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Third annual report of the Wisconsin Buttermakers' Association : held at Eau Claire, Wisconsin, February 2nd, 3rd and 4th, 1904.

Wisconsin Buttermakers' Association
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THIRD ANNUAL REPORT

OF THE

Wisconsin Buttermakers'
Association

Held at Eau Claire, Wisconsin, February 2nd, 3rd
and 4th, 1904

Organized February 21, 1901
Incorporated December 27, 1902

TELEGRAM PRINT, EAU CLAIRE, WIS.



LIST OF OFFICERS.

J. G. MOORE, President, - - - - - Albion
W. J. HYNE, Vice President, - - - - - Evansville
E. C. DODGE, Treasurer, - - - - - Lake Mills
F. B. FULMER, Secretary, - - - - - Ettrick

EXECUTIVE COMMITTEE.

R. C. GREEN, - - - - - Albion
A. L. PARMAN, - - - - - Mazomanie
PROF. E. H. FARRINGTON, - - - - - Madison

78951
MAY 18 1904

LETTER OF TRANSMITTAL.

Ettrick, Wis., March 1, 1904.

I herewith submit to the officers and members of the Wisconsin Buttermakers' Association a report of the proceedings of their third annual convention held in Eau Claire on Feb. 2, 3, and 4, 1904.

The attendance was very large for a state convention; the machinery and supply exhibit was an exceptional one; there were 121 exhibits of butter and the membership at this date is over 300.

Bespeaking the continued co-operation of the members of the association, I remain.

Respectfully,

F. B. FULMER, Secy.



HON. J. G. LUMBARD, OMAHA, NEB.

NAMES OF MEMBERS OF THE WISCONSIN BUTTERMAKERS' ASSOCIATION, 1903-04.

Abbott, W. A.....	Pardeeville
Adams, M. J.....	Waukesha
Albert, A.....	Thorp
Alexander, C. B.....	Chicago
Alexander, E. J.....	Omro
Anderson, A. J.....	Amherst
Anderson, Fred.....	Somers
Andrus, H. J. B.....	Neillsville
Austin, W. A.....	Spring Green
Backes, H. M.....	Ellsworth
Baer, U. S.....	Madison
Baker, E. P.....	St. Paul
Ballantyne, F.....	Walton, N. Y.
Barber, A. H.....	Chicago
Barber, Col. J. T.....	Eau Claire
Barlass, A. F.....	Chicago
Bates, R. R.....	Madison
Bateson, Jr. H.....	Richland City
Baumgartner, A. J.....	Fennimore
Becker, F. A.....	Chicago
Becker, P.....	North Lake
Beeston, Geo. E.....	Chippewa Falls
Benson, J. W.....	Plainfield
Bergstrom, I.....	Madison
Bjerregaard, R. P.....	New Franken
Blessig, L. W.....	Milwaukee
Blood, F. J.....	Chicago
Boettcher, J. E.....	Waukesha
Boll, W. W.....	Milwaukee
Boss, F. W.....	Janesville
Bowar Frank.....	Cazenovia
Bragg, C. T.....	Stanley
Bragg, W. C.....	Chippewa Falls
Brandt, Louis.....	Kieler

Brehm, H. G.....	Brehm Post Office
Breitenbach, J. A.....	Cameron
Brown, F. M.....	Cedar Rapids
Brugler, J. B.....	Milwaukee
Brundage, T. L.....	Cleveland, Ohio
Brunner, J. A.....	Tarrant
Burridge, E. I.....	Cleveland
Bush, C.....	Augusta
Bush, F. H.....	Krapp
Camp, L. E.....	Mount Horeb
Campbell, A. W.....	Beaver Dam
Carpenter, E. A.....	St. Paul
Casperson, H. C.....	Glenwood
Chapin, C. J.....	Omro
Chapin, B. J.....	Wood'awn
Chapman, J. F.....	Little Prairie
Claffin, L. E.....	Kendall
Clark, W. E.....	Weyauwega
Cole, C. L.....	Minneapolis
Colwell, R. P.....	St. Paul
Cook, S. B.....	Meromonie
Cornish, O. B.....	Fort Atkinson
Coyne, R. D.....	Chicago
Crow, Wm.....	Augusta
Dabareiner, I.....	Hortonville
Dale J. I.....	Clinton
Dalley, B. H.....	Milwaukee
Dasch, E. O.....	Cashton
Decker, Carl.....	Chicago
Demouth, J. C.....	Neillsville
Dickson, A. E.....	Evansville
Diekow, R. C.....	Wausau
Dimmock, A. F.....	Iola
Dodge, C. J.....	Winsor
Dodge, E. C.....	Lake Mills
Driscoll J. L.....	Palmyra
Dudley, Jay.....	Neillsville
Dutseth, J. O.....	Wilson
Duxbury, E. L.....	Green Bay
Ebert, Wm.....	Pardeeville
Elder, George A.....	Chicago
Ellis, B. J.....	Stoughton
Else Robert.....	Johnson's Creek
Else, Rudolph J.....	Johnson's Creek

LIST OF MEMBERS.

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Emery, Hon. J. Q.....	Madison
Emerson, Ed.....	Cleghorn
Engbertson, Martin.....	Scandinavia
Erickson, Albert.....	Volga
Esker, Ole.....	Bloomer
Evans, B. J.....	Ridgeway
Farrington, Prof. E. H.....	Madison
Fassbender, H.....	Greenville
Fiend, W. J.....	Hellenville
Fiske, C. W.....	Eau Claire
Foltz, H. W.....	Georgetown
Forsyth, S. M.....	Oconomowoc
Flick, W. J.....	Dunnville
Frank, H. J.....	Neenah
Fredericksen, J. D.	Little Falls, N. Y.
Friday, S. B.....	Milwaukee
Fulmer, F. B.....	Ettrick
Funk, J.....	North Lake
Gallagher, T. F.....	Chicago
Gates, C. N.....	Chicago
Gerlach, C.....	Grafton
Gibbons, T. H.....	Elgin, Ill
Gibson, D. I.....	Nelson
Gilbert, C. T.....	Werley
Gilbert, H. E.....	Osseo
Gluch, H.	Granton
Godfrey, J. H.....	Madison
Golz, E. C.....	Princeton
Goodchild, L. A.....	De Pere
Gower, A. A.....	Hammond
Gower, C. R.....	Chippewa Falls
Gradey, J. H.....	Turtle Lake
Greeley, W. N.....	St. Paul
Green, R. C.....	Albion
Griffin, H. E.....	Hancock
Grow, A. V.....	Whitewater
Gullickson, Martin.....	Cushing
Haecker, Prof. T. L.....	St. Anthony P'k, Minn.
Hagestad, H. J.....	Ettrick
Hales, Peter.....	Brandon
Halvorson, H. J.....	Eleva
Hamilton, E. A.....	Stanley
Hanan Fred.....	Misha Mokwa

Hanson, G.....	Oakfield
Hanson, John.....	Osseo
Harrer, E. E.....	Liberty, Pa.
Hart, Thomas H.....	Symco
Harwood, O. E.....	Madison
Hatch, F. L.....	Eau Claire
Hauge, H. S.....	Cadott
Haugland A. C.....	Owatonna, Minn.
Henning, A. W.....	Eldorado
Henry, Capt. C. H.....	Eau Claire
Hensel, A.....	Woodhall
Hidderman, E. J.....	Bell Plain
Hill, F. I.....	Weyauwega
Hjort, H. J.....	West Denmark
Hoiberg, S.....	Oregon
Holcomb, R.....	Weyauwega
Holland, O. E.....	West De Pere
Ho'm, C.....	Fall River
Holzhausen, H.....	Thorp
Hoyt, M. L.....	Little Falls, N. Y.
Hubbard, Leslie E.....	Neillsville
Hugel, F.....	Madison
Humes, F. L.....	Chicago
Hurd, B. F.....	Woodville
Hyre, W. J.....	Evansville
Jackson, J. J.....	Oakwood
Jaquith, Fred.....	Green Lake
Jenks A. H.....	Berlin
Jennings, A. A.....	Chicago
Johnson E.....	Strum
Johnson, F.....	Loyal
Johnson, Theodore.....	Whitehall
Judevine, Walter.....	Gratiot
Judkies, C. W.....	Van Dyne
Kates, Cras. M.....	Custer
Keeney, Z. C.....	Chicago
Kelling, F. H.....	Jefferson
Keppel, V. S.....	Holmen
Kielsmeier, O. A.....	Hika
King, F. H.....	Plainfield
Kinney, C. W.....	Amery
Klokker, J. A.....	Peru
Knoll, Paul.....	Johnson's Creek
Koenig, Herman.....	Leland

LIST OF MEMBERS.

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Kolarik, Joseph.....	Chicago
Korb, E.....	Boyd
Kubat, W.....	Neillsville
Kuhl, F. W.....	Eagle
Larson, H. C.....	Dodgeville
Larson, P. A.....	Holmen
Larson, W. H.....	Neenah
Lauders, H. L.....	Rcaring Creek
Lauraunt, V.	Rio Creek
Laurene, P. L.....	Gibson
Leserman, M.....	Chicago
Lester, W. H.....	Albion
Levy, Henry.....	Eau Claire
Longley, J. M.....	Dousman
Lonsbury, J. M.....	Watertown
Loomis, H. K.....	Sheboygan Falls
Loud, Ed.....	Milwaukee
Lowitz, Chas.....	Wyandotte, Mich.
Lundeberg, J. T.....	Deerfield
McCombs, C.....	Eau Claire
McCormick, E. C.....	Euena Vista
McCormick, F. E.....	Almond
McCready, John.....	Marshfield
McIntyre, G. G.....	Whitewater
McLane, A.....	Whitewater
McManners, H. S.....	Melrose
McNab, A. J.....	Black River Falls
McNally, R. H.....	Hudson, Iowa
Magrane, J. F.....	Rusk
Masche, C. H.....	Oregon
Mason, J. C.....	Reedsburg
Mau, Wm. A.....	Elk Mound
Meyer, M. H.....	Madison
Michels, Mathew.....	Garnet
Middlekuaff, J. A.....	Cedar Rapids, Iowa
Myers, F. W.....	Lake Mills
Michner, E. P.....	Chicago
Mitchell, W.....	Pcrtage
Mcnrad, J. H.....	New York City
Moore, J. G.....	Albion
Nerhaugen, J. S.....	St. Paul
Nelson, N. G.....	Colfax
Nelson, C. N.....	Middleton

Newman, B. W.....	Madison
Newman, J. B.....	Chicago
Niles, H. B.....	Kasson, Minn.
O'Connor, J. M.....	Irving
O'Keefe W.....	Merrimac
Olson, H. M.....	Arnott
Olson, L. A.....	Almond
Paddock, E. A.....	Elkhorn
Palmer, D. A.....	Monticello, Iowa
Parker, W. O.....	Centerville
Parman, A. L.....	Mazomanie
Passmore, C. L.....	Iola
Paulson, Chris.....	Middleton
Paulson, R.....	Granton
Pelton, C. W.....	Rock Falls
Peterson, P. C.....	Amery
Peterson, J. S.....	Meridean
Pheatt, H. D.....	Milwaukee
Prussing, H.....	Chicago
Puerner, A. G.....	Edgerton
Pyburn, E. S.....	Hanover
Rasmussen, J. M.....	Plover
Rathbun, R. E.....	Sand Creek
Reynolds, J. W.....	Lake Crystal, Minn
Redick, George M.....	Eau Claire
Ried, R. A.....	Hancock
Ripley, L. V.....	Eau Claire
Rosenberg, G. A.....	Elk Mound
Sandholt, H.	St. Paul
Schaeatzel, E. W.....	South Germantown
Schenke, Walter.....	Belle Plain
Schmidt, Otto G.....	Milwaukee
Schuknecht, H. E.....	Minneapolis, Minn.
Schulz, R. A.....	St. Paul
Schultz, W. F.....	Comstock
Senz, Carl.....	Browntown
Sheldon, D.....	lake Mills
Sheridan, J. T.....	Wyandotte, Mich
Sholley, A. L.....	Minneapolis
Signor, J. M.....	Eau Claire
Simes, E. E.....	Boyceville
Simmons, J. A.....	St. Paul

Sprecher, J. U.....	Camp Douglas
Slater, E. K.....	St. Paul
Smith, H. L.....	Leon
Sneberk, A.....	Algoma
Snyder, F. E.....	Whitewater
Sorensen, Ralph.....	Stoughton
Sorg, A. O.	Elroy
Spiers, Guy.....	Eau Claire
Statelqn, M.....	Amery
Stavrum, Wm. L.....	Elk Mound
Stecker, F. C.....	Dale
Stewart, W. A.....	Eagle
Stone, F. S.....	Northfield, Minn.
Stowell, J. E.....	Chicago
Stratton, J. R.....	Meridean
Strebe, A. F.....	Brothertown
Stuerke, Geo. H.....	Chicago
Sudendorf, E.....	Elgin, Ill.
Swanson, R. P.....	Minneapolis
Sweet, R. D.....	Avalon
Tamblingson, R. E.....	Navan
Taylor, Victor E.....	Lake Mills
Tingleff, C. P.....	South Wayne
Tucker, E. H.....	Marshfield
Thompson, A. E.....	Poplar Grove, Ill.
Thompson, P. W.....	Galesville
Thorsen, O. J.....	Alpha
Trager, Gust.....	Mazomanie
United Salt Co.....	Cleveland, Ohio
Van Dresser, M. L.....	Blcomer
Van Duser James.....	Heborn
Van Dyke, W. H.....	Chippewa Falls
Van Slyke, C. E.....	Chippewa Falls
Viergutz, F. A.....	Neillsville
Vincent, Walter H.....	Mindcro
Voigt, W. A.....	Naugart
Waddell, F. V.....	Baraboo
Wahler, L. O.....	Black River Falls
Walker, F. C.....	Albertville
Walker, F. E.....	Boaz
Williams, J. I.....	Menomonie
Weaver, A. E.....	Darien

Weber, Gust H.....	Beaver Dam
Weber, J. T.....	Hartford
West, A.....	Amery
West, J. P.....	Elkhorn
Welch, Earle S.....	Eau Claire
Welke, F. G.....	Cleghorn
Weuthrich, Fred.....	Mayville
Whitney, F.....	Menomonie
Whitney, Glenn, C.....	Poy Sippi
Wickham, R. S.....	Lake Mills
Wielke, A. F.	Dartfood
Winner Grant.....	Clintonville
Williams, C. H.....	Chicago
Wilson, W. W.....	Melvina
Wittig, Thomas.....	Rusk
Wolf, I. T.....	Chicago
Wright, L. K.....	Wausau
Wunsch, Jno.....	Viola
Yates, F.....	Packwaukee

ARTICLES OF INCORPORATION AND BY-LAWS

of the

Wisconsin Buttermakers' Association.

ARTICLES OF INCORPORATION.

Article First. The undersigned have associated, and do hereby associate themselves together for the purpose of forming a corporation under chapter 86 of the Revised Statutes of the State of Wisconsin, for the year 1898, and the acts amendatory thereof and supplementary thereto, the business, purposes and objects of which corporation shall be the education of its members for a better practical knowledge of creamery operation, promoting progress in the art of butter making, in the care and management of creameries, the sale, transportation and storage of butter, and in the weeding out of incompetency in the business of butter making; the further object of the incorporation is to demand a thorough revision and rigid enforcement of such laws as will protect the manufacture and sale of pure dairy products against fraudulent imitations, and to suggest and encourage the enactment of such laws in the future as experience may from time to time demonstrate to be necessary for the public good of the dairy industry.

Article Second. The name of said corporation shall be the "Wisconsin Butter Makers' Association," and its principal office and location at Madison, Wisconsin.

Article Third. The association shall be a corporation without capital stock. Any person who is a practical creamery operator, and such other persons as are connected or interested in the manufacture and sale of pure butter may become mem-

bers of this corporation by paying one dollar (\$1.00) annually in advance and signing the roll of membership.

Article Fourth. The general officers of said association shall be a president, vice president, secretary, and treasurer, and the board of directors shall consist of three members of the association. The term of the officers of the association shall be one year, or until their successors are elected at the next annual meeting following their election, and until such successors qualify. At the first meeting of the members of the association there shall be elected a director for the term of one year, a director for the term of two years, and a director for the term of three years, and thereafter there shall be elected at each annual meeting a director for the term of three years, and each director shall hold his office until his successor is elected and qualifies.

Article Fifth. The principal duties of the president shall be to preside at all meetings of the Board of Directors and of the members of the association during his term of office. He shall appoint all necessary committees and sign all orders drawn on the treasurer, and perform such other duties as may pertain to his office.

The vice president shall discharge the duties of the president in the event of the absence or disability, for any cause whatever, of the latter.

The principal duties of the secretary of said association shall be to keep a complete and accurate record of all meetings of the association or of the Board of Directors, keep a correct account of all finances received, pay all moneys into the hands of the treasurer and receive his receipt therefor, and to countersign all orders for money drawn upon the treasurer. He shall safely and systematically keep all books, papers, records and documents belonging to the association, or in any wise pertaining to the business thereof. He shall keep a complete list of the membership, help formulate and publish the program for the annual convention, publish a full report of said convention after adjournment, assist in such other matters of business as may pertain to the convention, and such other duties as properly belong to his office.

The principal duties of the treasurer shall be to faithfully

care for all moneys entrusted to his keeping, paying out same only on receipt of an order signed by the president and countersigned by the secretary. He shall file with the secretary of the association all bonds required by the articles of incorporation or the by-laws. He shall make at the annual meeting a detailed statement of the finances of the corporation. He must keep a regular book account, and his books shall be open for inspection at any time by any member of the association. He shall also perform such other duties as may properly belong to his office.

The board of directors shall be the executive committee and shall audit all accounts of the association or its officers, and present a report of the same at the annual meeting. The executive committee shall assist in the necessary preparations for the annual convention and shall have sole charge of all irregularities or questions of dispute that may come up during any annual meeting. They shall determine the compensation that may be connected with any of the various offices,

The Board of Directors with the other officers of the association shall constitute the executive board, which board shall decide upon the date and place of holding the annual convention, premiums to be offered at said convention, and such other regulations as may be necessary for the success of the annual meeting.

Article Sixth. The treasurer of the corporation shall give a bond in the sum of two thousand dollars (\$2,000.00) for the faithful performance of his duties. The said bond to be approved by the board of directors before being accepted by the secretary. Whenever the corporation may so desire, the office of secretary and of treasurer may be held by one and the same person. This action can only be taken at a regular election of officers.

Article Seventh. These articles may be altered or amended at any regular session of an annual meeting of the members, proposed alterations or amendments shall have been read before the association at least twenty-four hours previously, and provided the proposed alterations or amendments shall receive a two-thirds vote of the members present.

Article Eighth. The first meeting of this corporation for

the election of officers and directors shall be held on the 26th day of February, 1903, and such corporation shall hold a meeting of its members annually during each calendar year at such time and place as may be determined by the executive board.

BY LAWS.

Article First. All elections shall be by ballot, except in the case of a single nominee, when election by acclamation may be substituted.

Article Second. This Association will accept no special or side premiums of any nature whatsoever.

Article Third. Only one tub of butter may be entered from any one creamery for competition for any of the prizes or premiums; if more than one tub is so entered such entries shall be debarred from participation in all premiums.

The size of butter packages entered in competition at the Association contest shall be no smaller than a twenty pound tub.

The butter so entered shall belong to the Association. After the scoring contest has been completed the said butter is to be sold; the Association will pay the express charges, the exhibitor's membership dues for the current year and such other expenses as may be connected with the butter exhibit; the balance remaining from the sale of the butter shall be deposited in the treasury and be devoted to the premium fund for the next annual convention.

Article Fourth. The privileges of the Association butter contests are open to exhibitors outside of Wisconsin, but such exhibitor must be present in person, or have a representative of the creamery present at the convention to entitle him to share in the pro rata premium fund or compete for any other prizes offered by the Association, and must conform to all regulations required of state exhibitors.

Article Fifth. The Association shall give a Gold Medal for the highest scoring tub of butter and a Silver Medal for the second highest.

Article Sixth, Sec. 1. The score that shall entitle an exhibitor to a share in the pro rata shall be determined by the executive committee in advance of each yearly meeting.

Sec. 2. The scores of those exhibitors not participating in the pro rata shall not be published.

Article Seventh. All points of parliamentary practice not covered by the Articles of Incorporation or these By Laws, shall be governed by "Robert's Rules of Order."

Article Eighth. These By Laws may be altered or amended in the same manner as prescribed in the Articles of Incorporation.



ANNUAL MEETING AT EAU CLAIRE, FEB. 2-4, 1904.

THIRD ANNUAL MEETING
OF THE
Wisconsin Buttermakers' Association.

Meeting called to order at 2 o'clock p. m. February 2nd, 1904, by President J. G. Moore.

Invocation by Rev. J. W. Frizzell.

Song by Mrs. Stowers accompanied by Miss Mabel Southworth.

ADDRESS OF WELCOME.

Frank R. Farr, Eau Claire, Wis.

Mr. Chairman, Gentlemen of the Buttermakers' Convention:

I am delegated by his honor, the mayor, as the representative of all the men and women in Eau Claire to welcome you to our city. Notwithstanding that this is the only duty our mayor ever has to perform, and notwithstanding the fact that he is surrounded by a large salary and a large retinue of servants, he has invariably refused to perform this very pleasant task. In this instance his conduct can only be explained by the fact that his firm is the largest handler of oleomargarine of any firm in the northwest, and the fact is I believe, that he did not dare to meet you face to face. He is naturally a most affable and genial gentleman and something of a politician, and there is every reason why he should be here, were it not for the fact that he is guilty of the offense with which I have charged him.

In the absence of the mayor, the city attorney is supposed to

be on hand, but on account of his early experience with butter, and having been raised on a farm where they raised butter by hand, he finds it impossible to discuss this subject without completely breaking down, it is such a sad reminder of his early experiences.

So far as I am concerned, I have never raised anything, but I have owned butter that would raise almost anything that came near it.

Since the farmer got on the rural mail route and got within the reach of the patent medicine ads, and certain preferred mining stocks, his status has completely changed in the minds of a great many who were heretofore strangers to him, and he has come to be recognized as a most potent factor in society. I believe they are now usually called agriculturists, and sometimes ruralists. While I suppose the butter business is in no way connected with the farming business, still it is very difficult to disassociate the cow from the farm.

My butter experience has been confined entirely to strong butter. Our folks are always strong on butter and I know of no one who is better able to testify to its virtues than I am. Strong butter properly applied will cure one of almost anything. Rheumatism, gout, and love of family all disappear under its influence. I have known men to be acquitted of crime when their only defense was that they were acting under the influence of strong butter. The history of most wife beaters can be traced directly to this influence. There are men in this audience that, if left to themselves, are naturally peaceable and law abiding citizens, but once under the influence of this deadly enemy of peace, commonly known as strong butter, they become dangerous demagogues and howl about the unlimited benefit of co-operative creameries. With the present rapid increase of creameries, the time is not far distant when the constitutional question will be raised, whether it is not cruel and inhuman punishment under our constitution, to feed a man on strong butter.

I would like very much to continue this discussion further, but realizing that I am in the presence of a body of experts, I am constrained to desist.

We are greatly pleased that you should have selected our

city for this convention, and we hope that everything that is done may contribute to your pleasure.

Mr. Greene not being present Mr. Fulmer responded to the address of Welcome.

RESPONSE BY F. B. FULMER.

Mr. President, Ladies, Gentlemen and Members of the Wisconsin Buttermakers' Association:

It is with no small degree of pleasure that I am called upon to serve as substitute this afternoon. In times gone by when I was called upon to substitute or fill the position of another, I have entered into it with a great deal of hesitation, uncertainty and doubt. True it is, I have some doubts of my ability to fill the position as worthily as the person selected for this honor, but from past experience in this city, dating back something over one year ago, brings me to the position where I feel that in the truest sense of the word, I am amongst earnest friends.

It was a cold dreary day when I first landed in this city to broach the matter of our Convention, but the chill and dreariness soon vanished by the reception that I was accorded. Through a combination of circumstances, that I will not at this time mention, our Board of Managers did not think best to bring the Convention here at that time; we waited until another year, and I believe that the thing has improved by keeping it.

I believe that we will have a better Convention here in your city today; I believe that our exhibits in the machinery line will be larger, our butter exhibit will have a larger number of entries and feel doubly assured that the attendance of delegates will be greatly increased over that of one year ago.

I stand here ready to say that I have asked nothing, large or small, for our association, or for its interests, that hasn't met with a hearty response. I believe that in all my experience in past conventions that I have attended, that in no city have we met with a heartier reception than in the city of Eau

Claire. The President of your Commercial Association said to me, that the city of Eau Claire had the reputation of not doing things by halves, and I believe that he was right. We feel doubly glad to receive the hearty welcome and I trust that when the Convention closes that there will be a mutual appreciation of all interests concerned.

The speaker who welcomed us here referred to "strong butter;" that brought two ideas to my mind. It is true that in the past there has been a whole lot of so called "strong butter" upon the market; it has come to be an old gag "that butter is almost strong enough to move itself, to appear out on the street;" but I believe that if the citizens of Eau Claire would sample that which is made by the members of our association that they would find that that idea is past history. I feel confident that no member of our association today would be guilty of making any butter like that, and hope that that is something that has passed into history and will no more be met with in the future. It also brought to my mind a legal side to the point that the speaker referred to; it is one of the conditions that we are trying to perform to eradicate any such claim or accusation, we are trying to eliminate, to educate and to bring to a higher standard this product of food. Prof. Roberts of Cornell University is authority for the statement, that if in the course of a few generations, the American Indian could have been induced, to have partaken liberally of butter, he would have been a civilized being today.

I wish to again thank the city for their hearty welcome they have extended to us, and I trust as the convention advances and grows larger, that they will see that we are trying to earnestly achieve something in this world of production.

TREASURER'S REPORT.

GENERAL EXPENSE.

E. C. Dodge, Lake Mills.

1903.	
Mar. 19.	To Check M. Michael.....\$369.41
Feb. 2.	Memberships 50.00
Feb. 2.	For Advertising Space..... 305.00
	<hr/>
	724.41
Feb. 2.	Four Vouchers to Date.....\$250.24
	Balance 474.17
	<hr/>
	724.41

STATE FUND.

1903.	
June 27.	Check from State.....\$500.00
1904.	
Feb. 2.	Nineteen Vouchers to Date\$437.91
	Balance 62.09
	<hr/>
	500.00

PREMIUM FUND.

Mar. 19.	Check, M. Michael.....	\$313.44
Feb. 2	Check, Contributions.....	301.56
Feb. 2.	City of Eau Claire.....	300.00
		<hr/>
		915.00
	Total Receipts.....	\$2139.41
	Total Expenses.....	688.14
		<hr/>
	Balance on hand.....	1451.27

Mr. Fulmer: The published list for the premium fund amounts to \$895.00. Since we have gone to press, three additional contributions have been received. They are S. B. Friday Co. of Milwaukee, Wis., \$5.00, Sharples Co., of Chicago, Ill., \$10.00 and Pitt Barnum Co., New York, \$5.00, making the sum total to date of \$915.00.

PRESIDENT'S ADDRESS.

J. G. Moore, Albion, Wis.

Ladies and Gentlemen, Members of the Convention:—

Thirty-two years ago this month, a few men who were acquainted with the needs of the dairy industry met in the city of Watertown and organized the Wisconsin Dairymen's Association.

Since that time the records show a long list of meritorious achievements along the line of dairy advancement credited to this association, among which are, the Farmers' Institutes, the Dairy and Food Commission and the Dairy School.

It has seen the dairy business of the state grow from one million to fifty-five million dollars per year and an ever increasing field for its particular line of work.

However, as this is an age of specializing, it is not to be wondered at that thirteen years ago the cheese makers of the state saw an opportunity to derive greater benefits from having an organization of their own, and formed one that has since taken a leading place in disseminating knowledge to aid the maker and in helping the industry in every legitimate way possible.

It is to be wondered at that the butter makers of the state should have waited so long before coming out from under the protecting wing of the Dairymen's Association, with such an example as this before them.

At the National Buttermakers' Convention held in St. Paul February, 1901, a few Wisconsin buttermakers got together and organized the Wisconsin Buttermakers' Association.

Its first convention, held in the city of Madison the following January, was looked forward to with a great deal of interest and pleasure by the buttermakers of the state, as a distinct step forward, and gave them a sense of the importance of their business not before possible.

The convention was a success in every particular. At this convention was first inaugurated the system of having the buttermaker present at the scoring of his butter for advice and criticism by the judge, which has since grown so popular that it is being followed in other states.

Those present at that convention went away feeling that it had been good for them to be there.

The second convention held in the city of Waukesha, was looked forward to with some little apprehension, as it was thought that the success of the first meeting might have been due somewhat to the hurrah incident to the starting of something new.

We are glad to be able to say that the second annual meeting was as much of success as the preceding and in some respects greater.

We are here today enjoying the hospitality of this beautiful city of Eau Claire and have been accorded a most hearty welcome, and the prospects for the success of this meeting loom up bright before us.

This association has a great future before it and every buttermaker in the state should take pride in becoming a member of it.

It can become a power in shaping legislation that will be helpful to the industry and by its influence prevent the enactment of laws that might prove detrimental.

It can aid the Dairy and Food Commission in executing the statutes relating to the use of the Babcock test and the cleanliness of both patron and maker, the improvement of sanitary conditions and the spreading broadcast of knowledge that will be helpful and uplifting.

It can and should make some effort to get out a larger number of exhibits at the coming national convention, so that Wisconsin may be represented before the world in a manner commensurate with the importance of the dairy industry in the state.

And right here it should be said that this association representing as it does the buttermakers of the state should have some voice in the appointment of the creamery instructors instead of their being as at present under the State Dairyman's Association.

Acting with the inspectors of the Dairy and Food Commission and the instructors employed by the Wisconsin Dairy-men's Association this result can be accomplished in some measure, the same as it has been in other states.

Our buttermakers would be aided by having a six months' or all year contest similar to the ones conducted with so much success in Michigan, Minnesota and Iowa, and it would seem possible for this association to conduct one on lines similar to the National contest and I have no doubt that the Dairy and Food Commission would be willing to co-operate in every way possible.

What the creamery business needs more than anything else is better educated buttermakers, men with the ability to make extras at all times and the knowledge and tact necessary to educate the patron to a higher standard of milk production.

As a means to this end this association's conventions are no small factor and it is to be hoped that we who are here can go away feeling well repaid for the time spent in the knowledge gained.

SECRETARY'S REPORT.

F. B. Fulmer.

Mr. President, Ladies and Gentlemen:

Soon after the close of our last Annual Convention at Waukesha, your officers took active steps to urge the passage of the bill then before the State Legislature, to secure an appropriation to aid our Association.

After meeting at the State Capitol several times and appearing before the required committees, our Association was given an annual appropriation of Five Hundred Dollars. This sum was only one-third of what we had asked and labored to secure, but it being our first effort, and many other large appropriations causing a heavy demand on the state finances, this was all that the Claims Committee felt like recommending. We trust that better success will follow our efforts next time.

While the subject of state appropriations is before us, it might be well to bring to your attention a subject which will, if acted affirmatively upon by you, be vitally affected by the increased state aid that we may be able to secure at the next

session of the Legislature. There has been a feeling in this state for some time that we ought to have a "state scoring contest." Your President spoke about this matter in his address, and I wish to present the matter in a more definite form. If ample funds can be secured to prosecute the work, the contest ought to be held once each month during the whole year. In order to get the largest amount of good out of it, there should be three expert judges of butter, to score the exhibits, each judge working independently of the other two; the contest to be under the auspices of our State Association, and the contestant to be to no expense excepting what he has to stand between the price the butter is sold for after the contest is over, and what he has to pay for the butter at the creamery. Consider this plan and if it meets with your approval, take some action on it before the convention closes; if it does not meet your approval suggest a better one.

Another matter that should receive your attention is this: Shall we hold a State Convention a year hence? There seems to be a feeling in certain quarters that with the Louisiana Purchase at St. Louis this coming summer and the National Creamery Buttermakers' Convention being held in the same place in October, that there will be a lack of interest and energy for the state meeting. This question is something that should be decided at this convention and the sooner the better, for if we are to skip the next year's convention, there will have to be an amendment made to our Articles of Incorporation, as they provide for an Annual Meeting and said amendment will have to be proposed 24 hours prior to being acted upon.

During the past year your Executive Board has held three meetings. The first was held in Madison on June 27th. Mr. Geo. B. Winsor, who was elected at Waukesha as a member of the Executive Committee for three years, tendered his resignation, he having left the state. His resignation was accepted and the Board appointed Professor E. H. Farrington to fill the vacancy till this meeting, when the Association will have to elect a successor for the remaining two years of the term. At this meeting the date of the present convention was decided upon and made public.

The second meeting was held on the State Fair Grounds on Sept. 9th. At this meeting the place of holding the convention was conditionally located, as at that time your Board considered that they had a promising offer from a certain city. Subsequent events proved that the local conditions of said city were not as we had been lead to expect, hence the delay in definitely announcing the location.

The third meeting was held in Madison on November 10th, at which time this convention was located in this enterprising city of Eau Claire. At this meeting it was decided to again have the minimum score of butter at 87 points to participate in the premium fund. This seemingly low point for admission has been the subject of some criticism and in this connection a word of explanation may not be out of place. It has been the aim of your official management to encourage a large exhibit of butter and have the buttermakers present to receive the exceptional benefits to be derived from the system of scoring the butter that we have in use. Without desiring to take any liberties with Scripture, especially when we have to quote it in a negative form, but it is nevertheless true that "we **do not** always have the poor with us." The usual high scoring, prize winners always exhibit butter and attend in person when convenient for them and receive all the benefits possible. It is the buttermaker who does not always class in the fore front, the man who has to contend with some unfavorable conditions and, perhaps the one who does not always make the most of his environment and opportunities that we desire to reach and if possible cast a little light upon his pathway. Then again, at this time of the year many good buttermakers find that they cannot always make a strictly fancy piece of butter and in order to encourage them to exhibit, that they may receive the educational benefits of our convention your Executive Board have adopted this point. If it does not meet with your approval, it is your privilege to change it.

The fundamental idea back of the pro rata premium fund has been to make a large, rather than a small or restricted distribution of the prize money.

A very little criticism was also made concerning the loca-

tion of the convention, at a place that seems, so far north in the state. Your officers have felt that this organization has sort of an educational mission before it and by moving around from year to year it would leave a beneficent influence behind that would accomplish more good than by meeting in one city year after year, even though by so doing we were to gain a larger membership. By changing the location from year to year we come in contact with some new members each time, which ought to stimulate an interest for the good of the cause in general.

Then, we have felt that we were coming up here, in what is now a good butter producing section, and in a few years **which may** become one of the most important in the state. The enthusiasm and pre-convention spirit manifested has led us to believe that no mistake was made in meeting in this part of the state, and if in a few years hence, our convention should again come up this way, we bespeak with confidence that we would be welcomed by the buttermakers of this section.

The convention is here; it may not be what it might have been, but it is the result of the efforts put forth by your officers. It is yours now,—make the most of it.

Song by Mrs. Stowers accompanied by Miss Mabel Southworth.

The President: The committee on resolutions are C. T. Bragg of Bloomer, Wisconsin; G. Hanson of Oakwood and E. I. Burrige of Cleveland, Ohio.

The President. I wish to announce for Captain Henry that any of you who have not a room you can meet him after the Convention and he will see that you are accommodated. Unless there is any other business the meeting will adjourn until this evening at 7:30.

Prof. E. H. Farrington: Before we adjourn, it seems to me that there are some things that we ought to discuss now that we have plenty of time.

It seems to me that this Convention has certainly come to the proper place to hold its meetings. The City Attorney, or

whoever it was spoke for the mayor in his absence, gave us to understand that the only knowledge possessed in this vicinity of the dairy business is in connection with strong butter and oleomargarine, and if this is true, our organization, which stand for the improvement of the dairy interests and wants to do missionary work has certainly come to the right place.

Another thing that has impressed me while listening to what has been said was that since the program is issued by this association for advertising purposes, everyone that is mentioned in that program ought to either "fish or cut bait;" each advertiser has to pay for the space that his name occupies on the program; now, it would seem to be appropriate for any one mentioned as a speaker to be present and respond when his name is called. I think that if any man is so green that he can't get around and respond when his name is called, he certainly ought to be asked to pay for the space in the program, advertising space, that his name occupies. Some of these men are not so green as pictured, neither green in color nor experience; they have traveled all over this state from the North to the South, East to the West, and are acquainted with the creamery and dairy business throughout the state, and they ought to be able to relate their ideas.

Among the points that were brought up by the Secretary in his address, it seems to me there are some that are worthy of serious discussion and perhaps this afternoon is as good a time as any to take them up. I first wish to mention the idea that he brought up in regard to having a Six months or Annual butter scoring contest in the state, and I certainly think that we ought to have one; the suggestion that he has made as to the way in which it ought to be done, it seems to me is a very feasible one and some action ought to be taken at this time. The Dairy Food Commissioner, who has inspectors traveling around the state may be able to help the buttermakers; these inspectors as they go around can help the buttermakers, and a personal visit in that way is a great deal of help to them in remedying defects in their butter. I know that the Secretary has some doubt about getting the necessary funds to carry on such a contest, and we all know that we cannot do anything with-

out money; it will take quite a large amount of money to carry out such a contest for the year, and I think it would be a good plan to hear from him further and that a committee be appointed to investigate and get down to some business basis and start to do something about this question.

Then again, a suggestion that might be talked about some was the statement that was made in regard to the holding of this Convention next year. I don't see that the St. Louis Exposition ought to interfere in any way with a meeting of this association next winter and I certainly think we ought to have a meeting next year. The St. Louis Exposition will in all probabilities be closed in November, and I think that the Association ought to have a convention next year and carry it to some other city in this state, a different section of the state, so that if we do any good it may be scattered into all sections of the state.

Mr. Fulmer: Mr. President and Member of the Wisconsin Buttermakers' Association:

If we unite, use the strength we have got, we will develop more strength, and I believe it is possible to do most anything that is legitimate, necessary and expedient, and I think that the example of the contests in other states, should give us some light. Their experiences are certainly worth something, if they have run up against a proposition that was not to their liking, that example should teach us to avoid a similar occurrence in our own organization. It isn't for me to stand here to tell what you should or should not do; this is something that your Secretary, your Executive Board or any dozen members of your organization cannot do alone. It requires the united effort of all the members. If the members are enough interested in the idea to prevail upon their members of the State Legislature, to circulate petitions among their patrons, getting them to use their moral influence upon the State Legislature to give to us an appropriation, it will be possible to accomplish something. I believe that when the magnitude of our industry is laid before the Legislature, showing an annual production of eighteen million dollars worth of butter, they will be led to believe that the public at large are interested in the question; when the man who produces

the milk is interested in it; when they see that there is a chance to achieve something in the educational line that will be a benefit, don't think that they will hesitate about it. I don't think that one man or any dozen men can bring them to realize the the true position, but I believe that it is a question that rests with the members throughout the state to use their efforts to do what they can. I do not know who your officers will be that you will elect tomorrow, but I have the confidence that they will, in an official capacity, head any movement, if you are ready to furnish your aid. No matter how great any general was, personality alone never won any battles, he had to have some troops, and I believe that if you will act the part of good volunteers, that your officers will bring the matter through.

Mr. Michels: I don't know as I have anything in particular to say; as far as I am concerned I am with you, and I will be willing to be one of the volunteers. I know I have derived large benefits from scoring contests monthly as well as annually, and I will volunteer to be with you.

Mr. Parman: I am willing to do what I can to help the thing along. I think it would be a very good thing to do. As Mr. Fulmer says, we have got to get together, get the necessary funds to get along. With the appropriation we had this year it would be impossible to do anything. I don't see why we should not get the appropriation; it is used for a good cause and I think if we go after it we can get it.

Mr. Michels: When can this matter be brought before the convention again so that every one will be prepared to discuss it?

The President: That is for the members to say. If you think there are so few of us here this afternoon and that it would be better to postpone the consideration of it until tomorrow afternoon, that is for you to say.

Mr. Fulmer: To know whether the members are interested in this question or not, I request that you call for a rising vote and see how many are interested in pushing this matter along how many of those who are present are willing to help the work along.

The President: All those who are in favor of having a six

month or annual butter scoring contest signify by rising.

All members present arose.

Mr. Fulmer: There seems to be, as I take it, pretty nearly a unanimous vote, and I would like to suggest that it wouldn't be out of place if a special committee were appointed at this time to consider this question and bring in a report that we can get at and discuss. This committee can talk with different men and get some good ideas and bring in a report that we can intelligently discuss.

The President: Do you make that as a motion Mr. Fulmer?

Mr. Fulmer: Yes, sir.

The President: It is moved and seconded that we appoint a committee of seven to consider the advisability of a six months or all year contest.

Motion carried.

The President: As that is a pretty large committee I will have to announce the names later.

Prof. Farrington: I would like to move that the present secretary be made chairman of that committee.

Motion seconded.

The President: It is moved and seconded that Mr. Fulmer be made chairman of the special committee.

The President: The special committee of seven are as follows: F. B. Fulmer, E. H. Farrington, H. E. Schuknecht, C. M. Kates, W. J. Hyne, M. Michels and F. H. Bush.

The President: All of the members who have certificates will please bring them forward at the close of this meeting to the secretary, so we will know how many there are, so we can have the joint agent stamp them so as to be able to get the fare and a third. This is very important and unless we get a sufficient number we do not get the reduction of fare.

The President: Mr. Jules Lumbard, whom you have probably heard sing, will be with us tonight and we will be favored with some of his songs and it will be worth your while to come to hear him.

Ex-Governor Hoard will also be with us tonight.

Tomorrow morning will be devoted to scoring butter and the buttermakers will have a chance to be in the scoring room with Judge Collyer and if they will come and make arrange-

ments with the secretary you will have an opportunity but as the room is small where the butter is to be scored, all can't be in there at once.

Election of officers will be held tomorrow at 11 a. m. and we would like to have a full house so that you can all have a chance to vote for those who you wish.

Mr. Dodge: It seems to me that if we do not have a meeting next year that there ought to be something done this afternoon as to when we shall vote on that and I make a suggestion that we either make the vote tomorrow afternoon or tomorrow evening; that will give us twenty-four hours to talk the matter over and decide that.

Mr. Schuknecht: It has been my pleasure to attend and be interested in conventions for about ten years, and in as much as you have an organization here running in good order and doing a lot of good work it doesn't seem to me as being at all a good thing to even postpone the meeting because it kind of disjoins things; you are all getting along nicely; everything is in good working order and the matter of the St. Louis Exposition isn't anything new or anything so extraordinary and I think it will be a hard time to get any special buttermakers' good, or meat for buttermakers', in other words, out of the convention that will meet in St. Louis, so many other things to look at and after, and there is fully as much an excuse for having a convention next year as there was this and it strikes me that there is enough of membership present to take some action on that matter, and my idea would be that the question of holding a meeting next year be left as it is now, namely, the articles of incorporation provide for an annual meeting and I don't think that you can do anything better and that it is the best thing for the organization since you have the organization running in nice shape.

The President: Mr. Dodge, did you make that in the form of a motion?

Mr. Dodge: I didn't make it in the form of a motion at the time. I make a motion that we appoint a time tomorrow that we vote upon the subject of whether we should hold a meeting next year or not, make it tomorrow afternoon or to-

morrow evening. I suggest we make it tomorrow afternoon.

Motion made and seconded that tomorrow afternoon we consider whether we should hold a meeting next year or not.

Mr. Bates: I think we ought to continue to hold a meeting annually. I don't see that there is any need of appointing a time tomorrow afternoon to consider this; it seems to me that we are under obligations to the constitution to hold a meeting every year and so far as I have heard or expect to hear about the subject, we intend to hold a meeting next year and until some one comes up and says not to hold one we intend to hold one next year; we don't need to consider it at all; simply hold a convention next year according to the constitution; it seems to me that it is a question that needs no discussion and go ahead as we intended to do and hold a meeting annually.

The President: Unless Mr. Dodge puts his motion in some different form, we will have to consider this motion off.

The President: All those who are in favor of this motion will please rise; it is suggested by Mr. Dodge as to whether this meeting would be abandoned a year hence; whether this association would abandon its meeting next year for the fact of their being a national meeting. If there is a motion that it be so abandoned then we will have to consider it tomorrow afternoon but if this motion is off, there is nothing to consider.

Mr. Bates: I don't see how we can in good faith and in keeping of the provisions made to the state legislature to give us an appropriation for this organization; I don't see how we can suspend operations; we have laid before them the objects of this organization and now if we accept of that appropriation, I don't see how we can abandon an annual meeting.

Prof. Farrington: In case this question comes up as to whether we shall hold a meeting next year or not I suggest that it be referred to the executive committee. ,

Adjourned to 7:30 p. m.

TUESDAY EVENING SESSION,**February 2nd. 1904.****The President:** The meeting will come to order.

MUSIC—ORCHESTRA.

The President: We will now listen to an address by the Hon. Ira B. Bradford.**ADDRESS.****Ira B. Bradford, Augusta, Wis.**

Mr. President, Members of the Wisconsin Buttermakers' Association, Ladies and Gentlemen:

It is a great pleasure to be permitted to share with you the opening exercises of this, your Third Annual Convention. While I bring to you no experience along the line of the work in which you are engaged, yet, I do come with an earnest desire, through some words of encouragement or appreciation, to create within you a still deeper interest and greater zeal in the work that you have undertaken. It is very difficult to fully understand or appreciate the importance of the work in which you are engaged, and it is not until we consider for a moment some of the many results; when we learn that your annual production from the creamery interests of this, our state, amounts to eighteen millions of dollars; and further when it comes to us that the entire dairy interests of the state are producing annually 55 millions of dollars, and that this increase from a single million of dollars has come within the memory of the present generation, that we begin to understand the importance of this work, and to appreciate the labors you are performing, placing, as you are, the State of Wisconsin among the foremost states of the Union along the line of this industry. It touches the heart of every true citizen of our state to feel that it stands among the foremost of all the states of the Union in any enterprise. When we note the rapid progress you are making along these lines, we are especially proud and are grateful to you for the work you are doing. You are the men who have gone out into this new field and through days, weeks, months and years of pa-

tient toil have developed the system that has laid the foundation for making this work profitable, yielding this magnificent income to the agricultural interests, and here, in a gathering like this, you freely give this valuable experience that you have acquired through your individual experiments in exchange for the experience of others. A giving that does not impoverish the giver yet greatly enriches the receiver.

In this conference you are recognizing the power that moves the great industries of the world today. It is the uniting of many minds upon the solution of intricate problems. Life's journey is too short, and the pace too swift for a single mind alone to achieve material success. The progress of the world demands a greater force, the united power of many minds trained through long years of patient toil in the industry sought to be developed.

Only a few years ago the people in the Northwestern portion of our state were wont to look to the forests for their wealth, the trees were hewn down, floated down the river to the mills and manufactured into lumber, bringing untold wealth to the lumberman and manufacturer. The agricultural interests, while their productions were used along these lines, derived very little direct benefit therefrom. It did not redeem the mortgages on the farms. They remained the same nor did they begin to decrease until the herds of cattle along the valley and on the hill sides began to increase. Driven by necessity the farmer gradually began to add to his herd of cows but he found no profitable market for their product nor did it become profitable until you, gentlemen, representing the creamery industry, planted the creameries in the State of Wisconsin and brought to bear a science, a knowledge, that heretofore had not been used in improving the quality and quantity of these dairy products. You laid the foundation for the success that came, and as these creameries began to show results, we noticed the herds increasing along the hill side and as their number increased the mortgages began to fade away until today they have nearly disappeared, discharged and disposed of, not by the saw log but by the inoffensive cow; the power that has afforded

the solution of the farmer's financial problem and that has done so much for the development of the agricultural interests of the state; that wonderful power that yields an income throughout the different seasons of the year, not affected by the heat of summer nor the frost of winter; the power that furnishes employment through all the various seasons of the year and today is the foundation upon which we are building a new era in the life of the agriculturist of the state of Wisconsin.

For many years, and even at the present time, we have heard the constant complaint coming from our agricultural interests, that the active, earnest, energetic boys could not be retained on the farm. They would drift away and seek employment along other lines. The agricultural interests felt that they were not properly cared for and the question came, what was the cause? We found as we examined our great institutions, our universities and all the institutions of learning, that we were educating the boy away from the farm; that he was no longer satisfied with an employment that demanded only physical force. He wanted to engage in some employment where he could exercise not only his physical force but the force of his mind. When he looked into other employments he found that it was the exercise of the mind, that wonderful power that is moving the world at its present rapid pace that was achieving success and he was no longer contented to be tied down to an employment that offered no such opportunity. True, he was taught to plow a straight furrow but as he looked at the cold clod of earth he saw nothing beneath its surface; as he looked at the herd of cattle he saw only their number. The question as to whether they were productive or not did not rise in his mind. He considered quantity, not quality. The opportunities to improve the home never occurred to him.

Our State University began to recognize that it was not serving all the people of the state equally. That in fact it was leading the boy away from the farm to the injury of this, one of the most important industries of the state. To meet this an Agricultural Department was established. For many years this met with no material degree of success but

all the while the foundation for better things was being laid. Today we find on the University grounds a magnificent building erected for the purpose of educating the agricultural student, containing four hundred and sixty boys. We are educating these boys not from, but to the farm and as they come out from that institution they will not turn their back upon the old home but they will face homeward fully realizing that no other occupation offers a greater opportunity for the exercise of both mental and physical power, and the development of the highest and best talent that a divine Creator has implanted in the heart of mankind. Now, as they turn the furrow and behold the cold clod of earth they look beneath the surface and see its wonderful possibilities, its power to produce the waving grain, the great oak with its widespreading branches. All these things come to their minds; their interest is awakened; they begin to study as to what crops it will best produce. As they look at the herd of cattle the good points of the cow appeal to their minds. They consider the quality as well as the quantity of milk and butter. The question arises whether this animal produces more than it consumes; is it profitable to the farmer? When they see the horses hitched to the plow, not only the question of strength but of beauty comes to their mind. As they behold the trees in the orchards, and even the pigs in the pen, all become to them an interesting study. Their thought now, is how can we increase their productiveness without material expense. If the farm ceases to produce sufficient to maintain the family and care for the stock, their thought is to increase its productiveness; to cause two blades of grass to grow where only one has hitherto grown. And last but not least, he considers the adornment of the home. As we pass through this beautiful land of ours and behold the farm houses, we find as a rule, the grounds sadly neglected; little care is given to adornments. These young men have now awakened to find that these premises can be beautified and improved without material expense. It is a common fault of ours, that we appreciate too little the pleasures that nature has given us in the ceaseless routine of work. We become so engrossed with the production of things, the adding of material wealth,

the increasing of our income, that we forget that nature has scattered her beauties all along the pathway of life; the changing seasons, the budding of the trees and even the storms that sweep over us offer an opportunity for the relaxation of that mental tension that shortens the life of man. Many a mother and housewife finds an untimely grave or a home in an asylum for the want of these changes. As a people we sadly lack the appreciation of things that nature has given to relieve us of the burdens of life that come to us so continuously.

A little incident comes to me in my own experience. Only a few months ago I was spending my vacation among the mountains in my old New England home. As the autumn approached the change in the foliage with its beautiful colors attracted my attention as never before. In it I found a restfulness, an ever increasing interest, until it became an absorbing study. On my journey homeward as the train moved on, we came into a beautiful valley among the hills. Close at hand a corn field with its golden harvest stretched away to the distant hills covered with their dark green foliage interwoven with the variegated shades with which nature paints her forests in early autumn. A most beautiful picture! I was enrapt with the view. Just then an old gentleman, well dressed, nice appearing, sitting in the seat immediately in front of me, said "Magnificent! isn't it grand?" His enthusiasm pleased me and I said "Indeed it is. I never saw a more beautiful sight. It is wonderful how nature can produce such beautiful colors." "Huh!" he said, "what are you looking at?" "That beautiful foliage along the hills" I replied. "Well" he said, "I was looking at that hog." Glancing down I beheld a large black hog scratching his lazy back on the fence. The incident told the story of his life. His attention all his life had been so engrossed in considering those things that produce wealth that he had lost the power of seeing the beauties that Nature had provided for his enjoyment. True, he did well to note that magnificent specimen of animal life, but he could also have raised his eyes just a little and caught a glimpse of the beauties of nature. That would have enriched his soul and made him a better

man for all time to come.

I am satisfied, my friends, that we are entering the dawn of a new era in the life on the farm, the development of which will place the husbandman upon a higher plane than has hitherto fallen to his lot. He is no longer isolated. For our government through its Rural Mail Service has placed him in touch with the world as fully as his city brothers. And gentlemen, you have done much to bring about this changed condition.

I am pleased to join the people of this city in extending to you the congratulations your success merits and I earnestly hope that this convention will bring to you a profitable experience that will prepare you to still further advance the interests you represent. I am satisfied that through these conferences, and through this exchange of experiences great profit will come to you as individuals, later to be reflected in the material advance of the interests of the state, and may we as citizens of the state in every possible way extend our aid and assistance in the development of the work in which we are engaged.

MUSIC.

INDUSTRIAL COMPETITION AND CO-OPERATION.

Rev. J. W. Frizzell, Eau Claire, Wis.

Society has become a vast system of complicated relations. People are thrown together in all kinds of combinations. All that makes for progress and human welfare rests on the proper adjustment of men to one another on the basis of rights and duties. All that tends to retard progress and drag men down is due to a violation of rights or a failure to discharge duties. Rights and duties run parallel. What is right for a parent to demand, it is the child's duty to give. What it is the child's right to expect, it is the parent's duty to give. What is right for a master to expect, is the duty of the servant to give. Any clear conception of our subject, requires an understanding

of the factors involved, and of the rights and duties of the persons concerned. There is a great diversity of opinion as to what the rights and duties of men are. We hear much about the divine right of the church and the priesthood. We have heard considerable about the divine right of kings. There was a time when kings claimed the divine right to rule the people, and that the people had a divine duty to serve the king. The United States has done much to change this view of rights and duties. The framers of the Declaration of Independence affirmed the absolute right of every man, to life, liberty and the pursuit of happiness. This may have been a great thing to say at the time and under the circumstances, but it is not the most complete utterance on the matter of rights and duties. Has every man a right to his own life? That depends on how he lives. Has every man a right to liberty? That depends on how he uses his freedom. Has every man a right to the pursuit of happiness? That depends on what he makes the pursuit of happiness. Generally speaking we say that man has the right to life, to himself, to liberty, to use himself as he pleases; to property, to what is his own; to his family; to his reputation, and to the product of his labor. This may be granted under one limitation, viz; that in the exercise of these rights he does not infringe on the rights of others. If a man lives so as to injure others, his reputation may be destroyed, his property confiscated, he may be deprived of his liberty and even his life may be taken. Hence we do not have an absolute right even to life, unless we live for the good of others. Not to live right, is not only to injure others, but to lose ourselves. Hence each individual and society are held responsible to a law higher than themselves. So far in the history of the world, the state has defined and sanctioned the rights, and for the most part has claimed to protect the rights of the individuals in its jurisdiction. In the days when the state was a king, a despot or an oligarchy, the rights of the individual were not very broadly defined nor very carefully protected. Society not only defines and protects the rights of the individual, but it is also the sphere in which the indi-

vidual is to exercise his rights and perform his duties. As the whole is a greater than any one of its parts, society is greater than any individual in it. Every man gets more from society than he ever gives to it. What we are and what we are able to do depends largely on our environment. Every man should seek to give a fair equivalent for what he gets, whether he get it from an individual or from society. This lies at the basis of the industrial problem, and of its two prominent factors, competition and cooperation. No man has a right to use himself, nor the products of his labor, nor any property he may come to possess, in a way to injure others as individuals, unless he is benefiting society as a whole. A man may invent a locomotive engine and throw ten thousand teamsters out of work, yet he benefits society as a whole, for the new invention gives work to more people and is a great benefit to society. A man may invent a typesetting machine and throw ten thousand printers out of work, but it makes papers and books cheaper and is a benefit to society as a whole.

Industry has come up through much war and strife. It began by the strong tribes exterminating the weak ones, that the strong ones might own the hunting grounds, then to possess the fertile plains and the valleys. Then the strong made the weak or the conquered do their work, or fight their battles. In the days of feudalism, the feudal lords owned the land, and, owned the people as retainers. The people fed the lords and fought for them, for the privilege of tilling the land to get a living. In those days industry was subsidiary to the war and conquest of the feudal lords. The invention and application of machinery and the wage system have set all this aside. Industry is now carried on, on new planes of competition and cooperation. The feudal lords have been displaced by the captains of industry, and by great combinations of capital, the retainers have been displaced by the labor-unions. There is still considerable competition between the modern barons of industry, but the great storm centre of competition at the present time is between the capitalists and the laborers; between the men who own the tools of industry

and the men who use them. The men who own the timber are not the men who make the lumber, the men who own the railroads are not the men who operate them, the men who own the cotton mills are not the men who attend the spindles, the men who owns the mines are not the men who refine the ore. One eighth of the people of the United States own more than seven-eighths of its wealth. One hundred and twenty-five families of the United States own more than half its wealth. This great diversity of possessions is leading people to study anew the whole industrial problem. They are asking what are the industrial rights of man? Is it right that the few should have so much and the many so little? The general impression is, that it is not right. Many remedies are proposed. By a few anarchy, with its destructive program is advocated. The communist claims that the best way out is for all to own all things in common. The socialist comes forward with a plan to do away with the capitalists and to a large extent with private property. Its program looks very attractive to many, especially to those who do not have much of this world's goods. It would make both individuals and society right by a process of economic change. The program of Christ is different from this, He would make the men right and from that would follow better economic conditions. He would make industry a means of spiritual education. His plan is to change bad men into good men. All desirable changes will follow this. Christ says to men that the necessities of their brother ought to have greater claims on them than any other property they may possess. No man has a right to use his property in such a way as to injure others, except under the conditions we have already pointed out. Every man owes it to himself and to society to treat others helpfully.

In the higher and better things of life a man may accumulate or appropriate all that he pleases without diminishing the supply. No man can get a monopoly on truth, or a corner on goodness, or shut others out of love. Every man may get all of these things that he can without diminishing the supply or robbing others. In fact the more he develops,

the more there is to go around. The more he takes the more there is left. The more people go into combines to control these realties, the better it is for the individual. In material things it is different. There are not enough of these things to satisfy the wants of each individual. Hence men enter into sharp competition for their possession. Competition for the possession of material things has taken on various forms, from extermination to high tariffs, from piracy to gambling and stock watering.

Let us study a bit the industrial problem in the light of present conditions and the present development of civilization.

We will assume that every man has a right to his life, to liberty, and the products of his labor provided in the exercise of these things he does not infringe on the right of others. We will assume that every man has a right to work, and a right to enough of the material things of this world and of the advantages of civilization to sustain and develop himself into a more complete manhood. We will assume that society has a right to define, sanction and protect these rights in the individual. Let us now take a simple concrete problem of industry. We will assume that Waterman lives on a river bank, that he has five hundred dollars, that he wants to put it into a ferry boat, and that he lets the contract to Smith, Jones and Brown to build it, for five hundred dollars. After the boat is built, Smith, Jones and Brown claim that the value of the boat is determined by the amount of labor or personality that they have put into it. They claim that the raw material was worth but little, and worth nothing for boat purposes until they put their labor into it. But there are a great many other factors that determine the value of the boat. Its value will depend on how many people want to cross the river and on how much they are willing to pay to get across, on whether they think the boat is safe or not. If the boat does not have intrinsic value as a ferry, all the labor that was put upon it does not give it value. But even if it has this the greatest factor of value is contributed by society, or by the people who want to use it, or by the service it is to society. Suppose that Waterman put that

boat on the Hudson River at New York, and in twenty-five years his business grew so that he has made a million dollars. Smith and Jones and Brown have kept on building boats and have just made a comfortable living for their families. They claim that they ought to have by right seventy-five per cent of Waterman's million. Is their claim just? We think not. Has Waterman too much? We think he has more than his share. Who ought to have it? To whom does it belong? It really belongs to those who have created it. Smith, Jones and Brown received their pay for building the boat. Waterman did not and could not produce a million dollars by labor in a life time. A large share of that million ought to belong to the people. It can only be distributed by taxes or gifts.

Take another case. Miller buys a thousand acres of land near a city like Chicago, for twenty dollars an acre. In ten years it is worth a million dollars. Who produced the extra value? The land had produced but a fair interest on Miller's investment. The extra value was created by the people who had increased the population of the city, and who created new demands for the land. Miller did not produce the extra value, society did, and the larger share of this increase of value should go to the commonwealth. Miller is recognizing the claim and is giving away large sums to develop and endow small colleges.

Take another case. A man gets control of some of the country's oil wells. He gets others to join him and they buy many of the oil wells of the country. They make bargains with the railroads to deliver their oil cheaper than they will for others and small producers. They get control of the patent machines and processes for refining oil, and in a short period of thirty years, Mr. Oiler, the leading man in the combination is worth hundreds of millions of dollars, with an income of about one million and a half a month. He has more money than Adam would have had, if he had lived until the present and had saved one hundred and fifty dollars a day. This of course is on the supposition that the world is only about six thousand years old, as Bishop Usher, thought he

proved.

Who produced all these extra millions? Oil is much cheaper than before this great combination began to operate and it is much scarcer. The supply is growing less all the time. How were these millions made? By better means, of pumping, refining and distributing and by the increasing demands of the people for the commodity. Then the people who represent these factors in the problem ought to have a larger share of the wealth. Mr. Oiler is recognizing this claim and is giving large sums to endow one of our greatest universities.

Take another case. Mr. Hardecoal and a few others, get control of the greater part of the hard coal mines of the country. They import a large number of foreigners of the poorer class and pay them low wages, raise the price of coal, and grow very rich in a few years. Who owned the mines to begin with? The people. Who used the coal to end with? The people. Who contributed the vast fortunes to the coal barons? The people. The great fortunes of our country have been made by men who were sharp enough or fortunate enough to get control of commodities or rights that to begin with were part of the common wealth, such as land, timber, oil wells, coal, iron, gold, silver and other mines; such privileges as to build and operate railways and street car systems. All this has led to the congestion of vast wealth in the hand of a few people. It has led to the formation of great trusts and combinations to control the forms of industry. It has tended more and more to lessen competition between great aggregations of capital. The wastes of competition are very great. On the other hand it has resulted in the development of labor unions of gigantic size and strength. The sphere of competition has largely been shifted to a strife between capital and labor, to a strife between the men who own the tools of industry and the men who use them. Hence there are strikes on the one hand and lockouts on the other. There is a great waste on both sides and society suffers and has to pay the bills.

The capitalists have recognized and demonstrated the advantages of cooperation as far as they are personally con-

cerned. The laborers have recognized and demonstrated the advantages of cooperation as far as they are personally concerned. The time must come when the capitalists and the laborers must enter into some form of more effective cooperation. There cannot be a very high form of civilization where a few men own most of the nation's wealth, and control most of the opportunities of the many to labor. There are great dangers to an undue concentration of wealth in a few hands. On the other hand there is a great danger from the passions and despotisms of the mob. If society is so organized that the toilers cannot sustain and develop themselves as they ought, if they do not get a proper share of the productions of their own labor, it is bad for society. On the other hand if any organization in society undertakes to prevent any man from working when he will, where he will and for whom he will, and for what wages he can agree upon with his employer it is infringing on the rights of others and is endangering the peace and welfare of society. Any organization whether it be political, industrial, capitalistic or labor union that violates this right is acting unjustly.

It is necessary to realize that man has no private right to the seas, the navigable rivers, the land, the trees, the oil wells, the mines, or the forces of nature. His rights in these things are artificial and limited. Ownership in land and its contents is derived from the state. It is necessary to recognize two kinds of ownership, two kinds of wealth; private wealth and the commonwealth. The solution of the industrial problem proposed by the socialist is to abolish private ownership in what is or has been derived from the commonwealth. Out of a selfish strife for a larger share of what men want to regard as their private property, has come to this great concentration of wealth in the hands of a few, and the great aggregations of laboring men who demand shorter hours and more pay and dictate the terms and conditions on which non-union men may work. There is a tendency in all this to produce a class of idle rich and a class of idle poor, who become easy victims to gambling, drunkenness and licentiousness. There is associated with this whole conflict, much ma-

terial, political, industrial and moral evil. But out of the conflict a better condition of things is going to come. The rich are not going to get all the cream and the poor only skim milk. The time is coming when there will be a better distribution of the milk of nature and civilization. Society is moving in that direction and has been for some time. Competition will remain, but its motive and plans of contention will be elevated. Men will compete in rendering service to their community and their age. Men will go into politics to serve their country and not for the spoils of office. This is true in many lines of professional service already. The doctor who goes into his profession to get all the money he can out of his patients ought not to have any. If he goes into his profession to render the best possible help to a suffering humanity and has the ability to do it, he may have competitors but he will be competing on the high plane of efficient service. The preacher who goes into the pulpit for the sake of keeping others out or for the salary he may get, ought not to have a pulpit. There ought to be just as high moral demands on a capitalist or a laboring man as on a doctor or a teacher.

Christ and His church has or ought to have a message to the men who are the storm center of, or who are trying to solve the industrial problem. He says that he came not to be ministered unto but to minister. All men who claim to follow Him should try to do the same thing. If this principle were applied by both capital and labor a better condition of things would soon be brought about. He practically says to the warring factions of capital and labor, You are brethern and you ought to compete in making possible the best kind of men, rather than in getting from others the greatest amount of material things. While demanding your rights seek to perform your duties. Let the object of your competition and your strife be industrial peace. The Pharisees brought to Christ the question of paying tribute to Caesar. They wanted to see whether he would advocate paying tribute to Caesar or take the position of a political revolutionist. He told them to render unto Caesar the things

that are Caesar's and unto God the things that are God's. A man came to him once, asking him to speak to his brother that he might divide the inheritance with him. Christ refused to do so, but proceeded to deal with covetousness, the motive that prompted the question. He showed that this question of property was also a matter of spiritual life. If the life was right the property relations would soon be adjusted. He saw men struggling to get riches and to hoard them. He said to them, lay up for yourselves treasures in heaven. Make manhood and the welfare of your brother the great object of your living. The man who had so much of this world's goods laid up, that he decided to retire and take his ease, he called a fool, and showed that the result of such a course was a hell of torment. The man who had talents but did not use them, the man who was able to work but would not, had a similar hell awaiting him. He taught men that they were not absolute owners of the things they possessed, but stewards of God and society for the good of their fellowmen. Not that they are to give away all that they possess, but that they should use their talents and what they possess in such a way as to develop a character that will never die. Christ would teach men how to combine delight in industry with deliverance from the despotism of work and business. God made people to do the world's work. Work is a blessing and not a curse. It is in doing the world's work that man is to find his true self and reach his higher development. Hence all honest industry has a spiritual value. The present industrial order is being used by God as an instrument for the making of men. The present struggle between capital and labor, through much travail, is going to bring forth a better industrial and social order. The wastes of selfish competition will be lessened and the benefits of cooperation will be increased.

Machinery has increased man's power to produce things two hundred fold. Yet we are told that machines are in the saddle and are riding mankind. Christ would say, machines are made for men and not men for machines. Unless the machinery of modern industry is so used that it will produce a

higher type of manhood, we would be better off without it. We must come to regard the problems of industry as a spiritual opportunity and as a trust from God. The great difficulty with the industrial situation is not private property, but private and public immorality. Industrial peace and justice is to be reached through good men. No industrial arrangements can be made a great success without good men. The practical industrial problem of the future is that, we must move along the high lines indicated by the spirit of Christ's teachings, or be contented with a program of economic change merely, as proposed by the socialists. A vast amount of industrial life seems to be moving in the channel mapped out by the socialists, for the creed of social revolution is being substituted by many for spiritual religion. This may be the penalty that our so-called Christian civilization must pay for its failure in sufficiently following the teachings of Jesus Christ shows us that faithfulness and honesty in industrial affairs is the way into the kingdom of God. He finds the solution to industrial difficulties in character, in better men. He shows that industry if properly carried on is a process of spiritual education. But it should be carried on in the spirit of brotherhood. Unrestricted competition is animated by the spirit of piracy. In its best form it resembles a race in which the strong win and the weaker are left behind. In its worst form it is like a battle in which the strong win and the weak are destroyed. It tends to degrade both the capitalist and the laborer. In the first half of the last century, men in England worked sixteen and eighteen hours a day for from one dollar and a quarter to one dollar and seventy-five cents a week. Children from four to nine years of age were dragged out of bed at four or five o'clock in the morning and forced into the mines to work, and if they flagged in their toil were flogged by their overseers. Even women worked in the mines and were compelled to do the work that mules do now and were treated worse. In our great cities today sewing women have practically free competition in their work, and wages are forced down to almost starvation point and many of them are driven into lives of vice in order to supplement

their wages. Unrestricted competition lowers wages, lowers profits, cheapens manhood, and forces traders and capitalists into combination to save their business from ruin. When this is done competition is shifted to a strife between the capitalist and the laborer. Then occur strikes and lockouts and the wastes of such competition amount to upwards of twenty million a year in this country alone. The wastes and other evils of competition have driven traders and capitalists into combination and these in turn have driven laborers into unions and federations. They became a necessity. The remedy for the evils of competitions as they affect the laborers could never come from the capitalists. It was necessary for labor to champion its own cause and work for its own rights. The labor unions have made and are likely to make mistakes, but they have done a great work for society. They have become a great power. They have abused it and may do so again, but their work on the whole will make for a larger industrial peace and a better expression of justice. If capitalists have a right to combine, laborers have also. Capitalists have again and again abused their powers, laborers have abused theirs. Both must be called to the recognition of higher laws. The same code of justice must be applied to both. Combinations of capital are combining with other combinations of capital. The railways compete as little as possible now. They enter into pools and associations to cooperate on passenger and freight rates to guard against the waste and evils of a too free competition. The trust in bicycles control seven-eighths of the output. The great agricultural implement factories of the country have gone into a combine. The same is going on in almost all lines of production. Competition on a low plane is selfish, barbaric. Competition on a high plane tends to develop, individuality, will power, self-reliance. There are many evils and great dangers in an undue concentration of wealth in the hands of a few men. Yet large aggregations of capital are necessary to do the world's work, the way society and industry are at present organized. Competition that is not restrained by law, by public opinion and by moral considerations has proven a failure on

every hand. Combinations for fighting purposes cannot last. Society cannot rest on such a basis. Appeal to reason, arbitration and cooperation must come in as controlling principles. The capitalist and the laborer must come to regard each other as brothers, and treat each other as brothers. Both are related to the public and both must come to respect the rights of society in their competitions and cooperations as well. Society has a right to call on both to stop their fighting. The best things that we have today have come from cooperation. Our common wealth is greater than our private wealth. If it were not for the commonwealth, the private wealth of the richest of our citizens would not be of very great use to them. If it were not for our forms of cooperation their great wealth would be worthless. They would not be able to use the roads, the post office, and would enjoy very few of the things that their wealth makes possible now. As society goes from barbarism to civilization men compete less and cooperate more. The result of competition is not merely the survival of the fittest, but of the strongest. The Christian law of society is to make the unfit, fit. It declares that if one member of class of society suffers all must suffer with it. There is a unity in human interests. All men must learn to respect the rights of their fellow men. All forms of industry must be tested by their service to society. Men must be regarded as greater and better than things and machines. Manhood must be regarded as more important than high rents, large profits and dividends. We must sooner or later see that Christ has the key to the solution of the industrial problem. The law of brotherhood must come to prevail more and more.

A man may be a Christian and a slave holder, but the logic of Christianity is freedom. A man may be a Christian and rule as a king, but the logic of Christianity is democracy. A man may be Christian and a priest, but the logic of Christianity is that every man may have direct access to God. A man may be a Christian and a member of a trust or a labor union, but the logic of Christianity is brotherly kindness and good will among men. Good will among capitalists and laborers. Jesus Christ and his teachings are the greatest friend the labor-

ing man ever has had or ever will have. He has a message to both the rich and the poor. His spirit must be inwrought into both capitalist and laborer before the industrial problem will be solved. Both should unite in following him. Both should make large and common use of the bible, the Sabbath and the church. Here they should meet not as capitalist and laborers, but as men. They should meet to study the greatest ethical and spiritual literature that the world has, they should meet to study and to follow the greatest teacher that ever lived, they should meet on the day made for man and in the place made for his instruction and inspiration and then go forth to fight life's battles, solve life's problems and win life's victories. This will be a mighty stimulus towards the proper solution of the industrial problem, one that will raise the motives of competition, one that will seek to adjust difficulties by conciliation, if that fails, then by arbitration, and if that fails, by adjudication. The spirit of the Christ will yet appear in larger expressions of cooperation and brotherhood. Honest and productive toil will become far more honorable than unproductive leisure. The greatest rivalry between capital and labor will be a strife to serve their fellowman according to their ability and opportunity.

“Every mason in the quarry, every builder on the shore,
Every woodsman in the forest, every boatman at the oar,
Hewing wood and drawing water, splitting stones and
cleaving sod.

All the dusty ranks of labor in the regiment of God,
March together toward his triumph, to do the task his
hands prepare;

Honest toil is holy service, faithful work is praise and
prayer.”

This is the kind of gospel that is being preached not merely by ministers in the pulpit, but by such cool headed business men and wealthy capitalists as Marcus A. Hanna, who has recently said in an article on Socialism and Labor Unions: “We must get right down to the belief that life is a matter of mutual interest between labor and capital; we cannot separate the two factors that underlie our development; it is not possible for one to prosper permanently unless the other shares

in the prosperity. There must be a common ground where all can meet, with the honest determination to do what is right, meeting bravely the conditions as they change, and seizing the opportunity as it offers for the betterment of all the people. I wish I could impress upon every American the individual responsibility that rests upon each one of us. Every year of experience, every dollar of accumulated capital, every talent we possess should be regarded as a sacred trust for the good of the nation, to help in uniting the interests of rich and poor, learned and unlearned.

“For mankind are one in spirit, and an instinct bears along,
Round the earth’s electric circle, the swift flash of right or
wrong.

Whether conscious or unconscious, yet humanity’s vast
fame,

Through its ocean sundered fibres, feels the gush of joy or
shame;

In the gain or loss of one race all the rest have equal claim.”

The President: I know you will all be very sorry when I announce that Mr. Jules G. Lumbard will be unable to be present with us tonight. The following telegram was received by the secretary this afternoon:

St. Paul, Minn., Feb. 2nd. 1904.

Mr. Fulmer, Sec’y. Buttermakers’ Assn.:

Eau Claire, Wis.

Enroute 7 hours late be down tonight.

1:32 p. m.

J. G. LUMBARD.

The secretary also received the following message from Mr. Hoard.

Madison, Wis., Feb. 2nd. 1904.

Secretary Fulmer, Buttermakers’ Convention,

Eau Claire, Wis.,

Impossible to reach you train indefinitely late very sorry.
Make apologies to convention.

2:58 p. m.

W. D. HOARD.

The President: The train on which Mr. Lumbard is to come is 7 hours late, so you see it will be impossible for him to get here tonight, however, he will be here tomorrow and I know you will enjoy his singing; those of you who have heard him before, know that he is the life of the convention.

Whether or not Mr. Hoard will be here I couldn't at this time say, but we have great hopes that he will be.

Another thing, those buttermakers that are here and others that have certificates from the railroads will kindly hand them to the secretary; this is a very important matter as unless we have a sufficient number we will be unable to get the fare and a third.

Judge Collyer will be here tomorrow morning and the buttermakers get around early in the morning and see Mr. Fulmer, he will make the arrangements so that you can get in and be present at the butter scoring. ,

After another piece by the orchestra and the meeting will adjourn.

WEDNESDAY MORNING SESSION,

February 3, 1904.

The President: This morning session will be devoted to the election of officers. The nomination for president is now in order.

Mr. Green. Is the vote to be by acclamation or by ballot? If by ballot it would be well to appoint a teller.

The President: All elections shall be by ballot except in a case of a single nomination, when election by acclamation may be substituted.

Mr. Green. Then it will be done by acclamation in this case. I believe in the old saying, that when you have a good thing, keep it. We have had as our president for the last year, one who has been intimately connected with the dairy business, one who has given considerable time in the interest of the buttermakers of Wisconsin, and I do not believe that you can find another man who will do more for the organization

than he has done; therefore, I have the pleasure, gentlemen, of placing in nomination for president to succeed Mr. J. G. Moore, Mr. Moore himself.

The President: Are there any further nominations?

Mr. Farrington. Mr. President, I move that the secretary be instructed to cast the ballot of the association for Mr. Moore as president.

Motion seconded.

Mr. Fulmer. Gentlemen, you have heard the motion made and seconded, that the secretary of this association be instructed to cast the ballot for Mr. J. G. Moore, as president for the ensuing year. Are you ready for the question. All those of you who are in favor of that motion will manifest by saying I, contrary no. Mr. J. G. Moore is declared duly elected president for the ensuing year. Speech.

The President: It may be that Mr. Green over stated the case in regard to my actions but I can but thank you all for the kindness that you have shown me in tendering me this reelection and I assure you that anything that I can do for the interest of this association will be done.

The President: The next order will be the election of vice president in place of Mr. W. J. Hyne.

Mr. Dodge. I make the motion that Mr. W. J. Hyne be re-nominated as vice president.

Motion seconded.

The President: Any further nominations. Are you ready for the question? All of those in favor of Mr. W. J. Hyne for vice president signify by saying aye, contrary no. The ayes have it and Mr. W. J. Hyne is elected vice president.

W. J. Hyne. Gentlemen. I feel honored to be elected vice president of this association, and I thank you all. I can't make a speech but I duly appreciate the honor.

The President: The next office to be filled is that of secretary, the most important office that we have.

Mr. Farrington. I suppose that there are a great many men in the audience that would be glad to get up and make the nomination speech; I simply want to say that we have been so well served during the past year by Mr. Fulmer, as secretary of this association, that we can only compensate him and

ourselves, perhaps, by re-electing him secretary of this association. No doubt there are men in this audience who would like to express themselves of their appreciation of his work.

Nominations closed.

The President: All of those in favor of F. B. Fulmer acting as secretary for the coming year signify by saying aye, contrary no. The ayes have it and Mr. Fulmer is duly declared re-elected as secretary of this association for the coming year.

Members. Speech.

Mr. Fulmer. Mr. President, Ladies and Gentlemen: I should think that I have talked enough, made enough speeches in the past to satisfy you. I think I gave you a fairly good scolding at Waukesha a year ago but whether it did any good or not, I don't know; you seem to be just as mischievous as before. But in all seriousness, I wish to thank you for the confidence you have shown in re-electing me. The duties of this office have been both pleasant and perhaps, somewhat otherwise. It is barely possible that no one that is not intimately acquainted or familiar with the work knows what all the details are; on the face of it it may seem to be a very pleasant position to hold, under the surface it may be otherwise. I am free to say that I received very courteous support from the entire membership. To a certain extent I have felt that there has been a lack of advice and criticism from the membership. Your officers of this association, or officers of any association, cannot know the desire of the membership unless they express themselves and I trust that in the future that you will feel free to write your officers, not your secretary only, but any officer, on any point that you wish; they will not receive it in the spirit of criticism, they will appreciate it. Your officers have tried to do the best they could; tried to follow the desires of the entire membership so far as possible, and if they have gone amiss it has been due largely to your not making your wants known. I trust that you will continue to give us your good will and support in the future as you have in the past. I believe that we have a great work to perform in this state and I believe that we are developing up to it; every member, I can assure you all, ought to feel a personal responsibility, and when you feel that personal responsibility, the

greatest achievements can be secured.

J. H. Monrad. I am a member of this association, and have always, in the twenty years that I have attended every convention, made it a rule not to take part in the election of officers except in the state where I live, and for that reason I didn't say anything when you were nominating Mr. Fulmer, but now, after he is re-elected, I want to congratulate the association in having re-elected Mr. Fulmer; keeping a good thing when you have it. You have no idea of the work of a secretary until you try it. I thought it was a kind of a soft snap but when I became secretary of the Illinois Dairy Association I found out it was pretty hard work and very little thanks and I want to again impress the request that Mr. Fulmer made just now, that you members help the officers by giving them advise and by letting them know that you are interested in your business. I want to say Mr. President that I have attended a good many conventions and I was pleasantly surprised at the wonderful success that Mr. Fulmer has made in this one.

The President: The next is the office now occupied by Mr. E. C. Dodge.

A Member. I nominate Mr. E. C. Dodge to succeed himself.

The President: Moved and seconded that E. C. Dodge be elected to succeed himself. Mr. Dodge is considered elected.

Mr. Dodge. Mr. President and Members of the Convention:

I thank you for the confidence that you have put in me to handle this enormous amount of money that we have in this association and should I prevail upon my bondsmen to continue another year I will be happy to serve you.

The President: The next vacancy, member of the executive board for three years to succeed Mr. R. C. Green.

Mr. A. L. Parman. In Mr. Green we have both quantity and quality and I nominate Mr. R. C. Green for the executive board for three years.

Mr. Green: Mr. Chairman and Gentlemen of the Association: I thank you very much for this honor; it certainly is an honor to have an office of this kind, but I feel

this, I believe that you hadn't ought to keep going on down the line in the same way, I think a change is a good thing once in a while; I don't want it at all; I am willing to do all that I can for the interests of the Wisconsin Buttermakers' no question about that, but I think others should share in this responsibility as well as myself; therefore with your permission I will place in nomination another name; he is a fellow who you all well know; nearly every one knows him; you can't forget him because he has a great, big, nice pretty face; a man that has got a heart in him as large as they grow; a man that has got the gift of making everybody like him wherever he goes; I have the pleasure, gentlemen, of placing in nomination, Mr. Oscar B. Cornish.

Mr. Cornish. I don't think we ought to take up the time of the convention by going around to collect ballots; I would like to withdraw my name in favor of Mr. R. C. Green.

Mr. Green. I was going to say that I would resign; I would not accept the nomination; I would like to see Mr. Cornish, who is a great nice good fellow; we all know him and he is a good square fellow.

The President. Mr. Green is the first nomination; we will have to consider that then. All those who are in favor of having Mr. Green succeed himself signify by saying aye, contrary no. The noes have it Mr. Green is not nominated.

The President. The next name to be in nomination is that of Oscar B. Cornish to serve three years as a member of the executive committee.

Mr. Cornish was duly elected.

Mr. Cornish. I have always left the speech making to brother Green but Mr. President and Genlemen of the Convention, I deem it quite an honor to be elected to this office and I assure you I will always use my best efforts to do good to the Buttermaker's Association. I thank you.

The President. Next is a member of the executive committee to fill the unexpired term of two years for which E. H. Farrington was appointed to fill vacancy.

Mr. Dodge. I feel that Mr. Farrington is a man that we can't afford to lose and I will place Mr. E. H. Farrington in re-nomination for two years.

Motion seconded.

The President. The motion is made and seconded that Prof. E. H. Farrington succeed himself to fill out the unexpired term for two years.

Are you ready for the question? All those in favor of having Mr. E. H. Farrington elected signify by saying aye, contrary no. The ayes have it and Mr. Farrington is declared duly elected.

Mr. Farrington. Chairman and Gentlemen of the Convention:

I am very much obliged to you, as all the others are, that have already spoken after they were elected, for the election of this office, and I believe as the others have said that there should be a change in office and that the positions, as far as possible, should be passed around among the members, but as I have not exactly filled out the term for which I was first nominated, I shall be pleased to fill out this term for the remaining two term by accepting the election.

The President. Is there any other business to come before the convention? Yesterday we had a committee appointed to consider ways and means for the holding of a six months or all year contest for the state of Wisconsin. I do not know whether that committee is ready to report or not, but we have had some suggestions along the line that we might like to hear. The dairy school has a cold storage plant that could be utilized for the butter if we decide to have the butter sent to Madison. It might be best for us to secure the services of a judge from this district, from the agricultural department, if we have enough influence. It has been suggested, however, that we have three judges, but it might be that the expense of having three judges would be too great; we might better have the contest for this year with one judge than not to have it at all for until the next legislature meet, it will be impossible to raise funds by any other method than has been shown heretofore, to have the buttermakers stand some part of it. It seems to me at this time that the expense would not exceed the cost of one tub of butter. In attending to this contest and with the aid of this association, so far as it can be got, we ought to make it a success.

Those of you who were not present yesterday but here today and have any suggestion to make in behalf of this proposed contest, it would be a good time now to suggest it.

Mr. Fulmer: Mr. President, one of the members of that committee has had some experience in trying to get an appropriation from the Legislature in another state. He is a man that has studied these things, is interested in them and I should like to hear from Mr. E. H. Schuknecht; he is present and a very nice speaker.

Mr. Schuknecht. Mr. President and Gentlemen of the Convention:

I just this moment stepped in and had no notion that this thing was coming up this morning but it has been my privilege in the past to do considerable work along that line. My buttermaking experience was in the state of Minnesota, as most of you know; from there I went to Iowa. In Minnesota we were in the habit of having the inspectors go to the creameries. The Dairy Commissioner was allowed a very good force; they did an enormous amount of good for the cream industry of Minnesota. The state of Iowa at the time that I first went down there, six years ago, had a Dairy Commission; the Dairy Commissioner had a clerk and that was the whole force. They saw that Minnesota was improving very rapidly toward the making of fine butter and the Dairy Commissioner said that he thought it must be due to the fact that they had inspectors to visit the creameries and help them. It just happened that the Dairy Commissioner knew me; was a personal friend of mine, and I saw him quite frequently, as well as Prof. McKay, and the question came up of going before the Legislature to procure and appropriation so as to have these inspectors; inasmuch as I came from Minnesota I was asked if I would not help to do some work along that line and I said "sure I would be glad to" and with Prof. McKay we went to Des Moines before the Legislature to procure the appropriation for the expense of the inspectors. We went before the Legislature and a committee said, well does anybody want this, we haven't heard of anything of the kind, don't know anything about it. Well, we argued the point ourselves at the beginning of the session but the

committee turned us down, didn't give us much encouragement except a few members who came from the best butter counties in the state of Iowa and they listened to us and they said they thought it was a good thing; ought to have it; well, then, it was our business to show by figures that Iowa was losing ground in the butter trade. We produced the showing of three National Conventions to show that Minnesota was making a better showing than Iowa. It took us about three or four days to get that. Then we went before the committee again and they said "that is something but we have got to have more than that." There was no money in the Dairy Commission fund with which to do very much, so we got up a little petition at the bottom of which was a long space for names to be attached and we mailed those to all the buttermakers in the state asking them to act just as rapidly as possible; get as many of their patrons to sign this. It was a petition to the Senators and Representatives from all the districts where the thing had not been discussed in a convention. It was hard work in spite of the fact that Prof. McKee, who stands very high there, and had his name attached to the request, it was still a hard job to get them all to circulate, and I don't know just how many petitions we got out but in the course of a month we got in a whole lot and went before the committee of the Legislature again and I think we asked for three or four thousand dollars of an appropriation at first. It was a long hard struggle; finally the result was, we got one inspector instead of three. There were about 900 creameries in the state of Iowa at that time, and by the time the one inspector inspected 900 creameries he was pretty thin in some places; however, it was a good start in the right direction and since then they have been doing better. My purpose in telling this is only to show the efforts necessary to get anything out of the Legislature. You have got to show them that the people want it and the buttermakers alone requesting it won't get it; it is a very easy matter, I know, for buttermakers to get a petition and circulate among their patrons at the creamery and if all of the buttermakers, members of this association and others in the state take that thing up and circulate those petitions it is a small matter to get that

thing through the Legislature; but the fact to take into consideration is that you must all work, everybody must make it their business to get these things out and it ought to be very much easier after having it discussed here in the convention to get those petitions circulated than in any other way. It is uphill work for the Executive Committee of this association to do anything before the Legislature, the members themselves have got to take an active part and when the representatives see that they want it they will vote for it all right; no question about it.

The President. Is there any one else that has anything to say along this line as to what we can do and should do. I think that no one will hesitate in saying that it is something we ought to have; Iowa, Minnesota and Michigan are having it; Wisconsin, with its large number of creameries should not be behind any other state. We could go before the Legislature and show them that we were behind, not only in the number of creameries, but in the quality of butter in the state of Minnesota and I think that no one who understands the conditions will hesitate in saying or admitting that with those conditions that the Dairy and Food Commission should have a sufficient fund for inspectors to keep thoroughly in touch with the creameries of this state.

Mr. President. The trains being so late yesterday led to a disappointment is not having some of our speakers here but so far as I have learned the speakers for this afternoon are all here.

Mr. Jules Lumbard will also favor us this afternoon with some singing.

Hon. J. Q. Emery, although at first we did not expect him, will be present; he will tell us something of the sanitary conditions of creameries and what they should be.

Adjourned to 2 p. m.

WEDNESDAY AFTERNOCN SESSION,

February 3rd, 1904.

Meeting called to order by the President.

Song by Mrs. Stowers, accompanied by Miss Mabel Southworth.

The President. We will now listen to Creamery Promotion by Mr. J. M. Signor.

THE PROMOTION OF CREAMERIES.

James M. Signor, Eau Claire, Wis.

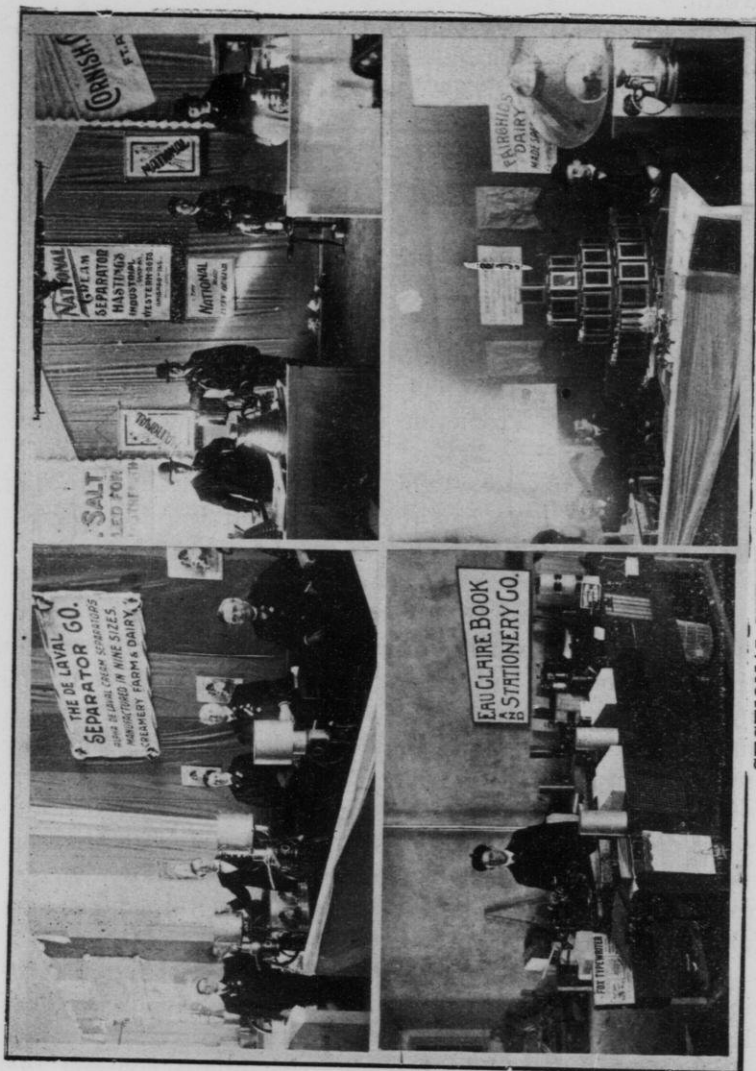
Mr. Chairman, Members of the Wisconsin Buttermakers' Association, Ladies and Gentlemen:

I was asked by your worthy secretary, Mr. Fulmer, to speak on the subject of "Promoting of Creameries and Cheese Factories."

For the past few years this has been practically my chief business, and I have had the privilege of learning a great deal in that line, which may be of some use and benefit to the people gathered here at this convention.

My first experience in promoting was to organize a creamery in a vicinity where I owned a farm. The farmers in that neighborhood had been trying to get together to decide upon building a creamery for several years, and their meeting up to the time I took hold of it had not met with any results, excepting a jangle over a location and the proposing of different systems. My having the advantage of taking a short course in Agriculture and Farm Dairying at Madison, Wis., and knowing the advantages of the co-operative factory over the individual factory, I thought that the co-operative plan would be the system to propose to our farmers.

My first step was to get a promoter to assist me in starting a contract. I got a promoter from Minneapolis, who had had a great deal of experience in putting in creameries and cheese factories, and he brought with him a contract that seemed to be just what we wanted in regard to the size of the factory and its machinery. His contract price at that time was \$3,200.00 and we were to get that much stock signed up in order to close the contract, but did not succeed in selling that amount of stock, owing to the fact that a good many



SECTIONAL VIEWS IN MACHINERY HALL.

of the farmers thought the plant could be built for about half that price. Still I did not give it up, but decided to try some other plan. I knew of some creameries that had been organized by the farmers themselves, and thought this would probably appeal to them. I found out in the meantime that a certain creamery that had been organized by the farmers had proven to be one of as successful creameries as could be found any where at that time. I wrote the secretary of that creamery and received a reply to this effect, that he highly recommended the co-operative creamery and if he could be of any assistance to us he would gladly come and help us. I got two or three of the farmers in our neighborhood to go with me and visit this creamery, and talk with the people that patronized this creamery, the information which they received was very satisfactory, so we arranged with the secretary to come and assist us in trying to organize the farmers, and to try and raise the amount of money to build their own plant. We called a meeting, got the farmers together and appointed a committee to get up a contract. A satisfactory contract was drawn up, then we started out to sell the stock. This committee decided that this creamery could be built for about \$2,000.00. We could only sell about \$1,800.00 worth of stock. We called another meeting and incorporated under the state law, elected a president, secretary, general manager, and a board of directors.

The board of directors and general manager appointed a building committee, and decided to go ahead with the amount of money they had subscribed. It was decided that if this amount of money subscribed was not a sufficient amount to build and equip the factory, that the balance could be raised by the board of directors signing a joint note, and this balance could be paid out of a sinking fund realized from each patron. The committee thought that it would only cost a few hundred dollars more than had been subscribed, if any, to put in a first class, up to date factory, that would be large enough to take care of from 500 to 1,000 cows. It was arranged that the committee was to go to the different Creamery Manufacturing Companies and get their prices for the equipment they had decided upon for this plant. This

committee consisted of three persons; they were away about one week which made quite a little expense. On their return the board of directors were called together and the equipment that they had decided upon cost between \$1,800.00 and \$1,900.00 which was somewhat of a surprise to our board of directors, but they decided to go ahead as it could not be bought any cheaper. The committee purchased the lumber and machinery for the factory and the farmers donated the price of the hauling from the railroad to the factory. The building was finally completed and the machinery installed, with a great many difficulties in placing the machinery, and more or less waste in material, also labor which could have been prevented had it been built by an experienced builder. We were then called together to hear the different expense accounts read, that were assumed to complete the contract, and they certainly were a surprise to us. The figures were something over \$4,300 and was settled for as was explained above, by the sinking fund, which took us something over three years to pay it up, besides the additional interest on the same. This was a lesson which taught me that if any certain locality wanted a co-operative creamery, they would save money by putting it in some reliable Building Company's hands who would send an experienced promoter to their vicinity and who would investigate their neighborhood and decide whether they had cows enough for a creamery, if they did, then to decide upon a location that would have good drainage and as centrally located as possible, then call the farmers together and give them his idea of what they need for a creamery.

My theory is that a promoter should have creamery and cheese factory contracts of different sizes, suitable for different localities, according to the number of cows they have in these different localities. The promoter should explain to the farmers, just the size factory they will need, having it large enough to allow for an increase for several years, also encourage them to put in the latest improvements in their creamery. If a vicinity has mostly hand separators, I would recommend their putting in a small separator in the creamery and putting in a pasteurizer and cream ripener, so that their

gathered cream will make a better class of butter. We all know that the hand separators have forced their way into many neighborhoods, and they only haul their cream twice or three times a week to the factory, and cream that is kept in different cellars and cream houses is not always free from foreign odors owing to different people's idea of cleanliness, so I recommend that they have a pasteurizer and a ripener which manufactures the cream over and will make a better quality of butter. The extra expense connected with a pasteurizer and cream ripener will be made up for by the higher price they will receive for their butter.

I also recommend in this northern country, that they have a solid stone or brick foundation, if in clay soil, to be imbedded in the earth below the frost line, so that the ground will not heave in the spring and get the machinery and building out of line, also recommend cement floors with good slant for drainage, and the building to be made warm and solid and large enough for a roomy factory.

A promoter's work in any vicinity where they promote a creamery or cheese factory should be such that it will not misrepresent the creamery industry, but set forth the good points and results that can be obtained by a creamery or cheese factory. The farmers will then have confidence in what you are doing, and when the creamery is completed, the work will be harmonious and successful. In some instances we find neighborhoods where the farmers are not posted in the creamery or cheese factory work, then we try and give them all the information possible, also select three or four of their leading farmers and take them to some first class co-operative creamery, let them talk with the patrons, also the butter-makers, they become favorably impressed, and realize that they can make more money from their cows than they have in the past. They will learn from the buttermaker the kind of machinery they will need and see that it compares with the contract which the promoter has arranged for them, and if it does they will then have confidence that the machinery and building is just what they need. Then we are ready for a meeting, call the farmers together, and those leading farmers that have been to visit the co-operative creamery will make

a report on the creamery which they have visited, they being in a position to explain that the machinery and building which our contract calls for is up to date and just what they need. They also report what the farmers who patronize this co-operative creamery realize from their cows for one year, thus showing the farmers that the net proceeds would be much larger than the former way they have been handling their product. When you have sold the amount of stock which your contract calls for and the creamery is built, the farmers then are in good shape to start in the dairy industry as everything has been made satisfactory to them then. They have full confidence in the promoter's ability, and in their creamery when built and realize that it is going to make them money. Such promoting I think makes an industry for the state and a good thing for the farmers, also opens up a larger field for the butter and cheesemakers. This way of promoting creameries and cheese factories to my knowledge is certainly a practical one and enables different localities to get the kind of a factory they need.

If promoting companies would carry out these theories, instead of putting in inferior factories, it would be the means of improving the dairy industry of the state of Wisconsin.

Knowing of farmers who build their own creameries and my experience in building creameries, I think, if the Building Companies are reasonable in their prices, that they can build and equip the factories cheaper than the farmers can themselves and will be more satisfactory as they will have what their locality calls for.

Thanking you kindly one and all for your attention.

DISCUSSION.

Mr. Bragg. Do you think it all right for the farmers to build a creamery when they have got to go in debt for it on the start?

Mr. Signor: I think the better way is to pay for it in the start.

Mr. Wilke: Where I was last summer they put up a creamery in the way of which you spoke and could have put up \$700.00 themselves and had a factory that would have been about twice as good.

Mr. Signor: They probably paid too much for their plant.

Mr. Wilke: They went and told the farmers that if you could get so many shares they could have a creamery. They put in a plant for \$2000.00 and they could have gotten a plant as good as that for \$500.00.

The President. We ought to have a more general discussion and we hope that everybody will be free to express themselves on the subject; is there any one else that has some ideas.

The President: We are pleased to announce that we will have a song from our old friend Jules Lumbard accompanied by Miss Southworth.

Mr. Lumbard. I want to say, gentlemen, before I sing, that I am very glad to be with you once more and I wish to shake hands with you now for all the old friends I have been meeting the last 25 years. Instead of singing something elaborate that I intended to sing, since listening to the elegant song of the soprano, I will sing the little song of four verses, "The Rose Bush" and will sing something more elaborate to-night.

SONG—MR. LUMBARD.

The President: Next will be a paper on creamery equipage by Mr. J. A. Brunner.

CREAMERY EQUIPAGE.

J. A. Brunner.

The keen competition in all lines of business makes it necessary to look for the most improved and economical methods.

In the building and equipping of a creamery there are many details to be considered in order to lessen the cost of manufacture, and at the same time produce a uniform and su-

perior article of butter. The creamery should be located as nearly as possible to the center of a milk producing district, and it is very essential to have a sufficient number of cows to make the venture profitable.

The material to be used in the construction of the building is a very important factor to be considered. Although the first cost is a trifle greater, there is no question but what a brick building is the most sanitary and in the long run cheaper than if wood were used. Whether the walls be of brick or wood they should be placed upon a solid foundation of rock, which should be placed below the surface far enough and be of sufficient width to incur against settling. It is very difficult to keep machinery in proper running order if the building settles first on one side then on the other.

Every creamery should have a sanitary and substantial floor. Cement seems to fill all the requirements and if properly constructed is much superior to wood, but a cement poorly made is not much preferable to no floor at all. The principal objection to the cement floor is that it is too cold and damp for the operator's health and this difficulty can be almost or entirely overcome if the proper precautions are taken in its construction. When it is necessary that the floor be of wood it is a good plan to have the joists quite close together so the floor can be firmly nailed to prevent warping. The flooring should be dressed and well matched and one and one-half to two inches in thickness. Whatever material is used in construction it should have a slant toward the drain.

It would be difficult to say what dimensions a creamery building should be to suit all conditions, but whatever such may be, the working rooms should be small and compact and conveniently arranged in order to save labor in keeping the factory clean. The planning should be left to a person who has had experience in that line of work and should be so arranged as to be most suitable for that particular situation. For instance in some localities a factory receives only milk, in some only cream, but the greater percentage of our creameries now-a-days are obliged to take both.

The requirements in each case are different and for that reason it is very essential that the supervision be left to a practical man.

Both building and machinery should be so arranged as to be most convenient to operate and easily kept clean. The machine would be so placed as to avoid the use of long conductors and the pipes have as few joints and angles as possible. In selecting pipes for this purpose care should be taken that they be smooth inside, and none be used that are not galvanized. Even though the distance is very short, rubber hose should never be used for conducting milk or cream.

In planning a building for the whole milk system it is necessary to know what method is preferred for conveying the milk from the receiving vat to the separator, whether it is to be done by gravity or with pumps. These methods require different floor elevations and each has its advantage and disadvantage. It depends mostly upon the operator whether he would rather climb a few steps or clean a modern milk pump.

In regard to the various makes of machinery used in creamery equipage it is mostly a matter of choice with the person using the same as all modern machines will do good work if properly handled. A very necessary adjunct to a creamery is the boiler, which should be of good capacity. While a large boiler may not be as economical as a small one where run to its full capacity, but it requires less work to fire and considerable less attention, which in most of our creameries are greater factors than fuel. The better a boiler is bricked in the more satisfactory it is for all creamery purposes. It can easily be arranged to have a dry room located near the boiler where the heat which would otherwise go to waste, can be used to dry the utensils.

There are many schemes for heating creameries, but a majority seem to have no system at all. A very satisfactory way is by forcing steam through pipes arranged for that purpose in the parts of the rooms where it is most convenient to have them or where they may be of most service.

It is very essential for every creamery to have good well insulated refrigerator, the size of which depends largely upon the amount of butter the factory makes, but it should be of good height and have enough space above it to have a roomy ice-box.

As a further precaution to keep out the surrounding temperature the doors should be made to fit well, and it is a good plan to have an ante-room so one door can be closed while the other is open. Artificial refrigeration is undoubtedly the most satisfactory and in the future be more extensively used, but owing to the first cost it has as yet not been very generally adopted by the average creamery.

There are numerous things to be mentioned in a paper on this subject, which in planning a creamery will come to the practical man.

Mr. Fulmer: The speaker made one point in his paper that I think most of us would like to hear a little more about. He referred to the objection to the cement floor as being too cold and too damp for the operator, but if properly constructed that this objection could be readily eliminated. I think we would like to hear from you further, Mr. Brunner, as to what the proper construction means.

Mr. Brunner: I don't know, I have never constructed a cement floor and I presume that there are others that could give more information on that point than I could but if I were to construct a cement floor I think I should raise it up from the surrounding surface outside about a foot and put in about a foot of cinders at the bottom, that will help to keep the floor much dryer.

Mr. Fulmer: How thick a coat of cement would you have on top of the cinders then?

Mr. Brunner: About two inches.

Mr. Fulmer: Would you think that that would be sufficient?

Mr. Brunner: Then I would put an extra coat on top of

that. I think it requires two coats of cement to make a good substantial floor.

The President: At the meeting held in Waukesha, Prof. Oscar Erf, of the Illinois college read a paper on creamery building in which he said that this objection could be overcome by laying two and a half or three inch tile in the first layer of the cement and through this run steam pipes; connect the steam pipe with the exhaust pipe of the engine; regulate the amount of steam by means of a valve and in this way it will be warmer and much more healthful.

Mr. Haugland: In Minnesota they are using a soft stone for floors in creameries, which is about the best thing I have ever seen. The stone is sawed about four inches thick and laid in squares about three or four feet square and perfectly smooth; the parties that are using them in that state say that they are way ahead of any floor that can be made.

Mr. Wittig: I have heard of a soft stone before; I would like to ask what kind of a stone it is.

Mr. Haugland: I don't know what it is; it is a kind of a stone that they get there out of certain quarries in Minnesota; they are just as smooth as they can be and no water can stay on them at all. They have quarries in that state; I don't know where they are or where they get the stone.

Mr. Brunner. I would like to have Mr. Wittig explain how he built his cement floor in their creamery; they put one in last summer. I would like to have him explain how they made it.

Mr. Wittig. They were made by men not experienced in that line of work. If they were made by men that made a business of making cement floors, the cement floors would be more of a success than they usually are. The floor we built last summer was made of Louisville cement mixed with gravel and sand; they laid this to a thickness of about four or five inches on well tamped or pounded ground and before this had time to dry thoroughly the surface coat was put on top of a mixture of sand and was put on a thickness of about two inches. This top coat was much heavier than there was any need of having it but it was quite important that it be of such thickness that it would not peel off; at one

half inch in thickness it is apt to break loose. In regard to a cement floor not being healthy to work on: I think if the operator would wear a good sole shoe they might be able to overcome some of the objections offered.

The President. In laying your cement floor, was the cement laid in one solid piece or in squares?

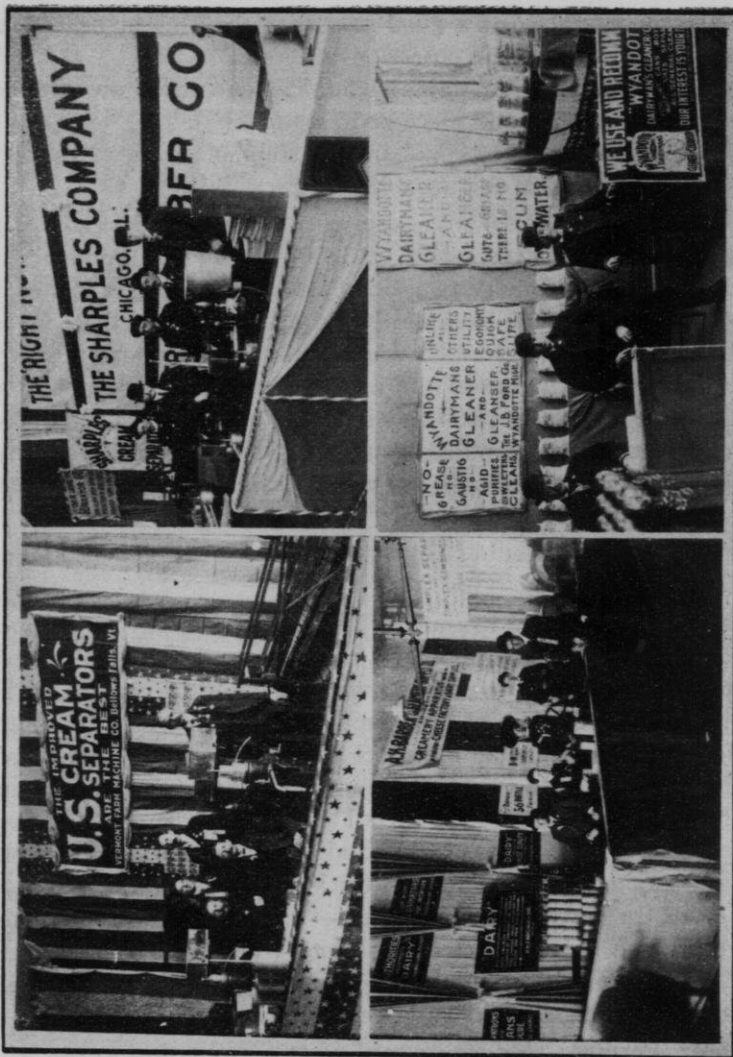
Mr. Wittig. It was laid in one solid piece but I think if it was laid in squares it would be better.

Mr. Burrige. In my experience with cement floors, the whole of the matter seems to be in the under drainage; we put one in a creamery two years ago and put in six inches of locomotive cinders, packed it solid and on top of that put in six inches of cement and I was at that factory about a month ago, the water had gotten in and froze which caused the floor to heave and crack; if you are going to put a cement floor in a factory that isn't used all the time I recommend that they be very careful with the under drainage so that no water can accumulate.

Mr. Hart. I would like to ask the probable cost of a stone floor.

Mr. Jones. Mr. President, I can give you my experience of having a cement floor and the exact cost. I don't know nothing about a stone floor but I do know of cement. The trouble is with the filling; they don't put in their dressing until the floor has had too much of a chance to dry too much. Coarse gravel and very little sand for the first coat, four inches thick and tamp it down, then I go right on and put on my top coat of four parts coarse sand to one of Portland cement, from a quarter to half an inch thick; if you go and put that on before the lower coat becomes set, at all, it will adhere together and never will break; seven parts gravel and one part Portland cement will make a floor that you can't break with a steam engine. It costs eight cents a square foot.

Mr. Parman. Mr. Jones said what I was going to say; the trouble with cement floor is too much expensive material. They think they have got to have a whole lot of cement to make a floor. The foundation is what you want. If you have got a good foundation, one-fourth or one-half of an inch is as good as two or three inches, but you must be careful and put



SECTIONAL VIEWS IN MACHINERY HALL.

it on before it is dry. It is just the same as putting down a cement side walk, put on right away.

The President. I was informed by Mr. Mitchell of Madison, who is a very expert cement layer, that he never laid a cement floor in a solid piece. Just imagine a floor of an ordinary creamery, of one solid piece; if there is any pressure at all, if there is any settling, that stone has nothing to hold it up and it is bound to crack. Now, if the stone is cut into squares, if there is any drop underneath there will be just the settling in that part. He advised to have it laid in squares and small squares at that.

The President. We will now listen to a song by Mrs. Stowers.

SONG—MRS. STOWERS.

The President. Next will be a paper by Wm. E. Clark, "The Patron and the Creamery."

THE PATRON AND THE CREAMERY.

Wm. E. Clark.

Mr. President, Ladies and Gentlemen, Members of the Convention:

When your worthy secretary asked me to write a paper and read it at this meeting I told him it was impossible for me to write anything that would instruct or entertain. He seemed to think that I could and so at last I consented to do what I could. I will let you be the judge as to the merits of the paper. The subject assigned to me is, "The Relation of the Patron to the Factory." We are living in an age of thought and consequently there is improvement in the manner of doing most all classes of work. Even the farmer of today finds that in order to compete with his neighbor he must have the latest machinery to till his land and in all phases of life we use the improvements brought about by some one thinking and putting his thoughts into shape so that others could use them. That there is a relation existing between the patron and factory is conceded by all, and before we give

our idea what that relation should be let us go back a few years and look at the condition of the patron. Let us go in memory back to the time when we were boys, and bring up the conditions that existed then. I remember well when the average farmer was content if his dairy consisted of half a dozen cows and they were dry 4 months in the year and the amount of revenue derived from them was very small compared with that received today from the same number of cows. The milk was put in 6 qt. pans and usually set upon the pantry shelves and stood there until the milk was in a lobbred state and then the cream was taken off and about twice a week the good wife churned it in the old dash churn and made the butter into rolls. and how many times the butter came too soft to be what today is called first class. The first improvement in care of milk was the milk safe made in the shape of a cupboard about 5 feet in height 4 in length and 1 1-2 in width with shelves inside, doors on the front side, covered with wire screen as was the ends, and no farmer's house was considered furnished that did not have a milk safe in it. But with this and all other crude ways of taking care of the milk dairying did not meet with much favor among the farmers until some man thought out and put into operation the factory then it was that the farmer awoke out of his seeming sleep and saw a way whereby he could better his condition from a financial point of view and from the advent of the factory up to the present time the farmer who has paid the most attention to the dairy is the one that has prospered the most. How easy it is as you ride through the country to tell which farmer depends upon dairying and one who depends upon raising hay and grain, the dairyman has all the signs of prospering, good buildings, good stock and his land produces abundantly, and if he is not too grasping for this world's goods he is at least contented. It is needless to ask what has brought this change about. We all know it is due to the factory. Now, I have likened the relation of the patron to the factory to the mother and her child. The mother can exist without the child but not so the child it is wholly dependent upon its mother for its life and growth and as the mother cares for the child so its growth will be, let

her neglect it or furnish it unwholesome nourishment, how soon the child will show the bad effect of such treatment. Is it not the same with the patron and the factory? The patron can exist without the factory, while the factory cannot without the patron and upon the aid given depends the growth of the factory. If the patron fails to furnish good wholesome milk the factory cannot be a success. So to as the child helps to broaden the life and character of the mother, giving her something to live for, so the factory helps to bring out the character of the patron. I am sorry to be compelled to say that there are so few patrons who feel that they are in any way whatever related to the factory. They seem to think that it matters not what they do or what they fail to do the factory ought to be a means whereby they can swell their bank accounts, forgetting that the factory is the dependant child. I would like to say a few words right here about the factory especially what it should be and do to deserve and hold this relation but that side of the question has been assigned to another and for fear I might not agree with him I will not intrude. We will take for granted that the factory is a model one and by factory we include the operator. Now what must the patron do to sustain his relation to the factory.

- 1st. Each and every patron should feel that upon him alone depends the success of the factory and he should work with that end only in view. His every care should be to see that the milk or cream furnished by him is the best that can be furnished, then he can feel that it is not his fault if the success he wishes for is not reached. He cannot expect (if he neglects any part of his duty) to retain his proper relation to the factory. He should post himself as to what constitutes a thorough dairyman and be as near a model one as it is in his power to be. He should equip himself with the best and see to it that it is kept the best and the relations that so often exist will be a thing of the past. How can the patron do this?
- 1st. Be sure that his cows are the best that he can get and that they are in perfect health and make their surroundings such that they will remain healthy.
- 2nd. Feed good wholesome food and enough of it. See that they have access to good clean water, and last but not least be sure that every-

thing used in the handling of the milk or cream is strictly clean, and use care in keeping the milk and cream from becoming contaminated with odors foreign to it. This may seem to some farmer a waste of time but if he will stop and give it a moment's thought he will be convinced that he depends upon his dairy for a large part of his income, and I fear that there is no part of his work that he neglects as much as he does his cows and he should put the best of his work right there. I heard a man say that a farmer could not afford to spend so much time with his cows. I want to say from a farmer's stand point a farmer cannot afford to neglect his cows as so many are doing today. If he will stop a moment and think he cannot help but see that there is nothing upon the farm that he expects as much of as his cows and what is there he gives as little thought outside of the necessary care and if he does not receive the amount he thinks he should he blames the cow or factory. When it is himself that is at fault. Hoping I may have said something that will be of benefit to someone, I will close by giving you this to ponder over. This above all.

"To thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

The President. Next will be the other side, "The Creamery and the Patron" by C. T. Bragg of Bloomer.

THE RELATION OF THE CREAMERY TO THE PATRON.

C. T. Bragg, Bloomer.

The creamery of today is becoming not only the place where butter is made, but where the farmer can get information along dairy lines. If he wants to know how to build a silo, the comparative values of different food stuffs, how to make a balanced ration, or if some of his cows are sick, it seems very natural for him to apply to the buttermaker for the desired

information. That is one reason why so many of us butter-makers attend the dairy school. We get a great deal of instruction in practical creamery work, but what is of just as great value, if properly used is the instruction given by Dean Henry in feeds and feeding and the lectures on the breeds by Prof. Humphrey.

A creamery to be truly successful must work hand in hand with the farmers. It must be always working for their interests and trying to make them understand how everything is done especially the testing and how the overrun is derived and how the dividends are figured.

There should be nothing mysterious about our creameries. If the farmers understood these things better, there would be fewer kicks, and certainly much less reason for the patron to think that he is being imposed upon. Many of them are ignorant and foolishly suspicious. Ignorance always breeds suspicion. So if any spirit of progress and improvement is worked into the minds and hands of such people, we must disarm their suspicion at the start.

It is astonishing what a difference there is in the educational usefulness of creamery buttermakers. Some seem to have the ability to start right in and lead their patrons out on roads of good improvement, not only in the care of their milk, but in the art of feeding their skim-milk and many other of the real live problems of dairy farming.

We should get out among our patrons, talk with them, tell them how the more successful farmers do in various ways, and so in an easy tactful way, gradually stimulate their desire for better knowledge and get them to see that the improved methods are the moneymaking methods.

There are two theories on which creameries are run. The first and true way considers the patron as the first and most important consideration. How to so shape things as to help him make the most money possible out of the business and how he shall save himself from expensive ways of managing his herd and his farm and all that he gets out of them.

The second method is to ignore the patron all that they dare to, and run the creamery for the few and not for the many.

The first method builds up the creamery and dairy know-

ledge in the community, while the second discourages and often ruins it.

It is our duty as creamery operators to educate our patrons as much as we can.

The minister looks after the spiritual welfare of his flock, while we are trying to aid them in their temporal possessions, trying to introduce business methods into their farming, to persuade them to buy and raise better stock, to get more milk and better milk and produce it cheaper.

Time and again the farmers have come to me asking what they should do for cases of garget, milk fever, abortion and such things. Of course I did not know, but I found that by keeping a file of my Hoard's Dairyman and turning to them I could nearly always help them out of their difficulties and several times valuable animals were saved in this way.

One of the best investments that I ever made was in giving each of my patrons a Christmas present of a trial subscription to that valuable paper. I was more than repaid, not only in the improvement in the way they cared for their milk, but in the increase in the interest they manifested.

The creamery is a good place for the farmers to meet each morning and discuss dairy problems and if they have read something new, there is a good chance for discussion that will be of benefit to them.

A few weeks ago, I visited with a friend of mine who has a farm near Lake Mills. He made the statement, that it was unwise for a buttermaker to take part in any discussions with the farmers as he would make enemies by so doing, but I hold that when the subject relates to the dairy industry, if the buttermaker has any knowledge on the subject, it should be brought out.

It has been truly said that the creamery is a dairy school with the farmers for students and the buttermaker as instructor and whatever knowledge he may possess should be given freely for their benefit.

We are too apt to think that the price we receive for our butter is the only thing that counts, and we keep working and experimenting trying to make a better grade article and to find a better market. Now this is all right, but we must give

some time to helping our patrons, for even if we do get the very best price for our product, the patrons' cows may not be bringing him over \$30 a year, and what farmer can make a profit out of that. If he finds that his cows are not giving him a reasonable profit he will probably change to some other line of farming and then the creamery will have to suffer.

As long as we can make good profits for the farmers just so long will our creameries be successful.

Mr. Wadell. I would like to ask the gentleman what his theory would be in reaching a patron, in running a cream gathering plant, eight or ten or twelve miles away. It is almost impossible to do that when you are running a factory of that kind.

Mr. Bragg. Get out hand bills and put in all you want, I did this and I think it done a great deal of good although I don't think you do as much good as if you could talk to the people.

Mr. Johnson. When a farmer comes in and says the test is too low how are you going to explain it to him?

Mr. Bragg. If I could think of any reason, of course, I would try to explain it to him. Before commencing the argument show them a copy of the state law that it is an offense for us to mis-read our tests.

Mr. Johnson. What would you do then if they refused to see, or listen to your explanation.

Mr. Bragg. There are some, of course, that you can't reach in any way, shape or manner.

The President. One thing I think the buttermakers can do, and that is to instruct the patrons how to get some of the literature that is being freely published in the State Agricultural College for their benefit and also from the Agricultural Department at Washington; there are a great many farmers that do not understand that this literature can be had for the asking. All that they have to do is simply to send their name and address on a postal card. It is also helpful, it seems to me, to have the buttermakers try and get farmer institutes in

their neighborhood and try and get the farmer to discuss along that line and in that way they can instruct a great many more.

Mr. Clark. The method that I pursued in that was this, that I asked each and every one of my patrons, stockholders and patrons of the factory, to let me take their names and send to Madison and have them put on their mailing list, and I got every one of our patrons to allow me to do that, and if the buttermakers would each and every one take the names of their patrons that were willing to let them send their names they could have this literature free because we have already paid for it, and I think that at Madison they would be glad to have some names sent to them.

Mr. Johnson. I understood that it was necessary that each man send his own postal card.

The President. Mr. Emery is present and he can answer the question that this other gentleman asked. Of course I was speaking about the dairy school; and the agricultural college; Prof. Emery can tell us whether a buttermaker can send in the names of their patrons to be placed on the free mailing list.

Mr. Emery. I can answer that as far as the Dairy Food Commission is concerned; the legislature has provided for only ten thousand of the bulletins and it takes more than that number to supply the 1,600 cheese factories, 1,200 creameries, 3,000 groceries; 2,000 meat markets and 500 mills. I think Prof. Farrington can answer the question as far as the Dairy School is concerned.

Prof. Farrington. I think that most any buttermaker or cheese maker that cares to send in a list of their patrons, the bulletins will be sent to them; we haven't any bulletins just now but there are a good many bulletins that we have an excessive supply of for just this purpose and we should be glad to send the bulletins to those who wish them. The suggestion that was made by Mr. Bragg for the patron who needs dairy, agricultural and creamery papers, I think is also a very good one. Very often a farmer or any one else would think a great deal more of any paper that they paid a little for than that which they get for nothing.

LAWS RELATING TO CLEAN AND SANITARY CONDITIONS IN CREAMERIES.

By J. Q. Emery, State Dairy and Food Commissioner, Before the Wisconsin Butter-Makers' Association

Eau Claire, Wis., Feb. 3. 1904.

That cleanliness is next to Godliness, is an old and familiar maxim. In its application to butter-making, I am of the opinion that it would not be too much to say, that cleanliness is Godliness.

I am quite sure that the butter-makers who attend this convention are not the ones who most need instruction as to the laws relating to cleanliness in creameries. The butter-makers who never attend the meetings of this association are the ones most needing such instruction. Perhaps some of these will be reached through the volume of your published proceedings. Others may be reached by other means.

That scrupulous cleanliness in creameries, their floors, walls, vats, pipes, butter-makers, in the milk received and mode of manufacture is absolutely necessary to the highest quality of the product, is a matter of common knowledge and general assent. In theory, it has been so long and generally admitted and in practice so much neglected, that the legislature of the state no doubt concluded that a law with adequate penalties for its violation might be made to contribute to the securing of so necessary and profitable a condition, and chapter 67 of the Laws of 1903 was in consequence enacted.

Section 1 of that chapter defines unclean and unsanitary milk as follows: "Milk which shall be drawn from cows that are kept in barns or stables which are not well lighted and ventilated or that are filthy from the accumulation of animal refuse or from any other cause, or from cows which are themselves in a filthy condition, and milk in and from cans or other utensils that are not kept in a clean and sanitary condition, or milk to which has been added any unclean or unsanitary foreign substance, is hereby declared to be unclean and unsanitary milk."

Section 2 prohibits the sale or delivery to any creamery, or

cheese factory, of such unclean and unsanitary milk, as follows: "No person, firm or corporation, shall knowingly offer or expose for sale, or sell, or deliver for sale or consumption, or to any creamery or cheese factory or milk condensing factory, or have in his possession with intent to sell any unclean or unsanitary milk." The unclean or unsanitary milk referred to in this section is the unclean or unsanitary milk as defined in section 1 of that act.

Section 3 prohibits the manufacture for sale of articles of food from unclean and unsanitary milk or cream from the same, as thus defined, in the following language: "No person, firm or corporation, shall knowingly manufacture for sale any article of food from unclean or unsanitary milk or from cream from the same."

The first section of this law is intended to reach the dairymen who produce the milk or cream for delivery at creameries, cheese factories and city milk supplies. Section 2 is intended to reach the same class and also all persons who sell or deliver milk for sale or consumption to creameries or cheese factories. It is the purpose of section 3 to make it imperative upon the operators of creameries and cheese factories that they reject from their factories all unclean or unsanitary milk or cream from the same. The law is evidently intended to be a stimulant to spinal columns. If the creamery operator allows unclean or unsanitary milk to go into his product, he cannot shift the responsibility upon the patron, because the law places it upon him. Should he plead ignorance as to the quality of milk he receives, he is to be reminded that through the use of the Wisconsin curd test, taints in milk from filth or other causes are readily detected. The legislature evidently intended by this act, calling into use as it did, the exercise of the police power of the state, to protect the great consuming public against filthy and unsanitary food products. Incidentally its effect is to improve the quality of the creamery product and thereby to enhance its market value.

As regards the foregoing statement as to unsuitable quality of milk being readily detected by the Wisconsin Curd Test, let me give a single illustrative example. During the latter

part of December, 1903, a large creamery that has an annual output amounting to two hundred thousand dollars, found itself losing at the rate of three hundred dollars a week on its product through defects in quality. Through a representative, it called upon the commission for counsel and aid. It was suspected that the use of musty feeds by some of the patrons was the cause. The assistant commissioner, Mr. Baer, was sent to the creamery with instruction to go to the barns of patrons, inspect the feeds, take samples of freshly drawn milk among the different herds and by the use of the Wisconsin Curd Test determine and locate, if possible, the tainted milks and their cause. The work proved successful, the tainted milks were located and their cause clearly shown to be the use of musty feeds. The creamery was thus furnished the means of restoring the former good quality of its product, and the consuming public was thereby aided in securing a better and more wholesome quality of butter.

Section 4 of that act, defines unclean and unsanitary conditions in creameries and cheese factories and requires the owners or managers thereof to keep the same in clean condition. The provisions of that section are as follows: "All premises and utensils employed for the manufacture of sale or offering for sale of food products from milk or cream from the same which shall not be kept in clean and good sanitary condition are hereby declared to be unclean and unsanitary. Any milk dealer or any person, firm or corporation, furnishing milk or cream to such dealer, or the employee of such milk dealer, and any person, firm or corporation or the employee of such person, firm or corporation, who operates a creamery, cheese factory or milk condensing factory, or manufactures, re-works or packs butter for sale as a food product, shall maintain his premises and utensils in a clean and sanitary condition."

Section 5 of that act requires the emptying and cleansing of cans, bottles and vessels, which have been transported over any railroad or boat line, where such cans, bottles or vessels are to be returned.

Section 6, provides a punishment by fine of not less than twenty-five dollars nor more than one hundred dollars for

each and every offense and in default of payment, imprisonment in the county jail not less than thirty days nor more than sixty days.

It is thus made apparent that the violation of any provision of this law is a **quasi** criminal act and is an expression of the judgement of the legislature upon the conduct of any one who shall maintain a creamery in an unclean or unsanitary condition or who shall manufacture butter from unclean or unsanitary milk. Who can say that the judgment or condemnation is too strong?

Section 1410a of the Wisconsin statutes of 1898, makes it the duty of the State Dairy and Food Commissioner to enforce the laws regarding the production, manufacture or sale of dairy products. Section 1410b, statutes of 1898, confers upon the commissioner, his agent or assistant, free access to any barn or stable where any cow is kept or milked, or to any factory, building, dairy or premises where any dairy product is manufactured, handled or stored, when the milk from such cow or such product is to be sold or shipped, and confers upon him authority to enforce such measures as are necessary to secure cleanliness in and around the same and of any utensils used thereon. It is further made his duty by law to prosecute those who may be found violating the dairy laws of this state.

Section 4607, statutes of 1898, prohibits the sale or delivery to creamery or factory, of any unmerchantable, adulterated, impure or unwholesome milk an section 4607a, statutes of 1898, fixes the standard for purity of milk, by providing that milk which shall contain less than three per cent of butter fat, or that has been diluted, or any part of the cream of which has been abstracted, or that, or any part of it, was drawn from a cow known to have been at the time it was drawn within fifteen days before or less than four days after parturition, or which was known to have any disease, ulcers or other running sores, shall be held or found to be unmerchantable, adulterated, impure or unwholesome, as the fact may be. The penalty fixed for violating this statute is the same as that before given.

I have thus briefly enumerated the salient features of the

laws of Wisconsin relating to clean and sanitary conditions in creameries.

Referring to the articles of organization of this association, I find it stated that the business, purpose and object shall be the education of its members for a better practical knowledge of creamery operation, promoting progress in the art of butter making, in the care and management of creameries, the sale, transportation and storage of butter, and in the weeding out of incompetency in the business of butter making; the further object of the incorporation is to demand a thorough revision and rigid enforcement of such laws as will protect the manufacture and sale of pure dairy products against fraudulent imitations, and to suggest and encourage the enactment of such laws in the future as experience may from time to time demonstrate to be necessary for the public good of the dairy industry.

I bespeak your co-operation with the efforts of the Dairy and Food Commission along these lines.

It must be conceded that the number of inspectors provided for the State Dairy and Food Commission is not adequate for the absolutely complete enforcement of these laws. It is believed that progress has been made during the past year. An assistant chemist and two inspectors, one of whom is a dairy cream and cheese factory inspector, were added to the commission. The president of the Wisconsin Butter-Makers' Association was appointed to the new position of creamery inspector. In addition to this, the dairy and food commissioner was authorized to appoint the traveling instructors now employed by the Wisconsin Dairymen's Association as his expert agents, thus clothing them in their visitation to creameries with all the authority possessed by the dairy and food commission himself. It is believed this law, practically providing for a corps of five instructors or inspectors more than doubles the effectiveness of the former force. But this force is considered much too small and when our great number of cheese factories and creameries is taken into consideration, is much less than the force employed by state dairy and food commissions of neighboring states.

How to provide the requisite number of instructors and

inspectors of Wisconsin creameries and cheese factories is in my judgment a highly important problem now pressing for solution. This matter is important alike to producers and to the consuming public.

With the interruptions that must inevitably occur, one man cannot inspect more than five cheese factories or creameries in a week and do the work with the thoroughness with which it should be done. This requires that the inspection should begin in the morning with the delivery of the milk, as it is conceded by all that unless the quality of the milk delivered is of the highest, the quality of the product must suffer. I believe that not to exceed 250 creameries or cheese factories can be properly inspected by one man in a year. At that rate it would require 12 men to inspect once a year the 1200 creameries and 1800 cheese factories in this state.

It may be profitable for us to consider what some of our neighbors are doing in similar lines of work.

The following, relative to Canadian conditions was obtained from Prof. Dean, of Canada, in a personal interview with him about a year ago. The Province of Ontario has 1,000 cheese factories. Sixteen traveling cheese instructors are employed. They find this number insufficient and unsatisfactory and wish to increase it. Each cheese instructor gets from \$700 to \$1,000 for the season. There a traveling cheese inspector watches a group of from 20 to 30 factories. Some of these he visits but once in a season, others as often as once a month, the number of visits depending upon the necessities of the factory. He gives counsel, sees that the factory is kept clean and by reporting to the proprietor or the farm owners, is able to weed out the poor cheese makers and encourage and stimulate the worthy ones. He has no absolute powers, his work being strictly advisory.

The Province of Quebec has about 50 traveling cheese instructors. Here, the dairymen are largely of French descent, and the cheese factories are smaller than those in the Province of Ontario and relatively more numerous. Here a different plan is followed from that in Ontario. The cheese factories are allowed to form syndicates so-called, that is,

25 or 30 factories near together are allowed to form an association for hiring a traveling cheese instructor. If they hire one approved by the government, the government will pay toward his salary up to the limit of \$250, but not more, and not more than half of his salary in any event. The instructors receive from \$500 to \$800 for the season. The difference between the government allowance and the total amount of salary is met by the factories themselves. Thus it will be seen that the provincial government of Quebec pays out more than \$12,500 annually for those traveling instructors, while the patrons of the factories themselves must pay at least \$20,000.

Are there not suggestions here that Wisconsin can make use of to her great profit? Wisconsin is a great dairy state. She has the largest number of creameries and cheese factories of any state in the Union. Its total volume of dairy products she ranks second. Draw a line from Prescott, on the Mississippi, eastward, through Marshfield to the northeast corner of Kewaunee county and the portion of Wisconsin south of that line is the richest dairy country, of equal area, in the United States. Can Wisconsin hold her prestige as a dairy state by supineness? Improvement is quality and uniformity should be the watch-word. If this association, the Wisconsin Dairymen's Association, the Wisconsin Cheese-Makers' Association, the Dairy School, the State Dairy Commission and the State Dairy and Agricultural press could unite and cooperate in an effort to increase the number of instructors or inspectors in butter-making and cheese-making on some such plan as that of the Province of Quebec, could not a progressive movement be thus inaugurated and success achieved.

I most respectfully urge a consideration of these suggestions. It seems to me that greater co-operation by the agencies above named, on definite lines that seem most urgent, particularly in the matter of cleanliness and sanitary conditions in our creameries and cheese factories would result in a higher degree of progress.

But equally with laws in relation to cleanliness and good sanitary conditions, there are needed, high ideals and public

sentiment, demanding their enforcement and realization. In creating these high ideals and public sentiment among patrons, a broad field of usefulness is open to butter-makers. My appeal is that you do not allow yourselves to float along on the tide of a low public sentiment, but that you seek by every possible effort to make public sentiment what it should be and that you seek to create for Wisconsin butter-making the very highest possible ideals, the greatest degree of cleanliness possible and the very best possible sanitary conditions.

MR. J. Q. EMERY.

Mr. Chairman, it seems proper that I should at this time briefly state the conditions of the affairs in Wisconsin as to oleomargarine. Now I would like to have you note carefully just what I say. There is so much misinformation upon this subject that it is unnecessary to have any more. The law of Wisconsin prohibits the sale of one kind of oleomargarine. It allows the sale of another kind. The law of Wisconsin prohibits the sale of oleomargarine which shall be in imitation of yellow butter made from unadulterated milk or cream from the same with or without coloration. The theory of that law is that a substitute food, legitimate in itself, must not be in imitation of a genuine food product. That is the theory; so the law prohibits the sale of oleomargarine which shall be in imitation of yellow butter made from unadulterated milk or cream with or without coloration. The law provides that oleomargarine in a separate and distinct form and in such manner as to advise the consumer of its true character and free from coloration or ingredients that cause it to look like butter is lawfully salable in Wisconsin. We have been enforcing this law in Wisconsin and we think we have been very successful. We think that the manufacturers believe the same way. We have evidence that they take that same view. Our inspectors have been going over the state several times calling upon these dealers where they have found unlawful oleomargarine and they have so informed the dealers and stated to them

that a continued sale of the same would render them liable to prosecution. In a case at law the jury would of course have to decide whether or not the sample was in imitation of yellow butter; but we have had in the enforcement of the law and in the formation of this judgment the aid of expert buttermakers throughout the state, your President and Secretary among the number. In a large majority of cases it was found that these dealers have rid themselves of unlawful oleomargarine and sell oleomargarine that is deemed lawful in the state and I want to say to you that we know that a great majority of sales of oleomargarine in Wisconsin are lawful. This has got to be so nearly unanimous that certain manufacturers have determined to resist. Our information is that certain retail dealers have been induced to send to Chicago for yellow oleomargarine that they would not themselves sell in the state. We have some samples of that kind, and these will be prosecuted as required by law.

Member. I would like to ask if the state law is in strict harmony with the United States law?

Mr. Emery. It is not. The United States law—I can't quote the exact language, it says that oleomargarine must be free from artificial coloration; the word "artificial" does not occur in the Wisconsin Statutes. These are questions that will have to be decided by the courts. It prohibits the sale of oleomargarine which shall be in imitation of yellow butter but allows the sale of oleomargarine which shall be free from coloration.

The President. Mr. Gipple will read a paper this evening on Buttermakers' Wages from a Consumer's Standpoint. Mr. Loomis will also speak this evening. Mr. Lumbard will also favor us with some of his songs.

Adjourned to Wednesday, 7:30 p. m.

WEDNESDAY EVENING SESSION,

February 3rd. 1904.

The President. The meeting will now come to order. We

will now be favored with a song by Jules Lumbard, entitled "I Fear No Foe."

Mr. Lumbard. Ladies and Gentlemen: A marvel has occurred. I have been here for more than two hours and haven't been asked to sing "Maggie" a song that I have sung for fifty years, and heretofore they have insisted on it and I am now going to sing it to you too. I am going to tell you something first; I have sung for over fifty years; sang at conventions for the last twenty-five. About three years ago at Mason City, Iowa, they had a convention and I was asked to participate as I am doing here and the next week the Creamery Journal of Waterloo came out and in it there was published an account of the Mason City Convention, and said, among other things, that Mr. Lumbard was there and sang this very same song, "I Fear No Foe" sang it very satisfactory and then he said, "I don't think he ever sang the song better except when he sang his sweetheart to rest on Mt. Ararat."

Only a short time ago I was in Waterloo, Mr. Kimball down there asked me to sing "Maggie" I said to him you remind me of an incident that occurred to my own experience some time ago. I said I had occasion one evening to attend a banquet; it was an elaborate affair; it was at Omaha; they had speakers, toasts were given and responded to and one reverend gentleman of the St. Mary's Church replied to a toast and said, in my congregation I had a family of very devout christians; the Bishop had dined with them three or four times and they made every preparation for his coming, re-furnished the house, made every possible preparation but along toward the last it occurred to the father that the little child should be posted on this event, he took him to one side and said, "if the bishop should ask your name you tell him Willie and if he asks you how old you are, you tell him eight years old and if he ask you where bad boys go to, say go to hell." The father's manner was very impressive and the boy remembered; the dinner came off, the Bishop was there, the boy was not at the table; after dinner the Bishop met the little boy and he said "I haven't seen you my little son, how do you do, what is your name" he said. "My name

is Willie, I am eight years old, go to hell." (Prolonged laughter).

SONG—JULES LUMBARD.

The President: We will now listen to a recitation by Mr. W. E. Clark.

MUSIC—ORCHESTRA.

SONG—MR. JULES LUMBARD.

MUSIC—ORCHESTRA.

PASTEURIZED BUTTER MAKING.

Prof. E. H. Farrington.

In making up the program of a convention like this, the Secretary and persons who have the matter in charge must think of at least two things; first they need to get a certain number of entertaining speakers on the program and second they must have something written that will make a presentable report so that all the proceedings of these conventions, when printed, will be an acceptable report to circulate to the members.

As I have been connected with this organization ever since it started and every year have had to appear on the programs more or less, it was thought best to put other names on this year but I was expected to be ready to be called on at any time so you see I was expected to make some preparation before coming here even though my name isn't on the program. I know that an audience like this is not usually very patient and doesn't care to listen to a long description of any process no matter if it is about buttermaking and has a rather mysterious name attached to it. I am, however, going to say a few things about pasteurization as this is a subject that interests buttermakers very much at the present time.

I suppose that some people in this audience do not know what pasteurization means. It can be illustrated in two ways, first, by the work of the housewife and second by the work of the farmer. When the women of the house wish to preserve their summer fruits for the winter table they

heat them in jars, or cans, up to a certain temperature, they never use a thermometer, but after heating, the jars are sealed carefully and if the work is done properly this fruit keeps its flavor and good quality until winter time. This process, to a certain extent is pasteurization, the ferments in the fruit and water used, have been killed by the heat and the fruit is preserved for future use.

The farm work that suggests pasteurization is the process which the farmer goes through in the spring to prepare the soil for his crops. If he could take out all the weed seeds and then plant nothing but wheat, he would have nothing but wheat for a crop; this would be possible if he could destroy the weeds in the soil. This may be a rather poor illustration but it gives some idea of what pasteurization means to the dairy man and creamery man; he wants to destroy all undesirable ferments in his milk and cream and thus be able to control the growth of those that may be planted in these products.

The word pasteurization came from a French Scientist, Pasteur, who discovered that he could retain the flavor in wines by heating them to a temperature of about 155 but by heating them to boiling he destroyed the flavor of the wines and of course they were worthless as wines. This discovery has been found to be very useful in the dairy industry because it was found that by heating milk or cream to boiling this heat would kill all the germs that cause the milk or cream to sour, but the boiled taste left in the products was very objectionable to the consumer. It was found, however, that the same thing noticed in wines regarding the application of heat to them applied to milk and cream and if they were heated to a temperature of about 155, nearly all the germs that were fully developed and which caused them to sour were killed without changing the taste of the milk. This, in brief, is a description of what the word pasteurization means.

Numerous investigations made in the past ten years have shown that the flavor of butter may be influenced by at least three distinct causes. First, by fermentations which grow in cream during souring; second, by the feeding of the

cows, and, third, by the absorption of odors from the air surrounding the milk or cream before churning.

The difference between sweet cream butter and sour cream butter is a striking illustration of the effect which the souring or the fermenting of cream may have on the butter flavor. When cream is churned sweet, before a perceptible souring has begun in it, the butter made from such cream shows a rather insipid, flat taste, while that made from sour cream has the characteristic "butter taste" that is commonly met with on the general market. When cream is allowed to sour excessively the flavor peculiar to strong butter is developed by the continued fermentations.

Between these two extremes of sweet and strong butter there are many varieties of flavors and they are usually traceable to some peculiar ferments or mixture of ferments that grow in the cream before it is churned.

The feed flavors noticed in butter may be divided into two classes, first those which are objectionable, such as the flavors due to cows eating wild onions, garlic and weeds in the pasture, second, those that are peculiar to butter made at the time when the cows are first turned out to pasture.

The objectionable feed flavors are easily noticed and unmistakable; they are recognized at once whenever a trace of them is presented in butter and they often cause serious losses in sales as the butter made from such milk is defective and brings prices far below those received for butter of extra quality.

The characteristic feed flavor in butter which is obtained from new pasture grass is very much sought after. The peculiar June flavor of butter which is made when cows are first turned out to pasture or after they have been on pasture for some weeks, is decidedly some characteristic of the feed the cows eat than of the ripening fermentations which may take place in the cream. This June flavor of butter has not been produced at other seasons of the year and this fact shows that the flavor is a peculiarity of the cows' feed and not developed by a certain method of ripening.

Such examples as these which include the weedy flavors

and the June flavors of butter are striking illustrations of the effect which feeds may have on butter flavor. Whenever these flavors are recognized they are not confused with those whose source it is sometimes hard to locate but it becomes evident at once that a certain butter flavor is due to the feed of the cows.

Besides the butter flavors due to food and to the fermentations that take place in cream, there are certain other flavors that are absorbed from the atmosphere to which either the milk, cream or butter may have been exposed. Milk is especially susceptible to surrounding odors and a poorly ventilated barn in which decaying foods are allowed to stand and pollute the air will noticeably contaminate milk and the bad flavors thus absorbed will be transmitted to the butter.

The susceptibility of butter flavors to various conditions and the delicate as well as the more or less volatile nature of the flavors, makes the development and the retaining of an acceptable flavor in butter a task which requires considerable skill to accomplish.

The objectionable food flavors that are absorbed from unwholesome surroundings may be eliminated by carefully watching for their appearance in the milk and keeping such lots separate from those which do not contain these defects. Such a protection of butter is a comparatively simple matter but the controlling of the fermentations during the cream ripening so that the butter flavor will be uniformly acceptable, is one of the points in butter making that require the closest attention.

In recent years the ripening of cream with a so-called pure culture starter which is supposed to introduce a desirable flavor into the cream, is becoming more and more common. It is hardly necessary to point out the benefits to be derived from these pure cultures will be far greater in case they are added to cream containing a minimum number of ferments or bacteria which have found their way into the cream during the handling of the milk and cream before the time of ripening, than will be the case if these pure culture starters are added to cream which has not been previously freed from such accidental fermentations.

The preparation of the cream to which the starter is added

is a matter of considerable importance and the principle means of doing this, is to pasteurize either the milk or the cream by heating to a temperature ranging from 160 degrees to 180 degrees before the starter is added. When the pure cultures are added to pasteurized cream they do not have to contend with the multitude of bacteria that are usually contained in cream which has not been previously heated. On this account the pasteurization before ripening is necessary in order to obtain the full benefit of the pure cultures which may be added as a starter to the cream.

Benefits of Pasteurization.

One of the advantages usually claimed for pasteurization as applied to butter making is that certain flavors which are known to be produced by pure culture starters may be introduced and developed in each lot of cream. This will naturally produce a more uniform quality of butter from day to day than is the case when cream is ripened without pasteurization and the use of the pure culture starter. This uniformity in flavor is one of the most desirable features in butter making and in places where pasteurization has been practiced until the butter makers have become expert in pasteurizing as well as sure of making a uniform starter from day to day, the butter possesses a characteristic and a uniform quality.

Another advantage usually claimed for pasteurization is the increase in keeping quality which this method of treatment of the cream has on the butter, it being claimed that butter made from pasteurized milk or cream holds its mild and sweet flavor much longer than that which is made from unpasteurized cream. Certain observations made on pasteurized butter have also indicated that in many cases the flavor of such butter increases so that it has a higher flavor and more aroma after it is several weeks old than when it was freshly made.

The only fault that it has been claimed pasteurized butter may possess as compared with that made from raw cream are, first, that the American market is not supposed to like the mild and insipid flavor as well as the high, quick flavor and

aroma of raw cream butter, and second, that the greasy texture which it has been assumed that pasteurized butter usually possesses is objectionable.

Milk or Cream Pasteurization.

The destruction of the bacteria or ferments which will interfere with the growth of pure culture starters that are so much desired in cream, is usually accomplished in one of two ways. Either the milk is heated to a pasteurizing temperature at the time it is run through the separator, or the cream is pasteurized after separation. The pasteurization of cream after separation is more commonly practiced than the pasteurizing of milk. There are some advantages, however, in pasteurizing milk. When milk is heated to the pasteurizing temperature at the time of separation, a larger amount of milk can be satisfactorily skimmed by the separator in a given time than when it is only heated to a separating temperature of 80 F. The skim milk is also pasteurized and the patrons receive the advantages to be obtained from such a treatment of the skim milk. The cream as it comes from the separator is also pasteurized and after cooling it is ready for ripening with the pure culture starter. Pasteurization of the milk requires considerable fuel on account of the greater volume of liquid that is heated to the pasteurizing temperature than is necessary when the cream only is heated. This difference in expense and the fact that the skimming of hot milk interferes somewhat with the smooth running of some cream separators, is probably an important reason for the pasteurizing of cream and skim milk separately, when it is desired to have both products pasteurized.

In many instances the skim milk is pasteurized at the skim milk tank after it has been pumped from the separator by using the exhaust steam from the creamery engine. This is undoubtedly more economical than heating the milk with live steam to a pasteurizing temperature before separating it. In many cases the cream only is pasteurized and the skim milk is delivered to the patrons without an additional heating.

Methods of Pasteurizing Cream.

The pasteurizing of cream after skimming, may be done in

two different ways. First by holding it at a pasteurizing temperature for fifteen to thirty minutes and then cooling to a ripening temperature, and, second, by running it through a continuous pasteurizer in which the cream is heated and cooled as it passes through the machine from the separator. From these continuous machines the cream runs into a ripening vat and its temperature may be controlled so that it will be delivered into the ripening vat at a proper temperature for ripening with a pure culture starter.

In the first attempts to make butter from pasteurized cream in this country the pasteurization was done either by the intermittent process, by which the cream was held at the pasteurizing temperature for fifteen to thirty minutes, or by pasteurizing the milk at the time of separating it.

Experiments With the Conn Culture (B 41).

A series of experiments in making butter by these two methods of pasteurization were carried out at this experiment station in 1896 and 1898. A detailed description of these experiments has been published in bulletins number 48 and 69. The investigations reported in the first bulletin were suggested by a widespread interest that was taken in a pure culture starter that had been introduced under the name (B 41) by Prof. H. W. Conn of Ct. This organism Conn discovered in a can of imperfectly sterilized milk that was sent to the World's fair from Uruguay. It was claimed that by using a starter made from (B 41) in the cream that a high quick flavor was given in the butter and that this organism would retard the development of acid in the cream as it acted more on the casein than on the milk sugar. On account of this peculiar property of (B 41) it was claimed that pasteurizing before ripening was unnecessary as the germ produced the desired effect in the cream even when a great many germs of other species were present.

The experiments made by us with this culture included the use of it for ripening cream without previously pasteurizing as suggested by Conn, and it was also used for ripening pasteurized cream. In these experiments a great many lots of butter were made and the quality of that produced by using

the Conn culture (B 41) compared with that made from the same cream which was ripened without this culture.

In these experiments churnings of butter were made from cream which was ripened for two days at a comparatively low temperature (50 degrees to 60 degrees F) and also of cream ripened for one day at a high temperature (60 degrees to 70 degrees F).

Another series of experiments was also made with this culture at a gathered cream factory where the cream was ripened under the usual conditions, churning each morning the cream gathered the previous day. In some cases the (B41) culture was added to the cream after it was brought to the creamery but in the majority of cases the starter was placed in the cream gathering cans before starting out in the morning.

The numerous samples of butter made in these experiments were examined by three or more experts and the results of their opinions in regard to the comparative quality of the butter made with and without (B 41) showed that the Conn culture (B 41) did not improve the flavor of the butter ripened at a higher temperature or of that ripened for a short time at a lower temperature. On the contrary the score of the fresh (B 41) butter was in the majority of cases materially lower than that of the fresh normal butter.

The results of these experiments with gathered cream showed that the flavor of butter made with (B 41) was poorer than that of normal butter.

A further study of this butter was also made by placing tubs of both the pasteurized and the raw cream butter in cold storage; after holding them in the freezer for several months the butter was examined a second time. The result of these examinations showed that the separator butter made with the (B 41) culture when taken out of storage was of better quality than the normal butter; there was but little difference in flavor between the two butters when taken from storage but the normal butter when fresh scored higher than that made with the (B 41) culture; showing that the normal butter had changed more than the culture butter. The gathered cream butter made with the (B 41) culture on the other

hand did not keep so well as that made from normal cream.

The difference in uniformity between the normal and the (B 41) butter was not very marked but the difference as a rule was in favor of the greater uniformity of the normal butter.

Some special experiments made in ripening cream to determine the effect of (B 41) on the development of acidity in cream showed that the starter made from (B 41) cultures did not retard the development of acidity in the cream, but the (B 41) cream soured as much as that to which this culture was not added.

Later Experiments.

A second series of experiments on pasteurization as applied to butter making were reported in bulletin 69, September 1898, of the Wisconsin Experiment station. These experiments were made by heating the milk to a low temperature of 155 degrees at the time of separating it. The hot cream from the separator was run over a cooler and ripened with a pure culture starter in an open vat. The effect of this kind of pasteurization on the germ contents of the milk was determined and comparisons were made of the butter from the cream of pasteurized milk with that made from cream which was not pasteurized but which was ripened with the same starter. A detailed description of the method of making the butter and the use of the starters is given in the bulletin.

The butter made in each case was scored by market judges when it was fresh, and both the pasteurized and the raw butter were kept and scored several weeks after it was fresh in order to determine the changes that would take place in the flavor of the two kinds of butter and to notice the difference in keeping quality which might be characteristic of the two methods of treatment. The results of these experiments showed in the comparison of the flavor scores of 102 churnings of fresh unpasteurized butter with those of 75 churnings of pasteurized butter that the average of each was very nearly the same (49.69 unpasteurized, 40.63 pasteurized, on a basis of 45 as perfect flavor). But it was noticed that 5 per cent. more of the pasteurized than of the unpasteurized

butter scored 42 points on flavor. The difference in the fresh scores was so slight that it was impossible from these scores to conclude that one system produced a higher flavor than the other. The judges, however, claimed to be able to detect the pasteurized butter by its sweet, curdy, flat taste but they did not materially reduce the score on this account.

These results furnished evidence that was slightly contradictory to the general opinion in regard to pasteurized butter which were that it could not be made of so high a flavor as that of unpasteurized butter.

Conclusions from These Experiments.

The butter made from pasteurized milk was scored considerable lower on grain and body than that made from unpasteurized milk. The pasteurizing process seems to injure the grain and body of the butter according to American, Chicago Standard of this quality, as 62 per cent. of the unpasteurized butter scored over 29 points on grain, while only 25 per cent. of the pasteurized butter was given this score.

In these experiments both the pasteurized and the unpasteurized butter was quite uniform in quality. There was, however, a slight difference existing in favor of the more uniform quality in the pasteurized goods.

Pasteurizing the milk increased the keeping quality of the butter when stored from two to four weeks at a butter cellar temperature of 50 degrees to 60 degrees F.

Analysis of 14 samples of pasteurized and 19 of unpasteurized butter showed but very little difference in chemical composition. The average per cent. of water in the pasteurized butter was 13.11 per cent. and in the unpasteurized 13.62 per cent.

Heating the milk to 155 degrees increased the skimming capacity of the separator, that is, more milk was satisfactorily skimmed per hour at this temperature than at 85 degrees F, provided the milk was heated by passing it over a hot surface. If heated to this high temperature by forcing steam into it, the skimming was unsatisfactory.

More sediment accumulated at the separator bowl when skimmed hot than when the milk was skimmed at 75 to 80

degrees. This was much more noticeable in ripe or tainted milk than in pure, sweet milk.

A richer buttermilk was obtained from the pasteurized than from the unpasteurized churnings in hot weather when the pasteurized cream as a rule was not so easily heated and thoroughly cooled as the unpasteurized; at other seasons when both churnings were made at the same temperature there was not much difference in the amount of fat left in the two buttermilks.

In these experiments most of these churnings were made of about 200 pounds of butter. The overrun per centage may therefore be compared with a certain degree of accuracy. Such a comparison made of forty-six churnings of unpasteurized cream with ten churnings of pasteurized cream showed that the overrun of the pasteurized cream was 11.62 per cent., while that of unpasteurized cream was 14 per cent. In thirty-four churnings which included both pasteurized and unpasteurized, the overrun was 12 per cent.

Experiments Made In 1902.

Since making the experiments reported in 1896 and 1898, a number of changes have been made in the machines used for pasteurizing cream for butter making and the American butter makers have also become more familiar with the use of pure culture starters than they were at that time.

A series of experiments on the pasteurization of cream for butter making were carried out in 1902 and the results obtained were published in the 19th annual report of this Station. In these experiments, the cream as it came from the separator was passed through a continuous pasteurizer in which the cream was heated to a temperature of 160 degrees to 150 degrees F and then cooled at once to a cream ripening temperature of 50 degrees to 70 degrees F. A number of comparisons were made by using this continuous pasteurizer with butter made from cream which was not pasteurized. In most of these experiments about 1500 pounds of sweet cream was mixed in a large vat as it came from the separator; this was then divided into three lots of about 500 pounds each. One of these lots of cream was churned sweet, another

was soured by means of a pure culture starter, and the third was passed through a continuous pasteurizer, and then ripened with the same starter that was used in the raw cream. Packages of each lot of butter were sent to market judges for scoring and after they were scored fresh the butter was placed in the butter cellars for several weeks and scored a second time. The comments made by the judges on these three kinds of butter will illustrate the general quality of the butter made in these different ways.

The sweet cream butter was at its best when made. It did not improve with age, but rapidly deteriorated, becoming decidedly off-flavored in three weeks' time. The pasteurized cream butter was much better than the sweet cream butter and its flavor improved or became more pronounced until it was five weeks old. After about three weeks the flavor was fully as good as the fresh raw cream butter and during this time very little if any objection could be made to it.

The body of this butter was not defective at any time. This is contrary to the general impression in this country about pasteurized cream butter. In the opinion of the writer the method of heating and of cooling the cream directly after the heating as practiced in our experiment was responsible for the perfect body which this butter showed.

The raw cream butter was at its best when first churned. It showed an aged flavor when two weeks old.

These characteristics of the three kinds of butter have been noticed before but until recently very little pasteurized cream butter has been made in this country. One reason for this has been the lack of an economical and efficient method of heating and cooling the cream as it comes from the separator.

The results of this work show that at the present time a much more uniform butter can be made by pasteurizing the cream than is the case when butter is made without pasteurizing. The advantages claimed for pasteurizing, briefly stated, are the following:

1. By using the modern pasteurizer for heating and cooling the cream, the former objections to the body of pasteurized cream butter are overcome.

2. The flavor of pasteurized cream butter may be made much more uniform from day to day than is the case when butter is made without pasteurizing the cream.

3. The American market will accept butter of a sweet mild flavor at the present time and it is more sought for than the high quick flavors which may disappear quickly and the butter deteriorate in quality as is the case with butter from raw cream.

4. Pasteurized butter will keep longer and hold its good qualities better than that made from raw cream. Most of the advantages in flavor may be obtained in pasteurized butter by the skilful use of starters, and the butter maker is much more sure of obtaining satisfactory results with starters when they are used in pasteurized cream than in raw cream.

During the past year it has been shown that sour cream may be successfully pasteurized and at the present time there are indications that unless the sour cream contains over 30 per cent. fat the pasteurizing of it brings about conditions by which a rich buttermilk is obtained when such cream is churned. A rich sour cream may be pasteurized and churned without an excessive loss of butter in the buttermilk, but a thin sour cream containing in the neighborhood of 20 per cent. fat when pasteurized and churned sometimes leaves altogether too much fat in the buttermilk and on this account may diminish the yield of butter a trifle. A further investigation of this point in regard to pasteurization of sour cream is very much needed.

The President. We will now listen to a few remarks by Mr. Monrad.

MR. MONRAD.

Mr. President, Members of the Buttermakers' Association, Ladies and Gentlemen:

The chairman said that you were going to listen to a few remarks. That shows that he don't know me. In order to

introduce myself I think the best way is to tell a little story that a gentleman down in Vermont told when he introduced me to the audience and that was about a creamery man who went into an editor's office, handed him a pound of butter and the editor looked at it and said "What is that?" He said "That is butter." The editor said, "that is not butter, that is lard. Well, he replied, "that is the butter I make according to your instructions in your paper." "The pen and ink buttermaker is the name I go by."

Now coming to this city of "clear water" I want to say one little word in favor of that city. I have been attending various conventions for the last nineteen years in the United States and this is the first convention that I have attended where the hotel people have treated me decently. In other conventions that I have attended they treated members as if they were a lot of hogs, in other words,—I want to thank the city on behalf of the Association (and I am a member of it so I think I am entitled to) for their welcome, and to give them credit for all they have done for this Association. (That is one of the few remarks).

It is about eighteen years ago when I first heard Jules Lombard sing and he won my heart that evening right straight off and he has kept it ever since, and I have never been to a dairy convention that I have considered a dairy convention unless Jules Lombard was present and favored us by his singing. It will put a Christian heart into you to hear one of his songs. To be a good buttermaker you have to be a Christian. I don't mean to be a church member but a good man. (That is another of a few remarks).

Now as to this pen and ink butter making business. You all think when you get a paper, a dairy paper, I don't care whether it is published in Chicago or New York or in Madison or St. Paul, you very often look it over and you see long advertisements in it and you say "Why should we pay for such stuff? We don't care to pay for advertising." Now, that reminds me of a little story that I run across the other day. It was about a congregation who were hard up for money and needed new hymn books. They wrote a publish-

er in London and told them their story of woe—how they had no money, and asked what they should do. The publisher said if they would allow him a little advertisement he would give them the hymn books. The minister wrote back and said that they would do that. They got their hymn books, Sunday came on and they started to sing, and this is what they sang:

Hark the Angel heralds sing,
Beecham pills are just the thing;
Peace on Earth and mercy mild;
Two for a man and one for a child."

Now, you see if you are not prepared to pay \$5.00 a year for a dairy paper, if you want your dairy paper for a dollar or so why you have got to take in the advertisements along with it like our Christian friends in that church.

It has often been said that creamery buttermakers should co-operate, and I believe that I have been one of the first to preach that; that they should be missionaries; that they should study dairying so they could advise their patrons; there are many other things that they should preach to them, and amongst those things I want to mention one, and that is the spirit of co-operation amongst the farmers. We are living in an age where these large combinations are skimming the cream of everything. We are living the age when a man like John D. Rockefeller will give one and a half or two millions of dollars to a university and then charge us a couple of cents more for raw oil to pay for it, and Carnegie can afford to donate library after library, from which the farmer will get but little benefit and he pays so much more for the steel that goes into the plows. In this age, co-operation is the only salvation for the farmer. I don't mean exactly to speak against individual creameries. I want to tell you that in Denmark where in 1882 the first corporation creamery was started, they didn't know anything about co-operation, and they had the same trouble that you have had. They have had the same squabbling, the same fighting amongst themselves, the same jealousy, but now that they have so learned the business of co-operation that they have one association of 30,000 farmers that are working together in

marketing their eggs, and that is the point which I want you buttermakers to work on. It can be nicely done in connection with the creamery business. One way to do is to get them fresh into a small refrigerator and keep them cool until you can market them, instead of going to the store. There is just as great a field for advancement or rather for economy in the egg collecting as there has been in dairying. That is just a little flea I want to put in your ear. The Danish farmers also cure bacon. There are 27 such associations.

It was said here this afternoon by some one, I don't know what his business was, but he spoke about creamery promotion, that the farmers didn't know how to build a creamery. It struck me, as it did another one of my friends, that if the farmers are competent to operate a creamery that they are surely competent to build one. Now, I tell you that co-operation is the salvation of the farmer. We have got to get together and if you get that spirit in you there is no community in Wisconsin where the farmers can't dig out four or five men to manage any business.

The President. The Secretary, Mr. Fulmer, has a few remarks that he wishes to make.

Mr. Fulmer. The remarks that I have to make are in the nature of announcements. We would like to get ten or a dozen more of the railroad certificates; this is very important.

I want to say that the butter scoring is going on as rapidly as it can be under the circumstances; I might at this time explain why it is being retarded. Mr. Collyer, the judge, contracted a very severe cold a week or so ago and his journey from Chicago here did not make him feel any better; when he arrived here this morning, the train being late and feeling indisposed, he did not start scoring until after dinner. If the members will be patient we will try to accomodate you all.

The four men of reputation, heavy weights as it were, who we were depending on to entertain you this evening, are detained by the railroads, weather, business and other things.

which seem to conspire to hurt in that respect. It has had an influence on our attendance also. But among all the difficulties that we encounter, occasionally we find some bright feature, and it was my good fortune tonight to very unexpectedly get on the trail of two renowned men of our state. I unexpectedly met them in one of the hotels, they were passing through the city on business matters and after threats of using the police force, etc., we prevailed on them to appear here tonight and I take great pleasure in extending the names of these gentlemen to our president to have him call upon them to make some remarks.

ADDRESS.

Hon. S. A. Cook, of Neenah.

Mr. President, Citizens of Eau Claire and Gentlemen of the Buttermakers' Association.

This is somewhat embarrassing to me but it may be fully as much to you before I get through. I came into this meeting rather unexpectedly, the thanks and criticisms are due your chairman, and your secretary, in particular, for bringing me here before this audience. As I sat back in the hall listening to the exercises and the explanation of your chairman I infer that you have had some disappointments here in the way of speakers for this evening but I assure you that if we could have an entertainment of this kind down in our part of the state we would feel very proud. I don't know where you would have had time to get in your big guns, that your chairman spoke of. I do not wish to disappoint you further; I desire to say to you that I am not a public speaker; my position at this time is better illustrated by a story of a business man who thought it easy to make a speech, it is not one that professors, lawyers or teachers can appreciate as they are usually ready to speak, but it is a story that any man in ordinary life, in business life, a farmer, as many of us coming up from the farm, the woods, the sawmill, the factory and the office with no time for other

than to attend to his own business, to keep from being run over by some other in a similar occupation. If there is any man or woman in this audience that thinks it is easy to get up and talk, without at least being prepared I would like to have them give attention to this story. It seems that a certain business man, as he sat back in the audience listening to the speakers thought it was easy to make a speech; he kept his opinion before his townspeople until finally some of them decided they would give him an opportunity; it was circulated that such a business man would address the audience on a subject of his own selection; they billed the town as you naturally would here if some one of your hurried business men was going to make a speech; the evening on which the exercise was to take place arrived this man still refused to make known the subject, there was a large crowd of people present and when the curtain rose they simply announced his name and that he would address the audience on his own selection; he started out by saying, "Mr. Chairman, Ladies and Gentlemen—Mr. Chairman, Ladies and Gentlemen"—he then choked up, finally he said, "Mr. Chairman, when I left my office to come here only me and God knew what I was going to say and now God only knows what I was going to say."

Now, Gentlemen of the Butter Makers' Association, I would feel very proud if I was able to say a few words here tonight that would be interesting to you and also of a benefit, to the association, an organization that represents one of the greatest, if not the greatest industry in our commonwealth. I am, "as I hope some of you know" much interested in the success of the dairy industry of our state. I have reasons to be but while I am a member of the cheesemakers' association, my time for the past four years has been so much taken up in other lines of industry that I am not posted well enough on this particular line to talk to an intelligent body of men like you who have made this industry a study for years, and who are posted, or should be, if you intend to succeed at your profession. Let it be man or woman they should be well posted if they wish to succeed, therefore, I can only say a few words, I am a better listener at any time

than a talker. I can only say a few words in a general way. To be a successful buttermaker, a man must have the same as to make a success of any other legitimate business. He must have good common sense to start with, a will to do and a desire to know how to do it, and then take just as little rest as is necessary until he has reached the high mark of his calling and when he has reached that, if he expects to stay in the business he must give it close attention as I know of no business that will continue remunerative long if care is withdrawn from it, and while it is well to talk these things over with our neighbors and compare ideas, we must depend largely on ourselves for success and not on our neighbors to carry our burdens, they usually have burdens of their own.

In our business, the manufacture of paper, after deducting the cost of the raw material, the manufacturing the paper and putting it on the market, the margin is very small and yet we are confronted with conditions at times that oblige us to take a less price. "What must we do?" We must apply a greater skill not only in keeping up the high grade of our goods but produce more without materially increasing the fixed charges or go out of the business; the same will apply to your industry. It may not be possible for you to get the price you want, at all times, or to raise the price, but it is possible for you to make better and more goods by applying skill without materially adding to cost of producing same. I was one of the pioneers of Northern Wisconsin locating 32 years ago at Unity on the Wisconsin Central railroad, situated on the line between Clark and Marathon counties almost direct east of Eau Claire. The country was then almost a wilderness and only seemed to be valued for what pine timber there was upon it. It took two days to get from Unity to Eau Claire by the way of Merrilan Junction now the trip can be made by railroad in as many hours; but the progress made by the railroads is no greater than the progress made in the development of Northern Wisconsin. I speak from experience now, when I say that the lands that had hemlock on would scarcely be looked at at that time, they considered it unfit for anything, but it has been proven

by our own experience, I mention this fact largely for the benefit of those in other parts of the state that may not know what is going on in Northern Wisconsin; it has been shown that even the hemlock lands are the most fertile for grass and for some kind of cereals that are necessary for the success of the dairy farmer, and while this great dairy industry is almost in its infancy, yet with the millions of unused lands in Northern Wisconsin, the opportunities for the dairy interests in our state are almost impossible to comprehend. And I say to you farmers, buttermakers and cheesemakers, it is possible that you differ somewhat in your methods but you are more or less depending on each other, if you will get together, talk over what is for the best, for all, ask and insist on just and fair legislation for all, not the ginger bread kind of legislation, but good, honest every day bread, butter and cheese kind, then with a good degree of harmony existing and with a knowledge and a will to do, you must succeed.

I have another story that I want to give to you before I sit down so that you will not feel that I am wholly responsible for this talk. An old gentleman had some neighbors, they hadn't treated him very well through life; he was on his death bed; the minister told him that he must forgive his neighbors as he hoped for a happy future beyond the river; he said, it was pretty hard to forgive those who persecuted him through life; but the minister insisted that he must forgive; so he said, "send for all except Jones" a neighbor that had treated him cruelly through life; he could not forgive him; but they insisted that he must forgive him; so he finally told the minister to send for Jones, Jones came; the sick man was near death; he said "Jones, the minister says that I must forgive my enemies if I expect a happy future, Jones, it is not an easy thing to do, but here is my hand, I am going to forgive you but Jones remember one thing if I get well, this don't count." So my friends in being called out before this meeting as I have been, if what few things I have said are not satisfactory, I forgive you as above.

I thank you for your kind courtesy extended to me.

The convention was also entertained and interested by an address by Ex-Attorney-General E. R. Hicks.

THURSDAY MORNING SESSION,

February 4, 1904.

The President. Meeting will please come to order.

Mr. Fulmer will read Mr. Gipple's paper on Buttermakers' Wages from a Consumer's Standpoint. Mr. Gipple is unable to be here.

Mr. Fulmer. I regret exceedingly that the writer of this paper couldn't be with you. I am sure he would do it a great deal more justice than I will be able to do. Mr. Gipple is not a creamery man. The paper is written on the subject of "Buttermakers' Wages from a Consumer's Standpoint." Mr. Gipple has no interest in the creamery only as a general consumer of butter.

BUTTERMAKERS' WAGES FROM A CONSUMER'S STANDPOINT.

B. F. Gipple, Galesville, Wis.

The average man who buys a pound of butter from his grocer pays for it, takes it home, consumes it and gives the matter no further thought, unless it be to remark that the farmer has no reason to complain of the share of prosperity allotted him.

We all remember when a quarter bought two pounds of butter instead of one, and when the farmer's wife who contracted her butter for 15 cents per pound the year round felt amply repaid for her product and was the envy of her less fortunate neighbors.

The advance in price came with the creameries. Previous to that time, excepting during the winter months, butter was a drug on the market. All the other troubles the country mer-

chant had were joys of life when compared to the butter end of the business. My father was one of these merchants in those trying times and annually handled tons of stuff called butter. Every woman in the community made "good" butter, and to intimate that her product was not gilt edged was sufficient to drive her out of the store; and not a few of them would have felt less injured to have had the merchant thrust a trier through their ribs than into a jar of their fancy stock. The butter business was worse than a night-mare, and the merchant who played even considered himself lucky—and he was.

But all this became a thing of the past with the advent of the creamery, and the average price of butter has gone up 100 per cent.

Do we consumers kick? Not a bit of it; but anyone who will give the matter a moment's thought must admit that the man who makes this value possible is not receiving a fair share of the spoils and that the producers' rake-off is too extensive.

Of course, the producer can't see it that way. Ask him to whom the credit is due for the changed conditions of the dairy market and he will tell you of machinery and modern methods, and point with pride to his full-blood stock. The buttermaker never enters his mind—not his. And yet there is no getting around the fact, that while machinery, method and cows have served their purpose well, like Uncle Sam's navy where the man behind the gun is pretty much the whole thing, the price of butter today is largely due to the man behind the churn.

Now it is not to be inferred that the consumer lies awake nights figuring out just what percentage of the retail price of butter should go to the buttermaker; but occasionally one of us is asked for an opinion, and he is not slow to respond. I believe we would all agree that the buttermaker is the hardest worked man in the community. He goes to his work mornings when his friend the farmer is still tucked in bed, and he is hard at it nights when the man of cows is dreaming of his profits and his snores reverberate among the rafters, He has only a hazy recollection of holidays and an offer of a

summer vacation would give him heart failure. Not infrequently he is obliged to shatter the third commandment and the second is always in the way. The enjoyments of his fellow citizens are not for him and only on rare occasions does he mingle with the public. For all this he receives a very ordinary stipend, nor does he know at what moment some half-trained cheap-guy will be given his place.

The wage trouble with the buttermakers is largely due to there being so many co-operative creameries in operation. Business with farmers is always conducted along different lines than with others. Rules that obtain generally throughout the business world are not at all applicable when dealing with the tillers of the soil. This has come about in the process of time and is the result of sharp practice employed by the early traders who gave the rural folks the short end of a deal at every opportunity. And so it has come about that the farmer whenever he has dealings with the world at large is a bit suspicious, and he has also learned how to dispose of gold bricks himself. When it comes to salaries, he sees but little labor attached aside from drawing the money. A buttermaker is a buttermaker to him, and the fellow who will do the most work for the least money often stands highest in his estimation. When he becomes a director in a creamery he carries his suspicions with him and runs amuck of the buttermaker about the first turn.

There is a gradual change for the better in this direction and it is being made through the agricultural colleges. The graduates from these schools return to the farm with broader ideas of business and with an increased appreciation of the difference in men and things no matter how close is the superficial resemblance. Most of these young men sooner or later become directors in home creameries and they will be inclined to pattern after the great corporations, so far as good business methods are concerned. They will place a right value on buttermakers, and salaries will go up, not down, when the right man is found in the right place.

The above statement may sound very much like a dream to the members of this association. The change will come slowly, and for quite a time yet most of you fellows will be

held responsible for everything from the wear and tear on the keyhole of the factory door to the status of the eastern market and will be looked upon by the majority of stockholders only as necessary evils.

Go into any country town of a thousand or more inhabitants and you will find a general store with a business running from \$40,000 to \$75,000 per year. Look around and you will see from six to a dozen clerks with salaries aggregating \$250 per month. Then walk down to the creamery and you will find a plant turning out as many dollars worth of butter each year as the big store sells goods. The buttermaker is probably receiving from \$50 to \$75 per month for doing everything from building fires to putting the finished product in the tubs—unless the directors have generously furnished him a helper.

The man who is responsible for \$60,000 worth of product is entitled to the confidence and respect of his employers and a salary commensurate with the position, and not a tap of physical work should be required of him. If he is capable of handling that amount of business at a profit, his brains alone are worth all he receives. There isn't a gathered creamery in the state that should pay its buttermaker less than \$100 per month and many of them should pay twice that if there is to be anything like a fair division of spoils.

As a consumer I want to go on record as declaring the average buttermaker in Wisconsin to be an overworked, undervalued, underpaid individual. I have never known one that wasn't entitled to a medal in this world and a harp in the next.

The President. We will now listen to a paper read by Mr. E. K. Slater on "Starters and Cream Ripening."

Mr. Slater. When your secretary assigned me to the subject that he has I was placed in about the same position as the confederate general, as the story goes. There was a confederate general toward the close of the war drawing his troops up in a line of battle and it was at the time of the con-

flict when things were going pretty much against the confederate cause, he was drawing his army up and he noticed that the enemy were ready for an attack and as they came out around a strip of timber and drew up into line, he thought of his home and his friends and all those he had left behind, and just at that moment a cotton tail rabbit jumped out, skipped across the country, he looked up and said, "go it, old cotton tail, if I hadn't have a reputation to sustain I would be with you." I felt like backing out when I was assigned this subject. In fact there is so much that might be said on this subject of starters, it seems to me that if I covered the whole thing that I would be taking up the whole morning and no time left for the next one.

Pasteurization of Hand Separator Cream, Starters and Cream Ripening.

E. K. Slater.

It cannot be gainsaid that your worthy secretary has assigned me a most liberal subject and I have been quite at a loss to decide, to my own satisfaction, by what course of reasoning he arrived at his decision, to burden me with this tremendous topic. Be that as it may, I must confess that I experience considerable pleasure and satisfaction in standing before this representative body of men engaged in one of Wisconsin's greatest and most glorious business interests—that of dairying. Coming as I do from your sister dairy state on the west, allow me on behalf of the great dairy industry of Minnesota to extend to you our hand of fellowship and expression of kind greetings, and to assure you that we appreciate the fact that perhaps a large portion of the credit due to the success of our dairy interests belongs to the fact that we live so close to as good and so glorious commonwealth as your own Wisconsin.

The first division of my object, viz, "The Pasteurization of Hand Separator Cream" I will dispose of in a few brief words and pass on the remaining portion, "Starters and Cream Ripening." In view of the fact that the subject of

pasteurization of cream for buttermaking is so important, and that its treatment would require a great deal more time than I feel disposed to consume, I shall not attempt to dwell at length upon the principles of pasteurization and the desirability of their application to modern buttermaking; suffice to say that I believe, as honestly as I believe that the sun will set this afternoon, that pasteurization will figure very prominently in our buttermaking methods of the future. I believe that the day is fast approaching when the cream pasteurizer will be recognized as a very necessary article of creamery equipment and that no factory will be considered complete without one.

I feel that the subject of pasteurizing hand separator cream is an important one, inasmuch as the hand separator is fast taking its place among the factors concerned with dairying, and I believe that we must look to pasteurization to aid us in producing butter of the finest quality. If I am not seriously mistaken, however, there is danger ahead, and we must bear this thought in mind. I believe that in welcoming pasteurization as a means of improving the flavor of our butter that we are inclined to regard it as a panacea for all the crimes committed upon the milk or cream, and that we are prone to adopt it as an excuse for careless methods. While there is no doubt that the pasteurization is a desirable addition to our methods of butter making, it does not remove the fact that we must have good cream in order to make fine butter and I believe that the success of the method will depend upon our dairymen and buttermakers keeping the fact well in mind and acting accordingly. Let us use pasteurization as a means of assistance rather than as a medicine. It is a well known fact that a large amount of the hand separator cream delivered to our factories is of inferior grade, and it appears to me that if we are to adopt pasteurization as a means of assisting us in making butter from this cream we must appreciate still more the importance of securing the best quality of cream possible. If we are going to look to pasteurization to help us make fine butter regardless of the quality of our hand separator cream we will not be working in the

right directon. Progress in butter quality will only be secured through improvement in the quality of the raw material, and just as soon as we lose sight of this fact, just so soon will we meet with failure.

I can see no good reason why we should discriminate between hand separator cream and cream skimmed at the factory in this respect. As long as we have cream which will make good butter I am convinced that pasteurization will improve it both in flavor and keeping quality, but when that point is reached in the deterioration of the milk or cream when it will no longer make good butter it is past redemption, and nothing less than renovation can save it. I believe, however, that pasteurization, while it can not materially improve the quality of the butter churned from very poor cream, will improve the keeping quality of the product. It was my good fortune to be able to carry on a few experiments in pasteurizing sour hand separator cream during the past year, and as a result of such work I am convinced that no great improvement in the flavor can be accomplished by pasteurizing, although the flavor is changed somewhat. The butter had what I call a "floury" (not the bouquet kind) flavor, almost "mealy" to the taste, but still retaining whatever rancidity the cream possessed. The butter would retain whatever flavor it had, however, longer than that made from raw cream, and would not "fall down" so readily as old cream butter generally does. I am not, however, an advocate of the pasteurization of rank, sour hand separator cream as I believe by so doing we would be working against our best interests. Let us rather work in the other direction, secure the raw material, whether in the form of milk or hand separator cream in as good condition as possible and then adopt pasteurization as a means of assisting us in producing a fine article of butter. I have never experimented with doping sour, stale cream with soda or other alkalis, but don't believe in working along those lines.

Let us now direct our attention to the latter section of my topic. The subject of starters and their relation to the cream ripening is a live one and has been receiving a great amount of study by our best men during the past two

years, especially. Whatever remarks which have gone before in regard to improving the quality of our butter by means of pasteurization will apply equally as well to the subject of starters—when we shall use them or whether it is advisable to use them under all conditions. I have endeavored to emphasize the fact that doctoring rancid cream by means of pasteurization will not result in producing fine butter, and I wish to also include the assertion that no amount of starter will accomplish this result either.

With cream in proper condition the use of pasteurization and a good commercial starter appeals strongly to the student of the subject of cream ripening, as they recommend themselves as means of carrying out the principles of bacterial development.

It is no longer a question as to the advisability of using a good commercial culture in the manufacture of fine butter, in fact all concede that it is absolutely necessary for best results. Not many years ago—not so long but even our younger buttermakers can well remember—the starter was not generally considered necessary in carrying on the process of cream ripening, and none except a few “cranks” troubled themselves about its use. These gentlemen have since demonstrated, however, that it takes a good starter to win a gold medal. We are now living in a different age, and our methods of creamery management have undergone great changes.

In making the assertion that we may improve the product at our creameries by the addition of a good starter, providing the quality of our cream will admit, we imply, of course, that there is a certain limit under which we must carry on our work. The question arises as to where we shall establish this limit, or to what degree of deterioration the cream must reach before we will discontinue the use of a good starter. In the first place, sour cream can not be improved by the use of a starter, as the bacterial growth is already accomplished. It remains, therefore, to draw the line somewhere below the acidity point. As a general proposition I am not going below this limit and will stand quoted as asserting that we may improve the quality of our butter by means of a starter if

our cream is not sour when received at the factory. Now, please do not understand me as contending that we may be able by use of a starter to make fancy butter from poor cream just because it is sweet. As long as we are provided with a medium for the propagation of lactic acid bacteria, just so long may we be able to introduce our starter and accomplish the result sought for, viz, the souring of the cream by the lactic acid germs. The extent to which we may improve the quality of our butter will depend upon the quality of the cream, providing we do our part in the work. We can make better butter from poor milk than we can from poor hand separator cream. This is true because we are able to skim out some of the impurities in the milk and we are also enabled to skim a thick cream which may be diluted with some good whole milk and thus reduce the number of objectionable bacteria in a given quantity. In dealing with hand separator cream we cannot utilize the dilution process, on account of the average low content of butterfat, which is in most cases already too low for clean churning. Where circumstances will allow, however, we may dilute the hand separator cream with milk or water and run it through the factory machine and skim a thick cream which may be diluted in the same manner as our factory cream.

The starter will accomplish the best results in good cream, and this is due to the fact that the bacterial content in that cream is at a low point, thus furnishing an extensive medium for the propagation of those desirable germs which we wish to introduce in the form of a starter. The lower the germ content of our cream the better results will follow from the use of a starter, and this is why we find it desirable to skim a thick cream, when possible, and dilute it with milk comparatively free from bacteria.

During my travels among the creameries of Minnesota, especially in the western part of the state, I have visited a large number of creameries receiving both hand separator cream and whole milk and often—yea, too often—I am met with the assertion by the buttermaker that he doesn't need a starter at his factory. The hand separator cream is starter enough, and in fact he actually does use it with which to ripen cream skimmed at the factory. He does not

consider it as a real starter, perhaps, but by mixing his whole product together he is virtually carrying out the principles of cream ripening, but without regard for results. I will admit that in some instances this is absolutely necessary, as in the case of the buttermaker who received a large amount, perhaps nearly all, hand separator cream. At the majority of our factories, however, a small amount of the raw material is cream, and in such cases it is quite possible to keep the hand separator and the factory cream separate until the latter is ripened by the aid of a good starter. Cool the hand separator cream if sour, down as low as possible and keep it in a tank or other receptacle until the cream from the factory machine is ripened and cooled to churning temperature, then the two products may be mixed together. The ripening process should be so conducted that the different batches of cream may be mixed together the evening of the same day they are received at the creamery. Of course such a procedure will carry whatever objectionable flavors may be in the hand separator cream into the butter but they will not be as much in evidence as they would if they were introduced into the sweet cream as it came from the separator. I am convinced that a great deal of the trouble in butter quality at our creameries which are receiving a small percentage of hand separator cream might be overcome if our buttermakers would only apply the most common principles of bacteriology and cream ripening to their work.

The use of the pasteurization and starters, combined with a scientific knowledge of cream ripening and bacterial development affords the modern buttermaker a means of complete control over the quality of his butter, providing he does his part and accepts nothing but good, sweet milk and cream. The buttermaker who is making a close study of cream ripening is of course interested in the subject of to what acidity he shall ripen his cream.

Without consuming more of your valuable time I am going to close with the statement that I believe there is a happy medium which we should endeavor to reach and not allow ourselves to be led astray by the advocates of either

extreme, high or low ripening. There is usually a happy medium which is more desirable than either extreme.

Let us combine our knowledge of pasteurization, starters and scientific cream ripening, never losing sight of the fact that it takes good milk and cream to make good butter, and let us make our business more of a science in the coming years than ever before.

Mr. Slater. Speaking about the subject of butter, reminds me of a little story that I read in the paper last night coming down on the train; a little boy was telling a friend that came to call at the house how strong butter was; he said that he found something that could get away. He claimed that his mother could take his father down and hold him there, but he said she went down to the store the other day and got some butter and he said "she got it down all right but she couldn't hold it there."

Mr. Monrad. While we haven't had much of an audience, still I think it is more of a representative buttermakers' audience than we have had before; it seems to me this question of starters is a very important one and hope we will discuss this matter.

Mr. Fulmer. As long as discussions are in order, I would like to ask the speaker what he would consider in his judgment is high ripening, low ripening and medium ripening.

Mr. Slater. I was referring to the percentage of acidity that we should develop in the cream before churning. Say we have 30 per cent. cream, we should develop the acidity to perhaps 33 or 34 per cent. or C. C. acidity, that would give us something like 6-10 of 1 per cent. acidity. In Minnesota, you perhaps know, that we have been cautioning our boys toward low ripening; we have secured some good results by that but I think that we have them low enough. Some of our boys ripen 31 C. C. or about 55-100 per cent. We don't want to go below that point. I like about 33 or 34, C. C. or 6-10 acidity for 30 per cent. cream 35 or 40 per cent, cream ripen at a trifle lower percentage acidity. 30

per cent. cream to 6-10 per cent. acidity. 35 per cent. cream to 55-100 per cent. 40 per cent. cream wouldn't ripen over 5-10.

Mr. Monrad. Where is your high limit?

Mr. Slater. The high limit of 30 per cent. cream I would place at 38 C. C. I don't believe in going that high. I wouldn't place mine that high. That is what I mean by high ripening. 36 to 40 C. C. or 7-10 per cent. acidity; I would like to keep it lower than that and not go above 35, about 6-10 per cent. acidity; then vary accordingly as we have a richer or a thinner cream. That is the acidity when I churn.

Mr. Monrad. What temperature do you ripen it?

Mr. Slater. At sixty-five. I don't believe in too high ripening. A good starter will ripen the cream at about 65 or 60 degrees. I like that very much.

Mr. Monrad. Do you think it is going to improve the very best cream that you can get, either hand separator cream or the places where the milk has been handled in the best way, it is going to improve the cream to pasteurize it?

Mr. Slater. With the experience that we have had so far in pasteurization, I would say that it would. I am that much of an advocate of pasteurization. We have made some bad breaks in our pasteurization. We have done it right in Minnesota; the boys have taken up the practice of pasteurization with a starter of milk and cream and they have made a bad job of pasteurization in a good many cases. But pasteurization if it is done properly, if handled right, will help some.

In the western part of the state where I visited a great many creameries, the hand separator cream all came in sour; that is the condition we have there. The sour cream was all kept separate and only used as a starter. I don't see why we should draw a line between hand separator cream and the cream skimmed at the factory.

A Member. I would like to ask the gentleman in pasteurized skim milk for a starter, to what temperature would he heat it?

Mr. Slater. 190 or 200 and hold it there for twenty or thirty minutes, depending on the quality of the milk. In selecting

our milk for a starter we cannot always get just the quality we want, and if we are a little doubtful of the quality of our milk, I believe in a little higher temperature and hold it there longer; use 200 as a limit.

A Member. How is the best way to heat the skim milk?

Mr. Slater. Any of the starter cans that are on the market.

A Member. Heat it by direct steam?

Mr. Slater. No, it isn't advisable. You can have some water in a barrel, set your can of milk in there and then stir with a stick or long dipper; apply your heat to the outside of the can. I don't believe that any of our waters are clean enough and pure enough to use direct steam.

A Member. Isn't it advisable in some instances to add water to the skim milk in order to thin it down for a starter?

Mr. Slater. I don't know; I have never tried it.

A Member. I understand that it is advised to add water to the milk before pasteurization and then pasteurize the whole thing; wouldn't do to pasteurize the milk and add water that is not pasteurized.

A Member. What is the object in thinning the skim milk with water.

A Member. So that the bacteria won't start quite so fast.

A Member. Do you advise the maker to stir the starter?

Mr. Slater. I don't think it is necessary.

A Member. If you are churning two or three times a week do you make a new starter every day or hold it at a low temperature?

Mr. Slater. I would not try to hold a starter down cool and use it in two or three days. Say this is Thursday morning we are running this morning and going to run again Saturday morning. I would heat my skim milk, heat it up and cool it down, then I would take out some milk in a jar or several jars and set a small starter or three or four of them, pasterurize the milk in a big can, cool that down to fifty degrees and hold it there until twenty-four hours before you want to use your starter; set your starter this morning, cool the milk in a big can down to fifty degrees or below. Friday morning we will warm up this milk in a big can, it isn't absolutely necessary to warm this milk in a big can; use your

other starters that you have; they will coagulate tomorrow morning so you will be ready for Saturday morning.

A Member. Where there is no skim milk on hand will you have any success in pasteurizing cream?

Mr. Slater. I don't think so. One of our boys in Lyon county tried that and he had very poor success. He has given it up. He is securing milk for his starters.

In the matter of selecting milk I followed the plan of paying a man extra for bringing his morning's milk and having it properly taken care of. I had a patron living a mile from the creamery who took good care of his milk. I wanted morning's milk for a starter and he wouldn't stop to cool that and I couldn't expect him to do so; the other patrons didn't. I gave him ten pounds of milk extra on his weight every time he came to the creamery, for taking his morning's milk and cooling it down and bringing it. I certainly got some nice milk in that way.

A Member. You made the statement that when you make butter every other day, you preferred to take pasteurized milk and keep it until the next day and make your starter every day; don't you think it would be better and safer to keep your starter.

I agree with you I wouldn't like it ripened for 48 hours, I would ripen it in the proper time, I think I would be inclined to keep the starter, as soon as it is ripened keep it cool on ice, put it on ice and keep it cool rather than keep pasteurized milk from one day to another.

Mr. Slater. That may be a matter of personal choice. I didn't like it as well, perhaps I let my starter get too ripe, at the end of the second day I generally had a starter that didn't make another good starter. My starter would go off.

If you do the way you say it is certainly necessary to pasteurize the milk; to heat it for half an hour, it is not safe, in my opinion, to keep pasteurized milk for another day and make your starter with that. It must certainly be held at 190 for two hours if it should be safe to keep pasteurized milk over; if you set that for a couple of days' time it will go off.

We are using that method entirely. We generally try to hold at that for a long time.

Mr. Schuknecht. I want to say a word for the benefit of the buttermakers; after leaving creamery work I traveled for something like five years now in several states and having advocated pasteurization and starters a good deal and it is pretty natural for me to keep an eye on my herd, as it were, and I found that the principal difficulty in making a starter in the average creamery is an adherence to the old theory of 8, 9 and 10 years ago, of a burnt flavor; the old buttermakers remember that, they used to talk about burnt flavor.

I am willing to go on record as saying that you can't heat the skim milk for a starter to hot or hold it there too long to make it good; the longer you keep it hot the more thoroughly you sterilize it. You can't hold it there too long. I have, when I was in a creamery, run a starter along for more than six weeks and at the end of that time the starter was still good. I was very particular about taking care of the utensils and sterilized them thoroughly and all that, leaving us chance for any contamination and it wouldn't be possible to carry a starter that long unless you sterilized thoroughly. That is one thing that I always try to impress; don't be afraid to heat it. In heating it that is the success of making the starter. The more thoroughly heated the better the starter. The cooked flavor is what I am trying to say is what doesn't do any harm; don't for one moment be afraid of that cooked flavor. You must sterilize and you must get all the active germs out that it is possible to do.

A Member. There is also a point there in regard to using whole milk and skim milk; I have made just as good starters from whole milk as from skim milk. In the morning you can skim off the cream, it doesn't contain as much flavor. I do like to use a whole milk starter. I have used them and had very good success with them; the oily flavor to the butter seems to pass off in the butter-milk and doesn't have any effect whatever. Just as soon use them as not.

A Member. I think the best way to do is to re-heat it the next day and to heat it while you are churning; you can do it while you are churning.

A Member. What per cent. of acidity would you consider a starter injured at?

Mr. Slater. 7-10. You can run it higher than that, you can run it up to 8-10, by judicious handling you can run it up all right; I don't like to have it run higher than that. In our Dairy School work we kept a record of each day's work and a record of each starter; invariably where we found a starter run to 45 C. C., or 8-10 per cent. acidity in three or four days that starter would be off.

A Member. I have had trouble with starters; I don't know whether I keep it hot enough. I never had a starter can; I would like to ask something about a starter can; are they as much trouble as the cooling cans?

Mr. Slater. No trouble at all.

The President. There is one point, the fact that pasteurizing milk does not kill anything but the bacteria, there are remaining seeds that the heat doesn't affect; after you have allowed your milk to cool down, a re-heating, of course, would kill them.

Mr. Monrad. I want to back up what Mr. Schuknecht says, that there is no reason to be afraid of burnt flavor in a starter. When I was in Kansas I had some experience. We didn't have any cooling facilities at the skimming station; I think the team started at 11 a. m., and didn't get to the creamery until half past two. Then I cooled it, and there was a terribly burnt flavor in the cream. At least we all agreed there was a terrible burnt burnt flavor in that butter, but when I got down to Chicago about seven days after it was churned the Judge found no fault with it, I couldn't make him say it was a burnt flavor; Mr. Collyer couldn't find any burnt flavor; with a starter there is much less danger of it; you needn't fear that there is any burnt flavor in the starter; the one thing is to get it thoroughly pasteurized.

The President. We have received a letter from Mr. Kelling, that on account of the man who he engaged to take his place could not do so, will be unable to come, however, his paper is here and Mr. C. T. Bragg will read it for us. Just before Mr. Bragg commences, Mr. Fulmer wants to make some announcements that he has to leave us for a few minutes.

Mr. Fulmer. Mr. Kieffer is listed on our program for to-

day; here is the telegram that I received from him,
 Des Moines, Iowa, Feb. 3rd. 1904.
 "F. B. Fulmer, Secy. Buttermakers' Assn.,
 Eau Claire, Wis.

Owing to some legislative duties am unable to be with you.

212. p. m.

W. H. KIEFFERS."

Mr. Fulmer. It seems as though they must be after the "politicians" in Iowa. We also have one from S. B. Shilling.
 Des. Moines, Iowa, Feb. 3rd, 1904.

"F. B. Fulmer, Secy, Buttermakers' Association,
 Eau Claire, Wis:

National Dairy Union sends greeting, hope you will have successful meeting.

S. B. SHILLING, President.

We have a message by telephone that there will be some arrivals in the city this afternoon who will have railroad certificates with them. We at the present time lack four of the requisite number; I understand that there are about half a dozen in that party, so you see "salvation" is ours but at the same time if any of you know of a person who is still holding a receipt for a ticket, or money paid for a ticket, urge them to deliver it to the Secretary; it is no earthly good to them without the Secretary's signature; I found two or three this morning that were keeping them fearing that if the Secretary got hold of them they would be losing a fortune. With your permission I will be excused and see if I can hurry the matter a little further.

BENEFITS I RECEIVED AT THE SIX MONTHS TEST.

By F. H. Kelling, Jefferson, Wis.

Mr. President and Members of the Wisconsin Buttermakers' Association:

The subject assigned me, according to the program, is, Benefits I Received at the E. Contest for 1903. My paper will

be brief. But allow me to congratulate the members of the National Creamery Buttermakers' Association for having an executive board which made this test possible which has been conducted for the past two seasons, with the aid of the United States Department of Agriculture, who are also working for an advancement in the art of buttermaking.

The Educational contest is bringing forth good results especially so, for those that stay in the entire test. Probably some of the boys, may think not so with me as my average shows up better for the three winter months than three summer ones. But I do believe that all are well aware of the fact that we had an awful poor summer for making fine butter on account of the excessive rains, and by looking over Mr. Soli's letter in the Produce of a few months ago, you will see that he agrees with me on this subject, and if I should have installed a cream pastuerizer as did he, probably I would also have made a better showing in the summer months, but I do think there will be one in my factory before another summer goes by. Probably some of my brother buttermakers may think I have a fine factory and am receiving fine milk. Not by any means, and right here is where I say, use plenty of good starter, skim a very heavy cream from 40 to 50 per cent and by doing this there is a good share of the poor milk removed from the cream then dilute with good whole milk, which will undoubtedly produce a good or better piece of butter than to skim a 25 or 30 per cent of cream, and let it ripen on its own accord for we all well know those are things of the past, as I will have our Mr. President read a letter to this effect, if I can find it:

My experience has been as follows: The First or February call, I received a score of 93 points, remarks on this tub were: Fine butter, trifle oily, and feverish. The criticisms from Expert B. D. White were: Oily, poor milk, wintry, kitchen flavors, use larger per cent starter. So I increased the starter to double the amount I had been using, ripening for shorter length of time and the result was that at the Waukesha convention two weeks later I received a score of 96 points.

The Second or March call I received a score of 96 points, remarks: Fine piece of butter but shows slightly poor milk,

trifle acidity, otherwise perfect.

The Third or May call the tub showed a score of 96 1-2 points and the remarks were: Fine piece of butter, have no suggestions to make keep on.

The July or Fourth call I received a score of 94 points, good piece of butter but not clean, poor milk, fatty, which the expert stated this is caused by the milk standing in the sun in cans. I did not expect the score I got as we were having rain almost every day, and this certainly does not make fine flavored butter.

The August or Fifth call I received a score of 96 1-2 points, remarks were: Fine butter, keep up the good work.

The October or Sixth call I got a score of 93 1-2 points, remarks were poor milk, and bad oily flavor. Of course in the fall of the year there are a great many drawbacks, as people feed such as cabbage, rutabagas and a great many other things that are not fit to be fed to a dairy cow.

I also ripened a trifle too long which produced a sour flavor. I knew at once it would not be a very high scoring tub for I tried the butter five days afterward and found that it was then quite sour.

I also had a tub at the State Fair where I received a score of 96 3-4 points.

In conclusion I wish to state that I am right with the boys for 1904 which is in connection with the World's Fair at St. Louis.

The President. We have with us Prof. Haecker; it may be advisable for Mr. Haecker to give us his talk this afternoon when possibly we will have more of the neighboring farmers here.

Mr. Loomis will give us his talk on the "World's Fair Butter."

We will also have a talk by Mr. Monrad, on "Butter Color." "Notes from a Commission Man," by Mr. Burrige.

I have a letter from Prof. Henry; he tried very hard to get here and this is the letter that he sent Mr. Barber:

"Madison, Wis., Feb. 1st. 1904.

"J. T. Barber,

"Eau Claire, Wis.,

"My Dear Sir:

"The telegram sent by Mr. F. B. Fulmer was promptly answered by me. I told him that it would be impossible to come. This week is one of the busiest of my life. Students are coming into my office every few minutes making arrangements for closing up this term's work and beginning next term's work. I have several meetings of importance to attend, held by different organizations with which I am connected in the city. There is a meeting of several agricultural societies and finally our Farmers' Course instruction. To leave these for as much as a day would be to block matters and throw everything in confusion. It is the worst week in the year for me to leave Madison. This true, I think you will gladly excuse me from attendance. I would like to be present and to say something concerning Northern Wisconsin, a subject as you know on which I am always ready to aid in by pen and voice and every other way possible. Fortunately Northern Wisconsin is now well advertised and people are moving in rapidly for settlement. Northern Wisconsin is destined to become a great cheese and butter producing region. Nature has so destined it and there are powerful forces at work in that direction.

"Yours truly,

"W. A. HENRY, Dean and Director."

THURSDAY AFTERNOON SESSION,

February 4th, 1904.

The President. We will have the pleasure of listening for another time to Jules Lumbard accompanied by Miss Southworth.

Mr. Lumbard. This is the last day of the convention and you have got business to do and we are not going to turn this into a concert. I will sing you a little Scotch song. I want

to say that I am glad to have met you all and hope that I shall meet you a hundred years to come.

SONG—MR. LUMBARD.

Mr. President. As Mr. Haecker is not here we will now listen to "Notes from a Commission Man," by Mr. Burridge.

Mr. Burridge. Yesterday Prof. Emery prefaced his paper by telling a little story; I am going to tell you one; it is an old one; it illustrates my position. At one time a minister was very unexpectedly called on to address an agricultural meeting; he arose in his place, much embarrassed and he said "ladies and gentlemen, I don't know why you should call on me to address an agricultural meeting, I don't know what to say, the fact is I don't know Birdox from Orthodox."

NOTES FROM A COMMISSION MAN.

E. J. Burridge, Cleveland, Ohio.

There are many things I would like to talk to you about. For instance, my experience as a Butermaker and Creameryman in Wisconsin; of the organization of the first Buttermakers' association; of the trials and tribulations of the first Creamery paper published; of the joyous life of a supply man, for all of these it has been my good fortune to gain more or less experience. But this time we will deal with a different subject.

The position occupied by a Commission Merchant in the Butter trade is not generally appreciated by the Shipper. There are exceptions, but in the course of our business it seems as if the average Shipper tolerated us only because he is unable to market his product in any other way. Why this should be is not clear. We maintain expensive business establishments, create demand, carry heavy lines of credits, and pay whatever losses we may have. We also secure for the Shipper, stable prices and more money for his goods than he could get by selling them to the trade direct. It is a pretty safe proposition that the price secured by the seller is enough greater than he could get for himself, to pay the cost of selling and that

therefore he secures the services of the Commission Merchant without cost.

This cost of seling is not paid either by the Shipper or the Producer. It is a generally accepted economic fact that the Consumer pays the tax. By no process of reasoning can we get around this fact and it follows in a natural sequence that the Shipper secures the services of the seller free of charge.

If this is so it follows that the charge for selling, like the charge for freight, is a fixed one, that both of them are paid by the Consumer, and that therefore they cannot be regarded as a tax on the Producer. In support of this we state that it is a fact that the markets receiving goods mostly on commission, average higher prices for the year than those markets whose receipts are chiefly on a contracted basis.

There is one thing that we should keep in mind, and that is that we are taking for granted that as a Shipper you are sending your Product to a Butter house with an established trade. There are many houses that solicit Butter shipments, who have no regular outlet for them and who have to shade their prices in order to sell the goods. This shading of prices is usually borne by the Shipper, but it is not a necessary one, for the reason that there are plenty of Butter houses to handle the entire Product and if all of the goods went into such channels it would be better for all concerned. For the Shipper because he would get the benefit of the best facilities, and for the Butter house because they would not have to meet the prices made by those that have no regular outlet for the goods.

Butter is perishable, it must be sold quickly, there must be regular channels for your output. The first suggestion then is: Send your Butter to a Butter house and do not consider the charge for selling any more than you do the transportation charges.

Contracting vs. Consigning:

One of the very worst abuses that has crept into the Butter Business, from your standpoint, is the practice of contracting and the paying of apparent premiums. The practice is fair from the standpoint of the man who makes goods that will barely grade Extras, but radically wrong when applied to the

men who make better goods. It puts the maker whose goods score 97 on an exact level with the man who has a score of barely 93. Everything above the latter is an Extra, and under such a system, the Buttermaker who is trying to improve his product might better put his time to some more useful purpose.

It is a self evident fact that the Product of each factory should be sold on its merits. You get below Extras and the goods vary in price according to the quality. A First may be, a First, a good First, or a Commercial Extra, all on a few points of variance. The price on a second also varies according to the quality.

What a proposition it is then, that an Extra, our best grade, is an extra only. I believe that the Creamery making strictly fancy goods, will get more for their goods the season through, if sold on commission, than they would by contracting. We, I know, have factories shipping on consignment who are doing better, making more money and paying higher prices, than their neighbors on a contract basis. Every Butter house can cite you such cases. The second suggestion I would make then, is, for the factory making strictly fancy goods, to have their goods sold on their merits.

Promptness in Business Matters.

My third suggestion would be, that in business matters you display at all times, promptness. When you receive a letter calling for a reply, answer it. You would feel hurt if your letters of inquiries went unanswered. The other man is entitled to the same treatment you expect.

When forwarding goods, always send advices. When you have a shipment containing goods not up to your usual standard, always mark such and advise the dealer. Never under any circumstances use a tub showing even the slightest speck of mold. Put your tins on evenly. Don't put a pound of salt on the top of your Butter and expect to sell it for Butter prices. In hot weather the salt is a good protector against the heat and it is a good plan to use it.

Be prompt, be courteous, and you will be treated with promptness and courtesy. Remember that in all walks of life,

in all vocations, in all lines of business, there are chances for improvement and advancement, that come to those who are diligent and patient, and that your success, my success, the success of all, will be measured by faithfulness and ability.

WISCONSIN DAIRY EXHIBIT AT ST. LOUIS.

By Hon. H. K. Loomis, Sheboygan Falls.

Mr. President and Members of the Wisconsin Buttermakers' convention:

It is a pleasure for me to meet with you today to become better acquainted and to talk with you for a few minutes of the Dairy exhibit at the St. Louis World's Fair to be held next summer. When we think of the vast amount invested in the dairy business in this state and the great revenue derived from it each year it seems to me every dairyman, every creameryman and every buttermaker should be interested in the several contests that are to take place at St. Louis during the summer. Wisconsin has about \$150,000,000.00 invested in the Dairy business and the past year we have derived a revenue of nearly \$40,000,000.00. I am aware there are some people, even some people who are engaged in the business, who look upon these exhibits as worthless to them or to the state. If there are persons present who think this way I would like to call their attention to the results of some of the exhibits made at these great Expositions. The first exhibit of dairy products outside of the state was made in 1876, at the Centennial in Philadelphia. At this time we had begun to ship some cheese east but in nearly all cases they were branded with a New York stencil. Wisconsin at this time had no reputation as a dairy state. Our cheese shown at this Exposition made a good impression on the dealers in the east and rapidly came in to demand. There was no further need of placing a New York brand on our cheese. In 1878, a great dairy fair was held in New York City. Wisconsin made an exhibit of both butter and cheese and received many awards. A Wisconsin

man was awarded a premium of \$200.00 in gold, the largest premium ever awarded on butter in this country up to this time. This Exhibit gave Wisconsin a great boom. Again at the New Orleans Exposition, we made a good display and the following year our trade in the south and the southwest more than doubled. At the Columbian Exposition at Chicago in 1893, it is to be regretted our success was not so great. Our cheesemakers, our creamerymen and dairymen all over the state were enthusiastic and when called on to send their butter and cheese to the exposition responded by sending such quantities that those who had the exhibit in charge were greatly surprised. There were a good many packages of butter and a good many cheese, while merchantable, were lacking in those fine points that an expert judge scores high. This is the reason our average scores at Chicago were so low. At the Pan American Exposition at Buffalo it was my fortune to have charge of the Wisconsin Dairy exhibit. The cheese were secured through the dealers of cheesebuyers and entered in the name of the cheesemakers who received the award when granted. In the September or October contests we had one hundred cheese each month and each of these two month out of the one hundred cheese all but two scored 95 points or over. Our butter scores were very good but we had very few packages out for exhibition. I mention this fact to show that while the average cheesemaker, is a good judge of cheese and his judgment would pass on a good useful merchantable article, but when it comes to those fancy points on flavor, texture, style etc., as a rule he had not had the opportunity of comparing his product with other makers as the dealer has, and what is true of the cheesemaker in this respect, I presume is true of the buttermaker. The cheese for the several contests at St. Louis will be secured through the cheese dealers. The cheese being entered in the name of the maker. In regard to butter it is going to be more difficult as we have very few dealers in the state. In fact I know of none.

Every buttermaker in the state who wishes to exhibit at St. Louis should write me as soon as possible and I will give them instructions just what to do. After the contests

the butter sent to St. Louis will be disposed of as may be directed by the owner. The dairy exhibit will be in the agricultural building. This building has a floor space of 800,000 square ft., covering nearly 20 acres of ground. This floor space is divided into sections of about 100x40 ft. with an aisle or passage way of about 14 feet. On two of these sections will be erected refrigerators—cases with all modern improvements. One of these refrigerators will be used for cheese and the other for butter. The front and ends of these cases are of glass. Wisconsin has been fortunate in securing the south west corner of the cheese case and the southeast corner of the butter case giving the advantage of the glass ends. We have in each of these cases 16x8 feet. It can readily be seen that our space is limited. It is all we could get. New York has the same amount of space as Wisconsin. All other states and countries have less. There will be four contests during the season. They will be held during the months of June, July, September and October.

In connection with this I will say that the butter will have to be sent to some central part, put in a refrigerator car and go to St. Louis at the same time, unless we do this it will be scattered and some lost and not get there in time for the contest.

Here is a point I would like to speak of; often times we will have a tub or two of butter without a name or mark on it, without knowing where it comes from. Your association here has a good rule; card tacked on top of the tub and one on the bottom; I hope you will all remember to place a card on top and also one on the bottom of the tub; that can be easily removed and no trouble then in telling where it comes from. I would like to know how many creamerymen there are present here that would like to exhibit at St. Louis. I wish every creameryman here that would like to would rise.

The President. I think there are nineteen.

Mr. Burrige. I wish every one of you gentlemen would give me your names and addresses before I leave here; I want

to send you some literature on this that will give you some information of how and when to ship your butter. I have the names of quite a few but if you will give them to me after the session closes I will be very glad to get them.

Thanking you for your attention.

The President. We will now listen to a cornet solo by Mr. Boland.

The President. We will now listen to a paper entitled "Color Talk," by Mr. J. H. Monrad of New York City.

Mr. Monrad. Before talking about color, I want to say a few words in addition to what Mr. Loomis said about the World's Fair. I hardly think that the creamery man and the dairyman realize the importance of their own industry when growing into one enormous sum. I want to draw your attention to the fact that in every line we need advertising, as I told you yesterday that even the minister some times needed advertising to get hymn books. This meeting is advertising. We have here in the hall an advertisement, I notice. I want to say that the State of Wisconsin, fertile as the soil is, needs advertising as well as the smallest business existing. and for that reason I want to urge all you buttermakers and creamery buttermakers and cheesemakers, I don't suppose there are many of the cheese makers but you can tell your friends, that it is their duty to Wisconsin and a duty to themselves to send a good exhibit to the Exposition this year.

As to my paper I really didn't want to take hold of that subject. Your secretary said that the officers wanted to have that discussed and being an old butter color man, I couldn't very well refuse.

BUTTER COLOR.

By J. H. Monrad, New York, N. Y.

Mr. President and Members of the Association:

I am invited to speak on the question of butter color and though I made the acquaintance of the older buttermakers in

the capacity of a color agent, I have now for ten years been divested of any interest in the trade and hence my remarks regarding this question—confusing as it may seem—are not “off colored” even though I am “off” the color trade.

As I am getting old you must allow me to transgress a little on ancient history. Some twenty years ago, or more, I was on my way back from town to my farm, in New Zeland and as I had a basket with crockery in front of me, I rode gently and when my horse stopped in order to scoop in a mouthful of selfsown oats on the road, I found myself gazing into the eyes of Mrs. O'Callahan, a most industrious settler on a forty acre lot fronting the road. She asked me what I got for my butter and we fell discussing the low prices and the troubles of buttermaking when pastures were overdry, etc. Casually I asked her if she used butter color and you should have seen her flare up. “Indade not! **My** cows don't need any butter color.” “Well,” I mildly retorted, “I find my cows give me white butter at this time of the year when the pastures are so dry, and so I use some color.”

Telling my horse to get up I was about fifty feet away when she yelled, “And besides carrots are just as good as any boughten color,” which yell had the triumphant sound of superior knowledge, but gave herself and her cows away.

Coming to America and calling on retail grocers in the eastern states, I soon found that but few sold color, as one explained it, the farmers didn't want those who bought the butter to know that they used color, and would sneak 'round to the druggist to buy their color there.

Now when the color was used in that way, it was a fraud, to a certain extent, but ten years later I was requested by a prominent premium taker at the Fat Stock Show in Chicago to put up a sign on this butter—colored with so and soes butter color and even a Jersey breeder did the same, and so in the presence of hundreds of thousands consumers premium butter was marked plainly (I took care of that) colored with —— butter color. Under those conditions who shall say it was a fraud to use color? I know of none who is fossilized enough to do it unless it be some old backwoods dairy farmer who never saw Hoard's Dairyman or heard of Hoard

and then of course the editor of the Jersey Bulletin.

But all this is ancient and what I understand you want to discuss is the justifiableness of the present agitation against the use of so-called tar colors. And this reminds me of another flurry about 1880 when some wiseacre raised the question whether the use of one or two ounces of an oil color in a hundred pounds of butter would not render it liable to taxation as oleomargarine.

Hoard's Dairyman rose to the cry and recipes for making a salt color by dissolving annatto in butterfat and rubbing it into salt, were freely sold. While your unworthy servant was denounced as an anarchist because he dared to say that the significance of the reply of the Internal revenue commissioner was not what it was claimed and was not law. It seems the question was asked in such a way that if the reply had been in the affirmative, butter might have been adulterated with ten, twenty or fifty per cent other fats under the guise of butter color. And so after a few months of paper fight the boys settled down again and used the oil colors—which by the way—had actually been shown up in halls of Congress when the National definition of butter, with or without coloring matter was adopted.

I now, at last, come to the aniline or tar colors and must confess to a personal prejudice against them when they were first introduced, but shall be honest enough to express a doubt whether this prejudice was engendered by an honest feeling of revolt against using colors, which for years had been considered more or less poisonous, when the harmless annatto sold by me did the work so nicely, or by the fact that I saw my trade dwindling down and the other fellows gobbling it up.

Now as to the buttermakers, I can hardly blame them, the commission men and butter dealers did not seem to be able to see the finer straw shade of the old reliable annatto colors, and the tar colors certainly had the following advantages: I. That they did not fade when exposed to light as will uncolored June and annatto colored butter. II. That it could be made very strong and yet have no sediment. III. That it could be made cheaper (per gallon) not only on

account of the coloring matter but because a cheaper oil could be used as so much less had to be used in the butter.

I got knocked out and the firm I represented finally decided to meet competition with another tar color, but before doing this they made extensive trials with the color first on animals and later on men, and if I am not mistaken one man took enough to color fifty pounds of butter in one dose and felt no harm and by the time we had it ready it had been used for 2 or 3 years by our competitors with never a complaint against it. An now it has been used in millions and millions of pounds of butter, and not even a suspicion has been thrown out against it until interested parties made capital of the death of a child from drinking a four ounce bottle of color!

I am not here to defend tar colors nor to attack them, but I do say that I consider it absurd to talk of their dangerousness as long as we allow the very same colors to be used in other food products and notably in candies so much used by children but I also believe that while all the old aniline colors were poisonous, new processes have been introduced, and there may be considerable difference in their harmfulness just as if you please—the mere fact that we change from a tar color to a vegetable (is coal a vegetable or a mineral?) one is not enough and we must add the word **harmless**.

Now perhaps I may summarize my views as follows, from a practical standpoint, the whole subject may be deemed a tempest in a teapot, but from a sentimental standpoint it seems meet that **dairy** products which ought to stand for all that is pure and wholesome, should be free from any substance which is not—like Caesar's wife—above suspicion.

I confess that even while I sold the tar color, I preferred to sell the annatto color and believe that I should have continued to use the latter if I had made butter.

Finally let me say that even sentimentality sometimes pays—as the fakirs know when they sell patriotic badges—and that is my opinion the time is coming when the sentiment in favor of absolute safety in our food products is growing, so I can see no reason why you should hesitate to go back to the old annatto colors, provided the manufacturers use the very best oil, even at a greater cost. I say annatto because, as be-

fore stated, there are also poisonous vegetable colors and we know that when properly prepared, annatto gives the perfect June shade, and that it is absolutely harmless. I have referred to the cheapness of the tar colors, but that is rather doubtful after all, supposing you have to use double the quantity of the color and it costs you \$2.50 per gallon of 7 lbs. then you pay \$1.25 extra to color a certain amount of butter with 3 1-2 lbs of color, but from this you may deduct the weight at the current price of butter fat which at twenty cents represents seventy cents and you pay in reality only fifty-five cents extra. Another reason why we should use color above suspicion is the probability of the Oleomargarine Interest working for an anti-color law. But whatever color we use, don't let us color too high.

Like the ministers let me add another "finally" in the shape of a general warning as to the care given all butter colors made up in oil. All oil will, sooner or later grow rancid and the following precautions should be taken. I. Either buy direct from the manufacturers (even if the freight comes to more) or from such dealers who when receiving fresh stock from manufacturers move the old one to the front and sell that first. If they don't you may be caught with oil six, twelve and even twenty-four months old. II. Keep the can always covered lightly and keep it in the refrigerator, not on a shelf exposed to heat. III. Always clean out your measuring glass even at the loss of a little color from day to day. IV. With annatto colors shake the can well every time you measure out your color, even if there is sediment (which is especially liable if it has been frozen and thawed out again) you will have no trouble with red specks, whereas if you use it without shaking, the upper layer will be too weak and you come to the sediment, you will have a brick red unnatural color.

Mr. Burrige. I would like to say a word in reference to light colored butter. I know I am going directly contrary to some of my good friends; we have less to fear from the oleomargarine than any other. I received last week a shipment of fourteen tubs of butter from a new dealer, the very

best butter we have had in our house without any exception whatever, and when I left the store on Saturday night there hadn't been a single package sold. I am afraid we will have to move that butter off at a reduced price in order to get rid of it.

A Member. I would like to have it explained why there is any danger there running up against oleomargarine.

Mr. Burridge. My explanation of that is this; oleomargarine is right on this color question; give them just as little to talk about as possible and if we get them there and keep them there we are all right.

Mr. Monrad. When I speak about tar colored butter it is color enough to make a clear distinction. I think there is no danger, the light color is all that is needed. It is true if the law was not enforced as it is that there might be still more trouble, but it seems to me the law is enforced all right and there is no danger at all.

The President. It gives me great pleasure to introduce to you this afternoon a man who is going to talk to you about the dairy cow. Prof. Haecker of St. Anthony Park, Minn.

THE DAIRY COW.

Prof. T. L. Haecker, St. Anthony Park, Minn.

In presenting the subject assigned me by your secretary, I am embarrassed by the consciousness that it relates only remotely to the matters in which you are especially interested, the manufacture of creamery butter. The only encouraging thought I have is that something may be said which will make you more helpful to the man who brings the milk.

I will be brief and deal with the cow only from the standpoint of the dairyman—and not that of the breeder. The breeder has certain preconceived notions which best fit the breed in which he is personally interested. These notions are not based upon any demonstrated showing that a certain conformation, size or color of hair carries with it any special adaptation for dairy work, but they have them simply because somebody, possibly a breeder of beef cattle, has at some time asserted that such and such points were the prop-

er thing. It is not my purpose to criticise or condemn any of the points and counts found in the scales adopted by the various associations having in charge the different breeds of dairy cattle; they deal with breeds, and this has to do with the dairy cow irrespective of breed.

I have now a full and complete record, covering twelve consecutive years, of a herd of cows which has contained all the dairy breeds, some of the beef breeds and some natives. The record covers every day's transaction; the amount and kind of feed consumed and dairy products yielded. It is the only American herd of which such a record has been kept. Not only has a constant record been kept of feed consumed and dairy products returned, but note has also been taken of the conformation and other peculiarities of each animal that has been in the herd during the time stated. So far as I am informed it is the only herd either in this or any other country where so full a record has been kept for so long a time. On former occasions I have presented figures showing the difference in the yield and cost of butter produced from the different members of the herd, and the relation between form and performance, so I do not deem it necessary to add any more testimony on that score.

After close search for the points in dairy cows which have a bearing upon their productive powers and the cost of production, I have been led to conclude that temperament is of primary importance. Temperament in a dairy cow is the pivotal point upon which her adaptability for dairy work depends. Temperament in an animal, as with the human, has to do with the balance between the forces of the nervous and the vital systems and is largely a matter of heredity modified somewhat by environment. An animal whose nervous system dominates the vital system has the inherited tendency to convert the nutriment in food into milk. One whose vital system is dominant has inherited a disposition to convert nutriment into body tissue, flesh or fat. One whose motive system is in the ascendency has inherited the disposition to expend the nutriment in muscular activity, like the running or trotting horse or the hound. Every living body has all these temperaments, but in each, one is dominant, and the

work for which each is adapted is decided by the one which is the strongest. I am lean and will not get fat—no matter what or how much I eat. Another man is fat and will not get lean no matter how little he may eat. This is caused by our respective inherited temperaments modified or intensified by occupation, environments, etc.

The points indicating a spare angular conformation show that the nervous system or temperament is dominant and that there is no disposition to convert feed into body tissue or body fat and also minimizing the needs of the maintenance of body.

So an animal intended for dairy work must have a strong nervous system, which is indicated in Division "A".

A. Dairy Temperament.

30 Points

1. Eye, full, expressive.....5
2. Face, clean, rather long, nostrils large and open...3
3. Neck, light, rather long, "ewe necked,".....3
4. Withers sharp.....3
5. Shoulders, light, spare.....3
6. Spinal column, prominent.....5
7. Croup, high, strong and sharp.....2
8. Hook points and pin bones, sharp.....2
9. Thighs, spare and incurving4

The eye stands for much in the dairy cow. If there is back of it a large, strong nervous force it will show marked intelligence; it is open, it is penetrating, it sees. If the nervous current back of it is not so strong or is weak, the degree of expressiveness will be diminished proportionately, the face is less clean, the nostrils smaller and not so open; the neck is heavier and every portion of the body carries more tissue. The size of the spinal column, the trunk line of the nervous system, is prominent with this temperament. The sharp, high croup, sharp hook points and pin bones and the spare and incurving thighs are all points denoting the primacy of this temperament.

B. Feeding Points.

25 Points.

1. Depth of body from the middle of the spinal column to the navel,.....10
2. Breadth of body through the middle from side to

- side 8
- 3. Length of body from shoulder to hook points.... 5
- 4. Jaw, strong 1
- 5. Muzzle broad 1

All good feeders have marked depth of body from back to the bottom line—are not hound shaped. Strong feeders have ribs that spread out giving the body great breadth from side to side—are not slab-sided. A cow may have these two desirable points and yet not reach the maximum degree of usefulness by being pony-shaped. But when a proportional length of barrel is added we have the cow with ideal feeding powers. The points in group “A” have reference to the kind of work the cow is adapted for and group “B” the amount of work she can do. A large feeder also has strong organs of mastication and a broad muzzle because it is ever busy reaching for food.

Too little significance has been placed upon the disposition of the dairy cow. She may have all the points referred to in group “A” and “B” well defined, and yet be a failure or give only ordinary return, simply because she has a bad disposition; is excitable, restive, notional or combative. The eye is much, yea—more, of a tell tale with the animal than in the human. For the latter, at times, resorts to various expedients to deceive, and this bossy has never been guilty of. The expert horseman reads the disposition of a horse in his eye. The dairyman may do the same. While it is comparatively an easy matter to read the disposition in the eye it is very difficult to describe it in words as briefly as a scale requires.

C. Disposition.

15 Points.

- 1. Eyes, placid and not too open or too quick.....6
- 2. Face, broad between eyes, slightly dished.....3
- 3. Head, carried not too high or too stooping.....2
- 4. Movement of ears and body rather slow.....4

A cow with a placid mild eye always has a good disposition and is not easily disturbed. She is disposed to make the best of things as they are and is composed. If it is too open it denotes a tendency to get excited and nervous and the same is the case with the quick flashing eyes. She should

have breadth of forehead, because that denotes intelligence; learns quickly and is appreciative of kind treatment. It should be slightly dished between the eyes because fullness there indicates aggressiveness. The Roman nose is the fighter.

The head should have a medium poise because if carried too high she is rattle-headed and is easily confused; if carried too low it indicates a stubborn, restive pugnacious disposition. Slow movement of ears and body show tractability and slowness to anger. She is not in a rush, does all leisurely which is conducive to a full and persistent flow of milk.

Next in importance is quality. That elastic and unctuous feeling of the skin, velvety texture of the coat, and quality of product mean much with the dairy cow. Other things being equal the quality of the milk measures the relative value of the cow in the dairy—for cheese as well as for butter. As milk increases in fat content it also increases in protein or casein, and in the higher grades of milk the milk sugar, which is not utilized either for butter or cheese, decreases. So if we wish to accurately measure the value of a cow for the dairy we must take cognizance of the quality of the animal and the product. We may not know exactly the quality of any one milk, but the average for the breed is known approximately, and will answer in the absence of more definite knowledge.

D. Quality.

12 Points.

1. Per cent fat in milk 3 to 6.....6
2. Soft unctuous coat, elastic skin, udder medium in substance and free from long coarse hairs.....4
3. Yellow in ears.....2

In the first point the count is the same as the per cent. fat in the milk. If an animal or breed yields milk testing 3 per cent butter fat it counts 3, if 4 per cent. fat, 4, etc. The counts for the higher grades of milk may not be as much as they should be, because they only give credit for increased product while the decrease in cost of production should also be credited. The richer the milk the less the cost of production, because for every pound of butter fat from 3 per cent milk the cow also produces 2.5 lbs. of solids not fat, in 4 per cent milk; 2 lbs. in 5 per cent. milk; 1.7 lbs.,

and in 6 per cent milk 1.5 lbs

We next come to the subject where the performance of the cow is not in accord with the generally accepted notions.

E. Mammary Organs.

10 Points.

1. Udder medium in size, quarters well balanced....4
2. Teats, long, not cone-shaped, squarely placed and far apart2
3. Milk wells, capacious3
4. Milk veins, medium, prominent and running well forward1

The development of the udder should be proportioned with the cow's capacity for work and endurance. Very large udders are more liable to disorders and injury. Size in the udder is no measure of production capacity; it is not uncommon for large producers to have only moderately developed udders and for small producers to have large udders. We all like to see a large, well balanced udder but there are other things we like to see that are not especially beneficial. We have to do primarily with the points essential to the cow as a business animal. There is no objection to combining beauty with utility when the former does not militate against the latter, but they should be rated in proportion to their value in making the cow a producer.

The count for the teats are mere matters of convenience, It is desirable for a cow to have long teats, squarely placed, and far apart; but since some good cows do not have these characteristics and some poor ones do, the counts given are low.

Large dairy work calls for a large flow of blood to and from the the udder. The milk wells, or openings, on each side of the body forward of the udder into which the milk veins pass, should be capacious to afford a free circulation of blood from the udder to the heart. There are from one to three on each side and the aggregate capacity of these wells or holes through the abdominal wall is a **measure of the amount of blood that passes through them and the work that is being performed by the udder.** The large development of the milk veins do not carry as much significance as do the milk wells. Indeed sometimes they are prominent and tortuous

simply because the milk wells lack capacity and thus produce a varicose condition of the milk veins and in such case really betray a defective condition of the circulation. Length of milk veins denote dairy heredity. Those in great performers generally run farther forward before entering into the body through the milk walls than is the case with cows having medium or small dairy capacity.

F. Symmetry.

8 Points.

1. Bony structure fine2.
2. Tailhead strong, tail taperingI.
3. Hook points and loin medium in breadth..... .5
4. Medium length from hook points to pin bones..... .5
5. Full back of and a little above the elbows, the region of the heart.....2.
6. High arching flankI.
7. Legs, straight and rather short.....I.

The cow should be fine in bone, showing femininity and economy in production. The tailhead should be strong to be in harmony with a well developed spine and nervous system, and tapering denotes good breathing. Great breadth of loin and between hook points adds nothing to a cow's productive powers, but increases cost of production because of large quarters for which food or maintenance must be provided. The same is true with regard to great length between points and pin bones. While the good dairy cow is light and narrow through the the shoulder immediately back of it there should be a rapid broadening in the region of the heart to give ample room for its free action. The high arching flank is as characteristic to all dairy cows as is the low and straight flank to the ideal beef animal. A bow-legged cow may be just as good as one having straight legs, but the latter is more desirable and is no hindrance to good performance. The legs should be short because the leggy animal spends too much time and energy in traveling and jumping fences.

The scale of counts, we believe is so adjusted that the animal scoring the highest will prove to be the best adopted for dairy work, and the best cow taking one year with another. The scale is based solely upon actual performance

through a long series of years with all kinds of cows under observation, and is applicable to any and all breeds. During all this time there was not a single case where the style of animal herein portrayed showed any lack of staying qualities or stamina, but on the contrary the nearer the animal responded to it the greater the ability to do much work in the maximum time. A cow with a strong nervous system, large and open nostrils, a capacious and strong middle, has about all the constitution she can make use of.

The President. I have been requested to announce that the post office clerk says there are quite a number of letters in the post office for members and buttermakers and you had better go there and get them if you are expecting any letters.

Also the first call for the national scoring contest, the butter will be scored on the 15th of this month and if any of you have not got your papers, don't hesitate, but send your butter right along.

There will be a cooking school conducted in connection with the Farmers' Institute, to be held in this city the 9th and 10th and ladies are requested to be present.

The President. Before awarding the prizes to winners we will have the reports of our committees.

Committee on resolutions, Mr. Burrige is chairman of that committee.

RESOLUTIONS.

We, the Wisconsin Buttermakers' Association, in this our third annual meeting, at Eau Claire, Feb. 2-4, do adopt the following resolutions:

Resolved, That we extend our sincere thanks to all of the citizens of Eau Claire for the royal manner in which they have welcomed and entertained this Association. Every promise they have more than fulfilled, their hospitality has been gener-

ous, their courtesy sincere. We assure them that every member of this association will long remember and always appreciate their gracious kindnesses.

Resolved, That the thanks of this Association be, and are hereby extended to the musicians who have aided in our entertainment. That our special thanks are hereby extended to Mr. Jules Lombard, the "grand old man" of song, for his presence and help. That we extend to the Juvenile Band our congratulations on their wonderful proficiency, our thanks for their courtesy and that we assure them that never before in the history of this industry have its members been more delightfully entertained.

Resolved, That it is the sense of this Association that as many of its members as possible should exhibit the product of their skill at the Louisiana Purchase Exposition, to the end that Wisconsin shall be duly and properly represented.

Resolved, That we extend to the National Dairy Union our heartfelt thanks for the efforts they have exerted in behalf of this industry and that we pledge them our hearty and continued support.

Resolved, That we commend to the people of this state the faculty of the Wisconsin Dairy School in their earnest efforts to advance the cause of dairying and that we solicit the active support of every citizen of this state in its behalf.

Resolved, That the thanks of this Association be and are hereby extended to its officers for the faithful manner in which they have advanced our interests the past year.

Resolved, That the thanks of this Association be extended to Mr. W. D. Collyer, judge of the butter entries, for his services in judging our butter exhibit.

Resolved, That it is the sense of our Association that our secretary should receive a proper compensation for his services, and that our executive committee shall be instructed to pay him such a yearly sum, as in their judgment may seem best.

Resolved, That we sincerely deprecate the unavoidable absence of Ex-Gov. W. D. Hoard, that we assure him of our continued good wishes and that we express the hope that he may be with us at many future meetings.

Resolved, That we extend our sincere thanks to all of the contributors to our premium fund, to the supply houses and their representatives for their support, and also for the fine exhibit they have made of their goods.

Resolved, That whereas through the generosity of the Pennsylvania Railroad we have had the great pleasure of listening to the songs of Mr. Jules Lumbar, that we extend to them our thanks and assure them of our deep appreciation of their courtesy.

Resolved, That we extend our thanks to Prof. T. L. Haecker for his presence and instructive address.

Resolved, That we extend our thanks to the U. S. Agricultural Department for its courtesy in detailing U. S. Govt. Inspector Collyer to score our butter exhibit, and that our special thanks be and are hereby extended to our secretary for his untiring zeal in our behalf. That we appreciate what he has accomplished, and that as a slight token of our appreciation that this body by a rising vote shall express our satisfaction with his work as secretary of this Association.

E. I BURRIDGE.

GEO HANSEN.

C. T. BRAGG.

The President. Gentlemen you have heard the resolutions read, what will you do with them.

A Member. I move the adoption. Motion seconded.

The President. It is moved and seconded that these resolutions be adopted as read, are you ready for the question; all those in favor of these resolutions signify by saying aye, contrary no.

Ayes have it and the resolutions are adopted.

The President. In these resolutions it was requested that we show our appreciation of our secretary's work by a rising vote; all those in favor of this resolution signify by rising. (All present arose.)

AWARDING OF PRIZES BY PRESIDENT.

Mr. Larson it gives me great pleasure to present you with

the gold medal.

The President. The winner of the second prize, the silver medal, is Mr. C. H. Masche of Oregon. The winner of the third prize is Mr. H. Kelling of Jefferson.

Mr. Larson. I think it is harder for me to make a speech than it is for me to make butter. I am almost a stranger in Wisconsin have been making butter here for only two months. Will say that I learned to make butter in Minnesota but I had to come to Wisconsin to be able to get the first scoring contest. I wish to thank the members of this association for the medal.

The President. I believe there was another committee appointed to investigate the matter of holding a six months or all year contest. Mr. Fulmer, our secretary, was chairman of that committee and he is busy. I wish to announce that the certificates that we received amounted to 97 or 98; we have received word that several others are on their way here; the train on which they should have arrived will be here at 1:50, that train, however, is three hours late, but whenever they do come they will bring the certificates with them and our pocket books, if not our lives, will be saved.

Mr. Fulmer and Prof. Farrington, who were on that committee are both absent from the meeting; I believe Mr. Bush and Mr. Cate were also members and Mr. Schuknecht is also a member, Mr. Schuknecht is present, I would like to ask if the committee met and did anything in regard to it?

Mr. Schuknecht. The committee didn't do anything further than talk with the members some; there wasn't anything said, no special action taken but it was thought that the suggestion made by Mr. Fulmer that if the buttermakers would decide to donate one tub in the contest that it could be held, otherwise there wouldn't be any funds with which to hold it until the next session of the Legislature. I think that it is decided to correspond with the buttermakers and find out how they feel about it.

The President. Your officers will try to get together on this subject and formulate a plan, if it is possible, whereby we can get hold this contest this year.

The President. In closing this, our Third Annual Conven-

tion, your officers wish to extend their thanks to Mr. Coyne of Coyne Brothers for giving us such a good price for our butter which will help us to have a good start for next year's premium fund.

We wish to thank every one who aided in any way; the City of Eau Claire has done everything that is possible for them to do and have done more than they agreed and I hope that every one here who has been present will go away from this convention feeling that it has been successful in doing what a convention of this kind is supposed to do for its members.

I will now adjourn this convention without day.

STATE APPROPRIATION

to the

WISCONSIN BUTTERMAKERS' ASSOCIATION

1903.

Jun. 27.	Received from the State Treasurer.....	\$500.00
July 1.	W. J. Hyne, expenses attending committee meeting at Madison.....	\$ 1.48
	F. B. Fulmer, travelling expenses, postage express and record books	33.61
July 14.	J. G. Moore, traveling expenses, postage and telephone messages.....	8.32
" 16.	A. L. Parman, expenses attending committee meeting at Madison....	1.38
" 22.	M. J. Cantwell, letter heads, envelopes and express	5.15
Aug. 11.	And. Snyder, stenographer work..	47.00
" 17.	M. J. Cantwell, catalogue envelopes, express	16.04
" 17.	M. J. Cantwell, catalogue, envelopes, addressing same and postage	16.65
" 17.	F. B. Fulmer, traveling expenses to Marshfield, Oshkosh, Madison and La Crosse	25.42
" 25.	E. H. Farrington, express and post-	

	age	2.42
Sept. 28.	M. J. Cantwell, catalogue envelopes and express.....	1.55
Nov. 16	F. B. Fulmer, express, postage, freight, typewriter supplies and traveling expenses to Chicago.....	46.84
" 23.	W. J. Hyne, expenses attending com- mittee meeting at Madison.....	2.88
Dec. 14.	F. B. Fulmer, stat'y, postage, express and trav. expenses to Eau Claire..	43.71
" 18.	Jurgens & Anderson Co., for medals.	22.00
" 24.	Schwaab Stamp & Seal Co. badges..	32.00
1904.		
Jan. 16.	Leader Pub. Co., score cards, programs shipping tags, envelopes and entry blanks	89.00
" 16.	F. B. Fulmer, express, postage, tele- grams and telephones, freight and traveling expenses	30.90
" 25.	F. B. Fulmer, postage, stat'y, express and telegrams.....	11.56
Feb. 9.	H. K. Loomis, expenses attending con- vention at Eau Claire.....	17.06
" 11.	E. C. Dodge, expenses attending com- mittee meetings, convention at Eau Claire, postage and office books..	29.16
" 11.	W. J. Hyne, expenses attending con- vention at Eau Claire	15.20
" 15.	J. G. Moore, express on badges....	.67
		\$500.00

STATE OF WISCONSIN, COUNTY OF TREMPLEAU—ss.

I, F. B. Fulmer, Secretary of the Wisconsin Buttermakers' Association, do solemnly swear that the foregoing statement of

expenditures is true and accurate to the best of my knowledge and belief.

F. B. FULMER,
Secretary.

Subscribed and sworn to before me this 22nd day of February, 1904.

J. J. BLUE,
Notary Public.

My commission expires Mar. 11, 1906.

STATE OF WISCONSIN, COUNTY OF JEFFERSON—ss.

I, E. C. Dodge, Treasurer of the Wisconsin Buttermakers' Association, do solemnly swear that I have paid out the sums of money as indicated in the above statement and that said statement is true to the best of my knowledge and belief.

E. C. DODGE,
Treasurer.

Subscribed and sworn to before me this 23rd day of February 1904.

E. C. BROWN,
Notary Public.

My commission expires Sept. 1st, 1907.

GENERAL FUND.

Receipts.

Balance as per second annual report.....	\$369.41
Advertising in Program	325.00
Membership fees	311.00
Exhibit space sold	12.50
Miscellaneous receipts	38.80
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Total	\$1056.71

Expenses.

Expense of speakers and officers at Waukesha, Ex., Com., meetings, etc.....	\$ 85.99
Printing second annual report and stationery.....	164.25
Convention expenses of speakers and officers at Eau Claire	237.37
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Total	\$487.61
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Balance on hand	\$569.10

Butter Account.

2454 lbs. butter at 24 I-2c	\$595.09
Paid membership fees.....	\$121.00
Express on butter.....	48.08
Supt. Butter exhibit, postage, cost of	
drafts, etc.....	33.88
	202.96
Balance	\$392.13

PREMIUM FUND.

Butter Fund	\$313.44
City of Eau Claire	300.00
Creamery Package Mfg. Co., Chicago, Ill.....	25.00
Vermont Farm Machine Co., Bellows Falls, Vt.....	20.00
DeLaval Separator Co., Chicago, Ill.....	20.00
Cornish, Curtis & Greene Mfg. Co., Fort Atkinson, Wis.....	15.00
Worcester Salt Co., New York, N. Y.	15.00
Wells & Richardson Co., Burlington, Vt.....	15.00
Heller & Merz Co., New York, N. Y.	15.00
Colonial Salt Co., Akron, O.....	15.00
Wisconsin Dairy Supply Co., Whitewater, Wis.....	15.00
The J. B. Ford Company, Wyandotte, Mich	15.00
National Creamery Supply Co., Chicago, Ill.....	10.00
M. H. Fairchild & Bro., Chicago, Ill.....	10.00
F. D. Moulton & Co., Chicago, Ill.	10.00
Diamond Crystal Salt Co. St. Clair, Mich.....	10.00
A. F. Spitler & Co., Cleveland, O.....	10.00
Elgin Butter Tub Co., Elgin, Ill.....	10.00
Empire Cream Separator Co., Chicago, Ill.....	10.00
International Cream Separator, Chicago, Ill.....	10.00
Farnsworth, Benjamin & Mills, Boston, Mass.....	10.00
E. W. Ward Company, St. Paul, Minn.....	10.00
Chapin & Adams, Boston, Mass	5.00
Coyne Brothers, Chicago, Ill.	5.00
Miscellaneous Contribution	1.56
Sharples Co., Chicago, Ill,	10.00

S. B. Friday Co., Milwaukee.....	5.00
Pitt Barnun & Co., New York	5.00
Special Collection	3.00
	<hr/>
Total	\$918.00

BUTTER EXHIBIT.
List of Butter Exhibitors Scoring 90 Points or More.—1904.

NAME.	ADDRESS	SCORE.							Flavor.	Body.	Color.	Salt.	Pkg.	Total.	Separator	Starter.	Ripening Vat.	Churn.	Color.	Salt.
		Flavor.	Body.	Color.	Salt.	Pkg.	Total.													
Dudley J.	Neillsville.	38	25	15	10	5	93	Alpha	E. E.	Open.	Victor.	W. R.	Wor.							
Erickson Albert.	Volga.	38	25	15	10	5	93	Alpha.	Hanson.	Open.	Victor.	Ald.	D. C.							
Hart Thomas H.	Symco.	37	25	15	10	5	92½	Alpha.	Hanson.	Open.	Victor.	W. R.	D. C.							
Johnson Theo.	Whitehall.	37½	25	15	10	5	92½	G. C.	Hanson.	Open.	Victor.	W. R.	D. C.							
McCormick E. C.	Buena Vista	38	24½	15	9½	5	92	Alpha.	Doug.	Open.	Victor.	W. R.	Wor.							
Olson H. N.	Arnott.	36½	25	15	10	5	91½	Alpha	Doug.	Open.	Victor.	W. R.	Wor.							
Peterson P. C.	Amery.	38	25	15	10	5	93	U. S.	Doug.	Boyd.	Victor.	Ald.	D. C.							
Schultz W. F.	Comstock.	38½	25	15	10	5	93½	Alpha.	B. M.	Open.	Victor.	Ald.	Wor.							
Stavrum W. L.	Elk Mound.	35	25	15	10	5	90	Alpha.	Hanson.	Open.	Victor.	Ald.	Wor.							
Tucker E. H.	Marshfield.	38	25	15	10	5	93	Alpha	Hanson.	Open.	Victor.	Ald.	Wor.							
Van Dresser M. L.	Bloomer.	36	25	15	10	5	91	Alpha.	Hanson.	Open.	Victor.	Opp.	D. C.							
Viergutz F. A.	Neillsville.	35½	25	15	10	5	90½	Alpha.	Com.	Open.	Victor.	Ald.	Wor.							
Weber G. H.	Beaver Dam.	39	25	15	10	5	94	Alpha.	Hanson.	Open.	Victor.	W. R.	D. C.							
Winner Grant.	Clintonville.	35	25	15	10	5	90	Alpha.	Doug.	Open.	Victor.	W. R.	Col.							
Larson W. H.	Neenah.	42	25	15	10	5	97	Alpha.	Keith.	Open.	Victor.	W. R.	Col.							
Masche C. H.	Oregon.	41.5	25	15	10	5	96.5	Alpha.	Hanson.	Open.	Victor.	W. R.	Wor.							
Kelling F. H.	Jefferson	41	25	15	10	5	96	Alpha.	Hanson.	Open.	Victor.	W. R.	Wor.							
Stewart W. A.	Eagle.	40	25	15	10	5	95	Alpha.	Hanson.	Open.	Victor.	W. R.	D. C.							
Wilson W. W.	Melvina	38	25	15	10	5	93	Alpha.	Hanson.	Open.	Victor.	Ald.	D. C.							
Hyne W. J.	Evansville.	40	25	15	10	5	95	G. C.	Doug.	Open.	Squeez.	W. R.	D. C.							
Pyburn E.	Hanover.	39	25	15	10	5	94	Alpha.	Doug.	Open.	Dis.	W. R.	Cad.							
Boss F. W.	Janesville.	39	25	15	10	5	94	Alpha.	Com.	Open.	Victor.	W. R.	Wor.							
McCormick F. E.	Almond.	38	25	15	10	5	93	Alpha.	Doug.	Open.	Victor.	W. R.	Wor.							
Thompson A. E.	Poplar Grove, Ill.	40	25	15	10	5	95	Alpha.	H. M.	Boyd.	Box.	W. R.	Wor.							

BUTTER EXHIBIT.—Continued.

Weutrich, Fred.....	Mayville.....	39	25	15	10	5	94	Alpha.	Doug.	Open.	Vic.....	Ald...	Wor.
Meyers F. W.....	Lake Mills.....	39	5	25	15	10	5	Alpha.	Sk. Mk.....	Open.	Vic.....	Ald...	D. C.
Jackson J. J.....	Oakwood.....	36.5	25	15	10	5	94.5	Alpha.	Doug.....	Open.	Vic.....	W. R.	D. C.
Esler Ole.....	Bloomer.....	38.5	25	15	10	5	93.5	Alpha.	Hanson.....	Open.	Vic.....	Ald...	D. C.
Gerlach C.....	Grafton.....	39.5	25	15	10	5	94.5	Alpha.	H. M.....	Open.	Vic.....	Ald...	E. C.
Wunsch John.....	Viola.....	30	24	15	10	5	90	Alpha.	Doug.....	Open.	Vic.....	W. R.	E. C.
Reid R. A.....	Hancock.....	36	24	15	10	5	90	Alpha.	Keith.....	Open.	Vic.....	W. R.	Wor.
Voight W. A.....	Naugart.....	37	25	15	10	5	92	Alpha.	Hanson.....	Open.	Box.....	Opp...	Wor.
Sweet R. D.....	Avalon.....	39	25	15	10	5	94	Alpha.	Hanson.....	Open.	Vic.....	Ald...	Wor.
Else R. J.....	Johnson's Creek.	38	25	15	9	5	92	U. S.	H. M.....	Open.	Squeez.	Ald...	Wor.
Claflin L. E.....	Kendall.....	37	25	15	9	5	91	Alpha.	H. M.....	Boyd.	Vic.....	Ald...	Wor.
Wittig Thomas.....	Rusk.....	39	25	15	10	5	94	Alpha.	Hanson.....	Boyd.	Vic.....	W. R.	Wor.
Kuhl F. W.....	Eagle.....	38.5	25	15	10	5	93.5	Alpha.	Doug.....	Open.	Vic.....	Ald...	Col.
Engbertsen Martin.	Scandinavia.....	36	25	15	9	5	90	Alpha.	H. M.....	Open.	Vic.....	Opp...	D. C.
Hubbard Leslie E.	Neillsville.....	38	25	15	10	5	93	Alpha.	H. M.....	Boyd.	D. Q...	W. R.	Wor.
Halvorson H. J.....	Eleva.....	36.5	25	15	10	5	91.5	G. C.	H. M.....	Open.	Dis...	W. R.	Cad.
Fassbender H.....	Greenville.....	36	25	15	10	5	91	Alpha.	Hanson.....	Open.	Vic.....	Ald...	Wor.
Thorssen O. J.....	Alpha.....	35	25	15	10	5	90	Alpha.	E. E.....	Open.	Vic.....	W. R.	D. C.
Chapin C. J.....	Omro.....	30	25	15	9	5	93	Alpha.	Doug.....	Open.	Box.....	Ald...	Wor.
Trager Gust.....	Mazomania.....	35	25	15	10	5	90	Alpha.	Doug.....	Open.	Box.....	W. R.	D. C.
Anderson A. G.....	Amherst.....	36	25	15	10	5	91	Alpha.	Hanson.....	Open.	Vic.....	W. R.	Wor.
Driscroll J. I.....	Palmyra.....	35	25	15	10	5	92.5	Alpha.	Hanson.....	Open.	Vic.....	W. R.	Wor.
Olson L. A.....	Almond.....	37.5	25	15	10	5	91	Alpha.	S. M.....	Open.	Vic.....	Ald...	D. C.
Golz E. C.....	Princeton.....	36	25	15	10	5	92	G. C.	H. M.....	Open.	Vic.....	Ald...	D. C.
Hanson John.....	Osseo.....	37	25	15	10	5	93	Alpha.	H. M.....	Open.	Vic.....	W. R.	Col.
Weber J. F.....	Hartford.....	38	25	15	10	5	93	Alpha.	H. M.....	Open.	Box.....	Ald...	Col.
Van Duser James.	Heburn.....	39	25	14	10	5	93	Alpha.	H. M.....	Open.	Box.....	Ald...	Col.
Snyder F. E.....	Whitewater.....	39.5	25	15	10	5	94.5	Alpha.	Sk. Mk.....	Far...	Comb...	Ald...	Col.
Tingleff C. P.....	South Wayne.....	38	25	15	10	5	93	Alex.	S. N.....	Open.	Box.....	W. R.	Cad.
Bjerregaard R. P.....	New Franken.....	40.5	25	15	10	5	95.5	Alpha.	H. M.....	Open.	Dis...	W. R.	D. C.

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