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Proceedings of the thirteenth annual meeting of the Wisconsin Buttermakers' Association : held at Madison, Wisconsin, Feb. 3-5, 1914.

Wisconsin Buttermakers' Association

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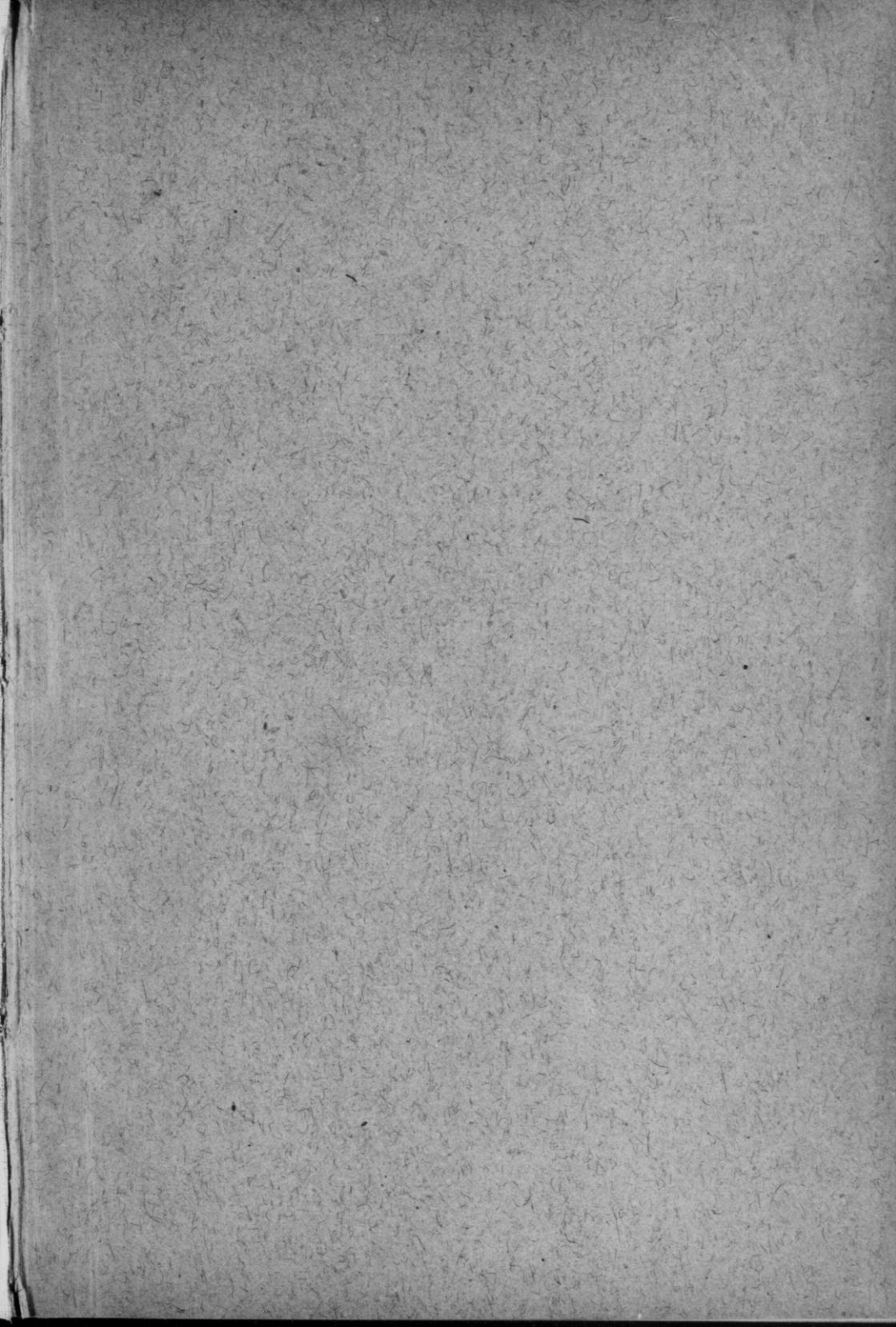
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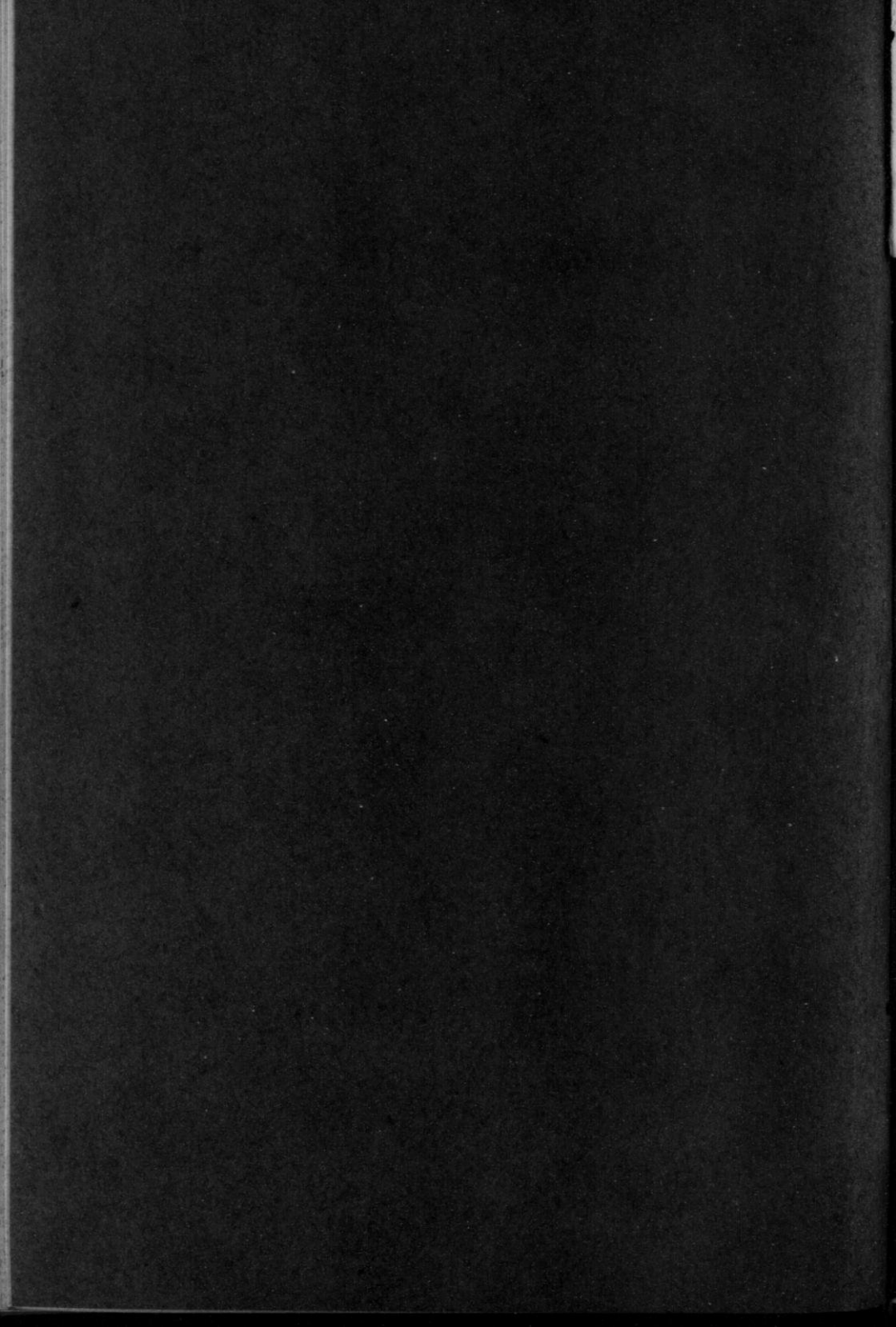
Thirteenth Annual Meeting

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MADISON

**Wisconsin
Buttermakers'
Association**

Held at Madison, Wisconsin

**February Third to February Fifth
Nineteen Hundred and Fourteen**



PROCEEDINGS of the
Thirteenth Annual Meeting

of the

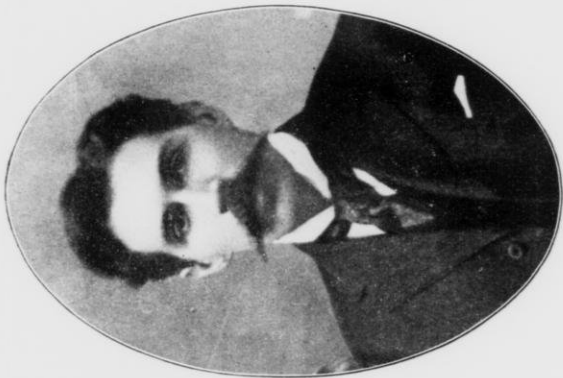
Wisconsin Buttermakers'
Association

HELD AT
MADISON, WISCONSIN
FEB. 3-5, 1914

Compiled by G. H. BENKENDORF



O. B. CORNISH
Ft. Atkinson



ALLEN CARSWELL
Clear Lake



A. C. SCHULTIZ
Platteville

MEMBERS EXECUTIVE COMMITTEE 1913—1914

List of Officers 1913—1914

L. OLSEN, President.....	West DePere
F. W. BOWAR, Vice President.....	Cazenovia
G. H. BENKENDORF, Secretary.....	Madison
A. W. ZIMMERMAN, Treasurer.....	Norwalk

Executive Committee

O. B. CORNISH.....	Ft. Atkinson
ALLEN CARSWELL.....	Clear Lake
A. C. SCHULTZ.....	Platteville

List of Officers 1914—1915

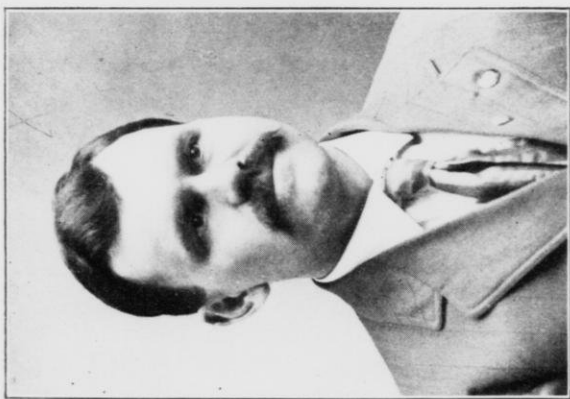
ALLEN CARSWELL, President.....	Clear Lake
A. W. ZIMMERMAN, Vice President.....	Norwalk
G. H. BENKENDORF, Secretary.....	Madison
FRED M. WERNER, Treasurer.....	Waterloo

Executive Committee

O. B. CORNISH.....	Ft. Atkinson
C. J. DODGE.....	Windsor
H. E. GRIFFIN.....	Mt. Horeb



G. H. BENKENDORF
Madison
Secretary



F. W. BOWAR
Cazenovia
Vice President



L. OLSEN
West De Pere
President

LETTER OF TRANSMITTAL

Office of Secretary Wisconsin Buttermakers' Association, Madison, Wis., 1914.

To the Officers and Members of the Wisconsin Buttermakers' Association: I have the honor to herewith submit the report of the proceedings of the Thirteenth Annual Convention held at Madison, February 3-5, 1914.

Fraternally yours,

G. H. BENKENDORF,

Secretary.



H. E. GRIFFIN
Mt. Horeb
New Member Executive Committee



A. W. ZIMMERMAN
Norwalk
Treasurer

Names of Members of the Wisconsin Buttermakers' Association, 1914

NAMES.	ADDRESSES.
Alexander, C. B.	175 W. Jackson Blvd., Chicago, Ill.
Albrecht, E. E.	Reedsburg.
Allen, F. J.	226 W. Johnson, St., Chicago, Ill.
Andreason, C. P.	Shennington.
Auman, Earl	Madison.
Amer. Mono Service.	Newark, N. J.
Aderhold, E. L.	Neenah.
Adams, M. J.	Waukesha.
Amacher, Henry	Stetsonville.
Allen, C. L.	Cashland.
Anderson, R. S.	Northland.
Anderson, Camilla	Weyauwega.
Anderson, J. D.	Spring Valley.
Blair, N. E.	Dale.
Borden, J. C.	220 S. Water St., Chicago, Ill.
Boerschinger, H.	R. No. 5, Green Bay.
Boetcher, J. E.	Janesville.
Borden, Wm.	1863 Selby Ave., St. Paul, Minn.
Brunner, M. E.	Ft. Atkinson.
Blackmore, H. F.	896 Dearborn St., Chicago, Ill.
Bjerking, J. L.	Beldenville.
Butler, R. W.	Amery.
Benson, C. J.	Reeve.
Bragg, B. E.	Preston, Ia.
Beck, J. A.	Box 42, Theresa.
Bowar, F.	Cazenovia.
Bruhn, A. T.	Madison.
Bishop, C. C.	Ferrville.
Boll, C. E.	Waupun.
Brown, Clyde.	Route 2, Boscobel.
Bowden, C. B.	Marinette.
Bell, Benj.	R. No. 2, Camp Douglas.
Brookins, Roy	Oakfield.
Butler, Lester E.	Lurand, Ill.
Branch, S. N.	Milwaukee.
Bires, Alvin R.	New Lisbon.
Bodtke, Harold.	Clifford St., Box 3134, Philadelphia, Pa.

NAMES.	ADDRESSES.
Bonefield, Harry	Eau Claire.
Brigham, R. J.	East Troy.
Bowman, H. S.	Sauk City.
Brennen, T. W.	125 W. S. Water, Chicago, Ill.
Baker, E. M.	Monticello, Ia.
Bernhard, A. H.	Waupun.
Bates, R. R.	Madison.
Blood, F. J.	Chetek.
Bones, G. R.	Eau Claire.
Bunke, Paul F.	379—25th St., Milwaukee.
Bussie, Wm.	Edgerton.
Belk, L. H.	Elkhorn.
Bicker, Aug. E.	Cross Plains.
Bolstead, L. L.	Basco.
Brye, C. T.	Cashton.
Bethhauser, John A.	Richford.
Broecker, Geo.	Markesan.
Bergmark, E. D.	R. 2, Pepin.
Bartel, Hubert	Peebles.
Cleaves, R. C.	Iola.
Carswell, Robt.	Menomonie.
Colwell, R. R.	River Falls.
Christensen, Chris.	R. No. 1, Rose Lawn.
Christopherson, J. C.	Cadott.
Carswell, Allen	Clear Lake.
Cole, C. I.	Kellogg, Minn.
Campbell, Archie	Beaver Dam.
Caughey, Frank	Madison.
Corneliuson, Thos.	Washington, D. C.
Caffish, W. H.	Baraboo.
Carver, C. A.	114 Wisconsin St., Milwaukee.
Christopherson, M.	New Franken.
Casperson, H. C.	Deer Park.
Crump, C. L.	St. Paul, Minn.
Cartwright, Chas. H.	Elk Mound.
Cross, M. R.	Humbird.
Caucutt, G. S.	Taylor.
Cameron, W. P.	367 Robert St., St. Paul, Minn.
Cline, Andy	Oregon.
Coates, Frank	943 Iowa Ave., Butte, Mont.
Craigho, R. F.	c/o United Ice & Ref. Co., Chicago, Ill.
Cook, S. B.	Cumberland.

NAMES.	ADDRESSES.
Cornish, O. B.	Ft. Atkinson.
Cole, C. L.	422 Guaranty Bldg., Minneapolis, Minn.
Coyne, D. J. Jr.	Chicago, Ill.
Conway, W. F.	Troy Center.
Cross, Alvin	Nashotah.
Christianson, Caius	Stoughton.
Christenson, H. C.	R. 4, Tomah.
Christenson, Christ	Amherst Jct.
Christenson, Odin	Nelsonville.
Dibble, C. A.	c/o B. & O., Milwaukee.
Dodge, E. C.	Lake Mills.
Dillon, H. P.	Oshkosh.
Dufner, S. J.	Sparta.
Davis, U. E.	c/o S. S. Borden, Chicago, Ill.
Davenport, Earl	De Soto.
Darneider, C. E.	St. Cloud.
Day, Paul	Madison.
Diver, Guy J.	Box 45, Nelsonville.
Dunsheath, C. E.	514—1st St., Duluth, Minn.
Doolan, Hod	Marshall.
Dehn, W. J.	La Valle.
Day, Geo. E.	Osseo.
De Golier, H. F.	Saxville.
Dressler, Val.	Louisburg.
Ellis, A. R.	50 S. Market St., Boston, Mass.
Ericson, Victor	Pine River.
Ericson, Elov	St. Paul, Minn.
Ewing, Roger K.	179 Prospect Ave., Milwaukee.
Egstad, Ed.	Chaseburg.
Erickson, Helmer	R. No. 1, Box 25, Sister Bay.
Emery, J. Q.	Madison.
Eyman, H. E.	327 S. La Salle, Chicago, Ill.
Else, R. J.	Helenville.
Een, Jas. O.	Marion.
Esker, Ole	Dallas.
Eckwright, E. R.	Bloomer.
Fulmer, F. B.	Moose Jaw, Saskatchewan, Canada.
Fox, M. E.	c/o P. Fox Sons, Chicago, Ill.
Farrington, E. H.	Madison.
Flanagan, Thos.	Readstown.
Fostvedt, Clarence	Wautoma.
Finstad, A. N.	Albertville.

NAMES.	ADDRESSES.
Gehrke, Fred.	Manawa.
Grawin, F. A.	Mt. Tabor.
Gregory, Ralph.	R. 2, Reedsburg.
Groby, L. A.	Dover, Minn.
Groner, H. W.	Minnesota Lake, Minn.
Green, R. C.	Albion.
Guse, P. W.	Madison.
Grell, Fred.	Johnson Creek.
Gallagher, Thos.	Chicago, Ill.
Gronert, R. F.	Ixonia.
Griffin, H. E.	Mt. Horeb.
Gerholz, W. F.	Mt. Horeb.
Grove Bros.	Columbus.
Gilbertson, Joel.	Nielsville.
Goble, C. C.	Hersey.
Garlid, Geo.	Knapp.
Geisler, Will.	Bruce.
Hanna, John R.	c/o Leserman Bros., Chicago, Ill.
Hanson, H. S.	Sharon.
Hillman, C. F.	Cedar Rapids, Ia.
High, John.	Berlin.
Hamm, Robert.	983 Island Ave., Milwaukee, Wis.
Huth, Fred.	Seymour.
Hanson, Wm L.	Grand Marsh.
Hillstead, A. C.	Oregon.
Hartwig, Herman.	Deerfield.
Herreman, H. J.	Black Earth.
Harvartson, F. H.	Boyd.
Hanson, J. M.	New Auburn.
Hutchison, Jno.	Genoa, Ill.
Hole, Melvin.	Coon Valley.
Haugdahl, Sam.	St. Peter, Minn.
Heiney, H. R.	Black Earth.
Hurst, Wm.	Waukesha.
Hoff, Joe.	Stetsonville.
Hebert, Geo.	Eau Claire.
Hahn, Paul W.	Hanson.
Hafemeier, Theo.	R. No. 1, Bockfield.
Hass, B. A.	503—4th St., Wausau, Wis.
Hanson, E. R.	700 1/2 Cramer St., Milwaukee.
Hammerschley, J. G.	Chicago, Ill.
Hougland, A. C.	Madison.

NAMES.	ADDRESSES.
Hastings, R. C.	Marshfield.
Harles, U. A.	Stanley.
Hoiberg, H. B.	Brooklyn.
Houdek, F. J.	Waupun.
Hill, W. F.	Brandon.
Irwin, W. H.	Swift & Co., Chicago, Ill.
Isaacson, Harris A.	R. No. 3, Amery.
Ipsen, Aug. C.	Cobb.
Johnson, W. A.	Mazomanie.
Jarvis, J. D.	W. La Fayette, Ind.
Jenney, W. E.	Darlington.
Jennings, A. A.	175 W. Jackson, Chicago, Ill.
Jericek, Victor	Bloomington.
Jenks, G. H.	611 Trumbull Ave., Chicago, Ill.
Jones, F. E.	c/o Nelson Hotel, Rockford, Ill.
Johnson, E. W.	La Salle St. Sta., Chicago, Ill.
Johnson, H. A.	R. No. 2, Westby.
Johnson, S. J.	Ettrich.
Jorgensen, Carl.	Rose Lawn.
Jacobson, Thos.	Chippewa Falls.
Jorgenson, T. A.	Chippewa Falls.
Jochemson, H. C.	Bark River, Mich.
Keppel, V. S.	Holman.
Kelly, J. W.	Fond du Lac.
Kumm, Otto.	R. No. 2, Bangor.
Kamman, A.	1130—7th St., Milwaukee.
Kretlow, G. C.	Loganville.
Kochheiser, D. S.	Belleville, Ohio.
Kauffmann, F. B.	R. No. 1, Hillsboro.
Kutz, Fred C.	Johnson Creek.
Kelling, F. H.	Johnson Creek.
Kottke, Paul	Cedarburg.
Krueger, O. A.	Albion.
Koch, E. E.	Marshall.
Koenig, H. C.	R. No. 1, Plain.
Kretschmar, Julius.	New Lisbon.
Kleifgen, Nick.	71 S. Water St., Chicago, Ill.
Koepsell, O. E.	Box 198, Mayville.
Kleinheinz, J. A.	430 N. Warren, Madison.
Kascheur, M.	Middleton.
Kleist, G. W.	Almond.

NAMES.	ADDRESSES.
Kachel, J. C.	Whitewater.
Kubat, W. H.	Kilbourn.
Koehn, Aug. J.	Edgerton.
Kimball, C. C.	3335 Pillsbury Ave., Minneapolis, Minn.
Koch, A. R.	Norwalk.
Kolb, F. J.	c/o At. & Pac. Tea Co., Chicago, Ill.
Koehn, Louis	Edgerton.
Kelley, Chas. D.	East Troy.
Klaff, Max.	West Salem.
Key, Scott.	R. No. 1, Vesper.
Kresse, F. F.	Neenah.
Kristensen, F.	Cushing.
Kristensen, Axel	Luck.
Lounsbury, J. M.	577—35th St., Milwaukee.
Linn, Geo. W. & Son	Chicago, Ill.
Lunkenheimer, J.	Mankato, Minn.
Lemke, W. A.	R. 1, Naugart.
Limp, C. A.	Kilbourn.
Lee, C. E.	Madison.
Larson, H. C.	Madison.
Larson, Olaf	Fennimore.
Larson, Axel	Durand.
Lee, Sever	Modena.
Longfellow, A. N.	Wilton.
Lennartz, Theo.	Frederic.
Lilygreen, Carl	Roberts.
Liebert, Louis	Luxemburg.
Longteau, Earl	Green Bay.
Leu, A. C.	Fond du Lac.
Moore, J. W.	Gays Mills.
Mayenschein, Bert.	R. No. 3, Hillsboro.
Mech, Emil	R. No. 2, Clintonville.
Mickelson, M.	Westby.
Melville, Elmer	R. No. 9, Chippewa Falls.
Morrison, E. J.	Chetek.
Meyer, M. H.	Madison.
Meinhardt, F.	c/o W. D. Collyer Co., Chicago, Ill.
Moore, Mrs. J. G.	No. Butler, Madison.
Moren, Robert	Freeport, Ill.
Moore, J. G.	No. Butler, Madison.
Morrissey, Jno. F.	c/o Louis Mearst Co., Boston, Mass.

NAMES.	ADDRESSES.
Manley, A. R.	Montfort.
Montauge, C. T.	Glenwood.
Munshaw, F. A.	Eau Claire.
Merryfield, F. V.	Mukwonago.
Mustad, Hans	Deerfield.
Moyes, W. A.	Cazenovia.
Mortenson, John.	Camp Douglas.
Meisner, Frank	Fennimore.
Miller, John H.	Baraboo.
Mogle, F. J.	Cuba City.
Marvin, G. N.	Black River Falls.
Marks, A. C.	Shennington.
Miller, J. C.	Augusta.
Mistele, Wm.	Oakdale.
Melsby, Owen	Durand.
Moldenhauer, A. J.	Neillsville.
Mohr, Frank	Marathon.
Moldenhauer, G. A.	Montello.
Moertl, Andrew	Seymour.
Mobert, Robert.	Clear Lake.
Melgaard, H. O.	E. Ellsworth.
Mattson, Jno. E.	St. Croix Falls.
McManners, H. S.	Madison.
McMullin, Roy	Viroqua.
McCoy, Dan	Seneca.
McLaughlin, W. J.	Owatonna, Minn.
Moersch, Quirin	Peebles.
Nickel, Fred.	c/o Wayne & Low, Chicago, Ill.
Nauscawen, R. F.	406 Wisconsin St., Milwaukee.
Newgard, W. S.	440 Gilfillan Bk, St. Paul, Minn.
Nicoud, R. J.	108 Wisconsin St., Milwaukee.
Nafis, Louis.	544 Wash. Blvd., Chicago, Ill.
Netland, Thos.	Burkett, Ind.
Nichols, H. D.	Elkhorn.
Newman, A. M.	Black Earth.
Nurrell, C. A.	Soldiers Grove.
Nachtwey, Anton	Dorchester.
Orvold, O. M.	Stoughton.
O'Brien, Jas. P.	Lock Box 793, Milwaukee.
Olson, Lewis C.	Wild Rose.
Olsen, H. P.	Milwaukee.

LIST OF MEMBERS

NAMES.	ADDRESSES.
Ottow, Aug.	Brodhead.
O'Hearn, Frank	Melrose.
Ostberg, Christ	Manchester.
Olsen, Lauritz.....	West De Pere.
O'Keefe, R. J.....	De Pere.
Phipps, H. J.....	Withee.
Pearsall, C. J.....	Evansville.
Pheatt, H. D.....	106 Wisconsin St., Milwaukee.
Peterson, J. H.....	Box 5, Wilson.
Patchen, A.	Platteville.
Paynter, C. A.....	Wauwaukee.
Pickett, Jesse H.....	Spencer.
Peterson, Axel.....	Turtle Lake.
Ponto, Herman	Montello.
Pettingill, H. W.....	309 Stewart St., Green Bay.
Passmore, C. L.....	Iola.
Purves, Jno. T.....	Berlin.
Prescott, A. G.....	Tunnel City.
Packhurst, Sam D.....	416 La Salle Sta., Chicago, Ill.
Pagel, Herman	Burlington.
Perschbacher, A.....	West Bend.
Pederson, Hans H.....	Warren.
Paul, E. N.....	Greenwood.
Peterson, E. A.....	Almond.
Peterson, O. F.....	Larson.
Packard, Frank D.....	Prescott.
Peterson, Louis	Bonduel.
Peschke, E. J.....	Fairwater.
Quale, J. H.....	Box 45, Merrilan.
Radinz, Wm.	Denmark.
Rentz, Herman	Westby.
Ropella, L. C	823 Arlington Place, Milwaukee.
Ross, Frank E.....	309 So. Div. St., Janesville.
Ryan, J. E.....	Fredonia.
Randecker, Chas.	Stoughton.
Redelings, H. J.....	Jim Falls.
Ruprecht, O. H.....	Dubuque, Ia.
Robinson, Paul A.....	Marshall.
Rasmussen, Jno.	Portage.
Rasmussen, E. G.....	Melvina.
Rivers, Frank A.....	Thorp.

NAMES.	ADDRESSES.
Rasmussen, John	Wautoma.
Reif, Henry	Weyauwega.
Rivard, A. J.	Emerald.
Roch, F. J.	Cameron.
Respalje, D. W.	R. 27, Waupun.
Scheel, E. W.	Turtle Lake.
Schuman, T. W.	Hayward.
Stenger, C. J.	174 W. So. Water, Chicago, Ill.
Skinner, D. P.	102 Wisconsin St., Milwaukee.
Shaw, Walter	Aurora, Ill.
Smith, W. J.	c/o Cry Pkg. Co., Chicago, Ill.
Sadler, E. T.	Waterloo, Iowa.
Smith, Lucius C.	Boston, Mass.
Sherman, B. A.	290—16th St., Milwaukee.
Sommerville, J. S.	35 W. Randolph, Chicago, Ill.
Saurer, Jno. J.	Clinton Jct.
Stewart, W. A.	Eagle.
Saurer, G. B.	Cedarburg.
Stryker, I. W.	Nashotah.
Skerhutt, H.	Cedarburg.
Schoessow, Wm.	Thiensville.
Sauders, Chas.	c/o A. H. Barber Cry. Supply Co., Chicago, Ill.
Schulz, Arthur	Dodge.
Schauwitzer, Louis	East Troy.
Sorge, Albert	Reedsburg.
Seymour, Russell	Ferryville.
Stienstra, S. J.	Adanah.
Sammis, J. L.	Madison.
Stewart, G. M.	Mazomanie.
Schwartz, Fred	Kilbourn.
Shepherd, Frank	Mt. Sterling.
Saltwedel, Ernest	Limeridge.
Shield, Jno.	Fall Creek.
Simpson, J. D.	Viroqua.
Sleyster, R. V.	Cochrane.
Scheel, L. J.	Turtle Lake.
Smith, J. H.	Montello.
Smith, R. H.	Kenall.
Schesselman, E.	Fountain City.
Sundin, John.	Union Center.
Schulz, R. A.	c/o N. Y. Cent., St. Paul, Minn.
Shumway, C. P.	102 Wisconsin St., Milwaukee.

LIST OF MEMBERS

NAMES.	ADDRESSES.
Sieger, Wm.	R. No. 2, Chaseburg.
Solie, H. H.	Osseo.
Seyforth, J. W.	Mondovi.
Speich, Fred	Pittsville.
Strozinski, H. O.	Nielsville.
Schoenrock, Jno.	Wausau.
Sleyster, Richard L.	Endeavor.
Sprecher, J. U.	Madison.
Speirs, Guy.	Eau Claire.
Spencer, R. P.	38—15th St., Milwaukee.
Siewert, H. J.	Wauwatosa.
Schneider, Wm.	Johnson Creek.
Steffen, C. J.	712—38th St., Milwaukee.
Swits, G. H.	Ft. Atkinson.
Shilling, Sam.	Chicago, Ill.
Speich, Abe	Berlin.
Smith, J. R.	4938 Winthrop Ave., Chicago, Ill.
Siepert, C. G.	Green Bay.
Schiller, John.	New Holstein.
Trudelle, S. F.	Merrill Bldg., Milwaukee.
Towle, T. B.	Baraboo.
Thielens, P. J.	New Franken.
Thompson, M. C.	c/o Cry Pkg. Co., Minneapolis, Minn.
Tucker, E. H.	Lodi.
Tusler, H. A.	c/o Morton Salt Co., Milwaukee.
Thoke, R. G.	Madison.
Turner, L. W.	Montfort.
Trexall, W. L.	Omro.
Ullmer, J. S.	R. No. 37, Seymour.
Van Duser, Jas.	Whitewater.
Vanderbilt, E. C.	R. No. 2, Moundville.
Whehrle, Theo.	Fennimore.
Wolfram, Henry	R. No. 3, Ft. Atkinson.
Wabschall, Archie.	Turtle Lake.
Walline, Ernest E.	314 No. Warren St., Madison.
Wellinghoff, E. F.	c/o Cry. Pkg. Co., Minneapolis, Minn.
Wentz, F. W.	207 Ferry St., Pittsburgh, Pa.
Williams, C. A.	Augusta.
White, B. D.	B., C. & E. Journal, Milwaukee.

NAMES.	ADDRESSES.
Whitmore, E. J.....	Owatonna, Minn.
Wileman, Frank.....	Milton, Jct.
Werner, F. M.....	Waterloo.
Whitting, H. H.....	Cedarburg.
Weber, Bert	Belleville.
Wurster, H. H.....	Ironton.
Wisner, Grant,	Fairchild.
Winter, L. H.....	Eau Claire.
Wallace, D. F.....	Alma Center.
Warnke, Wm. R.....	Kingston.
Waldhart, Alfred.....	R. No. 1, Medford.
Walzien, C. F.....	R. No. 1, Abrams.
Wagner, Robt.....	Sumner, Ia.
Wheeler, H. A.....	West De Pere.
Yager, Jos.....	R. No. 2, Thorpe.
Yager, E. L.....	Bloomington.
Young, Geo.	Menomonie Falls.
Zander, H. L.....	Cross Plains.
Zilisch, C. A.....	Madison.
Zimmerman, A. W.....	Norwalk.



C. J. DODGE
Windsor
New Member Executive Committee



FRED M. WERNER
Waterloo
Newly Elected Treasurer

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 coporation shall be the education of its members for a better practical knowledge of creamery operation, promoting progress in the art of buttermaking, 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 buttermaking; 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 Buttermakers' Association," and its principal office and location at Madison, Wis.

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 members 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. The board of directors shall consist of three members of the association. The term of the officers of the association shall be for one year beginning July 1st, 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 July 1st or 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 who 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, provided 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 may accept such special side premiums as in the judgment of the executive committee, may seem for the best interests of the members.

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 privilege of the associations' butter contests are open to exhibitors outside of Wisconsin for complimentary score only and any exhibitor exhibiting butter at these association contests for complimentary score shall, after deducting express charges and \$1.00 membership fee, have returned the balance for which the butter sold.

ARTICLE FIFTH. This association shall give such prizes for butter as may, in the judgment of the executive board, best suit the times and be of greatest service to the association and those

who receive the same; said prizes to be announced in the annual convention program.

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 "Roberts' Rules of Order."

ARTICLE EIGHTH. These By-Laws may be altered or amended in the same manner as prescribed in the Articles of Incorporation.

The following resolutions were passed at the Fond du Lac Convention, Feb. 3, 1910:

Be it resolved: That the Butter, Cheese & Egg Journal be made the official paper of this association.

Whereas: the judging of butter at the Wisconsin scoring exhibitions and conventions by three judges, working independently has given universal satisfaction,

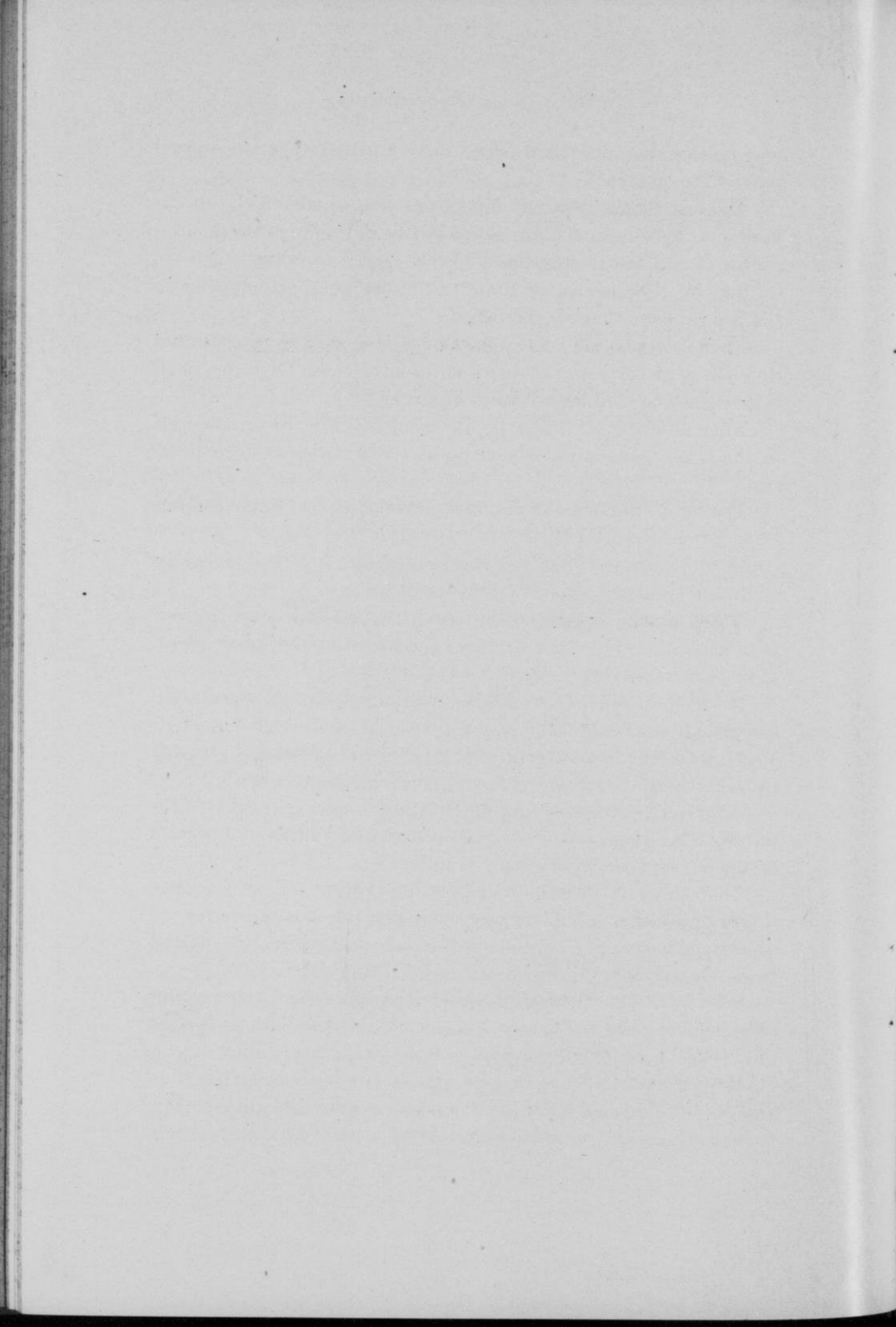
Be It Resolved: That this association in annual convention assembled, commend this system; and, be it further resolved: That this method of judging the butter at the National Creamery Buttermakers' Association be employed in the future.

Whereas; Parties having entered more than one tub of butter from the same creamery have caused the judges and officers of the association unnecessary trouble,

Therefore, be it resolved: That in the future, any butter-maker or creamery, sending more than one tub to compete for the prizes and premiums offered by this association, is to be barred from competing again for a period of three years.

Whereas: The Wisconsin Buttermakers' Association is now giving silver cups to County Buttermakers' Associations for the ten highest scores at the meeting of the State Association:

Be it resolved: That in case any such county association in possession of any such cup, shall for any reason discontinue their organization, said cup shall be returned to the State Association.



THIRTEENTH ANNUAL MEETING

OF THE

Wisconsin Buttermakers' Association.

The sessions of the Thirteenth Annual Meeting of the Wisconsin Buttermakers' Association were held in the Assembly Chamber of the State Capitol, Feb. 3-5, 1914.

OPENING SESSION, TUESDAY EVENING,

February 3, 1914.

Meeting called to order at 8 o'clock, in the Assembly Chamber of the State Capitol, President Lauritz Olsen presiding.

PRESIDENT: Ladies and Gentlemen and fellow Buttermakers, welcome to our Thirteenth Annual Convention. I have the honor of introducing to you Mr. Carl M. Johnson, president of the Madison Commercial Club, who will give you a welcome in behalf of the city of Madison.

WELCOME TO THE CITY OF MADISON.

By Carl M. Johnson, Pres. Madison Commercial Club.

Mr. President, ladies and gentlemen: On behalf of the Madison Board of Commerce, an organization composed of a thousand business and professional men of Madison, I am very glad indeed to welcome you here to the city, and hope that during your stay here you will have much both of pleasure and profit. We of Madison do not regard ourselves as the sole owners of the

city. Being the city of the University and the location of the state capitol, we believe this is more a city of the state than any other city, the home of the state rather. Therefore we hope that you come here not as strangers, representing as you do a line of industry that has been recognized throughout the country, throughout the world, in fact, as one of the leading ones of this, in fact, the leading one of this state, and in which this state leads all others. It certainly is a pleasure to have you here tonight.

As I stated before, we hope that your stay here will be both a pleasant and profitable one, and in so far as the Board of Commerce is concerned, we hope you will feel able and free to make use of the offices located just opposite the Park Hotel, where the office force will be very glad in any way to help you make your stay a pleasant one.

I thank you. (Applause.)

PRESIDENT: I do not know that I will have to say anything in introducing the next speaker on the program, either for or against him. I want to say this much, we have had the man on the program for two years, but being a very busy man he was unable to be present. This year we decided, in order not to be disappointed, we would take the convention to Madison so that we would have the pleasure of hearing our Governor.

(Great applause.)

ADDRESS OF WELCOME.

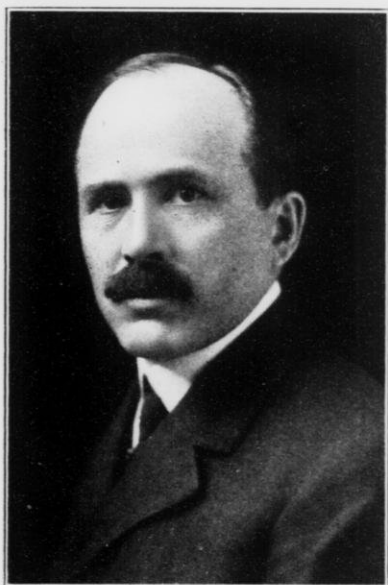
By *Hon. Francis E. McGovern*, Governor of Wisconsin.

Mr. President, ladies and gentlemen, members of the Wisconsin Buttermakers' Association: It was a matter of very sincere regret to me last year and the year before that I was unable to attend your convention. I had the satisfaction, however, of sending perfectly satisfactory representatives, who spoke to you more entertainingly and I think more profitably, than I could have done.

I am pleased that this convention occurs at the seat of government and that it is possible for me to be here, and I want

to welcome you on behalf of the people of the state to this Assembly Chamber, to this Capitol.

Agriculture is the principal industry of the people of Wisconsin. Dairying is the most important feature of farming and buttermaking, I believe, the most important part of dairying. It would be strange, therefore, if the buttermakers of Wisconsin could come here to the seat of government, meet in this Chamber



HON. FRANCIS E. McGOVERN

in this beautiful new Capitol, without feeling thoroughly at home, without realizing that they are welcome, and without someone saying to them that the people of Wisconsin appreciate the thought, the energy and the skill which have enabled them to make this industry what it is, the leading industry of the state, and to make their state the leading state in the Union in the matter of dairying.

Now, ladies and gentlemen, I have a special reason for having an interest in your proceedings, and wishing your calling well.

I was a buttermaker myself once. That is the first thing I ever did that was profitable, I believe. We all begin with a fairly practical knowledge of milk; we develop from that to cream and butter, and I began in the usual way with the old dash churn on the kitchen floor. It isn't the kind of buttermaking you are familiar with now. I believe you would be quite surprised and greatly amused if you would be transported to one of those primitive butter factories which I helped to operate. But we made good butter then, and I attended not only to the making of it, but to everything that pertained to it, from getting the cows out of the pastures, listening to the tinkling of the bell, following the cow tracks for cows that had strayed off and that couldn't hear the bell, and bringing them home, bare footed as we were, and milking them in the early morning and late at night, and churning the cream into butter, then trading off the butter for coffee and tea at the neighboring store. That was the way we did it. I am glad indeed to know that since that time, not so many years ago, that industry has grown until the men and women engaged in it are here in annual convention, and the product has become one of the principal products of the great state of Wisconsin.

In looking through your program I was interested to notice these facts set out in the last pages of the booklet, the fact that Wisconsin has more milch cows than any other state, that we produce more butter and more cheese than any other state, and that we excell not only in quantity, but also in quality, for your table in the closing pages shows that Wisconsin butter sells on an average for about two cents a pound more than the butter produced in neighboring states. That is attributed not only to the natural resources of our state, but to the skill and the energy and the ability of the men and women who are engaged in the dairy business in Wisconsin.

I am not going to make an address here at all. I am too utterly unprepared for that, but if you will permit one thought it will be this, that the time has come in my mind when you ought to bring some of the ability to bear which has brought such splendid results in production, to the marketing of your product.

Every great manufacturing plant has two principal departments, the department of production or manufacture and the sales department. Mr. Johnson, who was here a little while ago, as one of the vice presidents and principal owners of the Gisholt Company or the Fuller-Johnson Company would tell you that while the conduct of a factory for the turning out of machines of high quality is important, that he would not think for one moment of operating that factory unless he had also a sales department whereby and through which he would market the things produced there, and I venture the assertion that if he was without such a department, the factory would not continue to exist.

The farmer is just as directly a manufacturer as the Gisholt Company or the Fuller-Johnson Company, and when he brings his cream to you to be manufactured into butter, while it is important that it should be pure and fresh and good, and while it is necessary that you should understand the business of butter-making so as to make from that butter of the finest quality and first grade, it is also important that the business end of buttermaking and of this department of agriculture should be attended to with somewhat the same system and by means of somewhat the same organization that attends the business of manufacturing as we here understand that term.

A year ago the Board of Public Affairs, of which I happen to be chairman, investigated the production of cheese, and it found in a general way that of the price the consumer pays, the producer receives about 50 per cent, and some one in control between the producer and the consumer receives the other 50 per cent. We haven't investigated the matter of marketing butter, but I assume that there isn't very much difference there, that about 50 per cent of the price paid by the consumer for butter reaches the pocket of the producer, and that some one in control between him and the consumer takes up the other 50 per cent, and I want to say for myself, ladies and gentlemen, that that arrangement doesn't seem to be satisfactory or fair. I should like to see the producer get a little more than he does now, and I would like to see the consumer get his butter for a smaller price. That means that the middle man between the two should receive

less than he does now. That duplication and waste might be eliminated and the producer and the consumer brought more closely together, and when I think that the marketing of butter and cheese is passing into the control of the great packing houses, my friends, isn't it time we did something so that the farmer and the buttermaker could get more and the consumer should receive the product for less? Unless I make a very great mistake, ladies and gentlemen, that is one of the problems of the future so far as agriculture in Wisconsin is concerned, and it is one of the things that may fairly engage the attention of you at your annual convention.

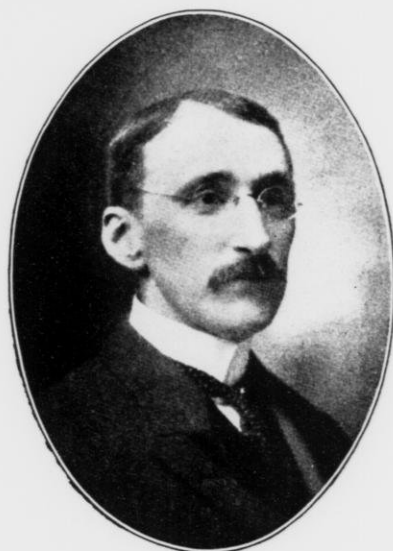
I may not take up much more of your time. At the last session of the Legislature I introduced a bill the merits of which I am not going to weary you with. It is always an advantage first to have the problem stated, because in the stating of the problem half the work of arriving at a solution is done, and then after you have stated your problem, clearly it is a very great advantage to have a definite solution of some sort, because it paves the way for what could be a just and satisfactory final solution. And so on this question I commend the commercial side of buttermaking to your attention; I commend the consideration of the selling of farm products, and particularly of this, one of the principal farm products, to your attention, and I assure you that the people of Wisconsin are interested in your calling; that they wish your meeting well; that they will be delighted, so far as they can contribute to that end, to make your stay in this city pleasant, and they wish your discussions to be profitable. If there is anything I can do as Governor of this state, ladies and gentlemen, call on me. You are entitled not only to the freedom of the city, but the freedom of the state, and I am very glad indeed to be here to welcome you heartily tonight. (Great applause.)

PRESIDENT: The next speaker on our program is a man whom it is very easy for me to introduce also. I guess it would be like introducing a father to his own family or children. I kind of look upon the next speaker as a step-father, at least, to most of the buttermakers in this state. Prof. Farrington will give the response to the address of welcome.

RESPONSE AND WELCOME TO FORMER DAIRY SCHOOL STUDENTS,

By *Prof. E. H. Farrington.*

Mr. President, Ladies and Gentlemen: The Governor has informed us that the stating of a problem is one-half of its solution. Now, I have one or two problems that I want to state this evening, and I am very glad that he has given that explanation, because it encourages me in hoping their solution will be easier than I thought possible.



PROF. E. H. FARRINGTON

I think I am safe in saying that the buttermakers of this state are no strangers in the City of Madison. For the past twenty-four years you have been coming from all counties in the state to Madison. Perhaps some of you have either heard or read the poem or essay called "The Path of the Dairy Cow". It is an excellent piece of literature. I can't repeat it, but I think you have all read it. I think perhaps this evening we would be entitled to speak of the path of the buttermakers. The butter-

makers have been making paths over this state for the past twenty-five years. They have come from the northern and southern counties of the state, and from the eastern and western, and if we were tracing these paths, we would find that they are very well worn.

The buttermakers from an educational standpoint, were the pioneers in education at the Agricultural college. I suppose most of you remember when you first came to Madison to take work in our special dairy course; the dairy building was the first building on the agricultural site of the University campus; the first class of people that came to the Agricultural college at Madison were buttermakers; they began to come in 1890, and have been coming ever since. The 100 men that came down here in 1890 were the pioneers in this line of work. Since that time the courses of instruction have been greatly increased, and last week Thursday we turned out 155 more students from this short course. Our students have all gone back through these paths I mentioned to their homes, and so it has been going on for many years. In the early days the short course of instruction to buttermakers was our principal teaching work in the Agricultural College, now you will find in the Dairy Department that we give instruction to about 700 students throughout the year, and in the winter there are over 2,000 farmers attending courses in the Agricultural College; this shows the interest that is taken in this state in applying science to our every-day farm work. One interesting feature of the class we had this winter was a man who took the course twenty years ago, and who came back to take the short course in the creamery a second time.

The Governor has spoken about the importance of the Dairy industry in Wisconsin, and it occurs to me that the buttermakers should take a great deal of pride in his statements; suppose we compare the value of the butter made each year with this beautiful Capitol building, estimated to cost about \$6,000,000. Now, the value of the butter made in this state, is estimated at about \$34,000,000 a year, and if the money received from butter were used for this purpose alone, we could build about six of these capitols every year.

As the buttermakers of the state come to us to attend the dairy school each winter, I have noticed that they are almost exclusively interested in the internal affairs of the creamery, and during our course of instruction we discussed many of the points of butter making that you are interested in; such as the pasteurization of cream, the way in which it influences the quality of the product which you produce, also the cause of mottles in butter, the methods of salting butter, the use of starters and many other subjects related to butter making. I have talked these over with you for the past twenty years, but now to change the subject I would like to speak of one or two other things that I think you ought to be interested in, as well as the internal affairs of your factory.

Where a man is new in the business, he must naturally give his attention to the every day work inside the factory. He is interested in learning how to run the various machines in the factory rather than how to deal with the farmers that come to it. He devotes almost his entire time to the work inside of the four walls of his factory. After he has gotten fairly familiar with those internal affairs, I think it would be an excellent thing for him to devote some of his thought to the welfare of the farmers, and I wish to mention a few things which I think it will pay the buttermaker to devote his attention to, outside of his factory.

Before discussing them, I wish to mention one new thing that is important inside of your factory, and that is the idea of getting a cost accounting system in your factory. A great deal is said about system in business nowadays and some of the creameries in this state are systematizing their business, but I think there are many other factories where the buttermaker has very little idea how much of the cost of making the butter should be charged to the different parts of the work. For instance, he doesn't know how much should be charged up to fuel, how much to packages, how much to labor. This is a question that could be discussed further, but I am going to leave it here, and at some future time we may be able to outline some plan for applying a cost accounting system to our creameries. I think

it is a fact that we are in some places, making butter at a loss, although we don't know it; and if we had some simple cost accounting system at the factory, we could find out if we are paying too much for the hauling of the cream, etc., and by devoting some time to that matter, we could make the creamery a great deal more profitable than it is now.

To get at the point I am most interested in this evening, I wish to say that after the buttermaker has become familiar with the inside of his factory, he can make the creamery of more importance if he will reach out a little, and see if he can't interest his patrons in thinking of the creamery as a business center for the farmers. This is something that I think all creameries ought to be. There are some things that you can do for the farmers besides simply making their butter, and one of these things is the marketing of eggs at the creamery. This is a long story, and I am not going into it in detail, but it is something that will tie the patrons to your factory, and be helpful to them. I could outline a plan if it was necessary of how to market eggs from the creamery. The farmers are each given a rubber stamp with a number on it, and they sign an agreement that they will send all their eggs to the creamery, of a certain quality of course; the eggs should be selected at the farm and then brought to the factory with the milk or cream and shipped from the creamery to market in cases.

Another line of outside creamery work is the one that is very new, possibly it has only been tried successfully at one or two places, this is the establishment of a co-operative laundry at the creamery. Here is a way in which I think the buttermaker can be very helpful to the farmers, if he will give his attention to it, as well as to the buttermaking inside of the factory.

This idea of a laundry at the creamery has been made a success at one creamery in the state of Minnesota, and you can readily understand the opportunities of tying the farmers to your factory as the business center for them. If you can have them bring their eggs and their laundry to the factory, this is simply another way in which to interest them in your factory.

There may be an objection to the making of butter and the washing of clothes in the same room, but in this particular instance at Minnesota they have built an ell to the creamery, and the laundry is in the ell or an addition to the creamery building.

The great advantages of such an arrangement are that the farmers come every day or every few days to town, and they can bring in their laundry as well as their cream and their eggs, and since in the creamery you have the steam and the power, as well as a good supply of water, and this laundry machinery in one section of the building and perhaps an assistant who can take charge of that line of work, you can establish your factories in the hearts of your patrons on a much more substantial foundation than some of them are standing at the present time.

During the past winter I have obtained the necessary laundry machinery and had it installed in our dairy building with the expectation of teaching our winter dairy students how to use it. I told the agent for this machinery that I wanted equipment large enough to wash about 150 white suits for our dairy students. We have that machinery now in one of the buildings of the dairy department, and I hope that some time before you leave the city you will call and see it. The machinery we have at the present time costs about \$300.00, and my idea up to the present time, is simply to do the washing and the rough drying of the farmers' clothes and perhaps that will be far enough to go for a beginning. If you put in machinery necessary to do the ironing, it costs a good deal, about \$1,000.00, I think. Possibly you can make the first step and do the laundry work which requires simply a washer and the machine for drying the clothes, and then return the clothes to the farmers, rough dry. The man who has been the manager of the creamery where they have started a laundry that is successful, told me that the way in which it started was this: The patrons caught the buttermaker one day setting up an old churn in the creamery, and washing his overalls in it, and from that they developed this idea, until they have now built on an addition to the creamery and have a well organized laundry business in connection with the creamery.

Along this line I want to read the following letter. I suppose most of you remember Prof. Henry. Those of you who attended the Agricultural College in former years have seen him, and many of you have read about him. He has always been very much interested in this particular project, and recently at the Country Life Conference that was at the Agricultural College, the secretary of that Country Life Conference wrote to Prof. Henry, and knowing his interest in this matter, asked if he was still interested in it; he received the following letter:

“Referring to yours of recent date, will say that some eighteen years ago, as near as I can judge, at an Agricultural meeting held at Milton Junction, I made an offer to give a sum of money, I have forgotten the amount, to pay for the establishment of a country laundry at a creamery. I hereby renew the offer which you may present to the farmers of the state through the conference, if the conference approves. I will pay to the Savings, Loan & Trust Co. the sum of \$300 in trust, to be paid out by it, together with accrued interest, to the first co-operative laundry in the state to be owned and managed by the farmers or their wives in connection with a creamery. The fund does not become available until said laundry has been in successful operation for one year. I appoint as a committee to take charge of said fund, the head of the Department of Domestic Science of the Agricultural College, the person in charge of the Wisconsin Dairy School, the master of the State Grange and the secretary of the Country Life Conference. I will direct my trustees to pay over at any time within five years the principal sum of \$300.00 and interest upon the order of the committee. If not awarded by the committee during that period then to pay over to me or my estate, the sum in trust. My heart is still with the farmers of Wisconsin, and I trust this offer will do good. In thinking that over, I suppose that some will say that my aid should be an out-right gift to the first applicants for it, for then is when the money is most needed, but I have noticed that when farmers want money for any purpose, they have no trouble to raise any reasonable sum of money, and no doubt they will have ample use for it for enlarging this laundry, or in some other way.”

At the time this letter was read at the Country Life Conference, many questions were asked, and before the close of the session there were two women from two factories in this state who said that they were going to start a laundry. One of them was at River Falls in this state, and one at Baraboo, so you see that this business has been started already, and I hope some of you will be interested here to start and to push it along still further.

A great deal is said nowadays about the raw material being responsible for the quality of the butter made. This is something that probably you will discuss a great deal in your meeting here. It is very easy to turn all of your troubles back on the farmer and say, if the farmer would deliver good cream, you could make good butter, and there is more or less truth in the statement. The quality of the raw material is, to a large extent, responsible for the quality of the butter, but I think the success of the creamery or the success of any of these other projects, will depend largely on the raw material in the buttermaker himself. (Great applause.)

PRESIDENT: I want to state that Mr. Martin H. Meyer, secretary of the National Creamery Buttermakers' Association, wishes to address you just for a few minutes.

NATIONAL PROBLEMS

By *Martin H. Meyer,*

Secretary National Creamery Buttermakers' Association.

Mr. President, Gentlemen of this Convention, and visitors: It is not that I wish very badly to speak to you, but it because we are at the present time interested in the re-organization of state and national societies. There are a few things that I have to bring before you which you may consider during this coming year.

The National Creamery Buttermakers' Association is now twenty-two years old. When it was organized twenty-two years

ago there were at that time only a few state societies, perhaps only ten, and now we have at least fifty or sixty. During the last twenty-two years there has been an evolution in various dairy machinery, and the buttermakers were always glad to go to the National Association to see the new machinery that came out from time to time.

At the last session of the Association there was a great deal of discussion in regard to re-organization, and it was finally left with the officers to evolve some plan during the year to be put up to the convention when we meet again this coming year. During this time these various factors have to be looked into and brought before these societies of the several states in order that we may take intelligent action.

While these state societies have increased in number, they have also increased in power. These societies today have a great influence on the educational matters in the state and also on state and national legislation. As these societies have extended their influence in these directions, we find that district societies have been formed in the various states throughout the United States. All these factors have given the buttermakers of the states an opportunity to present the matters of interest, as far as they are able, in the educational line which caused them to have less desire to go to the National Association meetings. Dairy schools have been started since then, and their courses have been extended throughout the United States. Educational scoring exhibitions have been started everywhere so that the buttermakers do not have to rely on the National Creamery Buttermakers' Association for educational scoring of butter.

Later we find as these state societies developed, the National Dairy Show was started in Chicago with the exhibition of machinery, and this gradually drew all the dairy interests toward Chicago, which is the logical central point for a great national dairy exhibition. Then as this machinery exhibit was withdrawn from the National Creamery Buttermakers' Association, there was less interest there for the buttermakers to go to the National. These various factors are the fundamental cause of the unrest throughout the United States, because today when the

buttermakers have spent time and money in their own states in making their state associations strong and great, they say, "We haven't got the time and money to attend the National Association." These and other factors we have to seriously consider at this time. Then there is another factor, the drawing away of the National Owners and Managers Association from the Buttermakers. It seems that the interpretation of buttermakers merely applies to the buttermakers or employes, and because some of this sentiment has crept into the associations there has



MARTIN H. MEYER

been this break, and unless we can come together on a common ground and put a different meaning on the word buttermakers, we will be confronted with a break, and this break may come at this time when the re-organization is under consideration. We need, in those states where the societies of managers and owners were started, to have a coming together again and all stand firm on a common ground. Isn't the interest the same whether I am the individual owner of a creamery or whether I am a

buttermaker? Just as soon as we find the sentiment growing toward the labor union spirit in our organizations, trying to establish a sliding scale for wages and work, we do more damage than good, and this must not enter into our societies.

What do we seek most at this time? Is it the educational and the legislative? We cannot best express ourselves unless we unite and come together. If the employes pull one way and the employers pull another, we will have to re-organize and both societies will stand stripped of power we most desire which jointly we can now get, and now is the time to take advantage of it. This can best be accomplished by having united state organizations, and then each state organization is to appoint one man to represent its interest in a central congress. When this congress meets, each state representative of the various state societies will deliver resolutions stating his state's position on national problems. When all the evidence is delivered by each elector, considered by the congress, a document giving the consensus of opinion will be drafted. This congress then will send a representative to Washington to deliver this message, and I can assure you that by the time such a document is delivered, he has developed such tremendous dynamic power as to run his fist through a two inch plank, gentlemen. The dairymen today are the most disorganized men in this country. We have societies enough, but each society goes its own individual way.

Those with whom I have talked since the Chicago convention, tell me that they believe through this plan we can derive great good, and we will have a power in state and national legislative matters so that obnoxious bills will not even be presented in Congress.

Now, the expense need not be heavy. Heretofore each buttermaker paid his own expenses to the Nation Convention. Now if each buttermaker will pay one dollar to the state convention that will more than pay the delegate, and it may not amount to more than 25 cents per each buttermaker and perhaps not more than 10 cents per each dairyman. Have we got the power? That is the question. I believe we will have it. The way I see

it, gentlemen, we have to seriously consider some of these things.

I thank you, gentlemen, for your attention. (Applause.)

PRESIDENT: I will now at this time deliver my annual address, which will be very short, for which I think you will be thankful.

PRESIDENT'S ADDRESS

By *Lauritz Olsen, West De Pere.*

Ladies, Gentlemen and Fellow Buttermakers: It has always been customary for the President to give an address at every annual meeting, and I shall not differ from that custom, although I would rather give the time for the discussion of some of the excellent papers that we have on the program.

I am glad to see so many buttermakers in attendance, and I am sure you all feel that the business men and citizens of Madison deserve to be long remembered for the warm welcome they have given us, and for their efforts in making our stay as pleasant as possible.

I want to congratulate you buttermakers on the fine butter exhibit. I am told that while some is not of as good a quality as it should be, most of the exhibits are of a high grade, which shows that we are on the right road to permanent success in the creamery business.

We are today confronted with a situation as never before. About a year ago President Wilson was inaugurated into the highest office of this great country, and with him came a change in administration. The Democratic party had made many promises to the people of this country. Among other things were, reduction in the high cost of living, and the tariff, which in some measure affected our business, as butter was under a protection of six cents a pound, which made a barrier to foreign importation. As I said before, reduction in the tariff was promised, and butter was cut down to two and one-half cents a

pound, which opened our doors for foreign shipments, and effected our markets. About three weeks ago the butter market in San Francisco was quoted at 27½c on account of their market being flooded with imported butter, and California dealers had to look to the eastern markets for an outlet for their surplus stock. This in connection with the mild winter, importations of foreign goods, and a good supply of stock in storage, have made our eastern markets do some fancy high diving stunts the last few weeks, which means less profit to the producers, and may, if prices are carried much lower, take all profits away and turn our dairy farmers to something more profitable. But every cloud has its silver lining, and the silver lining in the present situation is to me the fact that the careless farmer has got to produce a better grade of raw material, something which has been the chief topic for many years. We are all aware of the fact, that for several years, on account of the increased demand for butter, cheese, city milk, condensed milk, ice cream, etc., dairy products have been in great demand. Anything that looked like butter would sell at a good price. Centralizing creameries sprang up all over the country as fast as toadstools in the spring, and cream was accepted that was not fit to be made into butter. The good old whole-milk creameries, where milk was delivered every morning, had to give way to the hand separator system, and although better machinery was invented, and the best and most skilled men in charge of the creameries, the quality of our butter was on the down grade instead of on the up grade. The small creameries had to take the kind of cream that they knew would not make good butter; if they didn't, the centralizing creameries would get it. Laws were enacted to better conditions, and while they helped some, there was not enough men to look to their enforcement, but the present situation, I believe, will remedy the evils that have been brought about by the shortage of dairy products the last years. It looks to me like this; that if you don't make a high grade of butter, you will have trouble in disposing of it at a profit. Buyers will pass up under-grades and turn to foreign makes; it is a matter of quality. The man who has to buy the butter demands a hundred cents worth on

the dollar. However, I am optimistic enough to believe, that if we get good raw material, and good, up-to-date factories, our butter will be leading in our markets. I also believe that all of us connected with the dairy business, have been somewhat to blame for existing conditions. The producer, for instance, undoubtedly thought, that if he could get as much for his filthy cream as for good cream, it would be time wasted producing a



LAURITZ OLSEN

good article. The creamery man probably thought, if I don't take it somebody else will, and so he would take it and load it with water and salt, sell it for a little less than extras, but his large over-run would offset the difference to some extent, so he would not lose very much on the transaction. The merchant was in the same boat as the rest. If he did not sell it at as much as possible, he would perhaps lose a customer, so he tried to get more for the stuff than he really thought it was worth, and so all along the line, one took it because he was afraid the other fellow would get it.

Now when we all agree that this system is wrong, why not correct it? It would seem to be the simplest matter under the sun, but it is perhaps not so easy. Present conditions will help as long as they last, but times might change, and with them change conditions, so why not try something that would forever keep Wisconsin in the lead as a butter state, and to do this I have in mind the branding of Wisconsin's good butter. About a year or so ago, a movement was on foot to have a certain trade mark placed on all Wisconsin-made products, including butter. I admit that I was against this, for what looks to me like very good reasons. I am proud of the fact that Wisconsin produces as good butter as any state in the Union, but nevertheless, there is butter made here we all wish was made somewhere else, the farther away the better. Now, if such creameries could use this trade mark, what good would it amount to? Nothing. No, let us get the Wisconsin trade mark on all butter worthy of it, so that when a buyer comes to some butter merchant (no matter where, Chicago or New York) that he will say when he sees the Wisconsin trade mark: "Give me some of this brand. I know it is good." Let the brand be a manufacturer's guarantee for the quality of the goods. The Danes have done it, and the Americans surely are as smart as the Danes.

Now then how are we going to do this; and I admit it has its difficulties. I have an idea in mind that might work out, or at least be helpful in getting the idea worked out. Suppose the state take this matter in hand (say the Dairy and Food Department), license all factories and factory operators, make those who want to use the trade mark send butter to the scoring contests, make it every month, or every other month, or four times a year, send out the calls for immediate shipment, and have a certain standard that the butter must come up to, and make the illegal use of such trade mark punishable with a heavy fine or jail so no one would be tempted to use it unless permitted. Then I predict we will be able to create a demand for our butter at a price that will bring profit to the producer of good cream.

Last year I said quite a little about the danger of oleo-margarine, and I just want to remind you that we still have

this evil with us, and they are trying hard to remove the prejudice that prevails against this product; their cry is that it is far cleaner than butter. Now there might possibly be such a thing that some milk and cream was produced under filthier conditions than oleo; but I think that I can truthfully say that they are few; however, it is up to us to help to eliminate such places and see that butter gets a square deal in Congress.

There is also another bill before Congress that your attention has been called to. The McKellar cold storage bill. This bill, if enacted, surely would spell ruination to the dairy industry, and must be fought vigorously.

I want to thank the Dairy School, the men in charge of the scoring contests, and especially Prof. Lee, and also the Dairy and Food Department for the good work they are doing towards improving the quality of Wisconsin butter.

I hope you will take an active part in the discussion of the many good papers that we have on the program. I know that we all feel proud of our secretary for being able to get up this excellent program, and he will feel a good deal better if he sees you are interested in the topics he has chosen; then, after we are through with the convention, let us go home and remember through the coming year that quality will be the watch word for the buttermakers.

I thank you. (Great applause.)

The next on the program will be an illustrated lecture on the "Use of Concrete in Creamery Construction," by I. M. Clicquenois.

THE USES OF CONCRETE IN CREAMERY CONSTRUCTION.

By *I. M. Clicquenois*, Chicago.

Ladies and Gentlemen: The subject that I have does not deal very closely with the actual process of buttermaking, and it is a good thing that it doesn't, because I know very little about the actual process of buttermaking. My experience in

talking to an audience of this character on this subject is that the subject is not so deep, but as it borders on the technical it is hard to make it interesting, and therefore I have tried to arrange what little I have to say in the form of a paper to bring it before you quickly and shortly without taking up too much of your time, and afterward I have some slides I will show you to illustrate my paper.

All large and leading manufacturers of today recognize providing for the future and laying down the foundation of their business, which will afford the most economical operations. There are certain fixed charges in nearly all lines of business, such as buildings, machinery, insurance, taxes, etc. Often the success of a company depends upon the careful attention to such charges.

The buildings which shelter the valuable machinery of a creamery are, without doubt, one of the most important of these. The requirements of a building for a creamery should unquestionably embody; first, sanitation; second, fireproof construction; third, permanence. Concrete has long been recognized by leading engineers to meet all of these, together with having the simplicity of construction, allowing largely the use of local materials and a small percentage of skilled labor. The choice of finishes and the elasticity of architectural design afforded by concrete, permits the erection of a building which will be a credit to the architectural surroundings.

From a sanitary standpoint, concrete by virtue of its composition and its properties is one of the most sanitary building materials in use today. It may be flushed and scrubbed by water with no danger of rotting. It is vermin proof and rat proof, and there are no cracks in which dust and refuse may accumulate.

The necessity of a fireproof structure is without doubt very urgent in creamery construction on account of their location in rural districts which afford no fire protection. Low fire insurance rates accompany this protection. There are two types of concrete construction which are well adapted to this type of factory, namely, concrete blocks and reinforced monolithic

concrete. The latter is to be preferred as the whole building is constructed as a unit and a stronger and more fireproof building is obtained. A mistake is often made in creamery construction. The walls and the first floor are often made of concrete construction, while the second floor and roof are of wood. Such a building cannot be classed as fireproof. While it is true in case of fire, the walls may again be used, the equipment and fixtures



I. M. CLICQUENOIS

will be lost. As most of the outlying creameries require only one story buildings, it is most essential that the roof should be of concrete. A construction of this character incloses all of the machinery of the building in a fireproof compartment. The boiler room should be inclosed by a concrete division wall and with the floor and roof of concrete, the danger of fire is reduced to a minimum.

All creamery buildings should be equipped with an efficient system of ventilation. This should be scientifically designed and installed to obtain proper results.

The thickness of the walls will depend largely upon the height and character of the building, but for ordinary one-story buildings, an eight inch wall should be amply thick. Reinforcement in both directions, and especially around the corners, is really an essential feature. This gives strength and rigidity to the structure, as well as preventing cracks due to expansion and contraction. All spans such as over doorways and windows must be reinforced with steel. This, of course, is also true of beams, girders and floor spans. In general, all reinforcement must be placed near the bottom of the girder, beam or floor. This is true in every case, except where such beams and girders cross a wall or column in which case the steel is bent up to follow nearer the top.

Often too little attention is given to the foundation. A good, firm foundation is a fundamental requirement for all structures. Carry the footing well below the frost line, and to a firm, load-bearing soil, such as gravel, or better still, to rock. Failure to do this may result in unsightly cracks due to the settlement of the foundation.

To say that concrete construction is permanent is no exaggeration. If properly constructed, it will last forever, increasing in strength with age. Probably the greatest and most unfair argument used against concrete has resulted from the failures on account of its misuse. Materials ranging between dirt and large boulders have been mixed with cement, which must result in very unsatisfactory work. Usually it is advisable to place such construction in the hands of a competent contractor or parties skilled in mixing and placing concrete. It is essential, too, that the owner should be familiar with the characteristics of good materials and workmanship. Success or failure may result from a careless selection of the former and an improper manipulation of the latter. There are some details of construction and selection of materials of any concrete structure which stand out forcibly as the most important. It is proposed to enumerate these carefully in hopes of avoiding some of the common failures and unsatisfactory results.

The materials commonly used in concrete construction are cement, sand, gravel and broken stone. By sand is meant, all the finer particles of the gravel which will pass through a screen having one-quarter inch openings, and by gravel is meant all the materials which will not pass a one-quarter inch screen and ranging in size not larger than $1\frac{1}{2}$ inches. Broken stone has the same qualifications as gravel in respect to size. Any well known brand of Portland cement may be relied upon. The term "aggregates" is given to the sand, gravel or broken stone. The most important of the aggregates is the sand which, with cement, forms the mortar of the mixture and its fundamental strength. Gravel or stone when mixed with the mortar distributes this strength and increases the volume of the mass of concrete without decreasing the original strength of the mortar below a practical working value. The value of the sand for concrete work depends primarily upon three qualifications, cleanliness, grading of the sand particles and the strength of each individual particle.

The first qualifications, or the amount of clay or silt contained in the sand, should be considered first. It cannot be said that concrete sand must be entirely free from clay. The amount and character of the clay should determine the acceptance of the sand. When clay exists as a coating to the particles of sand, it should be rejected. However, when it exists to a small extent in the form of separate particles and of a silicious nature, clay is usually harmless. It is desirable, however, that sand should be free from clay, loam or other fine materials.

The second important factor of the selection of sand, the grading, may be defined as the proportioning of the different sizes of sand particles in such a manner as to produce the minimum spaces or voids between the particles of sand. The value of this grading cannot be over-estimated. The ability to obtain a water-tight concrete is directly dependent upon this factor. The third and last important qualification for a good sand is the hardness of the particles. This feature does not apply to so great an extent to walls, foundations, etc., but more especially to floors, runways, etc., which are subject to wear. In view of

the fact that nearly all of the gravels in Wisconsin are of a glacial formation, they are sufficiently hard to withstand abrasion, resulting from ordinary wear. The qualifications for gravel are the same as those of sand and may be considered together.

Having considered the materials which are essential for successful concrete work, the proportioning and mixing follow in a natural sequence. A serious mistake is often made in proportioning the materials by using the gravel as it occurs in the pit. Gravel rarely occurs in nature in the required proportions. For illustration, consider the recommended proportion for a concrete wall, namely, 1 sack of cement, 2 cubic feet of sand and 4 cubic feet of gravel. At first thought one might consider that one part of cement to 6 parts of pit-run gravel would be the equivalent of one part cement, 2 parts sand and 4 parts gravel. This is an error, first, because gravel in the pits or rivers rarely is found in the proportions of 2 parts of sand to 4 parts of gravel, and second, if it did occur thus, 2 parts of sand and 4 parts of gravel will not equal 6 parts, as the sand would fill many of the spaces or voids between the particles of gravel to the extent that the total volume would probably not exceed 5 parts. If the pit-run gravel is typical of Wisconsin, it will contain as much sand as gravel, if not more. What would then be the results of using a 1:6 mixture of pit-run gravel? If it was screened to determine the exact proportions, it would no doubt be nearly 1 part cement, 4 parts of sand and 3 parts of gravel, instead of 1 part cement, 2 parts of sand and 4 parts of gravel, which were required. As the mortar is to be considered the strength factor in concrete one can readily see that instead of a 1 to 2 mortar we have a 1 to 4, or a mortar one-half as strong, and we can expect the same results in our concrete that is, only one-half as strong as we supposed. For the best work then, the pit-run gravel should be screened and divided between sand and gravel, and re-proportioned in its proper proportions.

Foundations and sub-foundations may be made of a leaner mixture than the walls. A recommended proportion is one sack cement, 3 cubic feet of sand and 5 cubic feet of gravel or broken

stone. The materials should be mixed thoroughly, preferably in a batch mixer and with sufficient water so that the mixture will readily run into place without tamping. A wet mixture is essential as it insures uniformity and sufficient water to allow all the cement in the mixture to act.

A hard, durable concrete floor is an essential feature in a well-equipped creamery. A floor for ordinary use, which is subjected to no large amount of trucking, may be obtained by methods now in common practice, but floors used as runways, over which trucks with iron wheels are drawn require special attention to prevent them from wearing. To secure a concrete floor of this character which will not show wear does not require special or patented applications on the surface. The proper choice of materials and ordinary common sense in preparing them is all that is necessary. It is reasonable to suppose that where a floor is to be subjected to abrasion, hard, durable materials must be selected for the wearing course. Choose therefore, a clean, hard, well graded sand and crushed granite or other hard materials, in sizes from dust to one-quarter inch. A mixture of these materials for the wearing surface should be 1 sack of cement, 1 cubic foot sand, and 1 cubic foot crushed granite or other hard substance. This mixture should be placed of such a consistency that it will not run but slightly flatten out, when discharged from a barrow, and remain in a "quaky" mass. The top should be immediately struck off after placing, and finished within two hours. The steel trowel should be used as sparingly as possible, as it tends to bring to the surface the finer particles of sand and cement. These readily wear and dust. It is essential to hold the coarser materials at the surface and therefore this is an important factor.

The last and equally important detail of a good wearing surface is the careful and thorough curing. As it is the top film or layer of the floor which will receive the wear, it is essential that the cement contained therein should have every facility for hardening properly. Therefore as soon as the floor is hardened sufficiently, or in about 24 hours, time being dependent upon weather conditions, a covering of sand or sawdust should be

placed on the floor to a depth of 2 inches. This covering should be sprinkled once a day for a period of at least six days, and the floor kept free from use for at least ten days. This wearing surface should not be less than $1\frac{1}{2}$ inches in thickness and placed on a concrete base before the latter had hardened. The base may be of a much leaner proportion, and the mixture of 1 sack cement, to $2\frac{1}{2}$ cubic feet of sand and 4 cubic feet of gravel or crushed stone, is generally recommended. The importance of adhering to these details cannot be overestimated. By careful attention to the selection of materials and their proportioning and placing, a concrete floor may be obtained which will withstand abrasion, without disagreeable dusting and rutting.

In laying a floor of large area which is not reinforced, some provision must be made for the contraction and expansion, due to change in temperature. To provide for this the floor should be divided into sections, the size of which may be conveniently made to conform to the panels formed by posts or columns supporting the roof or second story. If the building requires no columns, divisions may be arbitrarily made to contain not more than 100 square feet. These divisions should extend completely through the concrete in order that each section may contract or expand separately.

The subject of tanks and vats for the storage of water, milk, etc., is no doubt one of the important details which confronts the average owner of a creamery. Wood will rot, disintegrate and leak; iron and steel will corrode. Concrete tanks can readily be made, however, which will not leak, and we must again return to our first principles of good concrete to find the formula, that is a clean, well-graded aggregate. Upon this grading will depend the water-tightness of the tank. Do not, therefore, allow a fine sand to be used or a gravel which contains all large stone, but rather choose a sand which will contain all sizes of particles, from fine to coarse. This is likewise true of the gravel, except that the finest should not be less than one-quarter inch in size. Proportion these in the ratio of 1 sack cement to 2 cubic feet of sand to 3 cubic feet of gravel or broken stone. This mixture must be placed in the forms sufficiently wet so that it will run

readily into place without tamping. After the concrete is placed and before it has time to harden, the concrete next to the side of the forms should be agitated with a spade or straight edge, to force back the larger stone, and bring out a larger amount of mortar. This will give a better finish and appearance to the surface of the walls. In rare instances a tank may be made without reinforcement. When possible, a tank should be round, and if square or rectangular the reinforcing should be carried around the corners. The bottom and sides should be poured continuously in order that the bond between the two may be perfect. Reinforcement should be both vertical and horizontal and spaced according to the height of the tank. Plain round steel bars are usually best suited for all reinforced concrete work.

Tanks for the storage of sour milk or whey should receive additional thought. The action on concrete or sour milk, and especially whey has been the subject, recently, of much discussion and investigation. Final conclusions cannot as yet be drawn. Much has been learned, however, namely, that concrete must be dense and hard. Porous concrete can never be made to hold either of the two substances, as it is essential to have a dense impermeable concrete, and our fundamental principles of water-tight concrete again apply. An additional precaution, especially in the case of whey tanks is to apply a coating to the surface in contact with the whey. Paraffin has been recommended, and used with satisfactory results. It should be applied hot with a brush or cloth, and thoroughly rubbed into the surface of the concrete. Sodium silicate, commonly called water-glass, is also used. This should be diluted by three parts water to one of sodium silicate, and applied with a brush in two or three coats. The Institute of Industrial Research at Washington, D. C., is conducting experiments on the storage of whey in concrete tanks. In a recent report, they advised that a coat of Bakelite varnish is giving the most promising results.

Outside of the building proper, there are many ways in which concrete can be economically used. The driveway is no doubt the most important. A concrete driveway affords a serviceable

road 365 days in the year. Walks, steps, chimneys, fence posts, etc., of concrete are becoming more common. All of these, like the building itself, call for the careful selection of aggregates and the proper proportioning and mixing of them. For driveways and walks, single course construction is now meeting with much favor. Driveways should be constructed at least 6 inches thick, and of a wet mixture, composed of 1 sack cement, 2 cubic feet sand and 3 cubic feet gravel. A slight crown of one-quarter inch to the foot is all that is necessary. It should be provided with expansion joints running at right angles to the road not more than 30 feet apart. It is also advisable to protect edges of these joints with soft steel plates, between which tarred felt may be used as filler, to take up the expansion. Unless the pavement is over 20 feet in width, no reinforcement is necessary. All pavements, however, over 20 feet wide, should be reinforced with a wire mesh. The surface should not be trowelled with a steel trowel, but brought to an even surface with a wood float. It will then be rough, and afford a footing for the horses. On steep approaches the concrete may be corrugated to afford additional footing.

The application of concrete to the creamery itself and its surroundings is practically unlimited. The success of concrete does not lie in the amount one can build, but that which is built well. Concrete itself should last forever, and to construct poorly would defeat the great purpose of its use. The fundamental principles of the choice of aggregates, and thereafter the proper proportioning will largely determine its success or failure. Therefore make your first move, the choice of aggregates, carefully, and carry this thought to the finished work, and you will be rewarded by a structure which is fireproof, will not rot, needs no painting or repairing, and will stand forever, as a monument to your earnest endeavor.

I thank you. (Applause.)

Mr. Clicquenoi here showed a number of slides illustrating the use of concrete in various ways.

PRESIDENT: Mr. Benkendorf has an announcement to make at this time.

SECRETARY BENKENDORF: I want to call your attention to the fact that the convention will start tomorrow afternoon at 1:30, not at 2 o'clock as some of you might believe. The sessions will be all held in this room, tomorrow afternoon and Thursday afternoon. There was some doubt as to whether or not we would hold our meetings here. They claimed that the Bee Keepers had active possession of this Assembly Room and that we would not hold our meetings here. We will hold all of our sessions here at 1:30 tomorrow afternoon and Thursday afternoon.

I have a telegram here from Hon. S. A. Cook, one of our friends. He is in New York City.

New York City, N. Y., February 2, 1914.

"I very much regret I cannot have the pleasure and benefit to me of being present at your annual meeting. Please convey to your associates my best wishes for continued successes in their good work that has done so much to place Wisconsin on the map as the great dairy state. May the watchword be Onward for a first class article, and much more of it.

S. A. COOK."

Some time ago while speaking with Mr. Downing of the Weights and Measures Department, the thought occurred to both of us that it would be a good idea if the buttermakers could be given an opportunity to become familiar with the new scales and the new bottles that are recommended by the Weights and Measures Department. I have a letter from Mr. Downing in regard to this matter.

Dear sir:

"Madison, February 3, 1914.

An exhibit of correct and incorrect types of cream test scales and Babcock milk and cream test bottles, together with various faulty weighing and measuring appliances, has been gathered and is on exhibition at the office of the Weights and Measures Department on the ground floor in the West wing of the capitol. Tables showing the errors in the weight of cream resulting from the use of the old type of twelve bottle scale may be studied. The butter makers of Wisconsin are cordially invited to call at

the office of the Weights and Measures Department. Attendants will be present to answer any questions concerning the regulations applying to cream test scales and Babcock glassware.

Very truly yours,

F. P. DOWNING, Chief Inspector.

The Weights and Measures Department is in connection with the Dairy and Food Department on the first floor of this building, right underneath this Assembly Chamber.

MR. EMERY: The ground floor.

SECRETARY BENKENDORF: Excuse me, the ground floor. I want to call your attention to the fact that we are going to have a starter exhibition tomorrow morning at the Dairy School. If you have any starter, bring it along and enter it any time before 10 o'clock. The starters will be on exhibition tomorrow morning. The butter will be on exhibition Thursday morning. There will be no exercises here tomorrow morning. I want to call your attention to the fact that if you have entered butter for exhibition purposes you must register at the Secretary's office at the Park Hotel, before six o'clock on Wednesday afternoon, in order to be eligible for a district prize.

It is usually the custom to have a picture taken of the Buttermakers in session. Tomorrow afternoon, before the convention meets at 1:30, it has been arranged that we meet in front of the capitol at 1:15. That will give us 15 minutes to have our pictures taken. I wish you would all bear this in mind. Try to be here at 1:15. There being no morning session you ought to be able to get your dinner early.

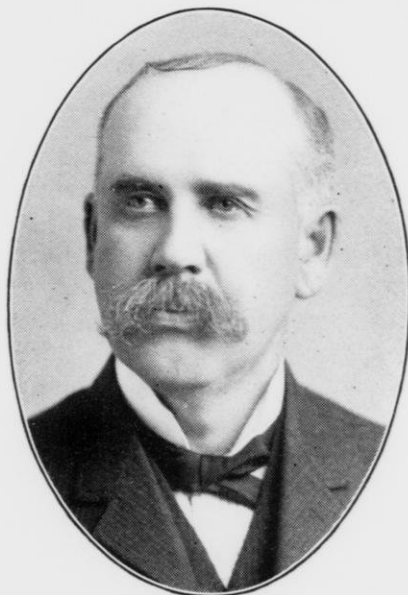
I want to call your attention to the very heavy program tomorrow. We have men of national reputation who will speak, and we want you all to be on time, so gather at 1:15.

PRESIDENT: We have got to pass the next paper on the program for tonight, because Mr. Carswell is not here. I am going to call on one of our old stand-bys of our association. The program does not seem quite complete unless we have a few words from Mr. Shilling of Chicago. (Applause.)

ADDRESS

By *Mr. S. B. Schilling.*

Mr. President, Ladies and Gentlemen: This infliction upon you is none of my seeking. I didn't even suggest it, and you must lay it all up to your president. He came down a few minutes ago and whispered to me that he was going to call upon me to talk to you. I begged of him not to, and told him I had quit talking. The facts of the matter are, I haven't got



S. B. SCHILLING

one-half of the inclination to talk now that I had before I got married, and I will confess further as I stand before you, that I feel a good deal like the slides Mr. Benkendorf was trying to show; I feel upside down most of the time. I asked my side partner on the right, Mr. Crump, when Mr. Olsen had gone away, what I should talk about, and he said all that I knew, and I would not stand here very long, and he advised me to do it.

I could not even tell you a story, unless I told one on myself, and I am going to tell you one. I think it would be a fairly good story to tell if I fixed it up, but I haven't yet done that, as it only happened last week, and I felt rather green over it at the time. Awhile afterwards I got to thinking about it, and I thought it would be pretty good if it had happened to someone else. I was going down in a street car in the morning, and as you know, in the domestic arrangement of any household, sometimes you have got money when you start down town and sometimes you haven't, and this happened to be one of the mornings that I thought I had. I put my hand in my pocket and I felt the nickel. Pretty soon I got onto the car and gave it to the conductor, and pretty soon he came up to me, and he said, "I believe you are the man that gave me this." It was a telephone slug and it was all the money I had. While arguing with him, and a stranger to him, nobody offered to pay my fare, so I got off and started to walk back home. On the way back I met a man that I borrowed ten cents of to go back down town with, but the read joke came later. I did raise some money down town, and after getting home, I was telling the joke to my better half, and I said, "I had this darn telephone slug," and put my hand in my pocket, and I didn't have it at all. I had passed it on the conductor going home that night. (Laughter.)

Seriously, ladies and gentlemen, for just a few minutes, I really do feel, if I was to talk to you at all upon a subject, it would be about the poor quality of the butter that is coming into our markets at the present time. This is an old and thread bare subject, but still I do not have the slightest idea you boys in the country know what we are up against in the markets, especially the past two months. I believe we are living today in a history making period. While we have stood before you time after time with scare head lines, telling you about the dangers to your industry, still I do believe that this is a critical time, and that there is nothing that means as much to the industry as does quality at the present time. I don't feel that I can stand before you boys and scold you, because I have spoken too many times in your defense. I know what you are

up against, and I know you have been doing the best you can as a rule. You have had this condition to contend with, that if you didn't take this rotten cream, somebody else would stand ready to take it. You could only go just so far and not any further, because if you didn't take it under the market conditions, under the conditions that the butter has sold, and often the lower grades up close to the better ones, it made it impossible for you to draw the line too closely. I believe that the time is here now when you can draw that line closer than you ever did before. I believe today that the surest way to get rid of your greatest competitor, be he big, or be he small, is to unload that poor product on him. You don't know the conditions. I believe the large producers are the ones that are sweating today harder than are the local creameries. I believe you have very much in your favor today, if you will take advantage of it. I believe you have the best opportunity today to build up your local creamery, to get your patrons solid with you, better than ever before, for the very reason that the people who have been your competitors are up against it more than you ever have been. Their losses today are immense, and they are the ones that are crying, "What are we going to do?"

I believe there is a change of conditions. It has been brought about by the tariff law. It may be a blessing in disguise. I am not prepared to say. I have been apprehensive from the start of what it may do for us. I do believe that the dairy farmers of the country are feeling the present tariff more than any other. I believe that the reducing of the tariff to $2\frac{1}{2}$ cents a pound is being felt by the dairy men of this country. This may be going to prove a blessing in disguise in the future. You are going to see inside of another year you have got to get out from under the poor quality of butter you are making, or you have got to quit the business. You are up against a condition owing to the fact of the influx of foreign butter into our country, and butter of a quality far superior to what we have. You are up against the hard proposition of trying to compete with them. We are posting now in Chicago each day the number of pounds or number of tubs of butter received from foreign countries. Last

week there were only two days: One day only 600 and something, and another 300 and something, which, of course, is very small, but it displaces a thousand tubs of our butter. It simply has taken the place of a thousand tubs of butter that is being manufactured by the creameries throughout the country. There were 7,000 cases of eggs. I do believe this, if you realize the steps you have got to take, and would take them, I believe you are going to be in a position where you can force the butter product for the simple reason that the demand for butter has been so great regardless of quality.

Last week there were three or four carloads of butter that went into cold storage this time of the year, simply because it could not be sold over 10 to 12 cents a pound. What it costs the people in the country who store it I don't know. It seems to me, if there could be an incentive to reach that higher price, you could work for it now.

Gentlemen: I thank you, and I talked a whole lot longer than I thought I was going to. (Applause.)

PRESIDENT: Before we adjourn, I am going to call on one more man to make a few remarks. He is a life member of this association, and he has traveled the farthest of anybody to attend this meeting. He has come from Saskatchewan, Canada. Mr. F. B. Fulmer. (Applause.)

MR. F. B. FULMER, Saskatchewan: Mr. President, Ladies and Gentlemen: It certainly is a pleasure to meet here with you again. Something like twelve years ago we had our first meeting in the Assembly Room of the old capitol building. We have grown some since then. We had another meeting in the old capitol building; that was the first National Creamery Buttermakers' Convention. That was something like twenty-two years ago. There have been wonderful changes since then.

We didn't have the appliances in those days that you have now. The boys that were doing the work at that time wouldn't know how to use the modern apparatus that the modern butter-maker has. All this teaches us that we live in a day and age of advancement.

In those twenty-two years a great many problems have arisen. Perhaps one of the greatest problems is the question of quality. I believe, as Mr. Shilling has said, that now is a critical time, and the question is what are we going to do? I believe the time is ripe when we should stand for quality, and I believe the creameries of this state, and other states as well, should take the stand to make good butter, even though they only make half as much butter as they are making today. There is an economic law abroad in the universe, the immutable law of compensation. In the long run, you have to pay for what you get, or you will get what you pay for, and that applies with more force today than it did in the past.

I wish to thank you for the recognition. As the chairman said, I have come a long distance, something like 1,100 miles, to reach the city, and got here just a little while ago. I thank you. (Applause.)

PRESIDENT: This is the last on the program tonight, and I would like to have you meet here promptly tomorrow. We stand adjourned until 1:30.

WEDNESDAY AFTERNOON SESSION.

Wednesday afternoon, 1:30 P. M.; meeting called to order by the President.

PRESIDENT: We will go right to work with the program. The first we have on the program is the Workmen's Compensation Law as relating to Creameries, by the Hon. C. H. Crownhart, Industrial Commission, Madison.

THE WORKMEN'S COMPENSATION LAW AS RELATING TO CREAMERIES.

By *Hon. C. H. Crownhart*, Industrial Commission, Madison.

Mr. President, Ladies and Gentlemen: I am glad that I am not going to talk to you on butter making. My experience in butter making dates back to the old fashioned churn and dasher, and it is not a pleasant recollection.

The Workmen's Compensation law was passed to take effect September 1, 1911. I wish you to fully understand at the outset that the law is optional. You have the right to elect whether or not you desire to become subject to the Workmen's Compensation act. If you have four employes, four men working for you under contract of hire, you are subject to the law unless you file your election with the Industrial Commission, before hiring these four men not to come under the law. You may file your election that you do not wish to come under the Compensation Act, and thereby you remain outside. If you have three employes only, no more than three, then you cannot be under the compensation act, except you file your election to come under. You see the difference. If you have four employes, you come under it automatically, unless you file your election not to come under. If you have three employes or less, you do not come under the law unless you file your election to come under.

If you are under the Compensation Act, you may go out from under it at the expiration of one year from the date that you came under by filing a statement with the Industrial Commission at the expiration of ten months, or sixty days before the expiration of the year, if you desire to withdraw. If you are under the Compensation Act, you are required to insure your liability, unless you file with the Industrial Commission a statement of your financial resources showing that you are able to carry your own risk, in which case you may be exempted from carrying insurance. The purpose of this provision of the law is to make certain of payment in case of an accident. The damages that are allowed, or the compensation that is allowed in case of accidents is limited in amount, but in the place of the uncertainties that prevailed under the old system, certainty is established. Therefore it is provided not only that the person injured will receive some compensation in a limited amount, but he is sure to get it. This provision of the Act was not intended to reach buttermakers. It was intended to reach the contractors who are in business today, and at times tomorrow, and who are engaged in a very hazardous occupation, sometimes without capital, sometimes without any financial ability to pay.

Corporations were organized under the old law expressly to evade liability under the Compensation Act. To meet that, the provision was introduced last winter by way of amendment, requiring all employers to carry insurance, or to show their ability to carry their own risk. If you are under the Compensation Act and have an accident to one of your employes, you are to pay him 65 per cent of his wages while he is laid up, not exceeding in any event \$9.37 a week. In other words, the act



C. H. CROWNHART

is based upon an actual wage of \$750.00 a year, so that when you figure out the average weekly wage upon which compensation is paid, it does not exceed \$14.42 per week, and 65 per cent of that is \$9.37, so that in no event are you liable for more than \$9.37 per week. Besides that, you are liable for medical attendance for the first 90 days. If you are under the Compensation Act, and you have an accident, you are not liable to be sued in court. The law furnishes the measure of your liability and if there is a dispute between you and your employe, it is deter-

mined by the Industrial Commission, who will meet with you upon the ground, and dispose of it. You do not need a lawyer, neither does the employe need a lawyer. There is nothing in the law to prevent you from hiring a lawyer if you want to.

Under the Compensation Act you are not liable in case of death, or in case of permanent injury beyond \$3,000.00; that is the limit. You may be liable up to \$2,000.00, but the measure of your liability is four times the annual wage of the employe, that is, in case of death, and that liability is to the dependent of the employe. If he has no dependent, you are only liable for \$100.00, total expense. If he should die, leaving a widow, she would be entitled to four times his annual wage, not exceeding \$3,000.00. Under the old law, that is, if you are not under the Compensation Act, the limit is placed at \$10,000.00. Under Compensation, the only question to be considered is whether or not the employe was injured while in the course of his employment. If so injured, he is entitled to the compensation. Under the liability law, the old law, the question is, was the employe injured in the course of his employment by reason of your fault? Under Compensation it is not a question of whose fault it is, it is a question of whether or not the man is hurt, and involves a loss of wage; while under the old law it is simply a question of fault, who is to blame, and that litigated before a jury and left for the jury to determine. In case of injury without death, there is no limitation under the old. Judgments have been sustained in a sum exceeding \$20,000.00 in one case, but that is a question for the jury.

The accident hazard in buttermaking is very low, if we are to judge by our records. All accidents are supposed to be reported to the Industrial Commission, all accidents causing a loss of wage beyond seven days. So far as we have gone there is not a single record of a case of serious injury since this law went into effect.

The rate of insurance should be based upon the hazard. I find that the rate of insurance for buttermakers as fixed by the mutual companies, runs from 70 cents to \$1.31, depending upon the condition of the plant. The rate as fixed by the old

line companies is \$1.38. That means \$1.38 on the \$100.00 of pay roll. If you have \$1,000.00 pay roll, it would mean ten times \$1.38 or \$13.80. In the case of a mutual company, it would mean seven times. These rates, if our accident experience is right, are altogether too high. The Commission will be glad to secure for this Association a lower rate, or to assist the Association in securing a lower rate if the facts will warrant. I find, as a matter of fact, that the experience of the buttermakers since the law went into effect would justify a rate of 6 cents on the \$100.00, instead of \$1.38. Now it is quite likely that that rate would be too low, that one serious accident would cost more than the whole insurance premium, but whatever the fact may be, it does clearly appear that your rate is now too high.

When the thresher men were in convention, I suggested to them that they appoint a committee to take up the question of securing insurance rates for their industry. They appointed such a committee, and the committee will consider that matter in the near future. It is not well for a small association to carry its own risk. The overhead expense is high, but you could go with a mutual company, as an organization, take your business to them, and you could no doubt, secure a rate that would approximate your actual charge, your actual expense under compensation. The overhead charge would be light. The experience of insurance companies in this state has been such that they are unable to quote you anything like an approximate rate according to the hazard of your business. No company has had sufficient business from the buttermakers to be able to determine what that rate ought to be. It is a part of the business of the Industrial Commission to receive a record of all accidents that happen in the various industries of this state and classify them, so that after a period of a few years we will be able to ascertain what the correct rate is for a given industry. We will have the experience of all the buttermakers in the state, while an insurance company only has the experience of the buttermakers whom they write. After we have that experience, we will be able to determine what the correct rate is for the various industries under compensation.

There are some crudities in the law yet, some things that need amending. It is too much to expect that a law would be perfect that covers the occupation of 250,000 workmen, each year in the state. Unlike the Courts, the Industrial Commission is able to assist you with advice in advance. The court may only come to your rescue or come to a consideration of your troubles after the accident has happened, and the evidence is all introduced. The Commission itself is to help you administer the law in such a way that you won't have trouble or accidents, and if you have them, to dispose of them as quickly as possible. I desire to impress upon you that it is rather better to save life and limb than it is to pay for it. Your record has been excellent in the past. I hope you will keep it so, because it is sure to result in lower premium, a lower cost for insurance for you if you keep your record down. In this safety work the Industrial Commission is able to help you. It has men who understand the business. It has men who will answer to your call if you desire assistance in your establishment in planning for safety. They have had the experience, and they are expert in the work. It comes to you free of cost aside from your taxes,—I understand some of you have to pay some taxes.

I don't think I have anything further to say on this subject, except that I am glad to answer any questions you have to ask, if you have any. I have tried to cover just the outline of the law as simply as it is possible for me to do, so that you might understand it better than if I go into it very much in detail.

I thank you. (Applause.)

DISCUSSION.

MR. BRANCH, Milwaukee: Is an employe under compensation if there is open machinery, or is it optional?

MR. CROWNHART: The Compensation law does not provide anything about the housing of machinery, except this: if you fail to guard your machinery, the compensation may be increased 15 per cent if an accident results, because you failed to guard your machinery, but there is a general statute of safety that re-

quires all machinery to be made safe, and the standard of safety is determined by that general law except that the commission goes out and determines whether the details of the law are complied with and what you have to do to comply with the law or that standard of safety. The rules of the commission require that all shafting that is within 6½ feet of the floor should be guarded, and I want to say to you that transmission shafts that revolve are very dangerous. We just entered an order for a man who was wound up on a shafting in Janesville. It cost the employer \$3,000 and \$400 for a penalty. A simple guard would have saved the life of a man, and would have saved the employer \$3,400.

MR. H. H. WHITING, Cedarburg, Wisconsin: Would this apply to a man on the farm if he was injured by some animal on the farm in some way,—that is an employe?

MR. CROWNHART: It only applies in case that they have more than three employes. As a matter of fact we haven't had a single case in two years where it has applied to a farmer.

MR. R. E. PEARSALL, Evansville: Do you advocate mutual insurance?

MR. CROWNHART: Do I advocate mutual insurance?

MR. PEARSALL: Yes. I will just state my case. I am an employer of several men, twenty-five or thirty, and the rates on the old line companies have tripled. Why is that? I am asking two or three questions at once. If twenty men's lives are worth saving, why don't they save under four? Why isn't it just as well to have the compensation act to act on two men or one man? The average creamery throughout the state of Wisconsin does not employ four men. There are very few that do. There are a few that employ more than that. I have been insured; my men are insured up to the first of November. I had a rate from an old line company of 57 cents on \$100. Today I am paying \$1.38 to this same company. I am under the compensation act now.

MR. CROWNHART: In the first place when the compensation act went into effect the insurance companies raised their rates about \$4. Since that time they have reduced their rates three

times, that is, at three different times they have reduced their rate. In February last year they reduced 25 per cent; in October they reduced 15 per cent. They have made a limited coverage, where they had an unlimited coverage, of \$5,000. This year in February they have again filed a reduced rate, so that rates are being constantly reduced on compensation by the old line companies. The only reason they put up the prices was because they did not have any experience under compensation, and they merely guessed it would cost them more. So far as your particular rate is concerned it may have been too low, for all I know. All people now who require insurance are entitled to get that rate without discrimination. They must not write insurance for one man at a very low rate and make it up on someone else.

So far as applying to three or more men are concerned, you must recollect that the law was elective and it applies to every man that employs a man, whether it is one man or one hundred men, only if you want it to apply you must elect unless you have four or more employes. I have heard this discussed a great many times why this law does not apply to those employers who have less than four. There is a reason in the law, and it is not the reason that has been given, that it was an effort to catch the farmer vote. The reason in the law is this. The man who hires many men puts them in a much more dangerous place than the man who hires a few.

The great danger in industry comes from a great number of men working together so that the dangers that you are trying to cover are those of occupations where there is a substantial hazard. If I was to make this law I would exempt the farmers altogether, not because the man that is hurt in the farming industry is not entitled to protection, but because as a general thing he gets it. When a man is hurt on the farm he is taken into the house and is taken care of by the farmer's wife. When he is hurt in the city he is turned loose.

Another thing, the insurance companies have made reasonable rates for the industries as a general thing, but they have never made reasonable rates for farms, and the reason is this. It costs so much under their system to investigate accidents

where they have to hire a team to go out on the farm, so they are unable under the present system to give the farmer the reasonable rate he ought to have.

As to mutual companies, I believe thoroughly in co-operation in all these enterprises in the state. I believe that men may organize mutual insurance companies and do their own business in their own way, at a low cost, and that is their business. If they want to do it, all well and good. You have both options open to you here in Wisconsin.

MR. TOWLE: How is the premium based on wages paid?

MR. CROWNHART: I am not very familiar how you pay your policies.

MR. TOWLE: Where the man is paid so much a day for himself and team?

MR. CROWNHART: Yes. We would have to separate what is a reasonable amount that is paid for his team, and what is a reasonable amount that is paid for the man, and make a premium based on what the man's wages are.

MR. GUY SPEIRS, Eau Claire, Wis.: I would like to ask Mr. Crownhart,—suppose a firm had several creameries spread out in the country. They employ one, two or three men at these separate creameries. Do these men, in those plants, come automatically under the compensation act, or does the concern have to elect to bring those two or three men under it; in other words, does the company itself, automatically come under the act?

MR. CROWNHART: The law says that where there are four or more men in a common employment. It is my idea that men working in separate creameries are not working in common employment, so that they would not come under the law unless the employer elected to bring them under.

PRESIDENT: I will now appoint a Resolution Committee, Mr. F. H. Kelling, Mr. L. H. Winter, Mr. John Schield, and I will appoint Messrs. Benkendorf and Larson on the Legislative Committee.

The next on the program will be the Development of Fishy Flavor in Butter, by Mr. L. A. Rogers, Dairy Division, Washington, D. C. (Applause.)

THE DEVELOPMENT OF FISHY FLAVORS IN BUTTER.

By *L. A. Rogers*, Dairy Division, Washington, D. C.

The Cause of Flavors and Aromas.

In considering the specific cause of any particular flavor, we must remember, first of all, that a flavor or aroma may be caused by an extremely small amount of material. Thus it is stated that quinine may be detected when 1 part is mixed with 2,000,000 parts of water. Even if we knew the chemical nature of the substance causing fishy flavor, it may be present in the butter in such very small quantities that the sense of taste and smell are the only means we have of determining its presence. It is true, also, that the flavor of butter is usually a mixture of flavors, and that it is frequently difficult to say which one predominates.

There is no uniform conception among butter men what constitutes fishy flavor. Perhaps it would be more nearly correct to say that there is no sharp line between fishy flavor and the other flavors frequently associated with it. Doubtless, many lots of butter are reported fishy which have no trace of real fishiness. When butter has a real fishy flavor there is no possibility of an error in diagnosis. It has the specific aroma of fish and the flavor we should expect to get if we worked into the butter a small quantity of fish oil. This grades off in intensity into an oily flavor; in fact an oily or in some cases a metallic flavor is usually a forerunner of true fishy flavor.

Conditions Under Which Fishy Flavor Develops.

Fishy flavor is a summer trouble, although it does not necessarily follow that it occurs only in butter made in the summer. Complaints of this trouble usually follow weather conditions that produce more than the usual amount of sour cream. We may even say that fishy flavor is very intimately associated with sour cream. It is probably true that practically all the butter made from cream received at the creamery in a sour condition would become fishy if it were held in storage. Fishy flavor is not, how-

ever, confined to butter made from poor cream. On the contrary some of the finest examples of this defect are found in butter made from the best materials and by the most approved methods. Butter made from well-ripened cream which comes from the churn with a fine, high aroma and flavor, is very likely to become first oily and then, if not used at once, develop a distinct fishiness unmasked by other flavors.

Another fact which has an important bearing on the possible causes of fishy flavor is the readiness with which it develops at the very low temperatures of commercial storage. Butter of the very best quality may be stored at 0 to 10°F. and come out with a decided fishy flavor. This flavor is in the butter when it comes out of the store room, or at least, as soon as it is warmed sufficiently for sampling, and it can not be said that it develops after storage. Low temperatures retard, but do not prevent the development of fishy flavor.

Factors Which Do Not Cause Fishy Flavor.

A few years ago many buttermakers said without hesitation that fishy flavor was caused by the salt. A casual survey of the conditions under which this trouble occurs will soon convince one that the salt is at least not the determining cause. However fishy flavor is said to occur rarely or not at all in unsalted butter, and it is possible that the salt furnishes certain conditions which are essential to the development of flavor. If this is true, it is due to some quality inherent in the salt, and is in no way connected with any particular brand or degree of purity.

We are so accustomed to laying at the door of bacteria and other micro-organisms all decompositions of food products that it is very difficult, even for investigators, to conceive of any other possible cause for the off-flavors of butter. A statement which appeared recently in the dairy papers expressed this attitude. It is as follows:

“Another group of micro-organisms which appears in butter and which may, and often do, play an important role in controlling the quality of butter in storage, is the yeasts and molds.

. . . . The danger of bad butter as the result of the activity of yeasts and molds is greatly augmented by the fact that these

germs are usually resistant to heat, salt solutions and cold. They are usually not killed at ordinary pasteurizing temperatures and their growth is not retarded, but becomes more vigorous by the salt of the butter, nor is exposure to low temperature in storage, such as the usual temperature of commercial storage of butter (6 degrees F.) capable of inhibiting their growth. This fact may explain, in part at least, why heavily salted butter often does not keep as well as lightly salted or unsalted butter. certain forms of yeasts and molds have been found to flourish in brine media containing as high as 25 per cent salt, while the same organisms refused to grow in the absence of brine."

This contains several misstatements which should not go uncorrected. One of them is as to the ability of organisms to grow in salt solution. This statement says that yeasts and molds grow as well in salt solutions as they do in ordinary solutions. You must remember that in butter, salt is almost altogether in the water. Bacteria will not grow in salt solution like that. While it is true that many molds and torula yeasts grow in salt solutions they grow in spite of the salt, not because of it, and rather than flourishing they grow more and more slowly as the concentration of the brine is increased, and it is only occasionally you will find a lot of butter so low in salt that bacteria will grow. As the molds cannot grow where there is no air, therefore their growth in butter is confined to the outside of the package of the butter while the fishy flavor and other flavors are distributed through the butter. Again, it is true that while some molds and yeasts, and even some bacteria are able to grow very slowly at temperatures several degrees below freezing, no one has before ventured to suggest that they would not only grow, but that their growth would not be retarded at a temperature nearly forty degrees below the freezing point. Molds and some yeasts will grow at temperatures as low as 18 or 20 degrees F., but 30 or 40 degrees is way below the growth of organisms we know anything about. And yet any of the off-flavors with which we are familiar will develop in butter held far below the temperature at which any organisms can grow. Molds need not be considered, as they can grow on only the surface of the butter while the

flavor is uniform throughout the mass. Even those investigators who have held most tenaciously to the theory that off-flavors of butter are caused by the action of micro-organisms growing in the butter, have been unable to find, even under conditions of temperature most favorable to their growth, sufficient living bacteria or yeasts to account for the changes which take place. This does not mean that the flavor of the butter is not affected by the growth of bacteria in the milk or cream, but that the high concentration of the salt in the water and the low temperatures which fishy and other off-flavors are known to occur effectually exclude the possibility of these changes being produced by micro-organisms in the butter itself.

The action of the enzymes, the so-called digestive principles which are secreted with the milk or by bacteria growing in it, are also excluded by the fact that fishy flavor, and in fact some very typical cases of fishy flavor, are found very frequently in butter made from cream pasteurized at a temperature sufficiently high to destroy these enzymes.

The objection may be made that if off-flavors were not produced by bacteria, the addition of antiseptics would not increase the keeping quality of the butter. In answer to this we may say that the assertion that antiseptics preserve butter is based on common practice, and not on sound experimental evidence; in fact, there is evidence that antiseptics have no effect on the change in flavor of salted butter. In our own work we have been unable to find that the addition of preservatives made any difference in the flavor of salted butter.

Influence of Acid on Cream.

If we exclude the direct action of micro-organisms, how shall we account for the marked changes and decided off-flavors so frequently observed? Our observations and experimental work show conclusively some of the factors which control these changes. We have observed that fishy flavor is most common in butter made from over-ripe cream. Our experimental work has shown that the converse is true, that butter made from sweet pasteurized cream does not get fishy and that the deterioration

of butter is almost in direct proportion to the acidity of the cream. We are fully aware that this is in apparent contradiction to the most approved teachings. The statement that the keeping quality of butter is increased by the development of acidity is based on observations on raw-cream butter, and is correct up to a certain point, but is not true for butter in which the enzymes of the cream have been destroyed by pasteurization. Do not understand me to say that the acid of the cream is a cause of fishy flavor. It is essential, however, to the production of fishy flavor that the cream contains a certain amount of acid. As to the amount of acid necessary it is, of course, very difficult to say, because the line of demarcation between the point where we get fishy flavor and where we do not get fishy flavor is not clear. In 259 samples of experimental butter in which the acidity of the cream was known, 137 had an acidity below 0.3 per cent and only 2, or 1.5 per cent were classed as fishy; while of the 122 samples having an acidity over 0.3 per cent 60, or 49 per cent were fishy, and therefore we can conclude at least that fishy flavor is very much more likely to develop in butter in which we have a high acidity.

Influence of the Air in the Butter.

Everyone knows that if the surface of butter is exposed to the air it becomes oxidized and in a short time acquires a disagreeable taste. If there is a large air pocket in the butter, its surface changes in the same way. About 10 to 15 per cent of the volume of butter is made up of air that is, air worked into the butter for the most part in the form of small bubbles distributed uniformly throughout the mass. When the butter is held for some time it is found that the oxygen of this air is materially decreased, showing that some constituent of the butter has been oxidized. It has been observed that overworked butter is more likely to become fishy than butter with a good body. This may possibly be due to the fact that in working the air bubbles are reduced in size, consequently exposing a greater surface to the air and inducing a more rapid oxidation. At the beginning the contents of the gas in these bubbles we found to be that of normal air. After holding the butter in cold storage for a while

we have noticed that the air is mixed with carbon dioxide, that is, the oxygen of the air is distributed through it in small bubbles and these have been taken up by some constituent of the butter. We also observed if you overwork butter there is possibly more air worked in, the bubbles become smaller and the rapidity of the development of off-flavors is more rapid and the tendency to become fishy is greater.

Influence of Metal Salts on the Flavor of Butter.

Now, another factor which determines the development of fishy flavor is the metal salts found in all quantities of milk and cream, and if the conditions are not proper, found in considerable numbers. It is common knowledge that rusty cans are likely to have an unfavorable action on the flavor of butter or cheese made from milk which has been held in them for any length of time. This action, however, is probably much greater than most buttermakers realize. Acid cream coming in contact with spots of iron exposed in old cans or vats or of copper in vats, pipes or pasteurizers in which the tin is worn away, dissolve small parts of the metal which is carried into the butter in the form of a salt. These metal salts of the organic acids have to a marked degree a peculiar property known to chemists as catalytic action. This means that they may increase the rapidity of certain chemical reactions without themselves being used up in the process. They may be likened to the action of a whip on a horse which in itself supplies no energy to the animal but increases its speed. Thus it is easily seen how the presence of small amounts of iron or copper lactate may easily increase the rate of oxidation in butter and consequently hasten the appearance of off-flavors. In our experimental work we have found that if there is any way in which metal salts get into your butter, the rate of deterioration is increased. The presence of iron in the cream in amounts as small as one part in 1,000,000 parts of cream has a marked effect on the flavor of the butter. This small amount of iron may easily come from rusty cream cans or even from the exposed iron parts in the interior of the churn. Copper is even more active than iron. You may get this copper in your butter from utensils which you use in your creameries.

We found that in one case rusty bolt heads added sufficient metal salt to the butter so that it was easily detected. In some experiments with a pasteurizer in which the copper was badly exposed, the score of the fresh butter was decreased 3 or 4 points below that from cream pasteurized in a well-tinned pasteurizer. In 30 days the butter from the copper pasteurizer was very fishy. The action of these metals seems to be in the nature of an acceleration of the deterioration of the butter, that is, the off-flavors and especially fishy flavor develop much earlier but perhaps not more certainly than in similar butter containing no abnormal amounts of metal. Almost without exception the butter made from cream containing copper developed a very marked fishy flavor in a comparatively short time. The surest way to make fishy flavor, if any have consumers who want it, is to develop the acidity of your cream to a high point and to add a very small amount of copper or simply use a vat or a pasteurizer with which the hot cream comes in contact in which there is considerable copper exposed.

The experience of one large creamery which came to our attention furnishes a good illustration of the action of metals. This creamery, which had an exceptionally good cream supply and was in a position to make butter of the highest quality, had considerable difficulty on account of the development of fishy flavor in a large lot of butter made especially for storage. The greatest difficulty was in their best plant, which had been recently equipped throughout with vats and sanitary piping of a special white metal. Chemical examination of this metal proved it to be brass with the addition of sufficient nickel to give it a white appearance. It was readily soluble in acid of a strength corresponding to that of ripe cream, and consequently they were getting nickel and brass in their cream. Following our advice they made sweet cream butter and the trouble disappeared.

Preventing Fishy Flavor.

If these statements are correct, we should be able by avoiding these conditions, to make butter which would keep for extended periods in storage. We have been able to demonstrate that this can be done on a large scale through our supervision of the but-

ter packed under contract for the Navy Department. Under this arrangement about 21½ million pounds of butter have been packed in a period of 4 years and a sample can from practically every churning has been examined after storage by competent judges. On our advice they began making butter from sweet cream, that is, cream which came to the creamery in good condition, below a certain acidity, and which was pasteurized, cooled and churned without any ripening. The first year of this supervision the contracts were let giving them the option of making butter according to these specification or making it in their own way, and guaranteeing that it keep one year. One creamery made butter by the usual methods from pasteurizing unripened cream, all other butter was made from pasteurized unripened cream with the exception of a few churnings made from ripened cream for comparison. Over 90 per cent of the samples made at the creamery which ripened the cream were fishy when they came out of storage. Of all the butter made at the other creameries, the only lots showing a fishy flavor were those made from ripened cream. This sweet-cream butter proved so satisfactory that since that time all of the Navy butter packed for storage has been made in this way, and it is safe to say that in the entire quantity there has not been a single can of fishy-flavored butter.

If I were a buttermaker and were told that my butter was fishy I should go over the vats, pipes, churns, cans and pasteurizer to eliminate as much as possible the sources from which metals might get into the butter. If the cream came in sweet I should pasteurize, add 5 to 10 per cent of a clean-flavored starter, and churn without permitting any ripening whatever. I would not advise the buttermaker to make sweet cream butter, because the buttermaker is making butter for the buyer, and the butter dealers generally object to sweet cream butter without starter on the ground that it lacks character. I think you can meet this objection and attain the same ends by adding to your cream after pasteurization a small amount of starter sufficient to give the butter a necessary flavor, but not sufficient to develop the acidity, and of course churn that without allowing the cream to ripen.

While there may be some question about the opinion of the consumers themselves on the flavor of this butter, the butter-maker is making butter to please the dealer and must govern himself accordingly. If a buttermaker is so unfortunate as to be obliged to make butter from cream which is sour when it reaches the creamery, I know of nothing that he can do to prevent this trouble except to avoid rusty containers, exposed to copper and overworking. (Applause.)

DISCUSSION.

MR. ERWIN, Chicago: I would like to know whether lessening the high acidity of cream would prevent fishy flavor from developing?

MR. ROGERS: That is something we haven't gone into at all. I should think that anything that would reduce the acidity of the cream would help to remove that difficulty, although I have had no experience personally.

MR. MEYER: In cream that comes in bad, do we understand that fishy flavor in butter is because of acid in that cream getting on metal?

MR. ROGERS: One of the determining factors is the action which comes when acid cream is exposed to metal like iron or copper, that is, acid takes off some of the metal, and it is carried into the cream and the action of that metal in the cream, and probably the acidity of the cream also, has a strong tendency to develop fishy flavor.

MR. MEYER: May I ask if there is a metal that doesn't give metal flavor?

MR. ROGERS: There is some difference in metals. Copper is very active, and also nickel and iron. Tin is one of the best metals to use, of course, because it is resistant to the acid. When you expose your cream in a tin container, practically none of the metal is carried into the cream.

MR. ERWIN: I wish again to ask about the tin. I found from experiment that tin is almost as readily dissolved. I want

to know if that would not act as a catalyser the same as iron and copper?

MR. ROGERS: There is some difference in the catalitic action of different metals. I could not say just how they would be rated, but I know that nickel is one of the most active and that copper is also very active. Tin, from our experience, is not very active.

MR. ERWIN: Then your theory is that it is an oxidation process of the butter fat?

MR. ROGERS: I would say it is an oxidation.

PROF. J. D. JARVIS, Lafayette, Ind.: Does a pasteurizing temperature increase fishy flavor? The higher you pasteurize, especially sour cream, does that have a tendency to increase fishy flavor?

MR. ROGERS: I could not answer that—that is, I could not give any reason for that, but I would expect it would have a tendency to increase fishy flavor. It is possible, of course, that the higher you pasteurize, the more the tendency is to dissolve the metal, that is, the greater the heat, the more metal dissolves.

PROF. JARVIS: It is due more to a combination of chemical and biological changes?

MR. ROGERS: I think that, aside from the fact that you have got to have bacteria to develop your acid in the cream, it is almost entirely a chemical process.

PROF. JARVIS: Doesn't heavy salting bring out that flavor?

MR. ROGERS: The salt evidently has something to do with it. My idea is, as you have suggested, that it brings out the flavor, but I doubt very much if it has anything to do with the cause.

PROF. JARVIS: What action has salt on the curd in butter? We know that using salt in making limburger cheese helps bring out a peculiar flavor. What effect would the salt have on this low class of cream?

MR. ROGERS: My Wisconsin friends have been at work on that. Perhaps they could answer this better than I could.

MR. F. E. SNYDER: I would like to ask Mr. Rogers if he doesn't think over-salting develops fishy flavor. Take a print of butter containing four or more per cent of salt, and 99 times out

of 100 in my experience it will develop fishy. I have therefore concluded that over-salting will develop a fishy flavor.

MR. ROGERS: I have come to the conclusion lately that the salt is perhaps more of a factor there than we formerly thought. There have been two or three papers bearing on that, but more than I have said, I can't say as to the salt. I think the salt has some influence on the flavor.

MR. E. ERICSSON, St. Paul, Minn.: Isn't it a fact that there are certain bacteria which will grow in a very concentrated brine solution?

MR. ROGERS: There are some bacteria that will grow very slowly in brine solution.

MR. ERICSSON: Isn't it a fact that some will grow very fast, for instance, in the meat curing industry, don't they depend on that to a certain extent for all cures?

MR. ROGERS: I presume that is so, but those who have experimented along those lines have been unable to demonstrate the growth of any organism in butter in sufficient numbers to account for any deterioration. Sometimes you can get in butter a very slight increase in bacteria, but that is only butter held at comparatively high temperatures, and the total number you get there is very small indeed.

PRESIDENT: The paper that Prof. Lee is going to give tomorrow is going to be illustrated with stereopticon views. You should all be here tomorrow for that lecture.

We will pass on to our next paper, which is the Cost of Artificial Refrigeration as Compared with the Cost of Natural Ice, by Mr. C. E. Hart, Milwaukee.

MR. HART: Mr. President and Members of the Wisconsin Buttermakers' Association, Ladies and Gentlemen: I wish to say this, before reading my paper, that Prof. Farrington brought out last night a very important point, which is that the creamery men do not know the cost of production; in regard to how much it would take to produce their butter, how much coal they would use, how much gasolene, how much for power, and other things, so that the figures I have here are based on approximate figures as near as I have been able to find them.

THE COST OF ARTIFICIAL REFRIGERATION AS COMPARED WITH THE COST OF NATURAL ICE.

By *Chas. E. Hart, Milwaukee.*

If conditions were uniform, we could set down in two opposing columns the necessary figures, and by a little sum in addition and subtraction arrive quickly at our conclusion. But in this comparison of the cost of artificial refrigeration with the



CHAS. E. HART

cost of natural ice, there are various modifications in different plants which complicate our subject.

I take it for granted that the creamery men of our state are progressive. If not, whence springs Wisconsin splendid record as the foremost dairy state of the Union.

One by one hindrances have been eliminated and difficulties overcome, until we can proudly point to not one, but many properly equipped, well managed creameries throughout our state.

Yet we know that he who pauses to dream of what he has done, instead of looking forward to what he may do, will soon glimpse the heels of his companions vanishing in the hazy distance.

Nothing is complete, but only in a transition stage, moving on to better and more improved conditions.

Already we have our ripeners, pasteurizing machines, valveless pumps and other advanced appliances, but in one direction we seem not to have progressed as the possibilities warrant.

How about a damp, mouldy cooling room, compared with the clean, fresh atmosphere of a well appointed, modern refrigerating room, in which to store the products of carefully calculated, scientific work. It is not quite fitting that we should store our tubs of sweet smelling, golden butter in other than the purest storage room obtainable. Or, to cool the cream of which it is made, with ice which has been shown to be filled with bacteria of multitudinous variety. Our product can not be quite perfect under these conditions.

It is not hard for any thinking man to calculate the advantages of this modern system of cooling, but before such an innovation he wants to know many details, and perhaps most of all, the cost in dollars and cents. Usually this is the item of greatest import, yet not always. We know that increased efficiency is far reaching, and can not always be reckoned in the expenditure of the moment.

Let us look first at some of the losses sustained by the usual method of cooling with ice cut from lakes, ponds and rivers.

Competent authorities tell us that in the best built ice houses there is a loss of from 20 to 25 per cent of the ice through melting, and this loss must be many times multiplied when there has been a lack of care or of investment in the construction of the building.

An added percentage of loss is due to handling, washing and placing in the cooler or ripener.

Then there is the time of one or two men to dig out and place this ice, time which might be turned into dollars and cents elsewhere.

Another deficit which strikes home unpleasantly, and which has been known to occur more than once, is the cutting of price for a mouldy flavor in butter, due to the musty atmosphere of an iced refrigerator.

There is a tendency to overlook small losses which, though not actual money, mean money in the end. If we could see pennies dropping one by one through a crevice, we would lose no time in scrambling to gather them. They are money, and from the cradle we have known their value. And that is just what is leaking away wherever there is a crevice in our business arrangements. Perhaps it's a small hole in a far corner, but there they are piling up with the unremitting regularity which means many dollars at the end of the year.

The present day business man has learned to keep a sharp eye open for leaks. Sometimes the result is amazing. A few days ago I was in a plant burning 200 tons of coal a day, where they have installed a machine to detect loss of heat units. At first there was a question of the advisability of expending \$350 for this small device to determine possible waste in a well equipped plant. But it has proven a wonderful investment: discovering an actual loss of \$50 a day, or \$1,500 a month.

So, to insure value received for the time, energy and money we put into our business, it is wise to investigate modern appliances.

I take it for granted that we all appreciate this point, and many of our creamery men today are looking toward the ice machine, and are asking, "Will it pay me in my plant, and what will be the cost of installing such a system of refrigeration?"

Let us see. You will understand that all figures given must be merely approximate. Each particular case is a law unto itself and its needs must be gone into in detail before definite figures could be given.

To answer the question, "Will it pay?" let us look into the expense of natural ice. The first cost of a well built ice house is not a small item. There are ice houses, and ice houses, and of course, the better the house the less waste from melting ice.

One recently built, of fairly good lumber, dimensions 18x24, 20 ft. studding, cost \$320 exclusive of packing the walls. This holds 60 cords of ice. At a cost of \$150 a cord loaded f. o. b. source of supply, it amounts to \$90 for the 60 cords. One-half ton of shavings to a cord, at \$5.00 a ton, amounts to \$150. So we have a first cost of \$560, not including hauling, (which can not be estimated without knowing the distance) or hoisting and packing the cakes in the ice house. In view of this, \$600 would be a conservative estimate of the total cost.

As to the first cost of a good refrigerating plant, several of which I have seen throughout the state, I find that a machine of 1½ ton capacity will cool a room 8x12 by 10½ ft. high, which will hold 220 tubs of butter or will store 180 cases of eggs.

Such a machine, with necessary piping, brine tank, ammonia, etc., can be installed for \$900. It will require a three horse power motor to drive the machine.

For a box twice the size, taking care of twice the quantity of eggs or butter (440 tubs of butter or 360 cases of eggs) a machine of three tons capacity would be required. This can be installed for \$1,100, and will need a six horse power motor.

A five ton machine will cool a room 14x34 by 11 ft. high and will cost \$1,600. A room of this size holds 1,100 tubs of butter or 900 cases of eggs. 10 horse power will be required.

Thus we see that the cost decreases proportionately as the size increases. And right here it may be well to mention that a man should always install a larger machine than his present necessities require, to provide for future growth.

Besides these general estimates I will give you a few figures furnished me by a creamery man in my territory. Two years ago he installed a three ton ice machine and an electric motor to drive it, at a total cost of \$1,600. He makes 75 to 100 gallons of ice cream, cools hardening room 4x8 by 7 ft. high, from 10 degrees above to 0 and sometimes 17 degrees below, cools 100 gallons of cream for butter in ripener and stores his butter in a refrigerator 10x10 by 8 ft. high at a temperature of 32 to 40 degrees. He also cools 150 to 350 gallons of buttermilk. To run

this machine costs him \$1.00 a day for electric power. His only cost for repairs in two years has been \$1.00 for packing.

Before installing the machine, it cost him three to four dollars a day for ice, and he now runs his plant with one man less.

Another creamery man gave me the following figures: He put in a seven and eight-tenths ton machine, with equipment for \$1,475. He previously had the motor.

He cools 250 gallons of cream from 85 to 40 degrees and keeps 2,000 pounds of butter in a refrigerator at 40 degrees. The machine is run 10 hours in hot weather and 4 to 5 hours spring and fall, at a cost of 4 to 4½ cents per kilowatt hour, amounting to \$225 for the year. This includes the expense of running the entire plant, cooling, ripening cream and churning. It formerly cost him \$500 a year for ice. He has run the machine something over a year with no repairs.

These are a few comparative figures which may serve to aid those who are thinking along these lines.

And aside from the question of dollars, there is a most worthy ambition among us to work for QUALITY.

There is a supreme satisfaction in a clean, sanitary plant, turning out the best on the market.

So let us welcome new ideas, investigate, compare and choose whatever will assist us in reaching the highest standard of quality. (Great applause.)

DISCUSSION.

MR. MEYER: I would like to ask Mr. Hart how many horse power is required for a creamery making on the average about 75 tubs a week?

MR. HART: The smallest machine that would be practical for that would be the 1½ ton machine. I believe that is the smallest that is made for practical purposes. That would take a 3 horse power motor, that is if he runs by electricity, or in the neighborhood of about 600 pounds of coal a day if he is running by steam with a common slide valve engine. A Corliss would take a little less.

MR. MEYER: Do I understand, Mr. Hart, that that means cooling cream and everything pertaining to creamery work?

MR. HART: That means from taking in the cream in the plant at an average temperature in summer months of 85 or 90, cooling it to 40 or lower, ripening it, cooling it again, making it into butter and keeping in first class condition in your refrigerator, that includes the entire process from start to finish.

MR. C. J. DODGE, Windsor: Does that include the motor, the \$900?

MR. HART: The \$900 does not include the motor.

MR. M. E. BRUNNER, Ft. Atkinson: I would like to ask Mr. Hart what he means by a 3 ton machine?

MR. HART: A machine that will cool a sufficient area equal to three tons of melting ice. This 3 ton machine will also take care of running your machinery.

MR. GUY SPEIRS, Eau Claire: I would like to ask Mr. Hart if he don't think it is a mistake to recommend a small machine. You are figuring 3 ton refrigeration on a ton and a half machine. How many hours run would you have to operate that 1½ ton machine to get that efficiency out of it?

MR. HART: Eight hours per day.

MR. SPEIRS: Don't you think it would be better to recommend a larger machine so that that machine would only have to run while the regular creamery machinery was in operation?

MR. HART: Yes, I do in a way, but Mr. Meyer has asked me a direct question, what size machine, in my estimation, it would take to take care of a creamery making 75 tubs of butter a week, and my answer was merely an answer to Mr. Meyers. But I do advocate putting in a 3 ton machine where a 1½ ton will do the work. You understand you have only got to run the machine for the number of hours you need it.

MR. FRANK BOWAR, Cazenovia: Wouldn't the question of power come in there, too? A larger machine would do the same amount of work. This particular creamery would not have power enough, so he would probably have to run a larger machine.

MR. HART: That is an individual point which the man would have to take up with the manufacturer he buys his machine

from. As Mr. Bowar says, he would possibly have to get a larger engine or larger motor, which would entail a larger expense.

MR. GEORGE E. YOUNG, Menomonie Falls: We had a 4 ton machine and a 15 horse power engine and it is a pretty hard pull. I have had to get a smaller machine.

PRESIDENT: The way I understand you, a 4 ton machine was pretty heavy for a 15 horse power engine—pulls pretty heavy on a 15 horse power engine.

MR. HART: I understand, a pretty hard pull for his 15 horse power engine, and it is his opinion that he would advocate a creamery of the same size as his to put in a little smaller machine instead of putting in a 4 ton machine. In that way he believes you can run the other machinery too, rather than run the ice machine individually, and then shut down his ice machine.

MR. H. H. WHITING: Mr. President, I know of a 3 ton machine and they have a 10 horse power engine and they have a churn that will churn about 600 pounds of butter, and I know of this ice machine and the churn being in operation at the same time with the 10 horse power.

MR. HART: That, I believe, is sufficient proof to you that the figures I have given are accurate.

MR. YOUNG: I want to ask this gentleman if he starts his machinery or his ice machine first.

MR. WHITING: I have known of these to be in actual operation. I don't know anything about the starting of them. I know these to have been in operation, the churn and the ice machine, at the same time. Whether the ice machine was started before or afterwards I don't know.

MR. BOWAR: There is something involved there. You all know that there is some difference in the amount of power required by different makes of churns. That churn of 600 pounds capacity is a small churn.

MR. ED. SEAMAN, Markesan: I know of a factory where we have run a 6 ton ice machine and a 1,000 pound electric churn and other pumps and 4 separators, every separator with a 60 horse power motor, all with a 15 horse power engine.

MR. YOUNG: I don't know what the effect of a 60 horse power machine would be.

MR. HART: Mr. Young, I would suggest for your benefit to increase the pressure of your steam to 110 or 115 pounds,—your boiler will stand it easily. Change the safety valve so that it will blow off at 110 or 115 pounds, that will give you the increased power.

MR. SEAMAN: Our experience is that 100 pounds of steam pressure is sufficient to run the 6 ton ice machine, as stated before, with a 60 horse power motor.

MR. H. O. STROZINSKI, Neillsville: I would like to ask the gentleman if, with a 30 horse power boiler and a 15 horse power engine connected, a 1,000 pound churn and two 600 power ripeners, would this engine handle this, or would the machinery have to be shut down in order to handle this?

MR. HART: I believe that the boiler is entirely too small for economical work. You possibly could do it, but I believe your boiler and equipment is too small for economical work.

MR. STROZINSKI: You possibly misunderstand me. We are running at the present time a 15 horse power engine and a 1,000 pound churn and two Simplex ripeners.

MR. HART: With a 30 horse power boiler?

MR. STROZINSKI: Yes.

MR. HART: And now you want to put in a 3 ton machine?

MR. STROZINSKI: I ask you that question, if it would handle it?

MR. HART: No, I think not.

MR. STROZINSKI: Would it handle a 1½ ton machine?

MR. HART: No, I hardly think so. I don't think you have sufficient capacity in your boiler in the first place to give you the amount of power to run on a safe working economical basis.

PRESIDENT: Mr. Young, didn't I understand you to say 25 horse power boiler?

MR. YOUNG: 25 horse power boiler.

PRESIDENT: I would like to ask the speaker one question. What is the cost of running the different ice machines, 3 to 5 tons, outside of the fuel and the wear and tear on the machine?

MR. BOWAR: I think this man here with his 15 horse power engine, 1,000 pound churn certainly ought to be able to handle a 3 ton machine with that, and while of course I don't know how these steam engines are, I run a 1,000 pound churn aside from a pump and a separator and it can handle it all. Of course it makes the engine work. At the same time she runs it and holds the steam up. Of course how the gas engine is rated, according to steam, I don't know.

MR. HART: I would suggest this to this gentleman that spoke, who is wanting the information whether the boiler would do it, I am not selling any machines. I simply got the data together from the knowledge of the business I had to give you the benefit of my knowledge, and it would be unfair to the manufacturers to undertake to state that such and such a machine and such and such a boiler would do the work. When they would come to figure on that job they would find that my estimated statement was not correct, consequently the man who figured on putting in the machine would think that the manufacturer was holding him up. For that reason you will please bear in mind that my figures are only estimated. If there are any men in this room representing any ice machine or any power pertaining to it, he will tell you the same thing. I cannot get definite figures. We have got to know as a matter of fact how much cream or milk he takes in, what temperature it comes in, how cold he wants to cool it, or whether he wants to pasteurize. I am just giving you these to give you an idea what the manufacturer is up against when he is asked to give an estimate. I will say this, that the figures given in my paper are absolutely correct, and you will not find a machine I mentioned here that will cost you any more money than I mentioned.

Mr. Olsen asks for the cost of running the ice machine. That cannot be answered because different men who have put in these ice machines have run one without one cent of cost. The average cost of ammonia in one year's run is conceded to be, a very fair estimate, 2 per cent less in ammonia, and that must be drawn off once a year, so that the cost of running the machine, outside of the fuel, is practically nothing.

MR. E. L. ADERHOLD, Neenah: This is very interesting, but I am sure that Mr. Hart's discussion of the subject has been entirely free from hot air.

MR. HART: I thank you, sir. (Laughter and applause.)

PRESIDENT: If there are no other questions, we will go on to the next subject.

Prof. Benkendorf has a few announcements to make.

SECRETARY BENKENDORF: Ladies and Gentlemen: I have just a few announcements. I want to call your attention to the rules governing the district prizes on Page 29 of the program, the second rule is "In order to be eligible for these prizes it is necessary that either the butter maker or some representative of the creamery must be present at the convention, and register with the Secretary before 6 o'clock Wednesday, Feb. 4." Be sure that you call at my office at the Park Hotel, and sign the entry blank that you sent in. Do not come to me tomorrow and say that you saw Prof. Lee, or Prof. Farrington or me at the Dairy School and we know that you were here.

Last year I had a complaint from a man. He wrote me that he had been at the convention and he could prove it by Mr. H. C. Larson. Even if he had seen Mr. Larson, the rules say he must sign the entry blank, at my office. This thing must be settled tonight.

The second announcement I have to make is that the Dairy and Food Department has prepared a very interesting exhibition on the ground floor and I advise the creamery men to get acquainted with the new laws on weights and measures, and the new laws on the Babcock glassware.

I want to call your attention to the sale of butter in the Exhibition Hall of the Dairy School. The butter will be sold tomorrow at 11 o'clock in the Dairy School.

I also wish to call your attention to the fact that we have a lot of Danish butter, New Zealand and Australian butter at the Dairy School which you ought to look at. Are there any questions that anybody wants to ask me?

I also want to call your attention to the fact that there may be some of you who haven't become members of our organization.

Remember it costs money to run this organization, so if you happen to be over at the Park Hotel call at my office and there will always be someone there who will be ready to take your dollar.

PRESIDENT: We will next hear a very interesting speaker. His paper is entitled "Guard Ye Well Her Bulwarks," by the Hon. J. Q. Emery, of Madison.

"MARK YE WELL HER BULWARKS."

By Hon. J. Q. Emery, Madison.

Mr. President and Members of Wisconsin Buttermakers' Association: The printer has taken some liberty with my subject. It is not "Guard Ye Well Her Bulwarks," but "Mark Ye Well Her Bulwarks," and it contains an appreciable difference.

Upon what do the nations of the earth depend in the construction of their battleships for their own defense or for the mastery of the sea? Do they depend upon poor, rotten, or otherwise faulty or inferior material in the construction of those battleships? Do they depend upon poor or indifferent workmanship? What consummate folly such a course of procedure or such reliance would be!

Soon after war was declared by the United States against Spain it was announced in the newspapers that the Spanish war fleet had set sail for American waters. Then disturbing questions arose in the minds of the people of this country. Would the Spanish fleet be able to overcome all the resistance that would be offered by our own fleet and coast defenses, steam along our sea coast and destroy our cities and dictate terms of peace? All depended upon the strength of the respective fleets, the material out of which they had been constructed, the skill in workmanship and the skill of the men who manned the vessels. This was a time when the entire nation stood almost breathless in suspense.

When the supreme test of strength came, it was found that the Spanish fleet was weak, rotten, faulty, inferior, and that

the superior material and workmanship and skill of our own navy quickly sent the rotten Spanish hulks to the bottom of the sea at Manila and on the coast of Cuba.

Precisely the same principles are applicable in the commercial warfare in the creamery butter industry.

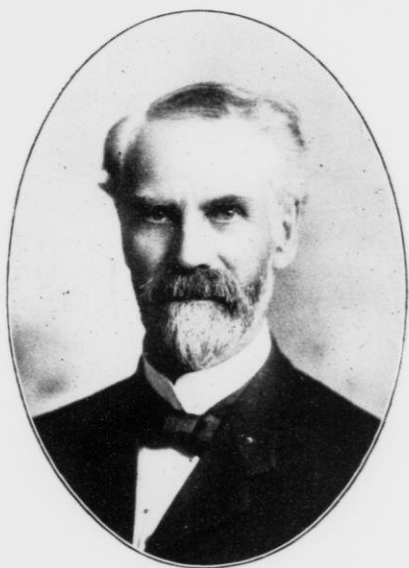
The word "Mark" in my subject is used in this paper in the sense of *giving heed to*. The pronoun "her" is here intended to apply to the creamery butter industry in general, and to the Wisconsin creamery butter industry in particular. As used in my subject, the word "bulwark" means that which gives security or defense. Hence, it means a protection, a shield, a fortification. The term implies warfare. In the sense in which it is here used, it implies commercial warfare. The commercial warfare here implied is more of the nature of ancient than of modern warfare. In ancient times, wars were waged as a means of gaining wealth. The conquering host took as the "spoils of war" not only all the estates of the conquered,—the lands, the flocks and the herds, the gold and the silver,—but they made captives of the conquered. The conquerors became the taskmasters of the conquered.

The commercial warfare waged against the creamery butter industry is for the purpose of gaining as the spoils of war the butter market; and this warfare is real. It is no mimic affair.

No one will for a moment question the statement that one of the powerful forces now carrying on a gigantic warfare against the creamery butter industry in the market is oleomargarine. Its army is always under marching orders and never halts. It is well trained. Its soldiers shoot to kill. They build the strongest barricades that the most skillful and cunning ingenuity can devise and money construct. They send their scouts and spies into the camps of the butter industry clothed in the garb of the butter industry. They employ generals of the greatest skill, subtlety and strategy to select the battlefields and set their forces in battle array. Their movements are at all times most skillfully screened. So perfect is the organization that the forces can be mobilized on a moment's notice.

At the present time there is a bill pending in Congress which

under the plausible pretext of seeking to lower the high cost of living seeks to change the name of oleomargarine,— a name long associated with deception,—to the name margarin, thus aiding the product to mask its identity and former history and give it a new name to conjure with, seeks to repeal the present national law that gives to any state into which oleomargarine is shipped power to regulate its sale the same as though it had been manufactured in that state, seeks to provide for its sale



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in specially prescribed original packages, thus bringing its sale in such packages under the national jurisdiction and excluding the states from the power to regulate such sales, and seeks to permit a counterfeit article to masquerade in the garb of genuine butter. With skillful generalship this charge of the oleomargarine forces, adopting the practice in all great battles, closely follows the cannonading which it has brought to bear for the past several years by the press, by circulars and by various civic, social and industrial organizations against the reputation and acquired market rights of creamery butter.

What bulwarks has the creamery butter industry established as her defense, as a strong fortification, against the assaults of these gigantic forces? Is it a strong bulwark against such attacks that creamery butter is in whole or in part manufactured from impure or tainted or dirty or stale or overripe cream in unclean or unsanitary factories by means of careless or unskillful workmanship, or manufactured from any cream short of the cleanest and purest and freshest, and by means of the most careful, skillful and reliable workmanship? If every pound of butter seeking a market were manufactured from clean fresh, sanitary cream in clean, sanitary creameries by skillful and reliable buttermakers, does anyone doubt that such a condition of affairs would constitute the strongest bulwark against the attacks of the oleomargarine host? Does anyone believe that such butter could be despoiled of its market by oleomargarine? While not claiming it to be the only defense I firmly believe it to be the strongest defense. The establishment of this defense, this bulwark, is not a work alone for congress nor for the legislature, but for the people engaged in the creamery butter industry. Choice creamery butter produced by means of skilled and reliable workmanship from pure, fresh, clean, sanitary cream is a product so delicious, so responding to the taste and desire of the consumer that there will always be a demand for such an article at the highest prices. The forces of oleomargarine can never prevail against the demand for such an article.

On the contrary, creamery butter made under unclean and insanitary conditions from old, stale, tainted, unclean and bad flavored cream creates a strong aversion in the consumer. (I know this from my own experience. At my boarding house that kind of stuff sometimes comes upon my table, and I don't want it, and I don't eat it, and that is in Madison.) He dislikes the article and seeks some other. This is destructive to the market. It seems to me difficult to exaggerate this phase of the question. Such butter not only constitutes no defense in the commercial strife of the market, but is itself a weakening and demoralizing force.

In the fierce competition of the market, the well recognized law of supply and demand is to be reckoned with. What is demand? A desire for anything upon the part of the people who have the money to pay for it creates demand. Has the creamery butter industry as a whole sufficiently recognized the necessity of producing butter of such choice quality as to cause it to be desired because of its excellence?

J. H. Hale, the peach king of America,—and I wish I could speak half an hour to talk to you about his work, for I have seen it and know about it—upon the occasion of his honorary recognition by the University of Wisconsin, made the following statement, “To be successful in demanding high prices, an association of producers must establish a high standard for their products and must sell them exactly as represented.”

I know of no one better qualified to speak from preeminently successful experience on this subject than Mr. Hale, and that has been the key of his success. He has not tried to deceive his customers, he has not tried to palm off upon them an inferior article, but he has tried to produce the best article and give it to his customers.

Since the new tariff act which reduced the tariff on butter has gone into effect, foreign invaders of the creamery butter market of this country have already appeared in our market in battle array. These invaders have come from New Zealand, from Australia, from Siberia, and from the renowned butter producing country, Denmark. What is to be the result of this invasion? It is now too early to fortell with certainty. From what I have read in the dairy press and learned in conversation with those who have personal knowledge of the characteristics of these foreign invaders, there seems little ground to fear that the best grade of American creamery butter can be dispossessed of its market by them, and let me say here that I wish we might hear from these judges as to what the characteristics are of this grade of butter. The consensus of opinion seems to be clear and positive that to the extent that these foreign butters are superior to our own make, the latter will be forced to improve its quality or surrender its

market. Will anyone deny that under such conditions the creamery butter industry should mark well her bulwarks, give heed to her defenses? In the presence of such militant forces striving for the market, will it prove a safe bulwark for those creameries which are producing inferior grades of butter to say, "I know the butter produced by this creamery is of an inferior grade, but that is because the cream furnished by the patrons is old, very sour, insanitary, and of bad flavor, but if we do not take this stuff, some neighboring creamery or centralizer will."

Think you that constitutes a safe defense against the powerful contenders for the market? When the purchasing and consuming public repudiates these inferior grades of butter, whether produced by centralizers, cooperative or individual creameries, because the butter is displeasing and objectionable, and purchases instead the newcomers' or the old counterfeit of butter, does the reply that the patrons of our creameries do not furnish sufficiently clean, fresh, sanitary cream to produce high grade butter furnish a safe bulwark?

Time was when market conditions were such that there was only a slight difference between the price paid for extras and that paid for the lower grades; but if we are to credit those who are in a position to know and if we are to credit our own observing and reasoning powers, those times have passed; and when the market reports during the current season show such a great difference between extras and lower grades, it is not difficult to believe that those times have indeed passed. The dairy press has been sounding the alarm and urging the creamery butter industry to establish safe bulwarks. Ladies and gentlemen, I feel glad that in calling this to your attention at this time I have not to crawl fish. I have talked this before the association at a time when it made me feel lonesome. Wise and fortunate indeed are the creameries and their patrons that in the past have been marking well their bulwarks; that have insisted on having such raw material and have so manufactured it as to produce butter justly classed as "extra."

Not only are they safe against competition, but are in-

deed likely to secure an increased price for their product. I mean an increased price relatively in regard to the lower grades. Well may they feel that verily they have come into the Kingdom for such a time as this when there is discrimination in the market as to the quality of butter. As I have before stated in addressing this association, though such creameries are built in the woods, the butter buyers will make a beaten path to their doors to purchase their butter and at the highest prices. I speak as a man who has invested in a dairy farm all the few dollars that he has been able to save in a lifetime, and I am speaking therefore as a man with a financial interest in the butter industry.

There are other insidious enemies of the creamery butter industry within her own ranks which I have not specifically named as such. Among those enemies are the producers of old, stale, unclean and insanitary cream, and those who accept and manufacture such stuff into so-called butter and those who handle cream in unclean and insanitary creameries with unclean and insanitary utensils. They seem now rushing on to their own destruction. They have not been marking well their bulwarks.

This is the time for plain speaking. It is no time for condoning the follies of those who, by the practice of follies or what is worse, have brought too large a portion of the industry into such a defenseless condition that the speedy establishment of safe bulwarks is an imperative need.

There are other needed bulwarks to which every creamery should take heed. Not only should the cream that is to be made into butter be of the right quality, but that cream should be accurately weighed and tested and correct record kept of the same. I was stunned the other day to learn that one of the largest creameries of the state sells its butter upon the market without ever weighing this butter. This requires accurate and sensitive scales and correctly graduated glassware of the correct type and skill in the use of these appliances. Losses and leaks of every kind should be watched, noted and checked. The very best skill should be employed in the mak-

ing of the butter. Right temperature should be maintained. Accurate, reliable and intelligent reports should be made to the patrons. The entire business should be so conducted as to gain and hold the confidence of the patrons and of the purchasers and consumers of the manufactured product. The man who overloads his butter with water or with starch and water, or with milk powder, certainly cannot be said to be giving due heed to the bulwarks of the industry and such people should not find any support among the creamery butter producing people.

Former State Superintendent Graham once told me of an incident that occurred in the city of Oshkosh. Charles Felker was the city superintendent of schools. One of the regulations was that penmanship should be taught throughout the year. When winter came certain teachers came to Mr. Felker and said they were troubled with having the ink freeze and asked what they should do. His reply in each case was "teach penmanship," and in answer to all their other questions as to how they were to overcome the troubles which arose due to teaching penmanship in the winter, his one answer to each and all was "teach penmanship."

At a time when the resumption of specie payment was the subject of much discussion and political agitation in this country, Horace Greeley made the laconic and much quoted remark: "The way to resume specie payment is to resume."

So the way to establish bulwarks for the creamery butter industry is to establish bulwarks.

The management of any creamery can obtain just as good cream and manufacture just as good butter as it wants to. It determines for itself the quality of cream it will accept and the quality of the butter it will produce.

We have talked about this long enough. The management of any creamery can obtain just as good cream and manufacture just as good butter as it wants to. It determines for itself the quality of cream it will accept and the quality of butter it will produce. I am saying that slowly because I mean that proposition.

When a young man I taught school at Grand Rapids. At that time there was a pretty active Methodist minister there who held his Sunday School at half past nine. There were some who, when he urged them to attend the Sunday School replied that it was held too early in the morning. To such people he would tell the following incident. There were two neighbors, A and B. A was very fond of hunting. He urged his neighbor B to go hunting with him. Neighbor B replied that he did not have time. To this neighbor A responded: "If you liked to go hunting as well as I do you would find time." The application the minister made was that if a person really wanted to go to Sunday School, the time of holding the Sunday School would not prevent.

The creamery management that is sufficiently eager to secure raw material from which the best quality of butter can be manufactured will secure such material. That is the proposition. The question is how much do they desire it? Do they desire it enough to put forth the effort to get it? In this, as in other matters, where there is a will there is a way. The creamery management that wants to give heed to its bulwarks will give heed to its bulwarks.

The act of the creamery management in accepting unfit raw material is no less reprehensible than that of the patron who furnishes it. So long as there is a market for such material, just so long will such material be furnished. The creamery is the unit that determines the standard of the cream it will accept to manufacture into butter. That responsibility is with the individual creamery and it cannot escape it. If each creamery waits until every other creamery rejects unfit raw material, how long will it be before all unfit raw material is rejected.

A few days ago Mr. Larson addressed a meeting of officers and patrons of a creamery. They were brought to a realization of their perilous condition owing to the poor quality of cream furnished and the consequent poor quality of the butter manufactured. He advised the creamery management to fix as the standard for the cream to be received such cream only as

would produce high class butter; and he advised the patrons in their own interest to reform their practice and meet the needs of the creamery in the production of high quality butter. When he was through the manager spoke. He stated that he was going home to improve the quality of cream which he furnished; that they had just elected him manager for the eighth year and that he then and there gave notice that regulations would be adopted and enforced that only such cream would be received as would produce high class butter; that however much such a course of action might reduce the output, that output would be of the highest quality. Others spoke and all in approval of the stand taken by the manager. They had begun to establish their bulwarks.

What is especially needed today by that part of the creamery industry which is producing butter below the grade of extras is an awakening from lethargy and indifference, from the "Attitude of the Folded Hands," to a realization of impending danger. "Mark ye well her bulwarks."

PRESIDENT: I am sure we have all been interested in Mr. Emery's valuable paper. Of course it is evident to us in the business that we are up against it, and it is simply a matter of going home and trying to do better. It is not for the other fellow to do it.

I think Mr. Meyer wants to present a resolution.

MR. MEYER: Mr. Chairman, Gentlemen of this convention. Last night I brought before you important matters relating to certain sentiment that at the present time seems to exist regarding your State and National Societies. I herewith wish to present to you a resolution which tomorrow you may act upon as you see fit.

WHEREAS, the present national dairy conditions bring new problems to be solved regarding the future policy of the National Creamery Buttermakers' Association, therefore, it is

RESOLVED that the president and secretary of the Wisconsin Buttermakers' Association be requested to

act as a committee to work jointly with the executive committee of the National Creamery Buttermakers' Association in adjusting the various problems that arise from time to time.

PRESIDENT: As long as Mr. Meyer wants it acted upon tomorrow, I suppose it should be given to the Resolution Committee. Is Mr. Robert Carswell in the room? We had to pass over Mr. Carswell's paper last night, and we will have it now if he is here.

PROF. C. E. LEE, Madison: While Mr. Carswell is coming down, I think it might be well to say a few words about the foreign butter we have here. We have exhibited 170 some odd tubs of Wisconsin made butter, and it has been my privilege to go over those individual tubs to find what kind of butter is being made in Wisconsin. I hope that everyone of you will take the time to examine our fine Wisconsin butter, and there is no question at all in my mind that every one of the high scoring tubs come from men who receive nothing but good cream.

We have five packages of foreign butter, and it is certainly a credit to the Wisconsin Buttermaker's Association to get hold of this kind of butter.

The two lots of Australian butter we have at the Dairy School contain a typical fishy flavor. If anyone here has any doubt on the typical fishy flavor, get it fixed by examining that. We need not fear comparison with our Wisconsin product.

We have two lots of New Zealand. Both lots are unsalted, and both lots have a peculiar flavor, I think produced by the feed. It is a foreign flavor, not detrimental.

I think that butter would be credited as "extra first."

We have one cask of Danish butter, that I am sure everyone here will want to taste. I am satisfied in my own mind that that cask of butter was made from the best grade of raw material produced in Denmark. I am satisfied that that butter was made from cream low in acidity, or as Mr. Rogers referred to this afternoon, the butter was made from cream containing

a low acidity. This butter is that kind of a product. I don't want you to feel that I am partial in placing a high score on that butter, but if the Danish butter contained 2½ per cent of salt in place of just about 1 per cent, I would be safe in placing the score of 95 on that butter. It has an elegant flavor. (Applause.)

PRESIDENT: We will now go to the next on the program, Creamery Conditions in Northern Wisconsin, by Mr. Robert Carswell, of Menomonie.

CREAMERY CONDITIONS IN NORTH WESTERN WISCONSIN.

By Robert Carswell, Menomonie.

Mr. President, Ladies and Gentlemen: Don't you all think, laying all jokes aside, that our state Association is getting hard up for speakers, when we younger boys at the trade are called upon? Your worthy secretary insisted that I should represent the northwestern part of our state, which section has made a great advancement in the production of dairy products the last few years, and we are looking forward to the near future when we will outclass any of our dairy sections in the state, as we all can see that there has been a great boom for better dairy herds. In our locality there are quite a few excellent herds, comprising Holsteins, Guernseys, and Jerseys.

I am not up here to tell any of you brother buttermakers how to operate your creamery, but only of the conditions as they exist in our community, because I think we produce a larger quantity in fifty miles radius than any territory in our state, and most all of them have the cream hauled by wagons. We have a creamery at Rusk, six miles east, and one at Downsville, seven miles south, and the amount of butter made by these three creameries amounted to 1,700,000 pounds for the year just ended.

Gentlemen, we don't receive one pound of cream individually, but it is all hauled by the route system, and I will say that this is where we boys in such localities are handicapped, as we have to depend on the hauler for courtesy shown to our patrons, and the results of good or bad cream. And again we have the extreme hot and cold weather to contend with, as you all know the cream is on the road from early morning until



ROBERT CARSWELL

late at night, and it always shows more or less the effects of the weather.

I have seen in our dairy papers where some of our highly esteemed professors advise the creameries to put up ice for their haulers so they can have some every morning before leaving, and I know that in some localities they are using that method, but I do not agree with them in regard to our community where we only have the old stagnant and polluted pools from which to secure the ice. And again our dairy schools are always advocating to the boys not to put crushed ice in their

cream for cooling purposes, but use the coil system for which purpose it is adapted, as it would have a tendency to injure the flavor, but I am strongly of the opinion that if our cream stands along with the ice water from such pools in the extreme hot weather from early morning until evening, that the flavor is already spoiled. The same may be applied to our severe winters when the cream comes in frozen solid to your cans. That is why we buttermakers under such circumstances have to work accordingly and not exactly by reading conditions altogether different from ours. Several buttermakers, whom I am well acquainted with, have asked me why we don't use starter and pasteurize, but as I told them, that starter is a new word in our community as they never even saw or know that a starter can is. I myself have approached my directors for one, but the answer was, why buy a starter can and pay extra for milk and pay for hauling same when we are getting as much or more than some creameries in different localities that are using starter.

So, gentlemen, it is a hard proposition for the buttermaker under such conditions, and I am sure if we three creameries did decide to use starter, I think we would need quite a large can for the summer months, as we all receive around 14,000 to 15,000 pounds of cream Mondays and Tuesdays, and as you know all that cream comes in from four to six P. M. and it being in the condition it is in when received, I think it would have to go through quite a process before adding starter. If such methods were approved it would mean double shifts in all our plants. I think the same may be applied as to pasteurization, it would be of no avail unless you had starter. And again it is a late hour after 6 P. M. to begin pasteurizing, especially in a wood jacketed cream vat, and I think most of our cream is already overheated when it lands at the factory, especially the thin cream that most of our creameries are handling.

Gentlemen, our way of handling the raw material, to my knowledge, is altogether different from the plants who have it brought to their door and can inspect every delivery in that

way. We may adhere to some of the new ways, and we boys under such circumstances are all ready for the new and up-to-date methods, if only they will apply to the conditions we are working under. I would say that if ever some of our brother buttermakers perchance to get into such a location as ours, we can assure them that they can start their sermons for such things to the directors, but we think it would be of no avail as long as the buttermaker has a farmer for his manager. I strongly think that under such circumstances, the buttermaker should hold his place as such, and abide by his higher authority.

I do believe that if we had more help from our Dairy and Food Department, and if our legislature body could see it in that way, we would all turn out a better product, as you all know that your inspector at the present time has too large a territory on his hands. We cannot praise him too highly for the good he is accomplishing, but it is pretty hard for him to make more than one or two inspections during the year, and I think his time is very limited when he does appear, as he has the meat markets, grocery stores, city milk and the city dairyman's barns to inspect along with the creamery. We all admit that such inspections are a necessity for all of us, and if we could only induce our Legislature to put on a force, that could spend more time right on the dairy farm, we would be making our best step toward good raw material, I know that every dairyman who retails his milk in our city has a neat and clean harn. Why? Because he is looked up so often by our inspectors. I think the same would apply if only our patrons were reprimanded occasionally. But gentlemen, we always see in the papers, why don't the buttermakers go and round up their patrons and see as to the conditions on the farms? I really think that we boys under such conditions will have to have more time and authority before we put such a task on our shoulders, as I think we have all we can do to attend to our wants at our creameries, as most of us have over 400 patrons, and if we satisfied all of them, I think that is all we want to do, without substituting for an inspector.

I suppose some of you saw two articles in recent issues of the Dairy Record where two gentlemen told us that there is too much blame put on the farmer of today, and he was not altogether to blame. This might be true, and is true in regard to some, but I think there is plenty of room for improvement, at least I know there is in our community. I think the butter-maker is not altogether to blame for conditions that exist six or eight miles from his factory.

I would like to say a few words in regard to the grading of cream. This, in my judgment, wouldn't work out very satisfactorily under the present conditions, as all the responsibility would fall on the haulers, and you can't expect the average hauler to have the capability of grading cream. I think he only expects to weigh and sample his cream correctly and get towards home as soon as possible.

Gentlemen, we in our locality are only testing twice a month, and I will say that most of us have over 400 patrons at the present time. You hear every day from different sources, "test daily". You all know that would mean an extra man in all our plants under those conditions, and who is it that is going to make this big change? Don't you think that if our dairy officials could only induce our creamery boards to see it in that light, and what advantages it would be to them, that we might win, if it was pointed out in such a manner that they would benefit by it? But as for us buttermakers to take such a task, I think, gentlemen, that the burden would be too heavy and that the want columns in our dairy papers would be more than full every week, as I think you will agree with me it would be impossible for a buttermaker under such conditions to keep his place. I think if we do that we will work in better harmony with our manager and the company will be better satisfied.

I suppose you all know that our department is enforcing the law on creameries which are not testing daily, to do away with the 9 inch test tubes and replace them with 1x5 test tubes, and to take a proportionate sample from every patron. This is all right for the average farmer, but where a creamery has a large number of patrons, running from 300 to 400

pounds of cream a trip, I think we will have quite a sample to throw away at the end of two weeks, and it means that most of us will have to have larger sample bottles.

Gentlemen, we are not criticizing or kicking, but these are the actual conditions that confront us in our locality. I am glad to see in the announcement of this convention that our State Association has taken a good step toward helping our buttermakers who are working under such conditions, when they changed the way of distributing the pro rata money. You all know that it is almost impossible to make high scoring butter when you are working under such adverse conditions, and I think the buttermakers will appreciate it as they will receive a little for their trouble. It takes as much time to make a poor grade as a good grade, and we boys should be thankful for having a set of officers who have served us the past year.

I would like to say a few words in regard to our two County Associations which exist in the northwest, and I will say that the buttermakers who attend these small meetings derive a great benefit from them. We all have a good time and exchange views as well as hear some excellent papers from our superior professors and buttermakers as well as our esteemed traveling men, who visit a good many creameries, and can always give us some good points.

As Secretary of the Northwestern Wisconsin Buttermakers' Association, and on behalf of the President and Directors, I extend to you all an invitation to attend our annual meeting to be held in Eau Claire on March 5th, and I will say that our program will be one of the best and discussions will be the chief object of this meeting.

Gentlemen, I thank you. (Applause.)

DISCUSSION.

MR. CARSWELL: Mr. Chairman: I see Mr. Keppel down here, and I want to ask him, is it possible to grade cream when they use the hauling system?

MR. V. S. KEPPEL, Holman: We do haul and we have graded

for years. We never let down the bars and continue that in spite of opposition. We occasionally lose a patron, but where we lose one we gain two, and where everything doesn't come up to a certain standard, we don't accept it.

PRESIDENT: Have you cream haulers?

MR. KEPPEL: We have no individual delivery. The milk is all gathered.

PRESIDENT: Do they do the grading?

MR. KEPPEL: No. Every patron's cream is brought in a sample bottle, his test lot of that patron, and when the can is off you may be certain sure the test bottle has gone off too, and the patron is given the benefit of the doubt the first time.

PROF. LEE: If a sample bottle is taken from a can of cream at 8 o'clock in the morning, what is it at 5 o'clock in the afternoon?

MR. KEPPEL: I don't think the temperature alone determines the impure flavors absolutely in it. I will state one little experience that our own locality proves to us. We have some routes that we gather three times and some that we gather twice a week all the year around and it is an undeniable fact that what we gather three times a week is the poorest cream. Where the patron has to keep his cream after three days he has got to make an effort to keep it sweet, and when the cream dealer gets it twice it is easy for him to keep it, and after it is in the cream haulers' hands it does not make any difference to the patron whether it is sweet or not. I think that twice a week gathering gives us better results than three times a week. That has been our experience.

PROF. LEE: You don't churn two grades of cream, then?

MR. KEPPEL: We do, positively. We vat it separately. We have a separate vat for that.

PROF. LEE: The cream hauler must put poor cream in one can.

MR. KEPPEL: He does when he is wise to it. He is warned to look out for certain patrons.

MR. ROBT. CARSWELL: Can you always depend on that hauling? Any man would have been satisfied two or three years ago

with two or three dollars a day to haul cream, but see if you can get a good man for less than four or five and a half now. I don't think we can put the responsibility back on the farm.

MR. B. DEGOLIER, Saxeville: I would like to ask Mr. Keppel why the patrons would not take better care of the can if they got it once a week.

MR. KEPPEL: We have stated here our actual experience and not our assumption that goes further with us. They have had that same experience in the adjoining creamery. They admit that to us. What you want is to induce the patrons to take good care, and I don't think cream will go off seriously if it is taken good care of, any more so than in two days. We want the patron to take care of it; we want it in such a shape that he has got to. We feel that in two days he can conceal it, and after he once gets it onto the haulers he has no responsibility. The deterioration comes in the haulers care.

MR. WHITING: I would like to ask that gentleman whether his system is horses or trucks.

MR. KEPPEL: Horses.

MR. WHITING: I see a good many of them approve of trucks. They can gather it oftener and get a better grade of cream.

MR. CARSWELL: We can only use the wagon system. The thing you hear from the boys is back to the hand separator. The patron would not carry the cream ten miles out there and the truck wouldn't go up to each farm. When your cream is on the road in the hot sun I think it will take a pretty good butter-maker to grade that cream, especially when it comes in so thick it won't go through the strainer.

MR. KEPPEL: Have you any ice with the patrons?

MR. CARSWELL: I would just like to see this. This last fall there were three horses below that ice in the pool. I don't know what the dairy laws are calling for. I don't think the ice would be very good on that account.

MR. KEPPEL: We never use any in the route but the patrons can use it for the tank and keep the water cool,—the tanks at the farms, that is where we use it. We don't use it in the routes. We have less trouble during the hottest time of the sea-

son than we do between the warmest and the cool seasons. We have the greatest difficulty in the spring when it just gets cool enough to take care of it and not warm enough to use ice. The two hottest months during the season, June and July, we don't have to cool it at all.

MR. CARSWELL: Do you mean to say that you have got to find 400 patrons ice?

MR. KEPPEL: The patrons put up their own ice.

MR. CARSWELL: I would like to advise that you are in a better community than we are. I think if you were to get up and teach those farmers to use ice you would have to shut down the creamery, rather than make a poor quality of butter.

MR. CARL JORGENSON, Roselawn: What do you do with cream that comes in so sour that you cannot use it?

MR. KEPPEL: The only thing I can do in answer to that is to take that cream that the haulers have already taken. I have got to show my ability as a buttermaker; we are working for the farmer and we have got to show our ability for the day's work. You cannot avoid that kind of cream. If you try to run that cream into the strainer it will run all over. Butter made from that kind of cream I send up town. I don't send that to New York. (Laughter.)

MR. JORGENSON: Do you use any neutralizer in that kind of cream?

PRESIDENT: I would like to ask you one question, Mr. Keppel. When you stated the patrons brought in better milk three days old than they did when it was two days old, what do you do to make these patrons keep their milk in better condition?

MR. KEPPEL: They use ice.

PRESIDENT: You educated them. Why can't you educate the other fellows?

MR. KEPPEL: It is harder to educate them. After a certain length of time they know they have to look out. If they have to keep their milk until the third day they will be more careful.

PRESIDENT: Now, Mr. Keppel, I beg your pardon for saying this, but I think you yourself are to blame. If you put your

foot down, you will get your cream just as good as you would with your cream three days old.

MR. KEPPEL: We are using the same method with both. We take what they offer, but they have to take the consequences.

PROF. LEE: I would like to ask another question. You are making two grades of butter.

MR. KEPPEL: We do.

PROF. LEE: Is there any difference in the price?

MR. KEPPEL: We have been getting 4 cents difference and sometimes more. (Laughter.) I would like to state that all the patrons have to take at least 4 cents less on that cream.

PROF. LEE: Four cents isn't enough to induce them to make a better grade.

MR. KEPPEL: Some of them don't care.

MEMBER: I would like to ask why he doesn't gather all his cream every third day. He will get the 4 cents extra on every pound of butter he makes.

MR. ALLAN CARSWELL: I would like to say one word in regard to the cream. The proper way to grade cream is to have only one grade and that is the best. (Applause.) It seems to me when he starts talking one and two, even three, grades, it will take a good many hours to grade it. We have every day 30 gallons of cream. We have three cans. Suppose he has got three different grades of cream. We have two whey tanks there. You have got to get that cream graded. I don't want to take up very much time, but I think I can show it is not practical to have that for one reason. Say we have from seventy-five to two hundred samples a day. He cannot afford to churn twenty gallons of cream of No. 1 and a little more of No. 2, and so on. I say the only right way to grade cream is to have one grade. I am the same as any other buttermaker in the state of Wisconsin. I have made up my mind this year we are only going to have one grade.

MEMBER: I would like to ask when you only have one grade of cream, what becomes of the second grade of cream?

MR. ALLAN CARSWELL: Give the patrons a fair warning that you cannot accept, and you will not accept, and it is up to him if he brings in a poor cream, he has got to take it away.

PRESIDENT: We have got to pass on to the next, which will be the reports of the Secretary and the Treasurer.

Now, Mr. Benkendorf, we will have your report, just before the election of officers.

SECRETARY'S REPORT.

SECRETARY BENKENDORF: Mr. President, Ladies and Gentlemen: I don't know whether you care to listen to my lengthy report, but I will read it for you if you care for it.

GENERAL FUND.

RECEIPTS.

1913.

Feb. 4, Reported at Milwaukee Convention.....	\$ 352.63
Feb. 11, Advertising:	
Elov Ericson, ½ page.....	5.00
Geuder, Paeschke & Frey, 1 page.....	10.00
Butter, Cheese & Egg Journ., 1 page.....	10.00
Milwaukee Hotel Men's Ass'n., 1 page.....	10.00
Colonial Salt Co., 1 page.....	10.00
Fred C. Mansfield Co., ½ page.....	5.00
Northey Mfg. Co., ½ page.....	5.00
Lorenz Model Co., ½ page.....	5.00
J. B. Ford Co., 1 page.....	10.00
Preservaline Mfg. Co., ½ page.....	5.00
Preservaline Mfg. Co., Donation.....	5.00
J. G. Cherry Co., 1 page.....	10.00
Merrill & Eldredge, 1 page.....	10.00
Vermont Farm Mch. Co., ½ page.....	5.00
Dairy Association Co., ½ page.....	5.00
Quincy Market C. S. Co., 2 pages.....	20.00
Shavings & Sawdust Co., 1 page.....	10.00
W. D. Collyer & Co. 1 page.....	10.00
Citizens' Business League.....	75.00
Feb. 11, Aluminum Shoe Co., Space in Exhib. Hall....	5.00
Feb. 11, United Ref. & Ice Mch. Co., Space in Exhib. Hall	5.00
Feb. 11, Crane Motor Car Co., Space in Exhib. Hall....	5.00
Feb. 14, Memberships:	
A. C. Schultz	9.00
C. E. Hart	2.00

	L. Olsen	22.00
	Walter Jenny	23.00
	O. B. Cornish.....	13.00
	H. P. Olsen.....	15.00
	G. E. Jenks.....	28.00
	G. H. Benkendorf.....	88.00
	E. M. Henwood.....	40.00
	S. A. Cook, Annual membership.....	2.00
Feb. 14,	De Laval Separator Co., 1 page adv.....	15.00
Feb. 14,	De Laval Separator Co., Prize Fund donation..	20.00
Feb. 14,	C. H. Weaver & Co., 1 page advertising.....	10.00
Feb. 14,	Bowman, Bull & Co., 1 page advertising.....	10.00
Feb. 14,	Geo. W. Linn & Co., ½ page advertising.....	5.00
Feb. 14,	Chas. F. Kletsch Co., 1 page advertising.....	10.00
Feb. 17,	A. H. Barber Cry. Sup. Co., 2 pages adv.....	20.00
Feb. 17,	Citizens' Business League, Balance due Conv...	325.00
Feb. 21,	Creamery Pkg. Mfg. Co., 1 page adv.....	10.00
Feb. 21,	Creamery Pkg. Mfg. Co., Donation to Gen. Fund	25.00
Feb. 26,	Union Storage Co., ½ page advertising.....	5.00
Feb. 28,	International Harvester Co., 1 page adv.....	10.00
Mar. 2,	Calloway Fuel Co., ½ page advertising.....	5.00
Mar. 21,	Standard Separator Co., Space in Exhib. Hall..	5.00
Mar. 25,	Milwaukee Cleanser Co., 1 page advertising....	10.00
Mar. 27,	Acorn Refining Co., 1 page advertising.....	10.00
April 7,	P. F. Brown, 1 page advertising.....	10.00
May 17,	Wisconsin Coal Co., ½ page advertising.....	5.00
June 28,	Membership taken by mail since convention....	6.00
July 10,	State Fund	600.00
July 19,	W. B. Gancher, 1 page advertising.....	10.00
Sept. 15,	Co-op. Cry. Sup. Co., 1 page advertising.....	10.00
Sept. 20,	Memberships at Milwaukee Butter Exhibits....	149.00
Jan. 31,	Advertising, 1914 Program:	
	Laabs Bros. Co., ½ page.....	5.00
	Spangenberg & Co., ½ page.....	5.00
	Wisconsin Dairy Supply Co., 1 page.....	10.00
	A. H. Barber & Co., 1 page.....	10.00
	S. S. Borden Co., ½ page.....	5.00
	Dairy Record, ½ page.....	5.00
	W. J. Haire Co., ½ page.....	5.00
	W. I. Young Co., ½ page.....	5.00
	Wells & Richardson Co., 1 page.....	10.00
	Elgin Butter Cub Co., 1 page.....	10.00
	Dittman & Co., ½ page.....	5.00
	W. A. Schurman & Co., ½ page.....	5.00
	General Purification Co., 1 page.....	9.80

Geuder, Paeschke & Frey, 1 page.....	10.00
D. E. Wood Butter Co., 1 page.....	10.00
De Laval Separator Co., 1 page.....	15.00
H. C. Christians Co., ½ page.....	5.00
Vilter Mfg. Co., 1 page.....	10.00
Fox River Butter Co., 1 page.....	10.00
Gallagher Bros., 1 page.....	10.00
Fitch, Cornell & Co., 1 page.....	10.00
Chicago Mill & Lmbr. Co., 1 page.....	10.00
Gude Bros. Kiefer Co., 1 page.....	10.00
A. H. Barber Cry. Sup. Co., 1 page.....	10.00
Merrill & Eldredge, 1 page.....	10.00
Standard Oil Co., 1 page.....	10.00
L. F. Nafis, 1 page.....	10.00
Chr. Hansen's Laboratory, 1 ½ page.....	15.00
Callaway Fuel Co., ½ page.....	5.00
H. C. Dunbar, ½ page.....	5.00
Torsion Balance Co., 1 page.....	10.00
Gleason & Lansing, 1 page.....	10.00
Pettit & Reed, ½ page.....	5.00
Leserman Bros., ½ page.....	5.00
Geo. M. Baer & Co., ½ page.....	5.00
Coyne Bros., 1 page.....	10.00
Colonial Salt Co., 1 page.....	10.00
Peerless Ice Mchne. Co., ½ page.....	5.00
Butter, Cheese & Egg Journal, 1 page.....	10.00

\$2,444.43

DISBURSEMENTS.

1913.

Feb. 11, Butter, Cheese & Egg Journ., Score Cards, etc..	\$ 10.40
Feb. 11, Abel & Bach Co., 10 Grips.....	75.00
Feb. 11, H. M. Wilson—Lantern, Feb. 6th.....	6.00
Feb. 11, Butter, Cheese & Egg Journ., Entry Blanks, etc.	60.55
Feb. 11, Whitehead & Hoag, 500 Badges.....	125.00
Feb. 11, G. H. Benkendorf, Sec., Salary 1912-1913.....	250.00
Feb. 11, Treasurer's Salary, 1912-1913.....	25.00
Feb. 13, J. Q. Emery, Convention Expenses.....	9.13
Feb. 13, Lincoln Warehouse & Auction Co., Cartage and packing chairs	8.50
Feb. 14, Butter, Cheese & Egg Journal, 2500 Convention programs	195.75
Feb. 14, G. H. Benkendorf, Expenses incurred in main- taining office at Madison, etc.....	47.56
Feb. 26, Lauritz Olsen, Convention Expenses.....	26.32

Feb. 26, O. F. Hunziker, Convention Expenses.....	21.75
Feb. 26, E. M. Henwood, Clerical work.....	30.95
Feb. 26, Geo. Young, Convention expenses.....	11.00
Feb. 26, Theo. F. Dresen, Convention prizes.....	149.20
Feb. 26, Jennie Pitman, Trade Mark for Wisconsin butter	5.00
Feb. 27, P. S. Rose, Expenses on Convention paper.....	3.00
Feb. 27, C. E. Lee, Convention expenses.....	15.68
Feb. 27, E. H. Farrington, Convention expenses.....	3.88
Far. 2, H. E. Griffin, Convention expenses.....	10.80
Mar. 21, Fred Uecke, Convention expenses.....	22.45
Mar. 21, A. W. Zimmerman, Convention expenses.....	22.24
Mar. 21, H. P. Olsen, Supt. Exhibit, Salary.....	25.00
Mar. 21, Allen Carswell, Convention expenses.....	19.20
Mar. 28, O. B. Cornish, Convention expenses.....	11.30
April 7, Miss Louise D. Mason, Convention Reporter....	50.75
Aug. 26, G. H. Benkendorf, Sec'y. expenses.....	36.97
Nov. 4, Schwaab Stamp & Seal Co., 1000 Badges for Na- tional Dairy Show.....	50.00
Aug. 30, P. P. Haber & Co., Printing Annual Report....	173.82
Total.....	<u>\$1,502.20</u>

RECAPITULATION.

Balance on hand as reported at Milwaukee Convention...\$	352.63
Receipts.....	2,101.80
Total.....	<u>\$2,444.43</u>
Disbursements.....	1,502.20
Balance on hand.....	<u>\$ 942.23</u>

BUTTER ACCOUNT MILWAUKEE CONVENTION 1913.

RECEIPTS.

1913.	
Feb. 7, To 1 20 lb. tub butter sold C. E. Hart.....\$	7.00
Feb. 25, 3050 lbs. butter sold to Hunter, Walton & Co., @ 35 ¼c.....	1,075.12
Total.....	<u>\$1,082.12</u>

DISBURSEMENTS.

1913.

Feb. 13,	A. C. Schultz, Superintendent Butter Exhibit, Convention expenses, Express, etc.....	\$ 125.27
Feb. 14,	G. H. Benkendorf, Convention expenses.....	61.75
Feb. 26,	Miss E. M. Henwood, Convention expenses.....	25.33
July 1,	Complimentary Scores (Money Returned):	
	Ed. Nickel	\$5.65
	J. G. Vess.....	5.00
	Robt. Wagner	5.00
	H. C. Werkes.....	5.00
	Paul Sohr	4.00
	A. F. Gronert.....	2.17
		<hr/>
		26.82
July 1,	Excess Butter (Money Returned):	
	W. A. Sater.....	\$14.00
	W. A. Wichman.....	14.00
	F. H. Whiting.....	3.50
	D. W. Respalje.....	3.50
	G. Rasmussen	3.50
	G. E. Borchert.....	3.50
		<hr/>
		42.00
Sept. 15,	Memberships transferred to General Fund.....	149.00
Sept. 15,	Balance transferred to Premium Fund.....	651.95
		<hr/>
		\$1,082.12

PREMIUM FUND 1914 CONVENTION.

1913.

April 14,	Donation, H. P. Olsen.....	\$ 25.00
Sept. 15,	Undivided 1913 Premium Fund.....	18.22
Sept. 15,	Proceeds Sale Butter Milwaukee Convention.....	651.95
Dec. 15,	Diamond Crystal Salt Co. Donation.....	10.00

1914.

Jan. 5,	Worcester Salt Co.....	10.00
Jan. 5,	City of Madison.....	100.00
		<hr/>
		\$815.17

NOTE:—April 1, 1914. Up to this date neither the Worcester Salt Co. nor the City of Madison have paid their subscriptions. This accounts for the difference of \$110.00 between the treasurer's report and the secretary's report on the premium fund.

SECRETARY BENKENDORF: I will say that Mr. Zimmerman and I checked over our accounts last night and we checked very satisfactorily, but I do not want you to act on this report until

the Executive Committee has had time to audit our books. Mr. Carswell, a member of the Executive Committee, was unable to be here last night. We will try to get together tonight and you can get their report tomorrow.

PRESIDENT: We will defer taking action on this report until tomorrow. We will now have Mr. Zimmerman's report.

TREASURER'S REPORT.

MR. A. W. ZIMMERMAN, Norwalk: Mr. President, Ladies and Gentlemen: I presume you are all interested in the financial standing which you have already heard from our Secretary.

General Fund.

Balance on hand at 1913 meeting.....	\$ 352.63
Received for advertising space, memberships, etc.....	1,491.80
Received from State Treasurer.....	600.00
Total	\$2,444.43
Orders drawn by the Secretary and signed by the President	1,502.20
Balance on Hand	\$ 942.23

Premium Fund.

Balance on hand at the 1913 meeting.....	\$1,012.70
Received for Exhibition Butter.....	1,082.12
Received Donations	35.00
Total Received	\$2,129.82
Orders drawn by the Secretary and signed by the President.	
Exhibition expenses	\$ 212.35
Pro Ratio	994.48
Excess Butter	42.00
Complimentary Butter	26.82
Memberships to General Fund.....	149.00
Total	\$1,424.65
Balance on Hand	705.17
	\$2,129.82
General Fund Balance	\$ 942.23
Premium Fund Balance	705.17
Balance in Treasury	\$1,647.40

PRESIDENT: I wish to state that Mr. Zimmerman's report is like Mr. Benkendorf's report; it has not been checked up by the Executive Committee.

I don't know whether it is fair to everybody to have the election of officers at this time, so many went out. I am going to put it up to you, whether it is not better to meet at 1:15 tomorrow afternoon.

MR. F. BOWAR, Cazenovia: I move that we have the election of officers now.

Which motion was duly seconded and carried.

PRESIDENT: I will ask Mr. Shilling to come up and occupy the chair while we have the election of officers.

MR. SHILLING: Gentlemen: I had an opportunity last night to talk to you, and I don't have to do it now, and we will go on with the election of officers. The first is the President. Who will you have for your President?

MR. F. C. THOMPSON, East Troy: I wish to place before the Wisconsin Buttermakers' Association the name of a very prominent buttermaker and a man who have served this association before; a man who will fill the office of President in first class shape. I wish to place before you the name of Allan Carswell, of Clear Lake.

Which nomination was duly seconded.

MR. J. G. MOORE, Madison: I move that the nominations be closed, and the Secretary be instructed to cast the vote of the convention for Mr. Allan Carswell of Clear Lake for President of the Association.

Which was seconded and unanimously carried.

MR. SHILLING: Gentlemen: It gives me pleasure to introduce to you your future President, Mr. Carswell.

MR. CARSWELL: Fellow Members of the Association: I wish to thank you for the courtesy you have shown me. I wish to assure you that I will do all in my power to fill the office. Now I have always been a co-operative man. I still stick to it, but I always like to see anybody make good no matter what profession or what his views are, so long as he is straight and honest,

and does the right thing. I have had some little experience. I have been president of the Polk County Butter & Cheese Makers' Association, one of our small county organizations up in the northern part of this state, for two or three years, and I can say we have benefited wonderfully through the county meetings we have held during the last six years. We have made considerable progress, but we are a long ways from perfection yet, and although we are making a quality of butter that will compare with any other section of the state, we have still room for improvement, and I, for one, find the time and money well spent. I thank you one and all for your courtesy. (Applause.)

CHAIRMAN: The next officer to be elected is your Vice President.

MR. BOWAR: I nominate Arne Zimmerman as Vice President.

Nomination seconded.

MR. MOORE: I move that the nomination be closed and the Secretary be instructed to cast the vote of the Convention for Mr. Arne Zimmerman for Vice President.

Which nomination was duly seconded and unanimously carried.

MR. ZIMMERMAN: I have no speech prepared.

CHAIRMAN: The next is your Secretary.

MEMBER: I nominate Mr. Benkendorf.

MR. MOORE: I move that the nomination be closed and that the President be instructed to cast the vote of the Convention for Mr. Benkendorf as Secretary.

Which nomination was duly seconded and unanimously carried.

SECRETARY BENKENDORF: Ladies and Gentlemen: It certainly is the source of a great deal of pleasure to me to receive this honor again. I thank you for your vote of confidence, and I hope that I will live up to your expectations. Mr. Olsen and the rest of the officers have given me their most loyal support, and I take this occasion to thank them.

CHAIRMAN: Your next officer will be your Treasurer. Who will you have for your Treasurer.

MR. R. C. GREEN, Albion: I take great pleasure in placing before you the nomination of a young man, a young man who is a Wisconsin boy, a Jefferson County boy, and who has been in business for fifteen years, and made good, who is a pretty keen fellow, Mr. Fred Werner, of Waterloo.

Nomination seconded.

MR. MOORE: I move that the nomination be closed and the Secretary be instructed to cast the vote of the Convention for Mr. Fred Werner as Treasurer.

Which nomination was duly seconded and unanimously carried.

MR. WERNER: I can't make a speech.

CHAIRMAN: There are two members of your Executive Committee to elect. Mr. Allan Carswell, who has been a member of your Executive Committee, has been elected as President, which necessitates electing a member of that committee to take his place; also someone to take the place of Mr. A. C. Schultz, who is not a resident of your state.

MR. MOORE: Which one is for a full term?

CHAIRMAN: Mr. Schultz.

MR. STRYKER: I nominate Mr. C. J. Dodge of Windsor. I believe, due to the fact that he is located near to the capital city here, he would be a very valuable candidate at the present time.

Nomination duly seconded.

CHAIRMAN: This, as I understand it, is for the full term.

MEMBER: I move that the nominations be closed and the Secretary instructed to cast the vote of the convention for Mr. Dodge for member of the executive committee.

Which motion was duly seconded and unanimously carried.

CHAIRMAN: The next is nomination for a member of the committee for a one year term. Nominations are now in order.

MR. MOORE: I take pleasure in the emergency of nominating Mr. H. E. Griffin of Mt. Horeb.

Nomination duly seconded.

MR. MOORE: I move that the nominations be closed and the Secretary be instructed to cast the vote of the convention for Mr. Griffin as member of the executive committee for one year.

Which motion was duly seconded and unanimously carried.

MR. SHILLING: Mr. President, I resign the chair to you.

PRESIDENT: Before we close I wish to call your attention to tomorrow afternoon's program, and ask you to be on time so that we can get started as we have a good many topics. Also we have the distribution of prizes, and before we close I guess Mr. Benkendorf has something to say.

SECRETARY BENKENDORF: Remember to sign up at the Park Hotel. Don't forget that.

Meeting adjourned.

THURSDAY AFTERNOON'S SESSION.

Meeting called to order at 1:30.

PRESIDENT: The next on the program is Licensing of Creameries and Creamery Operators, by L. H. Winters, Eau Claire.

THE LICENSING OF CREAMERIES AND CREAMERY OPERATORS.

By *L. H. Winters, Eau Claire.*

When your secretary wrote me, asking me to prepare and read a paper entitled, "The Licensing of Creameries and Creamery Operators," I thought he had given me something easy. It is a matter I have given considerable thought in a general way, but upon going more into the details, we run up against the high cost of living, a state market commission, a state brand for Wisconsin butter, etc., and I began to think the subject much broader than on first thought, and I realized that one man's ideas were liable to fall far short in solving the problem, and for that reason I am going to take up the subject in a general way, giving you my ideas and then leaving it to be gone over thoroughly in a general discussion.

Take the present market conditions, where there is a spread of from ten to twelve cents per pound between extras and seconds, we find ourselves up against a serious proposition. Is it the fault of the buttermakers, or is it the fault of the creamery owners? I think I will be safe in saying that it is both, for we find a good many creameries that are first-class in so far as location and equipment are concerned and operated by indifferent buttermakers, while again we find many a first-class butter-maker who is up against it, being located in a poor creamery, having a manager and board of directors that think everything is good enough, and are willing to let it go at that.

We hear a lot these days about the necessity of Wisconsin butter being improved in quality, and we hear a lot of complaining against the farmer for furnishing poor cream. We all know there is just cause for complaint on that score, and we also know that the days of whole milk creameries have gone by, the hand separator is here to stay, and we all should acknowledge that we, as buttermakers, are more to blame for accepting a poor grade of cream than the farmer is for producing it, and I believe that whatever improvement that is brought about in the creamery business will be done first through the creameries themselves. That is where I think the licensing of creameries will help. I believe that creameries should be classed as public servants just as well as street railways, or gas companies, and for that reason should work under a license, and be subject to close inspection. Creamery companies or individuals (as the case may be), who are equipping their factories with up-to-date machinery, spending their money, and trying to meet the conditions by doing all in their power to improve the quality of their butter, should have the protection of the state, and such a law in my judgment should be governed by restrictions, broad and exacting enough so that by the mere fact that a creamery is operating under a license law, one would know that they were fully equipped and qualified for making good butter.

Every creamery applying for a license should submit the plans of their creameries, the location of same, the means at hand for taking care of the sewage, and the general equipment of the

plant to the State Department, governing same, and these plans should be inspected by a competent and practical official who thoroughly understands what a creamery should be, and if he finds them complying with all the restrictions necessary, said creamery would be entitled to a license.

And in regard to a company wishing to install a new creamery, the state should have the right to look over the territory and see if another creamery is needed in that section of the



L. H. WINTERS

country, for in some localities, we find the country overrun with creameries, three or four cream wagons running over the same road, adding a needless expense, and one which the farmers will have to pay. And right along this line there is another thing that I think should come under the law, and one that is very important, and that is a uniform cream statement. There should be two forms of statements—one for the use of the creameries that pay on a butterfat basis, and one for the use of the creameries that pay their patrons on a butter basis.

Were that enforced, patrons from one creamery would know just what he is getting for his product, and could make an intelligent comparison of the price paid at his creamery as against that paid by some other creamery. As it is, the creameries and cheese factories of the state are using all kinds of statements, some of which are very misleading, and some more than no one could figure out.

And should we get a license law compelling creameries to obtain a license, they should be graded as first, second, and third, the classification to be based on the building, equipment, sewerage, etc. And I also believe that all buttermakers should be licensed and obliged to pass an examination as to their qualifications, and a certificate be granted to them, that certificate to be graded first, second and third class. This would enable a manager to know more about what kind of a man he was hiring, for it is poor policy, and oftentimes a costly proposition to give a man full charge of a creamery just to try him out for a month or two to see if he is qualified to run a plant or not. It takes a good deal of experience to learn all the things connected with the creamery business so I would say that no matter how good an examination a man passes on technics or methods, he should not be granted even a third grade certificate until he has one full year's experience, and for a second grade, three years, and for a first grade not less than five years of actual experience in creamery work. And these certificates in my judgment should be renewed, as in the case of a third grade, it should be renewed every year, and a second grade every two years, and a first every third or fourth year.

As the conditions are now, anybody with no experience whatever can take charge of a creamery and make butter, such butter as a general thing being inferior in grade, and only tends to hold down the standard of Wisconsin butter. Many times you will find the president's son or some near relative worked in on account of some undue influence even though he knows but very little about the science and art of buttermaking, but still his butter comes from Wisconsin, and we as buttermakers must have some protection against this condition.

Take for instance, the barbers of our state. They have to have a license even though their customers can see just what kind of fellows they are, and the condition of their shops. If a barber is dirty, or his shop is dirty, we don't have to go there, we can go to a clean place, or even shave ourselves. Yet we allow the buttermaker to make a food product which we are supposed to eat or sell to someone else to eat, with absolutely no guarantee that his factory is clean or the operator satisfactory.

The only thing that is going to better our conditions is to make good butter, and if we can make good butter, we can sell it to advantage, and thus pay more for good cream, and it will then pay us to grade our cream, which we cannot do under present conditions.

Let us now take up the question of a State Brand. If the Board of Public Affairs would introduce a State Brand along the lines suggested, it would enable us to get more for our good butter, and mark an epoch in Wisconsin dairying.

At the present time there is no state that stands back of the goods, which are put out under a brand. Let Wisconsin be the first to establish a brand, and people will ask for Wisconsin butter and insist on getting it, thus greatly increasing the demand.

They are trying to foist upon this state a system of branding where the brands are given indiscriminately to buttermakers.

Under the present conditions, if this was done without the licensing and inspection of factories, it would mean a complete and disastrous failure for the future of the butter interests of the state. For it would enable a dirty and incompetent buttermaker to cover up and get rid of his butter by the use of the Wisconsin Brand, and would mean nothing but a fraud upon the public.

So let me say in closing, that we had better have no brand at all, if we do not observe the following: First, license only factories that are sanitary and kept so; second, license only men that are competent and are cleanly; third, brand only butter from licensed factories made by licensed men, and above all brand only good butter.

I thank you.

DISCUSSION.

MR. AUGUST BECKER, Cross Plains: As Mr. Winter says about licensing buttermakers, I think it would be a good thing to have a man having one year's experience licensed. We know one man will learn as much in one year as another will in five. The only thing I see would be to thoroughly investigate the same as the state of Minnesota is licensing engineers. You must know your proposition. One may run five years, and another one year, and the one that runs one year might know more than the one who runs five. Put the questions to the buttermaker and see if he can answer the questions, and according to his knowledge give him a license and not according to your discrimination.

MR. WINTER: I think along that line it is all true. One man will learn the business a good deal quicker than another, but at the same time there are a good many things coming up that he has got to have experience, even if he does pass a good examination on the method and ways of running a creamery. There are so many things connected with the business that he has got to have experience in running a factory, I think. Most men may be in the creamery business for ten years, and they still ought to be washing cans.

MR. BECKER: That is what I am trying to get at, yet he may get to work and answer the questions and that would come before the State Inspector.

MR. WINTER: That is what I say. You have got to have a rigid examination along with the licensing.

MR. BECKER: But as I stated before if the man for instance has only one year in the business, and he does his work right—we know there are men who have not had over three years' experience who make good butter. We have the men in our association, but of course we have got to consider whether they are equipped with the knowledge to run a factory satisfactorily. We have got to have the experience to know everything. I think Mr. Winter is right. A man should have five years of experience before he should have a first class license.

Mr. Whiting: There are so many things to take into consideration in regard to the licensing of the buttermaker. Wouldn't it be a good thing to have him take part in this scoring exhibition, and show his ability to make a high grade of butter in connection with this?

Mr. WINTER: Well, I don't know whether I agree with you there or not. As a general thing they make a little better piece of butter if they are going to a scoring contest. If they are going to score the butter, I think it should be done right in the factory.

MEMBER: If we are to be licensed for the production of a sanitary article, I think the dairy farm should be included also.

Mr. WINTERS: If they happen to bring a better grade of cream I think it would be alright, but I don't think it would be desirable.

Mr. ROBERT CARSWELL: As we know they are trying the same method at Minnesota at the present time, and I know this, it is going to be an extra expense to us if we have got to go to Madison two or three times each year, pay our fare down to Madison and back. We ought to ask for more wages.

Mr. GUY SPEIRS, Eau Claire: I don't think that anything can ever happen as good as licensing creameries. The cheap, poor labor will be eliminated in competition with the better help in the creameries.

Mr. CARSWELL: That would be alright if the creameries would allow the buttermakers their fare to Madison to be examined. I think it is for the farmer to pay those extra expenses. I think it would be lots better if we all had a license, we would all feel better, but if we have to leave our work and go down and pass our examinations then it is alright if we don't have to go to the expense of hiring another man. If we had the convention at the same time, we could kill two birds with one stone.

Mr. WINTER: I think the buttermakers that are in Mr. Carswell's class would only have to go about every five years.

Mr. SPEIRS: I have on file at home applications from probably a dozen buttermakers. If those applications were backed by a certificate I would be willing to pay \$10.00 a month more in ac-

cepting that application rather than take a chance on an untried man. I think that would work out for the good of all.

MR. EMERY: I think this paper has raised a very important question in relation to the creamery butter interests of this state,—an exceedingly important one, and I would be very glad to see this discussion upon the basis of the broad principles raised rather than upon a mere few technicalities that may be found necessary in carrying out such a plan as this.

Now the speaker told of the efforts that are being made whereby a product might receive a state guarantee. This matter has been put up to me by the Governor, and by the State Board of Public Affairs; what can the Dairy and Food Department do under the laws of the state in the way of guaranteeing a product, and I have had to tell them plainly I can do nothing under the laws of the state. In considering this we must consider constitutional limitations. We cannot do everything we desire to do because we are governed by the decisions of the court. Up to the present time the policy of the state as expressed in the laws of the state in relation to the Dairy and Food Department of Wisconsin has not been on the broad plans of promoting any industry. In some of our neighboring states that has been done. In Michigan the law provides it is the duty of the Dairy and Food Commission to protect the dairy and food industries.

I want to correct the impression that has gone abroad among the people of the state, that a public officer can do anything he wants to do. A public officer is very much more restricted than a private citizen. There is a law that if any officer of the state shall do in his official capacity that which he has no authority by law to do, he commits a criminal offense. The public officer's business is not to enforce law. The Dairy and Food Commissioner has no authority to go over this state and tell the people what they must do. That is not our business. The legislature has told through its laws, what must be done. All we have authority to do is to punish violations of law. I am of the opinion that the time has come when a broader policy might reasonably be inaugurated. The state board is considering that. I have

now a letter in regard to this proposition. So I think this is a very important question before you now; should the creameries and cheese factories of the state be licensed in order to do business, and I am inclined to think a law can be provided that would be an advantage, not only to the creameries and cheese factories of the state, but to the public. I believe that a law could be framed that would be an advantage to the creamery industry and the cheese factory industry and the general public, and if that can be done, I think it desirable it should be done.

I also recognize there are some limitations under the constitution in regard to the licensing of creamery buttermakers and cheese makers, but in our neighboring states this has been done and the courts have passed upon it and called it a constitutional law. I think a law could be passed that would be an advantage to the cheese factories and butter factories, to the cheese makers and the butter makers and the general public. I don't think it would be necessary for all to come to the state capitol. That is not required of the teachers of the state, that is not required under the civil service examination, that all should come to the capitol for their examination. I should say that the law that requires all men to come to the state capitol is an unreasonable law. I should think this examination could be taken in different parts of the state, and I should say that such a law ought to make provision for testing the fitness of men to do the work they are called upon to do. There are a great many examinations conducted in the teaching business and in some forms of civil service. I am referring to Wisconsin for I shall have to compliment the Wisconsin Civil Service Commission, for its effort has not been to test men merely upon literary qualifications but their fitness for things they have to do, and in fact under civil service that is what should be the test, altogether his fitness to do the kind of work he has tried to do. I believe it is possible to frame a law by which that can be done. I have had too much experience with legislation to be sure that a law can be passed by the legislature without effort, and a law cannot be passed without some jokers getting into it. To secure such a law would require a large amount of effort and it would require the best effort of

those interested in the matter. Men would have to agree upon the salient things that are essential and not be technical upon the non-essentials of the law. Again I repeat, I think at this time in the history of Wisconsin, that is a very important question for the consideration of this body. (Applause.)

MEMBER: I would like to ask Mr. Emery if the law in Minnesota does not provide only for the buttermaker test. I think also Minnesota is divided into districts and they don't have to go to the state capitol to take the examination.

MR. G. E. DAY, Osseo: We have lots of inspectors in the State. I should think they would be the ones to tell whether a man is qualified to take out a license. The inspector ought to be able to tell whether a buttermaker is capable of running a creamery or not without passing any more laws. I guess that is out of their authority at the present time.

MR. EMERY: We frequently have letters like this: "We have trouble with our cheese maker or our buttermaker. We want you to come and discharge them," something we have absolutely no control over whatever. The cheese factory and the butter factory may select anyone they choose. We have no control over that. The inspector is a man who looks those factories over and he is the man who ought to give the licenses as it is in Minnesota for the boilerman's license.

PRESIDENT: I presume that is the way it would be, but under the present law, the inspectors have no authority.

MR. SEAMAN: In Minnesota you have to send \$10.00 down to the capitol as a tax on a creamery wanting a license and we have no tax here.

MEMBER: I believe that the state association of Wisconsin can work out some form or another.

MR. SPIERS: You notice our school teachers don't just pass up \$10.00. They have got to pass an examination.

MR. SEAMAN: I said licensing creameries. I did not say anything about charging them \$10.00 for running a creamery. They would have to send it down to the capitol.

MR. DAY: Before we go to licensing anything we have got to have it so strict that everybody cannot pass. A lot of men

can pass the examination, but when they get back in their own factory they would not be able to put into practice what they have written.

MR. EMERY: There would be a license law. Now a license law that should not in some way provide by law for important things in general in creameries, or at least standardizing conditions, and we are coming into a day of standardization, is not the right kind of law. I speak with some hesitancy on this important subject, on what seems to be desirable if it could be established. If some standard could be considered of the qualifications for running the creamery and the butter maker and the cheese maker, that should give some assurance of a greater degree of efficiency, and I believe that we would be promotive of the butter interests and the cheese interests of the state, but if there is a law to simply license a man who pays a dollar for it, that is worse than anything to my way of thinking.

May I take just two or three minutes for explanation? You hear very much about the commission form of government in Wisconsin, and I want just in this connection to present a few ideas about this legislature that might be necessary to do this work. The Dairy and Food Commission is a department under the commission. The theory was very well explained by Mr. Crownhart yesterday. The legislature is the law making power of the state, and the legislature in this case has provided that all machinery shall be run in a safe manner. That is the law, but the state at the same time has provided three men, and the theory of the legislature is that one should be an investigator, one should be a lawyer, and one should be an executive experienced in administration, and these men should investigate this law. That is the idea underlying the commission form of government in Wisconsin. It is the same in railroads. They have provided for a commission of men to investigate. The Dairy and Food Commission of Wisconsin is not qualified with any such power as that. I do not know what the law should be. I am talking only on general terms. I can conceive it possible for a law to alleviate this, but that law should be framed wisely, carefully, and with a future in view. Teacher like, I would say,

what is the object of the law? Is it to get somebody's \$10.00? Let us not have that law, but if it has some worthy purpose, let us see what is to be done, then let us go to work and see what can be accomplished by it.

PRESIDENT: I am glad this matter has been brought up for discussion. Somebody spoke about it being advisable to send butter to scoring contests. That would be one of the requirements, in my opinion. I suppose you all went down and saw those lots of foreign butter. You also saw that brand on the side of the cask of Danish butter, and on the side was a number, I think 2333 or 2323. If there was anything like that on our butter over here you could trace it back to where it was made. If you wanted to know where this particular butter was made you could do it easily. It would only cost about three or four dollars a year. If the creameries were licensed and the scoring of butter was a condition, the authorities would send out a call to every buttermaker to send in a cask of butter within twelve hours from the time he receives the letter. He hasn't any time to make extra butter and he has to go down and send out the butter he has on hand and he has got to send it in or we will take that brand away from him. Why can't we do that in Wisconsin if we get the law?

MR. D. F. WALLACE, Alma Center: I think if this was made a law, that the buttermakers ought to be allowed to take their examination and pass the same as any other examination. It should not be necessary to go to the state capitol.

PRESIDENT: That is, you think everybody should not be required to go to the capitol.

MR. WALLACE: I do.

MR. CORNELIUSON: I believe a state butter brand, used under efficient control would be a good thing. As has just been mentioned, Denmark has such a brand—a national or state trade mark. Other European countries, as for instance, Sweden and Holland, have a similar control. If you had such a brand and used it under proper supervision, you would not need to license the buttermaker, because his right to make or sell butter bearing the state brand would then be determined on the basis of the

quality of the butter which he was actually producing and not upon his having passed a test as to what he knows. If one could not make butter of the quality required he could not continue to use the state brand and in that case would likely find himself without a satisfactory market. The neighbors would, perhaps, be the only people willing to buy his goods. In other words he would undoubtedly be forced to rely on local markets.

MR. HART: Let the farmer agree to give the creamery man and the buttermaker cream of a sufficient quality to make good butter. Let the license law cover that. (Applause.) I would like to state one thing further. I don't believe it is possible to make a law compelling people to make good butter if they haven't got the ability to get in a good grade of raw material.

MR. EMERY: That last remark is aside from the question. I have not heard such a proposition made on this floor. I understood the paper this afternoon discussed the propriety of licensing creameries and buttermakers, and establishing certain conditions under which these creameries should be operated, but did not compel people to make butter of a certain class, and if they don't make it of that class they would be punished. I understand that if a creamery were licensed it would have the power to determine the class of raw material brought to it. The creamery is not compelled to accept everything that is brought to it. The creamery has it in its own hands to determine what class of raw material it shall receive, and I think one of the strange things today is that the creameries do not insist on having the right kind of material to make the right kind of product.

MR. C. J. STEFFEN, Milwaukee: I would like to relate my experience of five years of licensing work in the state of Wisconsin. I would say, do not make your law too stringent to start with. If you are going to engage in legislation of that kind, you will have to draw that legislation with the utmost care. The test of the buttermaker as to his competency or whether he can pass the examination, will not be the test of making butter at all. In all of the experience I have had, I have found that the finest man sometimes has the most disreput-

able factory, and the crudest man I have ever met had the neatest factory I had ever seen, and gentlemen I admonish you again, if you pass anything of this kind, go into it carefully. Whatever you do, study it thoroughly and carefully, and give thought to every phase and feature of it, or you will find that instead of helping the dairy industry you have put it down.

PRESIDENT: We will now take up "Cleanliness as a Factor in Successful Creamery Operation," by L. L. Bolstead of Basco.

CLEANLINESS AS A FACTOR IN SUCCESSFUL CREAMERY OPERATION.

By *L. L. Bolstead, Basco.*

Mr. President, Members of the Wisconsin Buttermakers' Association, Ladies and Gentlemen: We gather annually at this convention for the purpose of acquiring as much knowledge and information as we possibly can, but I think that our Honorable Secretary made a mistake when he induced me to take part in this valuable program. I thought that a man must have knowledge to be able to impart or give knowledge to others, and I know that I feel very short of this.

The question assigned to me—"Cleanliness as a Factor in Successful Creamery Operation," is one that I think is very hard to talk upon, for the simple reason that we all know for successful creamery operation we must be clean. Cleanliness is a very important part. My view of cleanliness is that in the creamery, the outside surroundings of the creamery and the personal appearance of the buttermaker have a direct effect upon the quality of the finished product. For illustration, I will place myself in a patron's place. Now, it is self-evident that when I come to the creamery I shall notice the appearance of the creamery, and I will take in at a glance whether the creamery is in a clean condition or a dirty condition, and I also think that all patrons are intelligent enough to notice the appearance of the buttermaker. Now in this instance, of my being a patron at

a creamery, I may have found the creamery in a perfectly clean condition, the buttermaker had on clean clothes, and I would certainly notice this the minute I arrived at the creamery. It may possibly have been that I have been given instructions to wash up my cans, to take care of my cream or milk, whichever, it may be. Would it not carry more weight with me if I found the creamery in a clean condition?



L. L. BOLSTEAD

I think that cleanliness is contagious, and so is filth. I think that if a man associates with clean people, even though he is a dirty man, in time he would become a clean man.

To prove to you that we have made a success under these conditions at our factory, I will tell you what we have done. I informed the Secretary that what I should talk to you about would be my own experience and what we have been doing and what we have done. Two years and four months ago, or about that, we were selling our butter on Elgin quotations put up in

one pound prints. This last year we received 1 cent above Elgin, packages furnished, freight paid on the butter. This meant an increase to us this past year of nearly \$1,300.00, nearly enough to pay my salary. This shows what we have accomplished down there by paying very strict attention to cleanliness about the creamery, and I have succeeded in having the patrons bring good, raw milk. I have also accomplished a few things for myself. The first year that I attended an educational scoring contest, the first full year, I received an average score of 94.64, the second year, 94.94, and this year so far I have received an average score of 95.98, and it shows we are still not at the top. We are gaining, and I think there is more room still for gaining on this quality.

I will relate to you an experience we had last July. In the first week of July we received a letter from the commission man we are sending our butter to, that our butter was fishy. I immediately examined the butter we had on hand. This was only three days old. I also took some butter down to Prof. C. E. Lee, in charge of the scoring exhibitions, but he was not able to detect at that time any fishy flavor, but I will explain to you further back. Mr. Lee had found occasionally a peculiar taint in my butter at the educational scoring contest. Now Mr. Lee suggested that I leave that butter with him for a few days. I did so. We had the second week split our shipment to two firms, one in Philadelphia and one in Chicago, to find out if it really did have fishy flavor. In the meantime Mr. Lee wrote me a letter saying that he had placed this butter in a warm room and found a metallic flavor. We had Mr. Lee come out to our plant. Mr. Lee examined everything. I don't believe he left a thing unturned, and he found everything perfectly clean. The trouble was located by him in our cream ripener, and he suggested to us that we omit the ripener for further churnings, with the result that the churnings made from the ripener were metallic, and the churnings made without the ripener were all right. I think this instance of absolute cleanliness in this place prevented a greater loss than we had, because I think the cause was found in a shorter time. I also put a lot of this credit on Mr. Lee's

shoulders, because of his efficiency in handling this trouble we had.

I think if we would all practice absolute cleanliness in the creamery, if the buttermaker would practice personal cleanliness, that it would always have an influence upon the raw material received. This will also effect the quality of the finished product. For all of my butter sent to the scoring contest we do not select any milk or any material, we take the material as it is received, and we have found that by attending the educational scoring contest, that our flavors are found in a quicker way, and we can get more benefit.

I thank you for your kind attention.

(Applause.)

DISCUSSION.

MR. WALLACE: I would like to ask how the cream is cooled after ripening.

MR. BOLSTEAD: We put the ripener in the churn, and cooled the cream right in the churn.

MR. WALLACE: Would you call that practical?

MR. BOLSTEAD: It was not done in practical experience. It was done to find out where our trouble was.

MR. H. C. LARSON, Madison: The statement that the speaker has made that his troubles were found in the ripener might lead someone to misunderstand him. I would like to ask just what was the trouble with the ripener? The trouble is liable to happen in any ripener.

MR. BOLSTEAD: The trouble was found to be from exposed copper and iron in our ripener which caused this metallic flavor.

MR. DEGOLIER: How did you remedy that?

MR. BOLSTEAD: We bought a new ripener. (Laughter and applause.) I would also say that this ripener had only been used four years, cost \$425.00, but our officers saw we could not

make butter with it in the condition it was in. My officers and I work together for quality and they are willing to co-operate with me in every way.

MR. GRIFFIN: How much was exposed of these metals?

MR. BOLSTEAD: In the iron parts considerable. In the copper parts not so much, but I should judge that possibly ten or twelve square inches were exposed of the copper, and of the iron possibly more.

MR. WHITING: That brings to my mind a little experience we had last summer. The man that is getting our butter in Milwaukee, places it right in the hands of the consumer, except in the flush he places some in cold storage. He told me after our butter was in cold storage it had a fishy flavor. It might have been due to some such trouble as this. Our churn has a good deal of iron exposed, and our ripener has copper exposed.

PRESIDENT: I guess we all have had some experience of that kind. I had some myself. I guess it was Mr. Bolstead and Prof. Lee that put me on the right track. I could not believe that the ripener could be exposed anywhere. We were corresponding back and forth and he sent me up something to put over this exposed surface, and when I first saw it I thought it was Christian Science, but I tried it, and I have to say that the fishy or metallic flavor disappeared, and we have never been troubled with it since. We are going to have our coils retinned as quickly as possible.

MR. DEGOLIER: When I was in the Minnesota Dairy School in 1907 I worked butter fifty revolutions, and that produced a fishy flavor. Mr. Winter was there at the time. By overworking our butter we were able to produce a fishy flavor after the butter had stood a sufficient time.

PRESIDENT: I think that bears out Mr. Roger's statement yesterday, that oily flavors produce fishy flavors.

PRESIDENT: We will next take up notes from Denmark by Mr. Corneliuson.

NOTES FROM DENMARK.

By *T. Corneliuson.*

Gentlemen: Last summer I had the pleasure of spending several weeks in Denmark, and I shall endeavor to tell you something of dairying in that country. I am aware that during the last ten or twenty years this subject has often been discussed, and it was not without some hesitancy that I agreed to call it to your attention today, for I realize that it will be difficult to



T. CORNELIUSON

say anything new concerning it. When I, nevertheless, invite your attention to this topic, it is because I believe that there still may be a lesson for us in the development of dairying in that country, and that there even are some things about which all has not yet been told. And, moreover, I do not expect to exhaust the subject today. I shall mention only a few points which came to my notice, or which have been gleaned from Danish official or semi-official writings.

Denmark is one of the oldest, and also one of the smallest, independent monarchies of Europe. It is a little more than one-fourth as large as Wisconsin, and has a somewhat larger population. In order to understand what this means, I suggest that you think of the map of Wisconsin, and draw a line from Lake Michigan a little north of the city of Green Bay; thence westward to the Wisconsin River; thence south to the state line. The territory included in the southeast quarter thus marked off represents an area about equal to Denmark in extent, although not in general outline. If you now move all the people of Wisconsin over in that quarter of the state and let them take all their cows with them, all their creameries, and about five hundred of their cheese factories and turn these into combined butter and cheese plants, you would have a condition similar to the conditions in Denmark. The city of Milwaukee would be the one metropolis of this territory the same as Copenhagen is the one metropolis of Denmark. If this was done, I presume that most of you would consider it somewhat crowded in southeastern Wisconsin. In this comparison Wisconsin would perhaps have the advantage in average quality of soil and Denmark would be ahead in miles of shore line and in number of harbors; there would be 427,000 less inhabitants, and there would be 189,617 more cows than in Denmark.

From a commercial standpoint Denmark's location is excellent. Figuratively speaking, it is on the main commercial highway of northern Europe. Consequently, Danish commerce is quite extensive, and shipping and fisheries are important industries. I mention this in order not give the impression that dairying is the only industry in Denmark.

In 1840 only 21% of the whole population lived in cities and towns. In 1890, 33% and in 1906, 40% of the people were urban. It is my understanding that a little less than one-half of the population is now rural or engaged in agriculture.

The Soil.

We have not the time to discuss here in detail the character of the soil of Denmark, yet I believe a few remarks will aid in

an understanding of that subject. The land varies in quality from light, sandy soil to a strong, clay loam. Almost everywhere is found below the mold, clay, sand, or gravel deposited during or after the glacial period. The largest amount of poor land is found through central Jutland. Here was probably for a long time the edge or end of the glaciers. As the ice melted, the silt in the soil was washed away and moraine formations resulted.

Geologically considered, Denmark is a young country, its oldest formation belongs to the cretaceous period or system. Deposits of chalk hundreds of feet thick, coral limestone, and other cretaceous rocks support the younger formations. In other parts of the country, formations of the tertiary group are found. Various kinds of clay occupy large areas. Of the glacial deposits, the so-called boulder clay is the most important, and forms the soil of the most fertile districts of the country. As the name indicates, it is a stony clay. It, as a rule, is mixed with sand so that the fine clay forms only one-third of the whole mass. It usually contains 10 to 30 per cent carbonate of lime and about 0.08 per cent phosphoric acid. It is used extensively as marl. By far the largest part of the land of the islands, of a belt along the east coast of Jutland, and of a considerable area in the northwestern part of that peninsula, is formed of this kind of clay.

As is well known, the distribution of the land is an important consideration from a creameryman's standpoint, for in a country of large farms the amount of milk produced per acre is apt to be small. In this respect Denmark is well situated, as is shown by the following statistics: 8900 farms have more than sixty hectare (148.2 acres); 60,900 have between fifteen and sixty hectare; 46,600 have from five to fifteen hectare; and 133,600 have less than five hectare (less than 12.35 acres).

The Dairy Cattle of Denmark.

If we now turn our attention from the land to the cattle, we shall find two breeds, each peculiar or predominant to certain sections, namely, the Red Danish breed and the Jutland.

The first is chiefly kept on the Island of Fyn, in the southeastern part of Jutland, on Sealand and other islands; the latter is predominant in Jutland.

The Red Danish Breed is comparatively young. Its progenitors were the old native cattle of Fyn and of other Danish islands, and the improved cattle of Slesvig. The natives were small thrifty animals, generally light red in color. A mature cow weighed about 770 pounds. In olden times, however, cattle keeping was not important on the islands and the cows were poorly fed. In winter the ration consisted of straw and a little hay. These cattle were thrifty and docile and noted for their ability to produce large quantities of milk in proportion to the feed given them. The best milchers were generally selected for breeding purposes, but otherwise no systematic effort was made to improve the breed.

With the growing importance of dairying, however, better feeding and care of the cattle began to be practiced. But having been handled indifferently so long, these native cows did not respond satisfactorily to the better care and feed given them; and for that reason new blood or improved stock was introduced. The large farmers were the first to take this step and later the small farmers also became interested. This work began in the sixties of last century, but it was not until the middle of the eighties that it became general. Then the co-operative creamery movement was under way, and it became possible for even the smallest farmer to market his milk at as high a price as anyone else received; hence the increased interest in cattle breeding.

The new blood was obtained from the best dairy breeds of Slesvig, an old Danish province, but now under Germany. This stock had long been kept under similar conditions as were now offered on the Danish Islands, and its introduction proved very successful. As early as 1870 several herds and families of Slesvig cattle had been founded in Denmark. These cattle were capable of profitably utilizing large amounts of feed and of transmitting their good qualities to their offspring. Their superiority soon became generally known, and the native breed

gradually disappeared, or was interfused with the improved. The result was a new dairy breed, the Red Danish.

As the name indicates, this breed is red of color, generally dark red. White spots on the udder and under the paunch are, however, not uncommon. The muzzle is slate-colored. The udder is well developed with fairly large well placed teats. In general outline these cattle are of the dairy type. The weight of the cows range from a thousand to twelve hundred pounds. During the last twenty-five years, the breed has practically been maintained without the help of new importations. Its power to transmit type, milking capacity and color is generally reliable.

The milk-producing qualities of the Red Danish breed is shown by the data of the cow-test associations. In their book year of 1909-1910, these associations on the Island of Fyn tested 40,000 cows of this breed and the average yield of each was 7,451 pounds of milk, testing 3.49% fat. This is equivalent to 260 pounds of fat per cow. In the following year 38,000 cows of this breed belonging to 2,700 herds on the same island produced each on an average 7,810 pounds of milk, testing 3.53% fat. This is 275.69 pounds of fat per cow.

But these figures deal with the yield of thousands of cows, as you will note, and the production of the best among them is considerably larger. Eleven herds which participated in a two-year competition, 1909-1911, for whole herds averaged per cow 8,646 pounds of milk, testing 3.65% fat. The cows in the best of these herds averaged 9,772 pounds of milk, testing 3.73% fat. This is equivalent to 364.49 pounds of fat. In a few instances single cows have yields from 14,300 to 16,500 pounds of milk. Systematic efforts to improve the breed further are constantly being made.

Jutland Cattle.

Since time immemorial, black and white cattle have been kept on the farms of Jutland, hence the name "Jutland Cattle" is applied to them. In traveling through Jutland during the summer and observing these cattle in the pastures, one is struck by their close resemblance to the cattle of Friesland and North

Holland. Indeed, they must be seen at close range before any difference is detected. Formerly, these cattle were kept principally for meat production, and in olden times they were shipped on the hoof to Holstein, Holland, and other places where their juicy, marbled beef was held in high esteem. They have a wide and deep frame, a deep chest, and a capacious barrel; their milk organs are well developed; their hide is soft and pliable, and their feeding qualities are good. They are persistent milchers, vigorous and thrifty animals. The cows weigh from 1,000 to 1,100 pounds.

As mentioned, this breed was kept principally for beef production in earlier times. But since the development of dairying, efforts have been made to improve its milching qualities. The results of these efforts have also been very satisfactory.

These two breeds constitute the bulk of the cattle in Denmark, although other breeds, such as the Shorthorn and the Jersey are also represented.

In 1909 there were 182,373 dairy herds in Denmark having a total of 1,281,974 cows. Of these, 154,602 herds, having 1,059,359 cows, supplied milk to the co-operative creameries.

The Creamery Industry.

The creamery industry of Denmark had its beginning in the thirties of last century. It is, however, only about thirty years since the industry in its present form, the co-operative, became established. The first co-operative creamery was started in 1882. In 1913 there were eleven hundred and eighty-eight co-operative, three hundred individual, or a total of about fifteen hundred creameries. The average number of patrons of the co-operative creameries was one hundred and fifty-six, and the average number of cows from which such creameries received milk was nine hundred and fifty-six. In 1912 the expenses of manufacture averaged 8.89 Kroner per thousand kilogram of milk handled.

Before the development of dairying, Denmark was a grain exporting country. Now it imports large quantities of feed, corn, bran, oil-cake, etc., and its exports are largely animal pro-

ducts. In order to understand the tremendous change which has taken place in Danish agriculture, it will be useful to consider briefly a few statistics. During the following years the average annual butter exports were:

1865-69	.....	11,000,000	pounds
1880-84	.....	33,000,000	pounds
1900-04	.....	187,000,000	pounds
1910	.....	200,200,000	pounds

In 1910 the exports of milk and cream amounted to more than 52,000,000 pounds and in 1911 to 66,990,000 pounds.

Of the annual butter exports about 24,000,000 pounds are of foreign origin; that is, this butter was imported to Denmark by wholesale merchants and later exported by them. It is, however, marked "Foreign" before it is sold or shipped.

When one is traveling in Europe he is constantly impressed with the great age of things. In other words, he is confronted with a civilization which has its roots, as it were, in the dim and distant past. He may tarry in the beautiful grove of tall dignified elms at Elsinore where kind hands have built a simple cairn in commemoration of Hamlet, the unhappy prince, immortalized by Shakespeare; he may walk in the narrow, crooked streets of Odeuse, a town which, traditions say, owes its name to an incident in Odin's life; or he may take a sail on the beautiful Svenborg Sound on the shore of which King Sven more than nine hundred years ago founded a city which still bears his name. But here as elsewhere the old blends with the new. At Svenborg is a new cheese factory which cost its owner \$27,000, and in the neighborhood are a number of fine creameries. At Odeuse are several creameries, one of which has cost about \$40,000, and it is co-operative in ownership.

These factories are representative of the modern plants. The ordinary creamery investment, however, ranges, I judge, from nine thousand dollars to twelve thousand. The average fire insurance carried is about eight thousand dollars. The creameries are built of brick and are substantial and sanitary in construction. Their equipment is efficient, although the cooling facilities

are not always as good as they could be. Only whole milk is received.

If we attempted to discover the forces back of the rapid development of dairying in Denmark, we should find many an able man and a number of national movements. But time does not permit of a full discussion of these. Suffice it to say that among the men there are two whose names stand out prominently: Professors Th. R. Segelecke and N. J. Fjord. These men were pioneers, respectively, in the fields of dairy education and agricultural investigation. That they builded well is proved by the present status of the industry. They were assisted by a host of young, energetic teachers, investigators and buttermakers, who chose dairying as their vocation. Their aim was to make the best butter produced anywhere. Of the movements, I shall mention but two: An educational and the co-operative. The latter, as already mentioned, began in the eighties of last century, and the first about a generation earlier. The educational movement helped to prepare the people for co-operation, and as soon as the value of the co-operative creameries had been demonstrated, the co-operative movement was widened and now includes nearly every agricultural activity. Thus, besides the creameries, there are now co-operative butter-exporting associations, co-operative machine shops, co-operative packing houses, etc. In short, the agricultural interests of Denmark are extensively and well organized.

The Lessons.

If we now ask what are the lessons of Danish dairying, we shall be compelled to consider many things before a correct answer can be given. It is at once plain that in most instances we can not copy Danish methods. The dairymen and creamery men of Wisconsin have their own problems to solve and they must do this work themselves or others will do it for them, and in that case it may not be done in their interest. It is my humble opinion that there are at least two things which can safely be emulated here in Wisconsin and in any other dairy state of the Union. These are: First, systematic efforts to increase the productive capacity of our dairy herds; second, earnest and

rational endeavor to improve the quality of our butter. Neither of these is strange to us. The work of both was started long ago. But I mention them here because I believe there is special need of renewed efforts in these directions.

In 1912 forty-five hundred cows were tested by the Cow Test Associations of the state, if I remember correctly, and this is a very creditable number. Yet, I believe that conditions are such that this number ought to have been forty-five thousand or more.

In regard to the improvement of the quality of our butter, very much has been said and written ever since the creamery industry was established and very little has been accomplished. To produce first class butter is, however, a comparatively simple task. I am sure that, barring accidents, every experienced buttermaker present here could make such goods today, tomorrow, or any other time, provided he has at hand good, fresh, sweet milk or cream and proper equipment. When these things are not available no one can be sure of making fine butter. It behooves us, then, to provide good raw material and efficient equipment; and *we can obtain both if we can pay for them.*

On my return voyage I met a gentleman who had been in Europe to study rural conditions. When he learned that I was also interested in that subject, he asked me to tell him what I considered the one important feature of Danish agriculture—the feature which above all others had contributed to the success of the Danish farmers. My reply was *co-operation*. He seemed a little surprised at this answer, and evidently expected a longer reply. I, therefore, amplified my statement by saying that the Danish farmers co-operated not only in the manufacture of dairy products, but also in many other undertakings, as, for instance, in the purchase of fertilizers and feed stuffs, in the improvement of their cattle, in the disposal or marketing of their products, etc.; that they had faith in the stability or future of dairying and did not hesitate to build substantial and efficient creameries or to engage in undertakings which seem necessary for the economic and successful conduct of their business. These things deserve careful consideration in Wisconsin, I believe, and

if properly carried out will prove as effective here as in Denmark. (Applause.)

PRESIDENT: We have more papers to be read, also the announcement of scores. If there are any questions to be asked Mr. Corneliuson, we would be glad to have them.

DISCUSSION.

MR. STANTON: I would like to ask if the state has any control over the County Agricultural Schools.

MR. CORNELIUSON: You mean this state?

MR. STANTON: Yes. There is one in Menominee. The one I refer to has the cream routes in our territory, and they stated they would haul the cream without any expense.

MR. CORNELIUSON: I am not in a position to answer that question.

PRESIDENT: Prof. Humphrey is in the room.

PROF. HUMPHREY: I am not clear on that, but I think the county is responsible for that, the county board.

PRESIDENT: I guess Prof. Humphrey would like to have the floor for a few minutes.

ADDRESS.

By Prof. Humphrey, Madison.

Gentlemen: I hardly know why I am here this afternoon. It is the result of a suggestion that was made this morning to talk the bull proposition to this convention as well as our Live Stock Breeders' Association which is in session out at the University. I might say I appreciate this organization, and the men who guarantee the organization. I believe that they know as much about the dairy conditions in the respective localities of the State of Wisconsin as any class of men we have, that is they

know it from the standpoint of the amount of milk that is produced from the average farm in those districts. I know that you are interested in getting all the milk it is possible to get and that the more milk that you can get, the more successful your business is. I know too that you are interested in the dairyman from the standpoint of having him appreciate his business as a dairyman more than he does.



PROF. HUMPHREY

You undoubtedly realize that the best dairymen, the men who appreciate most their cows and dairy stock, furnish you the best grade of product from which you can manufacture.

I am here this afternoon to say just a few words in reference to the bull proposition. We recognize that the dairy bull is the most powerful factor influencing our dairy conditions that we have in the State of Wisconsin today. Perhaps he is a little far away from the creamery, too far away for you to appreciate him; but I dare say most creamerymen can recall to mind the

picture of the average bull which predominates in your community. He is what we sometimes call Duke's Mixture,—Duke's Mixture because he is a little of everything, he is a little of dairy bull, a little of the beef bull and a whole lot of, well,—just bull. I say he is a very important factor in the dairy business. His influence on the dairy industry of Wisconsin is direct and it is indirect. We might say that he exercises a direct influence to the extent of fifty per cent or more that governs the individuality of cows and their ability or inability to produce milk in large and profitable quantities. It has been said that the bull is the strong of the weak link that connects one generation of cows with another generation. Allowing one bull to each farm in the State of Wisconsin on which statistics show there are about nine cows, we might say the influence of the bull is nine times as great as that of any one cow. In herds where there are twenty or more cows he is twenty times more important than each cow because of the direct influence he brings to bear upon all of the heifer calves that are produced in these respective herds. He exercises an indirect influence upon the care of cows by inspiring dairymen to do their very best or by discouraging them in their dairy practice.

It has been said, and well said, that a good bull adds great fame and interest to the dairy industry, and again it is a disappointing mistake to keep a poor bull. We want to appreciate more in Wisconsin the value of these bulls. The question may be well asked,—What is a good bull? A good bull is rare. Until the bull becomes mature we say he is only a chance proposition in the dairy business. Why? Because we don't know the real value of a bull until he has become old enough to prove himself a valuable animal in the reproduction of the right kind of cows.

Until the bull is four years old he is only a chance proposition and statistics gathered from dairymen in the State of Wisconsin indicate that the average age of bulls is less than three years, therefore we might say that the dairy business of the State of Wisconsin at best is only a chance proposition so far as the production of the best class of dairy cows and the production of the greatest quantity of butter fat is concerned.

That concerns you buttermakers and if you are engaged in a business that is only a chance proposition, it seem to me you ought to be extremely interested in anything that would tend to improve those conditions. We might say that the pure bred bull of some of our distinguished dairy breeds, Holstein, Guernsey, Jersey, Ayreshire and Brown Swiss, is a bred-for-production bull, while the bull of the Duke's Mixture type, he is bred for really no purpose except to have a bull around and do the service that such bulls do.

Here is the proposition. To raise a bull calf to a serviceable age will cost \$40.00. It will cost to keep a bull until he has reached mature age, \$200.00. It will cost \$60.00 to grow each of his calves up to the age of producing milk, and with those figures in mind it is very easy to see what the farmers are doing when they use any type of bull. When at the end of that time he has daughters that are satisfactory milk producers, all of that expense of maintaining the bull and raising the heifers is fully offset and the success of the dairyman is assured, but if he is a failure at that time the loss is very heavy and the results are most disheartening.

Bred and tested for production bulls are good bulls. That is our definition of good bulls, and when they have reached a mature age and have daughters that prove they have been the right kind of sires, they are the right kind of sires. That is the kind we want to encourage, and buttermakers and cheesemakers should be interested in that question of sires in their community. Get in just as many of them as you can, because of the fact that it is going to have this direct and indirect influence upon the amount of milk that will be produced in those communities, and the amount of profits there is in the business.

I don't want to take too much of your time this afternoon, but I will be glad to say that cow testing associations and breed association necessitate better cows. The testing that you may do at your creamery ought to be done in the way of encouraging your patrons to appreciate the fact that they should have better cows and where they have cow testing associations and breed asso-

ciations in the state today, they are paying particular attention to this very point. The fact that so many cows fail to make profitable production as determined throughout, and which will be collected through cow testing association, is going to have an influence upon the dairy industry of the state. It is going to emphasize the importance of better sires. If the farmer or the dairyman finds that he cannot be assured of the business of buying and developing herds of dairy cows that will return fair profits, he cannot be expected to continue in the business, and therefore, Wisconsin's most valuable resources will be injured to the extent that men turn their attention to other lines of farming or live stock production.

An instance was recently related where one of the prominent dairymen of the city of Chicago realized that there was no profit in producing milk at wholesale prices with which to supply Chicago demands. This feature of the dairy industry has meant a great deal to Wisconsin. The principal factor which rendered milk production in that vicinity unprofitable was the failure on the part of the cows to produce milk in a profitable manner.

There are a good many cows that are sent out of Wisconsin that go down to the Elgin District in Illinois that are too poor to keep in Wisconsin and when those men take into account paying for their feed, etc., they are waking up to the fact that there is no profit in that kind of dairying. With cow testing associations and other agencies bringing them to the point where they are going to take into consideration the amount of cost, I say they are going to turn their attention to some other phase of farming, and if they do that, it is going to affect your business. We are looking to cow testing associations and breeders associations, that is community breeders associations, today a great deal along this line.

As I say I am very glad to have been here this afternoon to give you this idea of doing all that is possible in your community to encourage that very work because it is something you can well afford to do. Encourage men to get into cow testing asso-

ciations. I think probably a good many of you live in districts where there are cow testing associations, or have been. You know some of the problems, some of the difficulties of getting men interested to go into cow testing associations. A great many of them think they can do it at home. A great many are satisfied with the test you are making for them, but it is not enough and we would like to have your assistance and encouragement along that line until in Wisconsin we can have a good, strong testing association in every creamery district of the state. It would mean more to Wisconsin, I think, than any other agency that could be put to work.

Along with that we need a breeders' association and that perhaps can spend more of its time in looking after the sires and the breeding of cows; that is, your cow testing association is going to locate only the best cows and the best bulls. As was brought out by one of our speakers this morning, the cow testing association tests bulls as well as cows. The community breeders association can look after the exchange of bulls within its own territory. It perhaps can co-operate with the neighboring associations and keep these good sires in Wisconsin. It has been suggested that the State of Wisconsin perhaps should do something through its Live Stock Association, State Dairymen's Association, through their county fairs and our State Board of Agriculture. Perhaps they can do something to encourage better sires of this bred and tested for production type and I am glad to have spent this amount of time bringing this question to you. I am sure that any resolution you might pass which would encourage the greater use of bred and tested for production sires would have a good influence on raising the standard of the dairy industry in Wisconsin. (Applause.)

PRESIDENT: We want to take up the next on the program, Errors in Creamery Accounting, by Martin H. Meyer.

ERRORS IN CREAMERY ACCOUNTING.

By *M. H. Meyer, Madison.*

Mr. Chairman, Visitors and Gentlemen of the Convention: You have sat through lots of good talk and by this time are just about filled up enough to go home, therefore I will detain you for only a few minutes. We all, at least at times, like to have pointed out the mistakes we make, and also at times to be praised. I shall try to point out to you a few irregularities as I see them during my traveling through the central states while visiting creameries.

We know that the proper accounting and systematic arrangement of facts is the foundation of all good business and necessarily so in the creamery business. We find that some creameries have, so to speak, side lines. They sell salt and oil and buttermilk and coal. They make profits on these side lines. In lots of monthly or annual statements made in co-operative creameries the profits thus made are deducted from the running expenses, and when they figure up the cost of manufacture it is necessarily low because of deducting such profit made on side lines. Were the cost of manufacture based upon the actual arrangement of expenditure in such cases, it would be necessarily much higher than represented.

We find that the cost of manufacture varies from 1 cent to 3 cents per pound, according to the classification of expenses, so that in a general way we may say, then, with some factories it is a matter of bookkeeping.

In classifying these various factors I would say that we would divide them, generally speaking, in four divisions; first, the salaries. This would comprise the creamery employes, the secretary, the board of directors and the cream haulers. Then we have the second division, general expenses, which comprise labor incident to ice hauling and ice and freight, express and drayage, all office supplies, light, taxes, insurance, telephoning, telephone rent, telegrams, labor for repairing and repairs and losses of any kind. Third we would have creamery supplies

in which we place butter tubs, liners, wrappers, salt, oil, coal, etc. In the fourth division we would place creamery fixtures such as vats and pumps, starter cans, churns and belts, and on this we would ask about a 15 per cent depreciation, which would be charged against the expense of manufacture, so that when you come to figure up the cost to manufacture butter you must necessarily place the expenditures in the right place and figure them all in. Some of our creameries leave out the expense incident to hauling cream, which is very heavy in some of the large factories. When this expense is not added in we find that butter can be made at about 1 cent per pound. Where all these expenses are figured in, it runs to about $2\frac{1}{3}$ or 3 cents per pound.

We come across other irregularities, such as overrun, which also varies greatly and is also a matter of bookkeeping. Some factories base their overrun upon the fat they receive in the vat, not upon the fat that is paid for; others upon the butter weight at the churn and not upon the weight returns from the market, so that the percentage of overrun in some creameries is no true indication whatever of the real business condition. We find also this, that in summer when there is a great production of butter and when the expense of running the creamery is less per hundred lbs. than in winter, all of those profits made in summer in excess are paid out in winter on the excess price of the butterfat to the patrons, thereby causing another extreme error in bookkeeping as to what actually is done at that factory. This is another cause for discontent and in some cases the buttermaker through this loses his job.

We find that the monthly statements in many of our creameries do not contain anything in the line of an inventory. I think it is very necessary for the buttermaker or the manager, whoever is in charge of this line of work, to take an inventory each month of all things on hand and figure out and compile a statement for that creamery. I personally would like to see a department opened at our University Dairy Department for the purpose of looking after practical creamery accounting. Say, for instance, that secretaries or managers, who desire to have their accounting done by our state dairy department,

be required to pay over to that department a part of their salary in payment for such accounting. This department would make out a monthly balance sheet covering daily business done by a creamery, and with each monthly statement would issue a letter with explanation and advice regarding the manner of accounting, and also answer all questions as they arise from time to time pertaining to this work.

It is an easy matter for the buttermaker to take an inventory each month. It is not very hard to account for the supplies. Even the coal can be guessed at very accurately. Perhaps not the first few times, but after a while this can be sized up very nicely. Sometimes when we hear that one creamery makes a profit of 60 per cent and another 25 per cent we feel that the accounting must be wrong. Then we hear, as we come into the cities, "You dairymen are holding us up." This uniform system of accounting as suggested, to be carried on by the Dairy School of the University of Wisconsin, would assist greatly in putting the creameries, especially the co-operative creameries, on a known business basis, and after such accounting has been carried on for a year and the secretary and manager of a creamery feel qualified to carry it on that way, he can take it over himself and continue. I hold that this would be a good thing for our state, for that matter for any state, to engage in.

We find all these irregularities in some creamery statements as published and they show that one creamery manufactures butter at $1\frac{1}{2}$ cents per pound, another creamery at 2 cents a pound and another one at 3, and then the patrons are up in arms because they do not know what this all means. Such statements are too misleading and from that point of view I would not favor to publish creamery statements at all, not until we have a better and more uniform system of accounting and both the creamery managers and secretaries are better informed.

In addition to all these suggestions, there is one other main factor to be considered in handling creamery accounting to best advantage, and that is to have the check covering a delivery or deliveries of cream or milk attached to a duplicate statement showing the amount of cream, its test, price per pound and

balance due patron. The patron will keep the original statement for his file. The other duplicate, with the check he presents at the bank and draws his money. The bank returns to the creamery company both the check and copy of statement as per outline below.

Bank Account No. 1	HOLDEN CREAMERY COMPANY.		\$14.00	
	Holden, Ill., Jan. 20, 1914.			
	Fourteen and _____no/100 DOLLARS			
	To the 2d National Bank, Holden, Illinois.		}	HOLDEN CREAMERY CO.
	Pay to the Order of			
			
Mr. John Semple, Armstrong, Ill.		No. 120		

This and the check are together presented at the bank and returned to the creamery.

No. 100

HOLDEN CREAMERY CO., HOLDEN, ILL.
Patron's Statement.

Date Received, Jan. 10, 1914. Patron No. 100. Date Paid, Jan. 20, 1914.

Pounds of Cream	Test	Butterfat	Price	Amount Dr.	Amount Cr.
150	30	45	\$.35	\$15 75	\$1 75
Number and size of Cans received: 2-10 gal.....8 gal.					
Total Debits and Credit.....				15 75	1 75
Check to balance.....				14 00	
Total				14 00	

For any correction, return this statement.

REMARKS: Cream fine. 1st Grade

This is the carbon copy to be kept by the patron:

Mr. John Semple,

Armstrong, Ill.

No. 120

HOLDEN CREAMERY CO., HOLDEN, ILL.

Patron's Statement.

Date Received, Jan. 10, 1914. Patron No. 100. Date Paid, Jan. 20, 1914.

Pounds of Cream	Test	Butterfat	Price	Amount Dr.	Amount Cr.
150	30	45	\$.35	\$15 75	\$1 75
Number and size of Cans received: 2—10 gal.....8 gal.					
Total Debits and Credit.....				15 75	1 75
Check to balance.....				14 00	
Total				14 00	

For any correction, return this statement.

REMARKS: Cream fine. 1st Grade.

From all these things I feel still more inclined to believe we could do a great deal of good by adopting a uniform system of accounting to be established in Wisconsin.

I thank you. (Applause.)

PRESIDENT: As Mr. Meyer said, we have been sitting here a good while and are getting tired. I am sure that if Prof. Lee lives up to his last year's record we are going to get the cream of the cream. I am glad to herewith present Prof. Lee to you and I guess the subject has been misstated on the program, but it has something to do with the marketing of butter.

Prof. Lee gave an address in which he used lantern slides to illustrate his points. He requested that the address be not printed on account of it being a lantern slide lecture.

PRESIDENT: We will now have the report of the resolution committee.

RESOLVED: That the thanks of this association be extended to the Madison Commercial Club for the many courtesies shown our officers and members and also for the liberal cash donation to our premium fund.

RESOLVED that the thanks of this association be extended to the Honorable Francis E. McGovern, governor of the state of Wisconsin, for the warm welcome extended us not only to the state but to the city as well.

RESOLVED that the thanks of the association be extended to the state officials for the use of the assembly chamber in which to hold our meetings.

RESOLVED that the thanks of the association be extended to the speakers on the program who so freely contributed to the instruction and entertainment of this convention.

RESOLVED that the thanks of the association be extended the officers for the able management of its affairs during the past year. Particularly do we wish to extend our thanks to Professor Benkendorf for his untiring efforts in making this the best and most successful convention ever held by our association.

RESOLVED that the thanks of the association be extended to the butter judges, the superintendent of the butter exhibit, to Mr. Bruhn as judge of the starter exhibit; also to the Butter, Cheese & Egg Journal, and to the dairy press in general for the publicity given the convention.

RESOLVED that the thanks of the association be extended to the Hon. S. A. Cook of Neenah for his continued loyalty to our association, and for the durable chairs donated for our present convention. Our thanks are also extended to the supply men and traveling men for their donations and assistance in the interests of the association.

RESOLVED that the thanks of the association be extended to Professor Farrington, in charge of the dairy school; to Professor Lee, and to the Dairy and Food Department, all of whom contributed so largely to the success of our convention.

RESOLVED that we appreciate the critical condition of the dairy industry as a result of the poor raw material that is manufactured into butter, and we hereby agree and pledge our full support to any measure that tends to improve the general character of our butter product.

RESOLVED that we fully appreciate the danger to the dairy industry as the result of the encroachment of the sale of oleo-margarine, and we commend the work of the National Dairy Union in its efforts to prevent any adverse legislation.

WHEREAS, the present national dairy conditions bring new problems to be solved regarding the future policy of the National Creamery Buttermakers' Association, therefore, it is

RESOLVED: That the president and secretary of the Wisconsin Buttermakers' Association be requested to act as a committee to work jointly with the executive committee of the National Creamery Buttermakers' Association in adjusting the various problems that arise from time to time.

RESOLVED that it is the sense of this convention that a better enforcement of the laws regarding the anti-discrimination act should be enforced for the better protection of small local creameries.

RESOLVED that it is the sense of this convention that the investigation undertaken by the members of the state legislature into the market conditions meets with our full approval, and we wish to go on record as being willing to assist in every way in bringing about better conditions for the sale of our products.

The Polk County Butter and Cheesemakers' Association, in convention assembled, this 22nd day of January, 1914, express themselves as follows:

BE IT RESOLVED: We do hereby request that you urge and bring all the pressure that is possible to bear upon our highly respected Dairy and Food Commission, also in a legislative way to act upon the following resolutions:

WHEREAS, We do not consider the present force of inspectors large enough to cope with the present condition of the

milk and cream as delivered to the creameries and cheese factories in our state,

THEREFORE BE IT RESOLVED, That there be enough inspectors appointed to call on every dairy farmer in the state at least once a year, to inspect his dairy, and that each dairy be scored according to the condition found therein; points to be given on the following conditions:

1st. Given number of points as to the condition of the barn both inside and outside so far as these conditions affect the purity of the milk and cream produced.

2nd. Given number of points as to the care and condition of the cows.

3rd. Given number of points as to the manner in which the milking is conducted.

4th. Given number of points as to the care of separator and utensils, as to where located, also the cleanliness of machinery and surroundings, also the style and condition of milk cans and pails.

5th. Given number of points as to the care of the milk and cream from the time it is drawn and until delivered.

6th. Given number of points as to the frequency that the milk or cream is delivered to the plant or buyer.

WHEREAS, The above mode of inspection would enable inspectors to keep close watch on insanitary dairymen, and enforce the law regarding same.

RESOLVED, That it is the sense of this Association that the licensing of Buttermakers, Cheesemakers, creameries and cheese factories for the purpose of eliminating incompetent workmanship and of insanitary conditions, would be promotive of the welfare of the dairy interests.

BE IT RESOLVED that the scores be published in the official county papers, also under each name and score state whether the party had been fined during the year.

PRESIDENT: You have heard the report of the Resolution Committee. What will you do with it?

MEMBER: I move that the report be adopted as read.

Which motion was duly seconded.

MR. ALLAN CARSWELL: I think there are some resolutions there that ought not to be passed by this convention. They appear to be approved and give the reason for certain legislation because this, as a state association, has acted on them. I for one am not in favor of licensing creameries and operators. I believe with Mr. Corneliuson, if we had this one item of a state brand it would eliminate all this licensing cheese and buttermakers and factories. As I understand the resolutions, they mean that this association is strictly in favor of that legislation.

PRESIDENT: Are you ready for the question?

The motion was lost.

MR. OLSON: I make a motion that we take up one resolution at a time.

PRESIDENT: It is up to the members.

MR. LARSON: Judging from the sentiment on the discussion of licensing buttermakers, I am of the opinion that possibly that is the objectionable point. Possibly that could be eliminated if a motion was made to adopt the resolutions less that one.

MR. ALLAN CARSWELL: Mr. President, I do not believe that the Resolution Committee as a whole are in favor of this legislation. I make a motion that the resolutoin favoring the licensing of factories and operators be stricken from the resolution until we find what is the sentiment of the members.

Motion duly seconded.

PRESIDENT: There is a motion made and seconded that a paragraph in the resolutions be stricken out. This paragraph reads as follows:

“RESOLVED, That it is the sense of this association that the licensing of buttermakers, cheesemakers, creameries and cheese factories for the purpose of eliminating incompetent workmanship, and of insanitary conditions, would be promotive of the welfare of the dairy interests.”

Motion duly carried.

PRESIDENT: We have got to go back to the other resolutions. What is your pleasure with the other resolutions? They have not been acted upon.

MR. WHITING: I move that the rest of the resolutions be adopted as read.

Which motion was duly seconded and carried.

PRESIDENT: There is something that was left over, that is the report of the Auditing Committee. The Auditing Committee went over the books of the secretary and treasurer and they have approved them by putting their signatures on the books. Such being the fact, what will you do with the reports read yesterday?

MR. WHITING: I move that the reports be accepted as read.

Which motion was duly seconded and carried.

PRESIDENT: Mr. Benkendorf has a few remarks to make at this time.

SECRETARY BENKENDORF: I wish to make a remark in regard to the Horse Show tonight. When the programs were published it was understood we would be given free tickets, but since that time they have informed us we have got to pay a quarter. It is a great disappointment to me. We have no free tickets for the Horse Show, but if any of you want to go to the Stock Show tonight you can get the tickets there at 25 cents apiece.

I am a good deal as I used to be when I was a little boy at the Christmas tree,—I was interested in the distribution of prizes.

Up in Brown County we have two buttermakers who are rivals. They both make good butter. They always try to excell each other. I know this for I used to go up to judge the butter at the Brown County Fair. One year one man would win and the next year the other one would win. This morning we had to score off the tie between these two buttermakers, and I credited Mr. Lauritz Olsen the third prize and Mr. R. J. O'Keefe the second prize. That is all due to the fact that I did all that before breakfast. It merely shows it is not a good thing to do anything before breakfast. In reality Mr. Olsen received second prize and Mr. O'Keefe third.

The prizes will be distributed at my office at the Park Hotel at once.

(Here followed the distribution of the scores.)

PRESIDENT: Is there anything that anyone wishes to say before we adjourn? If not, the chair will entertain a motion to adjourn.

SECRETARY BENKENDORF: I move that we adjourn.

Which motion was seconded and carried.

JUDGES SCORES

AND PRO RATA AWARDED

The Dairy Department at the University offered the Association a series of rooms in which to store and score the butter exhibit. The entries were in charge of Frank Bowar of Cazenovia and the judges were Prof. C. E. Lee, Madison; H. C. Larson, Madison, and Thomas Corneliuson, Washington, D. C. The following is a list of the average scores given by the three judges scoring independently, together with the pro rata.

FIRST DISTRICT.

	Ave. Score.
Herman Pagel, Burlington.....	90.16
Frank Wileman, Milton Junction.....	93.00
Harry D. Nichols, Elkhorn.....	94.83
W. F. Conway, Troy Center.....	94.50
Aug. Ottow, Brodhead.....	91.66
L. H. Belk, Elkhorn.....	94.50
Louis Koehn, Edgerton.....	91.33
Jno. J. Sarauer, Clinton Jct.....	94.16
Chas. D. Kelley, East Troy.....	96.00

SECOND DISTRICT.

W. A. Stewart, Eagle.....	93.16
F. V. Merryfield, Mukwonago.....	95.33
Fred C. Kutz, Johnson Creek.....	91.00
R. F. Gronert, Ixonia.....	94.00
G. P. Sauer, Cedarburg.....	95.66
F. H. Kelling, Johnson Creek.....	95.00
Geo. Young, Menominee.....	95.16

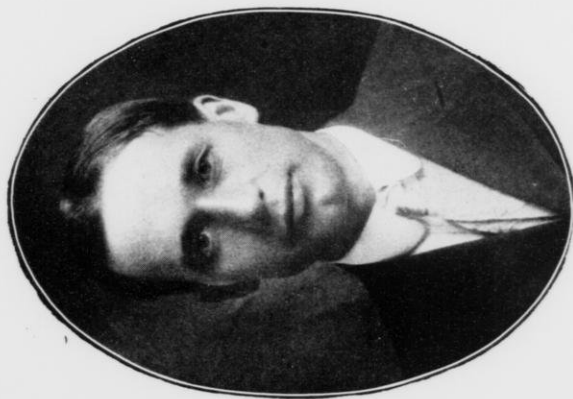


THOS. CORNELIUSON



H. C. LARSON

BUTTER JUDGES



C. E. LEE

	Ave. Score.
H. Skerhutt, Cedarburg.....	94.83
Paul Kottke, Cedarburg.....	93.33
I. W. Stryker, Nashotah.....	95.83
Adolph L. Perschbacher, West Bend.....	93.33
F. M. Werner, Waterloo (Comp.).....	93.50
F. M. Werner, Waterloo.....	93.83
H. H. Whiting, Cedarburg.....	95.41
R. J. Else, Helenville.....	93.33
Wm. Schoessow, Thiensville.....	91.50
Alvin Cross, Nashotah.....	94.50

THIRD DISTRICT.

H. E. Griffin, Mt. Horeb.....	94.50
O. A. Krueger, Albion.....	94.66
Bert Weber, Belleville.....	94.33
Paul A. Robinson, Marshall.....	91.66
A. C. Hillstad, Oregon.....	91.66
G. M. Stewart, Mazomanie.....	91.50
Fred Schwartz, Kilbourn.....	91.33
Caius Christianson, R. 1, Stoughton.....	91.00
Hans Mustad, Deerfield.....	90.00
Hod Doolan, Marshall.....	93.50
E. E. Koch, Marshall.....	93.00
Herman Hartweg, Deerfield.....	93.00
H. J. Herreman, Black Earth.....	92.16
R. G. Thoke, Madison.....	91.50
W. F. Gerholtz, Mt. Horeb (complimentary).....	93.16
John Rasmussen, Portage.....	91.33
L. L. Bolstead, Basco.....	95.33
A. W. Newman, Black Earth.....	92.50
Grove Bros., Columbus.....	91.33

FOURTH DISTRICT.

W. A. Moyes, Caszenovia.....	94.00
Olaf Larson, Fennimore.....	94.16
Frank Shepherd, Mt. Sterling.....	93.00
C. A. Nurell, Soldiers Grove.....	95.33
Herman Wurster, Ironton.....	94.33
John Mortensen, Camp Douglas.....	92.00
L. W. Turner, Montfort.....	90.83
Aug. C. Ipsen, Cobb.....	90.33
H. C. Koenig, R. 1, Plain.....	90.66
Julius Kretschmar, New Lisbon.....	92.16
John H. Miller, Baraboo.....	90.50
W. J. Dehn, La Valle.....	94.66
F. J. Mogle, Cuba City.....	90.00
Ernest Soltwedel, Lime Ridge.....	93.16

FIFTH DISTRICT.

	Ave. Score.
John Schield, Fall Creek.....	93.83
Axel Larson, Durand.....	93.16
J. D. Simpson, Viroqua.....	95.00
Owen Melsby, Durand.....	91.16
Robt. V. Sylvester, Cochrane.....	91.33
Sever Lee, Modena.....	93.00
A. N. Longfellow, Wilton.....	93.33
C. T. Brye, Cashton.....	94.83
Frank O'Hearn, Melrose.....	91.16
H. A. Johnson, R. 2, Westby.....	92.16
Wm. J. Sieger, R. 2, Chaseburg.....	93.33
E. G. Rasmussen, Melvina.....	91.00
H. H. Solie, Osseo.....	92.50
G. N. Marvin, Black River Falls.....	90.50
Max Klaff, R. 4, West Salem.....	90.33
J. W. Seyforth, Mondovi.....	91.33
Grant Winner, Fairchild.....	90.16
L. H. Winter, Eau Claire.....	90.66
Hans H. Pederson, Warren.....	90.66
A. W. Zimmerman, Norwalk.....	92.00
S. J. Johnson, Ettrick.....	92.50
Geo. E. Day, Osseo.....	91.16
D. F. Wallace, Alma Center.....	95.16
Wm. Mistele, Oakdale.....	92.33

SIXTH DISTRICT.

Frank A. Rivers, Thorp.....	92.33
Scott, Key, R. 1, Vesper.....	90.83
Christ Christenson, Amherst Jct.....	93.50
Odin Christenson, Nelsonville.....	93.33
A. J. Moldenhauer, Neillsville.....	90.33
Joel Gilbertson, Neillsville.....	90.16
Paul W. Hahn, Hanson.....	91.50
Anton Nachtwey, Dorchester.....	91.50
Fred Speich, Pittsville.....	91.83
E. A. Peterson, Almond.....	91.66
K. O. Strozinski, Neillsville.....	90.83
John Schoenrock, Wausau.....	90.33
E. N. Paul, Greenwood.....	89.83

SEVENTH DISTRICT.

James O. Een, Marion.....	92.50
F. F. Kresse, Neenah.....	90.66
R. C. Cleaves, Iola.....	91.00
J. S. Ullmer, R. 37, Seymour.....	91.33

	Ave. Score.
Robt. S. Anderson, Northland.....	91.33
G. A. Moldenhauer, Montello.....	91.00
John Rasmussen, Wautoma.....	91.50
O. F. Peterson, Larsen.....	93.33
Christ Oostburg, Manchester.....	91.83
Wm. R. Warnke, Kingston.....	93.83
John A. Betthauser, Richford.....	90.16
Andrew Moertl, Seymour.....	93.16
Richard L. Sleyster, Endeavor.....	90.83
Geo. Broeckner, Markesan.....	93.00
Abe Speich, Berlin.....	91.16

EIGHTH DISTRICT.

Earl Longteau, Green Bay.....	91.83
Chas. E. Boll, Waupun.....	91.33
T. J. Houdek, Waupun.....	90.66
W. F. Hill, Brandon.....	93.66
H. A. Wheeler, West De Pere.....	91.50
D. W. Respalje, R. 22, Waupun.....	90.00
R. J. O'Keefe, De Pere.....	94.16
M. Christopherson, New Franken.....	93.00
G. G. Siefert, R. 9, Green Bay.....	93.33
John Schiller, New Holstein.....	95.33
E. J. Peschke, Fair Water.....	91.66
Quirin Moersch, Peebles.....	95.00
Lauritz Olsen, West De Pere.....	94.33

NINTH DISTRICT.

J. L. Bjerking, Beldonville.....	91.33
Robert Carswell, Menomonie.....	90.50
R. C. Colwell, River Falls.....	94.33
Ole Esker, Dallas.....	94.83
A. J. Rivard, Emerald.....	91.00
R. W. Butler, Amery.....	92.00
Frank Packard, Prescott.....	91.00
E. W. Scheel, Turtle Lake.....	92.50
Robert Moberg, Clear Lake.....	91.33
Axel Kristensen, Luck.....	93.83
H. O. Melgaard, Ellsworth.....	91.83
Geo. Garlid, Knapp.....	92.83
Peter Kristensen, Cushing.....	95.33
Theo. Lennartz, Frederic.....	91.50
Carl Lilyegreen, Roberts.....	90.33
John E. Matton, St. Croix Falls.....	96.16
C. J. Benson, Reeve.....	91.50

TENTH DISTRICT.

Ave. Score.

Carl Jorgensen, Rose Lawn.....	94.00
Alford Waldhart, R. 1, Medford.....	90.33
Chris Christensen, R. 1, Rose Lawn.....	95.50
Louis Peterson, Bonduel.....	94.33
Will Geisler, Bruce.....	90.66
F. H. Harvat, Boyd.....	90.50
Alford F. Smith, Phlox.....	91.50
E. R. Eckwright, Bloomer.....	93.33
A. N. Finstad, Albertville.....	91.16
T. W. Shuman, Hayward.....	91.50
Thos. Jacobson, Chippewa Falls.....	90.33
J. W. Sullivan, Chippewa Falls.....	93.50
T. A. Jorgenson, Chippewa Falls.....	90.33

NON-RESIDENTS.

Robert Wagner, Sumner, Iowa.....	94.83
John Hutchison, Genoa, Ill.....	94.16
B. E. Bragg, Preston, Iowa.....	91.66
H. C. Jochinsen, Bark River, Mich.....	91.00

STARTER EXHIBITION.

The starter exhibition was in charge of Aksel Bruhn, of the Dairy Department. While the number of exhibits was not large, the subject of starters is one every buttermaker is interested in, as was evidenced by the number who inspected and discussed the starters after the judging of the exhibits on Wednesday morning.

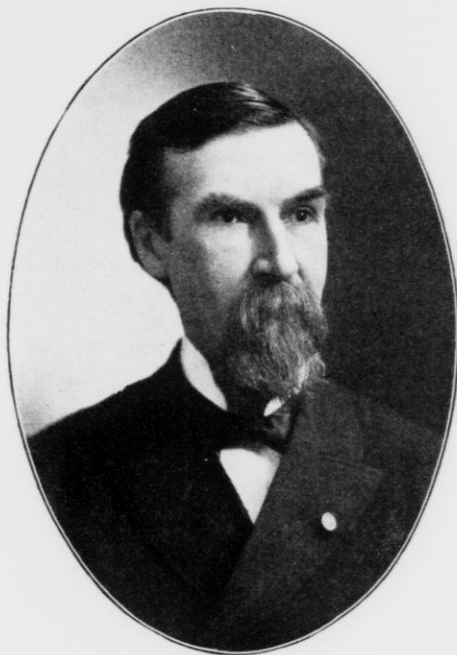


AKSEL BRUHN

STARTER EXHIBITION SCORES.

(First Five are Prize Winners.)

D. F. Wallace, Alma Center.....	95.00
H. E. Griffin, Mt. Horeb.....	93.00
H. H. Whiting, Cedarburg.....	93.00
Wm. Gerholz, Mt. Horeb.....	92.00
C. A. Nurrell, Soldiers Grove.....	91.50
Carl Jorgenson, Rose Lawn.....	91.00
F. M. Werner, Waterloo.....	90.00
Harry Nichols, Elkhorn.....	89.00
R. C. Thoke, Madison.....	88.00
W. F. Conway, Troy Center.....	88.00
Val Dressler, Louisburg.....	88.00
W. J. Dehn, La Valle.....	87.00
Chas. D. Kelly, East Troy.....	86.00
G. H. Griffin (complimentary).....	93.00
John Doe (complimentary).....	92.00



HON. S. A. COOK

The unbounded generosity of the Hon. S. A. Cook is still with us and three more members of the Association were the recipients of his liberal contribution to the dairy interests of the state in the shape of three beautiful leather chairs which were offered as the first, second and third prizes, this year. The buttermakers who have been fortunate enough to win one or more of the eighteen chairs which Mr. Cook has given the Association in the past six years join the rest of the members in a feeling of gratitude toward the Hon. S. A. Cook.

PREMIUM FUND.

Through the generosity of the City of Madison Board of Commerce, which contributed \$100.00 to our premium fund and \$300.00 to our general fund, and of several firms dealing in creamery supplies, we were able to offer the usual large premium fund. The following is a list of those who contributed to this fund:

City of Madison Board of Commerce.....	\$100.00
Donation, H. P. Olsen.....	25.00
Undivided 1913 Premium Fund.....	18.22
Proceeds from sale of butter at Milwaukee convention.....	651.95
Diamond Crystal Salt Co.....	10.00
Worcester Salt Co.....	10.00
	<hr/>
	\$815.17

THE PRIZEWINNERS.

The following is a list of the exhibitors who were so fortunate as to win the prizes offered by the Association:

STATE PRIZE WINNERS.

	Score.
First prize—John E. Mattson, St. Croix Falls—leather chair value \$40.00, donated by Hon. S. A. Cook, Neenah....	96.16
Second prize—Charles D. Kelley, East Troy—leather chair, value \$30.00, donated by Hon. S. A. Cook, Neenah.....	96.00
Third prize—I. W. Stryker, Nashotah—leather chair, value \$20.00, donated by Hon. S. A. Cook, Neenah.....	95.83
Fourth prize—G. P. Sauer, Cedarburg—genuine mahogany chest, with drawer containing 26 pieces Community silver, knives, forks, etc.....	95.66
Fifth prize—Chris. Christensen, Rose Lawn—Genuine mahogany chest with drawer containing 26 pieces Community silver (same as fourth prize).....	95.50

DISTRICT PRIZES.

- First Prize—Hand stitched Frame Oxford Traveling 18 inch Bag, full leather lined; genuine black flask seal.
- Second Prize—A twelve piece set silver knives and forks, Exeter design.
- Third Prize—A small silver carving set in lined box.
- Fourth Prize—Gentleman's 26 inch frame, Gloria silk, suitcase Umbrella. Offered by the J. B. Ford Company, Wyandotte, Mich., manufacturers of Dairymen's Cleaner and Cleanser.

First district—Milwaukee, Racine, Kenosha, Walworth, Rock and Green counties.

1. Harry D. Nichols, Elkhorn.
2. W. F. Conway, Troy Center.
3. J. J. Saraurer, Clinton Jct.
4. Aug. Ottow, Brodhead.

Second district—Jefferson, Waukesha, Washington and Ozaukee counties.

1. H. H. Whiting, Cedarburg.
2. F. V. Merryfield, Mukwonago.
3. Geo. Young, Menomonie.
4. F. H. Kelling, Johnson Creek.

Third district—Dane, Columbia and Dodge counties.

1. O. A. Krueger, Albion.
2. H. E. Griffin, Mt. Horeb.
3. Bert Weber, Belleville.
4. Hod Doolan, Marshall.

Fourth district—Grant, La Fallette, Iowa, Crawford, Richland, Sauk and Juneau counties.

1. C. A. Nurrell, Soldiers Grove.
2. W. J. Dehn, La Valle.
3. Herman Wurster, Ironton.
4. Olaf Larson, Fennimore.

Fifth district—Vernon, Monroe, La Crosse, Jackson, Trempealeau, Buffalo, Eau Claire and Pepin counties.

1. D. F. Wallace, Alma Center.
2. J. D. Simpson, Viroqua.
3. C. T. Brie, Cashton.
4. Wm. Sieger, Chaseburg.

Sixth district—Marathon, Portage, Wood and Clark counties

1. Odin Christensen, Portage.
2. Frank A. Rivers, Thorp.
3. K. O. Strozinski, Neillsville.
4. E. N. Paul, Greenwood.

Seventh district—Adams, Marquette, Waushara, Winnebago, Outagamie, Waupaca and Green counties.

1. Wm. R. Warnke, Kingston.
2. O. F. Peterson, Larsen.
3. Andrew Moertl, Seymour.
4. Geo. Broeckner, Markesan.

Eighth district—Fond du Lac, Sheboygan, Calumet, Manitowoc, Brown and Kewaunee counties.

1. Quirin Moersch, Peebles.
2. Lauritz Olsen, West De Pere.
3. R. J. O'Keefe, De Pere.
4. W. F. Hill, Brandon.

Ninth district—Pierre, St. Croix, Dunn, Barron and Polk counties.

1. Ole Esker, Dallas.
2. R. C. Colwell, River Falls.
3. E. W. Schelle, Turtle Lake.

Tenth district—Burnett, Douglas, Washburn, Rusk, Chippewa, Sawyer, Bayfield, Taylor, Price, Ashland, Iron, Lincoln, Oneida, Vilas, Langlade, Shawano, Forest, Florence, Marinette, Oconto and Door counties.

1. Carl Jorgensen, Rose Lawn.
2. Will Geisler, Bruce.
3. F. H. Harvat, Boyd.
4. Thos. Jacobson, Chippewa Falls.

AN ACKNOWLEDGEMENT.

In addition to the state and the district prizes offered by the Association, the following concerns co-operated with our officers in an effort to make the Madison convention a success by offering various prizes:

Chris. Hansen's Laboratory, Little Falls, N. Y.

Coyne Brothers, Chicago.

Wells & Richardson Co., Burlington, Vt.

Preservaline Mfg. Co., Brooklyn, N. Y.

The members of the Wisconsin Buttermakers' Association are certainly grateful for the interest manifested in the welfare of the organization by the above named firms.

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RBW7
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1912-16

17 AP 23	Tempas, R J	20 AP 23
22 S 28	Larson, H C	24 S 28
28 AUG 1931	Schears, M	2 SEPT 1931
28 SEP 31	Schears, M	
14 APR 1947	Floow, W K	29 57
17 MAY 1948	W. Bobroff	18 MAY 1948
		MAY 25 '52

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