. P. Goodrich, Ft. Atkinson..... 2 00

Best plate Lady.

1214 Geo. Townsend, Baraboo..... 1 00

Best plate Niagara.

817 J. S. McGowan..... 1 00

Best plate Lady Washington.

817 J. S. McGowan, Janesville.. 1 00

Best plate Vergennes.

964 J. S. Palmer, Baraboo..... 1 00

Best plate Salem.

817 J. S. McGowan, Janesville..... 1 00

Best plate Agawam.

323 C. F. Eaton, Weyauwega..... 1 00

Best plate Merrimac.

817 J. S. McGowan, Janesville..... 1 00

Best plate Concord.

964 J. S. Palmer, Baraboo 1 00

Best plate Brighton.

No. 1214	Geo. Townsend Baraboo	\$1 00
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Best plate Moore's Early.

817	J. S. McGowan, Janesville	1 00
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Best plate Worden.

817	J. S. McGowan, Janesville	1 00
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CRABS.

Best and greatest variety named.

608	Geo. Jeffery, Milwaukee	4 00
499	C. P. Goodrich, Ft. Atkinson	2 00

Best plate Hyslop.

964	J. S. Palmer, Baraboo	1 00
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Best plate Transcendant.

1214	Geo. Townsend, Baraboo	1 00
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Best plate Whitneys No. 20.

601	Franklin Johnson, Baraboo	1 00
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SWEEPSTAKES ON FRUIT OF ALL KINDS.

Best collection fruits of all kinds.

608	Geo. Jeffrey, Milwaukee	12 00
964	J. S. Palmer, Baraboo	9 00
817	J. S. McGowan, Janesville	6 00

CLASS 43 — *Nursery.*

Best collection fruit trees.

No. 488 Isaac Gale & Son, Waukesha Diploma.

Best collection apple trees.

568 Chas. Hirschinger, Baraboo..... Diploma.

CLASS 44 — *Flowers by Professional Cultivators.*

Best and most artistically arranged floral design.

No. 1053 G. W. Ringrose, Wauwatosa..... \$10 00
 165 Currie Bros., Milwaukee..... 6 00

Best and most tastefully arranged basket of flowers.

1053 G. W. Ringrose, Wauwatosa..... 5 00
 165 Currie Bros., Milwaukee..... 3 00

Best collection cut flowers.

166 Currie Bros., Milwaukee..... 5 00
 1053 G. W. Ringrose, Wauwatosa..... 3 00

Best Bouquet.

165 Currie Bros., Milwaukee..... 3 00
 1053 G. W. Ringrose, Wauwatosa..... 2 00

Best ten named Dahlias.

165 Currie Bros., Milwaukee..... 2 00

Best display Roses.

165 Currie Bros., Milwaukee..... 5 00
 1053 G. W. Ringrose, Wauwatosa..... 3 00

Best five named variety of Roses.

165 Currie Bros., Milwaukee..... 4 00
 1053 G. W. Ringrose, Wauwatosa..... 2 00

Best display Verbenas.

No. 165 Currie Bros., Milwaukee..... \$2 00

Best show Pansies.

1209 Wm. Toole, Baraboo..... 5 00
 165 Currie Bros., Milwaukee..... 3 00

Best show Asters.

1209 Wm. Toole, Baraboo..... 2 00

Best show Gladiolus.

165 Currie Bros., Milwaukee..... 4 00
 1053 G. W. Ringrose, Wauwatosa..... 2 00

Best show Greenhouse Plants, not less than twenty-five or more than fifty varieties

165 Currie Bros., Milwaukee..... 20 00
 1053 G. W. Ringrose, Wauwatosa..... 10 00

Best twenty varieties Greenhouse Plants in bloom.

165 Currie Bros., Milwaukee..... 6 00
 1053 G. W. Ringrose, Wauwatosa..... 3 00

Best ten Geraniums.

1053 G. W. Ringrose, Wauwatosa..... 5 00

Best six Fuschias.

165 Currie Bros., Milwaukee..... 4 00

Best display of Flowers of all kinds grown by the exhibitors.

165 Currie Bros., Milwaukee..... 10 00
 1053 G. W. Ringrose, Wauwatosa..... 5 00

Best display of ornamental foliage plants, not less than fifteen varieties.

165 Currie Bros., Milwaukee..... 8 00
 1053 G. W. Ringrose, Wauwatosa..... 4 00

Best display of ferns, irrespective of where grown.

No. 1058 G. W. Ringrose, WauwatosaDiploma

CLASS 45 — *Flowers by Non-Professional Cultivators.*

Best and most artistically arranged floral design.

No. 327	Mrs. Arthur Elliott, Baraboo.....	5 00
1048	Mrs. C. H. Root, Ripon ..	3 00

Best collection cut flowers.

1048	Mrs. C. H. Root, Ripon.....	4 00
327	Mrs. Arthur Elliott, Baraboo	3 00

Best and most tastefully arranged basket of flowers.

327	Mrs. Arthur Elliott, Baraboo	3 00
1048	Mrs. C. H. Root, Ripon	2 00

Best bouquet.

327	Mrs. Arthur Elliott, Baraboo.....	3 00
1048	Mrs. C. H. Root, Ripon	2 00

Best pair round bouquets.

1048	Mrs. C. H. Root, Ripon.....	2 00
327	Mrs. Arthur Elliott, Baraboo	1 00

Best pair flat table bouquets.

327	Mrs. Arthur Elliott, Baraboo	2 00
1048	Mrs. C. H. Root, Ripon.....	1 00

Best display Dahlias, not more than twenty varieties.

994	Miss Kate Peffer, Pewaukee	2 00
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Best ten named Dahlias.

994	Miss Kate Peffer, Pewaukee.....	2 00
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Best display Roses.

327	Mrs. Arthur Elliott, Baraboo	3 00
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Best five named varieties Roses.		
No. 1048	Mrs. C. H. Root, Ripon, Wis.....	\$3 00
Best display Verbenas.		
968	Mrs. O. Pratt, Spring Prairie.....	2 00
Best ten named Verbenas.		
1048	Mrs. C. H. Root, Ripon.....	2 00
Best show Asters in quality and variety.		
1048	Mrs. C. H. Root, Ripon.....	2 00
Best show Perennial Phlox.		
1048	Mrs. C. H. Root, Ripon.....	1 00
Best show Pansies.		
1048	Mrs. C. H. Root, Ripon.....	2 00
Best show Double Petunias.		
1048	Mrs. C. H. Root, Ripon.....	1 00
Best show Dianthus (pink).		
1048	Mrs. C. H. Root, Ripon.....	1 00
Best show Gladiolus.		
327	Mrs. Arthur Elliott, Baraboo.....	2 00
Best show Phlox Drummondii.		
968	Mrs. O. Pratt, Spring Prairie.....	1 00
Best show tube roses.		
327	Mrs. Arthur Elliott, Baraboo... ..	1 00
Best show Lilies.		
1048	Mrs. C. H. Root, Ripon	2 00
Best show Stocks.		
1048	Mrs. C. H. Root, Ripon.....	1 00

PREMIUM AWARDS.

127

Best show Balsams.

No. 1048 Mrs. C. H. Root, Ripon..... \$1 00

Best show Green house plants. not less than twenty-five nor more than fifty varieties.

No. 327 Mrs. Arthur Elliott, Baraboo..... \$6 00
 649 Mrs. C. C. Kingsley, Milwaukee..... 2 00

Best ten varieties Green House Plants in bloom.

327 Mrs. Arthur Elliott, Baraboo..... 3 00
 649 Mrs. C. C. Kingsley, Milwaukee..... 2 00

Best ten Geraniums.

649 Mrs. C. C. Kingsley, Milwaukee..... 3 00

Best six Fuchias.

649 Mrs. C. C. Kingsley, Milwaukee..... 2 00

Best six Carnations.

327 Mrs. Arthur Elliott, Baraboo..... 2 00

Best display Ornamental Grasses.

327 Mrs. Arthur Elliott, Baraboo..... 2 00

Best display flowers raised by exhibitor.

327 Mrs. Arthur Elliott, Baraboo..... 6 00
 1048 Mrs. C. H. Root, Ripon..... 3 00

Best show Ornamental Foliage Plants, not more than ten varieties.

327 Mrs. Arthur Elliott, Baraboo..... 5 00
 649 Mrs. C. C. Kingsley, Milwaukee..... 3 00

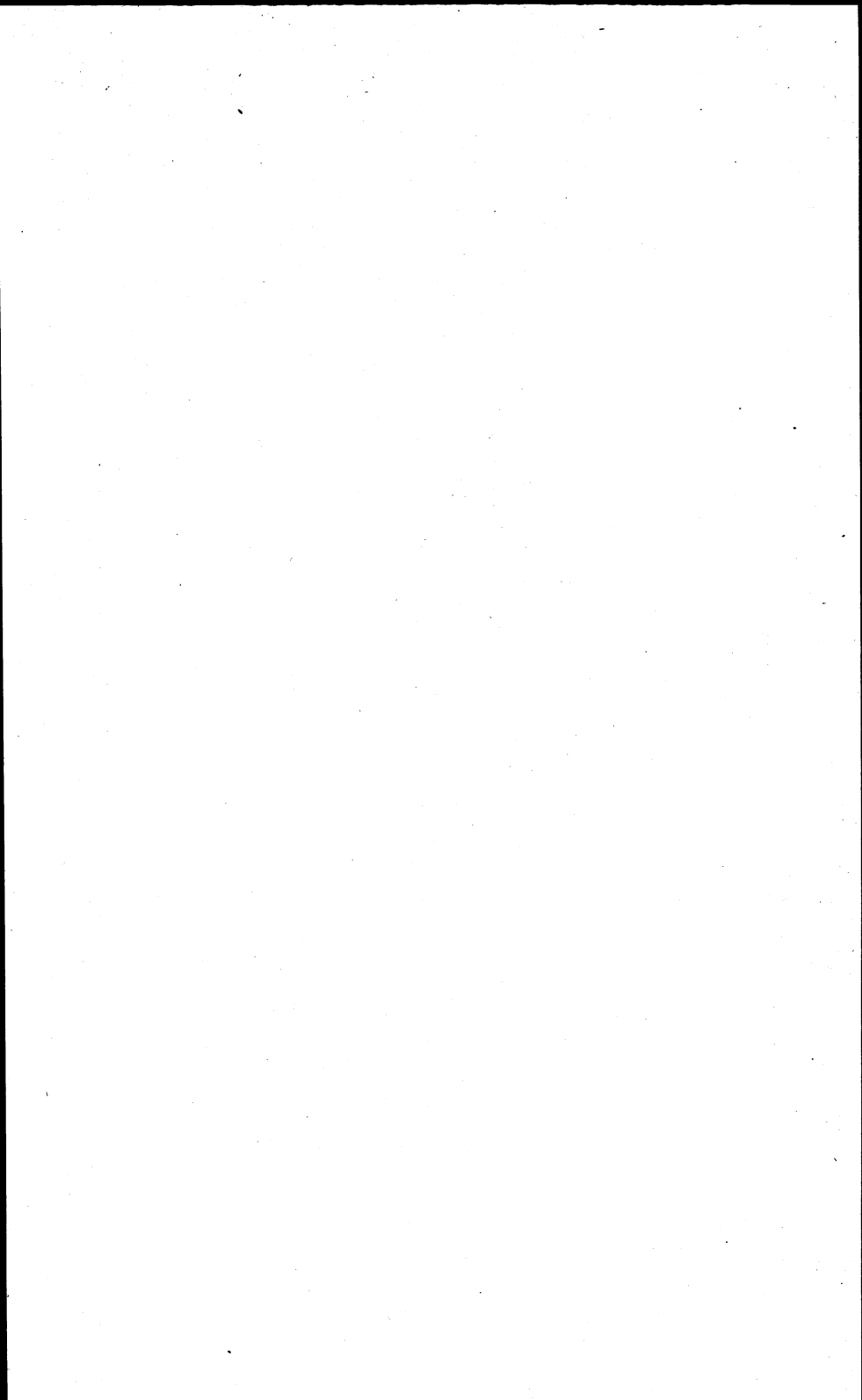
DEPARTMENT I—MANUFACTURES.

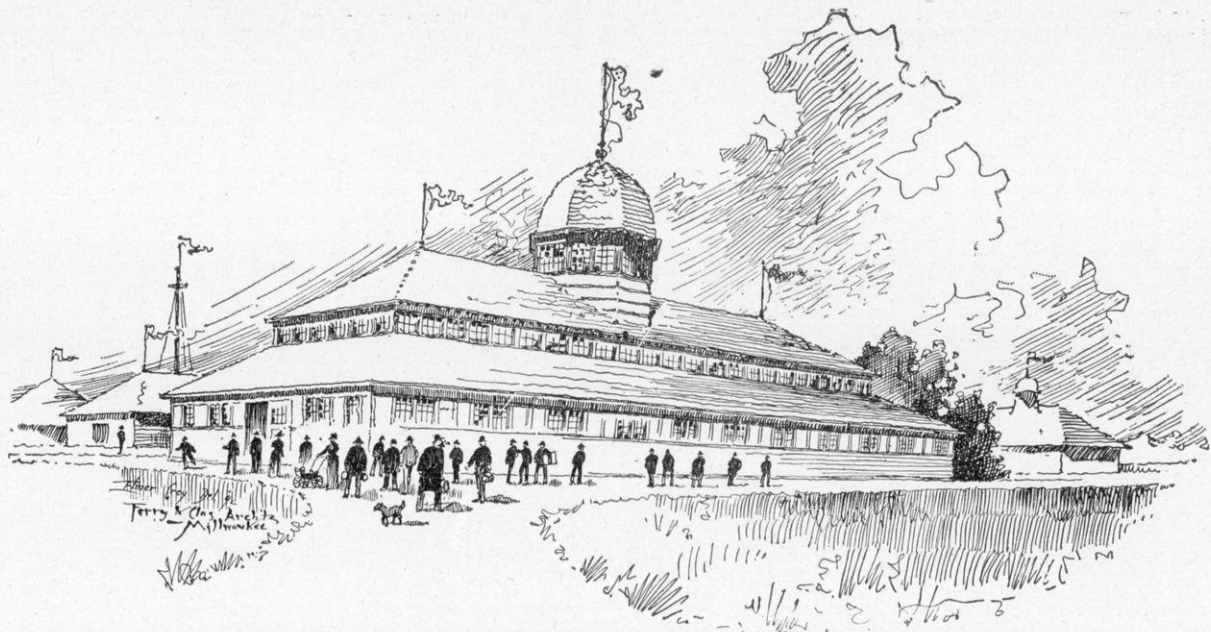
CLASS 47—*Stone Cutters' Work and other Building Materials.*

	Best sample fire brick.		
No. 1044	Reynolds Bros., Milwaukee.....		\$2 00
	Best drain tile.		
1044	Reynolds Bros., Milwaukee.....		3 00
	Best roofing material other than shingle.		
595	F. E. Hoyt, Rochester		5 00
	Best display earthen ware, by manufacturer.		
1044	Reynolds Bros., Milwaukee.....	Diploma and	5 00

CLASS 48—*House Building Materials, Etc.*

	Best four window blinds.		
980	Geo. Poppert, Milwaukee.....		5 00
	Best four window sash.		
980	Geo. Poppert, Milwaukee		5 00
	Best four doors.		
980	Geo. Poppert, Milwaukee.....		5 00





Agricultural and Horticultural Building, Wisconsin State Fair Ground

PREMIUM AWARDS.

129

Best newel post.

No. 980 Geo. Poppert, Milwaukee..... \$5 00

Best ten styles moulding.

980 Geo. Poppert, Milwaukee 5 00

Best show doors, sash, blinds, moulding and other house
building materials, by manufacturer.

980 Geo. Poppert, Milwaukee..... Diploma.

Best sliding door.

721 Lintink & Sons, Manf'g Co., Milwaukee..... \$5 and Diploma.

CLASS 49 — *Stoves, Furnaces, Hollow Ware and Articles of
Hardware.*

Best cooking range for families.

577 Helgendorf, Kalloge & Co., Milwaukee..... 5 00

Best ornamental parlor stove.

1134 Schwartz Stove Co., Milwaukee..... 5 00

CLASS 50 — *Silver, Britannia and Crockery Ware.*

Best collection glass, china and earthenware.

1163 Stafford & Co., Milwaukee..... Diploma

CLASS 51 — *Surgical, Dental, Mathematical and Philosophical Instruments and Apparatus.*

Best display of mathematical and philosophical instruments and apparatus,
by manufacturer or agent

No. 732 Julius Lando, Milwaukee.....Diploma

CLASS 53 — *Carriages, Wagonwork, etc.*

Best two-seated open carriage.

No. 1149	D. M. Sechler Carriage Co., Moline, Ill.....	\$5 00
243	Dorsch & Sons, Milwaukee	3 00

Best two-seated top carriage.

164	Columbia Carriage Co., Milwaukee	10 00
882	Northwestern Carriage & Sleigh Co., Milwaukee.....	5 00

Best single top buggy.

164	Columbia Carriage Co., Milwaukee	5 00
1147	Staver & Abbott, Chicago	3 00

Best open buggy.

882	North Western Carriage & Sleigh Co., Milwaukee.....	5 00
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Best speeding road wagon.

164	Columbia Carriage Co., Milwaukee	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

Best phaeton.

164	Columbia Carriage Co., Milwaukee	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

Best two-seated light sleigh.

882	North-Western Carriage & Sleigh Co., Milwaukee.....	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

PREMIUM AWARDS.

131

Best double farm sleigh.

No. 1146	Stoughton Wagon Co., Stoughton	\$5 00
578	Joseph Hines, Rock Falls.....	3 00

Best single seated cutter and swell box.

882	North Western Carriage & Sleigh Co., Milwaukee.....	3 00
243	John Dorsch & Sons, Milwaukee.....	2 00

Best single or double Portland.

882	North-Western Carriage & Sleigh Co., Milwaukee.....	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

Best common farm wagon.

243	John Dorsch & Sons, Milwaukee	5 00
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Best fancy farm wagon.

243	John Dorsch & Sons, Milwaukee.....	5 00
164	Columbia Carriage Co, Milwaukee.....	3 00

Best three or four spring and three-seated wagon.

813	Milwaukee Buggy Co., Milwaukee.. ..	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

Best two seated surrey wagon.

1147	Staver & Abbott, Chicago.....	5 00
882	Northwestern Carriage & Sleigh Co., Milwaukee	3 00

Best combination spring wagon.

813	Milwaukee Buggy Co., Milwaukee.....	5 00
243	John Dorsch & Sons, Milwaukee.....	3 00

Best spring freight wagon.

324	John Esch & Son, Milwaukee.....	5 00
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Best brewers' wagon.

6	Chas. Abresch, Milwaukee.....	Diploma.
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Best spindle box wagon.

243	John Dorsch & Sons, Milwaukee... ..	3 00
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Best road cart.		
No.	734 L. C. Lull & Co., Kalamazoo, Michigan.....	\$3 00
	829 J. W. Morgan & Co., Evansville.....	2 00
Best delivery wagon.		
	6 Chas. Abresch, Milwaukee.....	5 00
	243 John Dorsch & Sons, Milwaukee.....	3 00
Best heavy lumber wagon.		
	243 John Dorsch & Sons, Milwaukee.....	5 00
Buckboard.		
	1147 Staver & Abbott, Chicago, Ill.....	Diploma.
Jump seat top buggy.		
	243 John Dorsch & Sons, Milwaukee.....	Diploma.
Sulky.		
	243 John Dorsch & Sons, Milwaukee.....	Diploma.
Coal wagon.		
	324 John Esch & Son, Milwaukee	Diploma.
Farm truck.		
	1146 Stoughton Wagon Co., Stoughton.....	Diploma

CLASS 54—*Cabinetware, Cooperage, Willowware, House Building Material, etc.*

Best parlor set.		
No.	806 Mathews Bros., Milwaukee.....	\$10 00
Best chamber set.		
	806 Mathews Bros., Milwaukee.....	10 00
Best extension table.		
	806 Mathews Bros., Milwaukee	3 00

PREMIUM AWARDS.

133

Best center table.

No. 110	Henry Brueckel, Milwaukee.....	\$3 00
806	Mathews Bros., Milwaukee.....	2 00

Best book case.

806	Mathews Bros., Milwaukee.....	3 00
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Best writing table or desk.

806	Mathews Bros., Milwaukee.....	3 00
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Best spring bed bottom.

806	Mathews Bros., Milwaukee.....	3 00
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Best six dining chairs.

806	Mathews Bros., Milwaukee.....	3 00
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Best reclining chair.

806	Mathews Bros., Milwaukee.....	5 00
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CLASS 55— *Leather and Leather Manufactures, Harness, etc.*

Best carriage harness, double.

No. 1133	Thos. C. Smith & Co., Milwaukee.....	\$5 00
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Best wagon harness, double.

1133	Thos. C. Smith & Co., Milwaukee.....	3 00
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Best single harness.

1133	Thos. C. Smith & Co., Milwaukee.....	3 00
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Best gent's saddle.

1133	Thos. C. Smith & Co., Milwaukee.....	3 00
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Best lady's saddle.

No. 1133 Thos. C. Smith & Co., Milwaukee..... \$3 00

Best four horse collars.

1133 Thos. C. Smith & Co., Milwaukee..... 3 00

BOOTS AND SHOES.

Best exhibition of shoes manufactured in the state, one pair each.

1060 A. W. Rich & Co., Milwaukee..... 10 00

CLASS 57 — *Textile Fabrics, Clothing, Etc.*

CLOTHING, HATS, FURS, ETC.

Best suit men's clothing.

No. 101 Browning, King & Co., Milwaukee \$5 00
 1128 Skidmore & Hendricksen Co., Milwaukee..... 3 00

Best suit boy's clothing.

101 Browning, King & Co., Milwaukee 5 00
 1128 Skidmore & Hendricksen Co., Milwaukee..... 3 00

Best exhibition gents' hats and caps.

1128 Skidmore & Hendricksen Co., Milwaukee..... 3 00

Best exhibition of furs and fur goods.

589 Hansen's Empire Fur Co., Milwaukee..... 10 00

Hot air furnace.

1205 James Toombs, Milwaukee..... Diploma.

Hot air register.

1205 James Toombs, Milwaukee..... Diploma.

Ash sifter.

No. 1205 James Toombs, Milwaukee..... Diploma.

Vitrified sewer pipe.

1044 Reynolds Bros., Milwaukee..... Diploma.

Art needle.

184 D. M. Chamberlain, Minneapolis, Minn..... Diploma.

Rug machine.

184 D. M. Chamberlain, Minneapolis, Minn..... Diploma.

Rug pattern.

184 D. M. Chamberlain, Minneapolis, Minn..... Diploma.

Perforated patterns.

184 D. M. Chamberlain, Minneapolis, Minn..... Diploma.

Fabric implements.

184 D. M. Chamberlain, Minneapolis, Minn..... Diploma.

Work box.

110 Henry Brueckel, Milwaukee..... Diploma.

Cabinet makers' clamps.

110 Henry Brueckel, Milwaukee..... Diploma.

Dry Goods.

1060 A. W. Rich & Co., Milwaukee..... Diploma.

Cloaks.

1060 A. W. Rich & Co., Milwaukee..... Diploma.

Self-baster roaster and baker combined.

607 A. J. Iden, Milwaukee..... Diploma.

Sliding blind pat.

980 Geo. Poppert, Milwaukee..... Diploma.

DEPARTMENT K—FINE ARTS.

CLASS 58—*Musical Instruments, Sewing Machines and Typewriters.*

Best exhibit musical instruments.

No. 500 Edmund Gram, Milwaukee Diploma.

Best exhibit sewing machines.

1379 White Sewing Machine Co., Cleveland, Ohio Diploma.

CLASS 59—*Sewing Machine Work.*

Best display sewing machine work.

1379 White Sewing Machine Co., Cleveland, Ohio \$10 00

CLASS 60—*Works of Art.*

Best collection oil paintings, not less than twenty-five.

1059 Roebel & Reinhardt, Milwaukee 40 00
968 Mrs. O. Pratt, Spring Prairie 20 00

Best collection oil paintings, not less than ten.

97 Mrs. L. M. Buell, Beloit 15 00
968 Mrs. O. Pratt, Spring Prairie 10 00

Best oil painting.

1059 Roebel & Reinhardt, Milwaukee 10 00

Best collection paintings in water colors. not less than twenty-five.

No. 592	F. W. Heine, Milwaukee.....	\$15 00
1059	Roebel & Reinhardt, Milwaukee.....	10 00

Best painting in water colors.

1059	Roebel & Reinhardt, Milwaukee.....	5 00
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Collection of steel engravings, not less than twenty-five.

1059	Roebel & Reinhardt, Milwaukee.....	15 00
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Best steel engraving.

1059	Roebel & Reinhardt, Milwaukee.....	5 00
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Best collection etchings not less than twenty-five.

1059	Roebel & Reinhardt, Milwaukee.....	15 00
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Best Etching.

1059	Roebel & Reinhardt, Milwaukee.....	5 00
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Best crayon drawing.

99	Miss Birkel, Milwaukee.....	5 00
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CLASS 61 — *Artist's Class.*

Best portrait in oil.

733	F. A. Lydston, Wauwautosa.....	12 00
564	Henry Hess, Madison.....	8 00

Best original landscape in oil.

1208	C. Treadupp, Milwaukee.....	12 00
1208	C. Treadupp, Milwaukee.....	8 00

Best landscape in oil.

1208	C. Treadup, Milwaukee.....	8 00
561	Mrs. J. Hamilton, Milwaukee.....	5 00

Best animal painting.

No. 564 Henry Hess, Madison \$12 00

Best painting still life, in oil.

733 F. A. Lydston, Wauwatosa..... 10 00

Best marine painting in oil.

1208 C. Tredupp, Milwaukee..... 12 00

Best game painting in oil.

1375 Mrs. A. S. Wilson, Milwaukee..... 5 00

Best fruit piece in oil.

575 Maudie F. Hillman, Brandon..... 5 00

Best flower painting in oil.

571 Flora Hockenhall, Ripon..... 5 00

Best figure painting in oil.

968 Mrs. O. Pratt, Spring Prairie..... 5 00

Best collection of oil paintings by Wisconsin artists, not less than fifteen pictures.

1208 C. Tredupp, Milwaukee..... 40 00
804 Florence Hart Miner, Janesville..... 20 00

Best landscape in water colors.

804 Florence Hart Miner, Janesville 5 00

Best marine painting in water colors.

804 Florence Hart Miner, Janesville 5 00

Best figure painting in water colors.

592 F. W. Heine, Milwaukee 3 00

Best painting still life in water colors.

968 Mrs. O. Pratt, Spring Prairie 3 00

PREMIUM AWARDS.

139

Best specimen bird painting, in water colors.

No. 804 Florence Hart Miner, Janesville..... \$3 00

Best portrait in water colors.

733 F. A. Lydston, Wauwatosa..... 3 00

Best panel painting in water colors.

968 Mrs. O. Pratt, Spring Prairie 3 00

Best flower painting in water colors.

968 Mrs. O. Pratt, Spring Prairie..... 3 00

Best collection paintings in water colors by Wisconsin artists.

804 Florence Hart Miner, Janesville 15 00

968 Mrs. O. Pratt, Spring Prairie 5 00

Best landscape in pastel from nature.

561 Mrs. J. Hamilton, Milwaukee..... 3 00

Best fruit in pastel from nature.

97 Mrs. L. M. Buell, Beloit..... 3 00

Best figure in pastel from nature.

564 Henry Hess, Madison..... 3 00

Best single piece China painting.

967 Mrs. Dora L. Putnam, Waukesha.. 3 00

Best collection China painting.

804 Florence Hart Miner, Janesville..... 5 00

Best crayon drawing by exhibitor.

564 Henry Hess, Madison..... 5 00

Best crayon from photograph.

No.	571	Flora Hockenhall, Ripon.....	\$5 00
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Best pencil drawing.

	736	Herman A. Lohagen, Milwaukee	3 00
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Best set architectural plans (original).

	410	Mrs. A. H. Foster, Evanston.....	5 00
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Best collections of oil paintings of an amateur not more than 15.

	561	Mrs. J. Hamilton, Milwaukee.....	20 00
	564	Henry Hess, Madison.....	5 00

DEPARTMENT L—WOMAN'S WORK.

CLASS 63 — *Needle Work, Fancy Work and Decorative Art.*

Best Arasene Embroidery.

No. 83 Genevieve F. Bartels, Milwaukee..... \$1 00

Best Chenille Embrodery.

883 Mrs. Theo. L. Newton, Beaver Dam..... 2 00
 418 Mary E. Farnham, Fond du Lac... 1 00

Best Kensington Embroidery.

83 Genevieve F. Bartels, Milwaukee..... 2 00
 567 Mrs. Stella Heimstreet, Janesville..... 1 00

Best specimen Etching on Silk, Satin or Linen.

410 Mrs. A. H. Foster, Evanston, Ills..... 2 00

Best specimen Darned Lace.

883 Mrs. Theo. L. Newton, Beaver Dam 2 00
 331 Mrs. A. P. Ellinwood, Reedsburg..... 1 00

Best sample Plain Sewing, embracing the different stiches used in house hold sewing and repairing, hand work.

4 Miss Eliza Armstrong, Milwaukee..... 2 00
 410 Mrs. A. H. Foster, Evanston, Ills..... 1 00

Best set hand embroidered underclothes, hand made.

883 Mrs. Theo. L. Newton, Beaver Dam..... 2 00
 883 Mrs. Theo. L. Newton, Beaver Dam..... 1 00

Best set of embroidered underclothes, machine made.

94 Mrs. Carrie Baerwald, Milwaukee..... 2 00

142 WISCONSIN STATE AGRICULTURAL SOCIETY.

Best specimen hand braid work.

No. 83 Genevieve F. Bartels, Milwaukee..... \$1 00

Best specimen pillow shams, linen or cotton.

643 Mrs. J. G. Kestol, Whitewater..... 1 00

Best specimen table scarf or spread.

1225 Mrs. F. W. Tratt, Whitewater..... 2 00

83 Genevieve F. Bartels, Milwaukee..... 1 00

Best wall banner, not painted.

580 Anna A. Helberg, Milwaukee... 1 00

Best mantle lambrequin.

580 Anna A. Helberg, Milwaukee..... 2 00

Best infant's robe and skirt.

410 Mrs. A. H. Foster, Evanston, Ill..... 2 00

Best exhibition point lace, work of exhibitor.

1284 Mrs. S. A. Van Valkenburg, Oshkosh..... 2 00

1126 Mrs. Scheley, Milwaukee..... 1 00

Best exhibition of Honiton lace, work of exhibitor.

410 Mrs. A. H. Foster, Evanston, Ill..... 2 00

1284 Mrs. S. A. Van Valkenburg, Oshkosh..... 1 00

Best exhibition any kind lace, work of exhibitor.

805 Mrs. Cyrus Miner..... 2 00

575 Maudie F. Hillman, Brandon..... 1 00

Best needle work or floss embroidery, linen or cotton.

4 Miss Eliza Armstrong, Milwaukee..... 2 00

83 Genevieve F. Bartels, Milwaukee..... 1 00

Best silk embroidery, hand made, with white silk floss.

604 Mrs. E. W. Johnstone, Milwaukee..... 2 00

83 Genevieve F. Bartels, Milwaukee..... 1 00

PREMIUM AWARDS.

143

Best silk embroidery, hand made, with colored silk floss.

No.	83	Genevieve F. Bartels, Milwaukee.....	\$2 00
	1123	Miss W. C. Stevens, Milwaukee.....	1 00

Best specimen Applique embroidery.

	7	Miss Ella Austin, Milwaukee.....	1 00
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Best specimen Applique embroidery on lace.

	410	Mrs. A. H. Foster, Evanston, Ill	2 00
	83	Genevieve F. Bartels, Milwaukee	1 00

Best specimen Rope Silk embroidery.

	83	Genevieve F. Bartels, Milwaukee	2 00
	83	Genevieve F. Bartels, Milwaukee.....	1 00

Best specimen embroidery on bolting cloth.

	83	Genevieve F. Bartels, Milwaukee	2 00
	418	Mary E. Farnham, Fond du Lac, Wis.....	1 00

Best specimen embroidery on pine apple silk.

	418	Mary E. Farnham, Fond du Lac.....	2 00
	83	Genevieve F. Bartels, Milwaukee	1 00

Best cotton tidy.

	610	Mrs. A. H. Jeffrey, Milwaukee.....	1 00
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Best worsted tidy.

	1235	Mrs. F. W. Tratt, Whitewater	1 00
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Best easel scarf.

	1123	Miss W. C. Stevens, Milwaukee ..	2 00
	83	Genevieve F. Bartels, Milwaukee.....	1 00

Best toilet cushion.

	83	Genevieve F. Bartels, Milwaukee.....	2 00
	1123	Miss W. C. Stevens, Milwaukee.....	1 00

Best sofa cushion.

	83	Genevieve F. Bartels, Milwaukee.....	2 00
	418	Mary E. Farnham, Fond du Lac	1 00

Best ottoman cover.

No.	83	Genevieve F. Bartels, Milwaukee.....	\$2 00
	968	Mrs. O. Pratt, Spring Prairie.....	1 00

Best decorated chair.

	883	Mrs. Theo. L. Newton, Beaver Dam.....	3 00
	83	Genevieve F. Bartels, Milwaukee.....	1 00

Best embroidery in crewel.

	83	Genevieve F. Bartels, Milwaukee.....	2 00
	921	Mrs. E. J. O'Neill, Milwaukee.....	1 00

Best cut work embroidery.

	83	Genevieve F. Bartels, Milwaukee.....	\$2 00
	83	Genevieve F. Bartels, Milwaukee.....	1 00

Best embroidery in form work.

	921	Mrs. E. J. O'Neill, Milwaukee.....	1 00
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Best French embroidery.

	4	Miss Eliza Armstrong, Milwaukee.....	2 00
	1123	Miss W. C. Stevens, Milwaukee.....	1 00

Best collection articles in drawn work.

	643	Mrs. J. G. Kestol, Whitewater.....	3 00
	1225	Mrs. F. W. Tratt, Whitewater.....	1 00

Best specimen darning in fancy stitches.

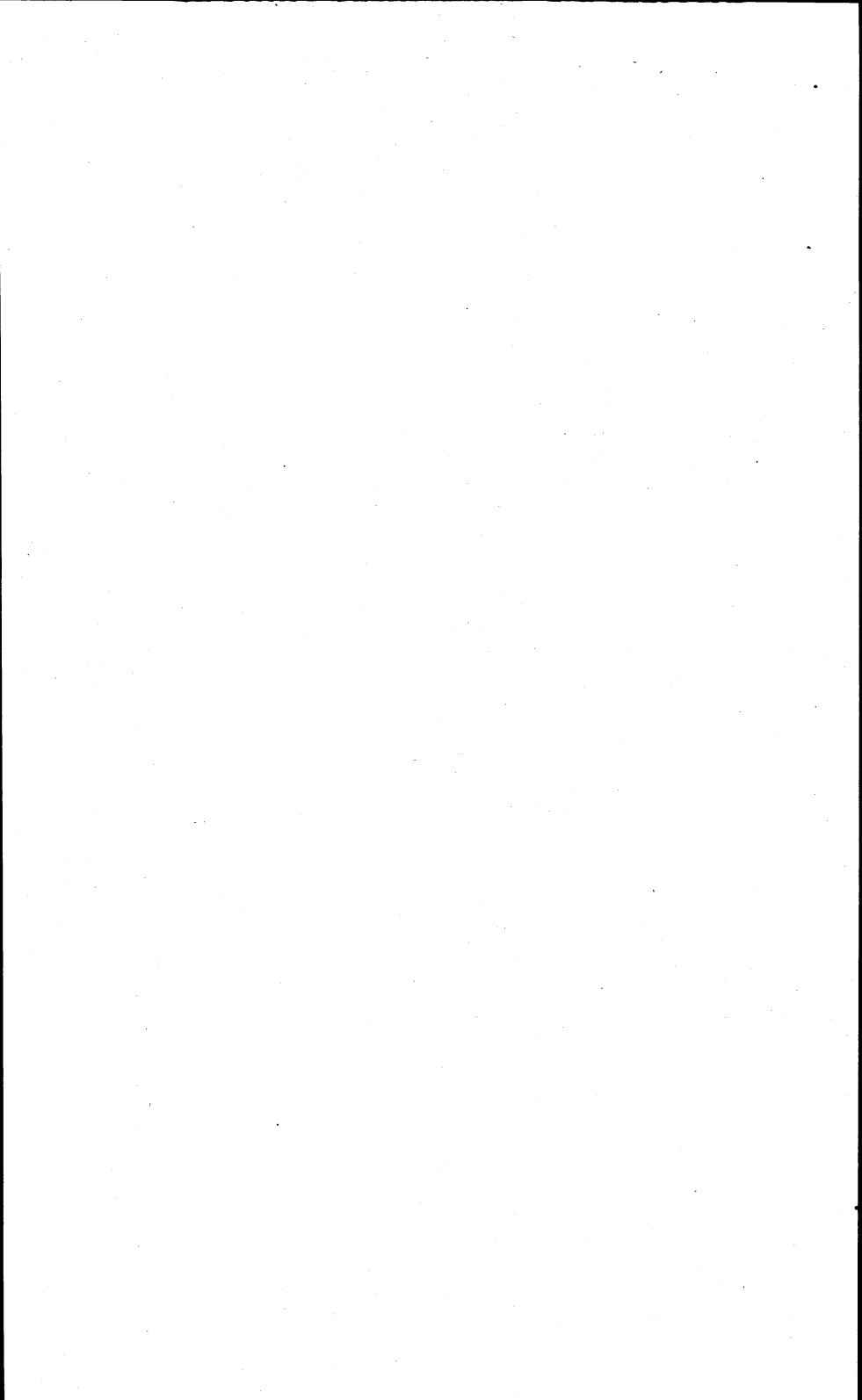
	83	Genevieve F. Bartels, Milwaukee.....	2 00
	573	Mrs. S. M. Hough, Hortonville.....	1 00

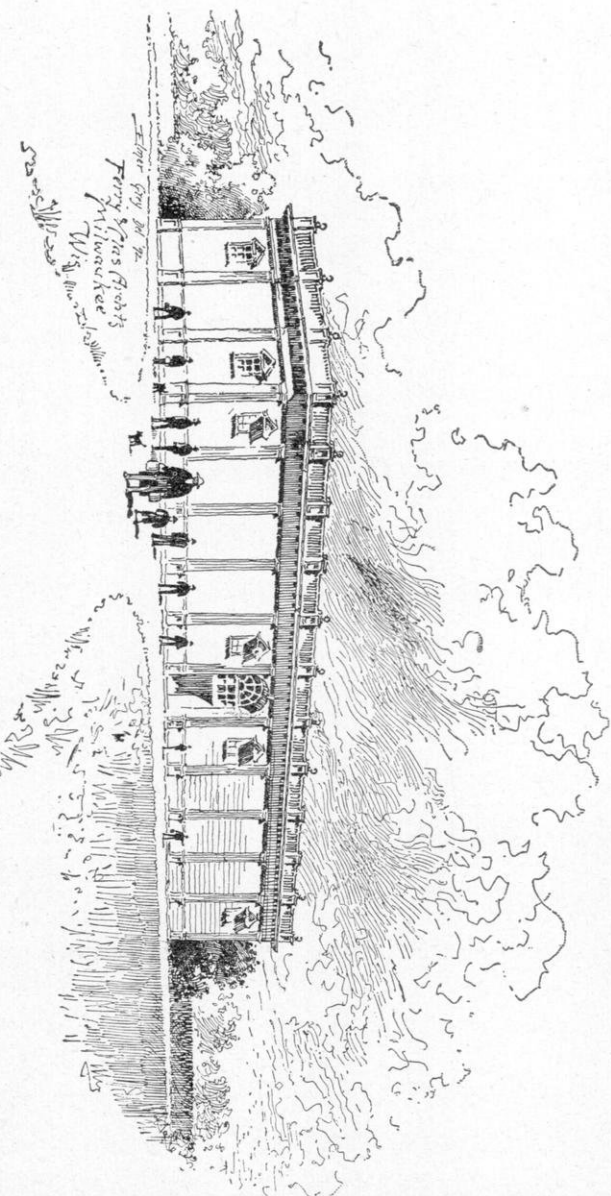
Best toilet set, bottles and cushion.

	1123	Miss W. C. Stevens, Milwaukee.....	2 00
	418	Mary E. Farnham, Fond du Lac.....	1 00

Best afghan.

	1225	Mrs. F. W. Tratt, Whitewater.....	3 00
	83	Genevieve F. Bartels, Milwaukee.....	1 00





Art Building, Wisconsin State Fair Grounds.

PREMIUM AWARDS.

145

Best Arasene wire embroidery.

No. 83 Genevieve F. Bartels, Milwaukee \$2 00

Best set of Doylies.

83 Genevieve F. Bartels, Milwaukee 2 00
 1225 Mrs. F. W. Tratt, Whitewater 1 00

Best chair roll or head rest.

410 Mrs. A. H. Foster, Evanston, Ill. 2 00
 83 Genevieve F. Bartels, Milwaukee 1 00

CLASS 64—*Work of Boys and Girls under 15 years of age.*

Best patch work quilt.

No. 7 Miss Ella Austin, Milwaukee \$2 00

Best sample of plain sewing.

966 Dora L. Putnam, Waukesha 2 00

Best sample darning.

7 Miss Ella Austin, Milwaukee 2 00

Best Hand-Knit Stockings.

971 Chloe Pierce, Hartford 2 00

Best Hand-Knit Mittens.

7 Miss Ella Austin, Milwaukee 2 00

Best Crochet Skirt.

7 Miss Ella Austin, Milwaukee 2 00

Best Toilet Mats.

966 Dora L. Putnam, Waukesha 1 00

Best Outlining in Kensington.

No. 966 Dora L. Putnam, Waukesha..... \$1 00

Best Specimen Oil Painting.

966 Dora L. Putnam, Waukesha..... 2 00

Best Landscape Penciling.

7 Miss Ella Austin, Milwaukee..... 2 00

Best specimen scroll sawing.

96 Claude Beabe, Milwaukee 2 00

Best loaf of white bread.

7 Miss Ella Austin, Milwaukee..... 2 00

Best loaf of Graham bread.

7 Miss Ella Austin, Milwaukee..... 2 00

Best collection bracket work.

96 Claude Beabe, Milwaukee..... 3 00

Best model of barn or dwelling.

7 Miss Ella Austin, Milwaukee..... 2 00

Best collection illustrating the botany of Wisconsin.

966 Dora L. Putnam, Waukesha..... 3 00

Best map of Wisconsin.

96 Claude Beabe, Milwaukee..... 2 00

Best collection of coins.

96 Claude Beabe, Milwaukee..... 2 00

Best botanical collection, noxious weeds of Wisconsin.

96 Claude Beabe, Milwaukee..... 2 00

PREMIUM AWARDS.

147

Best collection of shells.

No. 7 Miss Ella Austin, Milwaukee..... \$2 00

Best toilet cushion.

966 Dora L. Putnam, Waukesha..... 1 00

CLASS 65—*Domestic Manufactures.*

Best rug of any material.

No. 492 Mrs. Geo. Guenther, Milwaukee..... \$3 00
 1374 Mary E. Warren, Fox Lake..... 1 00

Best drawn rug.

1374 Mary E. Warren, Fox Lake..... 2 00
 410 Mrs. A. H. Foster, Evanston, Ill 1 00

Best braided rug.

1121 Mrs. Wm. Sweeney, Fox Lake..... 1 00

Best ten yards Rag Carpet.

1223 Mrs. A. L. Tenny, Heartland 2 00

Best Woolen Stockings.

331 Mrs. A. P. Ellinwood, Reedsburg 2 00
 610 Mrs. A. H. Jeffery, Milwaukee. 1 00

Best Woolen Socks.

3 Mrs. N. E. Allen, Beaver Dam..... 2 00
 1374 Mary E. Warren, Fox Lake..... 1 00

Best Fancy Knitting Work.

492 Mrs. Geo. Guenther, Milwaukee..... 2 00
 975 Mrs. E. Phelps, Milwaukee..... 1 00

Best Silk Mittens.

643 Mrs. J. G. Kestol, Whitewater..... 2 00

Best Choquet Ladies' Skirt.

No. 1123	Miss W. C. Stevens, Milwaukee.....	\$3 00
406	Mrs. E. W. Fisher, Janesville.....	2 00

Best Hand Knit Ladies' Under Vest.

805	Mrs. Cyrus Miner, Janesville.....	3 00
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Best hand knit ladies' skirt.

492	Mrs. Geo. Guenther, Milwaukee	3 00
83	Genevieve F. Bartels, Milwaukee.....	2 00

Best collection of crochet work.

33	Genevieve F. Bartels, Milwaukee	2 00
94	Mrs. Carrie Baerwald, Milwaukee.....	1 00

Best crochet or knitted slippers or shoes.

7	Miss Ella Austin, Milwaukee	2 00
83	Genevieve F. Bartels, Milwaukee	1 00

Best log cabin quilt (not silk).

273	J. G. Carr, Milton Junction	4 00
1374	Mary E. Warren, Fox Lake	2 00

Best patch work quilt quilted.

575	Maudie F. Hillman, Brandon	4 00
420	Mrs. Peter Frattinger, Milwaukee.....	2 00

Best silk quilt, quilted.

1123	Miss W. C. Stevens, Milwaukee	4 00
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Best knit counterpane.

580	Anna A. Helberg, Milwaukee.....	4 00
1137	Miss Bertha Schlueter, Milwaukee	2 00

Best crochet counterpane.

99	Miss Birkel, Milwaukee.....	4 00
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Best crochet or knit pillow shams.

492	Mrs. Geo. Guenther, Milwaukee.....	3 00
99	Miss Birkel, Milwaukee.....	1 00

PREMIUM AWARDS.

149

Best exhibition of ladies' dress made by other than professional.

No. 1223	Mrs. A. L. Tenney, Hartland.....	\$4 00
83	Genevieve F. Bartels, Milwaukee.....	2 00

Best specimen of darning.

83	Genevieve F. Bartels, Milwaukee... ..	2 00
1386	Mrs. Fred C. Warren, Fox Lake.....	1 00

Best specimen patched mending.

410	Mrs. A. H. Foster, Evanston, Ill.....	2 00
83	Genevieve F. Bartels, Milwaukee.....	1 00

Best and greatest variety of articles of millinery.

1060	A. W. Rich & Co., Milwaukee.....	5 00
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Best macreme lace lambrequin.

805	Mrs. Cyrus Miner, Janesville.....	3 00
410	Mrs. A. H. Foster, Evanston, Ill.....	2 00

Best crochet shawl.

968	Mrs. O. Pratt, Spring Prairie.....	3 00
83	Genevieve F. Bartels, Milwaukee.....	1 00

Best knit shawl.

492	Mrs. Geo. Guenther, Milwaukee.....	3 00
884	Mrs. Anne H. Nilson, Racine.....	1 00

CLASS 66 — *Household Products.*

BREAD AND CAKE.

(For which a glass show case will be provided.)

Best loaf Graham bread.

643	Mrs. J. G. Kestol, Whitewater.....	3 00
978	Mrs. D. T. Pilgrim, Wauwatosa.....	2 00

Best loaf White bread.

No. 825	Katherine Moser, Milwaukee	\$3 00
1361	Mrs. A. G. Watson, Merton	2 00

Best loaf Indian bread.

1204	F. B. Tindall, Caldwell	3 00
731	Ella Leonard, La Crosse	2 00

Best Pine Apple cake.

406	Mrs. E. W. Fisher, Janesville	2 00
1361	Mrs. A. G. Watson, Merton	1 00

Best chocolate gold cake.

1132	Mrs. W. E. Swan, North Prairie	\$1 00
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Best doughnuts.

1204	F. B. Tindall, Caldwell	2 00
1132	Mrs. W. E. Swan, North Prairie	1 00

Best English walnut cream cake.

1132	Mrs. W. E. Swan, North Prairie	2 00
731	Ella Leonard, La Crosse	1 00

Best almond cream cake.

415	M. C. Foley, Wauwatosa	2 00
406	Mrs. E. W. Fisher, Janesville	1 00

Best chocolate caramel cake.

1132	Mrs. W. E. Swan, North Prairie	2 00
483	Mrs. A. E. Gilbert, Prospect	1 00

Best chocolate cream cake.

415	M. C. Foley, Wauwatosa	2 00
406	Mrs. E. W. Fisher, Janesville	1 00

Best Angel Food cake.

643	Mrs. J. G. Kestol, Whitewater	2 00
1155	Mrs. O. J. Swan, Wauwatosa	1 00

PREMIUM AWARDS.

151

Best Orange cake.

No. 1361	Mrs. A. G. Watson, Merton.....	\$2 00
483	Mrs. A. E. Gilbert, Prospect.....	1 00

Best Fig cake.

967	Mrs. Dora L. Putnam, Waukesha....	2 00
483	Mrs. A. E. Gilbert, Prospect.....	1 00

Best and largest exhibition of articles of above sort.

1361	Mrs. A. G. Watson, Merton.....	5 00
1204	F. B. Tindall, Caldwell.....	3 00

SEALED AND PRESERVED FRUITS AND PICKLES.

Best canned peaches.

327	Mrs. Arthur Elliott, Baraboo.....	2 00
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Best canned plums.

1048	Mrs. C. H. Root, Ripon.....	2 00
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Best canned currants.

568	Mrs. W. C. Harden, Weyauwega.....	2 00
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Best canned tomatoes.

568	Mrs. W. C. Harden, Weyauwega.....	2 00
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Best canned gooseberries.

1048	Mrs. C. H. Root, Ripon.....	2 00
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Best canned raspberries.

1048	Mrs. C. H. Root, Ripon.....	2 00
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Best canned strawberries.

1218	Mrs. M. A. Thayer, Sparta.....	2 00
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Best canned grapes.

406	Mrs. E. W. Fisher, Janesville.....	2 00
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		Best canned blackberries.	
No. 1218	Mrs. M. A. Thayer, Sparta.....		\$2 00
		Best canned cherries.	
166	Mrs. Anna Crawford, St. Francis.....		2 00
		Best Canned Pears.	
610	Mrs. A. H. Jeffrey, Milwaukee.....		2 00
		Best Canned Hyslop or Transcendant Crabs.	
827	Mrs. Arthur Elliott, Baraboo.....		2 00
		Best Plum Jelly.	
1366	Mrs. H. M. Warner, Milwaukee.....		2 00
		Best Currant Jelly.	
1048	Mrs. C. H. Root, Ripon.....		2 00
		Best Red Raspberry Jelly.	
327	Mrs. Arthur Elliott, Baraboo.....		2 00
		Best Crab Apple Jelly.	
1286	Mrs. Eliza Ver Douw, Milwaukee.....		2 00
		Best Grape Jelly.	
327	Mrs. Arthur Elliott, Baraboo.....		2 00
		Best quince jelly.	
1374	Mary E. Warren, Fox Lake.....		2 00
		Best raspberry jam.	
1218	Mrs. M. A. Thayer, Sparta.....		2 00
		Best blackberry jam.	
406	Mrs. E. W. Fisher, Janesville.....		2 00

PREMIUM AWARDS.

153

Best sweet pickled peaches.

No. 610 Mrs. A. H. Jeffrey, Milwaukee..... \$2 00

Best sweet pickled apples.

1154 Mrs. E. A. Swan, Wauwatosa..... 2 00

Best pickled pears.

610 Mrs. A. H. Jeffrey, Wauwatosa... 2 00

Best Chili sauce.

327 Mrs. Arthur Elliott, Baraboo..... 2 00

Best Tomato Catsup.

327 Mrs. Arthur Elliott, Baraboo..... 2 00

Best Sour Pickles.

327 Mrs. Arthur Elliott, Baraboo..... 2 00

Best Cucumbers.

1048 Mrs. C. H. Root, Ripon..... 2 00

Best Cauliflower.

408 Mrs. Thomas Fogg, Beaver Dam..... 2 00

Best Onions.

408 Mrs. Thomas Fogg, Beaver Dam..... 2 00

Best mixed pickles.

1374 Mary E. Warren, Fox Lake..... 2 00

Best and largest exhibition fruits, jellies, jams and pickles, in glass jars.

327 Mrs. Arthur Elliott, Baraboo..... 5 00

CLASS 67—*Miscellaneous.*

Best china painting, single piece.		
No. 967	Mrs. Dora L. Putnam, Waukesha.....	\$3 00
804	Florence Hart Miner, Janesville	1 00
Best collection china painting		
804	Florence Hart Miner, Janesville... ..	5 00
Best Potpourri Jar.		
804	Florence Hart Miner, Janesville	Diploma
Best fruit set.		
804	Florence Hart Miner, Janesville	3 00
Best specimen art pottery.		
410	Mrs. A. H. Foster, Evanston, Ill.....	3 00
Best wall banner, painted.		
967	Mrs. Dora L. Putnam, Waukesha.....	2 00
575	Maudie F. Hillman, Brandon.....	1 00
Best mounted fire screen, painted.		
808	Miss Mollie Moffat, Milwaukee.....	3 00
Best Kensington painting in oil.		
410	Mrs. A. H. Foster, Evanston, Ills.....	3 00
Best velvet painting in oil.		
805	Mrs. Cyrus Miner, Janesville.... ..	3 00
Best painting on silk or satin.		
97	Mrs. L. M. Buell, Beloit	3 00
Best tapestry painting.		
410	Mrs. A. H. Foster, Evanston, Ills	3 00

PREMIUM AWARDS.

155

Best repousse or hammered brass work.

No. 805 Mrs. Cyrus Miner, Janesville..... Diploma.

Best set architectural plans (original).

410 Mrs. A. H. Foster, Evanston, Ills \$4 00

Best relief wood carving.

95 Hattie Breuner, Milwaukee..... 3 00

Best specimen scroll sawing.

410 Mrs. A. H. Foster, Evanston, Ill..... 3 00

Best painting on bolting cloth.

561 Wm. J. Hamilton, Milwaukee..... 2 00

Best painting on celluloid.

310 Mrs. A. H. Foster, Evanston, Ill..... 2 00

SPECIAL PREMIUMS.

HORSES.

Goodyear Rubber Co., Milwaukee; A Gent's Mackintosh Coat, valued at \$25, for best pair of Farm Horses, weighing not less than 1,200 lbs., nor more than 1,400 lbs., owned and exhibited by a farmer.

178 G. F. Carroll.....Waukesha.

Capt. Fred Pabst, Milwaukee: One Weanling Percheron Stallion, valued at \$500, for best Sucking Colt shown in the Percheron class.

974 Pabst's Stock Farm.....Milwaukee.

Schlitz Brewing Co: One two-year old Percheron Colt, valued at \$200, for best Standard Bred Trotting Stallion and three of his get under three years of age.

1243 Uihlein Bros.....Truesdell.

Thos. C. Smith, Milwaukee: One Single Strap Track Harness, with Kay Saddle and Track Lines, valued at \$45, for best five Standard or Non-Standard Roadster Animals, owned and bred by any exhibitor.

1243 Uihlein Bros..... Truesdell.

Benjamin Young, Milwaukee: One Genuine Rubber and Gold Trimmed, Single Strap, Track Harness, valued at \$50, for best five animals of any Draft Breed, bred and owned by exhibitor.

927 R. B. Ogilvie.....Madison.

CATTLE.

Hansen's Empire Fur Factory, Milwaukee: One Seal Overcoat, valued at \$50, for best aged Herd of Holstein Cattle, owned and exhibited by resident of this state.

496 Gillett & Son.....Rosendale.

Leslie & Burwell, Cottage Grove, Wis: An Aberdeen Angus Heifer, valued at \$50, for best herd of one Bull and four Females, under two years old, owned, and Females bred by exhibitor, from any of the beef breeds of cattle.

724 Leslie & Burwell.....Cottage Grove.

Wisconsin Farmer, Madison: For best Beef Herd, Silver Medal, valued at \$50.

1124 C. M. Sanger.....Waukesha.

Wisconsin Farmer, Madison: For best Dairy Herd, Silver Medal valued at \$50.

1213 F. W. Tratt.....Whitewater.

John Dorsch & Sons, Milwaukee: A Road Cart, value \$35, for the cow giving the greatest number of pounds of milk on Thursday of Fair week.

1050 Rust Bros.....North Greenfield.

SHEEP.

A. O. Fox, Oregon, Wis: A choice Shropshire ram, valued at \$50, for best pen of five Shropshires, bred, owned and exhibited by a non-professional breeder in the state of Wisconsin.

650 W. T. Kelsey.....Prairie du Sac.

Kalamazoo Knitting Co., Milwaukee: One dozen Blizzard boots, for best fleece of long wool.

811 John W. Ganes.....Lowell.

Zimmermann Bros., Milwaukee: One suit of clothes, or overcoat, value \$20, for best ewe of any age or breed in mutton classes.

5 Geo. Allen & Sons.....Allerton, Ill.

Wisconsin Farmer, Silver Medal, valued \$50: Best pen mutton sheep, consisting of three ewes and one ram.

5 Geo. Allen & Sons.....Allerton Ill.

One year's subscription of Wisconsin Farmer for best pen of Merino sheep.
 961 J. H. Pitcher.....Eagle.

SWINE.

Cudahy Bros., Milwaukee: \$25 in cash, for best pair of Berkshire hogs, consisting of boar and four of his get, the latter to be under one year of age, and owned and bred by exhibitor.
 729 A. J. Lovejoy.....Roscoe, Ill.

Joseph Gordon, Mineral Point: A Poland China boar, under one year old, valued at \$25, for best sow pig of any breed under six months old.
 403 B. T. Fowler.....Whitewater.

Layton & Co., Milwaukee: \$25 for best pen of Berkshire pigs from six to ten months old.
 169 B. N. Cooley.....Coldwater, Mich.

POULTRY AND EGGS.

Browning, King & Co., Milwaukee: One suit of clothes and overcoat, valued at \$50, for dozen largest hens' eggs.
 735 Love Bros.... Waukesha

Koch & Loeber Co., Milwaukee: One milk safe, valued at \$10, for best show of American fowls.
 814 H, S. Morehouse Elkhorn

Wisconsin Farmer: One year's subscription for best exhibit of Asiatic fowls.
 1052 E. G. Roberts..... Ft. Atkinson

One year's subscription for best exhibit American fowls.
 1052 E. G. Roberts..... Ft. Atkinson

One year's subscription for best exhibit Spanish fowls.
 1052 E. G. Roberts..... Ft. Atkinson

One year's subscription for best exhibit turkeys.
 1052 E. G. Roberts..... Ft. Atkinson

One year's subscription for best exhibit water fowls.

1052 E. G. Roberts Ft. Atkinson

One year's subscription for best exhibit Pea fowls.

1052 E. G. Roberts Ft. Atkinson

AGRICULTURE.

Bradley & Metcalf Co., Milwaukee: One case (12 pairs) of our best men's calf goat leg Goodyear welt opera boots, for best show of field products from any township in the state. Not less than six persons to join in such exhibit.

740 Lafayette..... Walworth Co

John Dorsch & Sons, Milwaukee, offer special premiums: A potato hiller, value \$15, for best exhibit of potatoes by one exhibitor, gardeners and experts barred.

1377 N. Washburn Rice Lake

The Fuller & Warren Co., Milwaukee, offer special premium: A parlor stove, value \$50, for best show of garden products, by a single exhibitor.

1203 W. W. Thompson St. Francis

Milwaukee Chair Co: One office chair, valued at \$25, for best single ear of corn.

1139 P. W. Skemp Skelton, S. D.

Milwaukee Millers: E. Sanderson Milling Co.; Daisy Roller Mills; John B. A. Kern & Sons; Faist, Kraus & Co.; Bernhard Stern & Son, and C. A. Manegold & Co., each give two barrels of flour to be given respectively for best sample of red winter wheat raised in Wisconsin.

1130 M. E. Spring..... Baraboo

.For best sample Scotch fife spring wheat raised in Wisconsin.

1377 N. Washburn..... Rice Lake

John Pritzlaff Hardware Co.: One set platform scales, weighing 1,200 pounds, valued at \$50, for best half bushel of winter wheat.

1130 M. E. Spring. Baraboo

Roundy, Peckham & Co., Milwaukee: One barrel granulated sugar, valued at \$20, for best peck of potatoes, any variety.

563 Chas. Hirschinger..... Baraboo.

Milwaukee Millers: E. Sanderson Milling Co.; Daisy Roller Mills; John B. A. Kern & Sons; Faist, Kraus & Co.; Bernhard Stern & Son, and C. A. Mangold & Co., each give two barrels of flour to be given respectively for best sample of dark No. 1 rye raised in Wisconsin.

1377 N. Washburn.....Rice Lake.

SCOTCH BARLEY.

1378 H. P. West..... Fayetteville.

DENT CORN.

1378 H. P. West..... Fayetteville.

FLINT CORN.

1130 M. E. Spring..... Baraboo.

BUTTER AND CHEESE.

Atkins, West & Co., Milwaukee: One dozen ladies' fine kid shoes, valued at \$50, for best package of butter, made and exhibited by a Wisconsin co-operative creamery.

650 W. T. Kelsey Prairie du Sac.

R. M. Boyd, Racine: Agent for Butters & Peters' dairy salt, offers one elegant silver tea set, valued at \$50, for best tub of butter, not less than 20 lbs., salted with Vacuum Pan dairy salt. Each entry to be accompanied by certificate that butter was salted with Butters & Peters' Vacuum Pan dairy salt.

490 C. N. Griffith..... Whitewater.

Carpeles & Co., Milwaukee: An elegant trunk, valued at \$50, for the best exhibit of factory cheese by one factory in Wisconsin.

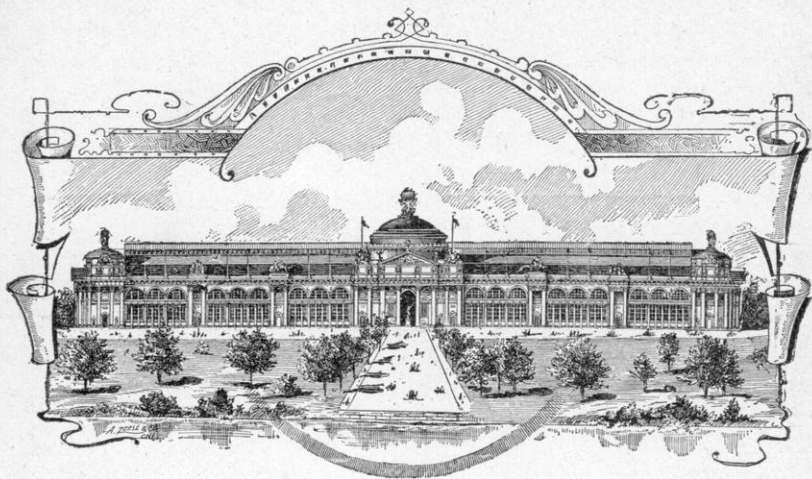
1127 Smith & Eastman..... Saukville.

Cornish, Curtis & Greene, Fort Atkinson: A four bottle tester, worth \$10, for package of dairy butter scoring greatest number of points. Time and place of manufacture unlimited in either case.

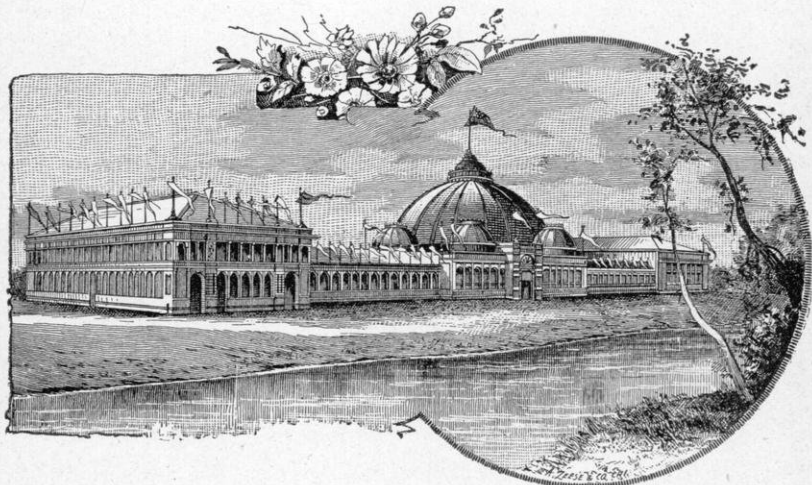
972 Mrs. G. P. Pepper..... Pewaukee.

CREAMERY BUTTER.

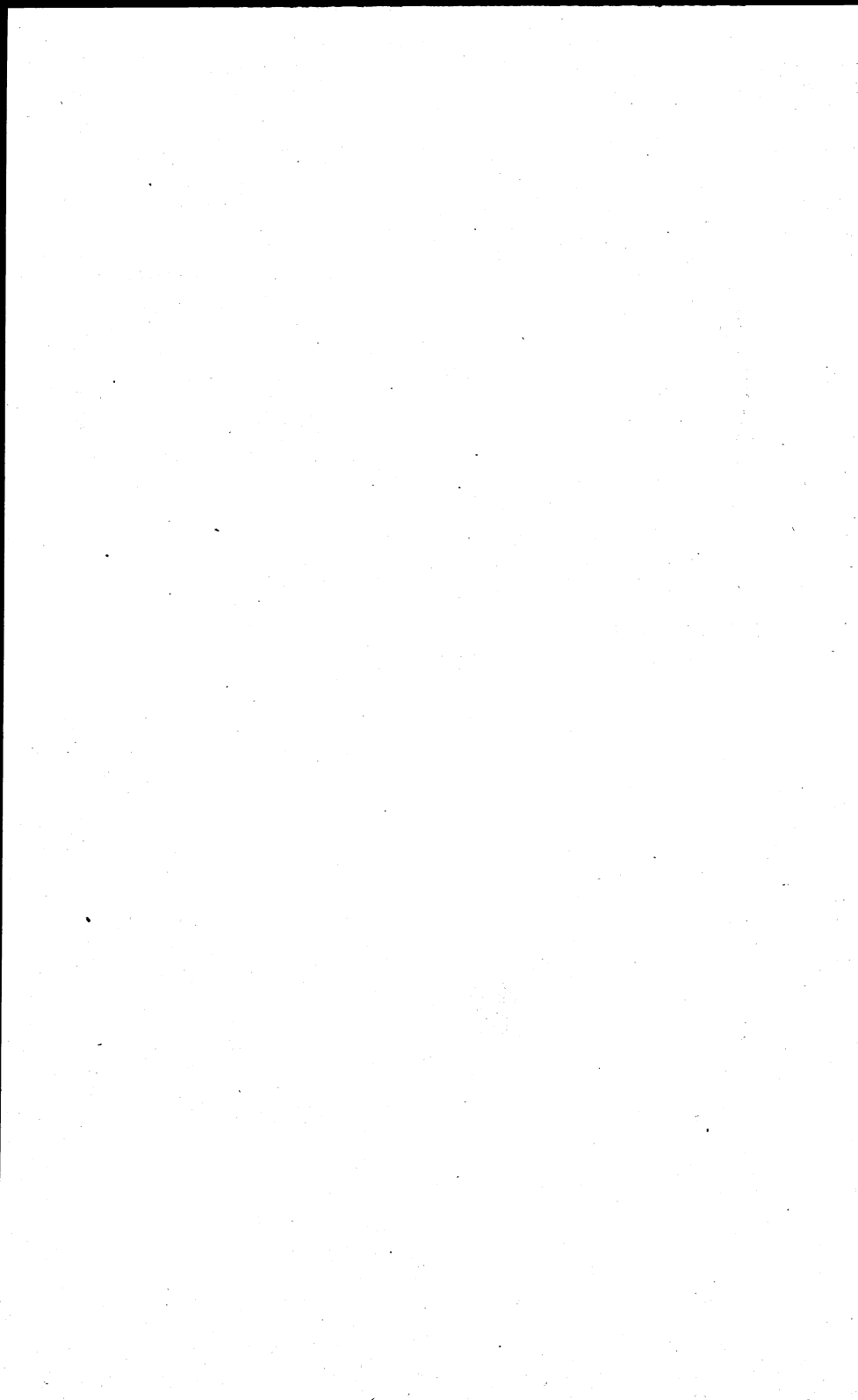
- 881 Neville Bros..... Grays' Lake, Ill.
- A. J. Decker & Co., Fond du Lac: One twelve bottle Babcock milk test, valued at \$16, for the cheese weighing not less than 30 lbs., scoring the highest number of points. Cheese entered in other classes not eligible to entry for this special premium.
- 411 John Frick..... Plymouth.
- Lumsden Cheese Bandage Co.: 100 flat Lumsden bandages for cheese taking first premium.
- 1371 Steve Wollensack..... Watertown.
- Stanley & Camp Co., Milwaukee: Offer a silver salver with a beautiful etching on the same of Gen. Grant's birthplace; a full landscape of Pt. Pleasant, Ohio, with portrait of Gen. Grant in foreground of the etching, for the best Package of Butter.
- 972 Mrs. G. P. PefferPewaukee
- Clement, Williams & Co., Milwaukee: One parlor set, valued at \$50, for best package of dairy butter, made and exhibited by a farmer's wife.
- 972 Mrs. G. P. Peffer.....Pewaukee.
- M'Cormick Harvester Co: One No. 4 Mower, 6 foot cut, valued at \$65, for best show of cheese by any co-operative factory in the state.
- 1371 Steve Wollensack.....Watertown.
- B. J. Johnson & Co., Milwaukee: One box of white china floating soap for best package dairy butter.
- 972 Mrs. G. P. Peffer.....Pewaukee.
- B. J. Johnson & Co., Milwaukee: One box of white china floating soap for 3rd best factory cheese. (Cheddar.)
- 411 John FrickPlymouth.
- Wisconsin Farmer: 1 year's subscription for best exhibition dairy butter.
- 972 Mrs. G. P. Peffer.....Pewaukee.
- Wisconsin Farmer: 1 year's subscription for best exhibit young America cheese.
- 1384 F. D. Widder.....Sheboygan Falls.



Agricultural Building, World's Fair.



Horticultural Building, World's Fair.



FRUITS AND FLOWERS.

Beals, Torrey & Co., Milwaukee: One case of men's oil grained boots valued at \$50, for the best show of apples and grapes from any county in the state. Three or more exhibitors required to constitute a county show.

1159 Sauk County.

Chauncey Simonds Co., Milwaukee: \$50 worth of clothing for the best display of apples by a non-professional grower, resident of the state of Wisconsin.

601 Franklin Johnson.....Baraboo.

Currie Bros., Milwaukee: Plants and seeds to the value of \$25, for the best general display, by amateur grower of plants or flowers, grown by exhibitor, twenty-five different varieties required to make a display.

327 Mrs. Arthur Elliott.....Baraboo.

A. Dahlman & Co., Milwaukee: One barrel granulated sugar, valued at \$20, for best show of grapes by single exhibitor.

401 Wm. Fox.....Baraboo.

Stark Bros., Milwaukee: One rug, valued at \$50, for the best exhibit of Dahlias by any women resident in the state, Milwaukee excepted. Exhibitor cultivating the flowers herself as a non-professional.

994 Miss Kate Peffer.....Pewaukee.

C. Preusser Jewelry Co: Offer special premium, a silver tea set, valued at \$50, for the lady having the finest exhibit of flowers.

327 Mrs. Arthur Elliott.....Baraboo.

FINE ARTS.

Bunde & Upmeyer, Milwaukee: Fine quadruple silver plated tea set to the artist who exhibits the finest collection of water colors or oil paintings; value of set, \$50.

592 F. W. Heine.....Milwaukee.

A. Meinecke & Son, Milwaukee: Two Bamboo chairs, valued at \$20, for best original landscape in oil.

1208 C. Tredupp.....Milwaukee.

WOMAN'S WORK.

Brand Stove Co., Milwaukee: A Gold Dust range, valued at \$40, for the best exhibit of bread and cakes, baked by a farmer's wife or a farmer's daughter over 16 years of age, who contemplates marriage.

1361 Mrs. A. G. Watson..... Merton.

Dewey & Davis, Milwaukee: One barrel of granulated sugar, valued at \$20, for best display of canned fruit in glass jars, by a lady.

327 Mrs. Arthur Elliott..... Baraboo.

Domestic Sewing Machine Co.: A Domestic sewing machine, list price \$60, to the lady who owns a Domestic, exhibiting the three best loaves of bread, one each of white, graham and brown.

415 Mrs. M. E. Foley..... Wauwatosa.

Frankfurth Hardware Co., Milwaukee: One refrigerator, valued at \$25, for best show of pickles by lady exhibitor.

327 Mrs. Arthur Elliott..... Baraboo.

731 Miss Ella Leonard..... La Crosse.

J. C. Iversen Co., Milwaukee: One pier mirror, valued at \$50, for best show of hand embroidery work done by exhibitor.

83 Genevieve T. Bartels..... Milwaukee.

T. L. Kelly & Co., Milwaukee: One silk dress, valued at \$40, for best hand made night shirt.

83 Genevieve T. Bartels..... Milwaukee.

T. L. Kelly & Co., Milwaukee: One ladies' hat, valued at \$10, for best sample of darning.

83 Genevieve T. Bartels..... Milwaukee.

The Petley Shirt Co. Milwaukee: One fine gold headed pure silk lady's umbrella, valued at \$15, for the best one dozen button holes, made by a girl under 16 years of age.

966 Dora L. Putnam..... Waukesha.

Singer Manufacturing Co.: A machine valued at \$60, for the best work done on one of our machines, experts barred.

1223 Mrs. A. L. Tenney..... Hartland.

J. G. Flint, Milwaukee: For the best cake made with Flint's Star Crystal Baking Powder, \$20 worth of assorted teas, coffees, spices and baking powder.

1132 Mrs. W. E. Swan..... North Prairie.

Gimbel Bros., Milwaukee: One pair Irish Point Lace Curtains, valued at \$10, for best sample of plain sewing, embracing the different stitches used in household sewing and repairing.

4 Miss Eliza Armstrong. Milwaukee.

Gimbel Bros., Milwaukee: One Angora set, cape and muff, value \$8, for best cake of any kind made by a girl not over 13 years of age, living outside of Milwaukee.

966 Dora L. Putnam..... Waukesha.

B. J. Johnson & Co., Milwaukee: One box White China Floating Soap, for best Angel's food cake.

483 Mrs. A. E. Gilbert.. Prospect.

B. J. Johnson & Co., Milwaukee: One box of White China Floating Soap, for best white bread.

1361 Mrs. A. G. Watson..... Merton.

B. J. Johnson & Co., Milwaukee: One box white China floating soap, for best doughnuts.

483 Mrs. A. E. Gilbert..... Prospect.

B. J. Johnson & Co., Milwaukee: One box white China floating soap, for best sour pickles.

327 Mrs. Arthur Elliott.....Baraboo.

B. J. Johnson & Co., Milwaukee: One box white China floating soap, for best exhibit of sealed fruit.

1366 Mrs. H. M. WarnerMilwaukee.

B. J. Johnson & Co., Milwaukee: One box white China floating soap, for best and largest exhibition of cake.

1361 Mrs. A. G. Watson..... Merton.

Wisconsin Farmer, 1 year's subscription : Best exhibit of bread and cake.
488 Mrs. A. E. GilbertProspect.

Wisconsin Farmer, 1 year's subscription : Best exhibit sealed fruit.
1366 Mrs. H. M. Warner Milwaukee.

Wisconsin Farmer, 1 year's subscription : Best hand knit mittens.
1374 Mrs. Mary E. WarrenFox Lake.

Wisconsin Farmer, 1 year's subscription : Best worsted tidy.
1374 Mrs. Mary E. Warren.....Fox Lake.

Household, 1 year's subscription : Best woolen socks.
1374 Mrs. Mary E. Warren.....Fox Lake.

Household, 1 year's subscription : Third premium on sealed fruit.
1374 Mrs. Mary E. Warren.....Fox Lake.

MISCELLANEOUS.

Geo. C. Cribb, Milwaukee: First. To the farmer bringing in person to the state fair the largest number of tags taken from Geo. C. Cribb's Farmers' Friend Binding Twine: A full leather top, "A" grade, end spring buggy, valued at \$100. Second. To the farmer bringing the second largest number: A stick body road wagon, valued at \$50. Third. To the farmer bringing the third largest number: A celebrated Beebe road cart, valued at \$25.

1st. Jas. Brophy.....Saukville.
2nd. H. J. Bourgeois..Mt. Calvary.
3rd. Frank Herbst.....Poygan

James Morgan, Milwaukee: We shall give the following prize at the state fair: Twenty yards of fine quality black silk to the youngest lady teacher in this state holding the highest grade certificate.

824 Jennie MayhewBurnett Station.

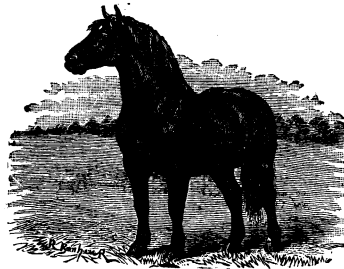
A. W. Rich & Co., Milwaukee, offers a special premium: A \$50 music box, Paillard's celebrated make, to the lady naming the most distinguished citizen (deceased) of the state of Wisconsin, together with a short sketch

of his life, setting forth the reasons why he is most worthy of having a statute or bust (life size) erected to his memory; to be placed in the Art hall or some other suitable location in the new state fair grounds. Each paper must include a plan deemed most practical and advisable for the raising of the funds necessary to carry out the project successfully. In order to more fully understand the details, conditions, etc., contestants should write A. W. Rich & Co., for particulars, enclosing a two cent stamp. All papers must be mailed to A. W. Rich & Co., who will properly enter and exhibit them. The prize will be awarded by judges appointed by state fair association.

406. Mrs. Amelia W. Bate.....Milwaukee.

Wheeler & Wilson Mfg. Co., offer special premium: A sewing machine, value \$60, to volunteer soldier who served longest in late war as such without receiving a commission.

98. J. M. Beach.....Milwaukee.



REPORTS OF SUPERINTENDENTS.

DEPARTMENT A—HORSES.

To the Executive Board of the Wisconsin State Agricultural Society:

GENTLEMEN—The exhibit in department A, while not as large as it would have been with better accommodations, was at least creditable to the state and honorable to the exhibitors. Men with so much money invested in valuable horses do not like to risk them in such stables as the Society could furnish for their accommodation and protection. This will probably be no longer a cause of complaint when the Society finds itself located on permanent grounds, of which it will have the sole control and ownership. Still we have no hesitancy in saying that the state of Wisconsin has good reason to feel proud over the display of horses at the State Fair for 1891. Considerable fault was found on the part of exhibitors that Cleveland Bays, French Coach, Hackneys and Oldenburgs, should be grouped in one class. While it is impossible to satisfy all, perhaps there are good and sufficient reasons why these classes ought to be separated. The speed department being short of room we furnished them with quite a number of stalls, the rent from which will be reported through that department. The amount collected for stall rent was three hundred and twenty-four (324) dollars.

As the exhibition of horses, especially while the judges are passing upon them, is one of the great attractions of the fair, it is unsatisfactory as well as unjust to compel the visitors to hang upon the rope that encloses the exhibit, trying to look over each other's heads. Believing it would be beneficial to the society as well as far more satisfactory

to those in attendance, we would most earnestly recommend that the ring for the display of horses upon the new grounds be surrounded with suitable seats for the accommodation of those present. As the position of superintendent of this department was new to me, I desire to extend thanks for the uniform courtesy and consideration that I met with everywhere from the exhibitors from whom I received goodly suggestions and valued assistance. I am further and greatly indebted to my assistant, R. C. Vernon, whose uniform urbanity and courtesy was only excelled by his general knowledge and promptness, coupled with abundant energy and enough firmness to make his assistance inestimable.

Respectfully submitted,

S. D. HUBBARD,
Superintendent.

DEPARTMENT C—SHEEP.

Mr. President, Gentlemen of the Board:

It was generally conceded that the exhibit in Department C (Sheep) for the Fair of 1891, was superior to any that have preceded it. The pens were full to overflowing, and new ones had to be constructed. The mutton breeds were out in full force, and of superior quality. The old-time Merino, the sheep that clothes the world, filled 25 pens.

There were about 250 sheep on exhibition, consisting of Merinos 75, Shropshires 67, Oxford Downs 53, South Downs 30, Cotswolds 27. The judging was, I think, satisfactory. So far as Department C is concerned, the show of 1891 can be credited a success.

Respectfully,

C. M. CLARK,
Superintendent.

DEPARTMENT D—SWINE.

To the President and Executive Board of the Wis. State Agricultural Society:

GENTLEMEN—Your superintendent of Department D (Swine) begs leave to report: That the exhibition of 1891 was larger than any previous exhibition from the fact that we had to build more pens in addition to the new ones built last year. The exhibition was very good and considering the depressed condition of this great industry, brought forth many flattering comments from the daily press about one cent corn and three cent pork, and the courage and perseverance displayed by the exhibitors in their favorite line of animal industry.

The principal exhibitors were, in

POLAND CHINAS.

- T. F. Wegge, Burlington, Wis.
- G. A. Love & Sons, Waukesha, Wis.
- H. N. Maxon, Diamond Lake, Ill.
- Frank Wilson, Jackson, Mich.
- B. T. Fowler, Hillsdale, Mich.
- G. F. Carroll, Waukesha, Wis.
- C. W. Rowe, Whitewater, Wis.
- A. Lille, Mequon, Wis.

CHESTER WHITES.

- Palmer & Noblett, Springfield, Wis.

BERKSHIRES.

- N. J. Lovejoy, Jackson, Mich.
- Peter Wakem, Madison, Wis.
- A. J. Lovejoy & Son.

CHESHIRE.

- George McKerrow, Sussex, Wis.

VICTORIAS.

- J. R. Brabazon, Delavan, Wis.
- Davis & Benedict, Woodnorth, Wis.
- E. Gillett, Western Union.
- Charles J. Hill, Brookfield, Wis.

I would recommend that the word "sucking" be stricken out of the premium list wherever it occurs in all classes relating to pigs under six months old.

Respectfully submitted,

EPH. BEAUMONT,

Superintendent.

DEPARTMENT E—POULTRY.

To the Officers and Members of the Executive Committee of the State Agricultural Society:

GENTLEMEN—In this department ("E") there was made one of the largest and finest displays both as to quality and quantity ever made at any state fair in Wisconsin. Among the largest exhibitors were J. R. Brabazon, also Love Bros., E. G. Roberts, Yorgey, Cass and many others. The want of proper room to so arrange exhibits to the best advantage for exhibitors and the state fair was seriously felt by all interested. We are in hopes that on our new fair grounds proper space will be furnished, that former disadvantages in this line will be done away with. The American Standard for Poultry gives about 200 standard varieties. We give premiums on less than forty. Many of our poultry exhibitors raise many of the other varieties but do not exhibit as there is no inducement to do so. Therefore I would recommend that some of the more prominent new varieties be added to the premium list. The poultry department probably draws more of a crowd than any other department of the fair. Everybody likes to see nice poultry, and having seen them once, want to see them again; and it seems to me that the more and better we can make the display the better for all interested in fair matters.

Respectfully submitted,

WM. WILSON,

Superintendent.

DEPARTMENT F — AGRICULTURE.

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

GENTLEMEN — I am happy to be able to report a large and fine display of farm products, and garden vegetables in this department, an increased interest manifested over the special premiums. For single exhibits our towns and counties. For special mention W. W Thompson, garden vegetables; L. L. Olds, fine display of potatoes. From South Dakota a fine show of corn white and yellow dent.

Class 37. I think was not so well represented.

Respectfully,

WILLIAM FOX,

Superintendent.

DEPARTMENT G — FRUITS AND FLOWERS.

Mr. President and members of the Executive Board Wisconsin State Agricultural Society:

It is my pleasure to report to you that department G — fruits and flowers — for our last state fair, was full to overflowing. I think never before in the history of the society was there ever such a display of fine fruit. Every available space was crowded full — additional number of plates were procured, and nearly every exhibitor had baskets and boxes which were not opened for the want of room.

Some of the exhibitors were at first disposed to find fault with the management, but generally these were the ones who do not comply with the rules, to notify the superintendent so that additional space could be provided. If I could impress this fact upon exhibitors; that they must notify the superintendent at least one week previous to the fair, how much space, or how many plates they want, it would do my successor a great favor. The special premiums offered for best display from counties for show of

fruit was borne off by Sauk county in a splendid exhibit from Baraboo. In plants and flowers, Messrs. Currie Brothers and Geo. Ringrose made fine displays of hot house and green house plants. Among the amateurs there were not so many entries perhaps as at some former shows, but a better display from the less number. I would advise that the premium list for amateurs be amended so as to bring more of our ladies who cultivate flowers into friendly competition for a larger number of prizes.

I think it is admitted by all who attend our fairs that the fruit and flower department is one of the principal features of attraction among our best citizens.

It is to be hoped then that in the new building which is to be prepared for these exhibits, every facility for the convenience of the exhibitors to make a display, as well as the public taste to be gratified, may be incorporated in the planning of Horticultural Hall.

The committee to revise the premium list have usually been requested to do their work and report at this meeting. This cannot be well done in the hurry of a few hours when other matters pertaining to convention work obstructs the attention of the committee. I would therefore ask that the committee on revision of premium list be allowed more time to complete their work.

It can be done by correspondence, and the markings of each member of the committee submitted to the superintendent of this department and the secretary of your society to harmonize any discrepancies of agreement.

Hoping for the greatest possible success for the State Fair of 1892,

I subscribe myself yours for Wisconsin agriculture,

B. S. HOXIE,
Superintendent.

MANUFACTURES DEPARTMENT.

To the Executive Board Wisconsin State Agricultural Society.

GENTLEMEN, — As the exhibit of 1891 was as usual much crowded for room, many of its exhibits scattered over the grounds occupied by the machinery department, for want of room nearer the building to erect tents, which made it very inconvenient for exhibitors as well as superintendent and judges. I only speak of this that the difficulty may be seen and corrected on the new grounds. The space allotted the department within the building was compactly filled, as were two large tents furnished by the society and three smaller one furnished by the exhibitors, in which they showed their own goods, while two large concerns rented buildings on machinery grounds, owned and formerly occupied by reaper and mower companies. It is true that many of the buggies and other running gear, numbering something over three hundred, were brought more with the idea of sale than for premium exhibit; yet in making arrangement for room in the new grounds it will not be safe to calculate on less than one hundred buggies competing for premiums.

Respectfully submitted,

H. D. HITT,
Superintendent.

DEPARTMENT K— FINE ARTS.

The Fine Art Department was in much better shape than last year. Skylights had been placed in the roof and much better light secured for the pictures. The paintings exhibited were of a higher average excellence than usual. Roebel and Reinhardt in the dealers' class made a specially fine display. The rich framing of their pictures added greatly to their attractiveness in an exhibition of this char-

acter. F. W. Heine, of Milwaukee, made a large exhibit of water colors that were worthy of special commendation. C. Tredupp, also of Milwaukee, had a large and very finely finished collection of marine paintings. Mrs. O. Pratt, of Spring Prairie; Mrs. L. M. Buell, of Beloit; Mrs. E. B. Heimstreet, of Janesville; Mrs. J. Hamilton, of Milwaukee; Henry Hess, of Madison, and Florence Hart Miner, of Janesville, were leading exhibitors, showing many choice paintings. Prof. F. A. Lydston, of Milwaukee, had a display of his own work in oil, that embraced a great variety of subjects treated with marked artistic taste and skill. Other exhibits, of which there were many in this class, received the favorable consideration of Mr. E. C. Eldridge, director of the Layton Art Gallery, who acted as judge in this department and gave to his work the benefit of the trained judgment of an accomplished artist.

The White Sewing Machine Company made an excellent exhibit of machines, and some beautiful specimens of machine work.

Edward Gram of Milwaukee was the only exhibitor of pianos and made a very creditable display.

All the space assigned the department was taken and more needed. When ample space is provided in the buildings to be erected on the new grounds, an exhibition can be made which in size and excellence shall be worthy of our state.

It would be a decided advantage to have the premium list of this department enlarged by a full line of premiums in the amateur class.

H. C. ADAMS,
Superintendent.

DEPARTMENT L — WOMAN'S WORK.

To the Executive Board of the Wisconsin State Agricultural Society:

GENTLEMEN — The finest exhibit ever made in this department was made last year. The display in the non-enumerated class was unusually large and fine, which fact

makes it seem almost imperative that the demand for an extended premium list should be heeded. New and attractive articles are being brought out each year, and if we do not keep pace with improvement we must expect to be left behind in the race; the question is, can we *afford* to do this?

Second premiums were offered for nearly all articles, except on fruits and pickles.

I think it would have a tendency to encourage entries if second premiums were offered on all articles in this department; one feels more desirous of being an exhibitor if she has the *second* opportunity to win a premium, should she fail to secure the first.

The premium list has been extended, and second premiums added; mostly with money that has been saved by cutting down premiums; this was not done with a feeling that they were too high, but with the desire to make the small amount of money allotted to this department go as far as possible. I look forward to the time when the finances of our Society will warrant the premiums being restored to the amounts awarded three or four years ago, because, as the list now stands, the premiums are insignificantly small in comparison with the time, effort and expense attendant upon the preparation of articles for display at the fair.

Special premiums greatly enhanced the interest in the exhibit.

The gummed entry tags furnished by our secretary, for canned goods, was a decided improvement on those formerly in use; small gummed premium tags would also be of great advantage for this class of goods.

I hope that stationary show cases and cupboards provided with glass doors, will be a prominent feature in the new building in which this department shall have a place at our fair of 1892; such provisions would render absolute protection to the exhibitors and greatly reduce the labor and expense of the department.

Respectfully submitted,

VIE H. CAMPBELL,
Superintendent.

FORAGE DEPARTMENT.

Mr. President, Gentlemen of the board:

At the state fair held in Milwaukee from September 14, to 18, 1891, there was used in the Forage department, 95 tons, 1,515 lbs. of hay and straw.

Of this, 54 tons, 1,090 lbs. was hay used as follows:

27 tons, 685 lbs. used in the cattle department.

22 tons, 1,800 lbs. used in the horse department.

4 tons, 605 lbs. used in the sheep department.

Costing \$597.97; average per ton, \$10.98.

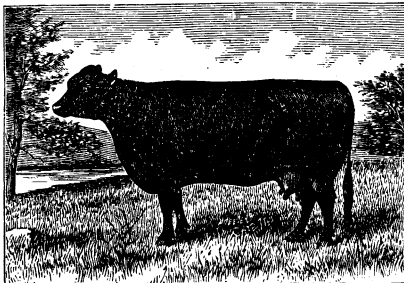
The amount of straw used, 41,425 lbs.; costing \$7 per ton, \$228.48.

Total amount paid for forage, \$886.45.

Respectfully submitted,

C. T. FISHER,

Superintendent.



ANNUAL CONVENTION
OF THE
WISCONSIN STATE AGRICULTURAL SOCIETY.

FEBRUARY 2nd, 1892, 7:30 P. M.

President Parkinson in the chair.

The President—The exercises of the evening will begin with music by the University Glee Club.

Following this was the President's address as follows:

Members of the Convention, Ladies and Gentlemen :

The past year has been an eventful one in the history of the Society under whose auspices we meet to-night. It is within the knowledge of most of you that the Society's lease of the Cold Spring grounds will expire on May first of the present year. Anticipating this event, your Executive Board, at the annual meeting of the association, during the autumn of 1890, was directed to take steps toward the purchase of new fair grounds in the vicinity of Milwaukee.

Immediately following this action, a committee from the Executive Board began its labors toward that end. After much hard and, withal, disagreeable work, the committee secured the passage by the legislature of chapter 381, laws of 1891. By the provisions of that act, the Commissioners of Public Lands, in their discretion, with the approval of the Governor, were authorized to loan of the Trust Funds a sum not exceeding \$150,000 to the State Agricultural Society to enable it to purchase a State Fair Site of not less than one hundred acres within ten miles of the court house in Milwaukee county, the said loan to be secured to the state by a first mortgage on the grounds, so purchased, and

the money loaned not to exceed two-thirds of the purchase price of said lands.

It will be observed that this measure provided for a "strict business loan." It is nothing more; but was accepted as the best thing obtainable. I am glad, however, to be able to report that your committeemen, after wrestling all winter with innumerable legislative caucuses, various standing and select committees, including that ever memorable committee on Retrenchment and Reform, emerged from the contest without actual loss of life but are able to recount many narrow escapes.

Having obtained authority for the loan, a committee, consisting of the president, secretary, treasurer and Messrs. Fratt, of Racine, and Cottrill, of Milwaukee, was appointed, charged with the duty of selecting a proper site for the new fair grounds, with instructions to report to the full board. That labor was begun early in June last and was continued throughout the summer and fall. Not less than forty sites were examined. We found the county of Milwaukee swarming at first with public-spirited people who were willing, aye, eager to sacrifice their farms, indeed their very homesteads, in aid of the state fair, at an average price of about \$1,200 per acre.

As the "site-seeing" progressed the competition among land owners and real estate agents grew fierce and fiercer still, your committee, of course, always doing what it could to allay all strife and bitterness among these co-patriots. At all events we believe no one of these land speculators was permitted to wholly bankrupt himself and impoverish his family in his ungovernable zeal to serve the cause of agriculture and the mechanic arts.

Near the very close of November a selection was finally made of what is known as the Stevens farm, located about five miles west and slightly south of the Plankinton House, of Milwaukee. Fortunately this site was the one the committee preferred from the start, though that preference, for obvious reasons, was kept from the public till the very close of the purchase. This tract was secured at

a price some \$200 or \$300 per acre less than any other site in any way suitable or desirable for the purposes of the society.

The farm consists of a square quarter section of land, and was purchased for \$850 per acre, making the aggregate price \$136,000. The property owners in the vicinity, of their own volition or otherwise, insisted upon donating to the society a bonus of \$25,000 in cash as evidence, it is said, of their high appreciation of the good sense of the committee. Coming in that way your committee did not feel warranted in declining the offer. Besides Mr. McFetridge, a part-owner of the farm, moved by a like motive, perhaps, freely gave a two hundred foot right-of-way to the grounds for the Northwestern Railway, from North Greenfield station—a distance of half a mile—besides has obligated himself to widen to forty feet and thoroughly gravel the driveway along the entire east side of the new grounds, a half mile in distance.

The choice of the Spring Meadow farm—for by this name it is best known historically—has been commended by marked unanimity by the press of the state and as well as with all disinterested persons. It would be difficult indeed to find anywhere a tract of land better adapted to the uses of a State Fair site. There is no waste land. The soil is of the best possible quality. There is just enough of meadow for the purposes of a race course, which can be built at a minimum of expense. There are numerous elevations for the various buildings; besides there are ample groves of stately elms and ash and oak, to supply a plenty of shade and shelter. Several copious artesian wells, whose limpid waters rival in sparkling purity and healthful qualities the neighboring Bethesda springs, can be made to carry their cooling draughts to all parts of the grounds.

We had hoped to secure a site in somewhat closer proximity to the city, but none was available with the money at our command. The distance from the heart of the city is the only conceivable objection that can be raised to the new location; and yet in view of the numerous excellent lines

of transit which it commands, the question of distance is measurably eliminated in the consideration. The new grounds can be reached in half an hour by private conveyances over Grand Avenue and the Blue Mounds road. Twenty thousand people can be transported from the city to the grounds every thirty minutes by means of the Milwaukee, Chicago & St. Paul and Chicago & Northwestern railways, two electric street car lines and a motor line. The transportation facilities will be ample and complete, surpassing those of any other similar society with which we are familiar.

To construct the new buildings and fit the new grounds for the fair of '92, will involve a great amount of labor and cause much anxiety. But the work must be done, and properly done, for nothing should be spared in our endeavor to secure for the society a permanent home equal to the best. All cannot be accomplished in a single year, but it is the purpose of the executive board to build right as far as it goes, aiming to keep in line with the latest and best modern improvements appertaining to the construction and management of the various buildings, and the full and complete equipment of the new grounds for purposes of a state fair. Nothing short of this will meet the just expectation of its friends.

The new grounds afford ample space for a county building for each county in Wisconsin. Such an enterprise should be encouraged from the start. All of the older counties, whose boundaries are permanently established, ought to join in this undertaking at an early date. A permanent county residence or head-quarters upon the grounds would awaken intense local interest and pride. State fair week then in addition to the usual advantages and attractions would be one round of re-unions, where excellent opportunities would be afforded the people of each county to become acquainted not only with themselves, but with the people of other counties. They would at least be enabled to find their neighbors and perchance renew old friendships and form new ones. This project is in harmony with our political system, the genius of our peculiar

institutions, and will greatly broaden the scope and influence and usefulness of our annual fairs.

It will be our aim to celebrate the opening of the new grounds by appropriate and interesting dedicatory ceremonies, devoting at least one full day to these services. Upon this day we may be compelled to forego the usual horse race, but we shall aim to have with us and upon exhibition each entry for the presidential race, which will then be of absorbing interest; besides the several gubernatorial candidates of our own and neighboring states. Furthermore, interest in the occasion will be heightened by the presence of all the high official dignitaries of the World's Columbian Exposition. This will be a day then of intellectual carnival for Wisconsin; an event of historic interest never to be forgotten by those who attend; and all may attend. The new grounds contain an area of nearly seven millions of square feet. Deducting from this total three million feet for necessary buildings and for animals and articles on exhibition, there will remain about four million feet, which we regard as about sufficient, by a little squeezing, to actually accommodate the entire population of Wisconsin, and we would like to see them all there. For that day it will be a free show save the usual contribution at the gates.

The President—Ladies and Gentlemen: It is now my very great pleasure to introduce the Hon. George W. Peck, governor of Wisconsin. (Applause.)

Governor Peck—Mr. Chairman and fellow members of the State Agricultural Society: I knew somebody would laugh when I said that, but I have been a member for four years, a life member of the State Agricultural Society. I had forgotten all about it until to-night. Heretofore when I have been on exhibition it has been as a private citizen and not as a member. Some months ago the secre-

tary of this society called at my office and said that they were going to have a meeting here in a few months, and he would like to have me present. You know how easy it is for a man to give a note for ninety days at the time, but how quick time passes. That was my feeling when I learned that the time had arrived, and I would go to protest if I was not here to-night. I told him I would be here if I wasn't out of town; but honestly I expected to be out of town. In the last week I have walked nearly a thousand miles to get back here from Washington to meet you — according to the newspapers; and while walking that distance many things have occurred to my mind that, if I knew how, I should tell you so that it might be of advantage to you and the people of the state. I hurried back here because I knew that these gentlemen, who are farmers, would come here to see me, and they would be disappointed if I wasn't here. When I thought of Mr. Parkinson hurrying up and leading his colts to water and back fourteen or fifteen times a day in order to get them watered up ahead so he could come here to see me, I felt as though it would be a disappointment if I wasn't here. When I thought of my friend Fratt getting his chores done on the farm, feeding the stock enough to last them a week so that he could come here and see me, I knew how he would feel if I wasn't present. And others of the gentlemen, Mr. Newton; I could see if he had to come here from Beaver Dam and leave all of his chores to be done by the hired girl that it would worry him a good deal if I wasn't here.

But coming through the country from Washington to Madison, leisurely by the country roads, I thought how good the roads were in some of those states and how poor they were in Wisconsin. Gentlemen of the Agricultural Society, if you have lived here forty-five or fifty years as I have and seen that with very few exceptions the country roads are just about as they were when you came here, you will wonder that people can get to town as easy as they can, to sell grain when it is high. It may have occurred to you that grain is always highest when the roads are so that the

farmer can't get to town. I have got a plan by which that can be stopped entirely, if you will build good roads to every farm. The members of the Agricultural Society can't do it alone, but every member can do something towards stimulating the farmers, as well as the people in the cities and villages, towards building good roads or none. In some places in the state of Wisconsin that have been settled for fifty years, villages that are twelve miles apart have roads which are exactly as they were twenty-five years ago. I drove over one road not long since between two very important cities, or large villages, and two miles out from each city the road was very good. The city had built the road out there in order to get the farmers in. Between the two points was eight miles or so where a wagon couldn't get through at least eight months a year with sixteen horses and no load on; and yet I will venture that there has been money enough spent, or day's work, between those two cities in the last twenty-five years to have paved the roads between those cities with Nicholson pavement, — or good intentions — all the distance.

People have got to come to the conclusion that a day's work is a dollar and a half. A day's work on a road is the worst job that a man can do. If a man would give a dollar and a half in clear cash to somebody who knew how to build a road, and go home with his scraper and plow and let his team rest, and let the man inquire of somebody who knew how to build a road and then build it for all time, the roads of Wisconsin would be as good as they are in any state of the union. The time has got to come when Wisconsin must attend to this. The state ought to do something itself. That might be done by the legislature, though I wouldn't want to swear to it; but every community has got to do something itself and do it systematically. I believe that there should be one more office, and that is a state engineer; not a man to run a stationary engine, but a civil engineer who knows a road when he sees it and how to make one. That may look like creating one more office, but I would cut off one office from the list. Cut off the governor and let the lieutenant governor run things, and

put an engineer in somewhere at a good salary; one who knows his business, to co-operate with the county surveyor in each county, and this county surveyor to have charge of the improvement of the roads in his county, who would systematize matters so that by the use of money instead of the scrapers, and the day's work—which is very short when you work on a road—roads could be built in a few years which would be a credit to the state of Wisconsin. I presume that this matter has been brought to your attention before. I presume you all feel like doing everything in your power as members of this society, but something ought to be done individually, by collecting around each legislator enough in his own community to create a sentiment in favor of building hard, solid roads and using money to do it, and building them permanently.

The Association is about to enter upon its new grounds in the city of Milwaukee. I presume that the Association will start out in better shape than any agricultural society in the United States. It has got money of its own and can borrow all that it wants, which many associations can not do. It has got the finest ground that I know of in the state of Wisconsin for the purpose. It has got a population within five or six miles of its location that will cause the association to always pay expenses and more, if they can get out there. But there is one thing which occurs to me, and I have spoken to one or two members of the Association casually about it, and that is that the Fair Association don't pay sufficient attention to the comfort of the people who attend the fair. If any of you will look back at any of the fairs that have been held in Milwaukee in the past ten years I would like to have you tell me what comfort any one of ten or forty thousand people on the grounds has secured unless they got a place in the grand stand, and had money on the horse that won. It is the same with every fair association. I do not believe there is any fair association in this country that ever thought it was advisable to provide a seat for any individual to sit down on without paying for it. Forty thousand people go to the fair and the first hour they are there they are tired and want to die. If

they could see on the opposite side of the fair ground a soap box that didn't have anyone sitting on it they would make a rush over there and fight over the soap box in order to rest for ten minutes. Even men get tired, and yet there is no place to sit down unless a charitable manufacturer of reapers will furnish a few seats for ladies and children. There are more tired people on a fair ground than any other place in the world, and they wander up and down and eat grapes and drink cider, thinking they will get rested, but they don't.

My idea in regard to this Agricultural Society and in regard to the new fair ground would be to spend a thousand dollars at once in seats, and scatter them all over the grounds, under the trees, where people can go and sit down and be contented when they are tired. There is no greater advertisement to go abroad than that the State Agricultural Society of Wisconsin had come to the conclusion that men, women and children, particularly women and children, could not stand up from 10 o'clock in the morning until 5 o'clock in the afternoon, without getting tired. This association could make a point that would be remembered as long as anybody lives that attends a fair; and a monument would be erected to the president and officers of the association by the children who would grow up and be rested when they got of age. I hope that this Agricultural Society will take that matter into consideration. If there is a tree on that ground that now has cattle under it, build seats around that tree, and a table for lunch. Thousands of people go to the fair ground with a basket, they want some place to be at home. If they can have a place to sit down and be comfortable they will go out and say that this is the grandest fair that they have attended, whether they have seen anything in the buildings or not; when if they have to stand up and eat that lunch off a barrel—which they wouldn't find there anyway—but have to stand up and eat the lunch, and try to lean against something, they would say that they would never go to another fair as long as they live.

I trust the association will not go into the business of

hanging out a sign "standing room only." Let us have seats; and if there isn't money enough in the treasury there are one or two men of this association who could raise the money in a day or two in Milwaukee and build all the seats necessary. I don't want to be on the committee. I know a man, Cottrill. Cottrill can raise more money in Milwaukee on the slightest provocation than any man I know of. But let us have plenty of seats and plenty of comfort. There is water there for all; there is grass for those who like to graze. I believe a good trotting track can be made there so that horses can go faster there than they have ever been known to go before. My horse goes better on a kite-shaped track, but of course I don't want you people to build one just for my horse. Build whatever is best for all the people and we will all take our chances, and we trust all may be made happy. (Applause.)

The President — We will now listen to a paper,

LIGHTS AND SHADOWS OF RURAL LIFE.

BY MRS. ALICE BALL LOOMIS, of Lone Rock.

The primitive inhabitants of this globe had not the choice of urban and rural life. The ever struggling social order had not yet attained that division of labor which marks the track of civilization.

Egypt has bequeathed to us our earliest records of that division which we call agriculture; and Rome early honored this calling by such names as Cato, Virgil, Pliny and Regulus. Those tiny Roman farms that produced such statesmanship, such poetry and history and such constancy and honor are glorious suggestions of the possibilities of Wisconsin farms and Wisconsin civilization; for after all the most important productions of the farm are the human types it turns out. This is the ultimate purpose of farming as it is of

all other branches of labor and its real success or failure depends upon the quality (not the quantity) of men and women it produces.

With this fact in view the consideration of the lights and shadows of rural life becomes of the utmost importance. For it is the strong pure sunlight that brings growth, maturity and sweetness to the fruits of earth. The tree that appropriates all the sunlight and shades the grass at its roots, grows at the expense of the grass; and human life and its needs are analogous to those of the plant; it thrives in sunlight, dwarfs and dies in shade and earth air and water are necessary to its sustenance.

Dr. Francis Warner in his lectures on the "Growth of the intellectual faculty," insists on the necessity of observing physical facts, their causes and effects, when considering mental and moral questions. Cause and effect, those "Chancellors of God," as Emerson calls them, are given too little thought in their connection with the every day affairs of life, for it is the every day conditions that mould and carve the man; and these "chancellors" are as potent and accurate in the small details of human affairs as when weighted with cosmic import.

As it is pleasanter to travel toward the light than from it, I would first speak of the shadows of country life.

Perhaps the deepest shadow is the necessity of constant toil which most farmers feel is imperative. The mortgage which hangs like a pall over the homestead has not even that property of a heavy cloud, for the inspiration of hope, the surety of a rift. He knows that the often meagre fruit of his toil that nature grants must first be taxed "all that the traffic will bear," before the props which hold this thing of evil omen from descending in crushing weight, depriving him of a roof-tree, can be given their annual renewal by the payment of what men call interest, but which a higher ethical standard would give a harsher name. And that to the direct taxes which come with death-like certainty must be added the indirect ones which make the bit of flannel necessary to wrap the cherubic limbs of the little ones, cost double its natural value. It is this knowledge

that keeps the human engine running to its fullest capacity, and it is small wonder that the average farmer feels that even sixteen hours a day is all too short to tug away at this heavy burden, though aching muscles and weary limbs leave him incapable of aught but plodding. "Ah," but you say, "he should have kept out of debt." True, the beauties of "owing no man anything," are not to be gainsayed, but the "nest egg" which the frugality of a kind father had given him seemed safest covered with a bit of God's green earth which he could call home, and he had a reasonable hope that the warmth and careful turning he would give it would render the incubation successful; but his opportunities were at fault, and we should judge men not so much by their attainments as their opportunities.

The effect of such vigorous conditions reaches the family through many ramifications. It curtails their happiness depriving them of culture, and consequently the capacity to enjoy the higher and purer sorts of pleasures, sours dispositions that are naturally sunny, occasionally produces criminals, and in short turns out a type of manhood and womanhood that is not an unmixed blessing to society.

A lesser shadow is the meagreness of social life in the country. Man is a gregarious animal, and woman, if possible, possesses this propensity of her kind in stronger accentuation than her companion, at least she feels the social hunger more, for the market, the blacksmithshop and the mill are more or less satisfactory substitutes for social bread for *pater familias*, but she and the fledglings of the home nest go hungry till, as too frequently happens, time and strengthened wings bear the latter to town, and she learns that her happiness must be found in resignation and self-sacrifice. It is true it may be found here, but the pulsing of divinity must be strong in that character which deprivation and suffering beautifies. It is a kill or cure treatment that it were better to obviate.

"I own the charms of lovely nature; still
In human nature more delight I find,
Though sweet the murmuring voices of the rill,
I much prefer the voices of my kind."

And this sentiment is echoed by old and young in greater or less degree. It is this feeling that makes us regard solitary confinement of prisoners as the essence of cruelty.

As the constant washing of the sea rounds and polishes the pebble, so the constant contact of the sea of humanity rounds and polishes the human character, and that life which limits all social intercourse to the occasional contact which the exigencies of farm business requires, warps the character and dwarfs the understanding. Who has not felt the glow of mental activity induced by a sharp tilt with intellectual weapons between friends who feel the stress of their common obligations? And who has not felt the wholesome chagrin of having their mental excrescences pruned by such contact? It is a much easier matter to corrupt the understanding by one-sided or sophistical reading when there is no one of opposing intellectual bias to point another view. Marcus Aurelius says: "The destruction of the understanding is a pestilence, much more indeed than any such corruption of this atmosphere which surrounds us," and there is nothing more destructive to the understanding than the rust of inaction.

I asked a progressive farmer what he considered the greatest drawback to farm life; he answered, "the small profit on the money invested." Money is the key which unlocks for us the treasures of the centuries. It is the Aladdin's lamp of our civilization, but men have no right to more of this enchanted substance than they earn and if professional excellence does not secure all that is earned there is a wrong somewhere, and it should require no unusual amount of acumen to discover it. There are no wrongs which the lever of reason with justice for a fulcrum and fraternal love for the power may not lift. Let the farmer remember this when the shadows are deep and no glint of sunshine gladdens his heart.

Hamlin Garland, in his "Main Traveled Roads," has faithfully portrayed the life of the average farmer, but the unutterable pathos, and shame of it all lies at the farmer's own door. Had farmers as a class made it their habit to observe the near and remote causes of their conditions, the

individual farmer would not now be suffering the consequences of their stupidity. Charles Lamb divides mankind into two classes, those who borrow and those who lend. Then with his delicate irony proceeds to discuss them on the basis of this division. The farmer, though ostensibly a borrower, really belongs to the class who lends, and though he does not individually see the beauty of giving in the contributions levied, he has not yet learned to meet them with a sufficiently vigorous protest.

Though the shadows of rural life are deep, it has lights not less intense. The White light of sheeted fields reflecting tiny suns from its glittering surface covers rare possibilities of beauty and nourishment for mind and body; the crystal radiance of frost-laden trees, the hoary artist's delicate tracery on pane and casement, the expanse of the star gemmed or sun lit canopy above, bending with tender grace to meet the pure earth, are treats that urban dwellers may not enjoy. Even the leaden sky and piling drifts are not without charms; the "Quaker Poet" has beautifully depicted them in "Snow Bound" where a dulled appreciation may be sharpened.

But when the day king riding north conquers old Boreas and dissolves this white loveliness and nature pours her "mystic force" into all her forms, swelling buds of tree of hope and of thought, it is then the farmer feels indeed that satisfaction which only close contact with mother earth can give; and the darkening furrow which he so toilsomely turns becomes dear, not only for the promises and potency of future crop, but for the present harvest of thought-food which his glittering shire upturns. To reap the full benefit of this harvest he should possess a mind made broad and keen by scientific training, a mind at once analytical and receptive, capable of receiving and extracting soul growth from the more subtle influences which surround him. An illustration in point recently met my observation; a young man of more than average intelligence seriously contemplated leveling to the surrounding surface a number of Indian mounds, though they in no way interfered with the cultivation of the field that contained them. Had he been

susceptible to those finer impressions which add so much to the sum of human enjoyment the obliteration of the monuments of those ancient warriors of an unknown race would have seemed an act of vandalism amounting to sacrilege. The links which bind us to the prehistoric past are too few to permit a single one to be ruthlessly destroyed.

But the untrained mind imbibes from the soil a spirit of strength and independence, which enables him to carry a bold front as far as his lights bring conviction; and it is this quality which makes the dwellers of the rural districts the real back bone of the nation, and it is this spirit guided by minds untrammelled by ignorance and prejudice that will prove her salvation.

The well-filled cellar and store room in winter and the fresh butter, fruit and vegetables in summer which are concomitants of almost every country home are comforts not to be ignored, for the poorest farmer, unlike the poorest laborer, generally knows where the next meal is coming from. This, if not one of the lights of country life, is at least a substantial glimmer.

The quiet serenity of country life is especially conducive to studiousness. It is rare delight to turn from the prolonged communion with the great minds of earth, to the contemplation of nature's panorama; the tender green of the hillslopes relieved by the brown of earth's time tablets and the rocks, the stately sweep of the broad river, the bits of foliage here and there blanched or brightened by the too ardent kisses of the sun, the dappling sunshine and shadow of the groves "God's first temples" till thought and being are lost in a flood of ecstasy and one stands "Rapt into still communion that transends the imperfect offices of prayer and praise." There is no Sunday closing of the choicest specimens of *nature's* handiwork. The blessings of the Infinite Father are constant. He reckons not time by Sabbaths designated by Roman emperor or Jewish law giver. Those whom the hard lines of necessity hold in leash will not find *this* fount of moral inspiration closed on their one day of freedom.

... "Why stay we on the earth unless to grow?" questions

Browning. The human race is emerging from the dense shadows of poverty, ignorance and superstition into the broad sunlight of comfort, culture and tolerance where growth may be less difficult and more permanent.

Eden and the Golden age of Saturn lie in realm of the future instead of the past; they are feeble prophesies of human attainment, not states of departed virtue. In that golden age of the future the rights of the meanest of earth's creatures will meet full recognition. Man and woman will stand on an equality before the bar of Justice who with bandage removed will weigh with undimmed vision the good and evil.

The Way, beginning in darkness and ending in light too intense for mortal eyes to pierce, has already been fraught with much suffering and sacrifice. With only here and there a soul whose lamp of indwelling divinity shone with sufficient lustre to light a few steps in advance; and this held aloft to light the way for other feet has been often extinguished by the scaffold, the cross or the fire.

" But the scaffold sways the future,
And behind the dim unknown,
Standeth God within the shadow
Keeping watch above his own!"

Our mission, yours and mine, is to voluntarily co-operate, individually and collectively, in the evolution of light from darkness; consecrating thought and energy to the banishment of the shadows which darken this life. The dawn of a new day is reddening the horizon but the departing night has bequeathed us many shadows which the children of earth must dispel ere the sunlight of love beams in full effulgence, and

" God will bless in turn
That heart which beats those eyes which mildly burn
With love for all men."

The President — I am requested by the President of the University to extend to the members of the Association and all others in attendance a very cordial invitation to visit the institution and examine it in all its departments. The new dairy building has just been put in operation, in part at least, and would prove an interesting subject for inspection. The most convenient hours I think for the inspection of that building and its operation would be from 9 o'clock in the morning until noon.

The President of the Business Men's Club of Madison extends the entree of their club-room to all those in attendance upon the convention, at all times.

We will now listen to an address by Prof. C. R. Barnes, of the University, upon "Applied Botany."

MODERN BOTANY.

Prof. C. R. Barnes — I venture to say that the ideas conjured up by the words "botany" and "botanist" in the minds of those of you whose school days ceased anywhere from fifteen to twenty years ago, or perhaps even at a later date, will be one which is very widely different from the ideas that those words ought to bring up. To most people the word "botany" recalls something which chiefly means the collecting of flowering plants in the spring; pulling flowers to pieces in an endeavor, too often a vain endeavor, to find out a long hard name for the plant; an endeavor which is often vain unless they have acquired the very useful trick of looking in the index for the common name. The word "botanist" brings to mind a sort of harmless crank who spends most of his time in wandering about fields and woods and poking into swamps and bringing home arms full or boxes full of plants; perchance drying them and preserving them; and yet these two ideas are so extremely foreign to the subject of botany as it is thought of to-day, that I venture to present to you some hints of what modern botany is, and particularly what modern botany is on its economic side. The study that I have indicated as being the common one is the study of a part only of bot-

any; one to be sure which is not without its value; but it is only the most elementary part of the subject. It was very natural that when people began, in the revival of learning, and at the close of the middle ages, to study plants, they should first turn their attention to the plants which were nearest at hand, and to those plants which attracted their attention most readily on account of their size. So we find that the early studies of plants are almost exclusively an attempt to describe and classify; at first simply to describe the plants which one found about him; later to ascertain what the relations of these plants to each other were. From that day until the present this study and classification of the higher plants has been almost the only subject to which any very great attention has been given. In our own country the people who came to it, if they had had any training at all in botany, had been impressed with the importance of the same ideas. They had come to a new country. It was their first duty to make known to those abroad who were studying plants what the flora of this country was; and from the year 1750 on, collections of great number and often of considerable value went across the water.

From 1750 to the present day little attention has been given to any other department of botany, except within the last ten or fifteen years. In Germany, however, the matter is widely different; it has been a much longer time since systematic botany, the study of plants as far as their classification is concerned, was the only topic which attracted attention. The reason of this is perfectly evident. People exhausted to a certain degree the subject in that country, and they then naturally turned their attention to some other phase of plant study. Germany and France stand far in advance of this country to-day in the investigations which their botanists have pursued, solely because of the longer time during which they have been at work, and the greater amount of time which each investigator is able to give to his own special subject.

But students now-a-days are not expected to collect

flowers and find out their names and then congratulate themselves that they have studied botany. They are put to work with the microscope to see the very minutest arrangement of the complicated machinery of plants. They are set to work with the pencil to delineate these arrangements; to record their observation in a way which appeals at once to the eye, without the intervention of words; and in spite of the repeated assertion that they cannot draw, they are told to do the very thing which they cannot do until they have learned how to do it. They are asked to equip themselves with chemical knowledge, with physical knowledge, in order that they may be able to study this machinery in action; and when they have attained a sufficient knowledge of other sciences, then and then only can they expect to unravel some of the mysteries of plant life, in many ways the least mysterious of organic things.

Now what is the object and purpose of such training as this? First, it is to develop skill of eye, hand and brain. It is to bring to them something of those qualities to which the essayist of the evening alluded. It is to enable them to see in the material things around them something more than bits of matter. It is to enable them to have that breadth of comprehension and grasp of subject which it is desirable that every educated man should attain. I hope, therefore, that the members of this society will use their utmost endeavor to have this sort of vital and vitalizing study commenced in the schools below the college and university; in what we may call the primary schools as contrasted with the secondary ones. Most of the high schools in the state to-day, I am sorry to say, are studying this subject in the same way in which it was studied twenty-five years ago, and they are doing this work partly because they have had no pull from higher schools to lift them to a higher level, and partly because they know no better way.

On its economic side this sort of training has its chief value; and it is that, I take it, in which the members of this society are mainly interested. Let me select a few

topics from the very great number at my disposal in order to illustrate to you, if I can, just what the economic bearing of this science is; just what we may expect from it; just what we have a right to demand from it.

Take the single topic of the culture of plants. In how far has that been exhausted? How much do we really know about the reasonableness of our modes of cultivation? How much do we know about the effect of other modes of cultivation than those which have been in vogue for fifty or one hundred or hundreds of years. One suggestion in this direction may suffice as an illustration. If any man should sow Indian corn in the same way that he sows wheat, with the expectation of obtaining any crop of grain from it, we should almost consider him an idiot. And yet I wonder whether it is very much less idiotic to sow wheat in the way that we do, with the expectation of attaining the best results possible from this as a grain crop. I do not say that we do not get a crop, often a good crop. A magnificent one, as compared with what we have ever had, has been raised in this year; but who knows whether the cultivation of wheat in something the same way in which Indian corn is cultivated, that is giving it a much greater range for obtaining its nourishment, giving it better advantages of light and air, would not increase the yield by a very large percentage? Indeed there have been some experiments on not a very small scale, which would seem to indicate that there are possibilities in this direction which we have not yet even attempted to ascertain.

You hear a great deal from our own University experiment station about the food of animals; and Prof. Henry is constantly experimenting to ascertain just what are the best foods to produce a given result with a given animal. He has endeavored to ascertain something of the effect of different rations upon the bones, upon the muscles, upon the fat of various animals. Why should we not have some experiments carried on in regard to the food of plants? Does anybody know what the effect of a given ration of food for a plant will be? So far as I can recollect, experiments on what we may designate as feeding plants, have

been carried on to a very limited extent. We have endeavored to ascertain particularly where plants obtain their nitrogen; and for the last twenty-five years, almost, this question has been one under experiment and under discussion. I suppose that many of you know something of the prolonged experiment which has been carried on at Rothamstead; and perhaps some of you know of the recent experiments of Hellriegel, and Wilfarth, and Frank, the men who are endeavoring to find out whether plants, when kept in very vigorous condition, can obtain nitrogen from the air, or whether it is absolutely necessary to get it from compounds in the soil. Here is a problem which has been attacked in the way these other questions ought to be attacked, and in the very way in which we may expect a solution of these thousands of other problems in regard to feeding plants. The most recent experiments in regard to this source of nitrogen for plants make it quite possible that when plants are in a very vigorous and thrifty condition they are then able to fix the free nitrogen of the air; and that when they are not at their highest notch of vigor, they are then able to get their supply of nitrogen only from nitrogenous compounds in the soil. On this very point we have some recent experiments that perhaps would interest you; and bear in mind, I am only mentioning these as illustrative. I am trying to show the necessity for such a preparation in botanical study as will enable the men who are most deeply and profoundly interested in this very study to carry on some of those experiments that it seems so highly desirable to carry on.

Only a few months ago a paper was published by two of the men who have been experimenting longest on this matter of nitrogen assimilation; and they give some hints in regard to the harvesting of those plants which produce large quantities of nitrogenous material that may turn out to be of very great money value. It has been found that the contents of leaves of clover, so far as nitrogen was concerned, was very much greater at the close of the day, or near the close of the day, than it was in the morning or during the forenoon. That is, during the day, especially

on bright and sunny days, the plants were able to manufacture large quantities of these materials. Now one of the main things for which our clover crop is grown is the large amount of nitrogenous materials which it contains as compared with other fodders. It is quite plain that if these results are correct, the harvesting of such a crop as this near the close of the day is going to give us a fodder whose money value is decidedly greater than that of one harvested early in the day before the plant has been able to manufacture those substances; for in the course of the night the large majority of them are utilized for the plant's own growth, and are converted into other forms of material which are less valuable as animal food.

But I cannot dwell upon that topic. Let me give you a hint from another field. Perhaps if I should ask any of you what is the purpose of the shade trees along the streets of our cities and villages the answer would be quite unanimous that these trees were for shade and beauty; and yet these trees are not used for that purpose. At least nobody, I think, would imagine that that was their use, if he passed along the streets of our own city. He would think that the main purpose of the best elms was to furnish an adequate stay for some electric pole or to support the telephone wires which might pass through it. He would suppose if he saw the city force making a street, that the chief purpose of the roots of the trees was to be grubbed out of the way for the first curbstone or sidewalk that the city wished to put along that way. If one saw people trimming their shade trees he would think that the main object of these was to afford an object lesson as to how badly work could be done, and how much injury could be inflicted upon an unoffending plant, apparently with the express intention of affording it early relief from its sufferings by death. Our treatment of shade trees in the streets of cities and villages is one of the crying shames of this day. Watch the "trimming" of street trees. Ignorant laborers half chop and half break off the limb of a tree and leave the rough end exposed to wind and weather instead of caring for the wound properly. We seem

to think we have no more duties towards that particular tree except to get rid of a branch that may be a little bit in our way. We do the very thing which will subject that tree to the greatest danger. We offer the very best chance for the attack of parasitic animals and plants on that tree; as though our main purpose was to destroy it, instead of our alleged intent, to trim it in order to maintain and augment its beauty.

This naturally suggests the management of forests. *Management* of forests? We hardly know of such a thing in this country. We do not manage our forests. We simply cut them down, and then are glad that the cutters can move on to some other acre and cut it down in the same way. We have made almost no provision in this country for maintaining our supply of timber. People may say what they please about the inexhaustibility of our forest resources. Those of you who have given the subject any attention know that it is utter folly to say that our forest resources are inexhaustible, or that they are not being exhausted at a most extravagant rate. Now men trained in the knowledge of how plants live and grow and behave have some basis on which they can suggest ways of managing forests which will not only yield all the timber that is needed at the present time, but which will enable these forests to continue to yield such supplies for an indefinite period of years. Forest management is not unknown in other countries. We simply have trained no men in this country to have any idea what forest management means.

And then we have the immense subject of diseases of plants, and that is a study which seems to have attracted the greatest attention at the present day. The division of vegetable pathology at the department of agriculture at Washington is receiving a vast deal more attention than the division of forestry, and yet I doubt very much whether its money value to the people is any greater. The money value of the study of both these subjects to the American people, and particularly to the farmers of the country, is almost beyond calculation. We hardly realize what this money value is. We are so used to losing a certain per-

centage of our farm crops by diseases that we really pay no attention to it. If our animals, our flocks and herds, should be decimated as often as the crops are we should hear such a hue and cry as would bring immediate attention on all hands to it. I suppose there is no one of you, who has given the subject a moment's thought, but will agree with me that the loss from rust on the wheat crop for the present year, stated in the very lowest possible terms could not fall below one per cent. How much money does that mean on six hundred odd million bushels of wheat? It means several million more than has been laid out in the study of plants in all the centuries. It means a great many hundreds of thousands of dollars more than we shall lay out the next century for the study of plants; and yet we are learning and can learn how not only to check but how absolutely to prevent such diseases as this. I do not say that this particular one can be absolutely checked at the present time, but we know ways in which it can be reduced to a minimum, even at present. The same thing might be said in regard to such diseases as those of the smut in corn and oats. Very careful estimates of certain years have shown us that as much as ten per cent. sometimes of an oat crop is damaged by that one disease alone. That might mean a good many millions of dollars on that one crop. So that a study of these plant diseases is by no means either fruitless or valueless.

But you say, "why not let anybody who is concerned with these matters study them?" Chiefly because it is not possible for any man who does not know something of the life history of the parasite which causes a disease, to go about checking or curing it. He may guess at some remedy and he may by a lucky guess hit upon the right remedy. He may think of some process that possibly will turn out the right one, but he is not nearly so apt to think about the right process or to hit upon the right experiment, as the man who has been properly trained for this kind of work. That sort of training means time to begin with and time to work with, and money support while the work is being carried on.

I might dwell at very much greater length on these

various topics; but enough has been said I hope to give you some idea of what modern botany is and what the modern botanist is. It will at least give you a truer idea than you would have if you considered him merely as the man who goes out and gathers some plants, useful as this may be, or the man who tears apart some flowers to find out what the names of the flowers are. The botanists of the country are those men who are studying all the time means of finding out, means of checking and curing the plant diseases; men who are studying how trees grow, and how they may be helped in their growth and not harmed. They are men who are studying what is the rational basis for our modes of culture; and it is to these men the agriculturist must turn, with the hope that their experiments will lead him in the future as they have in the past to more rational modes of cultivation, and to better knowledge of the organisms, the very intricate organisms in spite of their simplicity, with which he has constantly to deal.

WEDNESDAY, February 3rd, 9 o'clock A. M.

The President — I have now the pleasure of introducing Professor King of the university, who will speak to us on

THE INFLUENCE OF CULTIVATION IN TIMES OF DROUTH.

There is no food stuff either for animals or for plants more important in its functions than water, for besides being an essential constituent of all living tissues, it is the one medium by which all other foods are transported to their destination in the organism. It matters very little how great the amount of fertility our soils may contain, unless there is water enough present in the soil to dissolve this fertility and send it coursing through the rootlets toward the sunlight in the leaves, it is of no avail. So, too it matters very little how continuously or how intensely

the sunshine may penetrate the green parts of plants, unless water enough has been pumped to the foliage to absorb the carbon dioxide derived from the air and to dissolve the forming sugar and other compounds and bear them away to the lengthening stem, to the ear, to the kernel, or the swelling fruit, growth must take place slowly or cease altogether. Nor is this all; it matters very little how heavy the dressing of farm yard manure you apply to the field, if there is not soil moisture enough to allow those living germs to break this down into ammonia and nitric acid, it may just as well not have been applied. There is then, no food stuff for plants more important in its functions than that of water, and the amount which is demanded to produce a crop is astonishingly large.

According to observations made at the Experiment Station farm during the past summer; there are required 501 tons of water to produce a single ton of dry matter in the form of oats; 401 tons of water are required for a ton of barley, and 301 tons for a ton of corn stalk and ear combined.

Helriegel found for Prussia, with a climate more moist than our own, 310 tons of water required for a ton of barley, 353 for rye, 376 for oats, 338 for wheat, 282 for beans, 273 for peas, 310 for clover, and 363 for buckwheat.

To produce 3.5 tons of dry matter to the acre of oats, three tons of barley and five tons of corn, 1,753 tons of water are demanded in the first case, 1,203 tons in the second, 1,505 tons in the third.

Put in another way, a good crop of oats demands 82.2 pounds of water per each square foot of surface, barley 55.2 pounds, and corn 69.1 pounds. If we express these amounts in inches of water covering the surface of the field, the oats demand a depth of 15.6 inches, the barley 10.5 inches, and corn a depth of 13.1 inches.

Clayey soil has a storage capacity for water of about 85 pounds for each column of soil one square foot in section and four feet long, and the same volume of a sandy soil has a storage capacity of about 68 pounds. Neither of these soils, however, can produce their largest yields when the water in them is allowed to fall much below six-tenths

or one-half their maximum holding power, and as it is not practicable to work Wisconsin soils in the spring when they are charged to their full capacity with water, the amount of available water stored in the upper four feet of soil at seeding time does not much exceed 25 to 30 pounds for each square foot of surface, and this when the rainfall falls below the average during the growing season, is never enough to produce a large yield per acre. Indeed, in my judgment, the seasons are comparatively few when, for most Wisconsin soils, we do not need to husband with much care the soil moisture, if the largest returns from the land are to be received.

I wish now to report the results of some experiments made on the Experiment Station Farm which aimed to measure the influence of cultivating soil on the loss of water from it by evaporation. And first in regard to

THE SAVING OF MOISTURE BY EARLY SPRING TILLAGE.

During the ten days following the 26th of April last, the hot dry winds took from the unplowed fields of Wisconsin a very large amount of water which would have been retained had the ground been plowed before they came on. The amount lost during six days of this interval from one piece of ground on the station farm lying immediately adjacent to one which had been plowed, amounted to 9.13 lbs. for each square foot of surface more than was lost from the plowed ground in the same time. Now this amount of water, had it been saved and utilized in the growth of corn, is sufficient to have produced a yield of 1,321 lbs. of dry matter per acre, and this is 14.6 per cent. of a good average yield for Wisconsin.

Nor is this the whole story, for the ground which had not been plowed, developed during the six days in question a cloddy condition which required it to be gone over twice with a loaded harrow, twice with a disc harrow and twice with a heavy roller to bring it into a condition of tilth even approximating that which the ground did have which was plowed six days earlier, and which this would have had had it been simply plowed then.

There was thus lost in this case, by not taking the "stitch in time," at the rate of more than 198 tons of water to the acre and the labor of a man and team traveling over this piece of ground six times.

SAVING MOISTURE BY SURFACE CULTIVATION.

In a second experiment, the influence of ordinary surface cultivation upon the rate of evaporation of water from the soil was measured. To do this five strips of land 130 feet long and 12 feet wide were plowed in the spring, and two of them lying between the other three were rolled to firm the surface. The unrolled strips were cultivated at frequent intervals during the summer between May 14 and July 13, keeping them free from weeds so that there should be no loss of water from any cause except surface evaporation, while the uncultivated strips were kept free from weeds by shaving them off with a sharp hoe close to the surface.

An examination of the soils under the two kinds of surface treatment after the expiration of 49 days showed that the cultivated soil contained in the upper six feet at the rate of 8.84 lbs. more water to the square foot of surface than did the uncultivated ground lying side by side with it. This difference in water content is equivalent to a rainfall of 1.7 inches and amounts to 192.5 tons of water per acre, or sufficient to increase the yield of corn per acre 1,277 lbs. of dry matter, or 14 per cent. of a good average yield.

IMPORTANCE OF STIRRING THE SOIL AS SOON AS PRACTICABLE AFTER RAINS.

I found during my studies of soil moisture, when taking samples of soil just before a rain and again immediately afterward in the same localities, that, on several occasions the soil at some distance below the surface was dryer after than before the rain. I found, also, on two different occasions, by determining the amount of water in an area of field soil down to a depth of four feet and then adding,

with a sprinkler, a known quantity of water to the surface, that after the lapse of about twenty-four hours the lower three feet contained less water than before the sprinkling occurred, while the upper foot had gained in water more than had been added to the surface. I have not been able to determine yet whether this principle applies to all soils, but for clayey soils underlaid with sand there is a condition of moisture for them when adding a certain amount to the surface increases, for a time, their power of drawing water from deeper below the surface, so that, in these cases, the surface foot may receive not simply the rains which fall upon them but an additional quantity brought up from below in consequence of the rains having fallen.

With these facts in mind it is evident that there may be times when to leave a piece of ground unstirred two or three days after a shower may result in leaving the upper four or five feet of soil in a drier condition than if it had not rained at all, because not only will the rain itself have been evaporated from the surface, but in addition some portion of the deeper soil water which the rain was the occasion of bringing up from below. On the other hand, if the surface is broken as soon as the soil will permit of it there will be retained near the surface where the moisture is more needed, not only most of the rain which fell, but in addition that which the increased capillary action has brought up from below.

**KEEPING THE SOIL NEAR THE SURFACE MOIST FACILITATES
THE UPWARD CAPILLARY MOVEMENT OF WATER.**

When soil becomes excessively dry the rate of capillary movement of water through it becomes very slow.

I have found by placing cylinders of natural field soil six inches in diameter and twelve inches long with their lower ends one inch under water, after having been first thoroughly dried, that it required six days for capillary action to raise the water eleven inches and wet the surface in the case of a light clay loam, and that it took twenty-two days to similarly wet the surface of a red clay subsoil.

It is because of the slow capillary movement of water in dry soils that a thin layer of it developed by shallow cultivation makes such a perfect mulch during seasons of drought. But there is another and very important side to this matter, and that is the throwing of a highly protective mulch over the surface of a field by shallow cultivation allows the moisture from below to accumulate in the soil just below the mulch to such an extent that it increases the power of this soil for drawing water up from below just as I have shown heavy rains and artificially wetting the surface may do. I have succeeded in demonstrating the past season that water may be drawn to the surface in this way from depths as great as seven feet. Shallow cultivation, then, during seasons of drought does more than simply save water by checking surface evaporation. It causes water to be brought up from below into the zone of root action where it is so much needed. In the case of the experiment attempting to measure the influence of cultivation upon surface evaporation which I have cited here, I was surprised to find that while the upper four feet of the cultivated ground was wetter than that not cultivated, the lower two feet were actually dryer when the last set of samples were taken, showing that the uncultivated ground had dried to such an extent that it had ceased to draw water as rapidly toward the surface as the cultivated ground was doing. To thoroughly cultivate a crop of corn, potatoes or small fruit during times of drought then, is to irrigate the crop by capillary action with water stored in the soil below the zone of root action.

INFLUENCE OF FARM YARD MANURE ON SOIL MOISTURE.

With alternate strips of fallow ground to which had been applied either coarse or fine farm yard manure and others not manured at all, I have found that manure has a marked influence in bringing water towards the surface from depths as great as six feet below the surface. I found that while the manured ground contained, in the upper three feet of soil more than three pounds of water to the square foot of

surface, more than the unmanured ground did, the lower three feet of the manured ground contained about the same amount less than the unmanured ground did. It appears therefore that farm yard manures have an effect upon vegetation other than that exerted through the plant food they may contain. They make available, by increasing the movement of water toward the surface, water and minerals held in solution which without this influence would remain unused below the zone of root action.

INFLUENCE OF ROLLING IN TIMES OF DROUGHT.

The rolling of loose soil by firming it tends to increase the loss of water from the surface by evaporation. This increased loss results from the tendency of firming the ground to bring water to the surface from depths as great as four or five feet at least, causing the surface soil to be wetter than it would otherwise be, and as evaporation from a wet surface is more rapid than from a dry one the ground, taking the upper four feet into consideration, is rendered dryer in consequence.

When a drought occurs at seeding time rolling is of very material service in increasing the amount of water in the vicinity of the germinating seed, and if rolling is immediately followed with a light harrow so as to develop a surface mulch over the seed bed, all the advantages of firming the ground will be realized without the excessive loss of water from the surface which rolling tends to produce.

For firming purposes, where the object is to increase the water at the surface, the plank cannot take the place of the roller because it does not produce pressure enough to do the work needed. Even where the plank is heavily loaded the pressure per square foot cannot equal even a light roller, because the weight is spread over so much larger surface.

The President — A few moments will be given to the discussion of this paper. Have you any questions that you desire to ask?

The Secretary — I want to say in the opening of this convention, and especially after the presentation of a paper of so great value as that which has been given us by Prof. King, that I am very anxious indeed that those who are present shall take an active part in this discussion. Let us have questions; and if there is any idea that you may quite clearly understand yourself, that you think would be of advantage to those who are present, or would make a valuable addition to the report that is to be printed of this meeting, we hope that the friends will bring them up. If this meeting is destitute of discussion throughout it will detract very much from the value of the report of our meeting, which is published in our annual transactions.

Mr. Faville — Prof. King, did you tell us in your paper just how deep to stir the top soil to make it best for the mulch?

Prof. King — There can be no rigid rule laid down as to the depth of disturbing the soil, for the question of disturbing the roots of plants comes into this question. It is certain that the stirring of the soil to a depth of three inches diminishes the rate of evaporation more than stirring it to the depth of an inch and a half; but at the same time in case of certain crops, especially at certain seasons, you may so root-prune by the deeper cultivation as to detract more from the actual yield than would be gained by the saving in the amount of moisture. I think there is no method of developing a mulch upon the surface out of the soil itself which is so perfect as that method which is involved in the ordinary plowing; this is of completely shaving off the whole upper surface and turning it down again in a loose condition upon the undisturbed surface. If you take a disc harrow and set it so that the wheels are running at a small angle, especially if the ground is hard, you simply plow through the surface a series of ridges and uncover a portion of the ground to the air, without covering it up again; a surface from which the evaporation will be in-

creased. So to make a perfect mulch it is necessary to get a complete layer of loose dirt and cover the whole surface undisturbed below by that means.

Mr. Ames, Jr. — The question arises here in the spring, especially when a drouth is threatened, as to these farmers hastening along with their work and leaving the process of rolling until they decide whether it is going to be pretty dry or not, then putting the roller on. Is this the proper way? Or should they leave the last surface a harrowed surface?

Prof. King — It seems to me in all cases practicable that the last surface should be a harrowed surface. If you will bear in mind the immense amount of water required for an oat crop you will realize the importance of getting onto that surface on which you are to put oats in the spring just as soon as you can; if you don't put the oats in to go over it with some sort of tool which develops the mulch on the surface which will hold the water there until the time when you can get the oats in. Of course the sooner you yet the oats in the sooner the crop is beginning to use the water that is going to be lost if the crop is not there; especially if you are attempting to get a catch of clover with the oats it is of still greater importance for you to take this fact into account. I suppose it is chiefly because of this excessive amount of water that the oat crop uses, over the amount that the barley crop uses, that makes it practicable season by season to get a better catch of clover with barley than with oats. It turns right on this question of the consumption of moisture from the soil.

Mr. Faville — I would like to know how you go to work to ascertain how much water it takes to make a pound of dry matter in oats or corn?

Prof. King — The method that we used at the station was this: In a field of oats, in a field of barley, in a field of corn, we dug a pit deep enough to allow a vinegar barrel to be set so that its top should be flush with the surface of the soil of the field. The pit was large enough so that the barrel could be raised and lowered without any contact with the sides of the pit. These barrels were filled with

the soil taken out of the pit, in the order in which it was taken out. Then oats were sowed in two barrels and barley in two others, and corn planted in two others. These barrels were arranged so that by putting in a pair of heavy steelyards and using a screw with a lever attached to it the barrel could be raised and weighed at intervals. The effort was made throughout the season of the growth of the crops in the barrel, to keep the amount of water in the soil just about the same that it was in the spring, that is when we started. That could be determined by keeping the weight of the barrels constant; and then cutting the crop after it was ripe, and drying it gave the amount of dry matter. The amount of water added and the amount lost shown by the weighing showed the amount of water that was demanded. In the case of the corn the surface of the soil in the barrel was stirred in the same way that the surface of the soil in the field was stirred. The object of placing these crops in the barrels in the fields and at the level of the ground was to bring the several crops under as nearly normal condition as they could well be brought. I may say that I came very near losing the corn by not watering it enough; and as it illustrates a principle involved in tillage I will state the conditions under which it occurred. You remember I stated that I assumed that if I kept the barrels of the same weight throughout the summer that I started with, I should have the same amount of water. Well that was of course true, but I found after the corn got up to about that height (indicating) that it began to turn yellow. I knew my weights were right and I knew I must have the same amount of water there, and I supposed that perhaps I had more corn growing there than the fertility of the soil would supply nourishment for, so the next time I watered I watered with liquid manure; but it did not improve the color. I took my soil-tube then and put it to the bottom of the barrel, and was very much surprised that the lower half of the soil was as dry as you would find the soil on top of the surface in a dry time. Now the surface of the soil was too wet really, as I had all the water in the surface; but the capillary

action was not great enough in that dry soil to carry the water downward to the lower roots as fast as they needed it; that is the roots had taken out the water so fast, making the soil so dry below, that even the force of gravity and capillary action combined did not carry the water down to those roots, and the result was the corn was suffering from the want of water.

Mr. Wiley — Tell us something about the length of the roots of the corn.

Prof. King — Those barrels in which grew the corn, the barley and the oats I took pains to take to pieces by sections, and washed the soil off of the roots so that if you are at the Experiment Station while you are here, you will see in one of the rooms the actual root that produced the growth of corn in that barrel. I may say that in washing off the soil from the roots, if you had seen the process, you would have noticed that it was impossible to find a section of soil in the whole barrel 1-16 of an inch square in which there was not a root; and the roots as they hang, as they were washed out, would measure something over four feet in length. I found by examining the actual roots in the field that they did not extend to a depth of but a little more than four feet. The bulk of them, however, nearer to the surface than that, and not many of them extended further away than two and a half or three feet horizontally; showing that we have approximated so far as the lateral extent of roots is concerned the proper width of row for the corn. That is I suppose we have found that best, because of the normal, lateral extension of the root.

Mr. Faville — At about what depth did you find the most of the roots of the corn in the field.

Prof. King — The greatest density of roots lies in the upper foot; but below that the roots are coarser, and run more widely; are larger roots and extend deeper into the ground, I suppose for the express purpose of pumping water; the upper roots getting the fertility that is developed near the surface, the lower roots drawing up the water to maintain the action, and to diminish the demand for water near the surface.

Mr. Atwood — I would like to ask the Professor if all the roots of plants are feeding roots, or in other words if they all tend to nourish the plants?

Prof. King — That is a very important question in this matter of tillage; but it is a question upon which we have as yet no positive knowledge. I do not wish to be quoted as saying it is a fact, but it seems to me we may find ultimately certain roots whose function it is to pump water, and other roots whose specific function is to lie nearer the surface where the air is abundant and whose business it is to gather the nourishment other than water; and that it is barely possible that we shall find that the lower roots may even contribute, either directly or indirectly to the moisture near the surface.

Mr. Wiley — What is the effect of pruning those surface roots with deep cultivation, for instance in corn, cutting them off as we must.

Prof. King — It tends under ordinary conditions to reduce the yield. There is a certain amount of root pruning which is necessary to cultivation. The cultivation may save water enough to more than compensate for the root pruning, but excessive root pruning has been found to actually diminish the yield, as might naturally be expected. The diminution of yield does not seem to hold any definite ratio to the amount of root pruning. I suppose it is because the mulching effect works the other way. There is a medium between the two which must be followed in practice.

The Secretary — In your paper you referred to the influence of manure in the retention of moisture. I would like to ask the question whether you know of any difference or whether you should expect any difference from the position of the manure in the soil, whether plowed under five or six inches deep, or whether it lay near the surface?

Prof. King — Our exact knowledge in that matter is not sufficient to enable a very positive answer to be made. Of course manure, especially if it is coarse, acts as a mulch in itself, which would tend to diminish the rate of evaporation; and in the case of coarse horse manure which we plow

under, with the bedding in, the first effect was to allow the soil, which was above the manure, to become dry; so that if a dry time had followed the planting above this manure and no firming had taken place, undoubtedly under that condition the crop would have suffered. It might not even have germinated, in consequence of the coarse mulch having cut off the supply of water from below. The finer manures, and especially if they are worked in near the surface, of course would not tend to cut off the upward movement of the water; and so far as the spring conditions are concerned the nearer the surface the less would be the disturbance from that source. I think it is on account of this principle in part that we find during dry seasons that rye plowed under may actually reduce the yield, in the first place by preventing the seed from getting a good start, and in the second place if the rye had grown upon the ground and withdrawn from the soil enough water to produce a crop of rye it must leave the ground much dryer. You see there are two conditions that take out the moisture which is really needed by the corn crop. You could see in our fields this year where the rye had grown, the outline of the patch in the field, the corn being more yellow, smaller, thinner on the ground, a consequence of less perfect germination.

Mr. Chadwick— I would like to inquire what the Professor thinks is the best method of putting in a new crop on corn stubble?

Prof. King— If your ground is free enough so that you can develop seed beds of sufficient depth with a disc harrow, then put on your oats and roll, and follow with a light harrow. It seems to me you get under those conditions the best that can be gotten with the ordinary amount of labor.

Mr. Mat Anderson— I have been very much interested in the portion of this paper which I have heard read. There is one thing that *our* farmers, at least, have not practised so far as I know, and that is to harrow after rolling. We can scarcely do that unless it is done immediately after seeding. I always sow clover with small grain, and when the clover seed has sprouted we think we injure our crop,

by harrowing it. I found last season, the ground being very dry, it was difficult for me to get my clover to grow; and in fact for the last two years; and it is a very important crop with me. That has been my best crop at times. I sow a very fine seed, and if it doesn't get moisture enough in the spring it is very apt not to grow. Last year was one of the worst seasons I can recollect of on account of the drouth. I remedied it somewhat in the spring's ploughing by having a harrow in the field, and requiring the men before they unhitched at noon and in the evening to harrow what ground they had plowed the first half of each half day. In that way I thought we kept the ground from drying out. Most of our spring plowing is on corn grounds which generally throw up pretty loosely. By harrowing down pretty fine I thought that my oats, which I sowed, came in better than my neighbors', on account of their not using the harrow.

In regard to the sowing of clover seed with barley, the Professor has given me some new light on that subject. I had always supposed that the reason clover succeeded better with barley than with oats was because we took the barley crop off so much earlier, and removed the shade. Oats I find have so many blades, and is generally sown so thick, that it scatters out beyond the clover. I have not sown much barley for the reason that the chinch bug gets into the barley, and from the barley into the corn, and does a great deal of damage. I have not sowed wheat for a good many years. I think it is a very important question for us farmers to know how to protect our small grain, and particularly our clover seed, sowed with all small grains, in the spring droughts. I think that the point that the Professor has made in regard to the light harrow is a good point. I have a very light harrow that I can harrow five rows of corn with at a time; four sections matched together, and I can go over a forty acre field very quickly in that way. I am satisfied that the Professor's theory is correct, although we have thought that rolling created greater heat.

Mr. Noyes — As a result of your experiment should you conclude that the plowing of fall plowed land in the spring,

for a grain crop, to the depth of two inches, would be profitable or practicable?

Prof. King—It seems to me it must necessarily be, if you use the word "plowing" to mean breaking entirely the upper two inches of soil. You can do it more rapidly with a disc harrow, by setting the disc right, or with an Acme harrow, than to use the gang plow and run it shallow. It is just a question of economy there. The plow certainly does the work perfectly. If you can get over the ground faster with a gang of plows, shaving off the upper two inches, you certainly do perfect work so far as the mulching is concerned.

I would like to say a word in connection with this roller. It is true that the rolling of the surface makes the ground warmer as Mr. Anderson has stated. The difference may be as great as 9 degrees in the upper inch and a half and as great as 6 degrees in the three inches below the surface, as we have found by actual observation. In regard to harrowing after rolling, we carried on a series of experiments this summer bearing on this question. We tried it on both oats and barley. We had three strips all of which were drilled in, so as to put the seed at the same depth as nearly as possible, and the same amount of seed throughout: one strip of oats and one strip of barley we left untouched after the drill. The other two-thirds of each piece we rolled immediately after the drill and one-third of the rolled strip was gone over with a light harrow. In both the oats and the barley the largest yield occurred on the ground that was harrowed after it was rolled. In the case of the barley the very smallest yield occurred on the ground that was rolled and not harrowed. The first effect was that the germination of the barley was so much less perfect, that there was a thin stand on the ground. Apparently the rolling had firmed the ground too much to allow the air to enter the ground in sufficient quantity to allow germination to take place completely. Our going over it with a harrow broke up that firm surface and allowed the air to enter and better results followed.

Mr. Mat. Anderson— Was it clay soil?

Prof. King — It was a light clay soil.

Mr. Mat. Anderson — It would not have had that effect upon soil that was mostly sand?

Prof. King — Probably not.

The President — The discussion will be closed at this point, and we will now listen to a paper of George C. Hill, of Rosendale, upon "Insect Pests and How to Prevent Their Ravages."

OUR INSECT PESTS, AND HOW TO PREVENT THEIR RAVAGES.

BY GEORGE C. HILL, Rosendale.

It would seem to be an argument in favor of the theory that the world is growing worse; that in addition to the thorns and thistles sent in an early age for the punishment of evildoers, we have, in these later days, to contend with a numerous and ever increasing horde of destructive insects.

The weeds and briars were not an unmixed evil. They compelled the lazy farmers to give the soil the necessary tillage. But the insect pest has no redeeming feature. It adds much to the cost and uncertainty of a crop, and in some cases has, as in the grasshopper plague, destroyed the entire hope of the farmer.

It was estimated twenty-five years ago, by Mr. B. D. Walsh, a prominent entomologist of Illinois, that the loss sustained from the ravages of insects amounted, at that time, to between two hundred and three hundred millions of dollars annually.

Some of these bugs and worms are native to this country. Others are immigrants from over the sea, and almost every decade adds something in this line from the old world or the new. Now there is a destructive insect to prey upon almost all varieties of farm crops, as well as on every tree, shrub and plant in the forest, orchard and garden.

How to combat this pest is a difficult problem. The insects often are doing their mischief before we are aware of their presence. Some work in the night, others live underground; often they are so small and of such countless numbers that we despair of conquering them.

Much is being done by men of science to find ways and means for the destruction of these pests. The department of agriculture and our experiment stations are employing the best talent for this purpose, not without success.

Insectides, chiefly arsenical poisons, are successfully used on many gardens and farm crops. My own experience in dealing with injurious insects is limited, and includes little, or nothing but that is known and practiced. In fact I confess my ignorance, and desire to learn.

The potato bug which came down upon us from the Rocky mountains, not only came to stay, but has spread over the potato growing regions of this country, and has crossed the ocean, giving the farmers of the world a sample of Yankee getthereitiveness.

Since its first appearance in Wisconsin, about twenty-five years ago, this bug has never failed to be on hand every spring, and it is safe to predict that it will continue to do so. While the potato crop can be protected by methods understood by every person, there seems no prospect of ever being rid of the potato bug.

If by a combined effort the beetle could be stamped out from all sections where the potato is grown, it would start again from its native haunts, an army of conquest and destruction.

I have found the bugs more troublesome where the crop was on land occupied with potatoes the year before. The bugs come earlier and are more numerous. There is usually a difference of one less application of poison in favor of growing the crop on a new field.

Another important matter is, to destroy the bugs soon after their first appearance. I have seen fields of potatoes permanently injured in a few hot days through neglect. This pest, unlike the underground insects, does its work in

plain sight, which makes it comparatively easy to destroy it.

The white grub is an old and well known enemy of the farmers and gardeners. The larva of the June bug, it lives three years in the ground, usually in meadows and pastures that lie undisturbed for several years. Its food is the roots of the grass, which in some seasons is so completely eaten off that the sod may be rolled up like a carpet. A herd of swine turned into such a field will hunt and destroy the grubs, but in doing so the whole field will be torn up. If the field is a permanent pasture, or one not convenient to plow and reseed, it is best to patiently wait until the grubs leave. Most of their injurious work is done during their last year in the ground.

Skunks destroy great numbers of white grubs as well as other insects. Here is where our black and white friend shows his *good scents*, as he makes no mistake where to put his nose in to find the choice morsel. We have seen corn-fields after mid-summer, where almost every hill was dug into by this animal, searching for the grub. We once saved a field of corn infested with the white grub. A man with a horse and cultivator was put in with instructions to go twice in each row, stopping to kill every grub which came in sight. We followed with a thorough hoeing, searching wherever there were signs of the worm, often finding from one to three in a hill.

The white grub is sometimes very injurious to the potato crop, when grown on an old sod. Finding their way into the hill, they eat large holes into the tubers. In such a case the crop should be dug as soon as grown, and got out of the reach of these voracious pests.

In some parts of Europe, especially in France, the white grub is more numerous and destructive than with us. It is claimed there that contagious disease germs are successfully used to destroy the grub.

Another underground pest is the brown grub, commonly but wrongly called the cut-worm. These are often so numerous on sod, as to entirely destroy a field of young corn. To grow corn safely on a sod infested with these worms,

planting should be delayed until the last of May. In my experience these worms have ceased to eat after that time.

Mr. John M. Stahl, of Illinois, says: "Quite frequently sod ground, and especially clover sod ground, contains so many cut-worms that it is not advisable to plant it until quite late. Only a poor stand will remain. Last spring I allowed a forty-acre clover-sod field to lie a month after it was almost ready for the plants. One of my employes became very impatient, and thought I was wrong not to plant at once, as some of my neighbors had done. But much of their corn was cut off by the worms and they had only a poor stand, with some hills a month behind the others. When I planted I had a most excellent stand and my field averaged eighty bushels, shelled, per acre."

On our farm the practice is to sow sod ground with oats, this crop being less injured by grubs of all kinds, than the corn or potato crop planted on sod. The longer land remains in grass the more it becomes infested with these worms. For this reason as well as others, it is best as a rule, to let land remain only one or two years in clover and grass.

The cut-worm proper is injurious mostly to garden vegetables. Coming out of the ground in the night, it eats off the stems of tomatoes, cabbage, melons and other single-stalk plants. We hunt for these worms in the morning. Wherever a plant is found cut off, there, buried near its root, the depredator can surely be found.

We use slug-shot for the cabbage worm, and Paris green for the striped bug on cucumber, melon and squash.

Of all the injurious insects that prey on the crops of the western farmer, probably the chinch bug does more damage than any other, and possibly more than all the others together. It is a tiny insect, but its vast numbers, and the rapidity of its increase, make up for any lack of size. Twenty years ago this bug drove wheat growing from a large portion of Wisconsin. In later years, wheat and barley have been largely grown. Now this pest is upon us again, and unless some means is found to stay the plague, we must again give up these popular crops. With us the

bug has done little injury to winter wheat, this crop ripening ahead of them. But they propogate there all the same, and after the wheat is harvested, take up their march for the corn-lot or the neighbor's barley-field. We used salt on our spring wheat the past season. Little if any injury was done to this crop by the chinch-bugs, but whether the salt protected it I cannot say. It is recommended as a preventive by good farmers.

Much is hoped from Prof. Snow's plan of introducing contagious disease, as an insecticide for chinch-bugs. Some of his results are marvelous. Experiments were made on our farm last year, under the direction of Prof. Snow. Several lots of diseased bugs were received and planted. The results were not satisfactory to us, but doubtless they were to the bugs. Two reasons were conjectured for the failure. Possibly we did not handle the matter aright, or was it because the climate of Wisconsin is so much healthier than that of Kansas that even our chinch-bugs are not subject to contagion?

We are anxiously awaiting Prof. Snow's report of last season's experiments and results.

It is not likely that this insect will always escape the results of scientific research. The mind of man is immeasurably superior to the instincts of the lower orders of living things, and has never yet failed to find out a way to capture, control or destroy.

In the mean time, if need be, we can starve out the chinch-bug by confining our small grain crop principally to oats. That was a forcible remark recently made by Mr. Thomas Convey: "I cannot afford to use my farm for a bug hatchery."

The President—The paper of Mr. Hill is before the convention for discussion.

Mr. Faville—I have listened to Mr. Hill's paper with a great deal of interest and yet there are one or two things that somewhat surprised me in it. I will state them very

briefly. The first is that clover sod is badly infested with cut worms, and the second that it is best to sow sod ground with oats. That has not been my experience. I am not disputing Mr. Hill at all but simply questioning whether that is the best thing to do. I have never lost a corn crop when planted upon clover sod; but perhaps he means one thing by clover sod and I another. I mean ground that has been down only one year. I never allow clover to remain longer than a year. I mow it two crops, if it is an average season, then plow it up to corn, and never lost a crop by the cut-worm. My experience is that corn following clover is very much better than to sow it to oats.

Mr. Lawton — I would like to ask the essayist if he has ever tried clover against the chinch bug pest. I never have seen chinch bugs injure a crop of grain that had young clover at the roots.

Mr. Hill — The trouble, gentlemen, with the chinch bug in this respect is that usually the chinch bug does its injury only in dry seasons, and that is the time when we cannot have much young clover.

Mr. Ames, Jr. — We adopted on our farm this kind of rotation, twelve or fifteen years ago, and we have never varied from it but once or twice. Our grass is usually down two years. Before that we had lost considerable corn. Now we sow our sod with oats and usually we have good crops. This past season when it was so dry it was almost impossible for anything to grow, the yield was 50 bushels. The year before 60 and the year before that it was 70. Then we manure that land, plant it with corn and in that way we escape the worm generally. Then we sow wheat; winter or spring. We never raise any barley. If we finish with oats we would more usually lose our seeding with clover, than we would with wheat. That is another reason why we follow oats after sod.

Mr. Anderson — My experience when I first commenced to farm thirty odd years ago was only one year in clover. Now since I am raising alsike I am letting it remain two years in clover, and some of it longer, on account that my clover will not take in the spring. The next year I put in

corn and then a small grain, then back to clover again, which will prevent the bug I think. There isn't any doubt about this chinch bug growing in any field of clover. I have never sowed an acre of small grain without sowing clover of some kind with it, and in dry seasons, and even in seasons when the clover would grow pretty high, the bug would injure the wheat. There is no use of any farmer believing that he can prevent bugs from damaging his crops by sowing them with clover.

I get a better stand of clover with barley than with oats. I have practised recently sowing oats quite thin. This year I think I will sow about half a bushel of spring wheat to the acre with my oats. The trouble with me is my oats will lodge on my land, and that smothers out a great deal of my clover. I think perhaps the wheat will help make it stand up.

The Secretary — I wish to say right here, to follow up the line of thought suggested by Mr. Hill, that I got a suggestion from him a few years ago with reference to sowing oats upon sod. Now it is a fact, notwithstanding perhaps the preferable practice of Mr. Anderson and some others of keeping the ground down to clover but a very short time, that a great many of us farmers allow our sod to lay two or three or four years before breaking it, and it becomes pretty well infested with the cut-worm. Of late years I have sowed oats upon my sod, the first year's breaking, and I think I have gained in two particulars in this direction. In one I have avoided the ravages of the cut-worm; in the other I have got a crop that stands up better than it does if I put it upon old land that has been manured. It has been a great trouble with me to get my oats to stand up, and to fill. I find that by fall plowing my sod, and putting the oats upon this ground, it is much more liable to stand up and produce a good crop than if I attempt to follow my corn land with oats.

Mr. Boyce — It has been my practice to seed with clover every acre of small grain that I have sowed upon my farm. I found that practice to be the best to avoid the injury to corn and other crops by the white grub and cut-worm. My

rotation is clover, corn or small grain, and then clover again. Sometimes I sow upon the sod in the spring, spring grain, but usually corn. Following that practice my land has grown richer without the application of barn yard manure. Every acre of small grain sowed is seeded to clover and I have had very little trouble from the chinch bugs or from the white grub or cut-worm.

Mr. Mat. Anderson—How do you sow clover with grain? Which grain do you find does the best with the clover?

Mr. Boyce—Barley. But in all cases where you seed with clover get the grain in just as early as possible so as to give the clover a chance, and roll hard; pack the soil around the seed, and you will succeed in getting a better stand of clover in that way than any other.

Mr. Mat. Anderson—Is fall plowing better than spring?

Mr. Boyce—Well, I plow all the sod down in the fall I can plow, but if I plow in the spring I follow with corn. On fall plowed sod I sometimes sow small grain; oats with very good success. My experience has been in that direction the same as Mr. Hill's.

Mr. Lippet—I would like to ask Mr. Anderson if he thinks that the alsike clover will outlive the red clover.

Mr. Mat. Anderson—Oh yes, certainly. I have kept alsike clover, and got it every year, for four years in succession; although I don't recommend that. Two years is as much as I would like. Red clover is supposed to be biennial. It will grow one year in seed and then die out. It will frequently succeed itself; but alsike has various branch roots. Red clover has a main tap root. Alsike will not heave up as easily as red clover will do. In thawing and freezing, as there frequently is in the spring of the year, alsike re-seeds itself. It does not ripen all at once like red clover in the fall of the year, but there will be blossoms there growing and coming in blossom until frost comes. On low lands I think the alsike far superior to red clover, especially to sow with timothy, as it matures about the same time as timothy. Red clover ought to be cut, for this latitude, about the middle of June, when in full blossom. Alsike does not mature until, say in July, giving me

time to work my corn. I would have to take that time, if raising red clover, to put up the hay. I believe that a man who will follow Mr. Faville's plan of one year in clover, one year in corn and one year in smaller grain will do very well, but I do not believe that red clover makes as good feed as alsike. My alsike, when cut at the right time and put up just right, is as good a feed for sheep, cattle or anything that I am going to feed it to, as I would have from the very best red clover made on purpose for hay, and cut in a dry time. I believe alsike is the most profitable crop I have raised in some years.

Mr. Lippet — Don't you consider red clover the better fertilizer?

Mr. Mat Anderson — Red clover roots are the best fertilizer. I think the medium clover has a little larger root, and it may run a little deeper than the alsike; but take the soil for six, or seven, or eight inches I don't think it would weigh any heavier than the standard alsike. I have heard a great many seedsmen claim that the alsike has the advantage really over red clover.

Mr. Noyes — I don't think the term "clover sod" has been made as plain as it ought to be. I consider a clover sod is a sod turned after one year's growth, without any timothy in it. I think Mr. Hill's clover sod of two years' growth has a good deal of timothy in it.

Mr. Faville — More timothy than clover.

Mr. Noyes — Although I have never had much damage from cut-worms, I have never seen any damage on clover sod turned after one year's growth, and I have raised good crops of oats. I never had but one that was anywhere near a failure on timothy sod. I cannot agree with Senator Anderson in regard to the fertilizing properties of the roots of alsike clover. They don't go down deep enough.

Mr. Boyce — Is salt regarded strictly as a manure, or does it act as some scientists claim upon other matters in the soil, that it liberates. My experience with salt has been various. I once sowed on a field of oats seven tons of salt. It was refuse salt from the packing house. I got it chiefly in Chicago and I thought I had very good results from the

application of that salt. I have sown it several times since but I have never observed any great benefit from it. Whether it was the condition of the soil, or the season, or the peculiar time of applying it I cannot say. I would sow a strip and leave a strip, and there was no perceptible benefit in the salt. Salt itself is not a manure. It is supposed, however, that salt acts upon some other matter in the soil. That it will act in some soils and not in others. They cannot tell us why, neither can they tell us why an infinitesimal quantity of land plaster on a clover field has marvelous results on some soils and no effect whatever on others. In my case I have sowed a great deal of land plaster and I never yet could perceive a single particle of benefit. My farm is prairie soil. I suppose that land plaster acts in the same manner on some soils that salt acts, but no scientist has ever been able to explain it or give any reasons for it. It is a mere supposition that it acts upon some other matter in the soil.

Mr. Williams—I will say in regard to salt that if it is a wet season salt will not do any good. If it is a dry season and it is sowed according to the right system, it keeps the moisture in the ground.

Mr. Dawson—I do not agree with the gentlemen in regard to alsike clover being a good fertilizer. Alsike clover is a good deal of the same nature as white clover. It has no tap root. Merely fibrous roots extending largely over the surface. We consider it in our part of the state very inferior as a fertilizer. Red clover is much superior in my opinion as a fertilizer.

Mr. Mat Anderson—The gentlemen is certainly mistaken. It has a tap root. It is entirely different from white clover. The leaf does look like white clover but it has a pink blossom. White clover roots run over the top of the ground. Alsike has branch roots. Where it is taken up and washed and placed side by side with red clover it shows fully as much root as the medium red clover. It doesn't run as deep; but it will run as deep as you plow.

Mr. Meyers—Two years ago last spring I manured about

an acre and a half very heavily for potatoes, on clover sod. I had a very good crop. The next year I put oats on that same ground that I had potatoes and corn, and left a potato patch. I put on potatoes again and the grubs nearly destroyed my potatoes; the second year after the sod had been turned under. The first year the grubs did not disturb my potatoes. The second year they did. I want to know the cause.

Mr. Mat Anderson — The grubs were in the ground, and had not developed.

Mr. Hill — I presume that the last year, or perhaps the first year, that the land was in clover, the beetles laid their eggs in that sod. They were so small that they did not eat much the first year except what little grass they needed. And the year the potatoes were on the land it might have been their first year, and they are very small, and never observable. I never saw them myself; and they eat very little. What they did eat they probably ate on the roots of grass and clover that were left on the ground. The third year they were all ready to do their mischief, and that happened to be the second year of the potatoes.

Mr. Meyers — I would like to know why if oats will do well on sod they won't go into the corn afterwards.

Mr. Hill — This thing we are talking about is the white grub. This is not the animal which usually does the injury on sod. It is what is commonly called the cut-worm.

Mr. Faville — You mean they cut the corn when small. We have all seen corn damaged by the thick white grub when it got up; but the black grub cuts it off when small.

Mr. Ames, Jr. — I would like the essayist's observation on the wire worm. And also I desire to ask what provision he makes for pasture land, if any, in his rotation of crops.

Hr. Hill — We have some land that we are obliged to use for permanent pasture, but if that were not the case, and it is not the case all the time, we use the second year of the clover for pasture always.

Mr. Noyes — Sowing timothy with the clover?

Mr. Hill — Yes. With reference to the wire worm, we

have experienced some damages from its effects on low land. Not any other place on the the farm except that. We have come to the conclusion that it don't pay to plow that land anyway. If it ever comes a time when we can have under-drainage, and make it fit for cultivation, we can take care of the wire worm. I have had potatoes and corn destroyed on that kind of ground, but never on upland.

Mr. Noyes — Don't you think in removing the surplus water you also remove the worm?

Mr. Hill — I should presume so. I don't know. >

The President — Any other questions on this paper? If not we will close the discussion and now listen to a paper on "Country Roads," by the Hon. John Dawson, of La Crosse.

GOOD COUNTRY ROADS WILL PAY.

By HON JOHN DAWSON.

Next to good farming is that of good roads. Nothing of equal importance to the farmers of this state has been more neglected than our public highways. Farm institutes have been educating the farmers of late years in Wisconsin how to make better butter, how to raise more and better stock, and how to keep up the fertility of our farms; in fact how to produce two dollars where but one was produced before. But the importance of improvements of country roads to the farmer in marketing his produce at any or all times of the year have been unnoticed or very little attention given to the matter.

The common roads of the country are the veins and arteries through which flow the agricultural productions and the agricultural supplies; through which are the life's blood of the state and nation to these lines of travel and transportation largely depend our welfare, and should receive the attention that their importance deserve.

Our railway system has become the most perfect in the world, but the common roads of the United States have been neglected and are inferior to those of any other civilized country in the world, and in our state they are deficient in every necessary qualification that is an attribute to a good road either in direction, in slope, in shape, and most of all in want of repair. These deficiencies have resulted not from ignorance alone, but from the varied systems of road building in force in the different road districts in the state, together with a shiftless, closefisted indifference, and a general shirking in giving aid in labor, tools or money for their improvement. No taxation is equal to the high taxation of bad roads. Past and present experience proves to us that dirt roads make bad roads in wet weather. Rounding up the center of a highway with a road grader increases the depth of mud in times of continuous wet weather, and in the spring for weeks are an impassable wallow of mire of unknown depth. Imagine Uncle Sam wading through this sea of mire, making his proposed free deliveries of mail in the rural districts next spring. Next to water nothing is so destructive to roads as heavy loads on narrow-tired wheels.

Our highway laws are defective and should have been repealed twenty years ago. Payment of highway taxes in labor is not in the interest of either justice or good roads. A certain portion of tax payers are of the opinion now that highway taxes should be paid in money. Section 776 of the laws of Wisconsin reads as follows: "The qualified electors of each town shall have power at any annual town meeting to vote upon the question of collecting the highway taxes in money, and in case it shall be decided by such vote to collect such taxes in money, such taxes for that year and until such vote shall be rescinded shall be collected and paid into the treasury at the same time and in the same manner as other town taxes."

No doubt better results can be obtained with a levy of two mills paid in money than can be obtained with seven mills paid in labor under the present law. Should the voters, however, decide to pay their highway taxes in

money the amount so raised would be inadequate to meet the requirements for permanent road improvements. Section 1308, R. S., authorizes county boards at their annual meetings to levy a county road tax not exceeding \$8,000 to be used in improving the roads in their respective counties in any one year. It appears, however, that a very small portion of counties make use of this wise provision. The supervisors of La Crosse county of late years have been very generous in appropriating money for permanent road improvements, appropriating the amount limited by law. These appropriations to the several towns have been used for the purchase and delivery of stone. They are then placed and broken at the expense of the towns receiving them. Experience so far has proved stone to be the best material for permanent road making in our county, particularly on marshy and sandy places. In constructing a road of this kind excavate the old road bed about ten inches, then place the large, flat stone in the bottom tier unbroken and compactly. The top course must be broken fine, making a total depth of ten or eleven inches of stone; then a covering of two or three inches of soil. This works down to a smooth, solid road bed. A road of this kind ten feet wide costs in our county from thirty-five to fifty cents per running foot. This is an estimate for bad places where the subsoil is good; a less thickness will answer, and where coarse gravel can be obtained within easy distance it can be used in combination or alone, cheapening the cost of construction very much, say \$1,500 per mile.

Several of the towns in our county are putting in some of this permanent road work every year with the intention of continuing it until the worst places are made good, and eventually the main lines of travel in the county. County roads should be under county supervision and in charge of a competent man, road improvements would then be under one head and one system; these improvements should be carried on by a direct road levied annually by the county boards and paid in money, or a county road fund could be created by an issue of county bonds; money could be ob-

tained in this way at very low rates of interest, payable in ten, fifteen or twenty years or longer.

I am aware that this is a work of great magnitude, calling for a large amount of money, and the first question is will it pay? Let me ask you, does it pay as it is? How much have our farms increased in value in the last ten years?

Yes, good roads will pay. They will pay in the enhanced value of our farms, in saving of time, in vehicles and horses and in the pleasures and comforts to be derived from them. They will also make us better citizens and Christians by causing less profanity. No man can be truly good and travel the wagon roads of our state year after year at all times of the year. Let us make a united effort for better roads. Experience will soon convince us that permanent roads are a good investment, then let us hold forth that which is good and nail our convictions into the platform of our political party, and fight hard for that policy which best tends to develop and enrich our common country. Keep thinking, second thoughts are the adopted children of experience.

The President—The paper of Mr. Dawson is before the convention and I hope it will draw out a very full discussion.

Mr. Mat Anderson—I believe I know something about making roads, at least how it has been done in Ohio. Mr. Dawson has been in the legislature, and he perhaps is to blame for not having those laws adopted which he speaks of. My experience is this that farmers vote and talk as Mr. Dawson suggests. I recollect while living in Ohio we sent a man to the legislature who had his ideas on this road question, and he got a law passed in the state of Ohio which reads in this way, if I recollect right: it allows the farmers along any line of road leading for instance to the town, to vote upon the question; and if a majority of the farmers are in favor of a turn-pike then the county commissioner sends a county surveyor to survey a road. He gives the amount

of excavation and filling and gravelling necessary and a contract is let to the lowest bidder at so much per mile. In that section of Ohio where I lived, it was in the Miami Valley, the roads were much worse than in any part of Wisconsin that I have ever travelled. I was there a few weeks ago and they have now between four and five hundred miles, in one little county of twenty towns, of roads which are gravelled and piked up. At first the farmers were so opposed to that law that it politically killed the man who had the law passed; but now the farmers are wonderfully pleased with it. They can haul double the loads that we do in this country on those pikes. It is surprising the loads which they can haul with their wagons. They have a law that no man travelling that pike can use a wagon with less than an three and a half inch tire. The farmers there have found out that their broad tired wagons are better to put on the stubble fields. They do not spoil the young clover or the young sod. We have a good deal to learn on that question. We have in Wisconsin, from where I live to the Lake, gravel beds; and where gravel is plenty you can make roads very cheaply. The coarser gravel should be put in the bottom and the finer gravel on top. The roads should be made only about a rod wide, and say six inches deep at the sides and a foot in the center. Those pikes are kept up in good shape so that a man can haul immense loads; he can travel fast; he doesn't have to wade through mud ankle deep, as our horses have to do in this country. I think that the time will come when farmers will see the advantage of having good roads and perhaps favor it; but I think the man better have his political grave dug now who introduces the bill to tax the farmers four or five hundred thousand dollars.

Mr. Faville— I would just as leave dig my political grave in that way as any other; indeed I am not very much afraid of it. I am fully in sympathy with the paper just read in regard to the necessity of better roads; but I am not quite in accord with the idea that the control of the matter should be given to the township, or even to the county.

Mr. Dawson — Are you in favor of the old path-master system?

Mr. Faville — No sir, I am in favor of the state of Wisconsin taking control of that matter from beginning to end.

Mr. Dawson — Then it would have to be subdivided.

Mr. Faville — It would have to be subdivided, but under the general control of the state. Then we will have uniformity. It is an old saying and a true one that the chain is no stronger than its weakest link. Suppose it is under control of counties and townships. Here is a town that makes nice roads; here is another in this side that makes good roads; but there may be one between those two which doesn't do anything at all, and you just have to crawl in the mud. My idea is this, that the state should take this matter under control; borrow money at 3 or 4 per cent. on long time; we fellows are getting old and will pay the interest, but let the boys who get the benefit of it for all time to come, pay the principal when they get ready. Let the state commence at the center where it is necessary, and where it will do the most good; commence at the great railroad centers, if you please, and build out just as fast as we can. Make the road permanent, one that will last for all time.

Mr. Noyes — I think Mr. Dawson's head level, if he is or has been a member of the legislature. In our town the tax-payers are different from what they are in Mr. Anderson's town. Last spring an appropriation for the bad spots in the roads of our town was defeated, not by the tax-payers, but by the young men that would have done the labor at so much per day, acting at the behest of some one in his own interest. At other times it has been defeated in just that way. One season it was defeated by a man who said he wanted to work his tax by the day; and his tax was 42 cents. The tax-payers, according to the taxes that they pay, in my town, are willing to pay money for good roads.

Mr. Toole — I am glad to have heard these remarks, and all these criticisms on our old time way or district system. Mr. Dawson has told us how to make better roads, but it

seems to me we want something more than that; something that will stir up into a desire all around for better roads. I do not know any better way than to have a society to promote better roads. We have societies to promote one thing and another. If a railroad desires to go through a locality there is no trouble in getting up a subscription of town bonds. In many respects this question of public roads is more important even than our railroads. It is also a matter of importance to the railroads. They could even afford to help us out. We have all seen times when the business of the country was almost paralyzed on account of the want of better roads to get to the railroads. Then again the advantages of going to the city. How many of our friends in town, and we in the country, are desirous to drive out for pleasure and go about the country; and if we had better roads it would promote social intercourse, and make us feel as though there was a stronger bond of union between town and country. Whether it would be an advantage to change from the common district and town system depends upon the present local system. My brother lately returned from Illinois where it is optional whether they will adopt the town system or the district system. He had always favored the township system, but he found there that the township system was made a piece of jobbery, and there was no particular interest in the road, and they had far poorer roads than with the district plan. I think the gentlemen who have occupied the floor and favored the state supervision of roads have pointed out the right way.

Mr. Faville—I do not wish to take up too much time, but my thought is this, that the entire property of this country should be taxed to support this road system, the towns and the cities. We are all equally interested. I am interested in every foot of road we have in Wisconsin, to have it a good one; so is every other man; and not to leave it for any particular locality.

The President—On what basis would you distribute this tax?

Mr. Faville—I don't know. I have not formulated it. I have only got a few crude items.

Mr. Williams — I am a tax payer, and pay my road tax every year in money. I agree with the gentleman who read this paper in regard to the system, but I am not in favor of state control of roads. They will be controlled by politicians. I am in favor of the county system they have in Massachusetts; that the county shall raise so much tax money every year. This is put into the county treasury, and so much is appropriated for each town. Each town has a corps of men to go around and keep the road in repair all the time. I have found Massachusetts ahead of any state I have been in in regard to good roads. France has got the best roads in the world. When Bonaparte governed that country he passed a law that all criminals should be taken out and set to work breaking stones and building the roads. In that way they obtained good roads. I would like that system here.

Mr. Sampson — It is all very nice to have the whole country build the roads, but I assure the gentlemen that you cannot tax the cities to build the country roads, because they won't pass any such law. There are too many in every legislature from the cities who would resist that. They say they have to pay enough in fixing up their own streets. They pay ten or fifteen times as much taxes as people in the country do now; that is enough. So far as taking the county system in preference to the state system, we have politicians in this country of all sizes; state, county, town and district size. I don't think it would make any particular difference in regard to that. Of course there are honest men among politicians. If you happen to get the right man to take charge of the roads, you get good roads made; if you don't you get a job of it.

Mr. Atwood — This is a pretty big job that we are discussing here. It is not one road, it is many roads, and a good deal would be required to make good roads. In the locality where I own a piece of land, in the southern part of Dane county, I think it would cost about as much as it would to build a railroad. Near Edgerton they have graded out with stone and gravel, I think nearly all of the roads, to the extent of the city limits. The wagons with the narrow

tires will cut right down through ten inches of gravel, the best we can get there from the knolls; and of course it is a little better there than where they have this Wisconsin red clay, that will roll up on the wheels and will stay there like a leather apron. Now the question is what way can be adopted to make these roads better? This particular highway that I mentioned, there is a great deal of travel on, not only in the town, but they come from up as far as Cambridge, Rockdale, New London and Deerfield, down through there to Edgerton. Some of the material naturally is very bad material. It seems to me that unless the legislature can in some way fix a premium by which wide tires can be adopted, something similar to what Mr. Anderson suggested. It will be very difficult to make roads that will stand, that is, without having the roads cost more than they are worth; cost more than the people will be willing to stand. When you take those narrow tires, something like a knife blade, an inch and a half or an inch and three quarters tire, and put on thirty hundred, and get the ground well saturated, they will go down through, with an ordinary bed to meet them. It seems to me that one point to be insisted on is the necessity of wide tired wagons.

Mr. Toole—I think I have read a law in England with reference to the tires being of a certain width, carrying more than a certain amount. The farmers there do not buy narrow tired wagons. This law is working a complete revolution. It seems to me it would be practicable for us if it is for them.

Mr. Dawson—I don't think it is worth while for me to answer what Mr. Anderson stated. It is not as easy a matter as he thinks, although he has been a member of the legislature. There are ninety-nine others here who have got to think of the matter as you do before you can make such progress; and also the same condition in the other house. Of course there are a great many ideas in regard to road improvements. I would like to give you a little experience we had up our way. We had a piece of road which we put in fourteen years ago. It was a piece of road adjoining the city limits of La Crosse. I was chairman of

the town adjoining, and I succeeded in getting an appropriation from the county, and succeeded in prevailing upon the people to put an equal amount with it. This piece of road had been almost impassable. It was a sand road. We finally put in about 1,700 feet of this macadam with large stone at the bottom and the fine on top. That has been used fourteen years. There has been an immense amount of travel of farmers' wagons and broad tired wagons hauling rocks and bricks over that road; and that road is as nice as can be, and there hasn't been one cent spent on it since it was put in. Now there is another piece farther east than that through a piece of tamarack land. We put that in two years ago. We were a little bit doubtful how that was going to work. It was marshy, soft land, and it was predicted by some that when the frost would come out in the spring this road would go down out of sight; others that when the frost went out it would heave all up out of shape. We went on with the work and put in half a mile. That road is permanent and substantial to-day. The farmers used to say that that piece was always where they were in dread. Now that is the best piece of road. That road was put in by contract at 39 cents a running foot. The total depth was eleven inches of stone.

The tendency is of late years to narrow our roads. The old style was a four rod road. There is no necessity of a four rod road. We put in a ten foot track, and it is all that is needed. You will notice that whenever you get out of the city that the track is a single track. Now if we put sixteen or eighteen feet of stone bed that would cost a great deal more money. We found a ten foot track was all we needed. In the summer time if they wish to take the dirt road alongside they can have it. Farmers in the summer time don't have their horses shod, and if it is dry they will make a track alongside. In bad weather they have the other road, and it is all right. We have found so far as we have gone that we are well pleased with it. The first permanent road improvement the people were opposed to. They fought it determinedly. I was the first one who sought an appropriation from the county, and they were opposed to

it. This was an appropriation of \$4,000, applied equally on the four main roads entering the city. It met with terrible opposition. Finally we carried it. The people saw the money was well expended and were willing to give us all we wanted for this permanent road work. I believe that the people of Wisconsin when they see more of this, and see that it is good thing are not going to give grudgingly.

Mr. Faville — Gentlemen, it will only take two dollars and a half an acre to macadamize all of the important roads in any county in Wisconsin. Now where is the man that wouldn't give two dollars and a half an acre more for a farm lying five miles from the city of Madison with a good macadamized road to it.

Mr. Dawson — It would increase the value of that land 25 per cent.

Mr. Faville — Two dollars and a half an acre is all it would cost. I have been making some figures within the last two or three days. That amount will give us a good macadamized track ten feet wide and nice grade to it, on all the important roads in any county in Wisconsin.

Mr. Atwood — You take it for granted that stone are convenient.

Mr. Faville — In most localities the stone are convenient and with the improved machinery for preparing road material and crushing stones we can do it for a tax of two and a half dollars an acre.

Mr. Dawson — I would like to take the contract to put in the main roads at two and a half an acre.

Mr. Faville — Yes; I have made a very liberal estimate.

Mr. Herrick — We farmers do not give half the study we ought to to the question of road building. We come here to the conventions and we hear a little talk about it here and there, and we go home, and have accomplished nothing. There has been some one trying to get a law similar to the one which has been spoken of passed by our legislature for the last six or seven years. The northern part of this state will defeat it every time. They do not want a money tax. If we have a law passed by the state, which is probably the right way so far as I can judge — it is the way

I should recommend — there must be system, there must be order about it, if you have good roads. We must have an optional law. The people in the northern part of the state do not need it. They are not prepared for it; but in the more southern part of the state we need such a law, and we need a law that has some system about it. We want the hills cut down; we want bad places filled up; and we want it done permanently. It is just that one bad place between us and the market which determines the size of our load. We have plenty of material in my opinion throughout Dane county, in nearly every town, to make macadamized roads. We need some different system in order to have better roads, and yet how are we going to do it. It can be done. It has got to be done as the gentleman over there has said; we have got to macadamize, and it will increase the value of our farms so much more.

In some of these places where you speak about it being so wet, underdrain. You have got to do it. If you underdrain many of these places, and put up your road in good shape with gravel, even the narrow tired wagons will not cut down through.

Mr. Faville — I want to reply to that gentleman over yonder, who said the cities never would consent to the state's taking hold of this matter. That is just the reason I would adopt the state control system, to make the cities build the country roads; we of the country have supported the cities for these past years, and have got to do it for years to come; and it is their business to help make good roads, so that we can support them easily.

Aside from the manufacturing in the city of Madison there is not a dollar of production in the whole of it. All these fine buildings in the city of Chicago and other large cities, the beautiful boulevards and immense buildings, there is not a dollar of production in the whole of it. Who supports it? They don't do it themselves, because they are not producing anything to support those things. Where do they get them? It comes originally from the country, and from the farm. Now I am not finding any fault with the cities. They are the medium of exchange and all that,

and a good thing, but they could not support themselves if it wasn't for the country. Now the reason I demand a general tax to build roads in this country is because we want the cities, that we farmers have built up, to help us make the roads, so that we can support them at less cost. (Applause.)

Mr. Sampson — What Mr. Faville has said is very reasonable and practical, but he is not making the laws, neither are the farmers. The city people have an idea of making laws themselves. We had a little matter here last winter in regard to making bridges. You know bridges cost lots of money. Well they killed it over in the senate. The bill went through the assembly so that the cities would help build some of these bridges. When we get about two city men to one farmer in the legislature I don't know how you are going to bring them to time. They are pretty shrewd, these city men.

The Chairman — How many farmers were there in the last legislature; in the assembly?

Mr. Sampson — I think the number of farmers in the legislature was about twenty-five.

Mr. Dawson — Between thirty and forty.

Mr. Sampson — In the senate I don't think there were a dozen. In the assembly I do not think half the members were farmers; and they were part republicans and part democrats, and there they were divided again. The republican farmers went to some city republican to ask him how he should vote, and the democratic farmer went to some city democrat to ask him how he should vote. Now in regard to a movement in the right direction it seems to me that the matter has been stated quite fairly. It seems to me that great advancement would be made if a town for instance would be made a road district; make the road district larger, then buy the improved machinery, road machines and the like, which can be used all over the town. One trouble is with the farmers themselves. When you talk to them about building roads they say that horses are cheap and they will put on an extra horse. A great many of them are opposed to putting a great deal of money on

the road. This thing has got to be worked up. People have got to be educated. We should begin by making larger road districts and employing improved machinery and getting better grades. Our roads have been made too wide. There is no sense in a four rod road, or even in a three rod road. Let the roads be made narrower. That is the only practical way to get at this matter. The people, the farmers themselves, wont go to any such great expense.

Mr. Adams—It seems to me that the cities are having rather a hard time of it in this discussion. I think the city is a pretty good thing. I think it is a pretty good thing for the farmer. I wish half the population of Wisconsin was in the cities. The cities consume our products, they help us; and the cities of Wisconsin have manufactured two hundred million dollars worth of goods that go into universal use each year. The farmers of Wisconsin produce about a hundred and twenty-five million. Those cities and those manufacturers employ thousands and tens of thousands of people that furnish a home market for our products. I do not think we should look upon them as anything but our friends. We have an interest in building up those cities so that we can sell them perishable products which we cannot ship away to distant markets. Another thing, taxation in cities generally runs up to about two per cent. Taxation in the country is generally only about one per cent., and I don't think it is a modest thing or a just thing for the farmers of Wisconsin to ask the cities of Wisconsin to pay a portion of their road tax. There is no question but that the road system of this state is a monumental humbug and ought to be wiped out. Our laws are wrong to begin with. Road taxes ought to be paid in money. The business ought to be done on business principles. The road districts, as suggested over here, ought to comprise a township. As it is now the road tax is worked out very often upon roads that don't need any work at all, and consequently the thoroughfare that does need a lot of work and a lot of money, don't get half what it needs.

Not only that, men who are elected to the office of path-master who do not want it, but who take it because it is forced upon them; who are incompetent to perform the work. We do not have any uniformity in our system. Measures have been introduced before the legislature designed to correct these evils, designed to have the road tax paid in money, and I regret to say that I have seen the strongest opposition to measures of that kind come from the farmers themselves and not from the business men. We might just as well look this situation fairly in the face and place the responsibility for these evils exactly where they belong. We had a measure of that kind when I was in the legislature. It was a good one and designed to give Wisconsin better roads; and designed to save money to the farmers of this state. We got a favorable report from the committee and a strong sentiment worked up in the legislature in its favor. The prospect seemed good for its passage, when some fellow came around and says, "You have got to drop that bill," I says, "why," he says, "because the poor men are opposed to it, and it will down our party"; and that class of men in both parties voted against the bill and defeated it. I say that any party that cannot stand upon a good road ought to go down and the quicker the better.

You have no idea what we lose in Wisconsin because we do not have the roads we might have if we paid our taxes in money, and had them worked on business principles. I made a calculation a few years ago that the average farmer goes six miles to market with his produce and carries so many tons. Because of poor roads it costs thirteen million dollars more each year than it would otherwise have cost. You know the strength of the road is measured by its weakest point. You may have to go twelve miles to market and there may be some small hill, not over three feet in height, which might be cut down at small expense, but which is so sharp that you have got to go twice, and spend considerable labor and time and wear out horses and wagons and tempers in doing that amount of business. I would like to say to the farmers of

this state, go to the next legislature and say, "We want to have a tax assessed for road purposes upon the farmers of this state equal to two-thirds of that which we now pay in labor. We want the township the unit. We want to have one man to have charge of the work of that town. We want him to let his work by contract. We want the money in that town placed where it will do the most good," and when we get that kind of a law we will begin to have better roads.

Mr. Fargo of Lake Mills made the calculation that if the taxes paid in that town since its organization had been paid in money, and properly expended, that every mile of road in that township could have been macadamized twice. When you get roads of that character you make country life pleasanter; you raise the value of farms, and make the country boy more willing to stay on the farm.

Mr. Goodrich—The little town of Milton has demonstrated the way to fix your roads. I have lived there for the last fifty years. For the last ten years we have adopted a new rule; done under my humble supervision. I moved that we carry a tax of one mill upon the dollar upon the taxable property of the town to lay graveled roads. We first carried a tax to gravel the road from Milton to Milton Junction, one of the most muddy and impassable roads in the whole country the previous winter. The farmers of the town opposed it. They thought it was a new departure to ask them from way out in the country to contribute towards it. They thought further that it could not be done for the price we had named that we thought it could be done for. We finally offered to gravel that road for \$500, from one village to the other. The distance was about a mile and a half. We didn't know what it would cost. For the sake of beating us, who were trying to tax them, they turned around and voted to carry the tax. We graveled the road, made a grade eight feet wide and one foot deep, and it made it from that time until to-day one of the best roads there is in the state of Wisconsin. We have succeeded since, occasionally have been defeated, but generally carrying a tax of one mill upon a dollar for graveled

the roads. We have cut down a hill, the hardest hill for a team in the entire length of Rock river from Waupun to Rock Island. We have cut it down about twenty-five feet. It took considerable grit, but we have done it, and to-day the farmers in the town of Milton are in favor of graveling roads. We are extending those main graveled roads out, and we have got more miles of good practical road in the town of Milton, good at all times of the year, than any rural town in the state of Wisconsin has got to-day.

Mr. Dawson — I would like to say one word, and then I am through. I am a farmer, but I think until the farmers themselves rise up and demand of the legislature these changes, that they are very liable to slide along as they are now. The sentiment of the people, they kind of don't care. That thing applies to the general government as much as to our state legislature. Look at the enormous sums of money appropriated to river and harbor improvements. How many thousands and millions of dollars have come from the state of Wisconsin? I venture to state not less than ten million. Did you ever hear of an appropriation from a general government for the improvement of our highways? Not a dollar that I ever heard of. There were hundreds of thousands of dollars expended in the canal at Portage. Couldn't that money have been expended where it would have been of more benefit to the farmers of this state than where it was put there? But we send professional men to represent us, and there is millions for the politicians and nothing for the farmers. There is no one to blame but ourselves.

The Chairman — The sessions of the convention will be continued at 2 o'clock this afternoon.

2 o'clock P. M.

The Secretary — In the absence of President Parkinson I will ask Vice-president Hitt to preside at this meeting.

The Chairman — The hour has arrived in which the dis-

cussion will commence. I see first on the list a discussion on winter wheat in Wisconsin by the Hon. A. F. Lawton, of Reedsburg. I understand Mr. Lawton is a practical farmer, and this is really a subject in which we in many parts of the state are very much interested. I have the pleasure of introducing Mr. Lawton, of Reedsburg.

WHEAT GROWING IN WISCONSIN.

BY A. F. LAWTON, REEDSBURG.

The subject selected for my paper at this time might be termed an unpopular one, for many of our speakers, teachers and prominent men seem to consider the wheat grower as an inferior kind of fellow, that raises wheat because he has not the ability to strip the cow, feed the steer and attend to the wants of the pig. If I am not capable of making the subject of wheat growing in Wisconsin popular, I shall at least try to make it respectable, for like all other farm industries (and I might include all trades and professions), its different degrees of respectability depend entirely upon the success or failure of the grower, and the man that still raises the average stereotyped twelve bushels per acre will not be considered a respectable wheat grower, on account of the small profits received; but as the wheat grower with advancing ideas leaves the average man in the rear, and shows a record of thirty or forty bushels per acre, his respectability rises with every extra bushel raised, and such men even become popular. Now why is this. Why is there so little interest manifested in an industry that certainly is important, I might say an absolute necessity. Because we have a surplus, therefore do not realize its value. If we could be Russianized for a year or two, pay out our last ruble for a morsel of bread and not know where the next mouthful was coming from, there would be a great change of sentiment in regard to this industry. Then again, the wheat grower of the past was a scourge to the country and a disgrace to his calling, leaving as a heritage to his successor a despicable record and worn out

land, and that heritage is kept before the farmer of to-day as a warning that the wheat industry does not pay, that it wears out the land, that it is superceded by better and more paying industries, etc. To say the least this kind of advice is unwise. Wisconsin should and is able to raise wheat in sufficient quantities to supply her consumption, but if the last wheat statistics are reliable she does not, and we know the merchant millers in many parts of the state are shipping large quantities from the west while the bulk of her own product goes to the seaboard. Wisconsin cannot easily produce too much wheat. Her population is constantly increasing while her acres of wheatland must forever remain stationary, for they cannot be increased. The only way to enhance the production then, is to increase the productiveness of the present limits by improved systems of cultivation.

From the Biennial report of the Secretary of State, the amount produced in the year 1890, lacks a trifle of ten million bushels, growing on 726,458 acres, averaging $13\frac{1}{2}$ bushels per acre, a gain of two bushels per acre from last report. As wheat growers we do not expect to be limited to this average, although it is much better than we anticipated. No industry can afford to be judged by the average, because the drones and men without business capacities, pull down heavily on the left side of that average, often taking half a dozen or more to balance the record of a single business man, and this result is detrimental to the wheat culture in Wisconsin. We believe this class of farmers who stand low down on the average scale may easily reach higher figures by adopting a proper system of rotation, and using such fertilizing qualities as are within the reach of every farmer. The expense of raising eight or ten bushels to the acre are about the same as a larger yield. The same routine must be adhered to, so far as seed and labor are concerned, and it would seem they could not be content with such fractional results that so many now obtain. And here we leave this class and seek higher and more profitable records. Most men have theories in regard to their business, we have ours in regard to raising wheat. Lands pro-

duce according to the means employed and methods adopted, so with greater yields and better records these means and methods must be improved in proportion to the extra amount produced. Land in an ordinary state of fertility will produce say fifteen bushels per acre, and with no fertilizing quality will not go beyond these figures, but by judicious farming the same land can be made to yield twice this amount with a certain quantity of fertilizing material. From my experience a regular rotation of crops with clover and plaster as fertilizers, will average twenty-five bushels per acre, and the same land by applying a given quantity of stable manure will give thirty bushels of an average. Now this amount has been about my average for a number of years, and with our regular rotation and limited supply of manure cannot be increased. Some neighbors of mine with larger farms and heavier stocks will turn their car-load of fattening hogs and droves of cattle and horses on their twenty-acre clover fields, keep them there during the summer, sow the fields to wheat and are rewarded by thirty-five bushels per acre. Another neighbor in the same vicinity with about the same amount of stock, buys several car-loads of feed during the year, thereby enhancing the value of his stable manure, has a record of forty-one bushels per acre, and that record is correct. These illustrations are conclusive and show clearly that land will produce according to the means employed and methods adopted.

Then against our average yield of thirteen and one-half bushels per acre it will be seen that thirty or forty can be raised year after year without any outlay of fertilizers beyond the reach of an ordinary farmer, and in this connection of advancing yields we might ask what are the possibilities of the wheat crop? Of course such a thing as scarcity of wheat in this country is not even dreamed of. But when the population is doubled and quadrupled there must be more wheat, and more wheat can be raised. I believe the time is coming in Wisconsin when land will be brought to that state of fertility that sixty bushels per acre will be an ordinary yield. Everything points towards these facts, the increasing demand for wheat will naturally call for a

higher cultivation and better methods. While such methods might be within the reach of our best farmers they would be in advance of our present agricultural development. So by degrees we must work up to them.

I have raised wheat in Wisconsin for thirty-five years; during that time I have had one total failure and several partial ones, such failures being confined to the winter varieties; for before the advent of the chinch-bug pests we raised both varieties. My last crop raised seven years ago, produced twenty-three bushels per acre. Since that time we have raised winter wheat exclusively with satisfactory results. My method, briefly stated, is about as follows, varying in some respects in drouthy seasons: I sow about one-fifth of my plow-land every year, and every acre is called upon to raise its quota every four or five years. I seldom sow wheat on the same land two years in succession. Never manure expressly for wheat, because it makes the straw soft and flabby and is apt to go down, lessening the yield and quality. I prefer clover sod. Plow about the middle of August. Want a firm seed bed with no cavities or air chambers under the furrows. Sow two bushels of clean seed to the acre the first week in September. I raise two varieties, the bearded and the fultz. The bearded is supposed to be the hardiest and not so likely to winter-kill, but when both varieties do well the fultz is the most prolific. Many different ideas exist about the proper time to cut wheat. I cut mine between the stages of dough and hardness. Does it pay to raise wheat in Wisconsin? I cannot answer for others, neither am I a champion in this branch of farming; but from my standpoint I say—yes. I have made it my leading crop for many years; my average yield for the past four years has been nearly thirty bushels; the average price per bushel, eighty-eight cents, and to this amount should be added the worth of the straw, making the actual amount of \$31 for an acre of wheat. The total cost of raising an acre may be itemized and summed up as follows:

Cost of seed and seeding.....	\$3 00
Harvesting and threshing.....	4 50
Interest and taxes on investment.....	2 75
	<hr/>
Total cost.....	\$10 25
Net profits.....	20 75

This is from a thirty-bushel basis. Those neighbors of mine who raise thirty-five and forty bushels per acre of course leave me far behind in profits.

What are the advantages of raising winter wheat?

1st. Twenty-five or thirty dollars per acre nearly every year. Then the straw cannot be over estimated. It has two values. The commercial value and the value as a feed and fertilizer. 2d. The wheat can be sowed after harvesting other grain, and before the fall crops are ready to gather, and in early summer the crop can be secured before other grain is fit to cut 3rd. Climatic influences do not seem to injure the growth and yield of wheat as much as other crops, for during the terrible drouths of the past few years, we have had good crops of wheat, while the yield of other grain has been greatly reduced. 4th. Unlike many other farm products we need not be in a hurry to sell, for it may be kept for years thus giving the owner a chance to select a good market.

Success in wheat growing demands skillful and intelligent management in other parts of farming. So whoever secures superior results with wheat and does not impoverish his land, will be a good farmer, and able to secure good results in other farming operations. Hence to become an eminent wheat grower is to become a complete farmer.

The industries of the state are many and varied, and in comparison with other interests, wheat growing certainly occupies a prominent position, not merely from a financial standpoint but from the point of necessity. The sum total of all these industries united in one solid phalanx makes Wisconsin what she is, one of the grandest states of the republic.

The Chairman—Gentlemen, this paper is one which it seems to me might be profitably discussed, and any gentleman who has any questions to ask I presume Mr. Lawton for a few minutes would be very pleased to answer. I hope if there is anything that can be drawn out from Mr. Lawton's experience that he will give us the information desired.

Mr. Morrison—I understood from Mr. Lawton's paper that he cuts this wheat between the green and the ripe stage. Now to cut wheat at that time it seems to me that some precaution must be used in order to have seed wheat that will all grow. I would like to inquire of Mr. Lawton how he saves his seed wheat.

Mr. Lawton—I always sow my seed wheat from the bin. I always pick it out nicely. I never grow it any different from the rest.

Mr. Morrison—Do you ever test it before sowing?

Mr. Lawton—No, sir.

Mr. Anderson—I would like to know what kind of soil you use.

Mr. Lawton—My land is clay subsoil.

Mr. Hayes—Your land is well underdrained?

Mr. Lawton—No sir, the subsoil is clay.

Mr. Hayes—I live in a wheat country, and just six miles north of us they have heavy clay land; pretty near the same land, but not under drained. Their winter wheat will often winter-kill; which very seldom happens with us.

Mr. Lawton—Last winter I had my wheat kill in little patches. We had a heavy rain and the water raised to the surface, and wherever that water lay, the wheat killed out.

Mr. Snow—I would like to ask if wheat shrinks any after the milk has disappeared and whether it is just as strong after that as at any other time.

Mr. Lawton—I presume wheat will shrink if it is cut before it gets to the dough stage.

Mr. Morrison—Have you ever tried dragging your winter grain in the spring?

Mr. Lawton — I have not, no sir.

The Chairman — I would like to ask Mr. Lawton how he sows, broad cast or with the drill ?

Mr. Lawton — I sow broad cast, with the ordinary seeder.

The Chairman — I would ask whether in his experience he has ever experimented, or from observation ever noticed the difference between winter wheat sown by being drilled in with the ordinary grain drill, or broadcast sowing?

Mr. Lawton — Well, I have not from my own experience; but I have heard people say that they had the best results with their drill.

The Chairman — It seems to me that would be the best.

Mr. Lawton — I have no drill. I have always sowed broadcast with good success.

Mr. Hayes — In our section of the country there are some drills used, and some broadcast sowers. In a season where there is not much snow the drilled wheat will stand the best, for the reason that the drill leaves the wheat laying down in a little furrow, and if there is any moisture or snow it will settle there and keep it. What I claim kills the winter wheat is the dry wind. Wheat will never kill if it freezes and thaws every day in winter. It will not be winter killed if it don't dry out. It is the dry wind which kills wheat.

The Chairman — I will state that I have practiced both ways, sowing broad cast and with the drill. In my opinion, particularly with winter wheat, the drill is very much ahead. As the gentleman here has remarked, the ground holds the moisture more, as the moisture settles in these little grooves or curves. That isn't all. These drying winds that he speaks of, that sweep over the lands, in broad cast sowing, frequently leave the roots bare, or nearly so. Now in the movement of the surface of the ground or dust it blows into this little furrow, and even covers it deeper than the drill leaves it. I am a believer in sowing spring wheat or any other grain, but particularly wheat or barley, with a drill; from the fact it puts it in at an even depth, and it all comes up alike. It all comes up

at the same time, being of even depth, and all ripens at the same time, and the crop with me has always been better.

Mr. Lawton—How deep do you put the wheat in with the drill?

The Chairman—At least two inches.

Mr. Lawton—I have often pulled up a stool of spring wheat and oats, and I know that the roots do not go two inches from the surface.

The Chairman—Isn't there a tap root which runs lower.

Mr. Lawton—I believe if you sow two or three inches deep, when you come to harvest it you find the roots wont grow more than two inches from the surface, therefore I claim if you get the wheat in too deep the original roots die out and new roots have to come near the surface of the ground.

Mr. Morrison—I hope that sometime during the sessions of this convention the secretary will have Prof. King bring his samples of barley roots and rye roots and oat roots, and just let the farmers see how deep they do feed. I know that it was a surprise to me, and I know it will be a surprise to every farmer present to see the mass of roots, and the depth they go to gather feed and moisture.

Mr. Lippet—In regard to the stage of cutting winter wheat I see from the report of the experimental station at New York that the wheat from the milk to the dough is the strongest; more so than the matured wheat; both in corn and in wheat.

Mr. Morrison—That is the reason I asked this question at the very commencement, in reference to the vitality of the seed. I know that in my own experience sometimes wheat will become slightly heated in the bin, and it will be a trifle musty; and I know that I have tried that seed wheat and found that not over 50 per cent. of it would germinate.

The Secretary—I would like to ask Mr. Lawton whether he attaches any importance to a change of his seed wheat occasionally, even if of the same variety; getting it from a different soil?

Mr. Lawton — Yes, I very often change my seed wheat; generally get some from different kinds of land.

Mr. Faville — There seems to be a misapprehension in regard to the depth that grain should be buried. 'Now I have taken a good deal of pains to ascertain at what depth grain will grow the strongest. Wheat buried lower than two inches will start out a little root right from where the kernal is, and it will make up to the top of the soil just a little spindle, and then start another set of roots. One inch is deep enough. The growing root of this grain starts within less than an inch of the top of the soil, and makes from that down. I have pulled up, and dug up, the seed, particularly in winter grain, and I never found a kernel alive that was buried over three inches deep. Everything below that exhausts itself before it gets up and starts roots that are going to support it, and it loses its vitality, and is dead. The strongest stools that you will find are those that started with the seed not more than an inch under the sod. It starts just where it ought to, puts out roots and the roots strike down laterally, just as it naturally would go. If it is deeper, it has to come up. It will come up at a depth of four inches, but it never starts but one little root down there, comes up to the surface, and then stops again and puts out its roots.

Mr. Hayes — This question of depth depends on the soil. You use a drill say two inches deep on heavy clay soil, and there comes a heavy rain, and I will guarantee that half of that wheat never will come up. That is the trouble with our part of the country from using the drill. I know one of my neighbors has a drill that he sowed barley with about two inches deep, and half of that barley never came up; he lost his crop entirely, because there come a heavy rain and run the soil together so that it was almost as hard as a brick. If it was sandy soil it would come up all right. Half an inch is plenty in the heavy clay soil.

The Chairman — After that heavy rain and the ground runs together and gets hard, you should put on a sharp light drag, and drag it over.

Mr. Hayes — That would disturb the grain.

The Chairman — No, sir. You would think so possibly but when you come to see your grain come up, it is all in drills; you haven't disturbed your seed bed. Put on a light sharp drag, the same as you do when you cultivate your corn. I know when I first begun to cultivate my corn I dragged my corn after it was two inches high. My neighbors said "you are going to disturb the seed there," but such was not the fact. I never have had any trouble in dragging wheat.

Mr. Morrison — I would like to ask the chairman if he does not thoroughly prepare his seed bed and work it firm, before he puts the drill on?

The Chairman — I certainly do.

Mr. Snow — Do you have any trouble in having the land just the condition you want it when you sow with your drill?

The Chairman — We frequently cannot get it just as we want it when we sow anything. I never had trouble with the drill. I never like to work land when it is wet. My land is clay loam. There is too much clay in it to work it when it is wet, consequently I wait, if I have to wait three or four days, until it gets in proper condition to work before I either drag or drill. If we have a rain after I have done part of the work I go over it again. Keep at work at it until I have pulverized it.

Mr. Morrison — I would like to hear Mr. George C. Hill's experiences briefly on this. I know that he is noted all around Rosendale in Fond du Lac county as a very successful grain raiser.

Mr. Hill — I do not know as I can add anything to what has been said except to coincide with what the gentleman said who read the paper; that wheat growing is a branch of farming that is not to be despised. And that winter wheat in some portions of the state is successfully raised, and has been for a number of years. We have our tenth crop started in succession, and the nine crops that have been harvested have all been good crops, averaging thirty-one bushels to the acre. I never have had a failure.

The chinch bugs have never destroyed it, although they will breed in it, as we have said this morning. I formerly advocated the use of the broadcast seeder in sowing grain, but I have entirely changed my opinion. I do not want any more broadcast sowing at all. I want the ground for wheat or grain of any kind, thoroughly prepared before the seed is put in. I believe there is a great deal in that; and then I would use the drill, because, as the chairman says, we can put it in at a proper depth, and have it even. I think an inch is deep enough, unless the soil is dry and you want to go down an inch more in order to get at moisture enough to germinate the grain. I have told in one or two institutes this winter the experience we had the past year in growing winter wheat on separate pieces of ground that had different kinds of treatment and different preparation of the soil. We harvested one piece of winter wheat last summer that for all the drouth it had to pass through yielded thirty-four and one-half bushels an acre. That was the most thoroughly prepared piece of ground that we ever put into winter wheat. It was clover sod plowed up in August and dragged—cultivated and dragged every week until the 1st of September, until it was in thorough condition, and then drilled in. Afterwards we more hastily prepared some other ground and sowed broadcast, because the drill had been taken away.

Mr. Champnor— How deep did you plow the sod?

Mr. Hill— Five or six inches. I will say that the first seed was planted the second of September. I think the first of September is the time to sow winter wheat in Wisconsin. I think it is a very sure crop if the soil is in such a condition of fertility and tillage that it will come up and thoroughly cover the ground before winter, so that a little freezing and thawing won't affect it. The pieces of winter wheat that we prepared more hastily and plowed and sowed quickly about the tenth of September, yielded only about twenty bushels, a difference of over fourteen bushels to the acre for thorough tillage and proper way of doing business.

Mr. Morrison — Do you ever top dress with well decomposed manure?

Mr. Hill — No sir, not on winter wheat. We tried it on spring wheat and it killed the crop.

Mr. Lawton — I would like to have a little instruction and a little light. When our friend True invited me to write this paper on winter wheat I talked with a good many neighbors of mine in Sauk county with reference to how many bushels they raised to the acre. I presume I talked with forty men. They all claimed they have averaged the last three or four years from twenty-five to thirty-five bushels to the acre. Statistics claim that the average crop is only thirteen and one-half. I want to know why they report the wheat crop so much lower than it really is.

The Secretary — Allow me to suggest that there are parts of this state where they are still raising spring wheat. We are obliged to acknowledge that, although we very much dislike to; and you will find that the average yield of spring wheat upon which that report was based, was very light indeed. This was the entire wheat crop of the state; no discrimination between winter and spring wheat. I would like to ask Mr. Hill who advocates a large growth of winter wheat in the fall, if he allows his sheep and light stock to run upon that and feed it?

Mr. Hill — No, sir. I was told by my neighbors that unless I fed that wheat off I wouldn't have any. I never allow the stock to go on.

Mr. Morrison — I am glad that the chairman has emphasized this matter of the thorough preparation of the ground. I do not think there is a farmer present in this room but what has noticed that when we used to run around the headlands, that our grain was always heavier upon those headlands than in the center of the field, and I have thought that it was because we firmed the ground more and gave it more thorough preparation. From my experience, not only with grain but also with corn, I believe that if the land is well prepared, thoroughly prepared, the crop is half raised.

Mr. Ames, Sr. — I believe that this great growth that Mr. Morrison speaks of on the headlands is caused by the

old system of plowing round and round, turning the fertility of the soil out. With the old fashioned plowing round and round you will find there is a canal from the corners to the center. That throws the fertility of the soil out. You will always find a great growth next to the fence.

Mr. Morrison — I don't think Mr. Ames catches my idea at all. My idea is this, that it was the firming of the ground, the working of the ground, that gave you the extra yield.

The Chairman — I think Mr. Morrison that there is one other thing connected with that which makes the headlands and about the fences better. We find that the wind carrying the surface soil lodged it there, and in the next place there is always more snow about the fences. When we have a snowy winter, grain is always the best. Now about the fences the snow drifts up there and holds, and consequently it is covered for a few feet out, and sometimes for a rod or two from the fence.

Mr. Morrison — The point I want to make is this: the more work you put into anything the more you can take out of it every time, and I believe that we do not half work our lands. I remember several years ago a little experience in this direction that taught me the best lesson I ever had. I prepared my corn ground of twenty acres three times,—there came severe rains; and I raised the largest crop of corn with the least labor afterwards of any I ever raised.

Mr. Hyatt — I believe that if farmers would spend four or five hours with a good disc harrow or good drag or cultivator, after having prepared the ground as they have commonly been in the habit of doing, that it would save them at the rate of ten or fifteen dollars an acre. I believe last spring if the farmers had put double the work upon their ground, thoroughly pulverizing it, they would have had about a quarter more grain in Wisconsin.

The Chairman — Our next subject is "Blue Grass," to be handled by a gentleman well qualified to handle it, W. W. Chadwick, of Monroe.

BLUE GRASS.

BY W. W. CHADWICK, Monroe, Wis.

If I present any good to you please accept it in the same true spirit that I shall endeavor to give it, and if I should offer to-day anything in any other line, please lay it aside and let it have no effect on the good.

I have been solicited to present to this intelligent audience my views on a subject which interests not only every farmer in this broad, fair land of ours, but every individual be he merchant, mechanic, banker, or engaged in any other legitimate business.

Perhaps I will tell you nothing but what you already know, but this institute work helps to stimulate each other in our particular line.

I believe the two following statements are considered self evident.

In the fair sunny South cotton is King.

In the glorious North grass is King.

The grazing of stock is practiced not only in this country on our cheap lands, but also in England, Ireland, Scotland, Germany, Switzerland, Russia, in fact in all civilized countries.

There are almost 4,000 known species of grasses.

They are distributed over all parts of the world, some are characteristic of the warmest tropical regions, and some of the vicinity of perpetual snow.

Some grasses are annual and others perennial.

The question is, what kind of grasses are best for grazing purposes in this locality?

How can we grow the best and the most on our lands?

Let us grow a perennial, one that contains the most nutriment, — that will make the most and the best beef, mutton, butter and cheese; one that is indigenous to our climate and soil.

In my judgment the kind required is blue grass.

We can grow it on our soil that is underlaid with clay

and limestone with scarcely an effort, and we should not be afraid to let it grow and *grow* and GROW.

Don't you think it pays to let your corn, oats, wheat, and to a certain extent your hay, come to a state of maturity before you harvest them?

Don't you think, Mr. President, it would be a wise policy to have our cattle, horses, or whatever kind of stock we rais, on a good, well matured pasture, where they would not be obliged to wait for the grass to grow before they could have all they wanted to eat?

If it pays to pasture our lands at all, it certainly will pay to have good pasture.

If they were on a good blue grass pasture they could do the same labor in eight hours, that otherwise requires from sixteen or twenty, and make more than twice the gain in the same length of time, for it is matured grass that makes the gain.

Where you have what we call a good, solid, well matted blue grass pasture, that same land will produce at least twice the amount of feed, for the reason it catches the snows, holds the rain much better, and not half the rain runs off that does from our short pastures.

It holds a greater amount of moisture because the grass is a mulch for the soil, and it will keep growing for weeks in a dry season after it has ceased to grow on our land that is grazed to death.

We almost murder our lands by pasturing them too closely.

How many pastures there are in this part of the country that are about as smooth and as even as the floor of this hall.

When you have a well grown blue grass it makes your land richer; you don't have to rely on the snow for protection of your soil; you can pasture it when the soil is moist without the stock cutting it all to pieces, for the grass is a great protection to the soil as well as to hold the moisture.

We have no grass that will hold the moisture in the soil as well as blue grass, and that is an important point.

Most of us plant too many acres of corn.

Raise no more corn than what land you can fertilize.

It is far better to raise 1,000 bushels of corn from 20 acres than 1,000 bushels from 40 acres.

It will bring a much greater revenue to have the 20 acres in blue grass and save your soil and labor.

Put the same amount of fertilizer on an acre of blue grass that you do on an acre of corn land, let the blue grass remain unmolested until November, which do you think would be worth the more in proportion to the cost, the corn or the blue grass?

In your corn field you plowed and harrowed and harrowed and plowed and worked and toiled to keep vegetation down.

On your blue grass the good Lord sent his rain and sunshine on every particle of the soil and it all responded and we certainly would receive a good return for our labor.

I don't wish to be understood as opposed the growing of timothy clover and alsice.

We need them to assist in bringing our lands to a higher state of cultivation, as well as for hay, but I do prefer blue grass for a permanent pasture as it will yield more beef, more mutton, more butter or more cheese to the acre, other things being equal.

Don't plow your ravines to lose some of your best soil and have a big ditch that you can't drive a team across with a mower, binder or corn plow.

Let them be of good width and remain in blue grass, they will bring you double the money for pasture with no labor.

If you are going to purchase or raise stock to try and make some money, don't get them until you have well matured grass to put them on.

If you have'nt the matured grass this year, wait until next.

I have visited the blue grass state and think our blue grass fully equal to theirs, in fact I was not able to discover any difference.

If we would not overstock our pastures with so much poor stock, we could have good pastures, and with good pastures we would make farming pay much better.

I think farmers as a rule are best adapted to the raising

of the draft horse and if kept on the right kind of a pasture will weigh 300 to 400 lbs. more when four years old than if grown on a poor pasture.

A few years ago we could sell a 1,300 horse for a draft horse, but now he must weigh 1,600 to 1,700 in order to command the highest price which is certainly a strong argument in favor of good pastures.

It pays to have all kinds of stock on good pasture.

Many farmers would be surprised if they would weigh their stock when they turn them on pasture in the spring, then weigh them again two months later, they would find they had not gained a single pound.

If they had some matured grass to put them on they would gain from the first day.

Warm air rises, the cold remains on our low lands is why frosts visit them first in the fall of the year.

If your low lands are not in blue grass get it to growing there soon as possible.

The freshets or frosts destroy your corn so many years, that the blue grass would pay much better.

One acre of good blue grass is worth more than five acres of frost bitten corn, and you have saved a vast amount of labor and valuable soil.

Matured blue grass is money in the bank, it is ready on call.

DISCUSSION.

Mr. Morrison — I would like to hear Mr. Arthur Fox give his experience on having a crop of blue grass and then feeding it in the fall and in the winter. That seems to be one of the points Mr. Chadwick makes.

Mr. Arthur Fox — I can endorse with a good deal of emphasis the paper of Mr. Chadwick, and I believe that this assembly owes him a vote of thanks for that paper. There is a great deal of meat in it. I am a great believer in blue grass. I believe that an acre of blue grass judiciously fed will put on as much beef as an acre of good clover with a full corn ration in the balance. I believe it because I have

tried it. I believe it because I have weighed cattle on distinct fields, a field of blue grass compared with a field of clover, during the same period of time, and the cattle on the blue grass made greater gains per day per head than the cattle on the clover with the addition of a ration of corn.

Mr. Clark—How much of a corn ration?

Mr. Fox—Well they were getting about two-thirds full feed; about two-thirds of what they would eat. It was crushed corn. We use a Porter crusher occasionally, and these particular cattle were fed on crushed corn. The machine crushes cobs and all. I have the tabulated figures on that little experiment at home. I wouldn't undertake to state it without having the figures here for the gains made by the cattle on the blue grass were so much better than the gains made on clover. It was astonishing. We weighed the cattle very carefully. I know it to be a fact that blue grass will put out very much better gains than any other kind of pasture. Horses, cattle, sheep and every kind of stock will do so much better, providing the grass is properly managed. I have found a very good plan to separate the blue grass so you have got one field entirely free from stock until about the 1st of November. Feed the other grass off the first of the season, leaving this until about the 1st of November and then open the gates and let the stock in there for the winter. That I believe is the most economical way to feed it; and as Mr. Chadwick has suggested if you wish to add a ration of shock corn to that, you have got the best feed on earth for your horses and cattle.

Mr. Clark— I would like to ask these gentlemen how this does for winter feed. We want something to cut and feed our cattle and sheep and so forth through the winter. How does it do for cutting for hay, this blue grass?

Mr. Fox— I have never had any experience in cutting it. I do not believe it is any good for hay.

Mr. Sampson— I have had some experience in blue grass myself. It makes a very good pasture, but in my experience I found that leaving a piece in grass that length of time the grasshoppers get into it very thick, and not only

went into a good share of the blue grass, but over onto my other crops and ate them up too. As far as the winter feed is concerned, of course if a man has blue grass it can be fed later than other grasses. There is no question about that; but if one must keep enough land in grass to pasture stock outdoors all winter I maintain it is a waste of land. I maintain it pays better to cut the grass and cure it and keep the stock up, than to let them roam over the field looking for feed. Some winters when we have heavy snows this would be impossible. A year ago last fall I kept my sheep out until the first of January on blue grass pastures.

Mr. Matt Anderson—This blue grass is certainly, where the land is adapted to it, one of the best pastures we can possibly have; but it is only in a few sections of the country that blue grass is adapted to the soil. In the vicinity of Monroe where Mr. Chadwick lives, they have got one of the finest blue grass neighborhoods that I am acquainted with in Wisconsin. I was well acquainted with blue grass in the state of Ohio; just as good as the blue grass region of Kentucky. There, where the winters are milder than here, and they have less snow, the sheep do very well on blue grass pastures that have been let grow up during the fall of the year and not pastured until the beginning of winter. But for the average farmer in Wisconsin who wants to have rotation in crops you cannot have blue grass to any great extent. You cannot rotate with blue grass, because it takes some time to get the sod. I have got some blue grass on my farm. I don't think it has been plowed for twenty-five years. But those grub worms get into it sometimes so that I have to turn my Poland China's in and let them root on it and then I will sow my alsace clover on that, and sow some timothy on it, and directly I will have a nice blue grass pasture again. The grub worms don't effect it every year; only in a dry season.

Mr. Arnold—I can corroborate the testimony of Mr. Chadwick and others in regard to the quality of this grass in Wisconsin. Where lands are comparatively cheap, and labor is high, there isn't as great waste as you might suppose in letting land lay a long time and letting the grass

grow up to its full height and pasture late in the fall. I am sure Mr. Fox is right, that it is very valuable as a pasture. This fall I sold some heifers off from grass for $3\frac{1}{2}$ cents a pound, of course well bred cattle, whereas my neighbors were selling stock at from 90 cents to \$1.50 a hundred. It shows something what blue grass will do. I had good fall feed for my cattle, whereas my neighbors were feeding short. For the dairy perhaps it is better to feed short, but if you want cattle that will put on flesh, nothing will do it like well matured grass. It cannot be done with this short, quick grass. As a pasture clover is not good feed, especially for fattening animals.

I want to have the sentiment of this meeting as to this question of pasturing the plains of the west. I think it is time the American people woke up to this fact. As cattle men we have been feeding year after year and continually hoping and wishing for a better market. We find that there is nothing but the very best cattle that bring paying prices and hardly that. We find that these these western feeders are coming in with cattle from the plains, and getting about as good prices as we can taking them right out of our barns. I want to know if this is just to the American people, that foreign syndicates should come and occupy public domain without any expense; paying no taxes and taking the revenues therefrom perhaps to foreign countries, and we as American people reaping no benefits. As a people we are desirous of having foreign capital brought here and invested in mining, lumbering, manufacturing and everything of that sort; and we are continually making laws in this direction so as to invite foreign capital, but in no way have we invited foreign capital to come here unless they employed labor, or did something to create a revenue in the interest of our people, except in this one case where we allow the public domain to be pastured year in and year out competing with the farmers of America and bringing down the price of beef to such a point that the farmer in the states can hardly maintain his business.

I would like to have a resolution go from every state in this Union expressing our sentiments upon this one point,

and if it is expressed as it ought to be expressed I think our legislators in congress will heed it. These men have not a dollar invested except in the steer himself. They have nothing invested in realty; no taxes, and no particular expense. They furnish employment for only a very few men and they are there to compete with us.

I would like to have, Mr. Chairman, the sentiment of this meeting upon this question. The question of grass was up, and I thought that there would be no better opportunity or time to do it. I do not want to force a resolution on the convention, if it is not the sense of it.

The Chairman — It seems to me the proposition of Mr. Arnold is entirely feasible and before this convention at this time, if they choose to act upon it. Those that are in favor of Mr. Arnold's proposition, that a resolution should be drafted, to try to correct this evil as spoken of, should make it manifest by uplifted hands.

Contrary, if any there are.

It seems to be unanimous.

And now, gentlemen, I don't know but I am exceeding my privileges, but I will take the liberty, with your consent, to appoint a committee right here, as we have got the matter in hand. I appoint as the committee, Messrs. Arnold, Anderson and Morrison, to draft a resolution to present, in the direction in which this subject has been spoken of.

Mr. Arnold — We will draft a resolution and leave it with the secretary to be acted upon when all other resolutions are acted upon.

The Secretary — I wish to state that the name of Mr. Guy appears upon our programme to talk upon the subject of "Wisconsin Pastures." I had a letter from Mr. Guy yesterday morning stating that he is unable to be present on account of being afflicted with the prevailing sickness. Indeed I think we are very fortunate if we lose but one member from the force we gave assignments to, on account of sickness.

PASTURES.

BY CHAS. V. GUY, River Falls.

The question most often asked by the progressive farmer of the present day is: "What is the best winter ration for milch cows and fattening stock?" Nearly every agricultural paper we look at has an answer, and scarcely two alike. The balancing of carbohydrates and nitrogenous foods is a problem the professors in our agricultural colleges and experiment stations have spent ink, and I doubt not tears, in attempting to answer. Still the thousand times answered question is asked anew, by many an awakening farmer upon whom the idea is just dawning that there is something to learn in relation to the time-honored methods of their ancestors, who toughened their stock by stabling it where plenty of light came into the stables between the cracks of the enclosing boards, and where the use of a pick-axe always preceded the shovel in the daily cleaning the stable during cold weather. During all this discussion of a winter ration the no less important one of summer pasture, has been left in "inocuous desuetude." The bringing of the wild lands of Wisconsin under cultivation is making this question of increasing importance every year. With the most advanced thought of the dairyman soiling a part or the whole of the season is increasing in favor.

The number of farmers of this class is unfortunately limited. For many years to come, doubtless, grazing will be the main reliance for summer support of all kinds of stock, excepting, of course, that kept in cities and working horses.

To what extent shall our pastures be permanent is an important question. A permanent pasture implies one seeded with perennial grasses or a yearly reseeding to annual or biennial plants. For hogs, clover is specific. At its best it should be reseeded every year after the first, either by a volunteer crop or one sown for the purpose; where hogs are kept in a pasture by themselves an admixture of blue grass is no detriment. Early in the season with stock of

all kinds the young clover will be taken while after the autumn frosts the blue grass will supply valuable forage till covered with snow, and often a good bite of tender grass will appear in early spring after the winter snows have disappeared. Included in almost every farm of my acquaintance there are considerable areas of marshy, hilly, stumpy or stony lands by nature not adapted to being cultivated by machinery.

The time has passed when such lands can be profitably cultivated by hand labor exclusively. The use of machinery in cultivating and harvesting crops has become a necessity. Uplands on which machinery can not be profitably used must be utilized either by growing timber or in pasture where the crop must be gathered by grazing. These lands can be best brought into pasture by burning off the brush and dragging in seeds of domestic grasses as clover, Timothy, blue grass, or any of the now rarely found varieties as tall oat grass—orchard grass, tall fescue, fowl meadow, red top and some others—white clover, in the western part of the state, at least, is found in nearly every pasture not reseeded within two years. This short, sweet grass, though objectionable on some accounts, is valuable after autumn frosts, second only to blue grass with which it makes a sod on which stock of all kinds seem well pleased to graze. On a farm where there is not broken lands to furnish grazing for all the stock one desires to keep, more valuable lands must be used.

Right here comes the question. How shall we obtain the best results from grazing lands that can be profitably cultivated by machinery. It is, I think the experience of every farmer, that the annual grass crop will deteriorate after the second or third year from seeding. It is claimed that if one returns annually the crop yearly produced, the fertility of the soil will be maintained, especially where stock is kept in pasture the entire time. There are facts that seem to conflict with this theory. With pastures as with meadows the best crops by far of clover or timothy are obtained the first two or three years after seeding. Put this pasture into your system of crop rotation and in three

or four years re-seed it. If this from convenience of location is impracticable, a coat of manure, a thorough harrowing and seeding anew with me has in one or two cases proved satisfactory. A pasture grazed only by sheep it is said, will increase yearly in fertility and at the same time destroy noxious weeds, but in my experience they introduce more objectionable varieties than those they have destroyed. For this, let us not blame the innocent sheep but the careless breeder who makes a traveling sowing machine of his flocks as long as they are unshorn.

If sheep put on a pasture nothing but the animal growth they consume, the animal increase in fertility of the pasture must be slow, a sheep pasture in my experience needs renewing quite as often as any other on account of the introduction of weeds injurious to wool appearing as often as additions are made to the flock by purchase. A covering of ice frozen tight to the soil, continuous for some weeks will kill out any kind of grass with which I am acquainted. In two or three cases where the grass was winter killed I have thoroughly harrowed the soil with a spring tooth drag and seeded to oats with timothy and clover with satisfactory results. Manure may be applied any time, at the convenience of the farmer. Stock will manage to get the young grass as it springs up even if it be among the manure. A well rotted manure give better returns on grass lands than green one fresh from the stable though to pile green manure except to destroy noxious weeds by fermentation is doubtful economy.

In clearing up timbered lands the aim is to get them seeded to grass as soon as possible. After a clean burn, a crop of winter wheat is usually raised, and in early spring a seeding of timothy and clover on the last snow will usually result in a good cut of grass seed, and satisfactory crops of grass may be obtained by grazing, while waiting for the stumps to rot, or be dug out.

The open prairies of the western part of the state at an earlier day of its settlement were covered with a wild grass that afforded excellent pasture the first half of the summer,

but after the dryer autumn and especially the first frost, they afforded little valuable food for stock.

After a very few years of annual cropping these grasses almost entirely failed in a yearly growth. The only way they could be again made valuable was to get them seeded with cultivated grasses either by a thorough harrowing and breaking up the wild grass sod, or turning it over with the plow, and in many instances the plowed lands failed to make as satisfactory returns as those seeded by harrowing only.

The Chairman—The next subject on the programme is

MIXED FARMING.

By HON. B. E. SAMPSON, of Oakfield.

The early history of farming in Wisconsin, as perhaps in most newly cultivated lands, was a system of farming that took everything from the soil while it returned nothing. This was one system of special farming and a very wasteful one. The special farming of to-day has gone somewhat to the other extreme. The raising of fine blooded stock of some particular breed or the taking up of some particular branch of husbandry. As to the raising of blooded stock, if a man has the capital, the taste, the ability and good business qualifications he may succeed; but I believe that most men engaged in raising blooded stock make more money for the community than they do for themselves. If he that makes two blades of grass grow where but one grew before is a benefactor, he that by careful and intelligent breeding develops a cow that will produce more butter, milk or beef, a horse that will pull a greater load or travel with greater speed, a sheep that will produce more

wool or mutton, such a man ought no less to be ranked a benefactor.

But it is for the ordinary farmer that I speak, the man that must make his living and whatever profit he may get from his farm, who has perhaps no surplus capital, and may even have that finishing touch without which no farm is said to be entirely complete — a mortgage. I think I can best convey my idea of mixed farming by placing before you a farm run on that system. Take a farm of 160 acres and I believe that a farm of this size will yield a greater profit per acre than a smaller one. I would stock this farm with say 100 sheep, a dozen cows, eight or ten head of young cattle, heifers from the best cows to replace the mothers, and two or three steers. A half dozen colts, a few hogs and four good horses to do the work. Forty acres of pasture ought to furnish the summer feed, fifteen acres for the sheep and the remainder for the other stock except hogs, for them an acre or two of clover furnishes very profitable summer feed. Thirty acres of hay land ought to furnish hay enough. The sheep can be fed on straw and grain in winter, and no animal on the farm will do so much toward keeping up the fertility of the soil and cleaning the land of weeds as the sheep.

Proper shelter for stock through the winter, and storage for grain and hay is of course necessary, but I think not enough attention is given to the fencing of the farm. The farm should be fenced into lots of the size needed for pasture. The part near the barn large enough for the sheep. Sheep will summer very well without water if the pasture is liberal and has some shade. The object of so much fencing is to give a proper rotation of crops, and to utilize the aftergrowth on stubble fields.

I would mow hayland but one year, and would pasture not to exceed two years, and follow grass with corn or oats; and pasture land intended to be put into corn with sheep in spring until corn planting time. Of course such a rotation cannot be strictly carried out, for sometimes grass seed does not grow.

The advantages of such a system of farming are many, while it preserves the fertility of the land. I believe it stimulates the soil to its greatest productive capacity. It furnishes a division of labor throughout the season, thus lessening its cost. Advantage may be taken, to a certain extent, of the markets. Sheep or lambs may be abnormally low, and colts may bring a good price. The farmer can then sell his colts short and increase his sheep, or *vice versa*, and this process may apply to any product of the farm. I believe the general system of farming here outlined is the safest, and in the end the most profitable. Great profits are sometimes made by some special crop, but equally great loss is apt to follow. Equally dangerous is it to put a large amount of money into blooded animals. There is too much risk; better put the money into an adjoining piece of land, and grade up the stock already on hand. We hear much about soiling in some quarters, but if soiling should ever be practiced to any extent I believe it is in the far distant future, except perhaps the planting of corn near the cow pasture, to be fed to the cows for a few weeks to tide over a drouth. Even more nonsensical is the idea of winter pasture, to raise a crop of grass and let it stand upon the ground exposed to sun and storm, and expect stock to live on it exposed to the wintry blast, is too wasteful a method for the farmer of the present day. As to the breed of stock and the kind of grain to be raised, a man's taste would decide the former and the character of the soil to a great extent the latter, but in whatever direction a farmer directs his energies he should be slow to change, and only for the most weighty reasons, for if he makes a continual change to catch the markets, he is apt to miss them all.

DISCUSSION.

Mr. Morrison — I would like to commend the article offered by Mr. Sampson. I like a paper of that kind, because it bristles with points, and always provokes discussion. I

know that in our institute work I always welcome a paper of that kind, because it draws out discussion, and if there is anything in this world that should draw out the farmer it is this idea of diversified husbandry. We are all following the practice more or less; in other words we have got our eggs in a good many baskets. It is only one in a while one that has mown farther into the field of knowledge that is following specialties; and when we come across a special farmer I think we find the farmer that is making the most money. It seems to me right here is an excellent opportunity to have a little discussion upon this one point.

Mr. Arnold — I do not know but what this convention desires to adjourn, but the paper as read by Mr. Sampson I am frank to say I do not like. Mr. Sampson, I understand, no doubt is a good farmer. There are plenty of good farmers that are pursuing diversified farming; but mixed farming I don't like. If we undertake to interest an audience we have got to hit something; and a farmer if he wishes to accomplish anything has got to be driving at something, to accomplish some certain end. Of course we are all after making money; and many farmers see it in diversified farming; but the men that are making a success at farming are the men that have some specialty to which they direct all their energies. You cannot call it mixed or diversified farming because a dairyman raises corn, oats and grass, in order to maintain his dairy. I maintain in this age and generation of the world a man must be a specialist, or otherwise he don't amount to anything. This rule maintains in farming as well as anything else. We must direct our energies to one definite end and make that the main object of farming, or else we will not attain any degree of success. That is the only reason I don't like the paper. The object of these meetings is to simulate farmers to better efforts and methods and to get them out of the old methods which in many cases have proved failures.

Mr. Sampson — I thank the gentleman very much for his kindness, and as far as his criticism is concerned about a farmer farming in the manner I have described not amounting to anything, there is a chance for a difference of opin-

ion. I know farmers that do farm as I have described, and I know lots of them without raising any one special crop that have made just as much money as the gentleman ever made on the farm. I say that not knowing the gentleman, but knowing a great many men in my neighborhood who have made lots of money farming in just that way. I claim that a man farming in that way will hold the fertility of the soil longer than any special way whatever.

The idea I wish to bring out, and aimed at, was to produce as much as possible from the soil without impoverishing it. I believe by raising diversified crops all the crops that a man can profitably raise, and by raising different kinds of stock and rotating his crops, he will have better success than the farmer who confines himself to one speciality. I do not believe we ought to mow but one crop, unless we are obliged to in case of failure of the seed. Pasture a season or two and then change around. As soon as you have taken the barley or wheat off turn the sheep on and clean up the land. You keep your land free from weeds, keep the land fertile, and get lots of crops to sell, and lots of stock, and you are making money.

Mr. Arnold — While it is a fact that some men have capacity enough to spread themselves over various kinds of business and succeed, the fact still remains that the average man if he undertakes to spread over about one kind of business he gets out pretty thin, and he don't accomplish but very little. I do not mean that a farmer should raise corn alone, or barley alone, or oats alone: but the man that undertakes to raise horses, sheep, beef, hogs, butter and cheese, when he comes to foot up his bank account he finds that he has got but very little out of any of it. The competition is so sharp in all lines of business it takes the best intellect any man has got to carry on successfully some one kind of farming, grain farming, or animal husbandry, or a little of both together.

Mr. Sampson — I do not see how the gentleman's remarks apply, because farming is one business. If a man spreads himself out over his farm he ought to be big enough to

cover his farm; if not he better sell out. I maintain that it is the safest way to farm. What would a man do this fall if nearly all his money was in hogs? He would have to sell his hogs; he couldn't afford to carry them over, perhaps. I have carried mine over, and am going to sell them in the spring; but hogs don't begin to be worth what it costs to fatten them in the fall.

The Chairman — I think it is time to close this discussion, for the further we get the more we get mixed; but I want to call your attention to the fact that on our evening programme there are some excellent papers, and I hope you will all be here to attend the evening session. We will now consider the session closed.

EVENING SESSION.

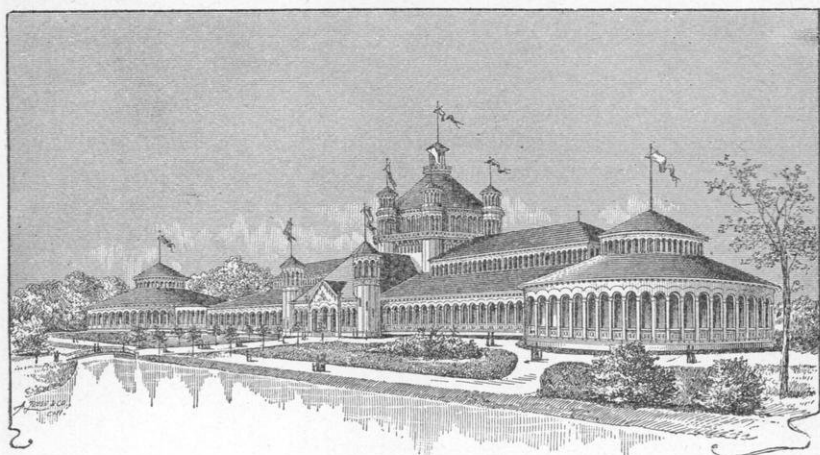
FEBRUARY 3rd, 1892.

H. C. Adams in the chair.

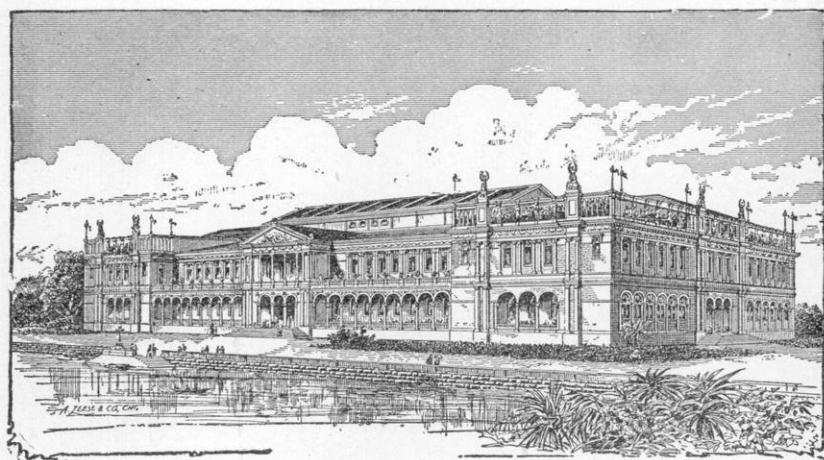
The Chairman — The convention will please be in order. The first thing upon the programme is music by the University Glee Club.

The Chairman — The first address of the evening will be by Prof. W. G. Parker, of Madison, "Essentials of a School-House."

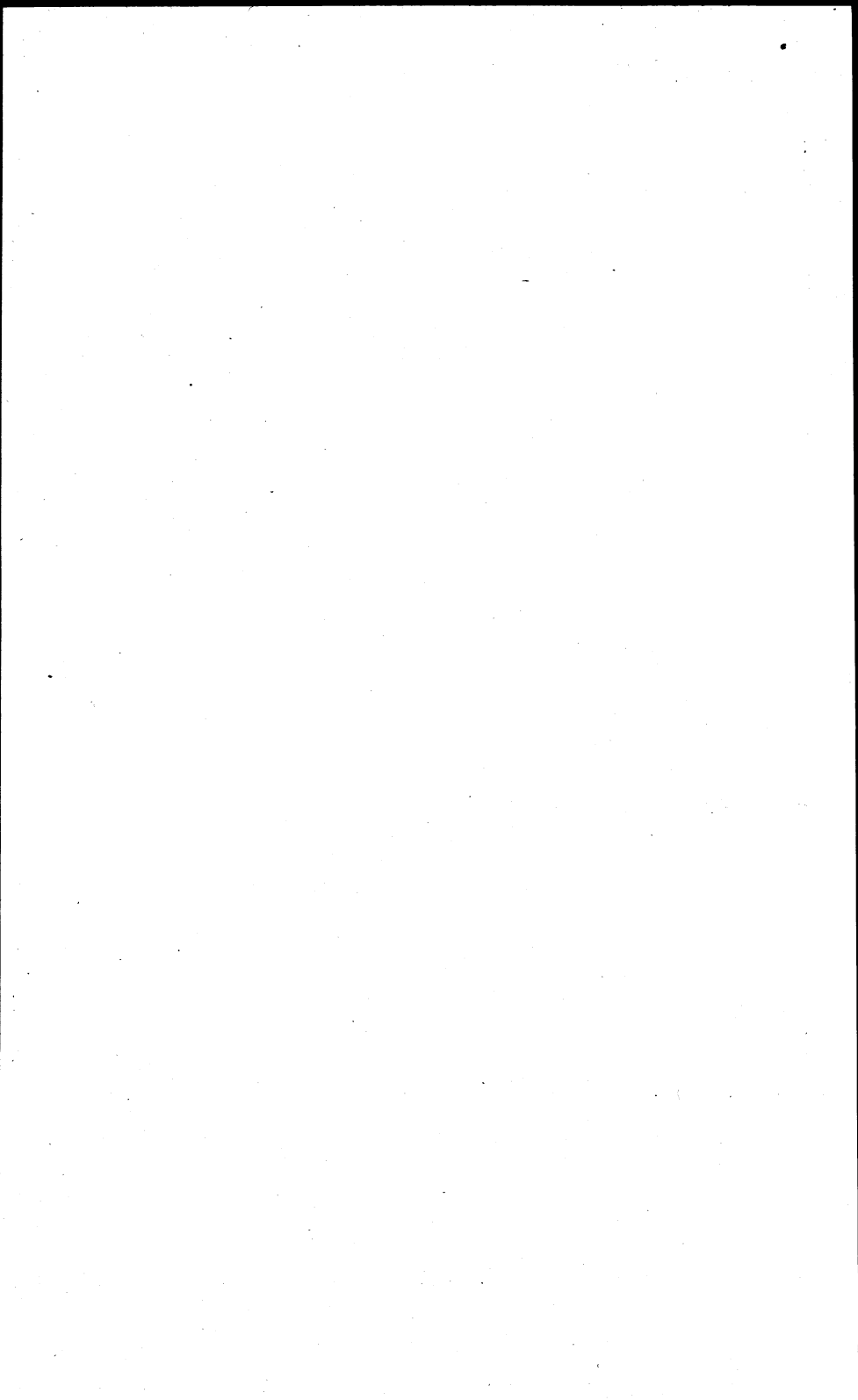
The gentleman is not here. We will take up the next subject, "An Important Crop," by L. V. Loomis, of Lone Rock.



Fisheries Building, World's Fair.



Women's Building, World's Fair.



THE SCRUB HIRED MAN.

BY L. V. LOOMIS.

In these times of general adversity for the farmer, when the elements have combined with the cut-worms, chinch bugs, white grubs, railroads and Chicago's "Big Four" to gouge him, when the cry of "nine million mortgaged homes" is in the air; when the small item of 61,000 boy tramps is authentically made; when hungry women and children search the gutter and offal bucket for something to eat, while our Astors pay ten thousand dollars for a baby's dress, and our Vanderbilts are building ten million dollar castles; when President Harrison takes six thousand dollars of the people's money to pay for drinking glasses; when forty thousand dollars won't pay for a supper at Delmonico's for one of New York's "Four Hundred"; when our millionaires spend the product of our labor in so lavish a manner that royalty across the water cannot keep pace with them; when we know that this great tape-worm of snobbery and ostentation never gets its fill; any suggestion that will save the farmers a few dimes to help fill the bottomless crop of this gourmand of plutocracy, will be of interest to all who are battling for bread, or who have joined the "ring hunt" for the mighty dollar. It matters little whether the suggestion originates with a sand farmer of the Wisconsin river valley with a mortgage hanging over him so thick that it will shed water, or the theoretical farmer with a bank-book as thick as a brick cheese and a farm in his mind's eye.

The farmers have been in the silo so much of late — have drank so much rarified milk (this new fashioned milk which dairymen knew nothing about when cheese was worth eighteen cents) have been eating so much "expert" cheese which was made for cold storage and the speculator, and fit only for coast defenses, as it is perfectly impregnable to modern explosives or ancient teeth; I hear that Rus-

sell Sage owes the preservation of his life and limbs to a wedge of Wisconsin expert cheese that he had lunched on—it had the strength to resist a cove oyster can full of dynamite, although marble, plate glass and Bessemer steel were shattered in the awful explosion; farmers have been occupied so much with the conscience harrowing pastime of sawing off cattle's horns (as Farmer Haaf says, so they won't eat so much) an heredity out-cropping of the love of torture that has been in our blood since the dark ages, a fad that is of blood relation to our brother Pawnees sun dance; have been so interested in experimental farming; how to make 100 pounds of pork from 100 pounds of hard wood ashes, or trying to see how long a dehorned steer can exist on sour corn fodder, that would live long enough on good bright hay and bran; so deeply engrossed have they been in progressive farming akin to the above, that they have neglected, to a great extent, one of the most important crops on the farm. And now this crop isn't butter, beef, beans nor babies, carrots, corn or cheese, sheep, sauerkraut or silage. It often contains a larger per cent. of alcohol, but this crop is alive and it is the hired hand. I have often wondered why it is that full blood farmers will persist in keeping scrub help. That in choosing a cow or a horse will look for intelligence, as well as "points." Look for an honest, intelligent eye, and a head shaped for brains; but in choosing a man will take anything that can shoulder a sack of wheat and eat three square meals a day, no matter if his eyes are as near together as the two big political parties are on the money question, and a head patterned after the head of Rameses II, with a conscience as small as the prohibition vote in Milwaukee, with enough brains to get to the town murder shops tri-weekly, but not enough to pilot him home on one side of the road at a time. Farmers that would relegate a vicious bull or hog to the gavel, or get them off on some neighbor they held a grudge against, will keep help that is viciousness personified.

Haven't you seen them, these vicious, unprofitable scrub hands? They are not a rule neither are they an exception. I know they are no more plenty than scrub farmers, but

the scrub hand is the victim now, his name is Legion and he is a descendant of Dennis. Haven't you seen him in the cow stables and when he wanted "Old Brin" to hist, prelude the invitation by kicking her in her first stomach, when he let her out crack her over the head with a stanchion pin, when driving the cows in the barn would quote the scriptures like a fish-wife, swear like Tristram Shandy's Uncle Toby — by all the saints in the calendar or till he was out of breath, and the saints had crawled through the fence in disgust. Haven't you seen him running your horses through the sand with a heavy load of land plaster or feed? I have. Haven't your horses stood out in the streets cold, drizzly nights, while the scrub was playing pool or peneckle in the shop where Uncle Sam collects his "blood money," or did you drive the team yourself that night? Haven't you heard him go so shrieking and howling along the roads nights, after helping to pay for stained glass saloon windows, stained noses and stained souls; and haven't you seen him crawl out to work next morning, ill-tempered and mean; and now, honor bright, are you not money out of pocket when you have such a crop? And now how far have I crawled from my premise — when your cattle are abused you lose milk, and that's money. One dairyman said that when his herd of forty cows was chased by a strange dog they shrank in their milk flow 200 pounds. Now when your cows are chased in the stable by this scrub, frightened so that the cow with a registered pedigree can't tell herself from a farrow cow, you lose money, and in time your pocket book will be as thin as a licked postage stamp.

A full blood, progressive farmer, with a scrub hand, will soon be behind a scrub farmer with a full blood hand, and when I say "full blood help" I mean honest, intelligent boys, that take an interest in farm affairs. A man with an ounce of brains, I don't care if he don't weigh but a hundred pounds is more profitable than a two hundred pound man who is minus that essential. "O, but you can't hire brains on the farm." Well, why can't you? Is it because farm work is less congenial than laying sewer pipe, pulling

teeth, or doing up cod-fish? Who wouldn't rather get up at 4 o'clock on a rosy June morning and hyper off after the cows through the dew, inhale the baby breath of a new born day, listen to the chorus of songsters serenading the maiden of light in the east, as she parts the curtains of clouds and smiles adieu to the night that is going; listen to the thrush, crying, Pedro! Pedro! Get the cows, get the cows, quick! quick!! Massa whip, Massa whip, the robbins' pipe; the blackbirds' chatter, the quirk of the yellow-hammer, and the distant sound of the whip-poor-will; listen to the throbbing, pulsating bosom of mother nature, as her heart beating in unison with your own, declares in a voice as potent as life, the unity of God and man. * * Even if the continental hogs were in the garden when you get back it would be interesting to see "Shep" make them climb for a hole in the fence, like a democrat after a postoffice, than to open the grocery store, get your lungs filled with foul air, redolent with cold tobacco smoke, silently escort a box of "old sogers" and "snipes" rampant on a bas-relief of sawdust, and dump it on the town dog in the alley, go and pull down the shutters and watch the same 'old bums slink into the corner groggery to get their daily "eye opener," try and look cheerful as the same loafers glide into their accustomed scandal seats, listen to the same old yarns that have been unwound before the grocery fire in winter and on the shady bench in summer since "time immemorial." No wonder merchants get rich; this is a world of progress, a world of growth, and a man's soul can't grow inside a village corporation, and his pocketbook must. Is it because the farm lacks advantages in a social way that can be had in the city? No opportunity to gratify one's love for books paintings, music and the drama?

I had a letter from a friend of mine in one of our large cities who had been to hear Patti, the "queen of song." He writes: "Went and heard Patti last night, Ed and I. Cost us a trio of Eagles; she isn't very large, but the music she makes is immense. I never imagined what song was before. We were perfectly wild for the time. She would make the cold waves run return trips on a fellow's spinal

cord, and then when she would switch off and come down the pathetic side track, it would just irrigate every eye in the house, from the \$60 boxes way up into the 'pea nut gallery.' This morning before I rolled out I heard a rooster crow, first time I heard one crow since I came to the city. By George, 'twas the sweetest music I ever heard. I would have gambled on its being a dominique. You know we used to have dominiques in Litchfield. That crow awakened childhood memories that had lain dormant for twenty years; it carried me back to the old farm; I could hear the bees in the blossoms on the old rag-apple tree back of the house; could see the gold dust on their legs; could smell the new hay in the barn; could hear the bobolinks as they would raise up out of the meadow grass with their jingling song, and then light down on a cat-tail flag by the pond to see which could teeter the highest, and when I 'kindo' squinted up my eyes I could look away over the Mohawk valley, to where the distant blue peaks of the Adirondacks, half veiled in the summer haze were dreaming in the sunshine, and the odorous breeze, fragrant with hemlock, cedar and birch swished thro' the old elms. Then I heard a gutter snipe screech out, 'Morning Post, third edition of papers. Tells all about the murder on Sixteenth street!' and the charm was broken. I have heard Lawrence Barrett, as Black Moor of Venice, making love to a yellow headed Desdemona but it wasn't half as interesting as home made affairs of like nature. The handiwork of a Messonaire, a Bonheur, or Turner, may adorn the walls of the wealthy, but they are not to be compared with the bluffs and pockets of old Richland]when the frost king comes from Manitoba and paints them scarlet, crimson, russett and gold."

The farmer has the grandest music in the world, but 'tis so common that he regards it cheap. Paintings painted for him every day and every hour by a master hand; he has the comedy and tragedy of the great drama of life ever before him; the music of the birds and bees, the sunshine and the flowers, and what's the greatest, a grand digestion, and if allowed ten per cent. of the fruits of his mighty toil that

has been gobbled up by trusts, and board of trade thieves, would push the car of progress still further into the unexplored territory of a higher civilization, and the whole world would follow. Possessed as we are, with the advantages I have hinted at, and many more that time and space forbids mentioning, we will repeat our query, Why is it that men of intelligence will leave the farm and join the "tin bucket brigade" in almost any trade or profession rather than "farm it." Why is it that men will go to Dakota and take up a quarter section of blizzard and run the chances of freezing or starving to death, rather than work out at remunerative wages? Why I have known able bodied men—men able to cut numerous hoop-poles a day, leave the farm and teach school. Think of it! Teach school! I knew a man in Iowa, a perfect specimen of physical manhood, seventy-four inches tall, broad shouldered and thin flanked, wore a No. 11 boot, best corn husker I ever saw, leave the farm and go to preaching; left an occupation that he knew everything about, for one that he knew no more about than a horse fly knows about a gasoline stove.

One reason is, it is generally supposed that when a man hasn't brains enough to sell a patent cat-hole, claw out dried apples, balance a cod-fish, lie to a jury, fill a tooth or a pulpit, he can farm it. So a man possessed with a great deal of conceit that he mistakes for a little brains thinks he's too smart to farm it and will leave for the city. Now it takes brains as well as brawn to work a farm. I have known men who have worked on a farm forty years who don't to-day know how to hang up a harness right. In twenty years' experience raising corn we have never had but four men who knew how to tend it, and not half a dozen that knew how to plow, and not one who could sow grass seed Yankee fashion. Another reason is, when Wm. Smith is clerking on a farm he's "Bill Smith," and its "Hello Bill"; when he's a hired hand wielding a yard stick and pumping kerosene, he's "Wm. Smith," and its "Good morning, William!" When he gets in with the "gang," and is hired to go to the legislature, he's the "Hon. Wm. Smith, Esq." It makes little difference whether he legis-

late in the interests of the people who pay him or gerrymanders in the interest of the "boss."

Again, there is no money in it. The mad rush for wealth that has characterized this last quarter of the century as the age of millionaires, has made men hate the soil unless there was pay gravel right in sight. Men who silently follow the plow day in and day out do a power of thinking. They brood over the fact that the producer of the vast wealth of this nation reaps but few of the benefits therefrom. He notes the fact that although our granaries and elevators are groaning with the products of the soil, humanity is suffering the pangs of starvation. He sees men who are honest and temperate, grub and toil from the time they are big enough to wear their "dad's" boots, till the poor house or grippe gathers them home — with no more recompense than our cattle get, when its not a drouth year, enough to fill their stomachs and to wear. He sees his fat steer, that chewed his fingers three days when learning to drink, that he has cared for three years, sold for \$2.75 per hundred; and the laborer in the city pays 14 cents per pound for a roast from his steer's hip, and the difference is "divided" up between the railroad cut throats and dressed beef sharks. And dynamite is in the air! And farmers won't combine, because — because, Abraham Lincoln was a republican and Thomas Jefferson was a democrat.

Another reason and fourthly is, that a good grade of help, a good combination of brains, muscle, common sense and honesty, is treated like a scrub. To illustrate: When I was about the age of the coolies, Indians, idiots, jail-birds and women of this semi-free country — not old enough to vote — I received an appointment as envoy extraordinary and minister out of the penitentiary, under the Mrs. Hayes administration, on an Iowa ranch, salary \$16.00 per month, seventeen hours per day. I really thought I was a fair grade hand when I commenced work, about fifteen-sixteenths "free born American." But when I left in the fall with my conscience all out of whack, and beat a pretty "sweet sixteen" out of a job teaching district school, I was the worst scrub that ever nursed a soft job. My employers

had company on the night of my arrival, and the conversation that I listened to that night is as fresh in my memory as my last dunning letter. I had walked twenty miles that day, carried a heavy overcoat and a forty pound grip (not la grip). I had but just severed the ties of home, and realized that once broken they could never be the same. I was alone among strangers; I was tired, and just a little bit homesick. The boyish wish of being big enough to go away from home, have a double-barrelled shotgun and a watch was now a reality; but the thoughts of home, the memories of boyhood (the only poem of a man's life) were fresh in my mind, and if any one had pointed his finger at me and said "rats," I would have bawled like a boy with a ripe stone bruise. We sat down at the table, the lady of the house asking the blessing, and the favors she asked were snapped off like pieces of icicles. There wasn't love or reverence enough in them so that St. Peter could get them to the General Office without docking seven-eighths for breakage (carried them in an egg crate too.)

Conversation was started by Mrs. A. remarking that Mrs. B. kept two hired men. "O, yes, we are compelled to, and that is the greatest draw back to farm life — one is compelled to associate, to a certain extent, with people that one wouldn't be obliged to in town. Loomis, I think you said your name was Loomis, will you have some gravy? (Great Scott, 'twas water gravy.) Hired men are always fond of gravy." "Mrs. A. help yourself to butta, please." "Lewis, would you care for any butta? Butta is 22 cts. in Dalton." I thanked her we never used butter in Wisconsin; we used oil of hoop-poles, but my would-be witty remark fell flat as the gravy tasted. I thought I was hungry, but someway cob-webs got in my mouth, my heart seemed to sink in my stomach and then they both tried to climb up in my throat. I left the table and went out into the night. I pinched myself and batted my eyes to see if I was dreaming, then I watched the fleeting clouds chase each other over the corn fields toward Wisconsin, then I shook myself, listened for a moment to the echoes that came from the barn that sounded like swear words, and went to my

“shake down.” The wild March winds from the Red river of the north moaned me to sleep, and I dreamed my soul was a foot ball and the whole world was trying to see how high and how far it could kick it.

Now hear what we had for breakfast — ’twas hired girls on toast. “You see I keep a new girl, I had to let Mary go,” remarked Mrs. B., “she was a real good girl, too, so neat and tidy, but she did really take too many liberties.” I found that the liberties she took was, in dusting the furni-one day she opened the piano and ran her fingers over the keys — stopped for just one moment during the “demnition tarnal grind” of her tread mill existence to give expression to the joy her frigid employer had kept congealed.

We were stacking oats in August (we clerks), one of those woefully hot days that get away from Texas and drift north trying to find a cool place, and always sure to arrive when you are topping out a stack or pitching long timothy hay in the south barn door. So depressingly hot that ’twas an effort for one to breathe, say nothing about pitching great wire-bound oat bundles on top of a tall stack; one of those cyclone breeding, corn growing, beer drinking days when chickens beat a retreat for the shade and hold out their wings and open their mouths like printer’s ink angels on missionary tracts; when the grasshoppers are too warm to hop and the crickets to chirp and the sun is about forty feet from the earth. We had been at work ten hours. I was so nearly “bushed” that every bundle I lifted seemed to have a greater inclination to obey the law of gravity than the preceding one. I was wringing wet with sweat; the blamed sweat bees had stung me often and again; I began to doubt about there being any dignity in labor or it would ever be sundown when our employer came to the door with a palm leaf fan in her hand and “blood in her eye,” and said, “Loomis, don’t you think you can elevate your bundles a little bit faster?” O, Ye Gods!! Hath not a hired man eyes? Hath not a hired hand organs, dimensions, senses, affections, passions? Fed with the same food? Hurt with the same weapons? Subject to the same dis-

eases that a farmer is? If you tickle us do we not laugh? And If you prick us do we not bleed? If you wrong us shall we not revenge? Can you expect men to take an interest in your work with the treatment I experienced there? (The web of which is fact, and the woof only fiction?) Is it any wonder that the boys look forward to Saturday night, when they can "take in the town," "paint the saloon red" be on an equality with a lord as long as their money lasts, and be as happy as one when it is gone? Do they care if your corn is weedy, cows dry up, or your stacks leak, as long as you treat them with less respect than you do your intelligent Jersey or fool Holstein? "The villiany you teach him he will execute, and it shall go hard, but he will better the instruction."

And now as I am near the "dead furrow" I would say that I don't force this hash off on you as any literary effort. Those who are acquainted with me know that I have spent more time in the potato-bug kindergarten than I have with grammar and lexicon. But if the few ideas that I have plowed out of the old sand farm (my alma mater) and fed to you to-night will induce you to take better care of this all "important crop"—your boys and the hired boys—I will think that these twenty sheets of good merchantable paper and the wear and tear on my huge brain will not have been wasted. And I believe your cows will give more milk, and I believe you will find more eggs and fewer eggshells lying around the stables; fewer milk-stools thrown at the cattle; fewer empty flat bottles in the hay mow, and better children growing up from associating with better men. And I believe that in the grand future this germ idea that I have labored so spasmodically to transplant in your minds will find soil enough to take root and will grow to be a great big tree, and bear the fruit of justice and equality; and you will recognize and give fellowship to a true man, whether he plods through the dust and dirt of hard work, or swings in the hammock of ease, as Robbie Burns says:

" Our toils obscure and a' that,
 The rank is but the guineas stamp,
 The man's the gold for a' that.
 Then let us pray that come it may,
 As come it will for a' that;
 The sense and worth o'er a' the earth
 May bear the gree, and a' that,
 For a' that and a' that,
 Its coming yet for a' that,
 That man to man the world o'er
 Shall brothers be for a' that."

The Chairman — The lady whose name appears next on the programme is not present. We will now listen to an address entitled,

WISCONSIN AT THE WORLD'S FAIR.

BY MRS. JOHN WINANS, of Janesville.

Mr. Chairman, Ladies and Gentlemen: The World's Fair is producing many startling developments, but I am sure nothing will more astonish my friends than my name coupled with an address. However, I am proud of the honor the Board of World's Fair Managers conferred upon me, when, in response to the request that a lady be selected to appear before the State Agricultural Society, I was chosen, much against my wishes. I am so bubbling over with enthusiasm in the great work that I cannot help talking when an opportunity presents.

Wisconsin abounds in resources so numerous and interesting that our exhibit at Chicago, in '93, cannot be a failure; but could our people realize that active interest and united individual efforts all over our state would result in an exhibition from Wisconsin which would not only equal, but surpass all other states every person would wish to aid.

The agricultural products of our rich, varied soil yield in abundance all the small grains produced in any section of the Union, and in such perfection that the kernels of wheat are not surpassed in beauty even by Wisconsin pearls,

which are pronounced finer in tint and luster than the pearls of the Orient.

Stock raising is successful because of our unsurpassed pasture and meadow lands, and the dairy has reached the pinnacle of success.

Being a native of New York, it was hard for me to believe Wisconsin butter ranked A No. 1 in the markets, and old Orange county must relinquish the banner, but 'tis a fact which I realize and am happy to admit now. This reminds me of a little incident. While in social conversation, a few years ago, with the late Justice Miller of the supreme court of the United States, he said: "Where do you come from?" With a great deal of inherited eastern pride, I replied, "Originally from New York, sir, but now from Wisconsin." I detected a bit of reproof in his voice as he answered, "Madam, you have just as much reason to be proud of the latter as the former." A compliment to our state which I have since learned was deserving.

Tobacco, I have recently been informed is raised in larger quantities in ours, than any other state.

'Tis a great industry! One in which nearly every gentleman of my acquaintance is interested.

The display of Horticultural products which we have had the pleasure of looking at to-day makes it unnecessary for me to enlarge upon this subject. The Society Horticultural under the able management of which the exhibit will undoubtedly be made assures success,—5,000 sq. ft. of space has already been applied for in the beautiful horticultural building, and what department can be made more pleasing to the eye, and tempting to the taste? Beautiful apples, grapes, small fruits, particularly strawberries, the delicious flavor of which cannot be forgotten, from one season to the next.

We must not forget the flowers! Beautiful emblems of a silent language which fill the soul with thoughts of heaven, love and charity,—God's gifts to his people, which should adorn the pathways and make cheerful the cottage. With flowers we are bountifully blessed, and as they tell of the refinement and taste of a people, let us take them in abun-

dance.—The horticultural committee of the board of managers have already, grown, native vines of different varieties which will be placed about the “club house” when it is finished.

Then with our fish-hatcheries leading the states, and waterways so numerous and extensive we have reason to look for a variety of fish so fascinatingly exhibited, that the Angler, not only of this, but of foreign countries will loose interest in the fair, and with rod and reel, fly away to the beautiful lakes and brooks of Wisconsin for real fun and recreation.

The difficulties of this undertaking are apparent, but under the knowledge and skill of our state commission, line fish will be transported successfully to the aquariums of the fisheries building, where water space has been secured.

Wisconsin's mines of inexhaustable ores, quarries of substantial and ornamental building stones, unbounded forests of woods too numerous to name, and clays of different kinds, of which bricks are easily moulded, and are known all over the United States, for their faultless tint and finish also, of which ornamental ones are fashioned susceptible of the most artistic decorations. These are the principal resources from which spring our great manufactures, spreading wealth overy part of our state.

Wealth which is God given! Wealth which should encourage our people to energetic efforts, to represent their gloriously beautiful commonwealth, instead of wasting time deploring the “Small Appropriation.”

The government and legislature which represents the tax-payers, are of the people, not the people, and will not be solely responsible for our representation at the Fair, so if they have made a mistake, which I do not admit, let us aid them before it is too late. Texas, Colorado and some other states have no appropriations, still they are well to the front, with large sums of money, and every man, woman and child interested in the work.

Your servants, the Board of World's Fair Managers, are not murmuring over the appropriation which at present

they find sufficient, but are applying energy and economy to the work in hand, with a determination to do the best they can, and merit the trust placed in them.

Wisconsin will be represented in nearly every building in which exhibits are made, and work is well advanced in each department, including education and fine arts.

Tree trunks of pine, white-oak, basswood, elm, birch and spruce have already been furnished, from our forests, to be used as columns in the construction of the forestry building, and we are sanguine the monolith will be taken to the Fair, a description of which appears in the World's Columbian Exposition, as follows:

“One of the many wonderful sights at the exposition will be the famous brown stone monolith, which the Wisconsin Board of Managers are contemplating erecting on the Wisconsin site. Negotiations are now in progress looking to the letting of contracts for the shipment and erection of the giant column, and it is thought nothing will interfere with the success of the undertaking.

“Captain Frederick Prentice, of Ashland, owner of the quarry where the block from which the obelisk will be hewn, and where it now reposes, has generously offered to prepare the monolith for shipment, if the state board will undertake the transportation from Bayfield to Jackson Park, and there erect it. It is to tower 106 feet in height, a solid column of beautiful brown stone without crack, flaw or seam, and will eclipse the wonders of old Egypt, represented by Pompey's Pillar and Cleopatra's Needle. The shaft will weigh 370 tons, and its transportation and erection will be a vast undertaking.”

Great enthusiasm is being aroused over this mammoth production, and the commission at Chicago, urge the board to persevere. The matter is in the care of an able committee, who are doing everything possible to accomplish the undertaking.

The location for Wisconsin's state building is particularly desirable. At the head of a lagoon with a fine view of the grounds, having Indiana, Ohio, Michigan, Illinois, California and Colorado for neighbors. The plan of Architect

William Waters, of Oshkosh, has been selected by the board of managers; also approved by the commission at Chicago, where for style and convenience it received complimentary commendation. It is to be constructed of the products of our fruits, quarries and beds of clay, and when completed will be a fine exhibit, not only of Wisconsin's building material, but of the good taste and judgment of her people. Contributions of hard and soft woods, stones, plain and ornamental glass, have been promised; also the large fire-places for the lobby, where on chilly days the visitor will find cord-wood burning in the cheerful old-time way.

Miss Ruth Winterbothem, a young lady from Eau Claire, is now in Chicago preparing to model the state coat of arms, and a design illustrative of the progress of Wisconsin, in terra-cotta, which will be placed over the main entrance. She also intends to design and model other pieces which are to be used for interior ornamentation, all of which,—her time and talent, she generously contributes for her love of state.

The board have accepted a liberal proposition from an artist to hang on the walls, views of our many beautiful lakes, dells, and unsurpassed American scenery. Mrs. Jacobus, of the Pauline Pottery, at Edgerton, is now at work on artistic designs of pottery, which she will display to aid in beautifying the state building, and furniture manufacturers are offering their finest pieces to help make this home for Wisconsin people attractive. This will, indeed, be a home where all can rest, where information will be reliably given, mails received, telegrams sent, and packages safely stored.

The greater part of the second floor will be devoted to a display of pre-historic and pioneer relics, furnished by the State Historical society. The collection is one of which we are justly proud and have reason to believe will be the most complete made by any state.

Through the efficient aid of Executive Commissioner Robert B. Kirkland, the materials are fast being secured, and the work of construction will begin early, the coming

spring. At the last meeting of the board, auxiliary committees were selected for each county. This will undoubtedly promote interest in every section.

The different boards of supervisors have been asked to make appropriations, which would enable the counties to contribute something typical of each particular location, in art, manufactures, or progress, which would aid in the decoration or furnishing of the building, and many responded. I look upon this as a benefit as well as a privilege, which, when the supervisors investigate and better understand, they will avail themselves of. Whatever they send they may bring back at the close of the Fair, and place among the historical relics of their counties, emblems of the taste and generosity of the World's Fair period.

Local pride ought to prompt us to make these emblems which may pass down to coming generations the best possible.

Rare pieces of hard wood and stone have been presented to the lady managers of the state board. They are to be carved and polished, then placed in the woman's building. Fit tributes, from Wisconsin women, of choice materials and dainty handicraft!

A little investigation will prove that women, of this and other nations, are actively at work in this great World's Fair Exposition, and I am happy to tell you that among the women of our state, there is a fast growing interest, which must result in an exhibition of their taste, art and culture, as well as of the varied employments in which women are engaged.

The advantages of the fair are apparent. We will be able to present our products and resources to the world, gain useful knowledge of a vast variety of subjects, and meet people of other nations. It will not only be an educator, but hidden talent and ability will be revealed, which must result in benefits to mankind.

As I have said in nearly every department Wisconsin will be represented! Let it be our aim to make each particular class of exhibits so complete and inviting that the

visitor who looks upon it will be inspired to see the state from whence it came.

We are so real! We are so true, and with us, Nature is so bountiful and beautiful, that we may invite, and welcome the whole world without fear of their disappointment.

“The half has not been told.”

At the meetings of the State Board when it is necessary to get down to real “hard bottom facts” my able co-worker, Mr. John M. Cobern, is called upon.

As he is here I will retire and give you the pleasure of hearing from him. I assure you he will be pleasing as well as instructive.

The Chairman—The Farmers' Alliance has become one of the institutions of this land. It has many able and eloquent defenders. One of them will appear before you to-night, the Hon. George E. Lawrence of Marion, Ohio, lecturer of the “National Farmers' Alliance,” and talk about the outlook.

“THE OUTLOOK.”

Or the Present Status or Condition of the American Farmer, and his surroundings, and also, the Future of Agriculture.

A wise, prudent business man will note carefully the outlook for trade, and keep posted in all the various details of his business. So also, the mariner, as he courses the mighty deep, daily notes his bearings, and studies carefully his chart, whereon is marked the hidden reef, and the treacherous shoal. And he also keeps on the lookout with ceaseless vigilance for the favoring trade winds, and the helpful tide, as well as to be ready at a moment's warning for the coming storm, or any other danger which may overtake him. In like manner is it not well for us as farmers and citizens to scan the horizon, note our course, and take our bearings.

Brother farmer, what is the "outlook" at the present time! Are we in the proper course, are the trade winds friendly, and the tides favorable; is the good old ship headed in the right direction, are we making due speed, and have we tried and true officers in command with a crew ever at their post! Let us see.

The first thing that attracts our attention is the startling fact that we see discontent on every hand, and we hear murmurings on every side, and the burden and refrain is, "farming doesn't pay;" and worse than all this, we discover desertions daily, for many of our brightest and most promising boys and girls are leaving the farm. Yea, by the scores and hundreds, leaving the farm with its healthful and invigorating surroundings and going to the city; leaving the farm, with all its heaven-favored privileges and going to the city with its dangers and pitfalls; leaving the farm and home with its blessed memories, its loved ones who have cherished them so tenderly, for the crowded city, with its evil influences ever ready to drag them down to ruin. What does it all mean? There must be something radically wrong to occasion all this. Can we discover the cause? A natural inference would be that we were not raising as large crops as we should do, that some unusual and unlooked for disaster of storm, or climatic changes had befallen us; but we find, on the contrary, that never before in all our history, has the sun and wind, dew and rain, been more propitious and favorable than in the past twelve months; never before in any age has old mother earth been more prodigal with her gifts than in the past year. But I hear some one say, "Over-production! that is the trouble." What, too much to eat, too much to wear, too much stock, too much feed? Wonderful if a fact, passing strange if true, but surely not a cause for complaint! But let us take another glance and look a little further; on the other side we see a vastly different sight, and we hear a different story.

Never before in the world's history has there been such an increase of wealth, never in all the ages of the past has

there been such enterprises planned, and such wonderful results accomplished as in the present age; therefore upon the one hand we behold life, energy, development and power: on the other, discontent, inaction and apathy. If our impressions are correctly drawn, evidently the trouble lies deeper than in scanty crops or over-production.

In the great title deed to our inheritance we are guaranteed life, liberty and equal rights in the pursuit of happiness, which means in other words, "equal rights to all before the law," do we enjoy them to the extent which the wonderful light and privileges of our day demand that we should enjoy them? Let us turn the glass upon this point a moment. Do we enjoy the rights and privileges which the value and importance of our vocation has the right to expect? Do we have our just share in the increasing wealth of the nation? Do we have our proper proportion of representation in the legislative halls of the country? Do we have our due influence in the selection of officers, and in the management and direction of public affairs? To all of which the answer must be, we do not, and if not why not? Under our form of government, however, there is another phase that we will do well to examine, and that one is not so well understood, or at least considered, and that is *the duty* we owe to the state in return for the guarantee of privileges, the consideration, in this compact or agreement, without which no note or deed or contract is valid. With the *right to vote* follows *the duty to vote*. With the right to a choice in the selection of officers, is the duty enjoined of choosing those who are capable, and of sterling integrity. With the right to a voice (indirectly) in the making of laws also follows the duty of exercising that right by seeing that those laws are *just and equitable to all*. Now do we as farmers, act in accordance with these requirements, perform our duty on these lines, and exert our influence as we should do, as true and faithful citizens? We fear not. Then is not the trouble largely to be laid at our own door, and we are found unfaithful to our trust or that our present form of government is a failure, one or the other; which is it?

But how are farmers and citizens in general to be able to wield their right and proper influence in these matters. We answer, indirectly, by using all honorable means made use of by those who are so successful in the accomplishment of their ends. We must meet together in agricultural conventions, farmers' institutes, and alliances, or granges, and by honest and free and courteous discussions, arrive at conclusions which will be for the public good, and then we should not be timid or backward in making known these conclusions to those to whom we have intrusted the management of affairs. Directly we can protect our interests at the ballot box. But says one, why, we all vote. Very true, but not at the time and place, where and when, we can accomplish our purposes most surely and efficiently, for if we wait until the slates are made up, and the tickets printed, it may be too late. And this brings us to the point we wish to emphasize, as it is first in importance, but one that is sadly neglected, and am sorry to say, especially among farmers, and that is the primaries. The very place where we can do the most good, is the most neglected, the very place which should be our strength is our weakness, the place above all others, where our voice could be heard, and it is silent. It is in one the picket post, as well as the very citadel of our liberties, and in the face of the enemy, we go to sleep at our post; with an apathy that is alarming, and allow the capture of our fortress with an indifference that is appalling. An able writer on Political Economy has said, "A better plan might be devised than the primary system, by which the will of the people could be expressed, but a better plan never has been devised, and whenever it fails it is from neglect of duty, and not from fault of the system." He further says, it is even better that he (the citizen) should be wrong than fail to act, as an error of judgment is always less heinous than gross and inexcusable neglect, for apathy in our form of government is the worst of all evils. If we mistake not this is the most serious feature of the outlook at the present time, the great primal cause of our danger, negligence of duty, indifference to results.

If the primaries were attended as they should be, and the delegates selected for their fitness, duly instructed as to the wishes of the people, and then held to a strict account for their actions does anyone suppose it probable, or even possible, for a few well trained wire-workers would be able to manipulate and juggle conventions, as is so often done, we think not. Should we not see to it then that this evil is promptly eradicated.

But again from our outlook, we see other dangers that threaten us, and which taken in connection with the apathy and indifference just mentioned, adds greatly to the gravity of the situation. We have only to cast a hasty glance to behold an unparalleled increase, and concentration of capital and power utterly regardless of the rights of the people, perfectly indifferent to law, and hand in hand, and side by side, we see unlawful combines, unjust corporations, soulless monopolies. Stalls, swindles, defalcations, with plots and schemes of the deepest dye, all seeking to fatten upon the body politic, and like hideous vampires drain the life blood of the nation. And on the other side we behold those twin monsters of the age, the rum power, and the communist element, crafty, alert, defiant, and dangerous. In the face of this outlook, will we as citizens, as those interested in the welfare of humanity, in the perpetuity of our free institutions, I say can we fold our arms, and close our arms, and close our eyes, and say we have nothing *to do* but to plant, and sow, and gather, idly dreaming that these things will adjust themselves, and that this, the fairest and richest heritage beneath the sun, *is ours* without conditions, without labor, without obligations, and ours forever if we do not arouse from our lethargy, we fear there will come in the near future a terrible awakening, for are we not taught that "he who receiveth five talents, of him will be required five talents more, but he who improveth not the talent intrusted to his keeping, from him shall be taken, even that which he hath." "Never before have such privileges been granted as to us of the present day, and never before have such great responsibilities rested upon any people as upon the

citizens of this favored land. Will they prove faithful to their trust?

And this brings us to the last and most wonderful feature of the outlook of the day, and which might well be styled the greatest wonder of our time, the one bright bow of promise spanning the angry sky, or may we not liken it to the morning star, which heralds the dawn of the coming day. We see it in every form, we behold it upon every side, we almost hear it upon every breeze, no calling is exempt from it, no occupation is secure without it, and strange to say sex does not debar its influence, nay more, no one can keep fully abreast of the times unless aided by it. Need I say, it is the marvelous spirit of organization, which, like a magician's wand, imbues with life and power, whatever it touches, and strange to say, the last to awaken to its benefits is the one most needing its advantages, *the farmer*, for without it he is outstripped in the race, without it he is shorn of his strength, he is vanquished in the fight, for we are fully convinced that in order to be able to meet the obligations resting upon us, and to meet successfully the dangers which confront us, the tillers of the soil, the laborers of the nation, must be fully equipped for the fray by faithful, consistent organization.

As to the nature of the organization, this is not the place, neither have we time to more than note briefly, and first in order: See to it as a vital point the recognition of the power of a freeman's ballot if fearlessly and efficiently used, as upon this plane, and upon this vantage ground only, can we all meet as equals in every respect, the high and the low, the rich and poor, the learned and the unlearned, all meet as equals at the ballot box.

If we neglect this point, if we ignore this duty, or follow blindly the dictation of party leaders regardless of consequences, without studying our own interests, we cannot be successful. It is on this line where former farmers' organizations failed by not asserting their political rights.

But in order that we may be consistent in our views and demands, in order to be faithful to our best interests, we believe the time is at hand when we must acknowledge the

force, the justice, and the imperative need of observing and recognizing fully that cardinal principle of our free institutions. Equal rights to all in its highest, truest, broadest and best sense. We see this idea disseminating and being put into practice in all honest avocations and callings, permeating our schools and colleges, and like leaven is working and being diffused through all our churches, and any organization which aims to better the condition of any class of people that does not recognize this principle of right and justice, and utilize this power for good will fail in its mission. When we can lay down our prejudices which have clung to us as a relic of the dark ages and be willing to accord to mother, to wife, to sister, to daughter, the rights and privileges which we prize so highly. When we arm woman with the rights of suffrage, when we are willing to place the coronet of sovereignty upon her brow, and place in her hands the legal sceptre of the ballot, then we believe the day will have already dawned when these evils and dangers which threaten the peace and prosperity, yea, the very life of our nation will be swept away as with a very besom of destruction.

But there are other benefits to be derived from organization, and other points to be considered that are necessary, yea, of vital importance, I refer to the improvement, cultivation and development of the mind.

If we demand our just share in the management and control of public affairs, we must see to it that we fit and prepare ourselves to be worthy of the trust, and capable of performing the duties pertaining thereto. But says one, can we not inform ourselves by reading newspapers and books, and in this way keep abreast of the times? We answer, "the press" is a mighty power, and we would not attempt, or desire to underrate its influence, but it alone is not sufficient. We might as well say that we could disband our schools if we but procure the necessary text-books.

No, we must meet together, for we realize that we need all the light and all the knowledge that can be acquired. We need the light of science and revelation. We need the light of practical knowledge. We need the light of patient

and intelligent investigation. We need the inspiring light generated by the magnetism of the kindling eye, and the grasp of the friendly hand—in short, we need all the light that we can obtain only through the converging rays, afforded by faithful, consistent organization, and in that light, and aided by a quickened sense of the responsibility of our position, and due appreciation of the dignity and importance of our vocation, may we not be able to attain to greater heights and achieve grander results in the coming day than has ever been dreamed of or imagined.

And this brings us to the last view in our “Outlook”—the future of agriculture.

An able speaker at one of our Institutes in Ohio said that “in looking over the history of the past, in studying and noting the tendencies of the present, and judging the future by the light thrown upon it by both, and after consulting eminent authority upon the subject, he was forced to the conclusion that the future condition of the American farmer would be that of ‘hewers of wood and drawers of water;’” but from this conclusion we must emphatically dissent, as the condition and position of American farmers, and the laborers and serfs of ancient Greece and Rome, with whom they were compared, are not at all identical. Neither was the refining, elevating, resistless power and forces of our Christian civilization under which we live, correctly or properly considered; and while we would not underate the dangers that menace us, or close our eyes to the power and magnitude of the evils which threaten us in the future, we still have faith in the strength and perpetuity of our institutions, faith in humanity, faith in the ultimate triumph of the right, faith in the word of God. And unless this people, who have been so wonderfully led, shall prove recreant to their trust, we believe the future of the American farmer will be one of life, progress and triumph. England’s grandest poet caught a glimpse of the future of our country when he sang:

“Ye forty noble nations confederate in one,

Who keep your starry stations around the western sun,

Ye have a glorious future, a mission to fulfill,

Grand in its aims and purpose, as ye work His righteous will.”

A few years ago I was privileged to stand on the heights and gaze on the wonders of "Lookout Mountain." Of the many sights we beheld, that will ever be remembered, was one we saw from "Chickamauga Cliffs" in the early morn, sunrise on the mountain. As we stepped out onto the edge of the dizzy heights and looked down over the valley, wherein Chattanooga lay, it had vanished; we could see nothing but a heaving billowy mass of mist and clouds beneath us; but as we stood there, wrapped in awe and wonder, the scene was changed, for as the sun in all his splendor burst over the distant crest of "Missionary Ridge." Suddenly the whole valley was lighted up and became one glittering mass, with a sheen like burnished silver; then as the sun rose higher, slowly the clouds rolled away, the mists were dispersed and the valley in all its beauty lay revealed before us.

So, in like manner, to-night, as we attempt from our "Outlook" to peer into the future, like the valley, it is overcast with clouds dark and threatening, mists and fogs obscure our vision; but as we thus stand, in fear and doubt, a light comes flashing from over old Judea's hills, and these words come ringing down through the centuries of the past: "But in the last days, the Lord shall judge among many people, and rebuke strong nations afar off, and they shall beat their swords into plowshares, and their spears into pruning hooks, nation shall not lift up sword against nation, neither shall they learn war any more. But they shall sit, every man under his vine, and under his fig-tree, and none shall make them afraid, for the mouth of the Lord of hosts hath spoken it."

Now the clouds begin to scatter. The mists are swept away, and the valley of the future is revealed before us; and what an outlook; no more war with its attendant horrors, but white robed peace with its train of blessings. The sword, the universal emblem of authority, conquest, dominion, is reformed, beaten, changed into a ploughshare, the symbol of agriculture and of progress. The spear, the weapon of the lowest, the most degraded and barbarous of savages, is transformed into the pruning-hook, the symbol of

horticulture, the highest type of agriculture. Oh yes, there is life, progress, enlightenment, triumph, all along the line. Be encouraged then ye sons and daughters of toil, fall into line, gird on the armor. Go forth to the conflict, for know ye that the hour of triumph is surely coming. Instituted and established by God himself in the garden on the morn of creation, we believe it will be honored, and blessed, and crowned by him in the evening of time.

THURSDAY, February 4th, 9 A. M.

Mr. Arnold in the chair.

The Chairman—The first thing we have on the programme this morning is "Comparative Values of Grain Feeds," by Prof. Henry. The professor needs no introduction.

Prof. Henry—In taking up the subject of feeds, which is a very broad subject, I can only dip in here and there. Our feed substances can be divided into four general classes. The water—no, I will leave out the subject of water entirely. First, there are the muscle-making foods, the protein foods, the leading element of which is nitrogen, so we call them nitrogenous. The nitrogenous foods build up the red meat part of the body; the muscular system comes from the protein portion of the food. The best representative of protein food is the white of an egg and the curd of milk. There they are in their purest form. In our food proper we have a great deal of protein in cotton seed meal and in linseed meal and oil meal, in bran, in shorts and in peas. Peas are exceedingly rich. Of the grass food, clover hay is the richer, much richer than oats or corn fodder; next are the carb-hydrates, the woody matter of plants. Starchy matter and sugar. Stalks of corn and grass; the larger part of those stalks are carbonaceous and carb-hydrate, the leading element being carbon. Sugar is the best example of a carb-hydrate; starch is equally good.

Indian corn is very rich in starch, but not very rich in muscle food; so Indian corn is a fattening food rather than a muscle maker. Oil meal and corn are right opposite to each other. Oil meal is a muscle making food which also has a good deal of fat and heat in it. Corn is a fat and heat food with not much muscle making in it; so you can put those two feeds opposite each other in general effectiveness in the animal body. The next substance is the substance with some chemical elements of fat. Fat has a higher burning power. If we burn a pound of oil we get more than twice as much heat as from sugar or starch. In the animal body it has considerably higher nutritive power. It will run the body longer, and that part that is not needed the same as the sugar, starches and cellulose, it lays up in the shape of fat, to be used when the animal requires it. Fat is simply the stored up fuel in the body to keep the animal in times of sickness and times of short feed, and between meals. I have now named protein, carb-hydrate and the fat. The remainder is ash. That portion of the plant which remains after you burn it up. The ashy matter of plants is very important, and unimportant. The farmer who feeds his stock right needn't worry about the proper bone material. If he has food of sufficient variety and quantity the stock will usually build up ample bone. It is only when you abuse them in other ways that the ash trouble comes in. Corn is very deficient in ash. If you were to heap up here 100 pounds of corn and burn it there would be less than 2 lbs. of pure ash remaining out of that corn. If you will heap up 100 lbs. of oats there would be more than 3 lbs. of ash, or twice as much. If we were to heap up 100 lbs. of bran and burn it there would be over 5 lbs. of ash remaining. Nature put the ash in the outside of wheat and the pure starchy matter which makes fat on the inside of the grain, and so in bran you have the ashy part of the wheat.

Now remembering that, let me review a little and put the food in their different divisions. Linseed meal is rich in food that makes the red meat in the body. It also contains a very considerable quantity of oil which the animal can

move over in the body as fat, perhaps directly, certainly indirectly. And oil meal contains a large amount of ash. Farmers are constantly asking, "Which had I better feed, oil meal or flax seed? If you say oil meal is so very good why wouldn't flax seed be a great deal better?" Now when oil is 40 cents a gallon, which is very low (it has been up to 60 you recollect), there are less than eight pounds in a gallon, so that the oil is worth about 5 cents a pound. The oil of flax seed is worth in the neighborhood of 5 cents a pound; \$100 a ton for feed is pretty expensive. Of course the farmer cannot sell his flax for so much as that.

Now after having a certain quantity of oil you had better use other food to make up the remainder. There is a certain quantity of oil that lubricates the animal's digestive tract, keeps the animal in cool, healthy condition; but taking the nutritive effect only, then you had better substitute corn stalks and clover stalks and timothy stalks, with their sugar and starch and fibrous matter, which does the same work as this 5 cents a pound oil part of the flax. I shall speak of that again from the manurial side a little later on.

Now I have told you that corn was in the protien division. If we had 100 pounds of corn, and I could separate it into its constituents before your eyes you would see off in this corner a little less than 9 lbs. of muscle making food; over on this side of the table you would see over 60 lbs. of starch that the animal could build into fat, or could use up to keep the body warm, like coal put under a boiler; there are not quite nine pounds of the muscle food and over 60 pounds of starch. Then we would have doing the same work as the starch, but more effectively, 5 pounds of oil; and to build up the bony structure nearly two pounds ash. Now if we have 100 lbs. of oil meal over in this corner where the muscle food was, we would have sometimes as high as twenty-five pounds out of the hundred that would go to build up muscle. We would have about forty here, instead of over sixty, and then we would have 7, 8 or 9 of oil, and two or three times as much ash as the corn gives. You see then that a farmer in feeding corn is feeding starchy matter very concentrated, just like anthracite coal in its power; but its

power is fat and energy power. It lacks in building up young growing animals and red meat in the body. Oil meal stands over against that as far richer. Now I have put corn and oil meal in juxtaposition in your mind. The hays, let me put them in the same way: timothy hay only contains about 3 lbs. or $3\frac{1}{2}$ of digestible muscle making food; over forty of this heat and fat making food. Clover hay contains about 7 lbs. of muscle food, or twice as much. It contains just about the same amount of starchy matter and cellulose as the timothy hay.

Now the livery stable men like timothy hay, not so much for the real nutriment as that it distends the horses stomach and works well with the oats; but when a farmer tries to make milk out of timothy hay, it falls short. A cow must take it for her support and nourishment and cannot take it for any other purpose. The oil of the wooly coat of the sheep is largely nitrogen, so even a grown sheep has to put a good deal of nitrogen on its body. Instead of eating timothy hay with the best satisfaction the sheep take to the clover hay because there is more there to build up the wooly coat of the sheep. Clover hay furnishes the nitrogen in the wool. Do you see how hard it is for me to answer, when a farmer writes me a letter saying "which would you advise me to buy, oil meal at \$20 a ton or corn at 35 cents a bushel?" Supposing that my friend across the street should come to me and say, "which shall I buy this morning, some meat or some bread?" Now I couldn't tell him. He perhaps has plenty of bread or flour, and if he has I should certainly say "buy some meat; you need that more than you need bread. You must tell me, before I can answer you, the condition of your larder at home, and who is going to eat it." Again a man says "there is nothing on earth equal to corn." He might as well say there is nothing equal to bread and butter and potatoes. I agree if you want to argue that, but after you have eaten bread, butter and potatoes for quite a time you do hanker after some meat.

If you have plenty of bread, butter and potatoes at home and come to me for advice, and I can find that fact out,

and find you are short in meat, I will say, " my friend you better put some money just now into meat; and when you have got meat, bread, butter and potatoes you can support yourself in very fine style, and we won't quarrel which is the better—the meat, bread, butter or potatoes." We won't quarrel about those two things, because both of them are good, and we can't compare them. Now you know if it comes to getting right down and living on a thing meat will last you the longest. Men on the plains live on meat. You couldn't live on potatoes alone. Every time your heart beats red meat is used up. As I stand here talking my limbs will ache. Why? I am working, aside from thought and talking; I am standing up, which requires the use of muscles. There is a breaking down going on and I must put some material back to make up for that waste. A growing animal requires still more than any other kind, and a man that is being hard worked requires still more.

The Germans have figured out that an animal needs two pounds and a half of muscle making food every day. A dairy cow weighing a thousand pounds giving a first class flow of milk, twelve and a half of starchy, cellulose food and about half a pound of fat food. The Germans put too high a value on muscle food. We can get along with less. Our cows can get along with probably two pounds a day. They must have some. I don't care if you are only making butter. The cow does not feed to make butter. She is feeding to feed a calf. The butter maker is diverting that milk to other purposes. The cow goes on making the milk just as her nature regulates it, and she can no more make milk to suit you than you can make yourself tall if you are short, or change the color of your hair. She is bred and built in a certain way, and has a certain constitutionality, and you cannot change it to any great extent; for instance, if you try to keep her upon oat straw, let her out around the straw stacks, you may wonder why she cannot give a full flow of milk. There are not two pounds of muscle food in a hundred pounds of oat straw. If a cow took into her body a hundred pounds of oat straw she could not get two pounds of this milk out of the whole

hundred pounds. So when you put her to the straw stack she simply cuts off in quantity.

Now the next point I wish to call your attention to is the manurial value of food. There is nothing which we need more enlightenment upon in Wisconsin than the manurial value of food. A ton of oat straw contains enough nitrogen enough phosphoric acid and enough potash, the three things we buy when we buy fertilizer, to make it worth two or three dollars. A ton of corn contains enough of the same elements to be worth five dollars; a ton of bran eleven dollars; a ton of oil meal twenty dollars; a ton of cotten seed meal thirty dollars. I am giving round numbers. If you buy a ton of oil meal there is in that ton enough nitrogen at 16 cents a pound, (which is what you have got to pay for it,) enough phosphoric acid at 8 cts, and enough potash at 4 cts., to make a ton of bran worth eleven dollars or a ton of corn worth about five. You will say "do you mean to tell me if I buy a ton of bran and put it on my wheat field that I will get \$30 back out of it?" Not at all; any more than I mean if you go and buy a short-horn cow for \$50 or a Jersey, you will get \$50 back. What we pay has nothing to do with what we get out of it. Usually there is a close relation.

Down east I know that forty millions of dollars every year of hard earned farmers' money goes to buy these same fertilizers at the price I have named. Farmers drive up and load in a plow that costs \$16 and load in ten bags of phosphate that costs \$35. Take them home and go to work with them. Now they do not ask the man to guarantee that they will get \$16 out of the plow and \$35 out of the fertilizer. Every year when he sows a pound of grain or plants turnip seed or radish, or sows wheat, he buys fertilizer and puts on the land. The cotton planter along the gulf states never thinks of planting cotton without putting on the fertilizer; and there are machines to sow the fertilizer with the seed. They no more ask the man whether they can get their money back than when they buy a bag of flour or a plow. We in Wisconsin are going to come right to that condition if we do not watch out. I have an

average I think of one letter a day from fertilizer agents and companies trying to get a foothold in Wisconsin. I have in my office now a bundle of pamphlets to be distributed to my students, signed by a Baltimore firm. They have sent agents up here to visit me. I get letters asking how many million dollars worth of fertilizer are used in this state. When these men come to send fertilizers in here they are going to charge you the prices I have named. The time will come when those fertilizers are sold here.

The whole government of Chili was overturned by the nitrate kings, and we read that the war was stopped again by those same men, in a measure. That nitrate company control the ship loads of nitrate; every year they say how many tons of that nitrate shall come out of there; how many months the mines shall be worked. When they put that nitrate into New York nitrogen is sixteen cents a pound. When you farmers have to buy those, you will not only have the reaper trust to fight against but the nitrate trust. Phosphate comes from South America, controlled by a trust. Potash comes from the great mines in Germany. Those materials are brought over here and mixed and sold. Now taking the elements in those fertilizers at the values I have stated, which is the rate, and does not vary any more than the price of sugar. In these foods there are the same elements in quantities to amount to eleven dollars in a ton of bran. You might just as well buy a ton of bran and pay eleven dollars, or a ton of cotton seed, and throw it on your land. In fact they buy cotton seed meal and mix right in there; and many a man hauls home ton after ton of cotton seed meal and puts on his land for fertilizing, paying extra prices.

Every car load of bran that rolls across the state of Wisconsin to be fed in Massachusetts or New Hampshire carries with it a hundred dollars worth of fertilizer. Every car load of malt sprouts that goes out of Milwaukee contains a good deal more than that. I have been arguing that since the mills are up in the northwest, and farmers down east are buying that feed and feeding it, it is only the part of wisdom to stop those cars right here and manufacture that

bran into butter, cheese, wool and beef, whatever we can find most profitable, and to send them manufactured product. Look at the pine logs that float down the Mississippi and help to build up Clinton and Davenport. Shouldn't we stop those logs and build up Eau Claire and Menomonee and cities within our borders? I claim that we should stop all this bye-product right here in Wisconsin. If the Massachusetts farmer can afford to pay five and ten dollars a ton more in freight to get stuff to him, and pay his commission man, why can't we stop the car here and save the freight bill and send our butter on at from fifty to sixty cents or a dollar a hundred, and keep all that fertility in our land.

Still, you say "bran isn't worth \$11 a ton in spite of all you say. No it is not." Bran is not worth over two or three dollars a ton for manure. It is worth something. Years ago you sowed all wheat and made farms poor. Up north they are going through the same process, by taking off the potash and phosphate. Nature has put the largest part of them on the outside of wheat. It goes into bran, and those car loads of bran must be stopped in Wisconsin just as far as possible, if we are going to get all we can out of it. If a ton of straw is worth \$3 to you then a ton of bran is worth \$11 to you for manure. But a ton of straw may be worth \$1. Then a ton of bran is worth \$3. Sometimes the soil needs lightening up. There is a mechanical effect to the straw that of course bran or cotton seed meal don't give; but as to the food of plants, the relations are as I have given them. As to lightening up the soil, and letting water go through, that is the other side of this fertilizer question.

Now sometimes corn and straw and oil meal, and bran are closely balanced in your mind as to which you would buy. Let the oil meal and the bran come up on top and decide the matter, because there is more fertility in them. But do not go back on our corn crop. We ought to feed all corn we raise in the state, and more too. We can feed a large amount of it if we only add to it some of these nitrogenous foods. New bran is getting so high that I am going to quit preaching it. What will you grow in place of bran?

Grow oats, which contain a great amount of muscle making food. Grow peas. In every hundred pounds of peas there are nineteen pounds of food which will build up the muscle in the animal. Clover hay is rich in the protien element, so that we have oats and peas and clover hay that we can grow on our farms to save this buying of bran, and to hold these men in check and not let them get such control over us that they can put the price where they please.

Now I have gone over this subject very hastily. If you will come up and take the short course, I will agree to spend three weeks with you, and I will make it a great deal plainer in three weeks than I can in thirty-five minutes.

The Chairman — I would like to ask the Professor if the experiments prove that the product, in the main, compares with the elements contained in the food? For instance, in feeding nitrogenous food does the product always show that there is greater growth in that direction? Ain't there sometimes marked exceptions to the rule? Where you feed corn for instance don't the animal very often increase greatly in its muscular formation?

Prof. Henry — Mr. Arnold has asked an important question, as to how close practice agrees with this theory. The theory I have been trying to give you is the theory evolved from experimentation and practice. When the feed is short of nitrogen, the animal uses it up just as closely as it can; so a food that is not very rich in nitrogen, the animal will take out of it all it can, and even waste some of the other elements using the nitrogen very closely. What I have said is a correct exposition of the values of these foods. Corn will not make a perfect pig food of itself, although pigs will like it. We have fed young pigs at the University farm until their jowls would almost drag on the floor; while the pig wouldn't be over that high, yet he would be loaded down with fat. You have seen pet dogs that have been fed with sugar. Those creatures become fat and flabby, and die. You can get around it largely by using corn and

furnishing a clover pasture. Clover and blue grass are great things to go along with this pig feed to furnish what I speak of. The farmer who does that says "I don't feed much nitrogen." They get it in the blue grass. The bone and muscle is there, and the hog simply lays on the fat.

Mr. Clark—How does barley straw compare with oat straw?

Prof. Henry—Barley straw is very close to oat straw.

Mr. Chadwick—How does alsike compare with medium clover?

Prof. Henry—Those two are very close again. The clovers all run about the same.

Mr. Chamberlain—I would like to ask Prof. Henry to state to us exactly what he would feed a cow for instance from the time she is put up in the fall, goes into winter quarters, until March; what he would consider a perfect ration, mixture of the different grasses and grains?

Prof. Henry—That is a little difficult my friend to give. I should give a cow fifteen pounds of corn stalks, five pounds of clover hay, five pounds of bran and five to seven of corn meal. That would be one ration. Again I would feed thirty-five pounds of silage, corn silage, five or ten of clover hay, five of oats and five of corn. That would be a good ration for a cow.

Mr. Chamberlain—Where do you put in your oil meal?

Prof. Henry—Now in that last ration if the oats were high, or bran was \$15 or \$18 a ton and oil meal \$22 to \$24, I should put in three pounds of oil meal in place of five pounds of bran. I know a gentleman now, that all he is giving his cows is corn silage and two pounds of oil meal a day. There is a good deal of oil in the silage. He says he is getting magnificent results. That is too little variety. You can feed men on bread and potatoes and one kind of meat all winter perhaps; but it is better to give cows a little variety. Let them have a little of this and a little of that.

Mr. Arnold—I understand you advise this manner of feeding, not that the animal will always appropriate it in the manner suggested, but in the sense that that is the most economical way in which the animal can get the ele-

ments to assimilate, and that there is less waste that way than otherwise.

Prof. Henry — There is a good point. If you feed two or three kinds of food one helps the other to digest. You find that in your own case. There are times when you crave some kind of food, not as real nutriment, but for its effect on your digestive tract. Now to keep your cows on one little bit of narrow ration, because the chemist says that is the thing, is not reasonable. A cow should have variety. Successful feeding is meeting the animal's wants, and losing as little from the economical standpoint as possible.

Mr. Morrison — I would like to ask the professor whether the fact of the stock being fully matured or not doesn't make some difference in the amount of food, or the value that is assimilated?

Prof. Henry — That is a very good point. An animal which has grown all its bone and muscle, and which you are feeding for the purpose of increasing its fat, requires very different handling. You can feed a steer on corn, and if you will give him some oil meal to keep the bowels correct that is all a steer needs, with some ruffage. He is laying on fat. The milch cow is giving milk for the young growing animal, and her food must be much as though she was growing herself.

Now my friends, Wisconsin must come up fifty per cent. in the next ten or fifteen years in her appreciation of live stock, if she is going to fulfil her destiny in this Union of states. We are not half as appreciative as we should be in our love and our solicitude for our live stock interest. This state will never amount to what it should be until it is teeming with splendid herds of Jersey cows, and with other breeds of dairy cows. There are some sections where we can feed beef animals profitably. Then the horse interest must go on; and the sheep interest, which has been most seriously neglected, must take an enormous lead in the next ten years. The time must come when at the state fair at Milwaukee instead of seeing twenty-five men standing around the judges' ring, and crowds will flock there, and

the hurdy gurdy shows wont have anybody. It is a shame that a people calling themselves an agricultural people should be represented on the fair grounds by nine thousand off to one side, and five hundred looking over the vegetables, three or four hundred looking at the machinery, and one hundred looking at the stock. Now you strike a Canadian, he is a stock man, he knows sheep as we do not know them. He knows horses often as we do not know them. You strike a Scotchman, he is horse, sheep or cattle first and last. An Englishman is often the same way, and it is the blood of those people that has come over here and has vivified us and helped us more than all the other nations on the earth put together.

Now we have got to educate our people in this state until we are stock men through and through.

New when our farmers' institutes are held we can go to one place where William Lycettes work is seen, and there the farmers bring out their sheep and have an exhibition of sheep right at the institute. Some places we go they won't hear a word about sheep. There are less than a million sheep in this state. The agricultural department of our University is not going to rest until there are three million sheep in Wisconsin. We are not going to hurt your fat cattle or dairy cows or horses or pigs. We don't expect some of you to give up the things you are interested in and put in a lot of sheep. We are going to train up these boys to judge your stock, and judge it fairly and honestly. We are going to send these young men home with the idea that good stock well fed is the best system of farming. Now there are close to a million people in Chicago, a quarter million of people in Milwaukee, and a half a million right up here in the great iron mines. Let us study our environment and position, and let us get out of it that which is due us because we happen to be fortunately situated. Let us not compete with Australia and other countries for things they can send over here for little money. Let us send things to market of the finest quality. The quickest way for some of us to get hold of the monopolists is to sell them things. That will get some of their money. They had a

feast over at Tommy Morgan's last winter and on the bill of fare was some of our mutton from the University farm. After the feast was over some of the members of the legislature said to me "Prof. that is the first time I ever ate mutton. I didn't like sheep meat, but that was fine meat." There is no trouble about people eating five times the mutton they do, if they could get the right kind of mutton. That is only one of a number of instances.

Gentlemen, we must get hold of this problem and must become live stock men through and through, so that every one of us will have a thrill go through us when we see what suits us. It ought to be so that when the Poland China breeders meet here, there would be a hundred in attendance. When the breeders of mutton sheep meet, there ought to be five hundred at these meetings. The other states are pushing, and we have got to march rapidly and gather together our strength soon, or other states are going to get ahead of us. Now keep the agricultural society, the university agricultural department, the dairy association, the short horn breeders' association, the swine breeders' association together, and never spend a moment's time in quarreling and fighting different interests, but all pull together to make that new fair ground down there, when we shall come together, the grandest rallying place the world ever saw; and the fair shall become a great live stock exhibit and those side shows will all die out because nobody will care to go to see such silly, nonsensical things. (Applause.)

Mr. Phillips—I want to use one moment to corroborate Prof. Henry. It was my fortune to go down into Pennsylvania and go into the country where the home of the Guernsey is. I attended a Guernsey breeders' association. I tell you they are right on this line. I want to give you a pointer, what they proposed at their meeting this winter. They say they are not satisfied to breed as good cattle, and have as good cattle as they have in the Islands of Guernsey or Jersey. They want to beat them. They have got the Babcock test and they have got other tests. They propose now in their association to get in a by-law that in order that an animal shall be registered the mother and the sire

shall show a certain percentage of value in their butter and milk tests before they are eligible to registry; so that they throw out all those that are not; just as Prof. Wiley does in Washington in selecting his beet seed. All those beets that do not test up to a paying basis will be discarded. They are going to discard everything from their registry that is not up to the test of paying in the dairy. I merely want to show you what those breeders are doing down there. They say the live stock interest is being injured. They have been ahead, and are going to keep ahead, and in order to do that, they are going to adopt that in their by-laws and constitution.

Mr. Morrison—I want to have Prof. Henry bring out one point, and give it greater emphasis. I find in holding Institutes all over the state, there is one stumbling block that always comes up to the farmer in respect to the manurial value of bran, clover hay, and so on. Now, doesn't it depend largely upon the feeder? Does every farmer get this manurial value from the feed?

Prof. Henry—I think you have put the question in such a way that it practically answers itself. Feeding is an art. It is not a science; and there is the trouble. If a father could only teach his son to feed as well as he does; but he cannot. It is like the doctor. A doctor can send his boy to college, but if the boy hasn't that peculiar adaptation to medicine that the father has, all the books and schools wont put it into him. There are men who can tell just what an animal needs by instinct, almost the same as a doctor tells what a patient needs; it don't seem to be the medicine so much. Mr. Goodrich tells you if he don't milk his cows in the right order, the cow that should be milked the milk is running from the udder, if she is not milked in turn.

How Mr. Goodrich and his cows are *en rapport*. They are one. You see a man with his horse and if the two are right they are one. That is the trouble with our stock feeding in Wisconsin. We think a cow is a sort of threshing machine, that we can throw the feed in at one end and go around to the other end and watch what comes out. Even

a threshing machine has got to be managed skillfully. A horse, a cow or a sheep has got to be managed more so. I want to see our people love their live stock. The Dutch farmer sleeps in the barn, or the barns are part of the houses. We needn't do that, but we want to become so that if you want to find a farmer, instead of finding him in the grocery store telling lies about a forty dollar mare, you will find him at home in the barn with his cattle.

Mr. Matt. Anderson — You would recommend his sitting in a warm room by the stove, on a cold day, reading the agricultural papers.

Prof. Henry — You and I know that there is lots of time wasted in the winter by our young men. I will be content with 20 per cent. of the time those 18, 19 and 20 year old boys waste in the winter. If you will give me that I will put a hundred million dollars of value on Wisconsin in the next fifteen years. I am after those young men, and after them in dead earnest, and I appeal to you to-day as friends to help me, because I cannot work alone.

Mr. Morrison — Have you noticed any influence of the Mitchell scholarships in any of the counties?

Prof. Henry — Mr. Mitchell's scholarships have attracted a number of people to the University; for instance one young man who got a scholarship from Waukesha county, I see him in the room now. Another young man was desirous of going. They both loved stock. He said, "if you are going up there, can't I get a scholarship." "No, we said, there is only one to a county." They said in his household, "you shall go anyway." Another said he would like to go up there; so Mr. Mitchell's scholarship brought one young man and he brought two more.

The Chairman — The next subject upon our programme is "The ration for a dairy cow," by A. X. Hyatt, of Sheboygan Falls.

THE RATION FOR A DAIRY COW.

BY MR. A. X. HYATT, Sheboygan Falls.

* * * When I was younger and my heart more tender than now, I was greatly grieved to take letters from the post-office addressed to "Ruta-baga Hyatt," or to have my house referred to as the "ruta baga tavern." I now receive letters quite often addressed to "A. X. Hyatt, Professor of Turnips" and I consider it the greatest honor. I have been called a professor of religion, but I am afraid I know more about turnips than I do about religion. If I remember aright when the stroke of lightning knocked Franklin over he did not cease to experiment with electricity; and when the scent of turnips in my milk knocked my cheese maker over, I did not cease my experiments in feeding turnips. When the first steam boiler blew up, Watt did not stop building steam engines, any more than I stopped feeding ruta-bagas after getting a blowing up from those that had my butter. But thank God! I have lived to see the daughter of the late Hiram Smith make gilt-edged butter from the Jersey cow when the cow was eating forty-five pounds of turnips a day. * * *

I am now convinced that if the experimenting is continued in the course of a few hundred years—perhaps sooner—silage will be made so good that I would be willing to feed it to my dairy cows. The first man that took the first wild plants and roots to mature them into rice, wheat and potatoes was a visionary. The first man that had the audacity to shut up the pig, thinking he would fatten faster, was a blockhead, and the first man that asserted that gilt-edged butter could be made from turnips was a bigger fool than all the others put together; and that is me. * * *

The ration of all rations for the dairy cow is kindness. Roots, oatmeal, oil-meal and clover hay are all excellent, but any one of them or all of them can be dispensed with for awhile and the cow not suffer; but there is no substitute for

kindness. One "Jim" Barrett, who flourished forty-five years ago in Putnam county, New York, offered to teach all there was worth knowing about grammar in twelve evenings. I graduated with him. The thirteenth and last rule of this wonderful man's grammar was: "Circumstances alter cases." Brothers Hill and Beach may be so circumstanced that silage, bran and clover hay may constitute the bulk of the ration for their cows, while Hyatt and a host of others may do equally well feeding roots, oatmeal, oil-meal, straw and millet. Yet "Jim" Barrett's last rule is utterly false as regards kindness. There are no circumstances in dealing with dairy cows where kind treatment can be dispensed with. Kindness should be written in flaming capitals on the door of every cow stable.

Man cannot live on bread alone. A cow cannot subsist entirely on kindness; she wants oats. A Scotchman is proverbially successful wherever he may take up his abode. This is claimed for the Bible and oatmeal. The Scotchman eats oatmeal all his life while the Irishman is brought up on potatoes, and even with the mass and the buttermilk he gets with his potatoes he is placed greatly at a disadvantage in competing in the struggle for life with a Scotchman. Experiments recently conducted in the School of Physiology, Paris, France, have demonstrated that the kernel of oat contains three medicinal principles. The first acts to soothe and tone up the brain and nerves; the second yields phosphorous to strengthen weakened nerve tissues, and the third, residing in the husk, acts as a laxative and anti-congestive on the stomach, liver and bowels. What a grand thing is science to tell the whys and wherefores!

The Bible and oatmeal for a Scotchman will do no more than kindness and oatmeal for a cow. I will continue to sing praises to the Lord for my oat crop—a crop that never has failed me. My wheat has been ruined by weevil, my corn devoured by grubs or cutworms, my barley blackened with rust, but my oats standing in the same field, perhaps, were unscathed.

I have failed of a satisfactory root crop but one year in the last thirty, and that year the big grasshoppers would

steal the little plants on dark nights. I sowed nine pounds of ruta-baga seed that year and only had a few hundred bushels. Brother farmers, the facts are I can raise one thousand bushels of roots on land that will hardly bring one hundred bushels of oats. To a certain extent a bushel of roots is worth as much as a ration for a dairy cow as a bushel of oats. Roots no more than a strawberry or a potato, can be reckoned high in nutritive matter, and when fed as the chief ration they must be so considered, but when fed as an auxiliary to hay or coarse fodder they are worth pound for pound as much as good hay. Why is good silage valued so high? Simply because the water in the corn is mostly preserved with the solids. Roots can be perfectly preserved, which unfortunately cannot always be said of silage. Our professors tell us that the more water our cows drink the more butter fat will be found in the milk.

Blood and milk I think contain some 87 per cent. water. Were it possible for Dr. Babcock to fairly analyze Farmer A. X. Hyatt or his excellency the Governor of the State of Wisconsin it would very likely be found that in solids they rate but little above a turnip — which ought to be conclusive that water can be put up in a way to be very precious.

The cheapest and most satisfactorily I ever wintered fifty head of cattle and horses I fed in seven months 1,000 bushels of oats, 5 tons of oil meal, 5 tons of hay, 6 acres of cornstalks, 4 barrels of salt, 4,200 bushels of roots, and the straw from 2,800 bushels of grain. A day's ration was 100 bushels cut straw, 50 pounds of oil meal, 150 pounds oatmeal, salt, and 20 bushels thinly sliced roots. The straw was wet, the grain and roots added and thoroughly mixed twelve hours before feeding. I need not add that the feed-box stood where it did not freeze.

I was milking what is called a summer dairy, but my milk reduced the cost of wintering the whole herd seven months to \$6 each. My whole herd was in good flesh and the most perfect health and my cows beat all their past records the following year. It is not boasting; it is truth when I say I have led Sheboygan county so far as heard from for years with a herd of good dairy cows, and the

chief factors in building them up was constant kindness, careful selection, good milking, pure water and food, always including for a winter ration plenty of oats and roots.

When my meadows yielded one and one-half tons to the acre, my oats seventy-five bushels, and my sweet corn and root crop declared to be the work of witchery by an octogenarian lady, it caused astonishment that such crops could grow without rain.

Fifteen hundred cows a week for three months left Sheboygan county last fall on account of the shortage of feed. I have kept my whole stock and made some purchases. I keep my stock simply because I raise something to feed them. I could raise enough to feed them because my land had been made very rich by raising large green crops for twenty-six years and feeding them to animals on this farm. Read up the root crop of the British islands, and then turn to corn and the silo and ponder awhile. No rotten, moldy, or ice cold vegetables, no impure or ice-cold water, no rotten or moldy silage or cornstalks, no damaged hay or grain should be fed to a dairy cow.

I have known 20 of 26 cows, several of them thoroughbreds, to retain the placenta, that had been fed damaged silage. They were not poor—only in health. Fifteen of sixteen cows had the same trouble that had eaten largely of mouldy clover hay. A cow being ready to break her neck to get at a pile of rotten roots does not prove to me that they are good for her, any more than though it was rotten silage.

I have a cow that will soon be twenty years old, that nineteen of her twenty years has had a ration of roots from three to six months of the year. She has given over eight thousand pounds of milk the past year. I do not remember of any trouble with her teats or udder. She looks, with her horns off, about twelve years old. She has eaten on this farm close to two thousand bushels of roots—with no signs of dyspepsia.

I never have had a cow cast her weathers and not two per cent. in the last five years retain the placenta. One case

of milk fever in twenty years and that came plainly from an accidental exposure. I attribute my exemption from those troubles largely due to feeding them liberally with roots.

If my experience has taught me anything it has taught me to dry cows 8 weeks at least before the next calf and if in winter feed them when dry plenty of roots.

In closing I will add I believe root cultivation should be greatly increased in this state.

Mr. Hubbard — I would like to know from Mr. Hyatt how he feeds these roots without carrying the taint to the butter or cheese; in what manner he feeds such large quantities of roots and doesn't have it affect the butter.

Mr. Hyatt — The secret of it is to feed directly after milking. Directly before milking would do no harm, if the cow was milked directly, but if it goes twenty-five or thirty minutes the volatile essence, or whatever it is, will reach the milk. You should feed your cows gradually up. I have fed as high as a bushel a day since the first of October to my large cows and my milk goes into Sheboygan Falls; it is made into butter and cheese and there is no complaint. The secret is to feed them directly after milking; and to keep everything clean. It is a very good idea to take a big dipper and when the milk goes to the cheese factory stir and air it generally. That takes out the scent of it.

Mr. Clark — How many cows do you milk?

Mr. Hyatt — Usually I have milked as high as forty.

Mr. Clark — How do you keep these turnips?

Mr. Hyatt — I feed them whole; I let them gnaw them.

Mr. Clark — Where do you keep your turnips in the winter?

Mr. Hyatt — I had to bury them this year, you know my barn burned a year ago.

Mr. Clark — You had a root cellar under the barn?

Mr. Hyatt — Yes, I had a basement barn, and a root cellar that was 23x40 and 8 feet deep, and I filled that. I

drove right in on the barn floor; **having** places to drop them right through the floor into the cellar. I can raise them for about three cents a bushel.

Mr. Chadwick — Can you tell us what kind of turnips you raise and how you raise them?

Mr. Hyatt — I will tell you how I raised a thousand bushels of rutabagas on an acre of land that had been cropped since James K. Polk was president of the United States. My first deed came from James K. Polk. The land is a sandy loam. I made that sod, while yet in grass, very rich. Everybody is not favored with low, moist land such as I have. I turned it over in July. You can mow it or pasture it to the middle of July. I make that land very fine. From that time until the next June I see that no weeds grow. I go over it often enough to kill every vestage of a weed. There are some seeds that wont germinate in the fall, and will germinate the next spring. They seem to want to freeze. Isn't that so Prof. Henry?

Prof. Henry — Yes.

Mr. Hyatt — The next spring as soon as it is dry enough, I go on and fine that land again; so that if there are any weeds anywhere that ever will germinate they will have a chance to germinate and grow. From the 10th to the 15th of June I go through with a shovel plow making ridges about a foot wide or fourteen inches. Upon that ridge I sow rutabaga seed by hand. It is just as easy for me to go along, and I know how many seeds I am running on that ridge, and I can do it as well as I can wheel a seed sower. I can walk straight enough; no back bending about it. The reason I sow them on that ridge is because if there comes a rain it don't run away from the plant. I sow them on that ridge, then skip 15 or 20 inches, so as to get through with the cultivator, and then make another ridge. Then I cover them with a very short toothed drag; then thoroughly roll them. The seed wants to be thoroughly packed and the ground thoroughly solid. Roll it thoroughly. Those rutabagas will come up too thick. We expect that. If the ground is rich enough the rutabagas push ahead so that the little bugs don't generally kill them.

If it is a very dry time, and the black bugs are likely to bother you watch them close; go over them with two parts ashes and one part of air-slacked lime. That is a sure preventive. When they are ready to thin I take a drag with the teeth following each other and I cross these rows in a warm day, when the sun shines, after the plants are up a bit. Then I will cut out until I am satisfied. It is a great deal easier to harvest a thousand bushels of rutabagas that will average from 6 to 12 pounds than from 6 to 12 ounces. That is the whole secret of it. I will tell you how I knew there was a thousand bushels. I took a 16½ foot foot pole and went into the field in different parts and squared out a square rod, and they average eight bushels. They went as high as nine bushels to the square rod. That would make 1,280 bushels, but I picked the best places. Of course, so much so, that I was sure they yielded a thousand bushels. That is all there is to it, a perfect preparation of the land before the seed is sown. It makes a difference, their costing you 3 or 4 cents a bushel, or from 15 to 20.

Mr. Clark— I understand you to say you break the land the year before you want to plant it?

Mr. Hyatt— Yes, and prepare it. The weeds is all you have to contend with. There are a great many men who have land which is plenty rich enough, but the weeds destroy everything. I have actually sowed, years ago, an acre of rutababgas, had them come up beautifully, but the weeds come so thick I turned them right under.

Prof. Henry— This ridge is about how wide on top?

Mr. Hyatt— It don't make much difference. It is over a foot.

Prof. Henry— Do you sow the turnips so that the seeds fall on any part of that ridge, the whole width?

Mr. Hyatt— Yes.

Prof. Henry— This drag that you put on first, to put them in and cover the seed, does that cover more than one row?

Mr. Hyatt— Yes, there are 72 teeth and it covers three or four rows.

Prof. Henry— You go with the row?

Mr. Hyatt—Yes, sir.

Prof. Henry—If you wish to get the weeds out?

Mr. Hyatt—You go across the rows, and I step right on to the drag.

Prof. Henry—You begin the preparation of your land the preceding season?

Mr. Hyatt—Yes, sir.

Prof. Henry—By plowing up meadow or pasture land?

Mr. Hyatt—Yes, sir; and you can take old land if you want to.

Mr. Fox—Putting on plenty of manure?

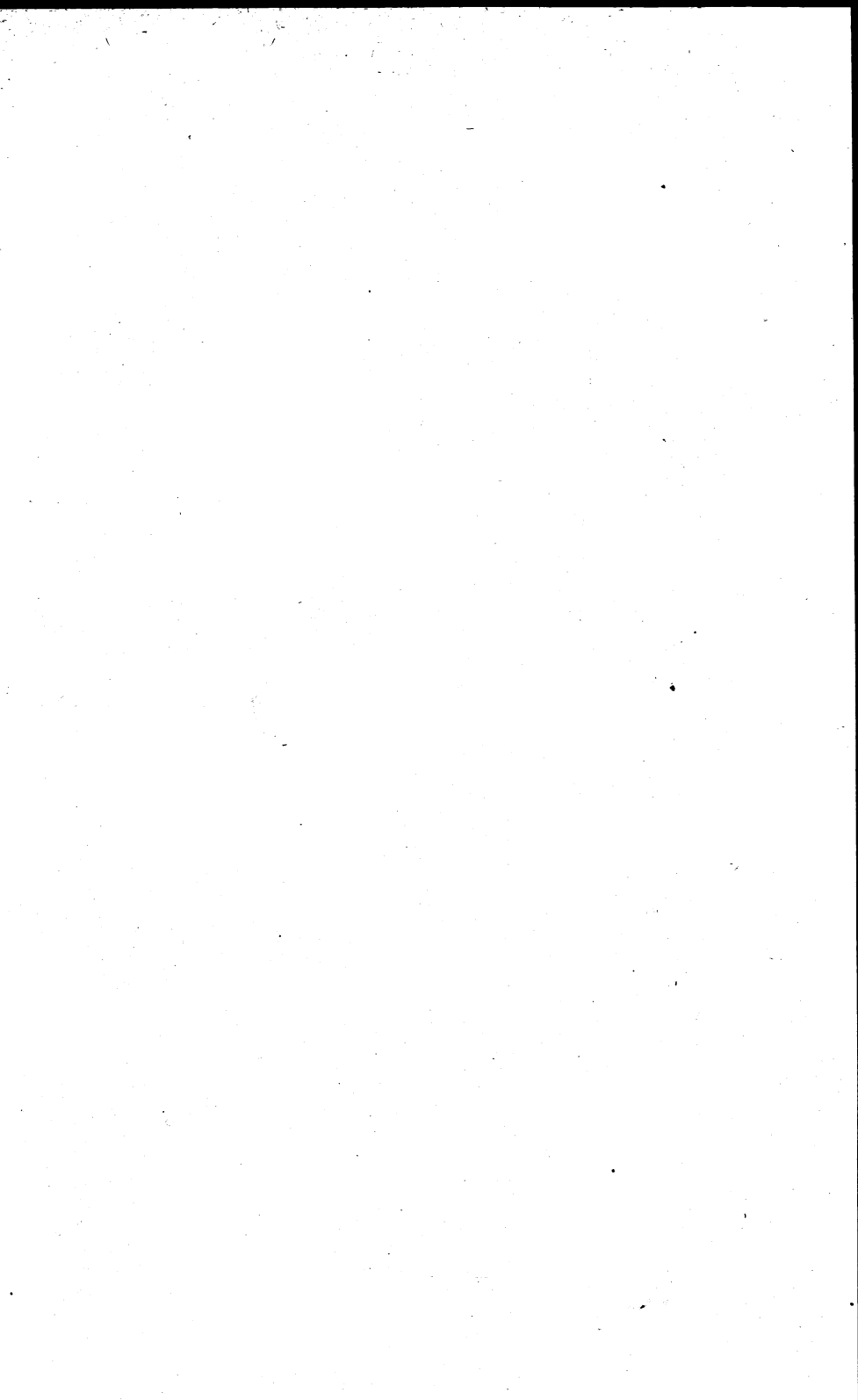
Mr. Hyatt—Yes.

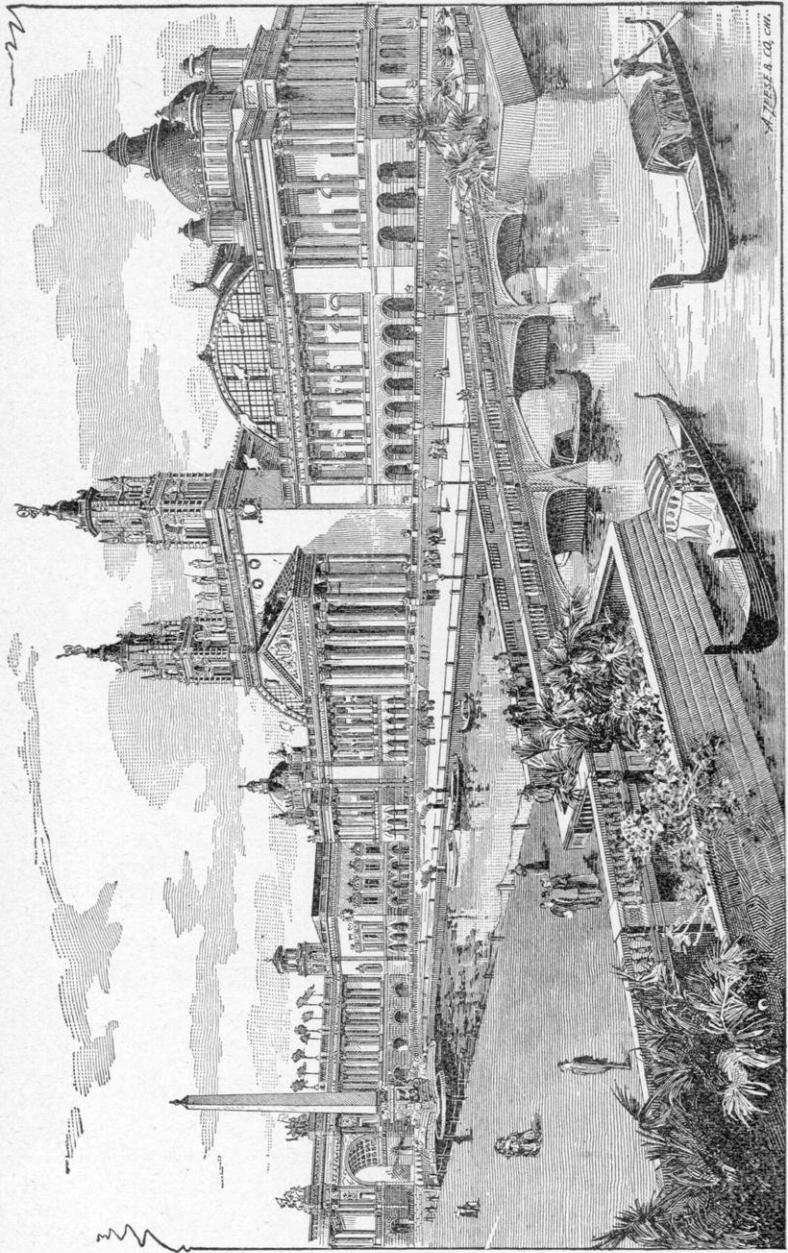
Mr. Fox—I would like to ask the easiest method of harvesting those roots.

Mr. Hyatt—I have kept a yoke of oxen ten or twelve years and I hitch the oxen onto the wagon and drive right in there. When it was perfectly dry the oxen have drawn loads to the barn in which there was forty-nine bushels of turnips. I take and throw them onto the floor. Then I would have topping bees. I would get oysters and a lot of girls and then the boys would come there. I have had topped a thousand bushels of rutabagas in good shape in one evening. A cow can be educated to eat the rutabagas without the least trouble. I put a bushel of rutabagas between two cows. I have got an old cow that is twenty years old and has only two teeth in the upper jaw and none in the lower jaw; and she will eat them. In all the years of my feeding rutabagas I have cut and cut and cut and cut. That was the biggest job of the whole business. I had a Racine slicer, but it was hard turning the crank. Your cows will learn, if you feed them when the tops are on in the fall and get them used to it. A cow has got some sense. A cow ain't nobody's fool, not when they are educated. Those cows will eat those turnips in ten minutes without the least trouble.

Mr. Clark—Ever have any trouble about their getting choked, eating these roots?

Mr. Hyatt—In all the years of my feeding turnips I never had any trouble.





Machinery Building, World's Fair.

Mr. Phillips—You haven't told us how you get those turnips out of the ground.

Mr. Hyatt—By pulling them. If I ever lost any of the religion I got when a boy it has been tussling with Dubuque corn, and on rutabagas. I say to the young farmers "Go for the roots. It has made Scotland, Ireland and England rich."

I have been greatly pleased with Prof. Henry. He will, if he keeps on, know as much about turnips as I do. Now I worked rather a sharp card on the state. I might as well own up here at Madison, There were several of my neighbors that wanted to sow a little bed of sugar beets and they said "send for some for us." Well I wrote to the professor that I would like three pounds. There were three or four neighbors, but I only asked for three pounds. They took out a little and I put all the rest in. I don't know whether I figured how much it was to the acre, but the report from Washington came that there was 41 tons to the acre. One 66 $\frac{2}{3}$ feet in length I had 196 lbs; on an average of three lbs. a piece.

Prof. Henry—At that rate there would be 8,000 lbs. of granulated sugar available on that land to the acre?

Mr. Hyatt—This old cow twenty years old, used to come around there every day when I was weeding them and used to look at me as much as to say "just please give me a few of them;" and I did every day. She seemed to talk to me; and she loved those sugar beets better than she ever did the turnips.

Mr. Clark—Wouldn't that be a grand substitute for your turnips?

Mr. Hyatt—Certainly. I don't know but I may be "sugar beet Hyatt" instead of "turnip Hyatt."

Mr. Noyes—You haven't told us how you harvested those turnips yet.

Mr. Hyatt—I take an eight tined fork, made for the purpose. If you sow them on this ridge, there is this improvement in pulling them. It takes less than half the strength to pull them. I had a long seven footer of a hired man last year and if he wouldn't everlastingly take out them

roots. He would go along with that eight-tined fork and push it down in the ground and bear enough on it to loosen them up, but leave them right there. Then the man would take what he could get hold of and throw them into the wagon. They were all loosened with the eight-tined fork.

Mr. Odell—I desire to ask Mr. Hyatt if he in his experience has observed the relative feeding value of turnips grown on black land or on clay land, as to their sweetness and importance for feed; the sugar that is in them, I suppose.

Mr. Hyatt—I never could see any great difference. I have not been a close observer enough to know that. I generally give them what they want to eat, and get the milk, you know. On black land they are a great deal sweeter. I have told you the whole secret of having rutabagas for winter use. It is to grow them just as near the cold weather as possible. You sow a rutabaga in May, and it ain't fit for a cow to eat. It is a coarse grained, miserable, tough thing, anyway. About the middle of June in Sheboygan county is the time, and the later they grow the sweeter they are. I have raised them that would weigh 16 pounds. I did pull a few, never but a few in my life, that weighed 18.

Mr. Adams, Sr.—I would ask if your success has not been in raising them on rather low, black soil?

Mr. Hyatt—If I was going to wager a hundred dollars that I could raise so many roots on an acre I would just about as soon take a loam and make it rich enough, as to take low land. The low land wants manure just as bad.

Mr. Ames, Sr.—Would you take clay loam just as soon as sandy loam?

Mr. Hyatt—Clay sticks to the roots so bad that it ain't fit to put them on if it comes a wet time.

Mr. Noyes—What are we going to do when we don't have anything but clay soil?

Mr. Hyatt—Raise mangles. One year I raised so many roots of all kinds, mangles, turnips and rutabagas in one field, that I got sick of pulling so many and I let my cows in an hour or two a day and clean up the corners which I

had left. What do you think the cows would go for first, and clean them almost out? The rutabagas. They would pass right over the mangles.

Mr. Williams — Do you wash your turnips before feeding them to the cattle?

Mr. Hyatt — No sir there ain't much dirt sticks on; but I have come to the conclusion that this black dirt, a certain amount of it, is an actual benefit.

Mr. Williams — I see they wash them at the university. I think it a good idea.

Mr. Hyatt — Yes where there are particles of grit or anything of that kind in the soil.

Mr. Chadwick — What is the relative value of silage to the rutabaga?

Mr. Hyatt — It is all in favor of the rutabaga, simply because I will not feed a cow anything that is not pure.

Mr. Lippet — I would like to ask the gentlemen, before he takes his seat, how the rutabaga compares with the carrot.

Mr. Hyatt — There isn't any great difference. The carrot is a medicine. The carrot is one of the finest medicines. It is a food medicine. Fed in too great quantities it works too much upon the kidneys. A horse can be destroyed by feeding it too much carrot, but it is one of the best feeds a horse ever eats. I would rather have a hundred bushels of carrots and a hundred bushels of rutabagas than have two hundred bushels of rutabagas.

THE WISCONSIN STATE AGRICULTURAL SOCIETY.

By H. C. ADAMS, Madison, Wis.

When two men agree in this country they organize a society, electing one president and the other secretary. We have a mania for organized work. We have almost as many societies born daily in the United States as babies, and they make more noise and more work, but often develop into as great blessings. Even that very large and

necessary element of our population which so far has not been permitted to vote, is rapidly becoming divided into presidents, secretaries, and members of executive committees of various societies designed for the regeneration of the earth and the uncorking of bottled talents. We run from Browning clubs to foot-ball clubs, from political parties to cinch clubs, from societies of christian endeavor to anarchist leagues. We organize for fun, for education, for the good of the state, for the benefit of science and art, for everything, almost, that men care about. There is reason for all this. It lies in the strength of concentrated effort. Farmers have been most reluctant of any class to organize. Their first efforts in this line were in the direction of general agricultural societies. The Scotch were first in the field with an agricultural society in 1723. In 1784 a national agricultural society was organized in that country which held annual exhibitions of livestock, farm machinery and products. Fairs were held in the west of England in 1777. Similar societies were established in Holland and France about this time. Near the close of the century the Board of Agriculture of Great Britain was organized. Washington recommended the establishment of a similar board in this country in a message to congress in 1796. The first American agricultural society was organized at Charleston, South Carolina, in 1784. A similar society was established in Philadelphia in 1785.

In 1792 the agricultural society of New York published its transaction or annual report of proceedings. It was the pioneer of the millions of agricultural reports which have since been distributed. New York was the first state to grant aid to agricultural societies beginning with an appropriation of \$10,000 in 1819. Since that time agricultural societies have sprung up in every state and territory and in most of the counties, until now they number at least 3,000 in the United States. To this number must be added a host of kindred organizations, dairymen's associations, horticultural societies, breeders' associations, bee-keepers' associations, wool-growers' associations, swine breeders' associations, and all the representative societies of special

lines of agriculture. The advancement in agriculture of which we boast to-day is largely the outgrowth of these societies. They were particularly valuable in their earlier history. At that time pure bred stock was almost unknown, the agricultural paper had hardly made its appearance; population was scattered; facilities for transportation were limited, and the art and science of agriculture were just beginning to feel the influence of modern thought. The fairs became the farmers schools. They were almost the only advertising medium of the best grains, stock and farm machinery. In the crush of new things and societies their value should not be underestimated now. The Wisconsin State Agricultural Society was organized in 1851. A handful of men gave it its name. It has grown to a membership of over one thousand in forty-one years. It has held thirty-six annual fairs which have had a total attendance of one million people. It has paid out nearly half a million dollars in premiums and scattered 250,000 of its reports. The state in recent years has contributed liberally to its support and for the publication of its transactions.

It is claimed that the mission of a state fair is ended; that the reason for its existence has passed away; that other means of agricultural education are superior to it; that its influences are not good; that it has degenerated into a horse trot, pure and simple, with baloon ascensions thrown in for instruction, with women who have snakes for entertainment; that it is a costly sop thrown to farmers who don't want it; that the legislature is not justified in appropriating money for a special class of people even if they do want it; that if we are to have fairs at all they should be county or district fairs. These statements need looking over. They are "important if true." If the mission of a state fair is ended what were 35,000 people on the grounds for in Milwaukee, September, 1891. If the mission of a state fair is ended why do the best breeders of live stock all over the United States continue to exhibit at a very large outlay of trouble and money? The manufacturers of agricultural implements do not go to fairs for fun, they go because they sell things; because they know that when a

man sees a machine that is good for something he is on the highway to a purchase. The state agricultural society with its annual exhibition has a place of its own in our system of agricultural education. Because it can not do the work of the institutes it does not follow that it should swallow itself and die. Because it can not be taken home and read by lamplight by a farmer with his feet on the stove it does not follow that the agricultural paper will take its place. Because it can not lug around a laboratory, a dozen professors and a class room for thirty thousand people it does not follow that the agricultural college is to wipe it from the face of the earth. The work of the institutes has given splendid tillage to the agricultural thought of Wisconsin; it has added millions to her wealth; it has made our state known in every civilized land upon the globe. But it has its own peculiar field. It can handle ideas but not things to any extent. The state agricultural society does both, and the work of each helps that of the other. The agricultural paper has its place. Away from the uproar of a fair and the crowd at the institute, it goes quietly into the farmer's home, taking experience and wisdom, the results of scientific research everywhere, bits of sentiment, philosophy and the breath of inspiration to the farmer who loves his business. It goes to one home where it should go to ten.

But you never get the odor of a flower by reading about it, and the full beauty of the stately Shorthorns and fawn-like Jerseys comes only to the eye. We read about things and recollect some of them. We see them and remember because of an impression stronger than the types. The agricultural college will never take the place of any of these educational forces. It will be jealous of none of them because all contribute to its success. The college reaches a special class, the state fair reaches every class. Everybody goes, from children under one to tottering age, boot-blacks and bankers, peddlers and politicians, farm boys and city girls, people of all classes, conditions and colors crowd inside a fence once a year to sample Wisconsin's agricultural wealth and look each other over. It is some-

thing of a lesson to the people in the professions, in commerce and manufactures. They may touch the farmer lightly at this point but still they touch him and get some idea of his productive power and his advancement. Everybody knows that it does a farmer good to get into a crowd. He may not think so. Men would often kick their blessings if it were not for a universal streak of laziness. But the isolation of a farmer's life is its worst feature and when he can get out of it for a day or a week at fair time it does him good. He thinks new thoughts. He finds thousands of the most interesting things in the world on exhibition,—men and women. They may not suit him very well but they interest him. There may be bad influences upon the fair grounds, as charged, they are found everywhere, they are not kept off farms nor out of the pulpit even, and they have been observed once or twice in political campaigns. They can very easily be avoided in this life by finding some place where there isn't anybody. The time has passed for hiding men to keep them good.

The stage agricultural society does countenance horse trots. There is no doubt about it. It always has and always will, probably, unless we run out of horses. There is an element in human nature which makes men enjoy contests which require nerve and skill and muscle. The crowd likes a horse race and so do the horses. I once saw a sinewy streak of horseflesh go under the wire winning a race by half a neck in a whirlwind of cheers, amid which an elderly clergyman by my side jumped up with a yell that could be heard a mile and then sat down on his silk hat quivering with delight. Does anyone imagine that his chance of salvation was diminished because he saw a horse do what nature intended—go? The trotting horse is as legitimate a farm product as a draft horse or a bushel of wheat. It requires skill in breeding and rare intelligence in handling. It does not harm a farmer to see a horse that will stir his blood with grace and beauty and speed, and it does not hurt his mind to study the subtle causes which produce these results. The prejudice against racing at fairs should be hung up with superstitions about the influence of

the moon on potatoes and soap, and catalogued with the vagaries of our honored forefathers. Balloon ascensions may be objected to because of their danger and cost, and a protest against snakes would be in order because of the company they keep, but these are little things easily dispensed with.

It is true that the society receives considerable aid from the state in appropriations and by the publication of its annual report but this is not done simply to please the farmers. It is done because the great basis of Wisconsin wealth is agriculture. The state invests money in this society because it expects to make money out of it; because it understands that the work of this organization bears fruit in better farms and richer farmers; that it increases the taxable property of the state and so increases its revenues. The membership of this society contains a large percentage of business men who know enough to know that if agricultural appropriation bills can be called class legislation it is because their benefits are finally bestowed upon every class in this commonwealth. The farmer can go before the legislature in advocacy of agricultural appropriations not as a supplicant for aid but as a citizen asking that the state make investments in knowledge that will not only yield more than ten per cent. cash, but those reserves of intelligence upon which depends the existence of the state itself.

The district fair has become one of our established institutions; its friends claim that it can take the place of the state fair. The claim can hardly be sustained. The district society stirs local pride and is all right in its place; the state fair stirs the pride of a state which is broader, deeper and better defined. The district fair brings limited competition in the peculiar products of adjacent territory; the state fair brings competition not limited, even by state lines and in all farm products of tens of millions of people. The state society gives an organization having organic relation to all of the county societies and comprehensive enough to embrace men of all parties and professions in every corner of the state. Its work is not only in the line of exhibitions of the products of field and factory, but in its officers and

executive board it has a body of men constantly studying our agricultural needs and in its annual convention sifts out and rounds up the new ideas and practices that each year find a place upon the farm. It can afford to be generous in its judgments of district societies because it is strong, and because it is generous, and because it is generous and because it is strong the district societies should recognize it as a friend and not as a rival.

The time has passed when the farmer could lock up his mind, throw away the key and trust to luck to carry him through. The competition of to-day is plowing under men who do that whether they till the soil or preach the gospel. Inventive genius has taken hold of the American farmer and given him a chance to rest his body part of the time. It is an age of new things. Seven thousand churns have been patented in the United States. You can milk a cow and have the milk made into butter and buttermilk almost before the cow has finished kicking at you. The girl of the olden time who became so picturesquely tired running a spinning wheel has gone to a female seminary where she is taught mathematics and manners, and eats pancakes made by machinery while her mother makes her clothes with a machine warranted by the agent to run without either noise or effort. We dig potatoes, hoe corn, thresh wheat and make ensilage with machines that would have started our puritan forefathers on the war-path for witches. All this means reduced cost of production. Thrift on the farm travels on two legs, one going toward reduced costs and the other toward increased production, and both as a rule moving on the same line. Our state fairs have had a marked value and have more than paid their cost simply as exhibitions of agricultural machinery. They have taught farmers by the kindergarten method which is the best, whether for children or men. Many a farmer who would not notice improved machinery has been made to stop and think in the presence of the exhibits of livestock. The mental comparison between the average scrub and a pure bred animal in the show ring is apt to start up a very lively crop of ideas. Stock has been improved like everything

else in the last half century. The native farm horse of that day would have fainted at the sight of the magnificent physique of the latter day Clydesdales and on the road would have had very little of the society of the horses driven by some of our farmers' boys who know the value for nerve and speed of a strain of trotting blood.

The thought of men has taken hold of the cow and changed her in some breeds so that she would not know her ancestors if they should appear. The butter average per cow in Wisconsin has doubled in thirty years. There are a number of herds in Wisconsin that average over three hundred pounds each annually. Prof. Manly Miles told me of a herd in Michigan, the other day, that averaged 450 lbs. per head. Several noted cows have yielded over a thousand pounds in a year.

Similar improvements have taken place in other lines of farm stock. The pure bred animal is forcing its way to the front by the momentum of its beauty, added to its ability to make more milk, meat, wool, speed and strength out of the feed you give it, than the native. The state agricultural society has always stood by this kind of an animal as its best friend, and has persuaded by its exhibitions and its conventions hundreds, if not thousands, of Wisconsin farmers that it is their best friend. In other departments that cannot be referred to in the limits of this paper, the society has exerted a constant and powerful influence in the direction of economic production.

For the work which it has done, for that which it is doing, for that which it hopes to do in developing the agricultural resources of the state and making them known to the world, this society should have the loyal friendship of every farmer in the state. It is not beyond criticism, because men run it. But as a business organization devoted primarily to farm interests, run by no political party and colored by no 'ism, the criticism should be for improvement and not for destruction. We need a larger active membership among the farmers of the different counties; men who will take an active interest in all of the society's meetings and work, but as I said at the beginning farmers do not or-

gnize easily and when they do they are more anxious to get out than they were to get in. Still the society has had a strong growth in membership during the last few years. It furnishes common ground where the members of the special societies can meet and where can be found those friendships among men bound together by ties of a common interest which bring emulation in business and satisfaction in life.

This is the most important year in the history of this society. For the first time it has a location which is permanent beyond a question. The tramp system has been abolished. New grounds have been secured and new buildings are to be erected. In its new location, new life and force and attractiveness will attach to the society's work and it will be able to do still more than it has done to draw the farmers of the state together in bonds of social good fellowship, to make farming more business-like and more profitable, to secure to the men who till the soil the respect of other classes and to free the agricultural mind from cheap prejudices against other vocations.

AFTERNOON SESSION, FEB. 4, 1892, 2 P. M.

Mr. Arnold in the chair.

The Chairman — "3 cts. pork and 50 cts. corn," by George Wylie, the gentleman who represents the aristocratic hog in the state of Wisconsin.

THREE CENT PORK AND FIFTY CENT CORN.

BY GEO. WYLIE.

Recent experiences with corn and hogs have demonstrated that raising hogs for the exclusive purpose of marketing corn is not always profitable. The corn crop of the year 1890 was a short one and in the language of commerce the hog crop was "long." And the hitherto unheard of spectacle of corn going up and pork going down at one and the same time was witnessed.

Farmers who sold early, lost. Those who held on and sold only when the crib was empty late in the winter or early in the spring lost still more. And about the only farmer who smiled at the situation was the one who lost his hogs by cholera early in the fall, thereby saving his corn instead of his bacon. Everybody worked on the theory that hogs would be hogs next season and a full crop of pigs last spring was the result. And this, coupled with a partial failure in many localities of another corn crop, had the effect the past fall of swelling the receipts at the leading markets clear up to within a notch of the largest on record. Everything fat, lean and indifferent, was started towards the yards in the wild rush to unload hogs and save corn, thus depressing the market lower than if the hogs had come forward in a finished condition. The summing up of the whole situation is, two hog crops sold at a loss. And why? Simply because farmers have, or appear to have lost sight of one of the first principles of successful pork raising. They have placed the hog first and worshiped him, losing sight of the fact that corn, not pork, is king. They have got to raising the hogs first and the corn to feed him with afterwards. Making corn, which is in fact the essential feature of the whole business, a secondary consideration. If the corn crop fails disaster is the result. By raising the corn first the acquirement of the pigs to consume it is a comparatively easy task, in the event of a failure of the pig crop the corn will keep for an indefinite period, which cannot be said of the hogs.

We seem to have lost sight of the fact that it is the price of the material required to make the pork and not the price of the pork itself that determines the profit. If we feed material that would otherwise go to waste, and there is a certain amount of such on every farm, the pork made therefrom is clear gain, but if we rely on corn and if we raise many hogs we must rely on it to a great extent. The commercial value of the corn determines the profit or loss of the business.

At the low price of \$2.50 per 100 lbs. for pork, if corn is worth 20 cents per bushel there is a profit to the feeder,

while with pork at \$5 per 100 lbs. and corn at 50 cents per bushel there is not much if any profit; or in other words, if corn is worth 50 cents bushel it costs you 5 cents per pound to make your pork. On the basis that ten pounds of pork can be made from a bushel of corn, and while it has been demonstrated beyond the possibility of a doubt that twelve and even fourteen pounds of pork can be made from a bushel of corn properly fed to well-bred stock, the fact remains that six to eight pounds of pork per bushel of corn fed are nearer the actual returns for the state of Wisconsin.

A few farmers of my acquaintance sold hogs in July and August last for \$5 per 100 lbs. And it can be said of them that if they made no big thing they certainly lost no such amount as the farmer who sold in November at \$3.28. If hogs are marketed in July and August, it means wintering them. And we have been given to understand of late that to winter a hog is expensive, that the food of support gets away with the profits. And there is undoubtedly something in this. But when a farmer tells me that he sold fifty hogs in August last at an average of \$15 each, whose average was a little over thirteen months and that they made him some money even under the unfavorable conditions that have existed, it calls for a little investigation. And we are led to ask has not the food of support been estimated too high.

Recent experiments would at least seem to indicate that this is the case when Prof. Henry can hold 80 lb. pigs at that weight for weeks at a time on three-fourths of a pound of feed per day, consisting of one and one-third shorts and two-thirds corn, there is nothing very alarming or wasteful in carrying hogs over if it can be done under as favorable conditions as the Professors was shown. While I believe and know that a well bred April or May pig can if rightly fed be got to weigh 200 lbs. at say seven months of age and give larger returns in weight for the food consumed than if kept longer. The point I am trying to get around is the comparatively low market always prevailing during the late fall and early winter when the bulk of the hogs are being marketed. When we find a better market year after

year, sometimes by \$2 per 100 lbs. in July and August why not turn our attention a little toward lightening the pressure on the fall market. If wintering the pigs is a drawback, there are at least a few conditions in its favor; if he costs more to raise he sells for a higher price. If intended to be wintered he should be a June pig; being a June pig he starts in life under the most favorable conditions possible requiring less care and attention than if farrowed earlier. If carried through the winter in just medium condition and turned on clover in the spring he gets the full benefit of the clover when it is at its best, which cannot be said of the April pig intended for market in the fall, as the best grass is gone before he is old enough to derive much benefit from it. On the other hand your "shoat" that has been wintered and turned on grass in May, will if supplied with plenty of water pretty near take care of himself for the ensuing two months. By July if you have a field of peas you can harvest them economically by turning the hogs into them. Before the peas are gone begin feeding the crib of old corn and you will find that the clover and peas and corn together will get him ready for market in a very few weeks. With this method you have utilized the clover crop to the best possible advantage. Your corn has been made the most of and as a rule you have sold on the highest market.

For the past ten years the highest average price of pork in Chicago for the ten months of July has been \$5.91½ per 100 lbs. for best grades, while the highest average price for the ten December months has been \$5.02 per 100 lbs. for best grades. This shows a balance of 89½ cts. per 100 lbs. per year in favor of the July market. The question to be considered is, will this advantage in price and the benefits derived from clover, and the feeding of the corn crop when the hog's system is in the best condition to utilize it, compensate for the food of support lost in carrying the hog four or five months through the winter, or can the hog be made to gain enough during the winter months without getting fat, to give a profitable return for those months over and above the food required for support, If the hog is wintered with the intention of giving him a run on clover and selling in

July or August, better results will be derived if the hog is in thin or medium condition when turned on the grass, as there is a condition of flesh, if the hog once reaches it, he had better be finished up and sold, no matter what the market may be.

There is no absolute rule that can be laid down for any one farmer or set of farmers to follow in the feeding and marketing of pork. The conditions or circumstances in which we are placed, the kind of farming we are engaged in, must in a measure decide. We should, however, aim to avoid a repetition of trying to make 3-cent pork out of 50-cent corn.

DISCUSSION.

The Chairman — Mr. Wylie will be on the witness stand here and you can ask him any questions you are a mind to. I would like to inquire whether I understood correctly that Prof. Henry has said that a pig of eighty pounds could be kept alive on three-fourths of a pound of grain.

Mr. Wylie — Per day. The professor is here.

Mr. Arnold — I was down to the station yesterday and he had some 125 pound shoats, and he said he was keeping up their weight on two pounds of feed; 300 pound hogs on a feed of two pounds and three-fourths.

Mr. Wylie — That is correct.

Mr. Ames, Jr. — On what kind of grain?

Mr. Wylie — On one-third shorts and two-thirds corn.

Prof. Henry — The figures that Mr. Wylie gave you I believe are correct. I have been at work on that problem now about two years. I am rather sorry that Mr. Wylie has given my figures away. I wished to continue that for about four or five years yet, and then I will have some figures that I hope will be worth tying to. There is an example of how long the Experiment Station work must go. I have carried on that work about two years and this is the first time any of the figures have gotten out. I don't want these figures to be taken as final. I want to strike an average at different times of the year, different condi-

tions, and different breeds. We have two different breeds of hogs on this experiment. It is a long road that I am travelling. It is the largest piece of work I ever undertook to do in Wisconsin.

Mr. Faville—Are those hogs kept close up, where they absolutely get nothing else?

Prof. Henry—Yes, sir; come down and look at them. They are in the pen there.

Mr. Faville—I want to say one thing. I knew of one pig that was shut up where he got nothing at all to eat, and lived fifty-three days.

Prof. Henry—There is just one big difference between that pig you speak of. He didn't weigh as much when he came out of the experiment as when he started in. But my pig weighs as much as when he starts. The Germans have told us that it takes two per cent. of an animal's live weight to keep it. That would make a 300 pound hog require six pounds of food. We had a 300 pound hog live on a pound and a half a day. That pig would come in and eat a pound and a half of one-third shorts and two thirds corn.

Mr. Faville—Have it in one feed?

Prof. Henry—Twice a day, and drank about ten or twelve pounds of water. He was of fine shape. We had photographs of him, ready to print when the time came. It is going to take more than that, but less than the Germans say. I don't know whether it is because we have improved our hogs over what the Germans have, or whether it is the climate or whether it is both, or whether they did not work carefully. As I told you I have been at work on this about two years, and I want to put about four years more on the work.

Mr. Sampson—It seems to me Mr. Wylie's idea in regard to keeping over hogs is a good one. It coincides with my experience, although I have never made positive experiments with the weights and feeds. I have always been better satisfied with a lot of May pigs to carry them over through the winter and sell them in the spring or the next June. It seems to me I made more money than where I

forced them from spring to fall and sold them in the fall at a low price. It is surprising how cheap you can keep young pigs. Fall pigs kept through the winter cost I think more than May or June pigs. Let a pig get to weigh 75 or 100 pounds and he will go through the winter very cheaply, if he has warm quarters.

Mr. Faville—Do you believe that hogs treated as the average farmer treats them, having the average place to sleep and all that, would live on that amount of food; and running outdoors in the cold; an 80 pound pig eating three-fourths of a pound at a meal?

Mr. Wylie—I am not advocating that everybody should winter their hogs. I am bringing this point up that the people may think about it. I am not telling you to do it; because everything depends on how you are situated as regards that. If you are going to winter your pigs be sure that it is not a late fall pig. Be sure it is old enough to have a good deal of size before winter sets in. You know that the experiments of late have all been in the direction of the greatest profit in the young, growing pig, other things being equal. If the price of pork was the same the year round, I don't think there would be any profit in wintering pigs; but it is this advance of the market, this higher market that we get in June and July. Of course if you have to sell your pig in June for the same market price that you could have sold him for in the fall you will lose money, that is all.

Prof. Morrow—I wish to express my appreciation of the paper of so great interest and value which Mr. Wylie has read. Mr. Wylie's last statement here covers very largely the ground. I do not believe that any one is in a position to dogmatize. We do not know with certainty, but I am inclined to believe, with all of the weight of evidence I have had before me that recent years we have been pushing one side a little too strong. If I were to criticise my friend Prof. Henry's statement I should say he gave rather too short than too long a time. I am not sure whether 4 or 5 years more is going to enable him to determine that with any certainty. It is one of the great questions.

Now in answer to my friend, Mr. Faville, if you will look at some records we have had of recent years, about the possibility of maintaining life and nearly maintaining weight, by human beings under conditions in which there was the minimum expenditure of both brain and body, you will find that the quantity was vastly less than we formerly supposed to be true. I want to raise this thought in your mind. It may not have occurred to all of you. The probability as I see it is this: that when Prof. Henry and others that work on this line, as I hope many may, have been able to show you satisfactorily the minimum amount of food that a hog of different ages requires to keep it in condition, we may then take that same thought for the quantity that is necessary when a hog is in the natural condition; because it seems to me that it is exceedingly probable that a hog getting a full ration, not a wasteful feeding, but judiciously fed, will use less in mere maintenance than one that is fed as Prof. Henry must necessarily do, or any experimenter. Let me tell a little incident on that subject of waiting patiently for the result on these experiments. I once asked Sir John Laws, one of the most experienced agricultural experimenters in the world, why they had published so little on one important point. He said, "the fact is, Prof. Morrow, that we have been at work on that for about twenty-seven years, but we do not feel that we know enough about it to say much." Twelve years more and they were, if not among the first to state, among the first to demonstrate one of the most important things that agriculture has learned, that science has done for agriculture, in the whole history of its investigation. Wait patiently. Do not insist on immediate results when a man, or any multitude of men, are endeavoring to get the secrets of nature in a shape that we, with our poor practice and little knowledge, can certainly make use of them and apply them to putting more money in our pockets. (Applause.)

Mr. Ames, Jr.—What about peas as a food for hogs.

Mr. Wylie—Peas I think are going to be more popular in Wisconsin as a food for hogs than they have been.

They are very easily raised, and they are very easily harvested by turning the hogs into them and letting them harvest them themselves. I think however where you go to work and cut them and thrash them you get a food that is pretty expensive. By simply sowing them and turning the hogs in when they are ripe they are a grand feed.

Mr. Faville — Wont they waste them ?

Mr. Wylie — If you are careful to shut the hogs out after a heavy rain there will be no waste.

Mr. Ames, Jr. — What about the varieties ?

Mr. Wylie — I am not familiar with the names at all and I have only tried one or two varieties. The variety I have sown usually comes in the first or second week in July, by sowing the first thing in the spring. It is rather a dark, brownish looking pea.

Mr. Adams — How much do you sow to the acre.

Mr. Wylie — About three bushels.

Mr. Faville — How do you sow them.

Mr. Wylie — If you have the right kind of a grain drill there is nothing better than that; a force feed grain drill, that wont grind the peas.

Mr. Morrison — How would it do to plow them in ?

Mr. Wylie — First rate.

Mr. Adams — In what stage of ripeness do you turn the hogs in ?

Mr. Wylie — They want to be ripe of course. Don't turn them into them too green.

Mr. Ames, Jr. — With the average corn crop how do you consider an acre of peas will compare, acre for acre, with corn ?

Mr. Wylie — Well, with the small amount of peas we raise in comparison with the amount of corn we raise, we call an acre of peas worth two acres of corn at least. If you are raising peas to a larger extent why it wouldn't hold good.

Mr. Morrison — Do you sow any oats with them ?

Mr. Wylie — Sometimes we do and sometimes not.

Mr. Ames, Jr. — I would like to state the experience of a neighbor of mine. He claims that on four acres of peas he

turned a certain number of pigs. Those pigs ran on that patch of peas some five weeks. When the peas were gone he turned them into a patch of Yankee corn, which he considered an average corn crop for this year, and they disposed of that in less than ten days; I think he said about a week. He considered it an average patch of Yankee corn, of the same number of acres. That set me to thinking and wondering if there wasn't something that would come in ahead of our corn crop that might be utilized profitably.

Mr. Wylie — I know of nothing that comes in ahead of the corn crop except peas and oats that you can utilize.

Mr. Faville — The peas and oats would come earlier.

Mr. Wylie — Yes.

Mr. Ames, Sr. — Would it be any benefit to sow oats with the peas.

Mr. Wylie — I think in some cases it would be.

The Secretary — Is there any danger of getting too rich ground for this crop?

Mr. Wylie — I have never found ground that was too rich. I think perhaps there may be. There are soils especially over in the western part of the state that appear to be peculiarly adapted to raising peas.

Prof. Henry — That is a section of Grant Co., where a great many peas are used by farmers for hog feeding purposes. If there is anybody here from that section I wish they would give us their experience. It is in the vicinity of Livingston.

The Chairman — I would like to speak as to the wintering of hogs. I am satisfied that the great loss by wintering hogs is occasioned by the lack of good sleeping quarters. I have wintered this winter, and have now, over 300 hogs. They do not suffer by reason of having a poor bed to sleep on. The hog is the most cleanly animal you can have on a farm if you give it half a show. I have outside in my barnyard a shed enclosed on all sides except one place where they can go in, a place about sixteen feet long and three feet high. It is separated so they cannot get together in large numbers, and cannot pile up. I never lost one by crowding. Now we pitch in there half a load of straw once

a week and continue that all winter long. Their beds are always clean. They never come out smoking and steaming. They go from there to the hog pen and are fed. I find that the hogs have gained three-fifths of a pound on an average per day.

Mr. Clark — How much is it costing you to feed them?

The Chairman — It has cost two cents per day to feed them, that is for what I fed them. These are young, growing hogs. They have the run of the barn-yard, they eat a good deal of clover, corn stalks, and other offal perhaps. That of course isn't their cost and maintenance, but that is the way an average farmer can handle them. They run along with the cattle. Mr. Wylie, nor no other person can demonstrate that a man can afford to make 3ct. pork out of 50ct. corn. I tried that experiment last winter. I had about 30 shoats that I could have sold at \$3. They weighed about 125lbs. I thought it was too bad to sell them for that and I kept them three months. Fed them \$290-worth of corn, at the price corn was then, and sold the hogs for \$270. My hogs would have sold for \$90 to start with, and I got \$20 less than the corn they ate was worth; so there was \$110 that I lost. I kept another lot, the way I speak of here, until in July or August, I don't remember the exact date, and sold those hogs for \$4.78 per hundred, and made a nice profit, notwithstanding corn was worth 50 cts. per bushel during the winter; which shows that there is something in Mr. Wylie's argument.

Mr. Goodwin, of Breeder's Gazette — I have attended conventions of stockmen in Indiana and Ohio this winter where this question of fall pigs has received very thorough discussion. The competition from the west at the regular market time of spring pigs has been so severe on the swine breeders of the eastern states that they are being driven to resort to fall pigs. And the leaders of stock in the swine industry in those two states particularly are advocating such change, and advocating it very vigorously. The pigs there are allowed, in part to follow the cattle; the feeders. In that way they are carried

along at very little expense; and in some of the timbered portions of Indiana the pigs are still allowed, as in former days, to get a good part of their living out of the woods. Not a few of the farmers in both of those states are so fixed that they can carry their pigs through the winter very profitably at very small cost; and when the clover comes in the spring they are all fixed. They have the corn there, and as Mr. Wylie has said the pigs are in the best condition to use the clover crop. It is of interest I think in this connection to mention the fact that recently one of the most prominent swine authorities in America, publicly suggested that the time may come when we shall have something like winter storage for our hogs; that is to say he intimated that the habit of hibernation might be introduced in our swine, whereby they could go into winter quarters and hibernate and come out in the spring and go on the clover and take the corn. The ground hog does that, and I don't know why the common hog cannot be made to do it. In fact a number of extended experiments that hinted in this direction very strongly have been made. There are quite a few cases on record where hogs have been buried under straw stacks; have immured there a number of weeks, and come out alive and kicking; recovered in every instance, and gone on and got fat again. This was a suggestion made in real serious earnest by a man who has devoted a good many years and a good deal of solid substance to the swine breeding industry.

You know certain swine breeders have succeeded in producing a hog that is strictly cholera proof, if you believe their statements. There is another section of swine-breeders who have succeeded in producing from hogs almost unnumbered pigs at a litter. I have read something from 20 to 30. It is not a very prudent man who will attempt to set a limitation on things which we will finally reach in this art of breeding.

Mr. Wylie—The idea of hibernating hogs was first advanced by a man who afterwards committed suicide, and I would advise you not to think too strongly of it for the

simple reason that you have got to have an awful fat hog to begin with; and when you get through with him in the spring he is an awful lean hog.

Prof. Henry — The average hog men make so much of their hogs that if they should bury them for 3 or 4 months they would go crazy without any hogs to look at.

Prof. Morrow — The subject which Mr. Wylie suggested, endeavoring to avoid the inconvenience of having our stock to sell when prices are so low, is a thing which I have given a good deal of thought to for a good many years. There is, particularly further south, one difficulty in getting hogs ready for the July and August market. Owing to the extreme heat that we have there, there is more danger, when the hogs get quite fat, of losing them. We occasionally, in central Illinois, have that trouble. I have found in the last few years very good results from attempting to produce corn to feed them at the earliest moment. You can grow peas a good deal better in Wisconsin than we can in southern Illinois. The climate is better adapted. We wouldn't say your soil is any better, but your climate is better. Now last year we planted a large-growing variety of sweet corn very early, in the last of April. Even with the great drouth we had a very fair yield. I forget just when we were able to commence using it, but it was certainly six weeks before our field corn would have been fit to use. It was planted more closely in the rows, and the rows were closer together. The yield was not so large, and we purposely began to feed it before it had reached its greatest feeding value per acre. I said, "I think we can afford to lose a little of the value for the purpose of crowding along a brood of sows who were thin and having great litters of pigs." But we were just a little too late. I find that we sold them the first week in October for \$4.25 a hundred, right at home. I remember distinctly that if they had been ready two weeks earlier we could have got 25 to 35 cents more. In two weeks after that the market had gone down from 25 to 35 cents, and in a month more it had gone down more than half a dollar. I am growing to attach more and more importance to the attempt to secure early varieties of

sweet corn that haven't so much intrinsic value, but because their coming earlier enables us to get our hogs earlier in the market. I wish my friend Wylie had been able to give the average value of hogs in September for a number of years. I am not able to give it, but my recollection is that the September market has ranked among the very best months in all the year.

Mr. Faville—I want to just emphasize two points that you have made. That is, that success in making money out of hogs will depend so very largely upon the treatment we give them. Of course the feed cuts a large figure, but the treatment has almost as much to do with it as the feed. The hog is one of the cleanest animals we have, if you give him a chance. And there is no animal we have upon the farm that will respond to good, nice treatment any more readily than the hog.

Mr. Webster—I would just like to say that I have experimented in the last three years with hogs, in a sort of farmer's way. We have our pigs come along in July, mostly, and in the winter they follow the cattle, and as most farmers know, it is getting to be quite a practice to feed shock corn through the feed cutter, and more or less corn goes through the cattle; and the wintering of hogs is much cheaper than most people have any idea of. It is surprising. I know we wintered 30 hogs, and all they got was one bushel basket of corn once a day; and the next spring after feeding them on clover and old corn for 60 days, we turned them off at 375 lbs., at \$5.75 a hundred.

The Chairman—I see a great many grey heads before me, men who have been here almost every session for the last 20 or 25 years. You remember at that time when we had these conventions they had but few farmers in the state who were able to stand on their feet and think and talk. Now after all these years, and these conventions, and these institutes, and these granges throughout the state, we have, in the state of Wisconsin, many farmers who are able to express themselves intelligently, who are leading farmers; so much so that Wisconsin in this particular has a reputation in this country. Professional men

are often surprised at the keen logic used, and the good arguments that are made at our conventions. Now we have one man with us at this convention to whom we are indebted for much of this; the man who started all this thing, and to whom we are indebted. It is Prof. Morrow, and he will now address you. I think he is entitled to a warm greeting.

Prof. Morrow — Mr. President, ladies and gentlemen: At the instant a sentence from a school reader comes back to my mind: "That young man is not far from ruin who can say without boasting, 'I don't care what others think of me.'" I am no longer a very young man, but I have not come to that state in which I do not care what others think of me; and I confess to being touched by the too complimentary way in which your chairman has introduced me. It is a matter of peculiar pleasure to me to again visit Wisconsin, and this beautiful city where I spent some years of humble, and as I then felt very unsuccessful although earnest efforts to help the cause of agriculture; and where I met many men and women whose continued friendship, too high appreciation and kindly feelings towards me are among the most pleasant remembrances of my life. In fifteen years work in connection with agricultural education in an adjoining state I have four times left the state to speak on agricultural subjects during the college year. Three of those four times I have come to Wisconsin. Nowhere else to-day would I be outside of my own state, with the pressure of my work; and I hesitated long before accepting the invitation of my friend, your secretary. The only drawback to my pleasure in listening to the admirable papers and discussions you have had to-day has been trying to do two things at once; listening and also attempting to solve the problem why he with his good sense ever thought it necessary to send out of Wisconsin to get anybody to help you at your meeting.

In the many scores of meetings of somewhat similar character that I have had the pleasant duty of attending in my own state of Illinois it has been my choice to take some purely practical problem; to talk about the things we

have been trying to do; but I have learned as years go by that circumstances do alter cases amazingly in agriculture as well as other things. Variations in climate, soil and circumstances make specific directions about practical matters often misleading a little way from home, so instead of taking such a topic as that, I have taken a broad one, about which none of us can dogmatize, and in which I can hope to do nothing more than to suggest a few things for your thoughts. I am sure of your appreciation of the importance of the theme, "What is the outlook of American agriculture?" On the answer that they give to it depends the selection of a life calling by millions of boys and girls all over this country; and scores of thousands in your own beautiful state. On the answer that we give to it depends the feeling of content or discontent of millions of those now engaged in it; and upon what shall prove to have been the true answer to it will largely depend the prosperity of the great nation of sixty-five millions of people of which we form a part. One of the most graceful as well as one of the most pleasant of American statesmen and essayists has written a sentence in which there is a great truth: "The test of national welfare is the intelligence and prosperity of the farmer." If that be true anywhere, it is peculiarly true in this land of ours, for reasons that are obvious to you.

Let us bear in mind as a starting point that the outlook depends greatly on the standpoint. Last summer it was my pleasure for the first time to ride over some of the land of central Pennsylvania. My friend said, as we left the train, "now I will drive you down the valley for twelve miles." I found myself going up hill and down hill, bigger by two or three times than I could find within one hundred miles of my home; but it was properly called the valley, as I saw when I got upon the mountain range at the side where it looked relatively level. You predict the same career for two young men or two young women. One shall say "that is beyond my highest dream of success; far beyond what I hope to reach;" the other "life would not be worth living if that is all I could do."

You see the application. Let us look a little at the standpoint from which we consider the outlook of American agriculture. What has been its past, and a little, what is its present, I can only suggest. Notwithstanding all our discontent, our tendency at times to complain, justly or unjustly, it is true that our sober judgment tells us that the agriculture of the past in the United States has been marvelously prosperous as a whole; nothing like it in the history of the world. Nowhere in all the world has there been an equally rapid development of civilization, of wealth in agricultural regions, with that we have seen in the Mississippi Valley; only surpassed by that we have seen in the Missouri Valley and other regions farther west. I need not argue these questions. If you need proof of it think of the continuous and rapid extension. Think of the fact of millions and millions of people that come to our land from foreign countries; half a million and more this very year. Very many of them go to the farms. Surely this is conclusive proof that compared with the condition of any other country, our condition in the past has generally been remarkably prosperous.

In the past we have built up an agriculture that has certain great characteristics that interest me greatly; and in a word I will try to mention some of them to you for your future thinking. First of all is its enormous extent. It is not American boastfulness or spread-eagleism to recite in what would seem extravagant language the enormous extent of our agriculture. It is still, and must long remain, the chief industry of the country. It engages the attention directly of at least twenty millions of men, women and children. We are a great agricultural exporting nation — 75 to 80 per cent. of the exports every year, one year with another, go from the farm, directly or indirectly. The products of our farms are the great export feature of our country. We have an agriculture of simple systems; gradually becoming more complex, but still very simple. Only a few great crops. Have you stopped to think of it? Of how limited in number are the great crops of our land? The cornfield of the United States is more by millions of

acres than twice the area of this great state, or our great state of Illinois. The wheat field of the United States is by millions of acres larger than the whole state of Wisconsin; not the farms, but every acre in it. The oat field is about three-quarters as large, in round numbers, as the great state of Wisconsin or Illinois. The grasses, using the term loosely, in which we include clover, cover a very large acreage. Add the millions of acres devoted to cotton and you have comparatively all. The other crops put together, enormously large as a matter of fact, are relatively nowhere, if I may use the expression. A peculiar, and as a whole not the most desirable feature, for the future. Necessarily inevitable in the past, and the present.

Again, a thing that I am glad still remains true, we as a whole are a nation of farmers who till the lands they themselves own. It is not the rule so much as it was a few years ago, but still the large majority of American farms are cultivated by their owners who live upon them. The number and percentage of tenants is necessarily increasing, but we may thank God, for I believe it is an ideal condition, that it is still the rule and not the exception in Wisconsin, and other members of the United States, that the man who cultivates the farm is tilling his own acreage. The average farm, with many extremes of large and of very small, is relatively a small farm. I am unable to give the average in the state of Wisconsin. I have not had occasion to look it up recently. In our own state the last official return gave the average farm of Illinois at 124 acres. In the whole United States at 134. Now I want to say, lest I dwell too long upon it, that it is not because I am addressing a state agricultural convention that I say it, but because I believe it is true that compared with the agriculture of any other nation the agriculture of our country, of the state of Wisconsin, is as good farming in relation to its condition as there is found in the world. There are faults enough about it. I say it not to flatter you, but I believe that the farmers of the United States and the farmers of Wisconsin are the equal in intelligence, in adaptation of means to ends, of their fellows in any part of the world.

Let me ask you to go home and think of this fact. Is there any other country in the world in which just such a meeting as this would probably be held? A meeting composed in the mass of actual farmers: farmers who have in their younger days, or are now, tilling their own acres; neither great landlords nor peasant proprietors, meeting together to intelligently, and thoughtfully discuss questions relating to their business. It is a thing that interests me, and I believe you will say with me that there is nothing corresponding to it in any such full degree, that can be found in any other nation. This much for the past.

As a whole is it not true that we have, relatively with any other nation, and to a large degree, actually a time of present prosperity? You have passed through in this state a series of years of more than usual drouth. There are sections of our country which are to-day suffering. Some places are recovering from great depression. Places in the east and places in the west. Some places are in a condition of depression, land selling at a lower price than formerly. Other places have had a marvelous advance. In central eastern Illinois a phenomenal advance had been had in the price of farm lands in the last eighteen months; simply phenomenal. It happened not because of any especial merit in us; not because of any exceptional advantages either in soil or climate, although we think we have good ones. In the year 1890 I believe that no part of the United States was so blessed with bountiful crops as central eastern Illinois. And you know what the prices were. This year we share, with much of the country, some diminution, but in the aggregate we have helped to give the largest crop as a whole, of the great staples, the United States has ever known. The aggregate of our corn, wheat and oat crop in the United States makes the year 1891 unprecedented in the history of the country; and prices, although not as high as some hoped, and all wished, are not very bad. Relatively we have no reason to complain of the present condition.

Now what are the tendencies? First of all there is a tendency, not always year by year, but in any decade, toward

high priced land, and hence a fact which many farmers do not think of, the lower rate of advance. The percentage of increase must decrease as the price actually advances. If you buy land of the government at \$1.25 an acre, in multitudes of cases in a single year it has gone up 100 per cent. In four or five or ten years in many cases it has gone up 1,000 per cent. That cannot be true with land worth \$50, \$60 or \$75 an acre. The actual rise of value may be much larger, but the percentage is steadily decreasing until we reach the point which in round numbers with the present systems of agriculture may be said to be about \$100 an acre — when the rate of advance must be very slow indeed for actual farming, because the interest, taxes and necessary expenses equal a rental or a return to the farmer, about as high as we can expect, one year with another. Now if that be true, and you all agree with me, it shows that we must depend for our future profits more and more on the direct profits from labor, and not depend upon the advance in the price of our lands, which has been to many farmers, not to their discredit, the chief source of profit.

Again, we come to facing the fact more clearly every year that there is a great drain from the farms. We talk of the marvelous growth of the cities. Think of the phenomenal growth of the great city of Chicago; of your own city of Milwaukee; of many cities. Think of the steady increase in the percentage of city population and the relative decrease of country population. I am not so familiar with the statistics in your own state as I am in my own, but over much of Illinois the decade from 1880 to 1890 showed absolutely no advance in population in the farming districts, while half a million or more were added to the city of Chicago alone. That drain is in two directions. Wisconsin has ceased to be a colony, and has become a mother country, sending out multitudes of young men and young women to till the lands in the west, the northwest, the south and the southwest. Multitudes of your people have gone in this way; and on the other hand great multitudes have engaged in other business, and have helped to swell the city or the town population. The per-

centage of those engaged in other callings is necessarily increasing. Let me ask you to stop and think for a moment what your sober, common sense has led you to see before, that this is not only inevitable, but that it is not an unmixed evil. We cannot stop it if we would. Ought we to stop it if we could? We have yet a larger percentage on the farm than is necessary to supply our population as a whole.

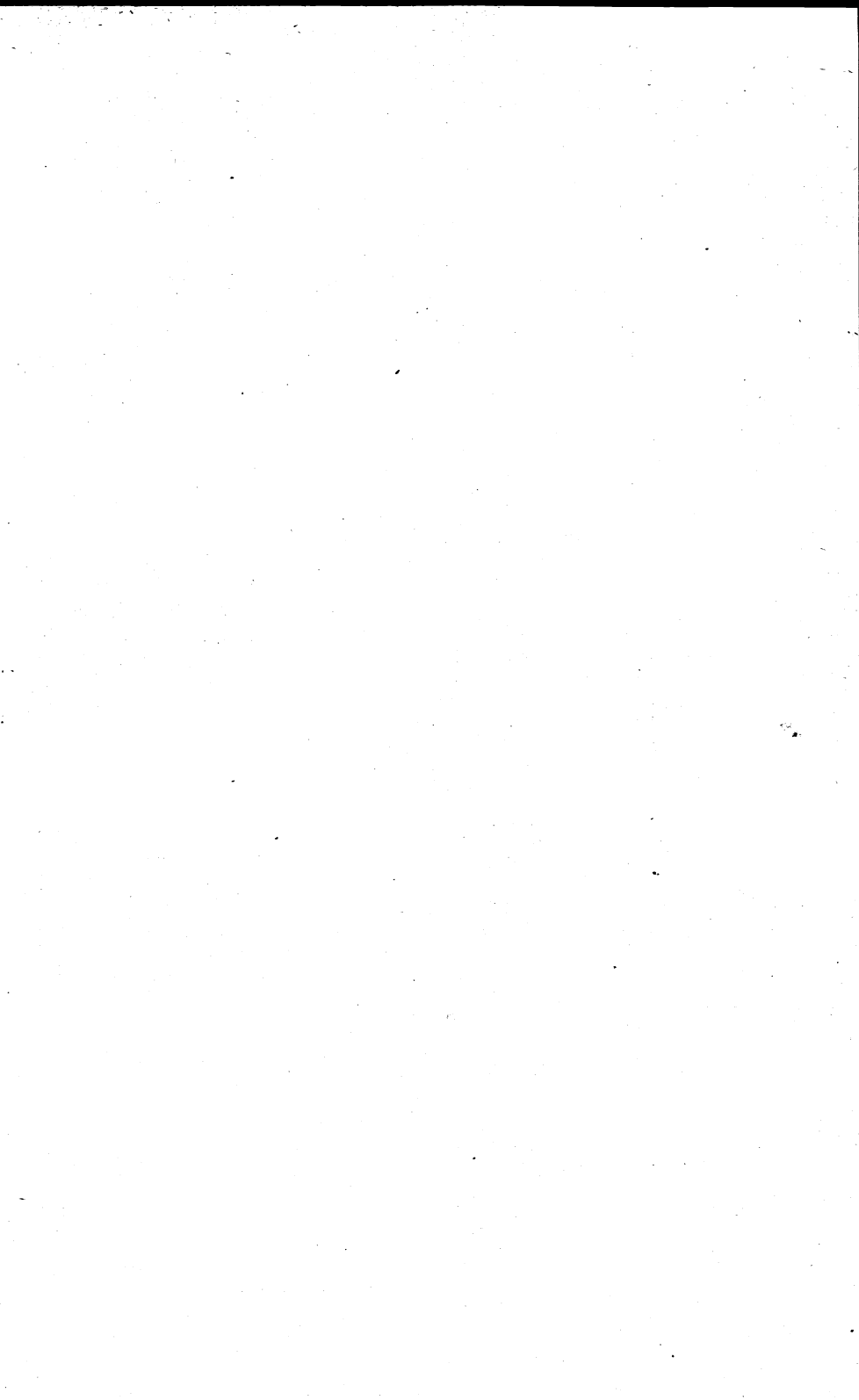
It is a marvelous thing that with a population increasing at the rate of from a million to a million and a quarter or a million and a half of souls every year, one year with another the extension of acreage and improved methods of production has made our aggregate crop so great that we can not only feed this added multitude, but we have a larger export to foreign lands year by year. Somewhere between 25 and 30 per cent. of the population of such a land as this can supply all its wants in the way of food and clothing. We are still up to near 40 per cent., as I understand the census figures. I repeat: it is inevitable, and it is not an unmixed evil, although in many cases we properly deplore the result. Again, one of the things rapidly pressing on our attention is the growth of home demand on the total consumption. The supply still exceeds the home demand, but the export is relatively decreasing. I am not one of those who look for the time in the immediate future when the demand will fully equal the supply. We are relatively at the end of the cheap, low-priced, fertile, farm lands in the United States. That is clearly true; but there is an enormous acreage about which none of us I think may safely say that it is not possible to bring to profitable agriculture in the future by the aid of irrigation. There are yet millions and millions of acres in some of the southern and central southern states, and some that we do not call southern, that haven't begun to approach the possibility of production.

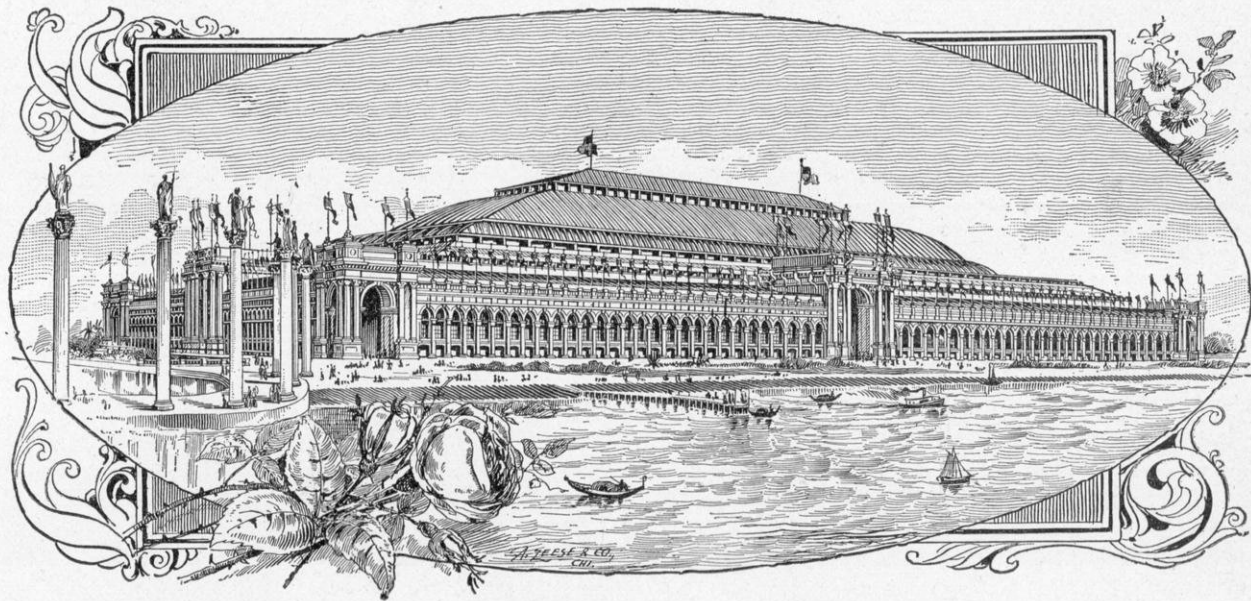
We are proud of our own state of Illinois. Proud of its wealth. I shall take a hundred millions of dollars, if you will give it to me, and be able to buy not much more than one million acres of land, taking the highest priced land in

Illinois. I shall take five millions of dollars and buy you one million acres of land in Illinois and that land not swamp and not sand. You may say I ought not to tell that about my adopted state, but it is simply the fact. There are more than a millions of acres in Illinois to-day capable of being made farming lands, the average price of which will not exceed five dollars. So I do not look with confidence upon a speedy overtaking of the supply on the demand. But it is certainly and I believe surely coming in the not very distant future. We must bear in mind that with the marvelous development of transportation in these recent years, that has gone on with the improvement of civilization in so many lines, the world's demand is met practically with the world's supply. The farmer of Wisconsin or of Illinois is in competition not alone with his neighbor in the adjoining township, county or state, or with any state of the union, but with the men of far off India, Africa and south Russia. Not alone because of drouths somewhat decreasing the products of our farms in 1891, do we have as good prices as we have, but largely because millions of our fellowmen and women are suffering the pangs of starvation in Russia even to-day.

The world is brought more closely together than it ever has been before. It means a closer competition. It means a good deal less dogmatism about the future, if we be wise. The question of what would be the probable prices in a little community was comparatively easy. The question of the total product and total consumption in a world is too big for any of us with the knowledge we now possess.

One other thing that interests me very greatly and seems to me to have most important possible results, is the growth of what we may call land hunger among classes that as a rule in the past have not had it. In the old nations it has been the rule, that as the population became dense, civilization advanced, and cities grew great, the rich wanted to get back to mother earth and to own it, possibly for a home, possibly for their pleasure, possibly as a source of income. Have you noticed how true that is coming to be in our own country? Only a week ago or two I attended





Manufacturer's Building, World's Fair.

a congressional district farmers' institute in central Illinois. I think it is safe to say there were twenty-five men in the audience not larger than this section of the house, that had farms of from a thousand to ten thousand acres in extent. I was entertained at the home of a local banker of whom I knew practically nothing at all. He incidentally mentioned as the most natural thing in the world that he owned between twenty-five hundred and three thousand acres of land right around the little town, of that fertile prairie soil. I met there one of Chicago's many-times millionaires, a man who is engaged in many enterprises, has the reputation of being one of the shrewdest and most successful men in all Chicago, in banking, in great railroad enterprises in the city, and interested in mining, in exporting cattle and meat, dipping into almost everything, owning ten thousand acres of land in central Illinois, who mentioned as a mere incident that only this last year he added two thousand acres in Iowa to his land.

All over much of this country that process is going on. Not that there is any large percentage as yet, but what does it mean? First of all it means to me that somehow to somebody there is a good prospect for American farming. Certainly in this admirable climate and admirable soil, the Mississippi valley, it is giving a good profit. Although I do not believe that we are to have any rapid money making in farming in the main, I borrow very little trouble about the future of the man who has to-day a good farm, and will hold it. These men are shrewd. They are wise I believe in their generation. I have listened with great interest to some agricultural addresses by ex-Governor Oglesby of our state, one of the most interesting men whom I have met, with his hearty good soul and intense earnest manner, which I believe is the earnestness of conviction, as he hammered away repeating over and over again the advice, which I believe is sound, to the young men whom he meets all over Illinois, "whatever you do, young man, get land; hold it; keep it." I believe he is right, if wisdom be used in the selection. It is the safest investment which I know of. I believe it is as absolutely sure as anything can be in

this world of uncertainty to our finite intelligence, that wisely selected land will not only be an investment that cannot fly away from us, but year by year will give a fair return, if it be wisely managed.

And while I recognize that personal allusions are usually in bad taste, I so often fear that people will say "you are talking that because it is your business to," that you will pardon me for saying I am practicing what I preach. More than all I am worth is invested in a farm in central Illinois; central Wisconsin was a little too far away for me to buy, so I selected the next best thing. I believe in farming most heartily.

A great question is to whom this profit is going. Shall we have, what it is not at all certain we are to have, a body of great landlords? We talk of the evils of those in Great Britain. I have seen the stone walls that surround the park of a nobleman in England ten miles around devoted largely to his pleasure. I have been on farms that were owned by noblemen who had tens and scores and hundreds of thousands of acres of land. But it is not only in Great Britain, Europe and Asia that large farms exist. I have visited with great interest one of the great farms of central Illinois. Seventeen thousand acres of land owned by one man, and the money that bought it was made by the man before he was an old man, chiefly from the farm. I have ridden, not walked, because it was too much effort, through his fields one mile wide by two miles long, filled with hundreds and hundreds of magnificent beef cattle.

I have gone on a farm of central Illinois with three thousand acres employing-how many men? On an average two men and a boy doing the work on those three thousand acres, because it was purely a grazing farm. While it was magnificent, while it was profitable for the owner, it was very far from being for the best interest of the community in which those lands lay. That thing is increasing to some extent. Shall we have the other extreme? I have had the pleasure, and it is a great pleasure, to see something of the peasant proprietorship of lands in western Europe to ride through parts of France or Belgium or Holland or south Germany,

and look on this side and that side of the railway, particularly as it runs along a valley, and see on either side of you strips of land that give the appearance from their shape and from the variety of their crops of a string of ribbon or a crazy quilt; separate farms, if you please, with no more land in them, than in this house in which we sit to-day; a strip a rod wide and fifteen or twenty rods long; less in many places. The peasant perhaps may own several, sometimes only one or two plats. I have looked out of the window on that side and turned my neck as far forward as I could and as far back and then on the other side the same, and not one house in sight; hundreds on hundreds is scarcely an exaggeration of separate divisions, and not a house in sight. What did it mean? Why that over the hill two or three miles farther back was the village in which they lived, walking to and from their work and doing the labor necessary almost entirely by hand; a very wasteful way, but the best that could be done; and oftentimes the product per acre would put our farming, on our new and fertile land, to shame; but at the best giving but a meager livelihood. Ignorance, poverty, misery, the best that they could hope for. God spare us from either extreme; a nation of great landlords and a body of poor tenants, or a nation of petty peasant proprietorships in tracts too small to give a decent living.

Again I repeat that I borrow no trouble about the future of any man who to-day has a good farm and will take care of it and use it right; and I borrow little trouble, pardon me if I say it, because it is not orthodox, about the future of a good many tenants. What kind of a tenant shall it be? It is inevitable, and it is folly to fight against the inevitable; it is inevitable that the percentage of tenants is to increase in this country. As land advances in price it is becoming increasingly difficult for young men with little means to become land owners, and a larger and larger percentage must be tenants. What kind of tenants? Shall they be men who come as the equal of the landlord, and say: "I will and I can make an equal partnership with you? I will put my brain, my skill, my knowledge of the

business against your capital and money?" That is not considered a disgrace in manufacturing lines, in mercantile lines, and I do not think that that condition is particularly to be deplored. But if, on the other hand, it is the wealth and intelligence against simple, ignorant labor, I do borrow trouble for that class of tenants. The greatest fear I have for the future of our agriculture is that there shall be an increase in that class, rather than in the other. We have a great horde of immigrants coming here year by year, many of them desirable, most desirable citizens. Nowhere in all the United States have we better proof of that than in Wisconsin, where so large a percentage of your best citizens have come to you from foreign lands. But with them come many who, through no fault of their own in many cases, are ignorant, are poor, and can compete only with the poorest of our people, and tend to bring down the wages of the day laborer on the farm or in the city. It is the business of the statesman, it is the business of every man who has a selfish interest, if you please, in his calling, to endeavor to prevent the increase of this class.

Now then it seems to me, as I have already indicated, that an inevitable result of the present condition and the probabilities is that we must have a narrow margin of profit between the cost of production and the selling price as a rule. That is sweepingly true of every industry today that is not protected by monopoly, by secret, by patent, or by some great combination, some great trust. It is folly to talk about the organization of millions of farmers into a combination to control prices. It is absolute folly as I believe. The great wealth that comes to such men as Marshall Field and Mr. Armour, is not alone because they are wiser than some of us, not alone because there is injustice more or less in laws, or in the enforcement of laws; it is not chiefly because they make a large profit on any individual transaction, but it is because of the infinitesimal small profits multiplied by hundreds and thousands, or millions. The average farmer cannot do that.

With this increasing competition not only in our own land

but in other lands, I repeat that I believe that it is inevitable that we are to have a narrow margin between the cost of production and the average selling price. We can increase that difference in two ways; one by making the selling price higher, the other by decreasing the cost of production. Fortunate for us if we can do both. We can do little in putting up the upper line. We can do much more than most of us have, in putting down the lower line, that of economic production; reducing the cost of production, in a host of ways; by better applied labor, by using better varieties, whether it be grasses, grains or livestock; by replacing human labor with machinery; by seeking better markets; by marketing as early as possible; by careful consideration and wise action on just such practical problems as these, we may all do a good deal in decreasing the cost of production.

Now as to the conditions of success, and then I leave you. Two or three things out of the multitude that press upon my mind. First of all we must as farmers be more ready than we have in the past, as I believe (and I include myself among your number), to recognize the changing condition, in which our work lies. I believe in conservatism. I am glad to class myself, as a whole, on the conservative side on most questions, rather than the extreme radical side. But farmers as a class are too conservative, apt to cling to things we found best ten, fifteen or twenty-five years ago. We are apt to ridicule the young man who says, "Father, the new way is better." We say, "The old way was good enough for me and ought to be good enough for you. You are not any smarter than I am." We are apt to pull back, to use the old illustration, on the car of progress, instead of helping it along. Isn't it true that one of the chief reasons why farmer Jones, has steadily gone ahead, while half a dozen of his neighbors have kept along in the same position or have fallen back, is that farmer Jones was more ready, more willing to keep up with the procession of progress, and the rest hung back and were content to stay where they have been in the years that have gone by. If I had time, and your patience was

unlimited, I would be glad to illustrate this by such a multitude of examples that even the most obstinate of men would admit it. Your common sense I believe shows it to be true.

In farming as in everything else it is not enough to say that this thing was the best ten years ago, fifty years ago, or a hundred years ago; the question is, is it the best here and now and under these circumstances? A full use of the capital invested is a thing that we need increasingly, as that capital increases. Land was made to be used; not abused, but to be used. The only criticism I would have to make on the interesting statement our friend gave this morning about the growth of turnips is that I would think long and earnestly, if I was in his place, whether it would not be best to grow as good crops of turnips every year as possible, rather than take two years use of the land to get one magnificent crop. Use all the land. When land was advancing at the rate of ten per cent. a year, it didn't matter so much whether you used it or not. It was doing well enough. But interest goes on, taxes go on, repairs are required whether you are getting no crop, a full crop or half a crop from the land. And so of our labor.

One of the weakest places as it seems to me in our American system of farming is that as yet we have not any approach to a uniform labor supply throughout the year. There are a quarter of a million of men who labor on farms in Illinois, in summer who this winter are at work at something else or idle and wasting their money somewhere. I do not know that any of us can meet the point. We are using the equivalent of a good deal of land every year to pay hired laborers. It is a loss to us if he is idle, or if we are idle. It is equally a loss, however hard he or we labor, if that labor is misapplied. We have wasted much valuable labor in earnest and hard work in the wrong way. We in central Illinois are learning that we have wasted a great deal of valuable time of men and teams in cultivating corn sometimes when it didn't need it, and very often in the wrong way. We are learning that we have wasted a good deal of effort and labor and valu-

able expenditure of energy and of mind in the production of great crops, to largely waste them by feeding them in the wrong way and the wrong time. These are but crude illustrations of things which impress themselves more and more on the mind. It is not alone the idleness of labor, but misapplied labor is as actually a waste as is idleness.

I believe we are to have more and should have more diversity in our products. I look with a fair degree of confidence, to the possibility of our producing in great quantity our sugar from the sugar beet. It is not yet settled. I am not an enthusiast upon it, but if we could do that it will be help not only a because it will have some effect in solving the tariff question, but it will be a great help by using even a small percentage of land that we are now devoting to other crops. In my own little town several thousand acres of land are being profitably devoted to the culture of hemp, that is being manufactured year by year into very excellent binding twine. There are several reasons why we should be glad of it. I am interested in it because if it takes one per cent. of the land of our county or state, just that much is taken off from the competition in the staples that other people are raising. Ridicule has been placed on one of the greatest statesmen of modern times, Mr. Gladstone, for his suggestion to relieve the recent great distress of agriculture in England, that more attention should be paid to fruit growing, to market gardening, to the production of jams, preserves and jelly; and the opposing political party made much sport of his recipe for making preserves and jelly. But Gladstone was right. I guess they knew he was, but all the politicians in England are not yet perfect, and they thought it would be policy to make ridicule of it. If you can get five per cent., three per cent., one per cent., of land that is in one line where there is already a surplus, devoted to the production of a thing for which there is yet a demand, you have added to the profits of both classes. With this greater diversity of farming products I believe we shall have a greater number of specialists among individuals. Most of us can not be successful specialists. I would not have a man carry the

principle of division of labor too far; but diversity of products of the nation, and increase of specialists seem to me dictates of common sense.

In economical production we find one ray of confidence and hope in the utilization of the by-products which we have so largely wasted. I wish I had time to dwell upon some of the illustrations, that occur to me, and doubtless to you.

Now the last condition of success to which I wish to call your attention in very few words is the making of fuller use of our brain, of our intelligence. You will acquit me of having scolded you, or having preached to you. I hope you will acquit me of any fulsome flattery; but I believe what I have said of the farmers of Wisconsin is true, that they are as intelligent, are as progressive, as their fellows anywhere else in the world. But none of us are perfect and we all need stimulus; and is it not true my friends that relatively, in some parts of this country,— I will not say in Wisconsin, I will leave that for you to decide,— that there has been a greater advance in intelligence in some lines that compete with us and with which we must compete, than there has been on the average among the farmers? Is it not true that among those whom we are sending from the farm to fill professions and business occupations in the great cities we too often have to say "it was the brightest of the boys, rather than the dullest, who has gone?" This does not mean despair. It does mean increased earnestness of purpose that we shall have the average of intelligence among the farming class increased, and then that each one of us shall try to see that for ourselves and our children we are above the average; because the average production, the average success in any calling, is not very satisfactory to the ambitious man.

In every line of increasing intelligence the farmer needs to press, for his children as well as for himself. We say we have no classes in this country, and there are no titled classes; there is no hereditary nobility, but there are as really and truly classes here as there are in Great Britain. There must be, whatever we might wish. Wealth always

makes a class. Declaim against it if you will, it is true, and wealth with intelligence always in the long run will conquer ignorance and poverty. Intelligence, even without the wealth, may in many cases successfully compete with wealth without intelligence; but without intelligence the farming class I believe will certainly sink lower in the social scale. I believe it is simply inevitable that it is to rise higher. It is not a wild prediction to say that these young men who are here before me will live to see the time when a man who is a land owner of a good sized farm in Wisconsin, if he be really a man self-respecting and intelligent, making the best use of his opportunities, need not be ashamed of his social, of his political or any other position in life.

I have not time to speak of the different means. I believe in agricultural societies. I listened with interest to the paper of Mr. Adams this morning. I believe in the value of agricultural exhibitions. I have gone 4,000 miles, decided mainly by the opportunity it gave me to see a really great agricultural exposition, and get an opportunity of studying the best features of the agriculture of Great Britain. I believe in them. They are not alone. I believe in the agricultural paper, to which for many years my own work was given. I believe in farmers' institutes and these conventions; and it is a great gratification to find the over appreciation you give to my efforts to establish meetings somewhat of this kind in this and other states. I believe in the institutes especially, as well as the conventions. But the agricultural paper, the institute and the convention have this one great difficulty, that the instruction is necessarily fragmentary. Here a little on this and there a little on that. It does not tend to consecutive thinking and consecutive reasoning, and so I may say in a single word that I have given a great deal of thought in these last few months to the question of whether it is not possibly to utilize the university extension idea in some modification, and bring to farmers all over the state in their various local centers something consecutive; instruction in class and by lecture

along the line of principles rather than simply giving individual experiences.

I believe in books, and last year I gave a good deal of effort to help establish something like a Chataqua movement to bring to the people in their own homes reading circles for agricultural information; things that pertain directly to them. Of course I believe most heartily in the value of the special school of agriculture; in the agricultural college. It caused a pleased smile to come to me when I found my friend Henry this morning speaking wisely and well of not only your own duty but privilege in regard to your own institution. None of us are yet in these institutions reaching anything more than the smallest percentage. They are growing and doing good. I believe in the agricultural experiment station. I believe that it is one of the fields in which work is being done to possibly the best advantage. And let me say whatever may be his faults or his virtues, whatever else may be written about him when he comes to die, I believe that the farmers and the whole people of Wisconsin in years to come will honor John L. Mitchell for starting a work, for I hope it be but a start, and that many men who, by industry, by fortunate circumstances, have accumulated wealth, will do what he has done, help young men not to the mere general education, but to the advantage of a specific agricultural education.

And so close by saying that after all that the legislature can do to cure the evils, after all that great organizations can do to cure the evils, I firmly believe that in the individual effort of the individual farmer, seeking to learn all he can, wisely and energetically and in a public spirited way doing all he can, we will have the best security for a prosperous future to agriculture. Once and for all cease to do that most unwise thing of pouring contempt on the business of our choice, speaking of it as if we despaired of it, and as if we had no regard for it. You can blast the reputation of man or woman, boy or girl, of great business enterprise, by continually decrying it. You can build up the character of man or woman, of your state, of your com-

munity, of your business, by having faith in it, and by letting that faith be known. If anywhere in all this beautiful world which God has given us to live in agriculture should prosper, ought it not to be here with this admirable climate, fertile soil and favorable conditions of government, which although not perfect are the best that the world has ever seen?

I thank you for listening so very patiently to a too long talk.

Mr. Wiley here took the chair.

Mr. Arnold—Before this convention adjourns I desire as a member of the committee appointed by this body yesterday afternoon, to present for your consideration the following preamble and resolution:

WHEREAS, Our public domain is being pastured with stock owned by domestic and foreign corporations paying little or no taxes, and yielding no revenue to the government thereby, bringing them into competition with the farmers throughout the Union, that are located on high-priced lands, paying their taxes and helping to defray the expenses of the local and national government, and

WHEREAS, In consideration of the foregoing we believe an injustice is done to the farmers of these United States, and a great source of revenue is neglected; therefore, be it resolved,

First, That the farmers of the state of Wisconsin as here represented in state convention, hereby enter our protest to the longer continuance of this diversion of the nation's wealth for the benefit of those who in no way give adequate returns for the benefits received.

Second, That while we are heartily in favor of all proper inducements or the investment of foreign capital for the development of our mines, our commerce, our manufactories, or any industry that employs labor and brings into use or utilizes that in itself would otherwise be of no value, even if competition and the lowering of prices is the result to our people, we object to the same unless at the same time they become tax payers in some way, or invest their money in a way which will materially enhance the value of other properties or industries.

Third, That we condemn large holdings of lands as not tending toward the best civilization, as contemplated in republican government. Feeling as we do in this regard we see a greater evil and less justice in allowing foreigners holding no allegiance to this government, the privilege of free pasture, when we believe it is the right and duty of the government to lay

some kind of tax per head on each animal sold, so as to bring stock raised on our farms on an equal footing with that belonging to occupants of our public domain.

Fourth, That our sentiments as embodied in these resolutions, be sent by our secretary to our representatives in congress, with the request that they take such action in the premises as to them may seem most proper to correct these abuses.

Fifth, That in as much as Clinton Babbitt, one of our present congressmen, was for some years secretary of this society, we recommend these resolutions to his earnest consideration and action.

(Signed.)

A. A. ARNOLD,
MAT. ANDERSON,
W. H. MORRISON,

Committee.

Mr. Arnold—I submit these to the action of the convention to do what you see fit with them.

On motion of Mr. Sampson, seconded by Mr. Ames, the resolutions were duly adopted.

The Secretary—Before the adjournment I desire to say that we have been very much encouraged by the large attendance at the convention to-day, and by the interest that has been manifested; and I hope that to-morrow, the last day of this convention, we shall be favored by as good an attendance as we have had to-day. We are acting very much upon the old principle of saving that which is equally good for the last, to be presented to you. To-morrow we will take up the discussion of the sheep and hog, and the interests that center around those, and we expect to have a very interesting session. This evening our horticultural friends will occupy this hall, and the full time will be under their direction.

FRIDAY A. M.

The Secretary—In the absence of all the vice-presidents of the society at this hour I will take the liberty of starting in on the programme, and if any of those gentlemen appear I will call them to the position I will occupy until they come.

I am very sorry indeed that the audience is as thin as it

is this morning, but we are going to try to finish our programme at this session. We shall have four papers, and there will be plenty of time for prompt discussion of each one. The first topic which I invite your attention to this morning is "Improvement of livestock," which will now be presented by Mr. S. R. Webster, of Danville.

IMPROVEMENT OF OUR LIVE STOCK.

BY S. R. WEBSTER, Danville.

The care of improved stock is a subject that many of us are interested in, and one that we are all allowed our own opinions, about the proper treatment of, and which but few of us follow to the best of our ability.

It is necessary in order to have a colt or calf grow into a well developed horse or cow, that special call should be taken to keep them growing during the *first* year.

Some men will tell you that it makes no difference, that if they are from good stock and you keep them alive they will come out all right and make good animals; but it is just as consistent to claim that a field of corn will make a full crop to let it go without cultivating the first two months and become choked with weeds.

It is always advisable to have the best of the improved breeds of live stock, no matter which one or number we select.

We must take into consideration that the improved breeds are handled differently, and fed more liberally than the scrub stock of the ordinary farmer.

If a man wants to grade up he must be willing to bestow extra care upon his cattle, but he cannot afford to do it upon the scrub; because they are not capable of making any but return for his feed and trouble. But, if he isn't willing to take a little pains with his cattle he better not invest in any of the improved breeds. While all of the improved breeds of live stock are largely the result of liberal feeding careful selection and attention to details, these *must* be carried out or improved stock will prove a disappointment.

Of all the breeds of domestic live stock in our state, none show a greater lack of improvement on their ancestors of long ago, than the cattle stock seen on most farms of to-day.

More especially in those qualities that indicate quick and profitable feeding into beef, which is the end of the family cow as well as the fatted calf.

What care the farmer bestows on the selection of a stallion to couple with his mares, and does not the improvement in his horse stock show the wisdom of his choice? Compare if you please the hogs seen on most farms to-day with those of twenty-five years ago. Is there not a great improvement?

Would we show such sheep of the mutton breeds a few years ago as we can now, and are not our Merinos yielding more and better wool?

Even the poultry on most farms receives its share of attention in the way of improvement, and woe to the luckless bird that has a few feathers that are *off* color; he is sure to be consigned to quarters where there is no danger of his perpetuating his defects.

But how is it with the cattle on the farm?

Is there an improvement in any particular over those we had a quarter of a century ago?

While there has been little if any improvement on the cattle themselves, has there not been *less* improvement in the manner of providing and feeding them their winter rations.

Most farmers of to-day depend largely on hay and corn-stalks (two expensive products), supplemented in some cases with a small grain ration to winter their cattle. From practical experience I can say that no feed for cattle can be produced as cheaply, and fed as economically and profitably, as shocked corn run through a feed cutter and cut into two inch lengths; provided, of course, that it is fed to the right kind of cattle.

Prof. E. W. Stewart proved by experiment that an acre of average corn, fed in this way to a thrifty Short-horn steer, produced a gain of \$450.

The average farmer seems to have no definite idea what he wants, or what he expects his cattle to perform.

A breeder of Shorthorns that understands his business knows that it is for his interest, whether he intends to retain the animals he is breeding to replenish the breeding ranks of his herd, or whether he intends to sell them for the improvement of other herds, to have his cattle in good condition at all times. A common mistake, and one that often brings disappointment to the buyer, is that that condition is not maintained *after* he has purchased the animal.

Another great error is to suppose that a thin fleshed bull will beget thick fleshed calves. It simply can't be done, because it is contrary to all rules of breeding. Like begets like in outward conformation, as well as disposition.

The improvement of all our meat producing animals is due largely to liberal feeding for generations, until thick flesh has become a fixed characteristic, not so *firmly* fixed, however, but scant rations and ill treatment will nearly obliterate it.

The man who will not feed his animals with a liberal hand and provide good, warm quarters for them, will soon have common, ordinary stock, no matter what he starts with.

When times are depressed and the bottom seems to have fallen out of the cattle business, it is not cattle of the improved breeds, but always second and third rate beasts, that go a-begging for buyers at ruinously low prices.

As far as in your power lies breed the best, whichever breed you choose; feed the cattle well, and you will always find men who are willing to pay remunerative prices for them.

Mr. Atwood — I would like to have some one who is informed give us the definition of a scrub animal, scrub stock, so that we may distinguish that kind of stock from the best bred. I have been thinking of endeavoring to gather up, of course to do it at a cheap rate, all the scrub animals that I could find; going west and seeing if I

couldn't compete successfully with these scrub hogs, scrub cows, and scrub horses. I would like a section of land to make the experiment to see if I couldn't successfully compete by using a little common sense in handling and in feeding. Now it has occurred to me that there is a little too much emphasis put on blooded stock. I don't know where to go to find any of the opposite. I know we have poor animals, plenty of them, poorly handled and poorly fed. But I am impressed with the idea that when we go back farther, go back in my remembrance forty years—I remember seeing some very fine specimens of hogs; it seems to me as good as anything you can find to-day. They were not handled as well. I do not wish to say anything discouraging to the improvement of stock, but I have been impressed, all the way through the discussion that I have heard on stock, with the fact that there is too much emphasis put on some particular blood. It all dates back farther than any of us know. It is true that like produces like, and yet, take some of these that you call scrub, there is just as good blood in them, and they will produce just as well and handle as well as some that is registered.

Mr. Sampson—I do not know whether I am competent to give the gentlemen any information or not, but I suggest that if I was going out west the proper time to use a little common sense in stocking 160 acres of land, or a section of land out there, would be when I make my purchase of stock. Now it is very true that the growth of our blooded stock has come largely from good handling and good feeding, as the gentlemen must remember, way back farther than anyone can remember. Now if a man in our time took scrub stock and expected to improve them with handling, I think it would be a failure. It has taken a great many hundred years to bring up this stock and fix certain characteristics in them. As far as what we call scrub stock is concerned these razorback hogs down south, I should call them perhaps "scrub"? Down there I don't know but they call them thorough bred. My idea of scrub stock would be a hog that you have got to tie a knot in his tail so he can't get through the fence. I have seen sheep that would not

produce more than a pound of wool, but they could run and outrun a wolf; or jump over any fence. Such sheep as that wouldn't be of very much use nor of very much profit. My idea of sheep for wool is to get sheep that produce wool down to the toes; for mutton sheep that have a broad back and are good feeders. I do not think any farmer at the present day in this state can afford to begin with scrub stock, common stock, and try to build them up; when they have so good material at reasonable prices on hand. There are men who have bred herds of cows, and built them up, and had some very good individuals in the number; but we all know selection goes back further than the dam or the sire; it goes back long ways sometimes, and if you have a good line all the way down you are pretty sure to get something good out of it.

Mr. Ames, Sr.—While there has been a great deal said about breeding cattle, and the great improvement made, undoubtedly there has been great improvement made in feeding cattle. I want to tell you a little circumstance that happened with me when I first commenced life without any advantages in Wisconsin. I used to have to go out to feed my cattle a few nubbins of corn to start them up, to keep them from freezing. There was a man came along, a New Englander. When they raised corn they put five to six men to hoeing on an acre of corn, and of course they can't feed liberally. He said to me, "don't you know if you commence to feed those calves now you will have to feed them as long as you keep them?" Of course that was his idea of that. But we have learned that the time to commence feeding is when we first see the calves; and we have got now to the improved method, which is getting a two-year old steer onto the market that will weigh twenty-four hundred. Now, I think, there are improved methods in feeding as well as in breeding. I think this should not be lost sight of, to feed liberally all the way along. You can not afford to keep stock from the first time you see it until they ought to be already for the market, without feeding them liberally.

Mr. Noyes—The criterion of success in farming is to have a profit at the end of the year. The criterion of success in the breeding of stock is the price we get for it, other things considered. If the feeder goes anywhere into the country, or into the city of Chicago to the stock yards, to buy stock, if a breeder he wants a pretty high grade Shorthorn steer, and he will pay more money for it. That is the criterion of value. I am always willing to pay more for a high grade steer than I am for a scrub. Why? Because it is always dollars per hundred more when I am ready to sell; never less than a dollar. The difference between the scrub steer and the thoroughbred steer can be seen at the stock yards. A few months ago cattle sold for seventy-five cents a hundred, and seven dollars and fifteen cents a hundred the same day. That may be a great variation, but that is just about the difference between scrub and good stock.

Mr. Richmond—There is one point in Mr. Webster's paper I would like to emphasize, in regard to feeding the young animal the first year. I am so thoroughly a convert to that idea that I have made the statement that if they will give me the first year of a calf, colt or lamb, I don't care what they do with it afterwards. That may be a little strong, but it certainly is based on facts, or nearly so. I was going to suggest to this gentleman who was looking for scrub stock that if he would go to the yards as Mr. Noyes suggested that I think he would find a sample there that would fill his eye; give him a pretty good idea of what the scrub was. Wouldn't he, Mr. Noyes?

Mr. Noyes—Yes, and I am sorry to say too much if it comes from Wisconsin.

Mr. Richmond—That is probable. Wisconsin is no exception, in shipping stock to the stock yards.

The Secretary—Mr. Atwood raised a question here which is entitled to fair consideration. He asked for a definition of the term "scrub." I am not sure that I can answer that satisfactorily to this audience, but I will attempt it, and it will open the question for consideration.

It may not be the best term that could be used to de-

nominate this class of undesirable stock. It is very expressive, and the animal to which it is applied generally seems to deserve the epithet. The point that Mr. Atwood makes in his statement is that there is very little stock at present but has some infusion of improved blood; but in my opinion this practice contributes more to the production of the scrub animal than any other at the present time. It is an indiscriminate mixing of breeds, without idea any of what you wish to accomplish. Now you know that with some men it is a very common practice to use first a cross we will say of the Shorthorn, and then cross with the Holstein, and then, perhaps, use the Jersey, and then strike back to something else. They have no definite idea of what they want to produce, simply running little experiment stations of their own. While they may have a mingling of all this improved blood, which kept together and bred for a definite purpose produces good results, the indiscriminate breeding produces an animal very properly denominated "scrub."

Now then the value of improved animals, improved breeds, over this miscellaneous breeding, in my opinion, is what they are able to accomplish above the result of the indiscriminate breeding. For instance you take the short horn. With the shorthorn you can develop a better beef animal decidedly, than you can get by this mingling of blood. With the dairy animal, which has been raised and bred hundreds of years for the purpose of the production of milk, it is very strange indeed if they were not able to transmit stronger qualities in this direction than those who have been breeding for that in common with other purposes. Cattle are valuable for the amount of feed that they will eat and give you good returns for. A beef animal is valuable for the amount it will eat; the more it will eat, the better, if it gives you good returns for it, gives you paying returns in good beef. Now this question is fairly before you and I beg your pardon for taking up so much time.

Mr. Atwood—Mr. Sampson I think is the gentleman who gives a fair definition of the scrub hog: that kind in

which a knot can be tied in the tail and it will get fast in the fence after the main part goes through. Now he did not tell us however, where I can find some of those, that is in this state or the adjoining state. I have more corn than hogs this year. I sold out, and haven't a hog on the farm; and it has occurred to me whether it would be best to sell the corn or buy some hogs. Now with the present outlook if I can find some of those kind near home in Wisconsin, perhaps in Illinois, I would prefer to buy the hogs; but I do not want any of those that are registered. So I say no one has yet told us where we can find any of the scrub cattle. You have told us where we can find some fine animals, plenty of them. Now if I cannot find any of the scrub sheep, to get them at a dollar and a half or two dollars a head, I do not know but I will go to Mr. Fox and give him twenty-five or thirty. I want some sheep, but I am inclined to buy some scrub, the way I look at it, if the price is low enough, so that I should see something in it. Now I told a young friend of mine the other day "if you can get five dollars a head more for a Jersey calf when it is a year old, you can afford to pay one hundred dollars a piece for Jersey cows if they are first class, or probably more. Probably you can't get them at that. You can afford to start in with a few at a high price and sell the product at five or ten dollars a head more." I do not want you to understand that I am opposed to good stock; yet I am earnest on the other side in my own view. Just now I would like to buy some hogs. I don't know but what I better sell my corn.

Mr. Wixon — I did not hear your paper on this subject but I am a farmer and a stock man. I never went in for thoroughbred stock. My father made a kind of a failure of blooded stock, and I took this scrub stock that this friend is talking about, and I experimented. I think there is more money for a young man to go into scrub stock. Naturally he will have some good stock in it, but the feed makes a good deal of difference with the stock. Now for instance a year ago this fall — sheep were scarce. I went to Chicago to get some sheep and lambs. I had a neighbor who was

talking about his blooded stock. He wanted blood. I went down and I bought 159 sheep. I took the poor stock, the cullings. They cost me \$1.65 a piece. My friend was looking for blooded stock. He wanted something that looked nice, if a man come around that he could show him something worth looking at. He gave \$3.50 for his lambs. We fed them and sold at the same time. I sold my lambs for \$4.50 and he got \$5.00 per lamb. Now money is what we are after. Blooded stock don't pay. It takes money to buy groceries. I like blooded stock, but I would rather some other man would buy it and I will make money out of it. Now we don't want to encourage these boys to go to putting their money into blooded stock. Take a man like Mr. Fox, who imports blooded stock, and shepherds, and who has plenty of money to use, it will do for him to go into blooded stock, and he will make a success of it. Take a young man and put him into blooded stock, and nine times out of ten he will make a failure.

Mr. Fox — It strikes me this controversy is getting a little bit personal. I want to say just one word, if I may be permitted to, in regard to this last gentleman's remark. There are some boys here, I judge University boys, interested in this question. Some of them were at my farm yesterday. I am willing to pick out some boys here who I know are good breeders, and turn them over some ewes, and I will contract to pay them \$15 a head for the increase at breeding time.

The Secretary — I would like to ask Mr. Wixon if he did not have a sort of a feeling when those lambs were sold that he was a little better feeder than his neighbor?

Mr. Wixon — I took good care of them and fed at the right time. Lots of people don't feed stock at the right time of the year. I got these lambs in September and put them on good feed. I began to feed them oats when I got them. I tell you this scrub stock depends a good deal on feed. I feed my sheep oats any time they will eat them. I feed them what they will eat up clean. The time to make your flesh is in the warm weather. That is the time I feed my sheep, and that is the time I recommend, right in the

summer. There may be a time in June and July when the grass is fresh they won't eat.

The Secretary — Immediately after this discussion is to follow a discussion on the subject of handling sheep specially, so we will save our talk in that direction until the sheep question comes up. Mr. Faville has had the attention of the chair and I would like to hear from him.

Mr. Faville — I haven't anything very important I want to offer. I do not believe that Mr. Atwood is in earnest about wanting to get scrub stock to go west with at all. He looks to me like a man who would not need advice upon that subject. If a young man should ask me whether he should go into blooded stock and try to make money out of it, I would want to know something about the young man first. If he is a scrub feeder, a scrub manager, he better keep out of it, and better keep out of stock of any kind; but if he is a good feeder and a careful manager he can make more money out of good stock than poor, any time. There is no man can buy a scrub steer and feed it and make any money out of it, and there hasn't been a time for the last six years. Seven or eight or ten years ago beef was high and we could feed most anything to make money, but even then we could make twice as much money on a well graded steer. I have fed a great many cattle; not much for the last four or five years. I quit about the time beef went down and there was no money in it. I have been obliged to buy scrub steers for the sake of getting some others, which were good. I have put them right into the same yard and each one was getting what feed he wanted. The well bred steer put on two pounds to the other's one; and when you come to sell them there would be at least a dollar a hundred difference in the price. We do not want the scrub stock. My definition of a scrub animal is one that the tail and horns is the largest part of him. You will find that all through this country. I had a neighbor right along side of me one time that had a two-year old bull that wouldn't weigh over 800 lbs. I had some nice Short-horns on my farm, full blooded Short-horns, and I had to keep a sharp lookout to keep that bull out of my

field. I told him if he would shoot that bull he might bring his cows and use my Short-horn bull.

Mr. Wixon — There is a difference in scrub stock. I have a blue grass pasture, and last year I bought thirty-nine head of steers at \$59 a piece; scrub. I turned them into this pasture and sold them off the grass. I doubled my money. The land paid me over \$6 an acre, on this blue grass pasture. I say let the professionals run the thoroughbred business.

The Secretary — Wont you please state to this audience how we shall keep up good animals unless we have full blooded males.

Mr. Wixon — Why, to keep up good animals is to feed them. I don't make a profession of raising good cattle. I pick up your ideas, and I go home and by stock of the fellows at home who call meetings of this kind a humbug. I go and buy cattle of those men. I don't raise my cattle; I don't raise a calf. I bought last year fifty-nine yearlings, and they cost me \$5 to \$6 a piece, and I sold them off the grass at \$15 a piece. It is a man's management which counts. Now I tell you we can make money raising sheep, if we cannot make money raising stock.

The Secretary — Do you think those men you bought your stock of make any money?

Mr. Wixon — No, Sir.

The Secretary — I want to call on Mr. Webster to close the discussion.

Mr. Webster — I will just reply to this gentleman at the right here, who has advised young men not to invest in blooded stock. Now I am a young man, and have made some money in blooded stock. It seems to me it is very unwise to advise in that way. Blooded stock takes no more to keep them than it does a scrub.

Mr. Faville — That is right.

Mr. Webster — They respond twice as readily to the feed given them, and besides that it seems to me considerably more of a pleasure to go out and look over anywhere from ten to as high up as you are a mind to go of thoroughbred animals, who will eat up their feed, and want something

more, than it is to look at scrub steers who will eat their feed and then lay down and groan as though something was the matter with them. I tell you it is a great mistake to raise scrub stock. It don't cost but a trifle more to get a good animal, and there is great deal more pleasure and profit in taking care of them.

Mr. Odell—I don't want to enter into this discussion, but I want to state that I have made a discovery contrary to the old rules. I have discovered a rule that won't work both ways, according to Mr. Wixon. It is acknowledged everywhere that the thoroughbred stock under scrub management and scrub ideas is not a success. Mr. Wixon has informed that the only way to get success out of scrub stock is with thoroughbred ideas and thoroughbred management. I think that is something important. There must be a little thoroughbred somewhere. He comes up here to get his thoroughbred ideas to manage his neighbors' scrub stock.

The Secretary—I hope all enthusiasm and criticism will be bottled up until the next paper is read and then brought out. The next subject is "Sheep in Wisconsin Agriculture," to be presented by W. L. Ames, of Oregon.

SHEEP IN WISCONSIN AGRICULTURE.

W. L. AMES, Oregon, Wis.

Perhaps sheep out of Wisconsin agriculture would hit the facts and conditions as they exist to-day more perfectly than does the heading of this paper. But with the interests of the beef and pork producers, the dairymen, the grain raisers and the horse breeders as well represented as they have been here, the sheep, the agriculturalist's best friend and ally, must not pass unrepresented.

Very appropriately has his tribe been designated "the golden hoof" for with the sheep just fairly considerably handled and given equitable advantages with other rural

undertakings, truly may the harvest and outcome be said to be "golden."

Yes, with about 800,000 sheep in the state of Wisconsin, where there should be for the welfare of her agricultural interests, not less than 2,000,000, we would endeavor to present the subject of this paper in such a manner as to lead the thoughts of a few, at least, along a line which if more attention were given to, fewer would be the failures, fewer the grumblings, fewer the complaints of impoverished lands, and greater the aggregate success of this producing class of the state.

But right here is presented a feature, that to me, at least, is not a little embarrassing. Having been privileged at least twice before in this place in representing this line of Wisconsin's noted agriculture, in each case, instead of finding myself confronting that multitudinous assemblage of stay-at-homes from "Farmers Institutes" and such gatherings as this, and to whom perhaps, if to any, my few thoughts would be the most fertile, I find myself again facing an audience, almost identical with the last, and representative of the very highest eminence in the state, of our chosen occupation. While from the above mentioned majority class the most familiar expression is, "What is there of interest to be gleaned at such gatherings as this?" The question with me always is how can I afford to ignore them or remain away.

But as with those who have repeatedly preceded us in suggesting and pointing out paths favorable or unfavorable that have appeared to them by observation and experience, so we would endeavor to express our few best thoughts on the subject, which, connected with mixed farming, has brought us most satisfactory results, notwithstanding the fact that I see before me to-day heads grown gray in sheep experience, by the side of which, mine, in comparison, appears to me as but a pigmy. Also another class of middle aged men, who, through the medium of speculation, are building up fortunes, almost, out of this same resourceful agricultural line. But in our observation and experience with the sheep, the spirit of speculation has

borne a very unimportant part. Hence I shall speak of that farm animal only as my heading implies, namely, as connected with our lines of agriculture. Nevertheless his connection with our almost daily existence, has ever been so favorable that my inclination leads me never to let an opportunity pass, unutilized, of giving him a recommend or saying a word in his favor. Not a state in the Union enjoys a higher reputation for the advanced state of her agriculture than does Wisconsin. Not that she has not fully her share of shiftless, thoughtless, aimless subjects, endeavoring to get a living by working at farming; but because certain of her subjects, some in one direction and others in other directions are taking up and following closely and studiously those lines of agriculture for which she seems so admirably adapted and developing those lines to such an eminence of success that they are attracting world-wide attention and favor.

Not to this class of mind leaders would I address my few thoughts to-day, but rather to that class, who, apparently putting forth their best efforts, year after year, to plow, plow, plow, uplands and low lands the same, for a few expensive bushels of grain, still have hard work to make the ends of the years meet.

We, too, plow, but not that alone. We long since struck up a sort of partnership with sheep, and having found no other line of farm or animal industry that would return us two dollars for every one invested, at the same time witnessing the operations of so many who seemed to be struggling fully as hard as we were and who seemed to be getting only about 99 cents for every dollar invested, they never having allied themselves with the sheep, all this with many other observations has indicated to us that there *is* a place for sheep in Wisconsin agriculture.

We are liable to acquire false notions, one of which may be that our land is too valuable and high priced, on which to raise sheep.

The falsity of this idea in the minds of some land owners, it seems to me, cannot be more easily aired and exploded than by an incident which occurred not long since, so near

me that the surroundings were perfectly familiar. An elderly man and a farmer whose idea of farming has been from first to last to plow, plow, plow, and whose crops during those same years have cost him all that they have come to and oft times "just a little more," was murmuring that he must quit farming in some way. Some one suggested renting his farm, to which he with much feeling replied, "Oh, I can never do that; rented farms are so liable to get run down. No, that risk is too great. I cannot think of that." In the midst of a group of tenant farmers not long after, it was suggested by an outsider that some of them, nevertheless, apply for renting purposes to the above mentioned owner. To which, however, the at once unanimous response was:

"Oh, my! that wouldn't pay. That farm is too badly run down already."

No, of all reasons to the contrary, that is least tenable, that Wisconsin's farms as a rule are too valuable otherwise, and too high priced to afford sheep a place in our farming operations and connections.

With us at least, conviction has come to the contrary by experience. The making of our present farm of nearly 400 acres one of the best producing and most easily worked in our locality, and that too out of parcels of land that at one time had been abandoned to weeds by their grain-farmer owners, we have to ascribe this magical change more, by far, than to any other one cause, to this same innocent, active, though obscure "sheep."

By no means idle though in yielding an income during those years of recuperation. Oh no! for from those self same lands during that period of rest from plowing and mixing, our sheep yielded us a much better income than those same lands had yielded their former owners through the agency of grain raising, and that to with no outlay of labor on our part in cultivating, and after a lapse of five years they were again ready for profitable cropping, and with a repeated mixture of this kind of management, they have continued ever ready to serve us when called on.

Are sheep partial in their beneficiaries to us? Not in the

least. I just note in the "Western Rural," a man buying a piece of hill and impoverished land for \$3,000, \$1,000 down the other \$2,000 to be paid in two years. He pastured this land entirely with his 225 sheep, renting adjoining lands to procure their winter keeping. At the end of two years his sheep had paid \$1,560 of the \$2,000, and he had his original number left.

A man near us this season past, but recently started in the sheep line, sold seven month old wether lambs in November, for \$5 per head, thus just replacing per head money that he paid for Oxford-Merino yearling ewes just after shearing. In this way, and within a couple of years, he is acquiring a most flattering start in that line of Wisconsin's stock agriculture, the living of which cost us the least, that does the most toward keeping the farm clear of foul weeds, taxes the soil least that feeds them, and, in turn, strengthens it most, are the least confining to attend, cause us the least trouble, are the most quiet, contented and easily handled, keep the farm in the best producing condition, and the dollars from which, that come to us, come the easiest of any that we handle during the year.

While the above mentioned actual operations with sheep may be considered exceptions, they are by no means exceptions as to what might be done. Our home farm is surrounded on nearly all sides by lands upon which sheep would act with equal favor to what they have on our own, but still the proprietors of those lands continue to plow them year after year, perhaps thinking them too valuable and too high-priced to handle sheep on.

But it seems to me that if they would but use their eyes for the purpose for which those orbs were intended, it would carry conviction to the contrary to them. I dare speak thus plainly without fear of controversy, because although they are excellent and the best of neighbors, not one of them are here. No, somehow they don't get away much to attend such gatherings as this, though it would seem that to that class who are always conspicuous by their absence, that the greatest good might come.

While we would not depart too widely from our subject,

but simply for the sake of comparison, let us for a moment consider, "Hog in Wisconsin Agriculture." That he finds a place there, is abundantly evidenced by the glutted markets of October, November and December. Oh, yes, we are all "in it," and have become so used to feeding up the whole years corn crop to make three-cent pork that we have come to think that it is one of the things that "is." Yet where is the man present or absent who will contend that he has gotten the price of his corn out of his pork, the past season at least.

But say we, "It is against our principles to sell grain. It must be fed out on the farm." This, as an agricultural principle is all right, but reflect and remember, that our whole corn crop, fed to hogs in the manner that in nine out of ten cases it is, might as well be dumped in the ditch by the road side, as far as any fertility returning to the land is concerned. Oh no. It is trod into the mud in a hog yard.

But what of this relative to the sheep business? Well, simply this. In our personal case we made \$60 land if such exists out of \$25 land, by folding our arms and looking on, as far as our labor in that particular operation was concerned, while our sheep did the business, besides paying us good cash rent and interest. Ditto, the same, in the two thousand dollar mortgage case.

In the selling of lambs at \$5 per head at 7 months old, we find nothing more remarkable than the fact that that man's pasture land returned him upwards of \$25 per acre, and twice as much as the average grain-farmer's acre returned him, besides having to plow, cultivate, sow and harvest it himself. Note, pork made of cash grain. Sheep product made principally on pasture.

Whether Goodrich's butter will ever be excelled or not, we would not dare predict, for we have eaten it, but that through such specialists as he and others, Wisconsin's dairy reputation has become enviable; we are proud to know. Whether Wiley's "hog" will ever quicken his motions in rooting the mortgages off the farms; whether McKerrow's Oxfords ever get to market as spring broilers, at an earlier age than they do now; whether horse-trotting

becomes the most conspicuous feature of our agricultural fairs or not; whether the proper time for filling the silo is lengthened or shortened; (or whether it is not filled at all); whether ex-Gov. Hoard's typical dairy cow is ever improved upon; or whether Wisconsin boys eat home-grown or imported watermelons; these things we cannot tell, but that Wisconsin's agriculture is to move onward and upward, we are as sanguine in predicting as we are that the Columbian Exposition in 1893, will far surpass in grandeur anything of the kind that has ever preceded it, though I think I do know that \$60,000 will never fairly represent the grand state of Wisconsin there. We shall want nearly that much for a proper sheep exhibit there.

But as we digressed from our main line of thought, side-tracking for a moment to the World's Fair, we believe that in the grand future of Wisconsin's agriculture, among the gradual changes for improvement that are to be rung, diversity is to mark a conspicuous point, and in that diversity sheep are coming more nearly to the front, and their economy, as a farm animal and appendage more fully appreciated.

Oh, Wisconsin farmers, you I mean, away beyond these walls to-day; you, I mean, upon your thousand farms connecting and stretching miles and miles away in every direction from this beautiful city, feeding your steers and hogs to-day. Doesn't the thought of so many meat carcasses dressed and shipped to somewhere, (Armour only knows) and there perhaps rejected by some lager beer dutchman as diseased meats, doesn't the reflection almost surfeit you? Not only these products but the multitude of others that Wisconsin is continually sending off somewhere because she has so much that she scarcely knows what to do with, (horses included.)

But, hold on, there is a product, one, more satisfactory than which man, black or white, native or foreign, king or peasant never produced. One which, though one of God's most blessed gifts to man, and easily produced here, still we do not produce anywhere near sufficient for home demand. (It almost makes me hungry to think of it.) And

one which we can almost prove, by comparison at least, that costs nothing to produce, and that product is wool.

As to the last statement, costing nothing to produce, by comparison, etc. How about the horse's heavy coat in the spring? Why we curry it off him in wads, and drop it into his bedding and hence it simply follows that material. Seeing the cattle's old heavy coats adorning the ends of the old fence rails and corners in the spring is simply a complimentary indication, and is accepted as such, that the bovine race is coming out healthy and vigorous. The covering of the hog is scarcely worth mentioning.

Then while we make no account of these items against the cow and horse, why should we against the sheep? And so I guess we will not. But in so considering the product as a blessing to man will not be lowered in the least.

Then while we may truthfully consider that a pound of delicious mutton can be produced as cheaply as a pound of beef and as cheaply as the majority of our pounds of pork are, then we have the wool product clear. And to the thoughtful, systematic, reasoning farmer, who will give a portion of his yearly attention to this same unappreciated sheep, there appears practical possibilities, double incomes, profits direct and indirect, satisfactions, aye, and even pleasures, that come not from the handling of any other farm animal or the following of any other line of farm labor.

Into the discussion of breeds at this time and place, it is not my purpose nor intention to enter, presuming that it will form a portion of the grounds to be handled by the Professor who succeeds me here. Still it may not be out of place to say that the sheep whose acquaintance I have most familiarly made, which I have continually had in mind while preparing this subject, the one that has at least returned us the before mentioned extra dollar for every one invested, the one that keeps our fence corners and wood lots clean and presentable, the one that annihilated our patch of Canada thistles, the one that we have developed from a two-pound fleece and fifty pound carcass of 35 years ago to a ten pound fleece of delaine wool and 120 pound

carcass to-day, the sheep with which, as a base, you may breed profitably in almost any direction, and the sheep, without which we would scarcely know how to farm, would I think come within that class of useful animals, commonly called to-day American Merinoes.

I have before suggested the growing idea of "diversified farming." Yes it is growing and it is to grow more. Instead of so many continuing in abstract dairying, or in putting their almost whole year's work into a crop of pork and having it ready for market just when everybody else has, and the same with steers; there is a growing number of those who are seeking out undiscovered, or at least, less crowded sidetracks and by ways, or else are studying more closely "farming economy."

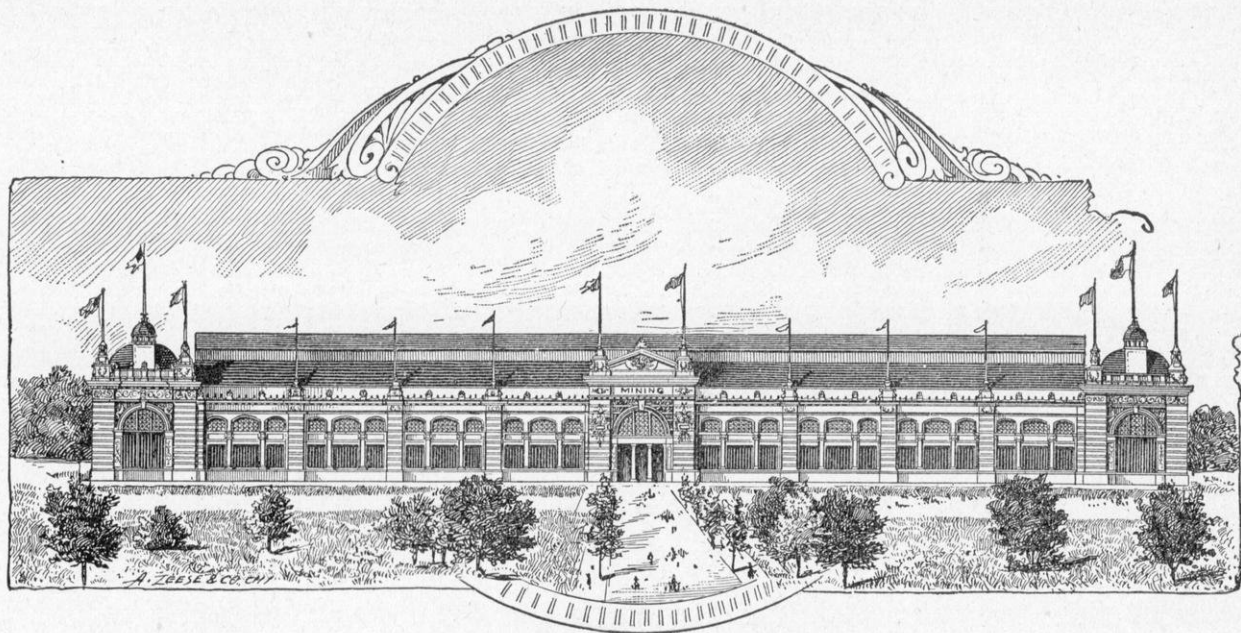
Two of my neighbors who for several years have been successful poulterers, are engaging in the incubator business. Two others in the small fruit business, besides others that I might mention, all seeking to produce something for a market in which there is a demand for something that everybody does not have for sale just at that time. I came very near again mentioning the man who had the five dollar lambs in November, and whose pasture acres gave him such good returns. I shall at least reiterate the fact that in the growing idea of "diversified farming" the variety of ways of handling sheep profitably has by no means reached its limit.

Then again, without arguing breeds or outlining precise methods too specifically, I would still sincerely argue the advantage of more sheep in Wisconsin agriculture! That that agriculture would become less of a skinning and more of a compensating operation.

While the feeding experiments carried on by the various agricultural colleges are intensely interesting to the sheep student they but remotely touch the subject of this paper.

Let the narrative of an incident be my conclusion. Not long since I was talking "sheep" to a man who admitted that my arguments were convincing and home indications the same as far as sheep were concerned, but then said he, "your fields are clear of burr plants, your fences good, and





Mining Building, World's Fair.

your acres productive, and your neighbors cannot do with sheep what you can."

Ah, never was ground more clear for argument, and so said I, "but it is our sheep that have annihilated the burrs, they require less fencing with us than any other line of stock, and they have been the most potent factors in bringing about those fertile acres." As grain is most profitably fed to a poor-in-flesh though healthy animal, so sheep pastured on grain-impoverished lands will return to the average farmer the greatest per cent. profit.

But to illustrate a little more clearly said he, "Here is a farm of 160 acres, one of the has-been grain farms, once virgin and fertile, but now, while the grain farmer owner may still think it too high-priced to devote any portion of it to sheep, renters consider it already too badly run down for them to desire to try to farm it; what would you do with it if it was yours, put sheep on it?"

"I think I should," said I.

Well, how many?

Oh, two hundred, with some other stock.

How much pasture, grain and hay land for the two hundred.

Well, on an average, 40 acres pasture, 20 acres hay, 10 acres oats and 10 acres corn.

Lets see, said he, forty, sixty, eighty acres for the two hundred sheep; but what would you do with the other eighty?

Well, my friend, said I, after a moment's reflection, I believe I should do what I think would be also greatly to the advantage of a multitude of other farmers in the state of Wisconsin to do on their similar impoverished and upland acres, and that would be to put on more sheep.

The Secretary — Inasmuch as the paper that is to follow this is on the same line of thought, and a discussion entertained at this time might be anticipating something that will come in the professor's paper, I think it is well to hear

the next paper, and then discuss the two jointly. I therefore take pleasure in introducing as the next speaker, John A. Craig, of the University, who will address you on "Sheep Breeding."

Professor Craig—The sole claim I make for the extension of sheep breeding is the profit there is in it. I believe the three main profits to be made in raising sheep are first the profit to the farm, for it makes the farm richer, cleaner and more productive. I have noticed that sheep farms as a rule are cleaner than other farms. If you study sheep life you will find that sheep like a greater variety of plants than any other domesticated animal. It has been tried with five hundred plants and found that sheep will eat 75 per cent.; horses and cattle only eat 50 per cent. Therein I think lies the value of sheep for cleaning a farm, and at the same time they will live on land that other stock could not exist upon.

Again, they make the farm more productive, making each acre richer. There are lands along the Wisconsin river and in the northern part of the state not yielding anything to-day. It is just such lands which are suitable for sheep life. They are the finest sheep lands in the world. There are more or less of these waste lands upon a good many farms. The pasturing of sheep will make those lands as productive as the rest. Next, let me speak of the profit that is made on the feed that is fed. You can obtain sheep at the present market price and charge them with the feed at a fair market price, and you have a fair profit. Then you have your market right at your very door for the home grown feeds of your farm. In feeding them to sheep you get a good price, and there is a profit also. I have found, based on experiments, that you can raise grade mutton here in Wisconsin at a cost of about 3 cts. a pound. You can sell such mutton at at least 5 cts. a pound; that is charging those sheep with the feeds that they eat at fair market prices. I am satisfied that the three lines, stated in the order of their importance, are the production of mutton, the rearing of lambs, and the growing of wool. In this state, in fact in the west, the main line should be

breeding. In the past it has been growing wool, and particularly growing fine wool. Australia has climatic conditions, has conditions of soil, to grow the finest wool in the world. They have cheaper lands there than we have. The whole inner plains of that island continent are particularly suited for the growing of fine wool. Their fine wool can outsell our fine wool in the market. Our fine territory wool is only of value to mix with the fine Australian wool. Now we have better mutton lands, so it would pay the farmer better here to utilize his land for mutton growing, where he has a market all to himself, than to try to compete with Australia in growing fine wool. The demand for wool is largely governed by the cloth we wear; that is the price of wool that we sell is governed by the cloth that we wear. The class of wools grown here in the west mostly are Delaines and Combing. A Delaine wool is a fine wool that is two to three inches long. There are two grades of Delaine wool; fine Delaine, and medium Delaine. The other class is called Combing wools. These two samples are Delaine. The Combing wools are longer, they run from 3 to 17 inches longer. The grades are fine, medium coarse Combing and braid Combing. Now there are thirty-six different classes of wools going through the Chicago market. That medium combing is the highest priced wool that goes through there. The point I want to make is that the wool that sells best to-day in the market is produced by our mutton sheep, and as far as I can learn from inquiry that demand is going to continue. While Australia can compete with us growing fine wools there is no country in world — and I have it from the largest dealer in Chicago — can compete with America in growing that class of wools. The demand is going to be permanent and steady. In growing mutton sheep we furnish the best conditions for the production of the wool classed as medium combing, and that brings the highest price in the market.

In regard to the mutton side of the question, there is a large, growing demand in Wisconsin for mutton. A demand bound to increase as the quality increases. In my native district of Ontario thousands of lambs are crossing

the line and coming into the New England states and being sold at remunerative prices. The farmers in Ontario are making more money out of that line of work than any other. They have got the name for a good quality of mutton. That mutton is sold in the New England market as Canada mutton. I could not understand how it was for a long time; how the reputation was built up. The fact lies in this especial use. They are mutton sheep; bred for mutton purposes. They can raise a pound of mutton cheaper, can raise a better quality of mutton, and there is a greater demand for it. The trouble here has been the mutton you have made has been made out of Merino sheep; sheep bred for wool, and not for mutton. The two lines of breeding mutton sheep I wish to refer to this morning are the making of mutton, that is turning out matured sheep, and the growing of lambs. These two lines offer a choice for certain conditions. The large or more sluggish sheep mature later. Those I think should be carried on the better farms. You can carry them over one year, and turn them off the next spring at a profit. It takes them about six to nine months to grow their frame properly, and it takes the rest of the time to fill that frame up. On the lower lands, lands all arable, all under cultivation, I think this sheep will do the best. On the other hand the lighter breed of sheep mature earlier, and do better on the higher lands. If you breed and feed for early maturity on these rough lands you can turn the lambs off in the fall and only carry the ewes through the winter.

As this extension must come through the entrance of new beginners in this work, let me say a word in regard to starting in to sheep breeding. Now this question just come up this morning, in regard to grading up stock. For a person who doesn't know very much about stock I would advise them starting with common ewes, but to grade up; using a pure bred ram. The trouble with the discussion this morning was that the question was not fairly understood. I do not believe there is a man but will concede that the use of a pure bred male is right. Take the Shropshire sheep, they have been bred for fifty years along a definite

line; bred for mutton. Those sheep are so bred they will make the most out of their feed for mutton purposes. I can take a Shropshire ram and the worst ewe you have in Wisconsin, and in five years I can get sheep that for outward form and breeding purposes equal Shropshire. What does that mean? It means that the breeding of fifty years had so fixed the definite characteristics of that ram, that in five years I can transmit those and put them into common sheep. You save forty-five years' work. Those men worked along a definite time, and have been breeding for a specific purpose; and the result is they have in an animal which is pure bred, those qualities fixed; add they transmit them. You can go to work I don't doubt, if you have the eye of a breeder and in fifty years produce sheep equal to the Shropshire. But why not take advantage of the work done before. That I think clearly shows the advantage of the blood.

Now I need not go into the management of sheep. That may perhaps come up in the discussion; but just a word or two about the care of sheep. I believe that the beginner perhaps had better start, if he knows very little about sheep, with good grade ewes. Get the best in a pure buck you can, and grade up. Then in the management he should have a flock book; keep track of his ewes; study his sheep and carefully select out each year those that are not making a profit. By keeping a flock book he knows every ewe. In fact the true shepherd doesn't need a flock book, but the beginner should have it until he knows his sheep thoroughly. Now I have found in looking into the quality of ewes, that the ewes that will milk the richest is the one that will raise the best lambs. The best lamb we have in our sheds to-day is one that was dropped the middle of April, and to-day he weighs about 150 pounds. He is Shropshire grade. That lamb is from the best milking ewe we have, from actual test. We milked a number of them just to see what the difference was. We milked about four or five ewes, and continued it for a week. This was two days after the lambs were weaned from them. The lambs were weaned a little early perhaps. Now that ewe milked for a

week an average of one pound a day, and it tested in actual fat about nine, not quite ten per cent., nine and seven-tenths. Now that ewe has given us the very best lamb, and following down that line with the others we found that they did not do quite so well.

There is a point, brought up this morning, which I would like to emphasize: The care of stock. It is the man who can handle the young stock, that is going to make a success of breeding, I don't care what line he follows. He studies his animal so he can take the young animal and rear it properly, and when it gets beyond his care it is strong enough to go right ahead. He is going to make a success. One thing peculiar in the care of sheep is to give them quiet attention. They do not require very much attention at any one time. They require quiet care and close attention. A good many think that the skill of the shepherd lies in dosing with medicine. It is not so. The man who studies his sheep can tell almost exactly what is the matter with them, and with a little manipulation in feeding, the same as you would a sick person, you get it all right in a little while. If you have a sick sheep try to get it some food which it likes, and once it gets something it has a hankering for it will go right ahead, unless it has some organic disease. We follow the plan of feeding ewes twice a day. In the morning we feed them straw the first thing; we let them pick that over. Sheep haven't as strong an appetite as in the evening. Then we feed a little roots and grain. Turn them out and give them a little corn fodder, something outside to pick over; just to give them something to do. Then in the evening when we are feeding what we like to feed; we feed a little silage the first thing; put the silage at the bottom of the trough and clover hay above. They will eat the corn silage before they touch the clover hay. Then we leave them and let them eat the clover hay. We believe in feeding grain to a certain extent. You have got to do it with mutton sheep more than fine wool sheep which will live on almost nothing.

The Secretary — Now in the next half hour we want a great many pertinent questions stated promptly, that we may get the most out of this discussion possible. I will try and recognize you as you rise and every man wants to ask a question or make a remark.

Mr. Richmond — I do not agree exactly with the Professor's last statement in regard to mutton sheep requiring grain any more than the Merino. I am running the two together; high grade Shrops and high grade Merino. They all get grain in the same box; the Merinoes seem to need it more than the Shrops.

Prof. Craig — Perhaps I did not make myself as clear as I might. You can grow wool on a cheaper ration than you can produce mutton. Sheep bred for mutton purposes require more feed. You can put Merinoes on rough land and they will pick up a living and produce wool; but the heavier mutton sheep you cannot handle the same.

Mr. Richmond — My flocks have been about equal; high grade Merinoes and Shrops. Under like conditions the Shropshire sheep are in better condition.

Mr. Wilson — I think the cause of the pure bred sheep looking better is that their breeding makes them show everything that is put on them. They have a beautiful, symmetrical form, and the Merino sheep may be as fat as the others and not show it. The Shropshire sheep may be in excellent flesh but what little there is shows.

Mr. Ames, Jr. — Doubtless in Mr. Richmond's case the sheep run together. The mutton sheep once getting the start will keep the start.

Prof. Craig — I beg to differ. I have noticed the Shropshire and Merinos together and the Merinos get to the trough first every time and they will be away first; the Merino will be lying down and the Shropshire be at the box. The Merino is slob-sided and wedge shape, and they are right there, and through before the others get started. They will be laying down and chewing the cud.

Mr. Richmond — Why I speak of this was the statement of some that the Merino and Shropshire running together, the Merino would starve the Shropshire out, that is all.

Prof. Henry — There is one point that I think our farmers should think of carefully, that is the protection of their sheep from dogs.

The subject of sheep I consider the most important topic that can be brought up in Wisconsin at this time. Gentlemen, we have got to put three million sheep in this state; (that is two million more than we have got,) before Wisconsin is beginning to do agriculturally what we wish. If we go at it right we are going to succeed. If we go at it wrong we fail. I have sometimes wished that there had never been a Merino sheep in the state of Wisconsin. They have hurt us, and to-day if we could blot out everything we know about sheep and start in as babes in our knowledge, and hire some men to come from Canada and England to teach us, we would be ahead.

Now there are some good Merino sheep men here, and they may feel offended at what I say. I wish to be well understood, then I think we will agree. What is the habit of the Merino sheep? In Spain it was used to a peculiar life. They are driven, or were when they were made into Merino, about 450 miles a year north, and 450 miles back; a great pack of wolves followed that great herd. It took 50,000 men to drive them. It took the proper number of dogs. When they got to a certain place they were sheared and when they got to a certain place the sheep dropped their lambs. Only the strongest lambs lived and the rest died from exposure. Of course that sheep has been made over in a measure in America. Now they were brought to this country, and people found that they bunched together; that they would eat weeds out of the fence corners and live in a way that no other farm animal could live. As a consequence men talk about how they will clean up lands, which is correct; and on how little they will live, and how many you can bunch together. Now if we are going ahead in the future we have got to farm much as the Canadians do, or much as the English farmer. That means a diversity of feed, smaller flocks, and more attention; and we are getting our ideas from what certain men have done in the southwestern part of the state, where they have had from

a hundred to five or six or seven hundred Merino sheep all bunched together. If we could start over again we would learn from the Canadian and English farmer how that kind of sheep are kept. The English farmers never succeeded with Merino sheep. They do not keep them any more. They tried them and made a failure. The Canadians have taken the English sheep on this side and made a success of it. It is like teaching. I would rather take a boy who did not know anything about German and teach him German, than a boy who has lived in a German family for a year or two and thinks he knows German. He has got that sort of a smattering that spoils him. If we were to start as babes in this knowledge of sheep, we will be further ahead in fifteen years than to think we know all there is to be learned about these new kinds of sheep. If you could travel over the United States from the Central Canadas to the Pacific Coast, which is a good deal farther than from here to New York city, and from way down in Mexico, from almost Nicauraugua, up almost to British America, you will see where they are going to raise fine wools still better. Mr. William Watson tells me that he has looked the sheep country over in Australia, California and the East, and that Australia will always beat us on fine wools. There is a finish to the wool that we never can hope to approach in the United States. But here is Chicago with over a million, Milwaukee with a quarter of a million, Minneapolis, West Superior and all these cities growing around us, and we can produce this fine mutton which will put us away ahead. Now let us start in as if we didn't know much about it, and study; if we will only study we will come out away ahead. We must put Wisconsin sheep where they will be equal if not superior to Canadian sheep. In many places we have got to protect them very carefully from dogs. I did not try to keep sheep on the University farm for a while; I didn't see how to protect them by day and night. Now every night the sheep go into the coral where we know the dogs cannot get at them. It is made of barbed wire. Now those corals must be changed as often as the manure accumulates. Our plan is to put the coral on the bad

spots of land. Build some movable farm corals, that the panels can be moved, and every night you can go to bed without worrying and waking up in the morning and finding some animals have been mutilated or are dead. I believe if you will only adopt this system of coralling it will pay. Let us protect our sheep and go ahead with this business.

Mr. Ames, Sr.—I would like to ask Prof. Henry how it is that the lighter carcassed sheep now is the most saleable in the market; why it is that these heavy sheep which he has been describing do not command as good a price as the lighter carcassed ones, when rounded out.

And then another question: I want to know if he has any prejudice against the Merino sheep, or the graded sheep, for mutton purposes? Will they make any difference in the Chicago market between good, graded sheep of the American Merino, and some of the other breeds?

Prof. Henry—I have had men tell me that Jersey beef was just as good, or rather more profitable, than Short-horn. I have no doubt that there are exceptions to the rule, but I believe in the Short-horn for beef. I believe in the mutton sheep for mutton, and the wool sheep for wool. Markets may run sometimes one way and sometimes another. I believe that the people will take to mutton from mutton sheep, and pay for it, and that it is better on the average for the farmer. He will make more if breeding for mutton, than to take wool sheep like the Merino. Indeed I would not advocate the Jersey for beef, or the Merino for mutton.

Mr. Ames, Sr.—The reason I asked this question is this; I have a son-in-law out at Poynette dealing in stock. I have asked him this question repeatedly when he has been at my place, if such sheep as ours, well rounded out, would not sell as well in Chicago as the others. He said they will sell equally as well. Ours is a graded flock of sheep, from scrub. We have never used anything but a good imported, or in other words, fine buck.

We are breeding in that line yet. We have practiced not breeding too young, but we have got our sheep up to good size. Our wool is fine. It is remarked by the men even

who help handle it for the buyer. They will say "Why I never saw such a fleece of wool from a fine sheep." We sold our sheep at one time to Mr. Cook in Madison. They were surprised, the hands that handled it, to see such a great bunch of wool done up. We have had to enlarge our wool box, in order to receive it. A man who has handled our wool for the last two or three years, he is a Brodhead man, reports it as being the finest of that kind of wool, that he has ever handled. He is an old man like myself, and always been in the wool business. Now what we want to know is, which will be the best for the average farmer? We can keep more of those sheep together, and we never had any diseases among them. Another thing about it' my friends, these sheep that we have on our farm, they are perfectly docile. I *farm* on my farm, that is perhaps what educated me to keeping sheep, instead of horses and cattle. There have to be a great many board fences put up to guard our fields, with horses and cattle, and then they tear them down. But I can keep those sheep with the old fashioned fences of the early day when I was trying to get a foothold in Wisconsin. I was one of the pioneers. I could make a cheap, temporary fence answer the purpose. How did I do that, and not let my sheep get unruly. We used to have bars, and I never dropped my bars down from the top. I always took the bottom bars out. I educated my sheep. I never was troubled with the low fences. Now I use wire fence. I want to call out Prof. Henry and others on the question as to which is the best for the average farmer.

Prof. Henry — I think Mr. Ames has bred a very useful sheep, and what I was saying had not any reference to a man like Mr. Ames, or his son. There are many farmers whose knowledge of sheep is to the effect that it is a scrub and a roustabout, and lives on weeds and the straw stack. But we cannot succeed, and Mr. Ames has not succeeded, along that line either.

Mr. Sampson — Perhaps Prof. Henry may be right, that it would be better if we never had raised any sheep; but sheep have brought a great many dollars into Wisconsin,

and have made a great deal of poor land fertile. They have taken a great deal of land which had been run down by croppings of grains, and brought it up into a state of fertility perhaps equal to the fertility of the virgin soil. I know a great many farmers who have made money, and are living on the interest now that made it through sheep. I have had some experience with sheep. I used to keep a couple of hundred, but my flocks kept getting smaller and smaller. My sheep did not produce the kind of wool that the gentleman described. I could get an eight or a nine pound fleece, but the buyers would make a great fuss and claim that it was greasy. I got what I could for it, but prices kept growing lower, and as the prices went down I kept decreasing my flock. I like the Merino, but a couple of years ago I began crossing with the Oxford. I kept fine ewes, and I am raising pretty good lambs, but it seems to me I shall have to change over into the coarser wooled sheep. Of course there is no profit in Merino lambs, except to add to your flock. Sell the old sheep. With mutton sheep a lamb will begin to eat when it is two weeks old. If you give plenty to eat it will continue to grow and make a nice profitable crop to turn out in the fall, also furnishing a fair crop of wool. I do not think there is any question but that the larger sheep eats more than the small one. My experience has been, with the coarse and fine sheep running together, the coarse sheep being the stronger, crowded the fine sheep away. I thought they did better than the fine ones.

Sheep have done a great deal for Wisconsin farmers, and I believe they will do a great deal more; sheep in connection with diversified farming. If a man has a certain number of sheep, and cows, and horses, and some grain, they come in very nicely. Sheep will get fat on the grain stubble in the fall. The talk that Prof. Henry gave us as regards the manurial value of feed, does not interest the sheep farmer much, because the sheep keep the land fertile, and make the land fertile. I believe it is the best stock to put on land.

Mr. Ames, Sr. — I want to say just this: my exhortation

is to the farmers of Wisconsin: "keep some sheep." I don't care how small the farm is. You can't afford to do without sheep for the benefit that accrues to the farm.

Mr. Noyes — How do you feed your sheep in winter?

Mr. Sampson — I feed them whatever I have on hand. If I have clover hay I feed them that. This year we had a poor hay crop. I am feeding straw this year, and some grain. Clover hay makes a very nice feed. A man has got to feed his flock of sheep as Prof. Henry says. He must know how the sheep are doing, and feed accordingly. As far as any exact rule is concerned, I do not think it is best to give any rule.

Mr. Williams — I would like to ask how long it is profitable to hold the sheep; as to the life of the sheep?

Prof. Craig — I would keep sheep as long as they have a good mouth; as long as the teeth are all right.

Mr. Williams — I found that you do not want to keep a sheep more than six years. After six years a sheep goes down and gets poor.

This cold western country is not adapted to Merino sheep. I have had a good deal of experience in sheep. I have taken care of thousands of sheep and I find Merino sheep are not adapted to this country. It is too cold.

Mr. Champner — There is just one thing Prof. Henry spoke of about which I would like to make an inquiry. That is guarding against dogs killing sheep. I have spent most of the time for the last two years up in Vernon county. I had charge of a little flock of sheep. I am no sheep man, but up in that country those German farmers all keep a small flock of sheep. I have never known in all my experience there any sheep to be disturbed by dogs or wolves. I have thought it quite remarkable, but their idea is that if a flock of sheep is well belled that a dog or wolf can never come near them. Their idea is to have a bell to every ten or twelve sheep; and it is a fact that in two years that I have been up in that country I never heard of a sheep being disturbed. The sheep lay right out in the woods, pastures and brush, and they pay no more attention to them than they would a herd of young cattle. I would like to know

from some of our experienced sheep men whether there is any great point in that bell business or not.

The Secretary — Mr. Ames, do you use bells on your flock of sheep?

Mr. Ames, Sr. — I have attempted that once. I saw it in print, that that was a preventive. I sent to Chicago and got several dozen bells and put on to my sheep and it had no effect at all. My son can give you some experience in another direction, perhaps, but it did not answer our purpose at all.

Mr. W. L. Ames — I have some faith in the bells. I think possibly one mistake we made was that we got a lot of small sheep bells, all of one kind. If I was going into the bell business I should have a variety; some pretty heavy ones. We have not been bothered with dogs scarcely within my memory. The wolf business we were, up to a few years ago; but father and I put into the middle of one of our pastures a scare-crow that some of our neighbors and even ourselves, every time we looked at it thought was a man, until we got used to it. Since then we have not been bothered with wolves.

Mr. Wilson — I have kept sheep a good many years. I yard my sheep every night. We put bells on our sheep, and I will tell you the reason, so that if a dog should get in the yard at night, I always keep a gun handy, to attend to the dog, and these bells would give the alarm.

Now while I am up on my feet I wish to say that sheep are the best stock that we have on our farm. There are many ways in which they pay. After harvest you can always turn them into field to pick up the seed, and clean the fields out.

The Secretary — We have a moment longer, and we will give it to any gentleman who wishes to ask a question.

Mr. Ames, Jr. — Have you met with any misfortunes while leaving your sheep out?

Mr. Wilson — I do not leave them out.

Mr. Ames, Jr. — That is one of the greatest drawbacks to the sheep business. We leave our sheep out. We have not yarded them in the summer time for the last seven

years. They lie out on the fields, and are sure to lie on the knolls. Were we to have to yard our sheep I should regret it.

Mr. Wilson — In our county, Rock county, we have to yard them. In the day time we are bothered. I killed three dogs in one day.

Mr. Ames, Sr. — Where they are troubled with the dogs so much is near the villages and cities. One sheep man on one Sunday afternoon, right in the afternoon, had sixty of his fine sheep destroyed, and by worthless dogs; and worse than that, they were men's dogs who could not pay any damages.

The Secretary — I shall be obliged to terminate this discussion. We have considered it for the interest of the convention to try and close its discussions with this session. We had our programme arranged for an afternoon session, but we dislike very much to ask gentlemen to come here to talk to a very small audience, and I am afraid that many of you would be obliged to leave on trains at or about noon; hence we have concluded to finish our deliberations this forenoon. Mr. A. L. Fisher, who was to address you on the subject of the horse of the farmer, is detained on account of death in the family. We have now to take up a very important subject, one that does not suffer in comparison with any other that may have been brought before this convention: "Horse Breeding," which will be discussed by Mr. J. H. S. Johnstone Editor of the Wisconsin Farmer.

Mr. Johnstone — Gentlemen of this convention: The question of horse breeding is a very large one, and covers very much ground. It is not within the limit of our time to day to go over very much of it; still I will endeavor to point out a few of the things which appear on the surface, and which are brought home to us every day in horse matters on the farm.

One great lack which we have in horse breeding on the farm all over this country is the lack of some definite aim; some object which we are striving for. Everyone of the improved breeds has been perfected with a view of attaining some special object; some special formation, some special utility

The heavy draught breeds were formed from various beginnings, and developed into the animals we see now. The Shire in England has been bred to great weight, and the Clydesdale the same, for the purpose of hauling heavy loads and cultivating heavy soil. Within our knowledge the type of the Percheron horse of France has been slightly changed; in early days they were used in diligence work, or hauling heavy coaches. Latterly they have been used for agricultural and heavy draught purposes. Now we still see another breed formed, the trotter. We see every year something further being reached; something more being done; every year something bettered. The thoroughbred was formed for the purpose of running, and the trotter is being formed for trotting. Now then the object should be on every farm to raise a class of horses with some special object. The market now demands the driving horse, the draught horse, or the coach horse, and will pay good prices for all of them. It will not do, I think, on a farm for a man to breed some class of horses which will suit him, and not anybody else. That may do very well if he can afford it, but it is an excellent thing to breed something which the market demands, and the market will pay for. Therefore if the market demands a special purpose horse, by all means let the farmers breed horses with some end in view.

In breeding draught horses it is of course essential to engage the services of a draught stallion, and it does not make any difference of which breed he is. They are all good. I have no preference. Everybody has his own preference, and certainly it is every man's right to choose the horse he likes best. If he likes the French and uses the British it never exactly suits him. No man should cross over and engage in breeding horses he does not like. If he likes drivers, do not attempt to breed draught, and visa versa; if he likes heavy horses the driver always seems too small and light. Now there are a great many that make a mistake in engaging the service of some cross-roads horse, because it is cheap. It will never do you any good at all. A draught horse is demanded, and the market is for a horse weighing from 1,500 pounds up. It is almost impossible to get that

class of horse from the native mares of the country. A great many men some years ago sold their grade mares because they could get \$200 for them, and it made a nice little sum of money to pay on the mortgage, or put into the bank; but in doing that they destroyed their chances of getting the draught horse at present demanded, which we can get from grade mares, weighing 1,400 pounds, or even a little more or less. Therefore I would say to every farmer engaged in that business, "do not dispose of the grade mares," they will turn out very valuable property; more so than almost anything else on the farm. In breeding draught horses the color and conformation of course are to be looked to. The color does not make very much difference. I find buyers take them all, no matter what the color. They may kick, but they take them if they are big and good enough. In conformation they should be low down, blocky, big animals, the bigger and stronger the better, as long as they are sound. We must have quality in a draught horse as well as size. A great many people patronize these great, big, rough brutes that are brought to this country, and have been damaged more than a little. They have bred up in this country in some districts a class of soft-boned brutes that it will take a long time to grade out.

The best horse to produce driving horses with is the American trotter of sufficient size; it doesn't make any difference for a driver whether he has any more speed than ten or twelve miles an hour: get them good, hard-colored; bays and brown. They are better weighing 1,150 than less; nicely gaited, with good, free action, clean legs; nice, long neck and good head. These horses always command a good price. There will always be a market for that class of horses in this country. Many claim that these horses will do good work on the farm. They will to be sure do very good work, but it is a question with some whether they are big enough. There is no use going into that now. In breeding driving horses you must employ the services of a well bred horse, the same as in everything else. Any country crossroads horse, because he is light, and has

a long mane and tail, unless he has got the proper amount of speed and proper conformation, cannot get good driving horses. It is folly to breed from any other but a well bred trotter with proper conformation and speed, to get good driving horses. In regard to the coach breeds, you will notice that in this country there is more difficulty experienced in breeding good coach horses than any other class of animals. When you get good coach horses they sell for extraordinarily good money. A very useful class of horses may be developed from the coach horses, the French coach horse, the Cleveland Bay, the Oldenburg, the Hackney. They are all very fine animals, and have always been and always will be in demand. Long necked, high stepping park horses, always have brought very big money, and always will.

The care of your brood mares deserves a moment's attention. It is necessary to give your brood mares plenty of good rough forage, and a sufficiency of grain to keep them in good heart so they will preserve their strength. It is foolish to keep them fat, or to stuff them with corn. Corn is not a muscle and bone forming food and will not give good results when the colts come. Give them plenty of exercise; work them gently. Don't get them into a snow drift or allow them to pull very hard, but give them light driving, and when not at work let them run in the yard. Give them plenty of corn stalks and roughage, keep them in a plain practical manner, and when the mare has the colt they will both do well. Many men, after the colt comes, turn the mares and colts out, and by and by the grass gets short, the flies come and the sun beats down pretty strong, and it is pretty hard on the colts. They have nothing but mother's milk and a little tough grass, and they will get thin and weather stained, and they will look bad. At such times it is a good plan to provide some shelter; a little straw covered shed, and to have a little box in there and let the colts have a little bran or grain or something to keep them up. You will find if you keep the flesh on their bones better they will always make heartier, better, stronger horses in the end. I do not believe it is a good

practice to let colts run after the mothers when they are at work. Let the colt stay in, and after he is able to eat grain fit up a little box in the corner of the stall and as soon as he will eat oats let him eat it. Let him get get accustomed to eating oats and bran with it, so that when you come to wean him he is accustomed to eating dry feed, and he will do it. You keep him along through the winter in good shape on a little feed and he does not run down skin-poor after he is weaned, as we see many colts do. In the second summer when your old feed in the pasture gets short he should have shelter just the same; and be as good to him as possible. You will find that taking good care of the colt the first two years will pay you a good per centage as long as he is nice when you start in.

Any colt, no matter how much of a scrub, will be much less a scrub when three years old if you will take care of him the first two seasons. Now as quick as the colt is able to stand up properly it is a very good thing to halter break him. Put the halter on him, tie him up, get him accustomed to you and make that colt just as gentle as you possibly can. You will find at the age of six months that if he is perfectly accustomed to you and not afraid of you and when well halter broken, he is half broken. When you come to put the harness on him he is not afraid of you, he is not thinking that you are going to club him or beat him. He is friends with you and not afraid of the harness as much as a wild unbroken thing that has been abused and is afraid of you. Now I would advise breaking colts the fall after they are two years old, or the summer after they are two years old. Break them and drive them light; don't put them to work, but give them a little exercise in the harness, and the winter before they are three they are able to do some hauling and driving. When three years old they are able to do work; not as much as the older horses, but plenty of it to more than pay for their keep. Above all things do not breed unsound mares; and do not patronize unsound horses. Remember that many kinds of unsoundness are transmitted with unerring certainty. This is one of the first points to be observed. Horseflesh is heir to ills

enough without mating animals whose progeny is more than likely to be born blemished.

In conclusion, and I don't think I will take up more of your time, one thing is necessary in horse breeding, and that is to pay attention to every little detail. Business methods are just as essential in the business of horse breeding as in conducting a dry goods store or newspaper; work, constant and intelligent, both with the head and hand is necessary in horse breeding. You cannot get along without it. The patronizing of inferior horses is the bane of the horse business. We don't find the men who are breeding trotting horses go out in the woods and look for a horse with a five dollar fee. They consult together and find horses that are the best bred and best suited to their purpose and they pay as high as a thousand dollars for a single service. The same principle applies in that business which applies to your business. Be good to your stock, and keep straight on in one line; don't switch off, don't start with a couple of generations of draught horses and switch off onto coach horses. Breed to the best and preserve the best and success is assured.

The Secretary — We have half an hour to give to the discussion of this question and I hope it will draw out a very animated presentation of the horse question. We find throughout this state a great disposition now to make trial of the coach stallion, and I am afraid there are going to be mistakes made by some of our farmers in this particular. In order to draw this question out I want to ask Mr. Johnstone in his opinion what is the best mare for the production of grade coaches? That is to mate with the full-blooded coach horse.

Mr. Johnstone — Mr. True has opened up a subject on which a great deal may be said. There is no question, as I mentioned a few minutes ago, of the high prices that will always be obtained for good coach horses. It has always been and it always will be as long as there are wealthy

men and women who will pay good prices for high steppers to put in front of their carriages. A coach horse must be of a certain formation. He must have a certain roundness of build, short back and nice round quarter; long neck. Not a neck like the American trotter; but one differently shaped. The crest is higher up. There must be a strength about it which you find in no other breed. In answer to Mr. True's question I would say that the mare that answers somewhat to the description I have given, sired by a trotting horse, with some knee action, will give us the best results. You are aware, gentlemen, that the action of a coach horse which is an essential part of his make up; knee action and hock action. There are many of the trotting horses that have got this knee action, or something like it; not exactly the knee action of a coacher, but a more reaching action; and this action transmitted from a trotting sire to a grade mare, and then she bred to a coach horse, will give us the best results which we can obtain, I think, as far as grade coach horses are concerned.

The Secretary — I would also recommend to farmers who have grade draught mares weighing about 13 to 14 hundred, the mating of those with the coach horse, especially if they have the desired conformation. I have noticed colts from mares of that formation and I have seen very nice ones. Colts from mares of this description have proved to be the best in my judgment. I think such mares as you have described will give good results, providing they have the desired conformation, but that you will find is a proviso to be brought forward in every line of horse breeding.

Mr. Faville — What combination will give us farmers the horse that we want to use. We are not generally able to keep fine driving horses and working horses and all that, but we make one horse do the whole; or one team. Now what combination will give us the best results?

Mr. Johnstone — Well, Mr. Faville, I am inclined, notwithstanding your experience, to take issue with you on the fact that you cannot afford to keep a good horse. I don't think a farmer can afford to keep a poor one.

Mr. Faville — I wasn't asking about that. I want good ones, but we are not able to keep a great number of them. Most of us cannot keep but one team, and we have got to go mill, and to meeting, and to the store; and haul our grain with it, and ride out with our best girl with it sometimes.

Mr. Johnstone — And you don't want to sell them?

Mr. Faville — Just for our own use. I am talking about raising horses for our own use.

Mr. Johnstone — In that case I think the coach horse will give us just what we want.

Mr. Faville — A general purpose horse is what I am talking about.

Mr. Johnstone — Yes.

The Secretary — Does the farmer want to raise that kind of a horse if he is going to raise horses for the market? Some of us raise horses to sell.

Mr. Johnstone — I don't think he wants to raise him with that specific object, no. I don't think that is the horse that is going to pay you. When I made answer I meant the coach horse gave you the best general purpose horse.

Mr. Webster — I wish to ask Mr. Johnstone if he thought our half bred mares, Normans out of Percherons, Clydes and Shires — if the blood was lively enough to breed with coachers, and get good results. We all know our draught horses do not have this fiery blood there is in the trotting horse. They are more logy, they keep easier and are not half so liable to get into a wire fence. Now whether these sort of mares crossed with the coach horse would not produce the horse Mr. Johnstone speaks about.

Mr. Johnston — I said mares with the proper formation would give good results. That is my answer to that question. You get the proper formation, and you mate her to a coacher, and you will observe there is a large percentage of fiery blood in our French another coach horses. With that large percentage of fiery blood we get a sufficient amount I think to liven the slower blood of the mare.

Mr. Wilson — I would like to ask Mr. Johnstone if there is any danger of getting an over supply of draught horses. I live in Rock Co. A few years ago they got to importing

large horses, and they told me if I would raise horses which weighed 1,400 pounds I could sell them every day. They said my horses were too small. Well, I went to raising the kind they wanted. They wanted 1,400-horses; I got quite a number, and then when I got them ready for the market they wanted 1,600-horses, and mine seemed to be out of date. If I had raised 1,600-horses, by the time I got them raised I don't know but what they would want 1,800-horses. It seems to me that we would get an over-supply of horses, if we went to raising those that weighed 1,600.

Mr. Johnstone — I can best reply to that by telling you what I see in the Drovers' Journal. I notice that almost every one, in fact every one I think, of the men who make a specialty of dealing in draught horses in Chicago say that there is a demand for heavy draughters, from 1,500 up. You will notice horses that weigh 1,600 to 1,650, and sometimes as high as 1,800. I have spoken with a number of these men and they have told me that they would never want horses in this country to exceed 1,800; that 1,600 is big enough. When you get a pair of 1,600-horses before a dray with 5,000 to 8,000 pounds on, if they are active they are big enough to haul those loads on the level street of any big American city.

Mr. Wilson — About five years ago they were recommending 1,400-horses. Now it is 1,600.

Mr. Johnstone — You understand there is a limit to the growth of a horse, and a limit to his strength. I think they have successfully proved that a pair of horses weighing 1,800 pounds a piece, will do the heaviest teaming work to be done in the American cities. If that is the limit there will always be a demand for horses somewhat under that weight.

The Secretary — My friend will remember about the same time he refers to 1,400-pound draught horses, a horse that could trot in three minutes was a pretty good horse to campaign with. Now he would be left as badly with his three-minute campaigner as with his 1,400-pound draught horse..

Mr. Atwood — In the main I agree quite fully with Mr. Johnstones paper in his method of treating brood mares and handling colts and so on, until he comes up to the point of breaking. I have some colts at home on the farm. Two weeks ago my man suggested to take them in; they had been running to the straw pile. I objected to having them used in light work, for this reason, when we begin to break them we want to keep them going. When you put them in you want them handled so that they will know that they have been pretty well broken before you let up. You begin and use them once or twice or a few times and turn them out again then. We are not situated so as to keep them going, unless we spend the rest of the winter in handling these colts. When spring comes, and we can get them on the ground, even if they don't earn much, then you can keep them going; so I object to handling them now. In Mr. Johnstones remarks he recommended beginning to train them at two and past. The common farmer is not situated so that he can spend the time, and afford the time, to fairly break them beginning at that age, when their work is worth nothing except to get them broken. That was my objection to that point in the paper.

Mr. Johnstone — In reply to the gentleman's criticism I will say that I think it a pretty well admitted fact in horse matters that the quicker you get a colt broken the better. Now with our most valuable colts in this country, they are all broken at a year old; they are broken to harness and driven a dozen, fifteen or twenty times, and turned out and never have the harness on them for six, eight or ten months after that. They will never forget it. When you come to harness them, they may be a little foolish as colts are, but they never forget it. It is like the common school education of the child, it is the basis of his whole understanding afterwards.

Mr. Woodford — I would like to ask Mr. Johnstone what he considered a fair ration for a colt from the weaning time on until the grass comes the next spring.

Mr. Johnstone — I never believed in feeding a horse by hard and fast rules. Any man can see what colts need

and ought to get. I don't believe in giving a rule, so many pounds of this and that. I would give a sucking colt what grain he would clean up. It won't hurt him any; and give him a fair measure of oats and bran during the winter.

Mr. Faville — What is a fair measure?

The Secretary — All he will eat up and assimilate.

Mr. Woodford — That is it exactly. Feed a colt from the time he is able to be weaned. Give him a little grain when running with the mare. Then commence feeding him perhaps a quart, perhaps less. Try him and see what he will eat, and feed him what he will eat of grain from that time on until the next spring. I have fed colts a peck a day from the time that they would eat until they were turned out to grass. In the day time they were turned into the yard and had plenty of exercise.

Mr. Faville — A colt that is fed such a grain ration through the winter, won't he fall away when put to grass, unless you keep up the grain ration?

Mr. Woodford — That has not been my experience. They have kept right on growing, and the result is our two year olds are as large as the ordinary three and four year old of the same breeding.

Mr. Faville — Don't he want to be starved a little to make him a tough horse?

Mr. Woodford — No, sir; not in my experience. I have used one until he is twelve years old, and he is one of the toughest horses I ever saw, I think. The first winter he had a peck of oats per day, and the second winter he had a good deal less grain than the first, and from that time on every winter he had less grain each year.

Mr. Robinson — I was about to ask some gentleman the same question that Mr. Faville over here has asked. Now we keep a good pasture; a large pasture; and it is a blue grass pasture, or mixed with all kinds of grasses. We have bought colts that were fed grain through the summer, where the pasture was short and they were fed grain in addition, and we have turned them into about as good pasture as there is in the county, and I have seen those colts fall away and continue to do in a good field. Now I

believe in feeding grain, but the horses that we raise have not tasted oats this winter. They run in the yard. They go in at night. The gates are always open. They go out in the pasture through the night when the snow is not too deep. They are running out now. Now those colts get a ration of shock corn and good timothy hay. We have suckling colts that have never tasted oats, and are looking well and fat; but we have bought colts that were fed oats and turned them into this pasture and for the first six months they did not do well.

Mr. Martin — In following out that idea I have had some experience. I found that in feeding them very heavy on grain and putting them on pasture I have had some trouble. While they did not hold their flesh and were thinner, they were a great deal larger when it come to the second winter. I would rather keep a colt that has had grain.

The Secretary — I want to ask Mr. Martin to say whether his experience coincides with mine; whether he does not find the hardest age to keep the colts in good condition is the first summer it runs upon the pasture after being weaned?

Mr. Martin — Yes.

Mr. Johnstone — I think that is the experience with everybody. I think that the question of feeding the colts grain or not, simply comes down to a very small basis. The question is whether it is a good plan to feed horses oats or not. I think everybody will say that it is a good plan to feed horses oats.

Mr. Sampson — The first winter I think is the most particular time in feeding colts, and I think they ought to have a good grain ration the first winter, but it seems to me that a peck a day would be very extreme. Colts fed high in the winter run and thresh around the barnyard and do themselves damage very often. Besides, feeding as heavy as the gentleman describes would leave a very small margin of profit. As far as my experience has gone I do not see that a colt four years old is any better for being stuffed with grain, than one that has been fed reasonably. I don't believe he is as good. It is too quick a growth.

The Secretary — I want to ask Mr. McKenney to give us his idea of the matter of early feeding of colts. Mr. McKinney has had success with another line of horses than what we have been talking about.

Mr. McKinney — As you remarked, it depends very much upon the class of animals. The class of horses that I am breeding is known as the trotting horse. I have found it to my pecuniary advantage to feed my colts liberally always, and have them looking well and presentable to a gentleman when he comes to purchase. It has been my custom to get a colt to eating oats or grain as early as the colt may feel inclined to take the ration himself. In my pasture, and I try to have good pastures, I have an enclosure sixteen feet square, just high enough that a colt can pass under. The brood mare has to remain outside. Inside of that enclosure I have a box filled with oats and bran mixed at all times; and I put salt about this pen and in a very short time the little fellows come about with their dam and they learn to work into this enclosure and begin to nibble away at the bran and oats; and long before my weanlings are four months old, a person who has never fed colts that way would be astonished at the amount of oats and bran the little fellows consume. So when I come to wean them in the fall of the year my colts take as naturally to eating as any old horse. In the winter season I feed them liberally at night with hay. I put two weanlings into a box stall together and I give them at night all they will eat of steamed barley; barley that has been steamed during the day and has malted, stirred up well with bran. In the morning I give them a good ration of oats and in the middle of the day I make a custom of giving them a few carrots; putting them in the boxes alongside of their runs. I am feeding this winter some twenty-nine weanlings, and all of them are fat, all thrifty, all growing nicely. I take them out in the spring and put them on grass. If the pasture is not well advanced I give them some grain in the pasture until the pasture is good. I endeavor that they shall not shrink off at any time. I keep them growing and in good condition. In the fall when I

take hold of them to break them I have a pretty well matured horse. I break them and gentle them. Then I let them alone until they are two years old and then handle them a little. If they are of that quality that will justify more handling, they get more handling.

The Secretary— I would ask you whether this liberal treatment which you give your colts is really a detriment to the animal in later years as it passes into active work.

Mr. McKenney— I do not know why it should be, any more so than with a child. If a child is brought up a starveling I do not believe it will make a better matured man. I believe a well fed child is happier.

Mr. Johnstone— Is it not a fact that your stallion, Phalamont, has been a most marked success under this system of raising his colts, and that you have had most all of these colts?

Mr. McKenney— Yes. I believe in feeding liberally.

Prof. Henry— About how much of this cooked barley does each colt get a day?

Mr. McKenney— It is difficult for me to say. I have had a receiver or kettle made in which I boil it and my men feed it; how much they get it would be difficult to tell. I give them all they can eat of the barley mixed with bran, and occasionally a few oats.

Prof. Henry— What is the general reason for feeding them cooked feed at that time?

Mr. McKenney— It is much easier to get at night than in the morning. It is steaming all day and is ready at night. At noon I generally feed them carrots. It is easy to feed a ration of barley, and it is the heartiest food, and they get nothing more until morning.

Prof. Henry— What is the reason for feeding cooked barley?

Mr. McKenney— No special reason. I have never fed the dry barley. Of course it swells and makes a great deal more feed and is a great deal better for them.

Mr. Johnstone— It is very good for the stomach.

Mr. McKenney— They seem to thrive under it. I cannot give any scientific reason.

Prof. Henry—Senator Stanford's horses are fed very much the same way. Some cooked feed is fed every day to the young horses.

Mr. Robinson—I would ask Mr. McKenney if he prefers to feed barley instead of oats.

Mr. McKenney—I do, because I have fed oats that way and it took much less barley, and I imagined the colts were much more fond of it.

Mr. Ames, Sr.—I would like to have you call out Arthur Fox. He is a horse raiser and breeder and a practical man.

Mr. Fox—In regard to feeding colts you mean?

The Secretary—Colts.

Mr. Fox—My feeding of weanlings is very similar to that described by Mr. McKenney. We begin before the colts are weaned. We have feeding boxes out in the field. We draw out the mares who have the oldest or earliest colts and keep them in a field by themselves; so there are not more than a half dozen mares in a field with their foals. We give them plenty of room. In these boxes the mares and their foals feed. The foals very soon learn to take hold of the grain. After they are thoroughly accustomed to that with their dams, they are taken into the barn and we put from two to four together in large box stalls, according to our convenience. There the colts are fed. At first five times a day, small rations, beginning early in the morning and the last meal about eight o'clock in the evening. We are very particular about them for the first six weeks after weaning. We are also very particular to keep water where the colts can have constant access to it, from the fact that you know that a colt is not in the habit of drinking large quantities at any one time. When they go to the dam they naturally will take a few sips and run away; and it is a good plan to conform to that practice in substituting water for milk. We sometimes find a colt who is a little stubborn about taking to the water. We have done such a thing as to put cow's milk into the water and I find the colts are inclined to take to it quicker in that way; but generally after a colt has been shut up in a box for twenty-four hours without access to the dam they get pretty

thirsty and will take to the water. After the first six weeks we usually cut down to four meals a day, and when the colts seem to be thriving nicely and their bowels in good shape we drop to three meals a day the same as with horses. Then they get larger quantities and seem able to assimilate it. The kind of food we use depends very much on what we have raised. I approve of a balanced ration, but at the same time I go more by my balance sheet than I do by my balance ration. I like what I have got on the farm that is cheap. Sometimes oats sometimes corn, sometimes barley and sometimes something else. This year we had a big crop of oats and we are feeding oats crushed, with a little bran, and a little oil cake; and we are feeding silage from which the cobs has been removed. We are also feeding turnips as a variety; alternating between silage and turnips. The colts like them both. That is about the way with the foals. The older horses are running out of doors.

The Secretary — I would like, before we leave this subject completely, to refer to this one feature of the industry at this time: the general impression is that horses are unreasonably low at the present time in price; that is, that they are classed in the same category with pork and beef. Now I think if you take a little time for thought you will find that any horse that is worth our while to think of raising and putting upon the market to-day, will bring ten cents a pound, and if you will consider that it never has been proved to the contrary, a remark that has often been made, that it costs no more to produce a good horse than it does a good steer —

Mr. Faville — Pound for pound.

The Secretary — pound for pound, that we are still making very satisfactory profit out of raising good horses. I think the great mistake we have made in the past is still being carried on to a great extent. We are raising too many colts. We are breeding those mares we happen to have, without regard to their adaptation to the work we ought to do. We are breeding them without a sufficient regard to the kind of animals we mate them with, adding to the unsalable product already too large in the hands of

the Wisconsin farmers. I would like to state here that two car loads of heavy horses weighing from 1,450 to 1,700 were within two or three weeks shipped from Baraboo at prices ranging from \$150 to \$225. Now those parties who raised those horses and sold them felt very well satisfied with their work. The farmers in our county have been working very much upon the line which Mr Johnstone suggests as the proper one, breeding right along in the line of production of draught horses. We have produced animals there which were eligible for record, bred up from common mares of twenty years ago; and I want to say to those farmers who have kept their best young mares as the foundation of breeding stock that there will be no trouble in raising these fifteen hundred pound colts, which will be taken at four years old at the prices which I have stated. If you use the proper discrimination in the selection of your breeding stock, and feed as stated by Dr. Woodford, Mr. McKenney and Mr. Fox, you will still find there is a good margin of profit in the raising of horses.

There is one item in connection with the sheep discussion that we would like to have brought out, if Prof. Henry is still in the room; with respect to the use of grain as a feed for sheep.

Prof. Henry — I am afraid that what I said a little while ago was understood as a fling at the merino sheep. What I meant was that if farmers are going to adopt the mutton breeds they have got to feed with a great deal more care, and give them a great deal more attention, or else they will be very much disappointed. I believe if you feed well, and take proper care of the mutton breeds of sheep that they will pay well. You just heard how Mr. McKenney here feeds his colts and horses. I find that some of the best horse men of the country take all that pains with their stock; and it is that kind of pains that pays with horses. It is a great deal more paying with these mutton breeds of sheep. How did the English farmer make this breed of sheep? By leaving them to feed on the weeds in the fields and allowing them to run around the straw stacks? Not at all.

We have had experience with rape for a single season.

Our rape this year came through the drouth and stood about that high (indicating) and as well relished by the sheep and pigs. The seed costs about 25 to 35 cents a pound. Two pounds will sow an acre. Be sure to ask the dealer to furnish you feed rape, and not bird seed rape. Perhaps they will charge you 50 cents, because it is just being produced. If your land is weedy sow it in drills. You can cultivate it just as you do rutabagas, only you don't have to thin it out. Sow it with a little hand drill, in rows. You can sow it after you have taken a crop right off the land, or you can plow under clover. You can sow it from the 15th of June until the 15th of July, about the time you put in millet. If your land is very clean you can plow over the land, sometimes turning over winter wheat stubble, and sow rape broadcast, and if the season is favorable the whole field will be covered with rape. Last season I gave Mr. Fay a little seed and he tells me he is going to put in forty acres. He is wild over it. It is fine sheep feed. If you are going to keep these fine bred sheep you have got to pander to their taste. Rape is a fall crop to be fed on the lands. It is one of our coming crops. I recommend each of you sheep breeders to try a piece of it. We will all experiment together and in a year or two we will know whether rape is adapted to our locality. In Canada farmers have from fifteen to twenty-five acres of rape.

The Secretary — Won't you state whether you would advise the farmer in selecting the location for his field of rape, to select the lower damper portions of the land, which are the richest?

Prof. Henry — Our rape stood the drouth remarkably well, so that I don't know that the damp land is necessary, but I should think the field should be pretty rich, although the farmers in Canada use it for cleaning their fields and do not consider it as a rule exhaustive.

Mr. Ames, Sr. — While we do not consider we are keeping sheep for cleaning out the fence corners we think they are very useful in that direction. A great many people think they won't go into sheep farming for the reason that it destroys the pasture so quick. They may be true, but

that is what we want; we want to have the sheep pasture in fertile condition.

The Secretary — Does any gentlemen wish to ask the professor any question about rape ?

Mr. Ames, Sr. — Will anything eat it but sheep ?

Prof. Henry — Hogs like it very much. I hope that Wisconsin farmers will try it. We must add to our bill of fare for our stock.

Agricultural Student — Can it be cured for winter feed?

Prof. Henry — It is a fall feed. It don't cost anything for harvesting. It is a rutabaga, without any roots, without any bulk.

Agricultural Student — Do you sow it in drills ?

Prof. Henry — If you wish to clean the fields some sow in drills and cultivate the same as you do rutabagas. You sow from June 15th to July 15th.

Mr. Wilson — Did you ever try blue grass for winter pasture for sheep ? I have tried that and even now in the field they will feed and get fat on it.

The Secretary — As stated, we have decided to close the discussion with this session; therefore our deliberations are closed with this discussion. I wish before adjourning to thank you for your presence at this convention and the full, hearty support you have rendered us in making it interesting; and I am positive that the papers and discussions which have been presented here will make one of the most valuable reports our society has ever been able to publish. I now declare the meeting adjourned without date.

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