U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

REPORT OF THE THIRTY-SECOND NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

ATTENDED BY REPRESENTATIVES FROM VARIOUS STATES

SPONSORED BY THE NATIONAL BUREAU OF STANDARDS
WASHINGTON, D. C., SEPTEMBER 26, 27, AND 28, 1946

MISCELLANEOUS PUBLICATION M186

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Official photograph of delegates and guests attending the Thirty-second National Conference on Weights and Measures, assembled in the meeting room at the Hotel Mayflower, Washington, D. C.

U. S. DEPARTMENT OF COMMERCE
W. AVERELL HARRIMAN, Secretary
NATIONAL BUREAU OF STANDARDS
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[1] Including appointments announced at the Thirty-Second National Conference to fill existing vacancies.
[2] See footnote 1.
[3] See footnote 1.

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HARRY G. SMITH, Sales Manager, 5743 Smithway Street, Los Angeles 22, Calif.
WILSON MILLIGAN, Division Manager, 37–14 Thirtieth Street, Long Island City 1, N. Y.
Stimpson Computing Scale Co.:
JOHN J. WAAGE, President, Breckinridge Street, Louisville, Ky.
A. P. WELLS, Vice President, Breckinridge Street, Louisville, Ky.
FRANK M. DOYNE, General Distributor, Eastern Division, Selleck Street, Stamford, Conn.
Streeter-Amet Co.:
VERNE C. KENNEDY, President, 4101 North Ravenswood Avenue, Chicago, Ill.
H. H. GASAWAY, Sales Manager, 4101 North Ravenswood Avenue, Chicago, Ill.
Thatcher Glass Manufacturing Co.: JAMES ARRANDALE, General Production Manager, Elmira, N. Y.
Tokheim Oil Tank & Pump Co.: WILLIAM LOUTHAN, Service Manager, Fort Wayne, Ind.
Toledo Scale Co.:
S. Q. BENNETT, General Manager, Service and Weights and Measures Division, Toledo, Ohio.
H. O. HEM, Consulting Engineer, Toledo, Ohio.
V. V. RADIONOFF, Government Representative, 3713 New Hampshire Avenue, NW., Washington, D. C.
E. C. SMITH, 305 East 63rd Street, New York, N. Y.
P. E. YOUNG, Manager, Toledo Scale Raleigh Co., Box 2107, Raleigh, N. C.
Torsion Balance Co.: PARKIN T. SOWDEN, General Manager, 92 Reade Street, New York 13, N. Y.
Triner Scale & Manufacturing Co.: JOHN E. EDGERTON, Representative, 1395 National Press Building, Washington, D. C.
TROEMNER, HENRY: CHARLES F. ROSICA, Salesman, 911 Arch Street, Philadelphia, 7, Pa.
Veeder Root, Inc.:
D. J. POST, Jr., Assistant to the President, Hartford 2, Conn.
JOHN J. BRANNICK, Divisional Sales Supervisor, Hartford 2, Conn.
A. E. MCKEEVER, Sales Manager, Master Meter Duplicator Division, Hartford 2, Conn.
Wayne Pump Co.: CHARLES C. NEALE, Manager, Weights & Measures Division, Fort Wayne, Ind.

GUESTS REPRESENTING ASSOCIATIONS, BUSINESS AND INDUSTRY, AND RAILROADS

American Petroleum Institute:
DAVID V. STROOP, Assistant to the President, 50 West Fiftieth Street, New York 20, N. Y.
JAMES E. MOSS, Director, Division of Transportation, 1625 K Street, NW., Washington 6, D. C.
Association of Food and Drug Officials of the United States: JOE C. SCHNEIDER, Director, State Food & Drug Control, State House Annex, Indianapolis, Ind.
Bethlehem Steel Co.: HARRY MARCHANT, Scale Supervisor, Sparrows Point 19, Md.
Carnegie Illinois Steel Corporation: CHARLES BAUER, Scale Shop Foreman, Sheet and Tin Mill Division E–73, Gary, Ind.
Chicago & Northwestern Railway Co.: HARRY MAYER, Supervisor, Scales and Work Equipment, 400 West Madison Street, Chicago, Ill.
Colonial Stores, Inc.: T. C. LAWLER, Maintenance Engineer, 682 Whitehall Street, SE., Atlanta, Ga.
Gasoline Pump Manufacturers Association: G. DENNY MOORE, Managing Director, 420 Lexington Avenue, New York, N. Y.
Glass Container Manufacturers Institute: NICHOLAS G. CAMERON, 250 Park Avenue, New York, N. Y.
Gulf Oil Corporation: E. W. HONEYWELL, Maintenance Supervisor, 1515 Locust Street, Philadelphia 2, Pa.
Industrial Research Syndicate: C. A. LINDSAY, Director, 1305 Euclid Street, N. W., Washington 9, D. C.

Liquid Tight Paper Container Association: ARTHUR W. HOWE, JR., Assistant Executive Secretary, 1532 Lincoln-Liberty Building, Philadelphia, Pa.

National Association of Scale Manufacturers, Inc:
ARTHUR SANDERS, Secretary & Counsel, 1129 Vermont Avenue, N. W., Washington, D. C.
GEORGE E. CHATILLON, 85 Cliff Street, New York 7, N. Y.

National Scale Men's Association: HARRY M. ROESER, Secretary-Treasurer, 5800 West Sixty-ninth Street, Chicago 38, Ill.

Paraffined Carton Association, and Paper Pail Association: HARVEY H. ROBBINS, Executive Secretary, 111 West Washington Street, Chicago 2, Ill.

Pennsylvania Railroad: M. J. J. HARRISON, Supervisor of Scales and Weighing, Altoona, Pa.

Quaker Oats Co.: DOUGLAS KIRK, Research Department, Akron, Ohio.

SAYBOLT, J. W., Business Counsellor, 1701 East Eighty-fourth Street, Chicago 17, Ill.

Scale Journal Publishing Co.: EDITH J. SAYBOLT, Secretary-Manager, 1703 East Eighty-fourth Street, Chicago 17, Ill.

Sinclair Refining Co.: K. W. BIRKIN, Manager, Automotive Department, 630 Fifth Avenue, New York 20, N. Y.

Southern Railway System:
J. N. TODD, Superintendent, Scales and Work Equipment, Box 1808, Washington 13, D. C.
J. L. PHERIGO, Chief Scale Inspector, Southern Railway Building, Washington, D. C.

Standard Oil Company of New Jersey: L. L. KENNEDY, Superintendent of Construction and Maintenance, 500 North Broad Street, Elizabeth, N. J.

Tissue Association, Inc.: DOUGLAS A. CROCKER, Assistant Secretary, 122 East Forty-second Street, New York 17, N. Y.

MISCELLANEOUS GUESTS

FINSETH, HERBERT, Chairman, Licenses Committee, City Council, 101 City Hall, Minneapolis, Minn.

HOWE, GEORGE ALPHA, 112 Fourth Street, S. E., Washington, D. C.

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REPORT OF THE THIRTY-SECOND NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

SPONSORED BY THE NATIONAL BUREAU OF STANDARDS, AND HELD AT THE HOTEL MAYFLOWER, WASHINGTON, D. C., SEPTEMBER 26, 27, AND 28, 1946

FIRST SESSION—MORNING OF THURSDAY, SEPTEMBER 26, 1946

(The Conference was called to order at 10:20 a. m. by J. G. Rogers, Vice President of the Conference.)

The CHAIRMAN. Warmest greetings to everybody! I believe we all share the feeling of being glad to be here again after passing through the vicissitudes of a war that brought disruptions to our way of life and certain conflictions and confusion in much that this Conference had accomplished in the past in the line of weights and measures endeavor. We have some fences to mend. They can and should be mended to reestablish procedures and policies that we decided here after exhaustive deliberation and effort.

America won the last war in splendid fashion but has entered upon a questionable peace. Someone has aptly said, "Peace is raging throughout the world." We are not doing too well with it, but I am sanguine in the belief that this will be corrected. The reestablishment of meetings like these, no matter how or for what purpose constituted in any line of endeavor, should help to bring order out of chaos.

We have done much through these Conferences here at Washington. We will do more. The interest and cooperation of every individual here is needed toward this end. This Conference is keyed to an informal note. The program indicates this. It is designed for free expression of delegates on a greater number of vital topics than could be encompassed in a schedule of technical, set speeches or papers. The discussions should be mighty interesting. In one particular way we can be very helpful to the orderly process of these meetings and that is by being on time for meetings and seeing them through to the end.

We can, I feel, justifiably classify these annual conferences more as schools than in any other category. There is much knowledge to be gained here on weights and measures. The work in which we engage is one of eternal vigilance, and it is self-evident that the results we get out of it can only be commensurate with what we put into it.

In the years intervening since we met here before, we have seen develop in our trade structure a corruption that could not maintain

under normal conditions. We again have seen the sinister head of greed raised to sink its fangs into the flesh of social economy. There has been and there still is much being done in utter defiance of the rights of others and common decency.

Possibly from our exchanges of experiences with each other here we may be able to promote effective suppression of the trade evils that lie about us. I know you are enthusiastic about accepting the challenge that prevailing conditions present. Your presence here alone denotes this. Let us now proceed to the order of the day.

REPORT OF THE SECRETARY OF THE CONFERENCE, R. W. SMITH

When one opens a book one finds, following the table of contents and preceding the text, a preface or foreword. If I may set up an analogy between a book and this meeting of the National Conference on Weights and Measures, I would say that you have already seen the table of contents—the program of our sessions—that the text will be unfolded to you beginning with the address of the next speaker, and that what I have to say is a brief foreword to that text. In the preface to a book one is apt to find some statements regarding the origin of the book, the general field which it is designed to cover, and the objectives which it is hoped will be realized by its publication. And in my forword to this Conference I wish to touch upon those same points.

The preceding meeting of this organization was held in June 1941. With the advent of war it became apparent that a meeting in Washington in 1942 would be impracticable. The heads of State weights and measures offices were polled on the advisability of holding the meeting elsewhere than in Washington or cancelling the 1942 meeting entirely; the sentiments expressed were approximately two to one in favor of cancellation. The same question was then put to the Executive Committee of the Conference for final decision, and the vote, although divided, favored cancellation.

In 1943 the Executive Committee was asked to vote on the question, "Shall the 1943 meeting of the National Conference be cancelled?" Every ballot returned favored cancellation, and eight members of the Committee expressed the opinion that the meetings of the Conference should be cancelled for the duration of the war. Again in 1944 the Executive Committee was polled, this time on the question, "Do you favor postponing the next meeting of the National Conference on Weights and Measures until the conditions are such that a representative attendance can be predicted and the Secretary is able to make adequate arrangements for a meeting in Washington?" The vote was preponderantly in the affirmative.

By spring of this year it became apparent to your Secretary that the desire on the part of weights and measures officials throughout the country for a resumption of National Conference meetings was steadily growing. Coincidentally conditions in Washington were becoming more and more favorable for a meeting. Accordingly I discussed the situation with representatives of Washington hotels and received assurance that if our meeting were scheduled for fall, hotel accommodations would be avalaible for a group the size of ours, although no single hotel would be able to house all of our delegates and guests.

Upon the basis of these facts, plus specific information regarding particular hotels, the Executive Committee was called upon once more to make a decision; every ballot returned favored the holding of a meeting this year, even under the handicap of scattered housing for those in attendance.

During the more than 5 years which have elapsed since our last meeting our country has brought two wars to successful conclusions, our domestic economy has been severely stressed, and our own organization has suffered repeated losses from its ranks of experienced and well-loved members of long standing. Some of these losses have resulted from the heavy hand of death; others have come about as a result of retirement to a well-earned rest from official activity; still others have been caused by resignations from weights and measures posts to accept positions in other fields. Those who are no longer with us will be held in pleasant memory. Those of us who are left, and the newcomers to our ranks, are faced with a challenge to our thoughts and energies to meet successfully the old and the new problems in the years to come.

During the war period your Secretary endeavored to keep you informed, as well as could be done through such a medium, by means of the Weights and Measures News Letter. After August 1943, regular monthly issuance of the News Letter was abandoned, and since that time issues have been gotten out at somewhat irregular intervals, depending upon the amount of material available for publication. During 1942 and 1943 a number of circular letters and memoranda were sent out in an effort to supply or gather helpful information. The subjects of these communications included tire rationing; a program of cooperation with the OPA; the milk-bottle schedule under WPB Limitation Order L–103; a program for the extension of weights and measures supervision, in cooperation with the Council of State Governments; procurement of ration coupons for try-out purchases; WPB Limitation Order L–190 dealing with scales, balances, and weights; check-up automobiles equipped with "dummy" gasoline tanks; and hucksters' scales.

So much for the historical side of the picture.

The program of our meeting this year has been built around one thought—the need to be brought up to date. Each official can do a better job in his own jurisdiction if he knows what is being done in other jurisdictions; he can bring to the solution of his problems a greater energy and strength of purpose when he knows that these same problems are being attacked in other places by other men as sincere and enthusiastic as himself; he can plan his own program more intelligently when he understands something of the objectives and plans of agencies and organizations working in allied fields.

Accordingly, you will hear at this meeting reports from your own committees, from representatives of State jurisdictions, and from State associations of weights and measures officials. You will be addressed by representatives of trade associations operating in fields associated with weights and measures supervision, and by representatives of two Federal agencies with which every weights and measures officer is brought into contact. No technical papers are scheduled, but a generous allotment of program time has been made for open, in-

formal discussion by the members of the Conference on topics of general interest and problems upon which assistance or advice may be wanted.

I believe that this National Conference should bring about the gathering together of many loose ends and the development of individual and Conference activity programs which will be most constructive in their effects.

It is my duty to present officially to you, at this first opportunity, the resignation of Dr. Lyman J. Briggs from the office of President of the National Conference on Weights and Measures, effective as of the date of his retirement from the Directorship of the National Bureau of Standards, November 6, 1945. Dr. Briggs' letter of resignation, addressed to the Secretary of the Conference, read as follows:

> Dear Mr. Smith:
>
> As you already know, it is my intention to retire from Government service in the very near future. Since the beginning of the National Conference on Weights and Measures it has been the custom of that organization to elect as its President the Director of the National Bureau of Standards. Coincident with my retirement as Director of the Bureau, I consider it proper for me to resign as President of the National Conference, and I now tender such resignation to you for transmission at the proper time to the Conference.
>
> It is with considerable regret that I thus sever my official connection with the State and local weights and measures officials of the United States. I have thoroughly enjoyed my association with this group and I am very appreciative of the spirit of cooperation which has always marked our relations. I have been, and shall continue to be, greatly interested in the advancement of the essential service which such officials are rendering in their several jurisdictions.
>
> I have regretted the necessity of interrupting the meetings of the Conference during the war, and I trust that it may be found practicable to resume those meetings in 1946. I shall hope to have the opportunity of dropping in upon at least one session of the Thirty-Second Conference.
>
> Sincerely yours,
>
> LYMAN J. BRIGGS,
> *Director, National Bureau of Standards.*

Coincident with his relinquishment of the duties of Director, Dr. Briggs was designated by Secretary of Commerce Henry A. Wallace as Director Emeritus of the National Bureau of Standards, "in recognition of your long and meritorious public service in the field of scientific research in the Government." I am happy to say that Dr. Briggs is here today and will shortly address you.

I do not wish to usurp the privileges of the presiding officer and appear to be introducing the speaker who will follow me. However, I am confident that you will be pleased to know that Dr. Edward U. Condon, who succeeded Dr. Briggs as Director of the National Bureau of Standards, has a keen appreciation of the importance of weights and measures supervisory work and, notwithstanding his manifold responsibilities, has displayed an interest in, and has expressed a desire to further, the cooperative program of the Bureau with the weights and measures officials of the United States and with the National Conference.

READING OF COMMUNICATIONS

The SECRETARY. Mr. Chairman, may I have your permission to present at this time two important communications which have reached the Secretary?

The CHAIRMAN. Please do so.

The SECRETARY (reading):

THE WHITE HOUSE

WASHINGTON, *September 23, 1946.*

TO THE NATIONAL CONFERENCE ON WEIGHTS AND MEASURES:

I welcome the opportunity of extending greetings to the Thirty-second National Conference on Weights and Measures.

You are meeting after a recess of more than five years, made necessary by the war. We are now in the period of reconversion—a critical time for the Nation, but one which offers vast possibilities for constructive thinking and effort. Stabilization of business and industry are essential to a wholesome national economy.

The insurance to business interests and to our citizens that in commercial transactions quantities will be accurately determined, that the salutary provisions of the laws governing the sale of commodities will be enforced, and that full weight and full measure will be given when food and fuel and other necessaries of life are sold, is an important factor to this end.

I commend particularly your policy of conference in considering the problems in your special field. You have assembled as a group of officials of the States and counties and cities to reach certain decisions. But you have associated with you for the purposes of advice and counsel, representatives of affected business interests and of those agencies of the Federal Government which operate in allied fields. Such a program has every possibility for constructive accomplishment.

You have my best wishes for a most successful meeting.

HARRY S. TRUMAN.

THE SECRETARY OF COMMERCE

WASHINGTON, *September 24, 1946.*

NATIONAL CONFERENCE ON WEIGHTS AND MEASURES,
% National Bureau of Standards, Washington, D. C.

GENTLEMEN:

On behalf of the Department of Commerce I am happy to welcome the Thirty-second National Conference on Weights and Measures.

Although your organization acts in a purely advisory capacity, I believe that your record of accomplishment in promoting uniformity among the States in the important field of weights and measures supervision demonstrates that you have been operating along sound lines. Without the National Conference, assisted as it has been by the National Bureau of Standards, I am sure that there would be today, as there was forty years ago, a great divergence among the States in their weights and measures requirements and a very scattered coverage with respect to this function of government which is so vital in all exchange of commodities.

There are still some States in which little or nothing has been done to enact comprehensive weights and measures laws or to provide enforcement machinery to give protection to buyers and sellers in general and to the ordinary consumer in particular. As a National Conference, and as individuals who know the benefits which adequate weights and measures supervision provides, I hope you will take all proper steps to encourage the enactment of suitable laws and the establishment of suitable staffs to implement such laws, so that weights and measures protection may be extended to all sections of our people.

Sincerely yours,

ALFRED SCHINDLER,
Acting Secretary.

The CHAIRMAN. I deem it a special privilege and honor to introduce the next speaker to this Conference. You have all heard of Dr. Condon, and of his signal accomplishments in scientific fields. Of outstanding interest are his contributions to the development of the atomic bomb, that more than highly potent element that brought us a quick victory and closed the war in a very severe but definite fashion. It is gratifying to all of us to have a man of his calibre as Director of the National Bureau of Standards. Weights and Measures form a vital part of the world of science as well as of the commercial and industrial worlds and because of this, I believe we can be sanguine in our feeling that Dr. Condon entertains a deep and sympathic interest in what weights and measures men are trying to do. In his strivings for betterments during his career, he has, no doubt, experienced obstacles just as well as we have, and he, therefore, knows through the coordination of thought and effort which comes out of meetings of this kind that we can "go places" and get things done. Consequently the active interest taken by the Bureau of Standards in our affairs is not in vain. With this belief, I know we all feel further assured that under Dr. Condon's administration we will continue to enjoy the fine cooperation and helpfulness of the Bureau of Standards that we have experienced in the past. It is now my great pleasure to introduce to you Dr. E. U. Condon, Director of the Bureau of Standards.

ADDRESS BY E. U. CONDON, DIRECTOR, NATIONAL BUREAU OF STANDARDS

I will be very brief in my remarks. I want to assure you of my deep interest in the work of the Conference, but my object in being so brief is to emphasize the fact that I am just a learner here. I will be conceited enough to admit that I think I know a little something about research in physics, but about this field of this Conference I am a very ignorant beginner; I am still in my freshman year, and I want to put as much time in with the Conference as I can in order to learn the business and to assure you that the work of the Bureau of Standards will be carried on as effectively as I know how in cooperation with this group.

I think we are all very happy that we can resume this work after so many years of war's interruptions. There must be a great many things that have accumulated that have been neglected, and that require our attention. I was particularly struck by the note that was sounded in the letter from the Secretary's office, pointing out the fact that there are some States in which this sort of work has not been well developed. It is a very difficult question to know whether a Conference of this kind can really do anything to encourage such developments in the States that are not actively in the field. We certainly don't want to do anything that smacks of interference with States' rights or anything of that sort. If certain States prefer to have their weights and measures in a completely unregulated condition, that is their privilege. I think, however, they should in this connection recall that that is not in accordance with the admonitions of Holy Scripture. In Proverbs, Chapter 20, Verse 23, we read, "Divers weights are an abomination unto the Lord, and a false balance is not good." So that perhaps there is something that the Conference can do to bring that message to all of the States.

We certainly don't want to do anything in the way of trying to produce an enforced uniformity of practice on States where local conditions indicate otherwise, but wherever benefits can be gained by a careful coordination of methods, by mutual agreements, and voluntary methods, I think we should do that, and I take it that that is the function of this Conference.

With regard to Dr. Briggs' retirement, I don't like to think of that as his retirement. I have always regarded that day that I came in as the day he was appointed to a new position as Director Emeritus. I am happy to tell you that he seems to be enjoying that role, wherein he is free from all of the administrative paper-work duties that go with a job like the one I am trying to take over, and is having, so far as I can tell, a very fine time working in the laboratory, following up many of his personal scientific interests, which he was unable to follow up for so many years because of the duties of the Director's office.

I think that must necessarily conclude my remarks. I think what we want to do here is to get to work on the problems that have accumulated over the last few years, and I am happy to be here with you as a student who is trying to learn the business in his freshman year.

The CHAIRMAN. While it has fallen to my lot to open this Conference, I nevertheless do so with the feelings of a usurper. When our good friend Dr. Briggs retired as Director of the National Bureau of Standards, he at the same time resigned as President of the National Conference on Weights and Measures. However, under his new status of Director Emeritus of the Bureau, I felt it was entirely fitting that he should continue the Presidency into this Conference at least, and I so indicated to our energetic and conscientious Secretary Ralph Smith only to be informed that Dr. Briggs was "standing pat" on his resignation and preferred to confine his activity here to the address for which he is scheduled on the program.

I feel I would be very remiss both in duty and courtesy if I did not take this opportunity to express to our faithful and esteemed colleague Dr. Briggs the deep appreciation and gratitude of the States individually and severally for all he has done to help us do the kind of a good job we want to do in our separate jurisdictions.

ADDRESS BY LYMAN J. BRIGGS, DIRECTOR EMERITUS, NATIONAL BUREAU OF STANDARDS

I wish to thank you, Mr. Chairman, for what you have just said, and Dr. Condon for his reference to our very pleasant relations in the Bureau of Standards. It is a satisfaction to me to be freed from the heavy responsibilities which have been associated with the work of the Director for these past twelve years, and I am enjoying thoroughly the opportunity of getting back into the laboratory under such pleasant conditions. Dr. Condon has made available to me the facilities of the Bureau of Standards, and I hope to be able to do something during these remaining years that will justify that courtesy and confidence.

My close association with the National Conference on Weights and Measures began in the years of the depression when we were all too poor to hold regular meetings. It closed with the war years, when we were all so busy with the war effort that meetings of the Conference again had to be postponed. But during the intervening years sub-

stantial progress was made and I feel confident that this meeting will show that you have assembled to carry out with renewed interest and enthusiasm the important responsibilities with which you are charged.

You may be interested in hearing briefly about some of the activities in which the National Bureau of Standards was engaged during the war. The Army, Navy, and other war agencies who knew of the Bureau's traditional desire to be of maximum possible service, made hundreds of requests to the Bureau for technical assistance on urgent war problems. The wide experience and background of our trained physicists, chemists, metallurgists, and engineers often made it possible to give a quick solution of these problems under conditions when time was the very essence of success. The many appreciative letters the Bureau has received from these agencies provide some measure of the importance of the Bureau's numerous and varied contributions to the war effort. The work done demonstrated conclusively to my mind the importance of maintaining a strong Bureau of Standards, available for service in war as well as in peace. Such an institution cannot be created overnight.

I shall now describe briefly some of the larger war projects in which the Bureau had a part. One of these was the development of the atomic bomb, which represented the greatest undertaking in the way of scientific and industrial teamwork the world has ever known. It may interest you to know that the first work by the Government on the atomic bomb project was done at the Bureau of Standards at the specific request of the late President Roosevelt, who appointed the Director of the Bureau as chairman of a committee to investigate the possibilities of uranium fission in warfare. It was early recognized that one of the first requirements was the production of uranium and graphite in a very pure state, free from other elements that would reduce the effectiveness of the chain reaction. Members of the Bureau staff soon developed simple and effective methods of preparing these materials in a very pure form and these methods were used throughout the whole undertaking. The Bureau also served as a central control laboratory for the Manhattan project, and thousands of measurements were made by physical, chemical, and spectrographic methods on the purity of the substances used in the various laboratories and plants. A number of experienced Bureau men were also detailed to the great plants at Oak Ridge, Tennessee, and Los Alamos, New Mexico, at the specific request of the War Department.

One of the most important of the new weapons developed during the war was the radio proximity fuse. This fuse caused a projectile to explode if it passes within 50 to 75 feet of an airplane, or at a height of 30 to 50 feet as it approaches the ground if the attack is against ground objectives. In other words, the proximity fuse does not need to hit the target in order to function, and this increases enormously the effectiveness of the projectiles on which the fuse is used.

The Bureau served as the central laboratory of the National Defense Research Committee in the development of radio proximity fuses for bombs, rockets, and other nonrotating projectiles. At one period of the war about 350 Bureau people were engaged in this undertaking. The fuse took various forms in adapting it to different types of projectiles, but in each instance it incorporated a complete miniature

radio transmitting and receiving set, so small that some models could be covered by a man's hand. When the radio waves generated in the fuse struck the target, a small part of the radiation was reflected back to the approaching projectile and received by the fuse. The fuse exploded the projectile when this reflected radiation reached the required intensity. Proving-ground tests showed that when a fragmentation bomb is exploded 30 feet above the ground by means of a proximity fuse it becomes 10 to 20 times as effective against troops in fox holes as the same bomb equipped to explode on contact with the ground. Proximity fuses were used effectively by the Army Air Forces in the Mediterranean Theater, and proximity fuses on bombs and rockets were widely used by both the Navy and the Army against Iwo Jima and other Japanese strongholds during the latter days of the war.

Members of the Bureau staff worked closely with the NDRC and the Navy in the development of radar homing missiles, that is, missiles which automatically seek out their target and guide themselves to hit the target. This was one of the largest of the Bureau's war projects, and the great Hydraulic Laboratory building was given over entirely to this undertaking. In one form of this weapon, a bomb is housed in a glider which carries in its nose the necessary radar and control mechanism. The glider "illuminates" the target ship with short bursts of radio waves and "homes" in the direction from which come the waves that are reflected back from the target. In making an attack the glider was carried underneath a mother airplane to a point beyond the range of gunfire and released after being "told" what target it was to attack. According to the official Navy release, this guided missle destroyed many tons of Japanese combatant and merchant shipping during the last year of the war.

Large military operations involving the participation of ground, sea, and air forces must be definitely scheduled well in advance of the day of attack. Failure of the all-important radio communication system of the mission on the day selected, owing to magnetic storms or similar disturbances, would jeopardize the success of the whole undertaking. Accordingly the Joint Chiefs of Staff of our forces and the British Admiralty asked the Bureau's Radio Section to undertake the forecasting of conditions which might interfere with radio communication. The service that was inaugurated provided for both daily and long-range forecasts. So successful was the undertaking that at the end of the war the military sponsors strongly urged that a direct appropriation be made to the Bureau to continue and expand the service as a peacetime aid to air and sea navigation. This recommendation was approved by Congress, and a wartime development, born of necessity, now finds a peacetime application in safeguarding lives and shipping and in aiding transportation by air and sea.

The "heart" of a radio transmitter is the oscillating quartz plate, for its fixes the frequency of the signal sent out. Literally millions of these crystal oscillators were made during the war. The quartz crystals from which they were cut were imported by the Government from Brazil and were classified and graded as to quality by the Bureau. Each individual crystal was examined for imperfections in an oil bath with the aid of an arc lamp. To determine the types of imperfections which would prevent the proper performance of the finished oscilla-

tors, plates were cut from crystals with various imperfections and tested as oscillators. During the years 1942 to 1945, inclusive, more than 10 million pounds of quartz crystals were graded for the Government in the Bureau's laboratory.

During the war the Bureau's broadcasting station was equipped with new transmitters which were sufficiently powerful to cover not only the United States and the North Atlantic, but a large part of the Pacific as well, the signals being received with ease in New Zealand. This service was utilized extensively by the Navy and Army throughout the war in maintaining the correct frequency of their countless transmitters. These standard frequencies are generated by means of a group of quartz crystal oscillators, working under conditions which are rigidly controlled as regards temperature and pressure. The signals which are broadcast do not vary as much as one part in 10 million from the announced standard frequency. This is comparable with the precision with which the mass of the standard kilogram or the length of the standard meter is known. But unlike the meter and the kilogram, standards of frequency cannot be stored in a vault until needed. They must be continuously generated and broadcast to serve their intended purpose.

Up to the time of World War I, the United States had been dependent entirely upon Germany, Belgium, and France for the glass used in making the optical parts of periscopes, range finders, cameras, and binoculars. In 1914 this supply was suddenly completely shut off and American manufacturers undertook the new and difficult job of making optical glass under the technical guidance of the Geophysical Laboratory of the Carnegie Institution with the cooperation of the National Bureau of Standards. The Bureau at that time built an optical glass plant which was kept in operation after the first World War through the farsighted support of the Navy, and produced all of the optical glass needed for the Navy's peacetime requirements. During this period much was learned about the large-scale production of optical glass of high quality that would meet exacting specifications as to dispersion and refractive index and thus facilitate the mass production of optical equipment if this should prove necessary.

At the beginning of the defense program the Bureau foresaw the probability of a greatly expanded need for optical glass and the enlargement of the glass plant was authorized by Congress. With these new facilities the Bureau and the Bausch and Lomb Optical Co., the only commercial firm that had continued optical glass production after the first World War, were able to supply all of the optical glass needed until other firms could be brought into production. At the request of the armed services the Bureau opened its glass plant for the training of the technical personnel of four American firms which were about to undertake the production of optical glass, as well as to representatives of the Australian and Canadian governments for similar purposes. At this time the Navy Department also constructed a large annex to the Bureau's glass plant, in order that our own production might be further expanded.

During the war years, the Bureau manufactured in total nearly a million pounds of optical glass of high quality, conforming strictly to the specifications of the armed services. Practically all of this

was delivered in the form of molded prisms and lens blanks with curved surfaces, these pieces being so shaped as to require the minimum amount of grinding in the subsequent finishing operations.

Returning now to matters which more specifically concern the activities of the National Conference on Weights and Measures I wish to say a final word regarding the importance of striving for uniform standards throughout the Nation. Those who wrote the Constitution of the United States were clearly firm exponents of "States rights." Nevertheless, the Constitution specifically delegated to Congress the power to fix the standard of weights and measures. I have been led to understand that this authority under the Constitution is so broad and inclusive that Congress could have enacted a Federal law covering the administration of weights and measures in the several States, had it chosen to do so in the interest of uniformity.

The fact that Congress did not enact such legislation does not relieve the members of the National Conference from the moral responsibility of striving to attain uniformity, particularly in respect to goods moving in interstate commerce. There was a time when Massachusetts had no concern with weights and measures administration in California or Texas. That time is past. Now Texas and California send great quantities of their products to Massachusetts for consumption. Interstate commerce is now Nation-wide.

You have been working for uniformity. It is in your hands. It will not be accomplished without the friendliest cooperation and hard work. It is a goal worthy of your best efforts. My interest and confidence and best wishes go with you in this undertaking.

RECENT ACTIVITIES OF THE FOOD AND DRUG ADMINISTRATION REGARDING SHORT WEIGHT AND DECEPTIVE PACKAGING

By W. A. Queen, *Chief, Division of State Cooperation, Food and Drug Administration*

As a newcomer to this body I appreciate very much the opportunity of meeting with you in this, your Thirty-Second National Conference on Weights and Measures. While I have had the good fortune to meet and to know a great many of you gentlemen, I see other faces here this morning that are new to me. I welcome this opportunity of making the acquaintance of those whom I have not previously had the privilege of meeting, and appreciate the opportunity that is afforded for the renewal of acquaintances and the strengthening of established friendships.

It is with a great deal of trepidation, however, that I, a neophyte in this organization with limited experience in dealing with the problems associated with weights and measures, appear before you to discuss any phase of this important subject. I hope that we may find sufficient grounds of common interest to justify your indulgence.

You are doubtless aware that the Food and Drug Administration is entrusted with the enforcement of the Federal Food, Drug, and Cosmetic Act and four other related laws, namely, the Import Tea Act, the Import Milk Act, the Filled Milk Act, and the Caustic Poison Act. By far the greater portion of our regulatory activities are concerned with the enforcement of the Food, Drug, and Cosmetic Act.

That law deals with the entire range of adulteration and misbranding of products subject to its jurisdiction. Short weight or measure, slack fill, and packing in deceptive containers, are treated merely as aspects of misbranding and so discountenanced. The provisions of the act which authorize our operations in the regulatory field with which the membership of this conference is primarily concerned are those which declare a food, drug, device, or cosmetic to be misbranded if in package form unless its label bears, among other things, an accurate statement of the quantity of contents in terms of weight, measure, or numerical count; or if its container is so made, formed, or filled as to be misleading. Necessarily our enforcement program and our project schedule under the Act must be so planned that proper attention and emphasis insofar as they are attainable with the facilities afforded, will be given to all the problems affecting consumer interest encompassed by the broad scope of its provisions. Thus from a statistical standpoint, the regulatory attention we have been able to give to economic cheats resulting from short weight or measure, slack fill, or deceptive packaging, cannot by any means be claimed a major part of our over-all activities. This does not in any way minimize the importance of regulatory endeavor in this economic field, and is intended merely to present in true perspective the responsibilities of the Food and Drug Administration and our inability to present a record of activity proportionately as extensive as could be reported by many of the agencies represented here today.

Despite the mention of the formidable scope of the Food, Drug, and Cosmetic Act, you may be assured that I shall not try to regale you with a detailed recital of the activities of the Food and Drug Administration in connection with its manifold responsibilities thereunder—although the subject assigned me intrigues me with its proffer of that possibility. I shall rather confine my remarks to a brief résumé of our activities in connection with economic cheats encountered in interstate commerce during the years that have intervened since the last meeting of this Conference, and more particularly those which have involved shortages in weight or volume, and deceptive packaging.

As might have been anticipated, wartime shortages of various foodstuffs necessitating rationing and price ceilings, offered great temptation for adulteration and misbranding. Concurrent with such shortages there appeared on the market an endless variety of substitutes, imitations, diluents, preservatives, and so-called stretchers or extenders, some with labeling outrightly false or so insidiously devised as to grossly deceive all except the most observant consumer. These same conditions likewise gave rise to numerous abuses in the way of short measures, slack fill, and deceptive containers, violations of which character were found to be widespread.

Generally speaking, these abuses were not the result of a breakdown in the production standards of the rank and file of responsible industry but were in the main the product of the practices indulged in by the fringe of commercial adventurers plotting illegal gain from unfortunate emergency conditions, by the faddists and opportunists in the food industry, and by the ever-present chiseler whose tribe noticeably increased during the war years. In many instances it was evident that short weighting of merchandise was a deliberate device to circumvent

established price ceilings. This was particularly true with respect to such commodities as fresh fruits and vegetables, potatoes, onions, mushrooms, and tomatoes, in the interstate distribution of which we encountered many violations.

In some instances bags of potatoes were filled without regard to weight. One shipment ran from a low of 81 pounds to a high of about 103 pounds, with an average shortage of over 10 percent.

Fresh mushrooms are always an expensive item, and material shortages represent a serious economic fraud. For a number of years the Administration has conducted net-weight investigations of the shipment of fresh mushrooms. Notwithstanding our previous endeavors, shipments showing shortages as high as 15.5 percent were found. Mushrooms were priced at 60 to 80 cents a pound to the grower, and shortages of 7½ ounces on a 3-pound basket represent a material cheat and illegal profit.

Another expensive product found short weight was fresh crab meat. At a cost of approximately $2 a pound, a shortage of 2 ounces on a 1-pound can, or 12.5 percent, represented a cheat of 25 cents a can.

Needless to say, necessary regulatory actions, including seizure and criminal prosecutions, were taken against violations of this kind.

One of the heaviest fines assessed by the courts in a case involving an economic cheat was a levy of $3,000 against a candy company charged with shipments of short-weight candy bars with puffed wheat substituted in part for peanuts. The defendant pleaded that practically all illegal profits realized from these transactions were absorbed by Federal and State income taxes, whereupon the court was moved to observe that the fine imposed was intended to absorb the remaining illegitimate gain and to impart a slight sting to discourage similar illegal profits in the future.

It is needless for me to impose upon your time to particularize on every item of food with which, because of short weight, we have had occasion to deal in a regulatory way during the past 4 years. Suffice it to say that these products have ranged the whole alphabetical gamut from almonds (salted) to soup mix—if I may be permitted to reverse the usual order of "soup to nuts". I may mention in passing, however, that among these were included such products as unprocessed sauerkraut packed in glass, of which I shall speak later, and even a substitute for eggs. I submit that an individual cannot be considered a heavyweight on the scale of honesty when he stoops to short-weight an egg substitute.

Perhaps the most despicable attempt to gain illegal profits through the employment of fraudulent packaging occurred in connection with the sale of gift packages to friends and relatives of men in the armed services. This rank imposition on wartime sentiment was first encountered prior to the 1942 Christmas holiday season when the market was suddenly flooded with "de luxe" gift packages for service men, of which many were found to be grossly deceptive. One such typical gift package contained wine jellies and tea bags packed in paper stuffing which occupied 43 percent of the carton space, which condition could not be observed by the purchaser. Another consisted of dried and glacéd fruits and nuts, where the top layer was covered with a sheet of cellophane which prevented inspection of the lower

layer. The top layer consisted of fancy-appearing figs and dates containing embedded walnut halves and pecans, together with glacéd fruits. The lower layer by contrast consisted of white and black figs without nuts or glacéd fruits. Despite numerous seizures the racket continued to thrive for quite some time and was expanded to include such occasions as St. Valentine's Day and other holidays.

In general the deceptions were perpetrated through stuffing with excessive amounts of shredded paper in the bottom of the containers. Other means were false bottoms in the boxes, inferior quality of food on the bottom layer, substitution for articles in the displayed package of cheaper items, and excessive void spaces. When these practices proved insufficient for their evil purpose the packers of these items resorted to flagrant short weighting.

Many of the retailers handled these packages on a special-order basis and were unaware of the deceptive nature of the box that was shipped directly by the manufacturer to the soldier or sailor. Reputable dealers so victimized took an active part in the campaign to drive this merchandise from the market. A large number of packers of this illegal merchandise were criminally prosecuted and quite a number of fines as heavy as $1,000 were assessed against the offenders. In one such case the defendant was fined $1,000, and in addition given 4 months to do penance and to meditate on the unhappy consequences of a partially misspent life.

Another flagrant example of slack-filling was encountered in connection with the packing and distributing of unprocessed sauerkraut in glass containers. As you will probably recall, the War Production Board found it necessary to curtail the use of tin plate, which was the material ordinarily used in containers for canned foods. In order to conserve the supply of tin plate for those foods for which substitute materials were not suitable, allocations were not made to the canners of sauerkraut. Not knowing what might result from the heat-processing of sauerkraut in glass, packers of this food began to use a cold-packing process. This change in the packing process, coupled with the lush opportunity for illegal gain, appeared to be too much of an inducement for slack filling for some of the packers to resist. They started packing the product in excessive brine so near the same gravity as the sauerkraut that the latter remained suspended to such an extent that the small amount of sauerkraut contained in the jar could not be readily detected by the consumer. It was found that some of the quart jars of this product contained only 13 ounces of drained sauerkraut. This condition presented quite a problem since we had previously had no occasion to investigate the weight of sauerkraut that could practicably be packed into these glass containers using the cold process. Nevertheless we did institute seizure action against a large number of shipments in which the jars contained such a ridiculously small amount of sauerkraut as to be palpably slack filled. We immediately began an investigation to determine the amount of sauerkraut which could be placed in these containers under practical cold-packing conditions and be expected to keep in a satisfactory manner. This investigation revealed that, using this process, from 24 to 25 ounces of sauerkraut can safely be put into a quart jar without damage to the product or lessoning of its keeping quality. This figure, as you

realize, is comparable to the fill of container which can be employed in the canning of heat-processed sauerkraut.

It is of interest also to note in connection with these products that some of the products cold-packed as sauerkraut were merely unfermented, or only partially fermented, cabbage, packed in brine, to which was added acetic acid to compensate for the lactic acid which would have resulted from the normal fermentation, and, of course, the inevitable preservative considered necessary to prevent the spoilage of such a concoction. Apparently, in order to see that Ossa was properly piled on Pelion, some of the packers then resorted to short weighting even these nondescript products. Appropriate regulatory attention was given to these illegal goods and to those responsible for their entrance into interstate commerce.

Other products proceeded against because of slack fill or deceptive containers included such items as cough drops, macaroni products, dessert powders, spices, candy, soup mixes, grated cheese, prepared coconut, shoestring potatoes, and a host of other commodities too numerous to mention here.

Among other work performed by the Food and Drug Administration, in which I believe you will be interested, I should like to mention the correction of a long-standing issue with regard to the declaration of quantity of contents on limburger cheese, which was accomplished during the fiscal year 1943–44. Under S. R. A. Item 292, issued under the old Food and Drugs Act, limburger cheese was not regarded as food in package form. Because of the more specific mandatory labeling requirements of the present Food, Drug, and Cosmetic Act, the exemption previously given was no longer considered tenable. The industry had contended that it was impossible to state the net weight accurately on limburger cheese and used a label which read in part somewhat as follows: "This is not a package of guaranteed weight. The net weight must be determined by weighing at time of sale. One ounce must be deducted for the wrapper which is necessary for the proper curing of limburger cheese." Investigations by the inspection personnel revealed that the cheese was not being weighed at the time of sale and that 12- 13- and 14-ounce packages were being sold by the dealers as one pound. Shipping experiments for shrinkage and pertinent data on variations in weight of the packages were obtained. As a result of this work it was concluded that the marking of limburger cheese with a net weight statement was practical from a commercial standpoint and should be done in the interest of the consumer. A number of seizures of limburger cheese were made and we fully expected a contest of the issues. An answer was filed to the libel in one case but the industry later decided not to contest any of the cases and to mark the net weight on the packages. We understand that has been done since that time.

Despite wartime conditions which necessitated a material curtailment of our work looking toward the establishment of standards of identity, quality, and fill of container for foods, we are able to report measurable progress made along this line during the past few years. Standards of fill of container have been established for apricots, cherries, fruit cocktail, peaches, pears, peas, canned oysters (Eastern), and canned shrimp. We have also conducted the investigations neces-

sary to the establishment of fill of container standards for most of the fruits and vegetables ordinarily preserved by the canning process, and for canned oysters (Pacific), canned clams, tuna fish, and anchovies in oil. These studies have either been completed or have been developed to an advanced stage. Although only limited time could be given to the project, we have also developed shrinkage data on a number of food and drug products.

ACTIVITIES OF THE ASSOCIATION OF FOOD AND DRUG OFFICIALS OF THE UNITED STATES

By J. C. Schneider, *Past President, Association of Food and Drug Officials of the United States*

I sincerely appreciate the opportunity of being here and representing the Association of Food and Drug Officials of the United States and I hereby extend to you their greetings.

The United States Food and Drug Association has met annually for the past fifty years without interruption. We found it very difficult to meet during the war years, of course. But each and every time a vote of the Executive Committee was taken the members all requested that the meeting be held—and they were, despite the difficult problems encountered. The programs were very effective and were more of a round-table discussion type than the former type of meeting. I know that many of the problems which we have encountered, you people are encountering also in your work.

One of more recent activities of the Association of Food and Drug Officials has been to encourage uniform legislation in the various States. The Association has, in fact, in its constitution a provision that its real objective is the promotion of uniform food and drug legislation throughout the United States and uniform administration of such legislation.

The Association therefore drafted a proposed bill several years ago, immediately following the passage of the Federal Food, Drug, and Cosmetic Act, and proposed that each State adopt this proposed bill. I believe that there are some 20 States which have actually adopted this type of legislation. That isn't very good, but we are still working on that particular program, and as a result of changing several sections very slightly to meet with objections which have been raised from industry and from Food and Drug Officials, we hope that even more of this type of legislation will be adopted throughout the States.

One of our bigger problems is to increase the membership in our Association. That, too, has been difficult. I think that we can learn from you about how to encourage and increase membership; attendance here, I think, is better than any attendance which we normally have. We think it is important to have a large membership in order to get a better idea of all of the problems existing in the vast field of food and drug work.

Another activity of our Association is the publication of our official quarterly bulletin which is distributed to all members and to subscribers. It contains the various articles and papers presented at the national meetings, and other interesting articles pertaining to food and drug legislation or food and drug control work. We are

definitely attempting to increase the size of this publication and to get a wider distribution.

The Association also has for one of its objectives the encouragement of local conferences. We feel that if the National Association is supported more strongly by local associations, it will help in the overall picture of obtaining more uniform legislation and more uniform administration of that legislation. We are also attempting to promote closer working relationship between the local associations and the National Association. First of all, we want to get them better organized locally and better organized in the National Association, and then get a much closer tie-up between the two. This we think will be accomplished.

Recently the National Association has engaged in a rather extensive program to determine the possibility of establishing training programs for the control officials, particularly the men who are out in the field. The Association proposes to do this by having group meetings for those individuals to discuss in more or less round-table fashion their particular problems such as inspection methods and procedures and that sort of thing. And not only that, but to have local people on the programs of such meetings to discuss their particular specialties. We feel that is definitely a step in the right direction. After all, inspection work today is a semiscience—a professional field. We feel that all inspectors could improve if they had the proper training and background information.

To promote uniform inspections throughout the Nation, the Association has had a committee working for the past several years on an inspectors' manual, designed for the sole purpose of giving instructions in the field of food and drug control work. We feel that the so-called trade barriers which we heard so much about a few years ago, arise to a great extent from the fact that we have very little uniformity of inspection.

By various means we are attempting to do a better job of informing all food and drug officials as to the activities of other food and drug officials. This is done partially through the quarterly bulletin, and then we hope to put out news letters and so forth, which I understand you already are doing. We are also attempting at all times to encourage closer cooperation between city, county, State, and Federal officials. One of the proposals that has been encouraged by the Association is for more small, round-table conferences between immediately adjoining States and the Federal people, including city officers who are active in food and drug control work.

This entire program, both past and future, is based upon a strong national association. Two or three people can't do it. And speaking of cooperation, I think that it is very important that the Food and Drug Officials in the various States, cooperate very closely with the people working in Weights and Measures. I can't visualize a State carrying on an adequate program in either field without that cooperation, because the laws do overlap in certain respects. I see no reason, however, for overlapping of the actual work being done.

I think, too, that there is an opportunity for your Association and my Association to exchange helpful ideas. Delegates from your Association might attend our meetings and delegates from the Food and

Drug Association might attend your meetings. There should be some reports made at each meeting of what the other people are doing; I believe through an exchange of delegates this could be accomplished.

THE STANDARDIZATION OF CONTAINERS FOR FRUITS AND VEGETABLES

By L. C. Carey, *Fruit and Vegetable Branch Production and Marketing Division, United States Department of Agriculture*

In extending an invitation to participate in this conference, your Secretary did not specify a definite subject but merely suggested that with respect to container standardization we might summarize the recent activities of our group, our plans for future activity, and any suggestion we might have as to ways in which weights and measures officials and the Department of Agriculture might cooperate to mutual advantage in this field. It was wisely indicated that technical papers would be avoided.

It seems a long time since there has been an opportunity to exchange ideas with the National Conference on this subject. It was not possible during the war, consequently that may be a good place to start. As you know, the war with its demand for utmost production on the one hand and the conservation of strategic materials and resources on the other, brought about for a brief period what might be characterized as the realization of a weights and measures man's dream. War Production Board orders limited the number of sizes of wooden containers that could be manufactured for shipping fresh fruits and vegetables, and the number of sizes of metal and glass cans for processed fruits and vegetables. The latter are still under these controls. By virtue of its experience and the information in its possession, the Department was able to make substantial contributions to the considerations which led to reducing the number of wooden shipping containers from over 400 to less than 80; of metal cans from approximately 260 sizes to less than 15; and of glass cans from an undetermined large number to a substantially lesser number. Also by virtue of its position, the Department was more or less intimately connected with the administration of those wartime orders.

That experience strengthened the Department's long-standing belief in and adherence to the principle of standardization and its application to containers for fruits and vegetables, both fresh and processed, and the conviction that appreciable benefits would accrue therefrom both to American agriculture and to the general public, through the elimination of waste and wasteful practices in the manufacture and end use of such containers. We believe that to minimize the possibility of fraud and deception in the millions of daily over-the-counter sales of food products, the establishment of a minimum number of readily differentiated sizes of containers should be a primary objective. We also feel that in this field, as in any other, another prime objective of simplification and standardization is the elimination of waste. The principle was successfully applied during the war years on wooden, metal, and glass containers as a means of conserving the country's resources of materials, time, and labor, as well as transportation and other facilities. We believe the principle could and should be applied

in peacetime, because there seems to be nothing to indicate that in our postwar economy, the country will be able to indulge any extravagance that can be eliminated, especially in the light of the present and probably continuing higher costs of materials and services as compared with those of the prewar years.

Along with other public agencies, the Department of Agriculture, before the war, advocated the adoption of national programs of container standardization for fruits and vegetables. The need is even greater today. New and improved techniques, and expanded facilities for preserving perishable food products, expanded programs and facilities and improved "know-how" for producing perishable products, new developments in consumer packaging of fresh products, and the advent of air transport, all presage an era of keenest competition within and between the several segments of the fruit and vegetable industry—canner versus canner; processed versus frozen; and both versus the fresh. The temptation to cut corners in order to gain even a temporary advantage can be expected to be irresistible, and confusion will be added to confusion. Consequently, in our opinion, agriculture and the public stand to benefit from practical standardization of the containers used for these products—first by reason of simplifying the mechanics of marketing and distribution; second by broadening of the market outlets; and third by stabilization of markets through making possible the dissemination of better and more complete market information. From the standpoint of agriculture, it is not at all inconceivable that the consumption of these desirable foods would be encouraged and increased as a direct result of facilitated distribution.

We believe that practical standardization of containers is desirable and necessary not only from the standpoint of the American farmer and the public, but that it is in the best self-interest of the manufacturers and distributers; that it is entirely feasible; and that its adoption as a permanent program in both the fresh and processed fruit and vegetable industries would result in no serious disruption of current practices, except perhaps in isolated instances. We believe the programs should apply across the board, to all competitive types of containers, irrespective of construction or the materials of which they are made—baskets, crates, boxes, cartons, sacks, metal and glass cans. And we further believe that to be practical and immediately adaptable, the standards established should be selected from the containers in current use, on the basis of their relative utility and economy, and that provisions should be made for deleting, adding to, or changing the standards as future conditions may dictate.

In our view, the standardization of containers for fresh fruits and vegetables and of those for processed products including frozen foods, should be undertaken as separate programs. Existing legislation (the Barrel Act and Standard Container Acts of 1916 and 1928) is out of date, it should be revised to eliminate certain inequalities and inconsistencies, and expanded as an over-all code for containers for fresh fruits and vegetables. Consistent with effective and efficient administration, such a code in both categories should reflect the consensus of industry, the public, and the government, and above all, it should be flexible—not static or hidebound.

On past occasions, the legislative suggestions which have been made to Congress in both fields have not been entirely acceptable to industry; but it may well be that much of the previous opposition has been dissipated or diffused as a result of the enlightening experience gained during the war under wartime controls. What I have tried to say here represents our thinking on the subject. We should be glad to explore its possibilities and probabilities in great detail with members of your group.

ACTIVITIES OF THE NATIONAL SCALE MEN'S ASSOCIATION

By H. M. Roeser, *Secretary-Treasurer, National Scale Men's Association*

For duration, the histories of the National Conference on Weights and Measures and the National Scale Men's Association are sufficiently parallel, and the interests of the two, although different in some basic respects, are contiguous without overlapping to such degree, that our biographical statistics related here would hardly be information, and neither would a recount of the extent to which the interests diverge or approach contact. Sufficient it is to say: For the one, preparation is now being made for our Twenty-eighth Annual Convention in Kansas City next spring; and for the other, the difference of interest in weighing machinery is that you judge the performance while we make it perform. The identity of interest is in the events and contact relations involved in that coordination which brings more prompt realization of results to the efforts of both than otherwise would be possible. Pleasant testimony to the last is that a considerable number of you are members of our Association; and, happily, I am pledged to bring a message of welcome to you all.

The scope of activity and the program exigencies justify reducing our report to a statement of the projects, and consistent with the purpose of bringing you up to date on the extent of progress, briefly sketching the extent we have become involved in them. The order given is about that in which effort has been, or is now being expended; but does not necessarily indicate the order in which conclusions may be anticipated.

Formal Qualifications of Scale Men.—With establishing standards of craftsmanship, scale men have been concerned for years. The field is quite broad, and the degree of skill, or journeyman experience adequate for certain phases, especially service repairs and maintenance, is widely varied. Again the sad fact enough competent scale men have never been available, has made for users of weighing equipment the economic necessity of intruding upon us with aspirants who have been said to have no more recommendations than some aptitude for handling tools without hurting themselves, and a sense of hunger. The combined circumstances have withstood the fortitude of men facing the problem of formulating canons for the art, and varying shades of craftsmanship essential to the needs of industry. It happens, therefore, in shops scale men dangle from the shop crafts with ratings up to toolmaker; and in general industry somewhat better, perhaps, than millwrights. That, approximately, at least, summarizes where we stand now; but, I am sorry to say, scale men neither had much to

do with establishing the status, nor have much in the way of fixed purpose of doing something about it, when, or if, they do not like it.

The licensing of scale men which in recent years has concerned some of you presents to scale men an aspect that has had prolonged discussion in their forums. A number of years ago our Texas Division gave the subject much study, and in more recent times our Central Division had a committee working on it. At the Twenty-seventh Annual Convention in Chicago, last April, the subject ran through lively open forum and floor discussion. Resolutions did not come to vote, but the trend of thought was that the problem of weights and measures officials in qualifying scale men is different from that of scale men qualifying themselves; and, more simple.

The point of view may require explanation, and so let me say that to us it seems the weights and measures official is primarily concerned with protection of the public from imposition by itinerants, or "gypsies" as we call them. Halting the propagation of gypsies and harboring the public from invasion by them seems beyond the control which can be obtained by issuing licenses to scale men based on capacity demonstrated by examination, or otherwise. For, we say, a gyspy who is smooth enough to cause so much consternation to the forces of law and order can with no more discomfort to his conscience, or greater exercise of subterfuge go about fixing an examination as he does fixing a scale; and would be stimulated to the former because possession of a license certainly improves his predatory opportunities rather than limits them. The thread leads to an obvious point, but when it was made in our forum discussion last April, officials present represented they did not have police authority to lay gypsies by the heels, but were not too convincing the harness bulls in their jurisdictions could not do it if existing laws were invoked. In any event, it does seem that if licensing scale men becomes an expediency of regulation to the end of suppressing gypsies, increasing the police powers of weights and measures officials to a state of effectiveness would be a salutary coordinating effort. Undoubtedly that common sense detail had adequate attention in jurisdictions where licensing laws and regulations are now in force.

Our people seem to believe the basic problem is establishing financial responsibility, and stability of the orbits of operation of men involved in merchandising weighing equipment and service. This apparently can be assured with no more complication than requiring operators to carry performance bonds subject to administration by officials who guard the interests of the public in the results of the operations. It appears, also, that every operator need not be bonded, but only the agencies responsible for performance. That is to say, if a scale man needs a carpenter, welder, or electrician in the performance of any scale service, such tradesman need not be licensed or bonded, but only the responsible agency, or person—and license, or no license, the bond is a good thing, anyway.

Four-Section Motor-Truck Scales.—Improvement of equipment and highways has made the weighing of motor trucks, and motor truck trains a problem that cannot be met economically with the conventional two-section motor-truck scale. Consequently, the four-section

motor-truck scale has become the concern not only of users, but those who make it, and make it work.

Our Association has the type of scale under consideration; especially those features which will require attention to particularities of design, such as weighbridges and decks, as well as installation practice and methods of test. A committee is expected to report at the 1947 Convention. The activity, of course, will be tied in with the work of this Conference, the American Railway Engineering Association, the American Association of State Highway Officials, the National Highway Users' Conference, and the National Association of Scale Manufacturers in those phases where the interest of each overlaps our own.

Combination Scales for Weighing Motor Trucks and Railway Freight Cars.—The growth of load carrying capacity of motor trucks, and the incidental fact that some industries ship merchandise from a common loading point in motor trucks as well as freight cars, brought the possibility of a combined weighing facility to a forum discussion at our last convention. Apparently, in most existing possibilities where one shipping facility has been superimposed upon the other as a sort of second guess, or even practical necessity, the extensive revision of the material-handling facilities necessary will hardly make the combination weighing point an economic practicality. Also compromises in present weighing and waybilling practices apparently will have to come to commercial acceptance before use of the idea can become widespread. New plants, built with an eye to economy in material handling and routing for shipment, might well find utility in it. The subject was left with a committee to keep step with development, and to formulate specifications for the essential features of a combination weighing layout. A report at the 1947 Convention is anticipated.

Two-Shot Weighing.—The weighing of vehicles one end at a time, or Two-Shot Weighing, has not become a formal subject with us, but interest is being actively stimulated in some factions of the membership; and the subject was a program feature at the last convention. The subject is touched upon elsewhere on the program of this Conference; and the occasion of having the floor seems an appropriate one for the statement that scale men generally look down their noses upon two-shot weighing of highway vehicles. The feeling seems not based so much upon the mechanics either of the equipment or the method; but upon the possibilities for chicanery made practical when an attendant is sitting upon a load and has it under his control while it is being weighed.

With the members involved, the interest is in weighing of low-rate commodities, such as those which commonly move in open-top railway freight cars under circumstances where economy of railway operation is paramount, and on scales so devised that both one-shot and two-shot weighing cannot possibly be practiced at the same weighing point. Practical installations have been made, and the method is said to show promise.

Other subjects, such as Uniform Type Approval, and the Metric System shared lively discussion with those previously mentioned. The perennial character of the two just mentioned can hardly be said to have been affected much by the attention given them. The results may be summarized with a statement the discussion left us in a state of

mind with which all of you must be familiar; namely, these two great ideas would have been useful if our business had grown up with them in effect; and conditions conceivably would become better if they were put into effect now. Privately, however, each individual seems to feel "I am doing all right with things as they are, so, please, God, hold down the disturbance until after I lay down my tools." That feeling, undoubtedly, is the greatest force the proponents of the Metric system, especially, have to combat. A committee was organized to develop joint interests with the American Metric Association; and we shall hear more of it at the 1947 Convention.

In concluding this report, let me say our members do indeed appreciate the kindness of your officers in giving us the opportunity to share and contribute to the fund of experience exchanged at meetings such as this; and that zest is in the effort of every man to make himself constructive and otherwise useful.

A REPORT FROM THE CENTRAL COMMITTEE ON AUTOMOTIVE TRANSPORTATION OF THE AMERICAN PETROLEUM INSTITUTE

By J. E. Moss, *Director, Division of Transportation, American Petroleum Institute*

Early on the morning of January 18, 1942, while we were still burying our dead at Pearl Harbor, a German submarine approached our coast in the latitude of Cape Hatteras. At 1:25 a. m. the watch officer on the submarine picked up a dark object on the horizon to the southwest and changed course to intercept it. At 1:30 a. m. he had closed his distance sufficiently to recognize the object as a loaded tanker bound north. At 1:36 he was in position and fired two torpedoes. At 1:42 the vessel was abandoned in flames with a loss of 22 lives.

This was the first attempt of the enemy to cut our service of supply for oil. The enemy knew that in time of peace 95 percent of the vast consumption of petroleum products reached our northeastern States by water. He also knew that in mechanized warfare over one-half of the tonnage of our supplies of all kinds, for all of the armed services, would be oil. By war's end he had made 147 separate attacks on this supply line alone.

The loss of tankers caused by these attacks was aggravated by the necessity for diverting tankers to serve our armed forces in North Africa, Europe, and the Pacific. By the fall of 1942 both our Government and the petroleum industry faced their Armageddon in the maintenance of the flow of oil to the home front and the far-flung war fronts. There was plenty of oil. The problem was not oil but *transportation* of oil. At that time it was realized that only a miracle in the field of transportation could prevent our war machine from slowing down for want of fuel. God willed that miracle should take place. The war machine continued to roll and that story is now history.

To offset the effect of attack on our sea routes it was necessary to pool our transportation facilities ashore. The flow in some existing pipe lines was reversed. The railroads were called upon to run solid trains of tank cars from Texas and the southwest to the heavy industrial areas of the northeast. To conserve tank cars, short hauls of less than two hundred miles were dropped by the railroads and taken over by the tank trucks. When the tank trucks took over the railroads'

short hauls it was the "last card," for over a year would elapse before the great war pipe lines could be built and put into operation.

The tank trucks were already staggering under their war burden when the railroads vacated the "short haul" tank-car runs. It is estimated that as a result of this reallocation of transportation the motor tank trucks of the country increased their productive work, as measured in ton-miles, by at least fourfold. The war work of the nation's tank trucks has disclosed many things of interest. One—and a most important one—is within the field of interest of this Conference.

I have recited the part played by the tank truck during the war because I want to tell you in essence why wartime operation became the proving ground for our prewar standards for vehicle tanks and measurements. Here, in brief, are those reasons:

The war years produced three to four times the experience which would have been secured during a similar period of peace. In addition, the wartime problems materially broadened peacetime experience. For example, industry tank truck owners substantially increased movements between their own plants; they were both shipper and consignees. They delivered to consignees where the service had formerly been provided by tank cars. They used "for hire" carriers to a greater extent than ever before. State lines, seldom crossed in peacetime, were frequently crossed in wartime. As a result of these conditions the home front in war provided an accelerated and searching laboratory for our prewar concepts of tank vehicle measurements.

The members of our Institute were aware of the importance of this wartime experience. Nothwithstanding the burdens under which they then labored they appointed, on March 15, 1944, a Joint Committee on Tank Truck Shipping Practices. This Committee has sought to translate the industry's varied war experience in this field into practical peacetime recommendations. One of these recommendations covers the improvement of vehicle tanks, appurtenances, and practices in an effort to increase the accuracy of measurement and to provide standardization.

This recommendation of the Joint Committee proposed a revision of the section entitled "Vehicle Tanks" appearing on pages 74 to 80 of National Bureau of Standards Handbook H29 of 1942. The recommendation was made to our Central Committee on Automotive Transportation and I was instructed by the Committee to discuss the subject informally with Mr. R. W. Smith, Secretary of the Committee on Specifications and Tolerances of this National Conference. There were two such discussions. On June 18, last, our Central Committee met here in Washington and extended an invitation to Mr. Smith to join them at a further informal discussion of the subject. Mr. Smith generously accepted our invitation, and there resulted an entirely informal exchange of views which lasted for over 2 hours.

My own summary of this exchange of views is as follows:

1. The recommendations of our Joint Committee are based on a vast experience in the transportation and measurement of liquids. With respect to this experience I would like to remind you that the

petroleum industry in this country measures some 60 billion gallons of crude oil and products about 10 times over in the course of a year's operation.

2. The recommendations which have been made go beyond present standards established in the interest of accuracy of measurement.

3. In the main it is believed that these recommendations are essential to practical measurement procedure.

4. Our informal discussions with Mr. Smith indicated that although some of the recommendations might be appropriately included in the section "Vehicle Tanks" of the Bureau of Standards Handbook H29, others, in his opinion, could not be appropriately included in that section.

5. It is believed that most of these remaining suggestions might be included in an industry standard but there would then be no assurance that such an industry standard would be recognized by the States.

6. Above all it was our feeling that implicit in this problem was a testing procedure recommended by an authoritative body as standard, and I understand that the National Conference has recognized specific procedures for the testing of certain types of measuring devices.

In the time you have generously allowed me I have attempted to trace the genesis and development of our belief that a nationally accepted standard for vehicle tanks is essential in our field of work. We seek no forthright consideration of the problem by authorities in this field. We believe that those authorities are the weights and measures officials of the country. We shall continue to cooperate with them toward a final solution.

Conscious of the significance of accuracy in the measurement of our products, we found time in the midst of war to observe, record, and consider those things believed to be helpful in the interest of better standards in better times. May this bespeak the sincerity of our purpose.

REPORT OF NATIONAL CONFERENCE COMMITTEE ON TRADING BY WEIGHT, PRESENTED BY J. H. MEEK, CHAIRMAN

Soon after this committee was appointed the following statement was issued:

The sale of grains by weight in multiples of pounds or by the ton simplifies and facilitates trading. A large percentage of mixed feeds and seeds is now handled on basis of weight in multiples of 100 pounds, 1,000 pounds, and 2,000 pounds or tons. As the trend is now to eliminate trading by the bushel for mixed feeds and seeds it is recommended that this practice be extended to grains, particularly corn, wheat, and oats.

All Federal, State, and local agencies interested in grains, and all national, State and local grain organizations as well as dealers and producers are urged to adjust their activities so as to use pounds or tons in the place of bushels. This will take considerable time to adjust, but is of great importance and all persons interested are asked to cooperate.

This statement was given wide circulation among Federal and State agencies and trade organizations. It was received favorably and even though the war retarded progress, considerable ground has been gained in achieving our goal. Much is yet to be done and it

is recommended that a committee on trading by weight, with power to act, be continued.

J. H. MEEK, *Chairman*,
ERLING HANSEN,
A. J. JENSEN,
Committee on Trading by Weight.

(It was moved and seconded that the report of the Committee be adopted, the question was taken, and the motion was agreed to.)

ANNOUNCEMENT OF COMMITTEE APPOINTMENTS

The CHAIRMAN. I will at this time announce appointments to the committees on nominations and resolutions, to serve during this meeting.

As the Committee on Nominations: J. F. Blickley, of Pennsylvania, Chairman; H. E. Crawford, of Jacksonville, Fla.; C. M. Fuller, of Los Angeles County, Calif.; C. L. Klocker, of Connecticut; C. C. Morgan of Gary, Ind.; G. A. Ritchey, of Illinois; Robert Williams, of Nassau County, N. Y.

As the Committee on Resolutions: C. A. Baker of New York, Chairman; R. S. Ackerman, of Minneapolis, Minn.; J. A. Bernard, of St. Louis, Mo.; J. T. Kennedy, of the District of Columbia; Alfred Lirio, of Cumberland County, N. J.; W. F. Moore, of Indiana; R. G. Thompson, of Virginia.

Does the Secretary have any announcements to make?

The SECRETARY. I wish to call the attention of the Conference to the table on the terrace adjacent to the main doorway to this room, from which mimeographed material may be obtained.

In all cases in which advance copies of reports and addresses could be obtained, these have been mimeographed; copies of papers will be found on the table following the delivery of the address.

Copies of the reports of standing Conference committees will be available prior to the presentation of the reports. It is urged that delegates obtain and study these reports in advance, so that consideration at the time of their presentation may be facilitated.

(At this point, at 12:45 p.m., the Conference recessed for luncheon.)

SECOND SESSION—AFTERNOON OF THURSDAY, SEPTEMBER 26, 1946

(The Conference reassembled at 2:10 p. m., J. F. Blickley, Vice President of the Conference, presiding.)

TENTATIVE REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON METHODS OF SALE OF COMMODITIES, PRESENTED BY J. G. ROGERS, CHAIRMAN, AND DISCUSSION THEREON

First of all I want to say that this is a tentative report. It was a physical impossibility to get the members of the committee together for final action on the report before its presentation—some of these men did not get here until this morning. We have, however, done something by correspondence.

The first report of this Committee was made at the last National Conference in 1941, when we dealt with a number of outstanding items in the commercial picture which needed treatment. When the war interrupted the annual succession of these Conferences, thought was given as to how this Committee would continue to function and possibly produce the same results as though it were meeting each year for deliberations. The method suggested was an exchange of correspondence among the Committee members for decisions on matters deemed necessary for consideration, these decisions to be in turn relayed to the various State jurisdictions for adoption. With the creation of the War Production Board and the Office of Price Administration in connection with the war effort, we began to find developments in ideas which were not always in line with weights and measures thoughts for procedures and practices relating to the commercializing of commodities, and as these agencies of Government were laws unto themselves in the emergency, there was a feeling that we could not with grace take arbitrary stands against their directives designed to hurry the prosecution of the war and to take care of conditions on the home front. Edicts coming out of Washington were frequent and sometimes quick-changing, so it did not seem that recommendations we might offer for adoption by the States would be acted upon. We, therefore, deemed it advisable to suspend our operations until after the guns stopped firing, and we could again proceed with concerted action here at these Conferences, on matters pertaining to the merchandising of commodities.

Many of the directives and decisions of the WPB and OPA were good. The Committee took cognizance of the best of these and modified or amplified others to fit them into the weights and measures structure. A number of these are, therefore, incorporated in our report as now submitted. There are also other items included that were not heretofore given specific treatment through these channels.

I do not know how many of you have had the opportunity of reading this document. It is voluminous. I don't know that I should

apologize for it, because it represents the accumulation of years, 4 or 5 years anyhow, and we didn't see how we could comprehensively place some of these things before you except in this fashion. I have data here which go far beyond what is in this report, items that I simply deleted for consideration possibly later, but these we included seemed to be items that should be given attention now.

We present for your consideration the following recommendations (reading):

1. *Frozen Foods.*—The frozen food industry is growing by leaps and bounds and questionable practices already appear in the picture. As food in package form, it is fundamental that the net quantity of contents should be declared on all packages. Further than this, the Committee recommends that definite identification markings be applied to packages so that their origin may be traced. Brand names alone should not be accepted for identification unless the name and address of the producer or distributor also appears.

Some packers both process and distribute, others merely process and package for as many distributors as they can attract and who will sell the products of one packer under any number of brand names. This alone influences the need for definite and specific identification in all cases.

Thought must be given to the character of quantity declarations. Frozen food naturally means frozen moisture. The extent of moisture content should be governed by some effective means. There should be no carte blanche permission for the liberal use of liquids. Water is the cheapest thing that frozen food packers can apply to enhance their profits, and we can well be sure that they will carry this to the extreme, unless suppressive action is initiated.

It would appear that a ruling by the Federal Food and Drug Administration opens the door for the incorporation of undue quantities of water or liquids in the packages. Instances are cited where, for instance, packers of frozen berries have by adding some sugar to water, taken the stand that they have created a sirup, and, therefore, an edible food which they are allowed to declare in conjunction with the solids in the package. It needs no great stretch of the imagination to see how this will work out if the practice is allowed to continue in the frozen food industry. It is the belief and recommendation of the Committee that frozen foods should be marked with the drained weight of the commodity entailed and that any subsequent adding of moisture be left to the consumer.

Further instances cited included oysters being sold in frozen package form. The contents were represented as 8 ounces, which included the liquid incorporated. The actual number of oysters in the package was six.

The same possibilities exist with many items in the food picture, and steps toward focusing official and public attention on the frozen food issue cannot be started too soon.

2. *Ice Cream, and Related Frozen Products (In Bulk).*—Should be sold by avoirdupois net weight only, with exemptions for such products when sold in plates, cones, sundaes, sodas, or fancy forms.

NOTE.—Public demand for this method of sale is becoming more pronounced year by year. This recommendation is aimed at the elimination of "slack-fill" practices by retail vendors who resort to this to overcome shrinkage losses when dipping ice cream from bulk. They feel they should not stand the excessive losses entailed through squeezing out entrained air in dispensing ice cream.

Sale by weight would establish equity between manufacturers and dealers and promote honesty in the dispensing of ice cream and related products at retail. The recommended method is now entirely feasible because of developments in ice cream machinery and weighing equipment. The Committee is prepared to furnish suggested legislation to cover the purpose of its recommendation.

3. *Ice Cream Packages (Factory Packed).*—Should be sold either by avoirdupois net weight or by volume when put up in quart, pint, one-half pint, and gill containers for consumer use. When packed in containers less than one-half pint, such packages, with the exception of the gill or 4-ounce size, should have quantity declarations in terms of fluid ounces.

It is further recommended in connection with these small packages that they be limited to three sizes: viz, 7-ounce, 3½-ounce, and 3-ounce cups, which are those most prevailing in use in the trade.

NOTE.—This limitation on the small sizes was stipulated by the War Production Board after an extensive survey of such container sizes in use. This stipulation was made in line with their reduction of the number of food container sizes employed by packing industries.

4. *Milk and Cream.*—Should be sold by liquid measure on the basis of the United States standard gallon of 231 cubic inches and its binary submultiples of one-half gallon, quart, pint, one-half pint, and gill.

NOTE.—Methods of sale intended to break down these standards such as the proposed one-third quart bottle for milk which is being urged by an industry producing milk vending machines, should be discouraged and condemned.

It is understood that the one-third quart bottle has been offered in a number of State jurisdictions and to the knowledge of the Committee has been rejected in most, if not all of them.

5. *Eggs.*—The following schedule of weights is recommended for eggs of the various sizes of grading. These apply to consumer grades.

Size	Minimum net weight per dozen	Minimum net weight per 30 dozen	Minimum weight for individual eggs at rate per dozen
	Ounces	*Pounds*	*Ounces*
Extra large	26	48.5	25
Large	24	45	23
Medium	21	40	20
Small	[1]	[1]	[1]

[1] No average or minimum weight requirements.

6. *Fruits and Vegetables.*—Should be sold by avoirdupois net weight or numerical count.

Vegetables, which by custom are sold by the bunch, should continue to be merchandised in that fashion. In this connection, thought should be given and action taken where possible to establishing the number of units in a bunch of the several vegetable products admissible to this classification.

7. *Citrus Fruits.*—Should be sold by net weight or numerical count.

Containers used should have the net quantity of contents declared in terms of weight or count, and in addition may also show the size designation for the fruit. Bags or sacks with quantity declared in terms of fractional parts of the bushel, such as the ⅘-bushel bag, should not be permitted in use unless the net weight or count is also marked on the container. It is too difficult to determine the exact cubical contents of a bag, and for this reason containers of this kind should be marked as indicated.

NOTE.—Considerable controversy arose during the war because of the use of the ⅘-bushel mesh bag supposed to hold one-half of the Florida orange box, the contents of which is 1⅗ bushels. The Committee feels that dry measure representations on bags and other containers should be abandoned. A good purpose may still be served in fruit size designations in conjunction with quantity declaratios. Such sizes are by custom recognizable in the trade and indicate whether the fruit is large or small. For example, an acceptable marking would then be, "88 oranges, size 176."

8. *Fresh Berries and Other Small Fruits.*—Should be sold in boxes, baskets, or receptacles of uniform size to hold one quart, one pint, or one-half pint dry measure uniformly and evenly filled throughout, except when such commodities are offered for sale or sold in bulk, in which case sale by avoirdupois net weight only should apply.

9. *Fresh Red Sour Cherries, Blackberries, Boysenberries, Gooseberries, Loganberries, Raspberries (Black and Red), and Youngberries.*—When sold in 1 quart, 1 pint, and ½-pint containers should have a minimum net weight of 20 ounces per quart, 10 ounces per pint, and 5 ounces per one-half pint.

10. *Poultry (Live or Dressed).*—Should be sold by avoirdupois net weight.

11. *Poultry (Cut-Up).*—Should be sold by avoirdupois net weight and on the following basis of dissection:

The wings should be disjointed and removed at the socket joint adjoining the breast and should contain all the wing meat.

The legs should be disjointed and removed at the hock joint and at the hip joint and must contain the complete thigh, all thigh meat, and the oyster, but shall not contain the ilium bones (two broad, upper bones of the pelvis) nor the ischium bone (lowest of the three parts of the hip bone, which forms half of the pelvis) or any part thereof.

The breast should be removed from the back by cutting alongside the exterior of the oyster socket (ilium) and through the ribs at the point the ribs connect with the spinal vertebrae. No part of the wings, back and neck bones, skin, or meat, or the gizzard, heart, lights, or any other portion not breast should be sold as breast.

The back should contain the neck, vertebrae, backbone, oyster socket (ilium), the ischium, and the meat, skin, and bones of these parts.

12. *Poultry (Quick-Frozen Eviscerated).*—Should be prepared and packaged for sale in accordance with the following:

The carcass and giblets of each bird, whether in whole, split, or dismembered form, must be weighed before being packaged or frozen, and they must be individually packaged in water resistant paper or cartons, one bird to one package, with the net weight of each bird marked or printed in a plain and conspicuous manner on the exterior of each package. Where transparent cellophane is used as a container, the quantity declaration may be provided on a label insert placed in such position as to be readily observed by a prospective buyer.

13. *Fish (Dried, Smoked, and Frozen).*—Should be weighed at time of sale and sold accordingly. This applies to such fish sold from bulk or in package form, except shredded fish, which should be sold in packages properly marked with the net weight of contents.

NOTE.—The Committee determinations in this connection are that owing to the variations between pieces of fish and whole fish merchandised in these several forms, it is often economically impractical to require a net weight declaration on packages of such fish, and in lieu thereof recommends that a tare weight marking be accepted and a legend provided by the packer that the contents are: "To be weighed at time of sale." It is the opinion of the Committee that it will be readily feasible for packers to conform with this recommendation, and that the same will serve all useful purposes of weights and measures regulation. There can, of course, be no objection in cases where packers can assure a represented weight and would prefer or desire to use net weight quantity declarations on their packages rather than other prescribed legends. Package markings should be governed by the following stipulations:

(a) Identification of the packer or dealer should be included. If the product is not packed by the person whose name appears on the label, the name should be qualified by a phrase revealing the connection such person has with the food, such as "Packed by _____," "Distributed by _____," or other similar phrase which explains the facts.

(b) The true name of the product should be stated by its common name in English.

(c) The net weight should be declared in terms of pounds and ounces avoirdupois where used instead of other prescribed legend.

(d) No label or legend on any package should bear any statement which is false or misleading in any respect.

14. *Oysters.*—Should be sold by numerical count and on the basis of grading in terms of "Primes," "Stewers," and "Culls," or by net weight based on drained weight of the commodity.

NOTE.—Sale by volume lends itself to the incorporation of excessive liquid.

15. *Alcoholic Beverages (Spirits, Wines, Beer and Ale).*—Should be sold by liquid measure in elements of the United States standard gallon of 231 cubic inches or 128 ounces, and its binary submultiples of half-gallon, quart, pint, half-pint and gill.

The possible justifiable exception would be continuance of the use of the 12-fluid-ounce bottle for malt beverages which by custom has prevailed in the alcoholic beverage trade for so long a time and has popular consumer acceptance and demand.

NOTE.—The Committee feels in this connection that it would be economically unsound to delete the 12-fluid-ounce size in view of the vast supplies of reusable bottles and accommodating delivery cases in the possession of the brewing industry. However, should the increasing use of single-service bottles and cans

eventually bring about the elimination of the reusable container, thought could then be given to discontinuance of the 12-fluid-ounce size.

16. *Grains (All Classes, Except Brewery Grains).*—Should be sold by avoirdupois net weight.

NOTE.—The Committee recommends strong support for any legislation advanced to provide for the weight method of sale, and the elimination of sale by volume in relation to grain commodities.

17. *Brewery Grains.*—Moist brewery grains should be sold by dry measure. Dry or dehydrated brewery grains should be sold by avoirdupois net weight.

This commodity is mainly used as cattle feed by farmers. It is claimed to influence high milk production in dairy cows.

NOTE.—It is stated that as this material first comes from the brewery vats, is contains about 78 percent moisture. Buyers object to paying for the high moisture content, much of which is lost through seepage from vehicles in transporting the product from the brewery to the farm or dairy. In this condition, it is usually hauled by truck or wagon in bulk. Sale by volume, it is believed, would establish equity in transactions involving this commodity when wet.

Dehydration and packaging of brewery grains is an industry, in which connection, due to the processing involved, sale of the product by avoirdupois net weight is the proper method. Packages containing such grains should bear a quantity declaration together with identification of the packer.

18. *Paints, Varnish, Lacquer, and Related Products.*—Should be sold by liquid measure on the basis of the United States standard gallon of 231 cubic inches, and its binary submultiples of one-half gallon, quart, pint, one-half pint, or gill, at marking temperature established at 15.5° C. (60° F).

Quantity declarations on paint packages should not be in terms of fractions such as 1/32 gallon as representing 4 fluid ounces, 1/16 gallon as representing 8 fluid ounces, or any fraction representing submultiples of the gallon other than the various elements of standard measurement prescribed.

NOTE.—This shall not be construed to prevent the sale of these commodities in any quantities for immediate delivery from bulk.

19. *Fire Wood.*—Should be sold by the cord, based on the standard of 128 cubic feet.

NOTE.—The Committee recommends that uniformity be established among the States in their methods of sale for firewood. There is a prevailing hodge-podge condition in the existing laws and regulations of the several States in this connection. This was brought into focus during the war years through directives of the OPA in establishing price ceilings for the various jurisdictions. It would appear that States that established and maintained the 123-cubic-foot standard for fire wood regardless of the size of cuttings were and are on the right track. This would certainly simplify weights and measures enforcement procedures. Price would be governed by contract between buyers and sellers, based on wood lengths. At any rate price fixing is not the responsibility of the weights and measures officer.

20. *Kindling Wood (in Bags).*—Should be sold by avoirdupois net weight and the quantity of contents so declared on the container.

21. *Wax Paper Rolls.*—Should be sold by linear measure. Boxes should be marked in terms of length and width of the wax paper contained.

22. *Textile and Paper Shipping Bags.*—Such bags containing beans, cement, chemicals, feed, fertilizer, flour, meal, cereals, nuts, salt, plaster, potatoes, rice, seeds, starch, or sugar should be of the following net weight capacities:

1 pound.	10 pounds.	100 pounds.
2 pounds.	25 pounds.	
5 pounds.	50 pounds.	

Recommended exception is the 15-pound bag for potatoes only, which may be included.

23. *Facial Tissues.*—The recommended regulations as to method of sale for this commodity as presented by this Committee and adopted by the National Conference on Weights and Measures of 1941, should be amended to include the following:

(a) Facial tissues packaged for resale through retail outlets to have only the following number of sheets per package:

100 150 200 440 500.

(b) Folded facial tissues to be compactly folded, that is, the gaps between the edges of the sheets shall be held to a minimum.

(c) Cartons for facial tissues to be no larger than needed to hold their contents, in which connection the inner size of such cartons shall not exceed in either length or width ⅜ inch of the length or width, respectively, of the sheet as folded for packaging.

24. *Preheated Petroleum Products.*—Should be sold by determined net weight, and serialized delivery tickets containing proper information as to quantity and identification of the seller and buyer should be issued to the purchaser and a copy retained by the dealer.

The Committee further recommends in this connection that in jurisdictions having weighmasters, official certification of deliveries be required on the prescribed tickets.

25. *Lawn Dressings.*—Should be sold by standard elements of dry measure.

NOTE.—Sale by weight offers the temptation to vendors to wet the product.

26. *Woolen Yarns.*—Should be sold by net weight.

NOTE.—The Committee, in giving consideration to this decision, feels that before any arbitrary law or regulation is adopted to provide for this method of sale a working basis for methods of packaging yarn in retail units, under which a reasonable allowance will be made by the packer for shrinkage resulting from moisture loss as the yarn reaches trade channels, should be arrived at. It has been proposed by the industry, as the result of a conference, to incorporate this basis in a "fair trade practice rule" which will be submitted by the industry to the Federal Trade Commission. An announcement will probably be forthcoming from the said Commission after which the several States will be in a position to take action. The Committee's recommendation at this time is merely to place the Conference on record as advocating a proper method of sale for this commodity.

27. *Package Markings.*—This is a phase of the food package structure that is very broad in scope, necessitating variable classifications of markings depending upon the commodity.

Your Committee has gone into the question of markings for various items of essential foods common to every-day consumer use, and has reviewed the bulletin of the Federal Food and Drug Administration covering their acceptance standards for package markings. The Committee regrets that it cannot see eye-to-eye with the said Administration in all decisions handed down for acceptable quantity markings.

We have dealt individually with the items listed, which are of general distribution, and we herewith present them in a schedule arranged comparatively to show wherein we differ from the Federal rulings. There are, of course, items on the list in which we agree with Federal requirements. The asterisk (*) denotes recommended marking differing from Federal acceptance.

Product	*Common or usual declaration acceptable to Federal Food and Drug Administration*	*Committee recommendation*	*Remarks*
Apples (fresh).	Dry measure or net weight. In addition, may also show minimum size, range in size, and/or count.	*Net weight or count. Dry measure in original standard containers, and size range.	
Anchovies (in salt).	Weight of fish.	*Net weight of fish.	
Apricots (canned).	Net weight.	*Drained net weight.	
Artichokes (canned).	Drained weight.	*Drained net weight.	
Asparagus (fresh).	Net weight or no marking.	*Net weight.	
Beans (fresh).	Dry measure or net weight.	*Net weight. Dry measure in original standard containers.	
Berries (small open containers).	No marking. Dry measure on cellophane covered.	No marking. Dry measure on cellophane covered.	
Biscuits.	Net weight and count.	*Net weight or count.	
Bloaters (smoked).	Weight of fish.	*Net weight of fish.	
Bread.	Net weight.	Net weight.	
Cabbage (fresh).	Dry measure or net weight.	*Net weight or count.	
Cake (decorations).	No markings.	*Net weight or count.	
Candy.	Net weight, also count.	Net weight, also count.	
Cantaloupes.	Count.	Count.	
Catsup.	Net weight.	*Net weight or volume.	
Celery (fresh).	Count.	Count.	
Cereals.	Net weight.	Net weight.	
Cheese (general).	Net weight.	Net weight.	
Cheese (limburger).	Net weight.	Net weight.	
Cherries (canned).	Net weight.	*Drained net weight.	
Cherries (fresh).	Net weight or dry measure. Number of rows and minimum size.	*Net weight when boxed. Dry measure or net weight on cellophane covered small containers.	
Cherries (Maraschino).	Net weight.	*Drained net weight.	
Chicken (canned).	Net weight.	Net weight.	
Chili sauce.	Net weight.	*Net weight or volume.	See note.
Chow chow.	Net weight.	*Net weight or volume.	See note.
Clams (canned)	Drained weight.	*Drained net weight or count.	
Cocktail sauce.	Net weight.	*Net weight or volume.	See note.
Cookies (cakes).	Net weight and count.	*Net weight or count.	
Cottonseed meal.	Net weight.	Net weight.	
Crabmeat (canned, dry).	Net weight.	Net weight.	
Crackers.	Net weight.	Net weight.	

Product	*Common or usual declaration acceptable to Federal Food and Drug Administration*	*Committee recommendation*	*Remarks*
Cranberries.	Dry measure (cranberry barrel). Also net weight.	*Net weight when boxed. Net weight or dry measure in barrels.	
Dates.	Net weight.	Net weight.	
Doughnuts.	Net weight and count.	*Net weight or count.	
Fish (canned).	Net weight.	Net weight.	
Fish (fresh).	No marking. Net weight.	*Net weight, or tare weight with legend: "To be weighed at time of sale."	
Fish (frozen).	Net weight. No marking.	*Net weight, or tare weight with legend: "To be weighed at time of sale."	
Fish (salted or smoked).	Net weight and count.	*Net weight, count, or tare weight with legend: "To be weighed at time of sale."	
Fruits (canned).	Net weight.	*Drained net weight.	
Fruits (fresh).	Dry measure or net weight. Also minimum size and/or count.	*Net weight or count; dry measure and/or size in original standard containers.	
Fruit juices.	Net volume.	Net volume.	
Grains (sacked).	Net weight.	Net weight.	
Grapefruit (fresh).	Dry measure, size and count. Also net weight.	*Net weight or count and size.	
Grapes (fresh).	Net weight and dry measure.	*Net weight.	
Greens (fresh).	Dry measure and net weight. No marking.	*Net weight.	
Herring roe.	Net weight.	Net weight.	
Herring (spiced).	Drained weight herring. Total weight contents.	*Drained net weight.	
Honey (comb).	Net weight.	Net weight.	
Honey (strained).	Net weight.	*Net weight or net volume.	
Jelly.	Net weight.	Net weight.	
Lemons (fresh).	Count and average diameter. Also dry measure.	Net weight or count.	
Lettuce.	Dozen count and dry measure.	*Count.	
Lobster (canned, dry).	Net weight.	Net weight.	
Mayonnaise.	Volume.	*Volume or net weight.	
Meats.	Net weight.	*Net weight, or tare weight with legend: "To be weighed at time of sale."	
Milk (sweetened, condensed).	Net weight.	*Net weight or net volume.	
Milk (evaporated).	Volume and net weight.	*Volume or net weight.	

Molasses.	Net weight and/or volume.	*Net weight or net volume.	
Mushrooms (fresh).	Net weight.	Net weight.	
Mushrooms (canned).	Drained weight.	*Drained net weight.	
Mustard (prepared).	Net weight.	*Net weight or volume.	See note.
Oil (salad, olive).	Volume.	Volume.	
Olives (green in brine).	Drained weight.	*Drained net weight.	
Olives (ripe).	Drained weight.	*Drained net weight.	
Oranges.	Dry measure and count. Also net weight and size.	*Net weight and count.	
Oysters (fresh).	Volume.	*Count or drained net weight.	
Oysters (canned).	Drained weight.	*Drained net weight or count.	
Peaches (canned).	Net weight.	*Draine net weight.	
Peaches (fresh).	Dry measure. Minimum diameter. Also net weight and count.	*Net weight, count, or dry measure in standard containers.	
Peanut butter.	Net weight.	Net weight.	
Pears (canned).	Net weight.	*Drained net weight.	
Pears (fresh).	Count, also dry measure or net weight.	*Net weight, count, or dry measure in standard containers.	
Peas (canned).	Net weight.	*Drained net weight.	
Pickles.	Volume.	*Volume, drained. Dependent upon net weight or count, size.	
Pickles (large).	----------	*Drained net weight or count.	
Pickles (medium).	----------	*Drained net weight or count.	
Pickles (small).	----------	*Volume, drained net weight, or count.	
Pineapple (fresh).	Count.	Count.	
Plums, prunes (fresh).	Net weight or dry measure. Count and size denoted by rows in top layer.	*Net weight, count or dry measure in standard containers.	
Potatoes (fresh).	Net weight or dry measure.	*Net weight, or dry measure in original standard containers.	
Rabbits (dressed).	Net weight.	Net weight.	
Rolls.	Net weight and count.	*Net weight or count.	
Relish	Net weight.	*Net weight or volume.	See note.
Rock lobster (canned dry).	Net weight.	Net weight.	
Roe (herring).	Net weight.	Net weight.	
Roe (shad).	----------	*Net weight.	
Salad dressing.	Volume.	Volume.	
Salmon (canned).	Net weight.	Net weight.	
Sardines (canned).	Net weight.	Net weight.	
Sauces (hot, A–1, tabasco, etc.).	Volume.	Volume.	

Product	*Common or usual declaration acceptable to Federal Food and Drug Administration*	*Committee recommendation*	*Remarks*
Sauerkraut (canned).	Net weight.	*Drained net weight.	
Sauerkraut (unprocessed in glass).	Volume.	*Drained net weight.	
Shrimp (canned, wet).	Drained weight.	*Drained net weight.	
Shrimp (canned, dry).	Net weight.	Net weight.	
Syrup.	Volume. Also volume and net weight.	*Volume or net weight.	
Soups (canned, liquid).	Net volume.	Net volume.	
Soups (canned, condensed and semi condensed).	Net weight.	*Net weight or volume.	See note.
Spaghetti sauce.	Net weight.	*Net weight or volume.	See note.
Tea.	Net weight.	Net weight.	
Tea balls.	Net weight and count.	Net weight and count.	
Tomatoes (canned).	Net weight.	Net weight.	
Tomatoes (fresh).	Net weight or dry measure. Size denoted by rows in top layer.	*Net weight, count, or dry measure when sold in original standard containers.	
Tomato sauce.	Net weight.	*Net weight or volume.	See note.
Tuna fish (canned).	Net weight.	Net weight.	
Vegetables (canned).	Net weight.	*Drained net weight.	
Vegetables (fresh).	Dry measure or net weight. Also count.	*Net weight, count, or dry measure in original standard containers.	

With the issuance of its bulletin of acceptable markings, the Federal Food and Drug Administration furnished the following statement:

Federal Statement No. 57 as of July 1943–March 1944:

"This compilation will be revised from time to time as may be required by changes in consumer understanding, administrative opinion, or court decisions. If the necessity for corrections, additions, or deletions becomes apparent to the Field, it is requested that the Administration be notified promptly so that provision can be made for inclusion in next revision."

NOTE.—With reference to certain items in the compilation for which the Committee recommends markings at variance with those of the Federal Food and Drug Administration, such as sauces of various kinds, condensed soups, strained honey, mayonnaise, etc., which are considered in the category of viscous foods, this is deemed to be in line with consistency as such commodities are readily adaptable to being weighed or measured with accuracy and it is felt that packers should have the privilege of an alternative in foods of the viscous or semi-viscous classes.

There will be observed in the list of packaged commodities recommended for treatment, the items of canned fruits and canned vegetables, each of which is packed in an edible solution, and in which connection it would seem that for the protection of consumer interests the weights of solids in a package should be the predominant factor in quantity declarations.

Other items not listed but which, nevertheless, have become controversial, are the following:

(a) *Pickled Pigs Feet.*—Should be marked in terms of drained net weight.

(b) *Pickled Lamb Tongues.*—Should be marked in terms of drained net weight.

(c) *Pickled Bologna.*—Should be marked in terms of drained net weight.

NOTE.—In connection with these three items, packages are frequently found marked in terms of the gallon or its binary submultiples.

As an alternative to net weight declarations for pickled pigs feet and lamb tongues, markings in terms of numerical count could be acceptable without serious detriment to economy. The count method would at least be immeasurably better than acceptance of declarations in terms of volume.

The Committee is of the opinion that all items of pickled meats should be represented at the drained net weight of the commodity regardless of the fact that solutions used in the pickling process may be consumable.

Certain of these have been treated by both the Federal Food and Drug Administration and the Bureau of Animal Industry, but we, nevertheless, find in enforcement operations that packers frequently ignore the requirements for markings of the proper kind and resort to their own judgment or desires.

The inclusion of liquids as part of the quantity declarations can be detrimental to economy, as it naturally follows that vinegars or other preservative solutions, even though consumable, are much cheaper than the meat ingredients and one should not be represented as part of the other.

28. *General Recommendations and Comments:*

This Committee recommends that this Conference go on record as condemning the practice of adding water or any other substance for the purpose of increasing the weight of a commodity, and that legislation be advocated in all jurisdictions to provide against a tendency that is apparently growing, and that will especially find a fertile field in the packaging of frozen foodstuffs, unless definitely suppressed.

The Committee recommends revival of the legislation incorporated in H. R. 6784, known as the Standard Food Package Bill, and that this Conference as a body and its individual members exert every effort and influence for the passage of this law. It is further recommended by the Committee in this connection that the interest of consumer groups be aroused and their active support solicited to place a bill of this highly meritorious character on the statute books.

The Committee recommends that all commodities put up for distribution and sale in package form, the contents of which is not weighed, measured, or counted in the presence of the buyer, shall be marked with the net quantity of contents in terms of either weight, measure, or numerical count, and that proper identification and location of the packer shall also be marked on the container. In this connection it further recommends the adoption by the individual States of a statute corresponding with the Federal Food, Drug, and Cosmetic Act in its relation to foods, drugs, and cosmetics, and that the scope of the law be extended to include all other commodities outside of these classifications, which would include such items as chemicals, petroleum products, paints, oils, varnishes, cleaning fluids, cleaning powders, soap powders, antifreeze liquids, disinfectants, insecticides, seeds, polishes, small items of hardware, stationery supplies, fertilizers, solvents, etc. Provisions should be set up in such a statute against false and deceptive containers and for the embargoing of faulty packages.

The Committee commends actions taken by the War Production Board during the emergency for the reduction of sizes in commercial containers such as cans, bottles, etc., used by packaging industries. Before the war, food in the United

States was put up in 257 different sizes of cans. The Committee, therefore, recommends that the movement toward the reduction in the number of container sizes be encouraged in every possible way in the interest of efficiency, equity, and honesty, in the merchandising of packaged products.

J. G. ROGERS, *Chairman*,
R. S. ACKERMAN,
C. D. BAUCOM,
J. A. BOYLE,
Committee on Methods of Sale of Commodities.

Mr. ROGERS. This report is offered for your consideration and any action you may desire to take.

Mr. BAUCOM. It so happens that I am a member of this committee and I would like to move that this report be accepted by the Conference and placed on the agenda for later action, and that we specially recognize the work that has been done by Mr. Rogers, for, in fact, he has done it all. He sent us copies of it, we made certain comments, but in fact it is his work, and I think we do want to recognize the work he has done.

(The motion was seconded, the question was taken, and the motion was agreed to.)

The CHAIRMAN. Now, if you care to go into the individual subjects we shall go down the twenty-eight items, one by one. If there is no discussion on an item we shall assume that it is accepted. Item No. 1 is Frozen Foods.

Mr. BAUCOM. I move the adoption of Item No. 1.

(The motion was seconded, the question was taken, and the motion was agreed to.)

The CHAIRMAN. Item No. 2, Ice Cream, Ices, and Related Frozen Products (In Bulk).

Mr. KENNEDY. I move the adoption of item No. 2.

(The motion was seconded.)

Mr. PALMER. If this is adopted there will be considerable opposition from the manufacturers. I am not defending the manufacturers, but the question has come up in my State where we are considering a revision of our law.

The CHAIRMAN. It is the manufacturers' privilege to oppose our recommendation. If this is adopted it will only be a recommendation of a body of weights and measures officials gathered from all over the United States; objections can be made when this is placed before the legislatures for enactment into law.

Mr. H. E. CRAWFORD. I have found that ice cream manufacturers are checking by weight on the quantities they are delivering. I think the Committee recommendation is righly justified.

Mr. MEESE. In Michigan we have certain quality and volume laws for ice cream, but we do not feel that net weight should be declared without reference to measure. In our opinion there should be a minimum weight per pint or quart. Do any States have such laws?

The CHAIRMAN. I can answer that question. Some States—Pennsylvania, New Jersey, and New York, for example—have fixed minimum weights below which the product is considered adulterated. But at no time did the legislatures try to set up a weight for ice cream; that is practically impossible. The weights of different batches

per unit of measure will be different; ice creams containing nuts or fruits will weigh more than plain ice creams.

Mr. BUSSEY. Mr. Chairman, I am not taking the position of opposing the recommendation of the committee, but you know sometimes haste makes waste. I think that on some of these matters that are controversial we might defeat our own goal by rushing into them too hurriedly. I happen to know from personal experience that there are quite a few ramifications to this ice-cream question. We have given it some consideration down in Texas. We have never solved it completely. I am not so sure that the committee's recommendation is a satisfactory and complete solution of it. I haven't had the time or opportunity to go thoroughly into that, but I do feel personally that we will be making a serious mistake rushing into the adoption of a definite recommendation on the sale of ice cream today. For that reason, to avoid imposing a handicap upon the achievement that we hope to accomplish, I think we should rerefer this subject to the same committee or a new committee as the President of the Conference sees fit. In other words, I don't think we will lose anything by doing that. I think we will actually save time in the long run by doing that.

If it is in order I would like to offer a substitute motion that this subject be rereferred to a committee for further consideration and for report at the next Conference.

(The motion was seconded.)

Mr. ROGERS. I want to answer Mr. Bussey's point on the factor of rushing in. Gentlemen, this is not a new subject. This goes back for years. We are not rushing into anything now. The thing is becoming a matter of consumer demand, and the question is, Are we going to ignore the consumer? After we had made studies of our own in New Jersey we projected the idea and we got nowhere with it. The legislature said, "It is only a department measure, the public isn't back of it." The public were talking about it but not doing anything about it. I know right well that consumer groups, women's groups, that I have talked with are not satisfied at all with the way the matter stands. If it was a new subject, I would say yes, possibly we could defer it.

This is purely a recommendation. Every State can do exactly what it wants about it. It is just a question whether we as officers and representatives of the people shouldn't take some cognizance of public demands based on what we know are justifiable reasons. You will get lots of arguments against it, but we contend that it is practicable to do it and that it would certainly stop this controversy that is raging.

The CHAIRMAN. We have Mr. Kennedy's motion, and Mr. Aitken's second to that motion on this subject. You have the privilege, if you feel it should be rejected, to vote against it. As Chairman, I feel that I am compelled to put Mr. Kennedy's motion before the body.

Mr. KENNEDY. May I have a moment to tell the gentlemen what is happening in Washington? We have gone into this matter. The wholesalers are 100 percent against it. That can be understood readily. The retailers are after packaged ice cream only. The citizens are after ice cream by weight; they have demanded a public hearing which they won't procure until sometime in November or December.

As enforcement officers you have a job to do. Are you going to protect six men or are you going to protect ten million people? I say you have to protect the people. If you sell ice cream in liquid measure you are not protecting them.

Twenty years ago Joe Rogers made that recommendation. Twenty years ago this body turned him down and said, Go on by liquid measure, but control it by overrun. That doesn't control it. We have gone along for twenty years, and the people in this country are still getting gypped, and if you fail to take action and lay it over for another year, there is going to be some more gypping done. I stand by the motion.

Mr. H. E. CRAWFORD. Mr. Chairman, isn't it in order that the motion of Mr. Bussey have first consideration?

The CHAIRMAN. No; unless Mr. Kennedy will withdraw his motion and give Mr. Bussey's motion preference, Mr. Kennedy's motion is the first motion before the delegates.

Mr. BUSSEY. I offered my motion as a substitute motion. I think that takes precedence. I would like to make one or two observations more if I may. I don't want it understood that I am against the consumer. I think all of those present who have known me know better than that.

I do think, however, that if we jump into this matter and we get these things before legislative bodies prematurely and get defeated, then our chances are less for final victory than they are if we proceed more slowly.

Mr. Rogers has said that this is a very important question and we should show that we have taken some action. I think the Committee's report will uphold that point; the Committee has given it consideration and any action that we would take is strictly a matter of recommendation anyway. And the Committee report would stand and if some jurisdiction like the District of Columbia, or any of the States or municipalities wanted to enact this recommendation into law, there would be nothing to keep them from it, and they would have the Committee's suggestion and recommendation. It would be merely holding up action of the entire body for one year.

It has been 5 years since we have met before, and personally, although I may be in favor of every recommendation of the Committee, I think we would save time on this subject and would accomplish more if we deferred it. I am not satisfied with the way ice cream is being sold any more than Joe is, but I think we would get the job done better, more thoroughly, and a lot quicker by voting favorably on my substitute motion and rereferring the subject to a committee to report to this conference next year.

Mr. AITKEN. Every man knows that ice cream is one of the largest selling commodities in the country. Everybody is familiar with the subject here, and personally I don't think it requires any discussion, because we have had it before the National Conference before, and it hasn't just come up now. Mr. Chairman, I call for action on the original motion.

Mr. ROGERS. Gentlemen, if you want something in the way of statistics in this business, I think I can give them to you. In 1900, 5,000,000 gallons of ice cream a year were sold in the United States. In 1945

there were 500,000,000 gallons sold. Those are figures of the ice cream industry itself. Ice cream has taken its place as the seventh essential article of food in our diet.

(The question was taken and the motion to adopt item 2 was agreed to.)

The CHAIRMAN. Item No. 3, Ice-Cream Packages (Factory Packed).

Mr. BAUCOM. I move to amend the item by striking out the second paragraph dealing with the 7-ounce, 3½-ounce, and 3-ounce sizes. However, I would be glad to have Mr. Rogers explain why that paragraph was included in the report.

Mr. ROGERS. These are factory-packed containers, sold on a unit price system. In some areas they give 3 ounces for a nickel, in others 3½ ounces. In some places the 7-ounce package is sold for ten cents, while in others an 8-ounce package is sold for 10 cents. It is a "novelty" package, which we want to recognize because there is certainly a definite place for an ice cream package.

Mr. LEITHAUSER. If we recognize these odd-sized packages to be sold for a nickel or a dime, we defeat our own purpose; we always recommend sale by definite quantity, not by money's worth. If we recognize this novelty package for ice cream alone, manufacturers of other commodities too will want novelty packages. I second Mr. Baucom's motion.

Mr. ROGERS. We can stick to standard sizes and insert the 2-ounce size. But if that is done we will say to the children that they can have only 2 ounces of ice cream for a nickel. If it is left to the trade, competition will take care of the situation—the packers will give all they can for the money, as is proved by the fact that the package contains 3 ounces in some areas and 3½ ounces in others.

Mr. LEITHAUSER. We want to get away from 7 ounces of tea and coffee and other commodities. I do not see why ice cream should be any different.

(The question was taken and the motion to adopt the first paragraph of Item 3 was agreed to.)

The CHAIRMAN. I think we can expedite matters now that we are over the most controversial subject. I shall call off the subjects. Whenever there is any objection to an item we shall hold the line, and I shall entertain a motion to adopt those which have met with no objection.

(Item 4, Milk and Cream, was duly adopted.)

The CHAIRMAN. Item 5, Eggs.

Mr. ACKERMAN. You show no minimum weight requirements for small eggs. I think this should be done.

Mr. ROGERS. Have you any figures to suggest? This is the OPA set-up during the war, and we thought it could be used.

Mr. MEESE. Michigan has adopted the Federal Standard for eggs, which provides minimum standards for small eggs.

Mr. CAMPBELL. A number of States have adopted the Federal grades for eggs. I assume that the weights recommended by the committee do not conflict with the Federal grades.

Mr. ROGERS. That is true, as far as I know.

Mr. ACKERMAN. I move that under "Small" we strike out the words,

"No average or minimum weight requirements", and insert a minimum weight per dozen of 20 ounces and a minimum weight for individual eggs corresponding to a weight of 15 ounces a dozen.

Mr. MEESE. With Mr. Ackerman's consent, I would recommend the adoption of the Federal sizes right down the line.

(The substitute for Mr. Ackerman's original motion was accepted by him, the motion was seconded, the question was taken, and the motion was agreed to.)

The CHAIRMAN. Item 6, Fruits and Vegetables. Item 7, Citrus Fruits. Item 8, Fresh Berries, and Other Small Fruits. Item 9, Fresh Red Sour Cherries, Blackberries, Boysenberries, Gooseberries, Loganberries, Raspberries (Black and Red), and Youngberries.

Mr. FULLER. In California we have had a minimum weight for berries in small open boxes for many years, and the requirement has been very effective in controlling the fellow who wants to make five boxes out of four. I might mention, however, that strawberries in pint boxes are required to have a minimum weight of 12 ounces instead of 10; if a pint box is well packed and filled it will hold 12 ounces or more and it is not necessary that the packer weigh the boxes. Blackberries, boysenberries and other bush berries may be sold in half-pint boxes, and a minimum weight of 8 ounces is fixed; this has been tried out in the courts and the requirement has been held to be legal.

Mr. MEESE. Does "other small fruits" include grapes?

Mr. ROGERS. Grapes were not intended to be included. I do not think grapes would lend themselves to measurement in containers such as we have in mind here.

The CHAIRMAN. Item 10, Poultry (Live or Dressed). Item 11, Poultry (Cut-Up). Item 12, Poultry (Quick-Frozen Eviscerated). Item 13, Fish.

(Items 6 to 13, inclusive, were duly adopted.)

The CHAIRMAN. Item 14, Oysters.

Mr. BAUCOM. We have a lot of oyster plants down in eastern Carolina and we have wet-pack and dry-pack, which are recognized practices in the industry. I have never known oysters to be sold by numerical count in my State, except in the shell. I recognize each State has the right to adopt or reject, but I do believe in uniformity and I am for uniformity and always have been. I would like this recommendation to go over for a few minutes. We won't take it down in my State. We can't sell oysters by numerical count, and I am not going to try to make them.

The recommendation is that oysters be sold on a graded basis in terms of primes, stews, and culls, connected with numerical count. We might strike out all reference to grades and stipulate that the package be marked to show whether it is a dry-pack or wet-pack. I will explain what that means.

What we call a dry-pack is when the oysters are shucked out of the shell, placed on a screen of a specificed mesh, and drained of liquid—just the natural drainage; then they are placed in the containers and sealed up. The wet-pack is when there is no washing at all; the oysters and all the juice that comes out with them are put in the container.

Mr. Rogers. Why shouldn't they all be drained weight? Why shouldn't they pack drained weight all the time?

Mr. Baucom. Some people just naturally want a wet-pack oyster for stew and it makes the best kind of stew.

Mr. Lirio. The production of oysters in my county is an industry that involves millions of dollars.

The oysters are regulated for moisture content, but they are sold by measure—by gallons, half-gallons, quarts, etc. They are packed in cans that are properly marked United States standard cans, and are sold to the trade throughout the United States. For the different sizes of oysters, the packers know the counts for the different sizes of cans, and this information is made known when the cans are sold to the trade.

Mr. Rogers. Fred, there wouldn't be any hardship, would there, in marking the cans with the numerical content as well as the volume? That would be acceptable, and you say they know how many stews, primes, or culls are in a gallon or in a half-gallon. We want something specific.

Mr. Lirio. They know within maybe 5 or 10 oysters on a gallon. I don't believe they could get much closer than that.

Mr. Rogers. This recommendation is aimed at restraining the incorporation of excessive amounts of liquid; that is, at charging for liquid at the price of oysters. Oysters are a high priced commodity; I think you are paying as high as 75 cents a dozen for prime oysters.

Mr. Lirio. I believe you will find that oysters are going to be put up as frozen food in the future, and that measure is going to fade out. They have already started to freeze them by the thousands. But I believe that elimination of sale by volume would be an injury to the trade as it is set up today, with its investment of hundreds of thousands of cans that are marked in terms of gallons, quarts, and so forth.

Mr. Rogers. Then why don't they provide that persons wanting the oyster liquid may have it, but exclude the weight of the liquid in the declaration?

Mr. Palmer. I concur with the committee on Item 14 as submitted, because it is in conformity with the recent standards adopted by the United States Food and Drug Administration governing oysters. I see no reason why 14 shouldn't be adopted.

Mr. Meese. What about the practice of throwing oysters into fresh water to absorb water for the purpose of adding weight?

Mr. Rogers. They used to float oysters in fresh water to fatten them up. Naturally, the more they fatten, the more they displace. The Federal Government stepped in on New Jersey and some other States where they used to have these floating racks. If it is desired to clean the oyster so it will keep fresh and alive there must be a certain percentage of brackishness in the water. They float them, to keep them clean; by doing that they can ship them over longer distances.

Mr. Palmer. Under the standards that have recently been established, the old practice of floating oysters as we have known it in the past is prohibited. There has been set up a standard method of washing oysters which has eliminated the old practice of floating oysters (which is economic cheating), so I see no reason we should worry about that.

The CHAIRMAN. These are recommendations, and if the recommendation is adopted it is notice to the manufacturer what to expect. It will probably be a year or longer before any of these recommendations could become effective; that should be ample warning of what is contemplated.

Mr. SLOUGH. I am rather confused right now with all this talk. Are we going contrary to, or are we going long with, the recommendations of the Food and Drug Administration? Do they say that oysters may be sold by liquid measure, or do they say that they may not be so sold?

Mr. ROGERS. On October 17, 1944, the Food and Drug Administration promulgated a regulation reading in part as follows. "The standard of fill of containers for canned oysters, when the drained weight of the oysters in the can after processing averages less than one-half avoirdupois ounce per oyster, is a fill such that the drained weight of oysters taken from each container is not less than 68 percent of the water capacity of the container." The regulation contains instructions for determining the drained weight of oysters and includes a requirement for labeling with a statement of substandard fill in the case of cans failing to meet the prescribed standard of fill of container.

The Administration states that there is not yet at hand sufficient information to warrant fixing a standard of fill of container for canned oysters larger than those mentioned above. They specify marking on the basis of drained weight. But what we are doing is recommending what we feel to be best, and what gives the consumer the best protection.

Mr. LIRIO. I will admit that about 95 percent or better of the oysters that are sent away from the factories where they are processed are retailed by count.

(It was moved and seconded that Item 14 be adopted as recommended by the committee, the question was taken, and the motion was agreed to.)

The CHAIRMAN. Item 15, Alcoholic Beverages (Spirits, Wines, Beer, and Ale).

Mr. DE RIENZO. I should like to have this item include a recommendation that bar glassware have its capacity blown in at the time of manufacture.

Mr. ROGERS. That is a fine thought, but such a recommendation would not belong under this item. If any action is desired along that line the matter should be brought up later on.

The CHAIRMAN. Item 16, Grains (All Classes Except Brewery Grains). Item 17, Brewery Grains. Item 18, Paints, Varnish, Lacquer, and Related Products. Item 19, Firewood.

(Items 15 to 19, inclusive, were duly adopted.)

The CHAIRMAN. Item 20, Kindling Wood (In Bags).

Mr. H. E. CRAWFORD. In the South people are accustomed to buying kindling wood, not in bags, but in 5-cent and 10-cent bundles. Selling this by weight would be difficult.

The CHAIRMAN. Item 20 would not apply to a bundle which is not in a bag.

Mr. LEITHAUSER. I propose an amendment to the heading for Item 20. Make the statement in parentheses read, "In Bags or Other Containers".

(Item 20 was duly adopted with the addition proposed by Mr. Leithauser.)

The CHAIRMAN. Item 21, Wax Paper Rolls.

(Item 21 was duly adopted.)

The CHAIRMAN. Item 22, Textile and Paper Shipping Bags.

Mr. MEESE. I am wondering about the advisability of including cement and plaster. For example, when a plasterer knows that it takes 11 bags to cover so many square yards, would he not be confused if he had to use a new unit of 100-pound bags?

Mr. ROGERS. You may be right. In the original Conservation Order M–221 of January 13, 1943, restricting the manufacture of bags, there were certain provisos which the committee didn't care for and we left them out. This Order permitted 94-pound bags for cement, 60-pound and 94-pound bags for plaster, 15-pound bags for potatoes, and 1-bushel and 2-bushel bags for seeds. The committee agreed with the 15-pound bag for potatoes.

Mr. WESTPHAL. The standard barrel of cement is 376 pounds, and a 94-pound bag is a quarter-barrel.

Mr. MEESE. I move that we exclude cement, plaster, and other building materials from this item.

(The motion was seconded.)

Mr. BAUCOM. Will Mr. Meese agree to let this whole item go over until next year? It covers a tremendous lot of things. All cement formulas are made up on a bag mix, and the bag carries 94 pounds. The more we can standardize packages the better it is, but I should like the committee to have time to study the subject in detail and bring back its recommendation next year. I offer that as a substitute motion.

Mr. ROGERS. I do not think we should kill the whole item because of this one question. I think we should act on those commodities which should be in standard bags.

Mr. BAUCOM. What is meant by "chemicals"?

Mr. ROGERS. "Chemicals" covers a wide diversity of items; I think it justifiable that they be included as they were in the Conservation Order.

Mr. TURNER. Is there anything here that would prohibit multiples of 100 pounds—200 pounds, for instance?

Mr. ROGERS. There would be no objection to that.

The CHAIRMAN. This item is aimed at the intermediate sizes. Mr. Baucom's substitute motion not having been seconded, we will vote on the motion to adopt Item 22 after deletion of "cement" and "plaster".

(The question was taken and the motion was agreed to.)

The CHAIRMAN. Item 23, Facial Tissues.

Mr. CROCKER. Mr. Chairman, the tissue industry is rather proud of the fact that in the past when it has had some differences of opinion with Mr. Rogers' committee, it has been able to iron them out

in conference and support any recommendation the committee made, as it was able to do in 1941. Through circumstances over which the committee had no control, however, part of this recommendation Number 23 has not been discussed with the industry. I am very hopeful that you gentlemen will see fit, for that reason, to refer the matter back to the committee for more discussion with the industry.

Particularly with reference to subject (a), Mr. Rogers said that the proposal was taken from schedule 11 of WPB order L–120, which was primarily a fiber saving measure, not only for the fiber in the facial tissue, but also for the box fiber. The necessity for such fiber saving has largely disappeared at the present time. The industry never was wholeheartedly in acceptance of that WPB order, but like many other things during the war we had to take it whether we liked it or not. It was our duty to, if for no other reason. We haven't craystallized industry practice yet on the sheet count in containers. We would like a chance to work it out with your committee during this next year.

In the case of item (b), that seems to me to be in somewhat uncertain terms which might be interpreted variously in the different sections. I think that the matter can be controlled very largely through slack-fill provisions which might be worked out, and that if that is done, there will be no need for this provision as to the folds. Furthermore, there are different types of folding machines, and I can't say definitely at this moment whether or not they can be adjusted successfully, and new machines are difficult to get at the present time.

Mr. Rogers. Will you submit to a question on that?

Mr. Crocker. Gladly.

Mr. Rogers You refer to slack fill. Do you have in mind the provisions of the Federal Food, Drug, and Cosmetic Act? Are facial tissues considered a "device" under that Act?

Mr. Crocker. They are not, sir. When I talk about slack fill, I am talking about the suggested proposal which the Association submitted to Mr. Smith sometime during the last year. We made a proposal at that time in regard to slack fill which we thought would help solve that problem. There never have been any slack fill standards for facial tissue boxes in the past.

Mr. Rogers. It was my understanding that sections (b) and (c) had been fully discussed with your industry by the former chairman of this committee, and that you were in substantial agreement on these two items. We used them because we thought it was the desire of the industry to do that, and possibly in some way to control unfair competition within the industry.

Mr. Crocker. The Association's recommendation in regard to (c) was for a one-quarter-inch tolerance, length and width, instead of three-eighths inch.

Mr. Rogers. In other words, we are liberalizing it?

Mr. Crocker. On the other hand, we made a definite recommendation for one-half inch in the height and you make no definite specification. We were anxious to discuss that further with you people and see if we can work out something that is enforceable and practical for the industry.

Mr. Rogers. The committee certainly is not averse to threshing out

the whole thing. From the informal discussion I had with you last night on this matter, it appears as though you may get back into the picture with a smaller handy pack that can be used for 5- and 10-cent packages. Is that what you had in mind? You want more flexibility than we offer in these situations?

Mr. CROCKER. That is correct, Mr. Rogers, but partly for the reason that, like every other industry, we are going through a postwar period and we haven't shaken down yet and we would like to work out with you through this next year any sizes or requirements for packages that are desirable.

Mr. ROGERS. The industry has been very cooperative, we will admit, and you have taken steps of your own to clean up your own back yard. I can only speak for myself, but I certainly would be agreeable to having this issue held over so that we can thresh the whole thing out and possibly submit it as an item next year. Are you agreeable to that?

Mr. CROCKER. Yes; wholly.

The CHAIRMAN. You have heard the recommendation of Mr. Rogers. Gentlemen, what is your pleasure?

Mr. AITKEN. I will make that a motion, Mr. Chairman.

(The motion was seconded.)

The CHAIRMAN. The motion is that Item 23, Facial Tissues, be referred back to the committee for further study and be brought back again before this body at the next Conference.

Mr. CROCKER. If whoever is chairman of your committee next year will get in touch with the Association, we shall be glad to arrange for a meeting with industry representatives.

(The question was taken and the motion was agreed to.)

The CHAIRMAN. Item 24, Preheated Petroleum Products. Item 25, Lawn Dressings. Item 26, Woolen Yarns. Item 27, Package Markings. Item 28, General Recommendations.

(Items 24 to 28, inclusive, were duly adopted.)

The CHAIRMAN. I wish to take the opportunity to thank Mr. Rogers and his committee for their splendid work. This has been a controversial subject for many years. We have settled a good many things here today and I think the committee should feel proud that only one recommendation has been laid over to the next year for further study. They have brought before you the most controversial subjects of weights and measures and your most serious problems for the past 5 years. Their recommendations are a step in the right direction, and if, when you go back to your jurisdictions, you see fit to promulgate the recommendations as offered to you by this committee, you will be serving your constitutents well.

Mr. ROGERS. I just want to say, gentlemen, how much I appreciate your patience throughout the presentation of this very exhaustive subject. It was with some trepidation that I presented a report of such volume. We think it was justifiable and I think the time taken has probably been well spent. I thank you again, very much, for your patience and constructive criticism and interest and for the enthusiastic way you greeted the whole thing.

OPEN FORUM

FOUR-SECTION MOTOR-TRUCK SCALES

The CHAIRMAN. We have now come to the open forum on our program, for the discussion of matters of general or regional interest associated with any phase of weights and measures supervision. The delegates are invited at this time to outline their special problems and to ask questions. Some topics which have been suggested in advance for discussions are listed on the program.

Mr. WITT. I have in my departmental budget for next year an appropriation of $7,000 for a new motor-truck scale. We are going to buy a 50-ton scale, and I would like to get an expression from some of the railway engineers here as to whether or not they have promulgated AREA specifications for four-section motor-truck scales. The present AREA specifications relate to two-section scales; could they be applied to the levers and other elements in the manufacture of a four-section motor-truck scale?

The CHAIRMAN. Mr. Harrison, can you answer that question?

Mr. HARRISON. Four-section motor-truck scale specifications are under consideration at the moment, but are not formally written or promulgated. As to whether a manufacturer can apply the two-section AREA specification to a four-section scale, I wouldn't like to answer positively one way or the other. To do so would make me speak for the AREA, and that material is not yet crystalized.

Mr. WITT. There will be AREA specifications before the year is ended?

Mr. HARRISON. I anticipate that there will be.

Mr. WITT. One more question, Mr. Chairman. I would like an expression from some of the scale manufacturer's representatives here on whether or not they are going to make AREA motor-truck scales, particularly four-section scales, next year; will they be in regular production or would they make a special scale or a regular scale for a jurisdiction which wished to buy one?

The CHAIRMAN. Will some scale representative answer Mr. Witt's question?

Mr. WORTHLEY. As far as I know, no specifications have been written for four-section motor-truck scales. As a result, it is purely the personal opinion of any manufacturer as to how he should design a scale to comply with the specifications. Insofar as we are concerned, we would have to work back from a specification for four-section railway track scales.

At the present time, our position is this: We have a backlog of orders of almost 12 months on almost all types of vehicles scales. Until production gets caught up, I don't see how we would be able to go into the design of a new four-section vehicle scale. I think other manufacturers of vehicle scales are battling the same problem. They, too, have tremendous backlogs. From what I have learned in talking with other manufacturers of vehicle scales, I don't believe any of them will be ready to reconvert to make four-section motor-truck scales to meet an AREA specification even if such a specification is provided in 1947.

WEIGHTS AND MEASURES EDUCATION

The CHAIRMAN. Weights and Measures Education is one of the listed topics; I believe it would be good to hear from Mr. Bussey, who chairmaned and sponsored a program like that with great success.

Mr. BUSSEY. I understand that the Committee on Education has a report to make, and so I wouldn't care to speak on that subject at this time.

Mr. FULLER. I feel that weights and measures education of the public and the consumers, through talks to different consumer organizations, women's clubs, and luncheon clubs, is one of the most important things we can do to strengthen our departments. If we will do that, when it comes time to get our budgets adopted, and to get necessary equipment and the necessary number of deputies to carry on the work, we will find that there will be enough interest shown, and pressure brought to bear to insure getting what we need.

Mr. SEARLES. In Ohio we are trying to get our men to go before the high schools as well as other groups, feeling that thus we have as our audience the coming generation; if we can train them we won't have to worry about the future. We do this through exhibits and talks and also by making exhibits at the county fairs.

The CHAIRMAN. At the present time in Pennsylvania we are touring all the big State fairs, selling weights and measures. I have always thought that that was a good idea because you meet at those fairs many people that you will never meet elsewhere.

WEIGHBRIDGES FOR VEHICLE SCALES

Mr. REED. I am interested in weighbridges and I understand that Carl Klocker has some good information on the subject.

Mr. KLOCKER. I haven't too much to say on weighbridges for vehicle scales, except that for probably 5 or 6 years I have been advocating a strong weighbridge for motor-truck scales. No one else seems to agree with me for some unknown reason, but in Connecticut for the last 4 or 5 years we have insisted that there be a minimum deflection on the weighbridge of any motor-truck scale, whether it is new or a used scale that has been resold. We have found through experience that if there is no appreciable deflection in the weighbridge of a motor-truck scale the scale will maintain a fixed degree of accuracy for a reasonable length of time.

We have taken a stand in this matter for the simple reason that the requirement of Handbook H29, to the effect that motor-truck scales shall be so designed, constructed, and built that there will be no excessive deflections in its parts, has not been adhered to. In other words, in the commercial motor-truck scale that is sold today, the weighbridge deflects in excess of what I think was intended in Handbook H29.

For the standard sizes of scales that are being used in Connecticut, we have drawn up suggested bills of steel for the weighbridges. That doesn't mean that we have set a minimum bill of steel for each of the different sizes of scales manufactured, because we haven't. Two or three of the scale manufacturers have asked that such standards for steel be set up for those scales not covered by our present material,

but I can't see any reason for that. I think that when we demand a minimum of deflection from weighbridges, it is up to the manufacturing company to figure out the amount of steel that should be put into it.

We have found strictly through experience, and not through mathematics, engineering, or anything like that, that a rigid weighbridge will extend by about 3 years the life of a scale before it has to be attended to. We have had several instances of commercial motor-truck scales having to be overhauled or repaired every 6 months. We suggested to the owners that they stiffen up their weighbridges. In every instance where they have done that, the scales have gone 2 or 3 years without having any repair work done, and still stay within the tolerance allowed, which is 2 pounds to 1,000 pounds.

I have talked this over with several weights and measures officials telling them what we are doing, and telling them I think it is a good idea. None of them agrees with me. Maybe I am wrong. But it works out good in Connecticut, and we are going to continue.

Mr. MILLER. Do you find that these scales are not up to the AREA specifications for weighbridge and deck?

Mr. KLOCKER. In some instances yes; some no.

Mr. WESTPHAL. How do you stiffen them up?

Mr. KLOCKER. On some of the scales where the steel crossbeams are such that you can run an I-beam or an angle down beside the main girder, you can do it that way. You can put a channel iron inside of the flanges of the I-beam, welded full length, and that will stiffen it up. You can weld a plate to the top and bottom, or top or bottom, of the flange of the I-beam, which will stiffen it up to a great extent. There are several ways of doing it; how best to do it will depend on the design of the scale.

Mr. ROESER. I would like to ask one question before the gentleman gets away from the microphone. You mentioned rather swiftly that the deflection of a steel girder should be a minimum amount. The minimum amount is zero.

Mr. KLOCKER. You can't arrive at that.

Mr. ROESER. Did I understand that you also said that the bills of steel that are stipulated in the AREA specifications do not deflect in excess of your requirements?

Mr. KLOCKER. That is right.

(At this point, at 5:00 p. m., the Conference adjourned, to reconvene at 10:00 a. m., Friday, September 27, 1946.)

THIRD SESSION—MORNING OF FRIDAY, SEPTEMBER 27, 1946

(The Conference reconvened at 10:05 a. m., W. P. Reed, Vice President of the Conference, presiding.)

REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON WEIGHTS AND MEASURES EDUCATION, PRESENTED BY ROBERT WILLIAMS

We regret that your Committee on Education cannot report any progress since the last Conference in 1941. In fact, we cannot even report any activity.

Some 155 names appear on our mailing list, indicating that many persons have requested material prepared by the Committee on Education. Of this total only nine made no request for Course No. 1, "The Study Course for the Individual Inspector." These 155 names on our mailing list represent 28 States, Washington, D. C., and Puerto Rico. One State has 36 names and another State has 28 names on our mailing list, while 12 other States have from 2 to 12 persons each who have requested and received our material. Only 1 request came from each of the remaining 14 States. Some 102 persons requested all of the material prepared and 33 requested only the "Course of Study for the Individual Inspector," or Course No. 1.

It is useless to make a further report at this time on the activities and accomplishments of the Committee prior to 1941, complete reports on which were made in 1940 and 1941. These can be found in the printed proceedings of those meetings.

We recommend and strongly urge that each of you read and study those reports again at this time. You will find them both interesting and instructive. Many helpful suggestions are contained therein, and the outline set forth will give you an excellent pattern to follow, even today.

As could be expected, the personnel of the Committee has diminished during the war years. The only remaining members are A. J. Jensen, W. P. Reed, and myself. W. S. Bussey was the original chairman, but upon his departure from weights and measures work in 1943, it was necessary that he resign from the Committee. We are happy that he has recently returned to the Texas Department and that he is here with us at this meeting.

The Committee on Education is a relatively new Committee of the Conference. It was first appointed in 1939, at the suggestion and recommendation of Edward Snyder, former City Sealer of Terre Haute, Indiana, and a few others. This Committee should serve a very useful purpose to the Conference. The one thing that we would like to do, in our report to this Conference, in the strongest manner possible, is to emphasize the real need for weights and measures education. We do wish we could make each and every person here realize what it means to the future success of the work and the part that each can and should have in promoting this movement.

As a general rule, the public is almost totally unaware of the true value of weights and measures administration. This being the case, the proper attention of public officials, including legislative officers, is rarely ever focused on weights and measures. They have no real appreciation for the value thereof. If this condition is to be changed, weights and measures officers themselves must take the lead and assume the bulk of the responsibility for so doing.

Now, if we are expected to do this job, we must know our business. We must be efficient and effective in our work, if we hope for others to believe in us. To do this, we must educate ourselves first. This cannct be done without self-determination, a planned program, and constant endeavor. Anything that is worth doing at all, is worth doing well. A job is not likely to be done well unless it is placed in capable hands.

The first point that we wish to make is, "Let's Make Ourselves Capable Hands." When we have done this, we can then begin to impress the general public and public officials.

Ultimately, we can demand and receive more respectable salaries and secure more adequate appropriations to support this work.

We recommend that the President of the Conference appoint a new Committee and that each and every weights and measure officer in the United States give the Committee wholehearted and active support throughout the coming year.

Let's resolve to raise the standards of weights and measures administration, in this country, to that level which its importance rightfully deserves. It can be done through proper education.

(Signed) A. J. Jensen,
W. P. Reed,
Robert Williams,
Committee on Weights and Measures Education.

The Chairman. If there are no objections, the report will stand approved as read. I assume that the President of the Conference will take care of the recommendations regarding committee appointments.

REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON LEGISLATION, PRESENTED BY R. E. MEEK, CHAIRMAN

The report of your Committee on Legislation will, of necessity, be a short one since no proposed Federal legislation has been brought before it for consideration since the adjournment of the Thirty-first National Conference on Weights and Measures, June 6, 1941. With a full and complete report to that Conference, your Committee has been inactive during the intervening years.

This inactive state of the Committee is due to no fault of either the Committee or the Conference. As you all know, no meetings of the Conference have been held since 1941, and, with the Congress devoting its time to matters of the greatest urgency pertaining to rearmament, the war effort, and now reconversion, no legislation has been proposed, to the knowledge of this Committee, which would require its attention.

For the benefit of those members of the Conference who may be attending their first meeting this year and who may not have read the reports of the 1939, 1940, and 1941 Conferences, I think it might be well to point out why the Committee was established and to review some of its accomplishments. We believe the latter justifies the continuation of the Committee as one of the important working cogs of the Conference.

The Committee was established during the final sessions of the 1939 Conference when a resolution to that effect, and offered by Alex Pisciotta, Director, Bureau of Weights and Measures of New York City, was adopted by vote of the Conference. The resolution, in substance, called for the appointment, by the President of the Conference, of a legislative committee to study and make recommendations on all legislation introduced into the Congress and which would affect in any manner the work and duties of weights and measures officials throughout the country.

The Committee was appointed shortly after adjournment of the 1939 Conference and made its first report to the 1940 meeting. After giving careful consideration to the several bills which had been introduced into the Congress and offering recommendations thereon, the Committee called the attention of the Conference to the limited scope of its activities. By a formal vote, taken at that time, the Conference enlarged the scope of the Committee to include consideration of proposed legislation as well as of bills actually introduced into the Congress. Immediately thereafter, the Committee offered its recommendations on the proposed legislation having to do with the standardization of capacities of containers for food products.

During the 1941 Conference, your Committee gave careful consideration to and made recommendations on all proposed Federal legislation which was brought before it. Probably the principal effort of the Committee, during this meeting of the Conference, was directed toward harmonizing the different viewpoints of the members of the Conference on proposed legislation standardizing capacities of containers for food products. The Committee was successful in this effort, and the bill it prepared was introduced into the Congress as H. R. 6784. After the acceptance of the Committee's report on the proposed legislation, the President of the Conference appointed a Special Committee on Conference Standard Food Package Bill and this Committee brought about its introduction into the Congress.

We believe the adoption of the two previous reports of the Committee by an unanimous vote of the Conference, is an indication of the success of its efforts. To bring about acceptable reports, the Committee was required to carry on rather extensive correspondence, interview authorities on the various subjects considered and to hold hearings during meetings of the Conference. Undoubtedly, the work of the Committee has been of great value to the Conference in that the Committee has been able to prepare full and concise reports on all proposed legislation and did this without taking up the time of the Conference as a whole.

In view of past accomplishments of your Committee and confronted with the probability it can be of even greater service during the years

lying immediately ahead, it is recommended that the Committee on Legislation be retained as one of the committees of this Conference.

(Signed) R. E. Meek, *Chairman*,
J. F. Blickley,
C. L. Klocker,
J. D. Walton,
L. E. Witt,
Committee on Legislation.

(It was moved and seconded that the report of the Committee on Legislation be adopted, the question was taken, and the motion was agreed to.)

A REPORT FROM THE TISSUE ASSOCIATION

By D. A. Crocker, *Assistant Secretary, The Tissue Association, Inc.*

It is indeed an honor to be invited to speak at this first national conference on weights and measures officials following World War II. I realize that the honor is not a personal one but comes to me as a representative of the tissue industry. The tissue industry has a reputation for honest and sincere cooperation with the members of your organization for the protection of the consuming public. Had its past record been one of unreasoning opposition to every improvement in the descriptive labeling of its products, neither I nor any other representative of my industry would have been invited to address you today. I, therefore, accept this honor as the representative of my industry and will discuss briefly some of our mutual problems.

Reputable manufacturers are the overwhelming majority in our industry. They have long recognized that consumer acceptance of any product depends in large part on giving the consuming public a "square deal." Shoddy products react against consumer acceptance, and so do attempts to deceive the consumer by misleading labeling. Either hurts the product. For this reason, if for no other, reasonable rules and regulations formulated and effectively enforced by you, meet with our wholehearted support. Such rules curb the activities of that inevitable small minority of would-be chiselers whose selfish shortsightedness hurts everyone else.

These statements are not just glittering generalities. Our Simplified Practice Recommendation R46, first adopted in 1925 and subsequently expanded and renewed, proves this. Among its provisions are specific provisions covering the marking of both resale and industrial types of toilet paper and paper napkins. Paper towels and facial tissue are not covered by this recommendation but the same practice of plainly labeling the contents of packages was carried over to those products.

One complication arose in connection with the labeling of facial tissue and of toilet tissue made from the same sanitary absorbent stock. The utility of these products depends in large part on their softness. To obtain maximum softness, the product must not only be made from certain high grade and expensive types of bleached chemical pulp but it must also be made in such extremely light weights that the individual sheet has little strength. This lack of strength

is overcome by putting the product up in two-, three-, or four-ply sheets. The manufacturer of these products was accustomed to labeling his other paper products according to the number of individual sheets the package or roll contained, and naturally used the same method on the new product without any intent to deceive the consumer. After 15 years or more of labeling in this manner, the industry began to receive complaints of misrepresentation. Frankly, the manufacturers were startled by these complaints, and the first reaction was "so what?." It was recognized, however, that revised labeling was desirable, and after a number of conferences with Mr. Alex Pisciotta, then chairman of your Committee on Methods of Sale of Commodities, and Mr. Fife's appearance with a representative group of manufacturers before that Committee down here in June 1941, a labeling procedure was recommended by your Committee which has proven satisfactory. It gives the consumer protection without unnecessarily disturbing manufacturers' practices established in the early twenties. There could be no better illustration of the benefits that flow from conferences carried on in an atmosphere of good will and with a sincere desire to reach a mutually acceptable solution. I anticipate equally satisfactory results if future questions arise. (That, of course, was written before yesterday afternoon. My anticipations were realized. The results yesterday afternoon were very satisfactory to us, and I hope equally so to you.) Let me add at this point, that no small part of the credit for devising the labeling procedure finally recommended by your Committee belongs to Mr. Joseph G. Rogers, its present Chairman, and to Mr. Ralph W. Smith, Secretary of your organization.

Recently we have asked your Committee to modify its recommendations for sheet-size tolerance on boxed facial tissue because of manufacturing difficulties. We have also taken the initiative in proposing a standard for box fill which we believe will greatly simplify your task of preventing the sale of boxed facial tissue so packaged as to mislead the customer.

We know of no other descriptive labeling problems for tissue paper and tissue paper products confronting you or us. However, the tissue paper industry is dynamic and new products with new descriptive labeling problems may be developed at any time. It will be our policy to consult freely and fully with your members through proper committees or other channels when any such problems arise. We know from past experience that we will be treated courteously and given a full opportunity to present our point of view. We ask you to do the same when new problems arise.

Also, the Tissue Association will continue to act as a channel through which complaints may flow to enforcement officials. We have set up a definite procedure with which some of you are already familiar. Briefly, if one of our members finds a product which is unlabeled, mislabeled, scant size, or in any other way in violation of existing weights and measures regulations, he notifies us, at the same time sending us an unopened sample so that we can make our own check. He also gives us full information as to date of purchase, name and location of store, etc. If our check of the sample confirms his claim we then notify the proper enforcement officials giving them full information so that they can make their own independent check.

The name of the original complainant to us is not revealed to enforcement officials.

We have found this procedure effective and your prompt action on our complaints is of great assistance to reputable manufacturers whose business success is built on the firm foundation of serving the consuming public. The public eventually catches up with the chiseler who misrepresents the contents of his package but in the meantime much damage is done to his more scrupulous competitor. Your action prevents loss to everyone except the crook. Our industry fully appreciates the fact that in spite of the burden of extra duties forced on you by the war emergency, you did not relax your efforts to carry on your regular duties. You are to be highly commended for your work during the past 5 years.

There is one way in which we hope you can find the time to cooperate with us more fully now that the war is over. That is by giving us some report on your action on our complaints. In many cases we never learn just what action has been taken, and in others we have learned only by persistent inquiry. Isn't it possible for you to set up some machinery for at least informing us as to whether the complaint was sustained by your own investigators and if so what action was taken? If a fine was levied, we would like to know. The amount is not so important. If a warning was considered sufficient, we would like to know that fact. I believe we are entitled to some such information and should be able to get it.

I presume that this Conference and the National Bureau of Standards have under consideration a new edition of Handbook H26. May I, in closing, make some suggestions in regard to a new edition which would make it of considerably greater service to us, and, I believe, to many other industries? Here are my suggestions:

1. Enlarge the section covering State organizations to give a more detailed digest of State laws.
2. Give a brief digest of local ordinances in the case of States like Missouri, where the 1941 edition merely said, "Cities are empowered, etc."
3. An up-to-date directory of weights and measures officials, State and city.

These suggestions are respectfully submitted for your consideration. If they receive the same consideration we have had in other matters, I am sure they will be acted upon favorably.

I understand that there is to be an opportunity for discussion following these remarks. I will be glad to answer any questions I can.

THE GASOLINE PUMP INDUSTRY—ONE YEAR AFTER THE WAR

By G. D. Moore, *Managing Director, Gasoline Pump Manufacturers Association*

First, I want to say that I am glad, as I am sure you all are, to have the National Conference on Weights and Measures back with us again. Five years is a long time to be deprived of this splendid open forum, representing so many official and industrial groups and affecting so vitally the economic interests of this country. The unfinished business accumulated since we last assembled in 1941 must present a problem of tremendous proportions, even for such a resourceful program strategist as Ralph Smith.

My assignment today is to tell you what is happening in the gasoline pump industry. I am not sure that I can tell you any more than you already know, because it is more or less an open book. The picture is about the same as it is wherever supply and demand are seriously out of balance. The newspapers and the radio have told the story over and over again. The waiting lines at the butcher shops, the bakeries, the department stores and other suppliers to the public needs, have dramatized day after day the unsatisfied demands of 130 million people.

In simple terms, the situation in the pump industry is a matter of continuous shortages of critical materials against a heavy and increasing backlog of unfilled orders on hand. This condition is not because of any delay in reconverting the industry, but is due entirely to the epidemic of strikes sweeping the country since the war. First it was the steel strike, then the coal strike and later the copper strike, each of them supported by sympathetic walk-outs in essential allied industries. The result of these forced shut-downs in three of the most important supplying industries was a paralyzing stroke to the entire industrial recovery program, and the gasoline pump industry got the full effect of the blow.

None of us has any quarrel with a legitimate, constructive labor movement. Nevertheless, some of us are beginning to feel that union members are suffering from an overdose of their own strength. I seriously doubt that the majority of the members of organized labor are ever completely repaid for the sacrifices they are required to make in the interest of the organization. The situation is somewhat similar to that of a German soldier in the last war who returned to Berlin from the fighting front with a slight wound, and went to a hospital for treatment. When he entered he found two doors, one marked "Officers" and one marked "Troops." He went in the door marked "Troops" and found two more doors, one marked "Seriously Wounded" and one marked "Slightly Wounded." He went in the door marked "Slightly Wounded" and again faced two doors, one marked "Party Members" and one marked "Non-Party Members." He entered the door marked "Non-Party Members", and suddenly found himself out in the street again. When the soldier returned home, a friend asked him what the hospital had done for him. "Nothing", he replied, "but the organization was perfect."

I wonder if this is not the type of perfection toward which some of our union organizations are tending.

Now this is not intended to be a talk on labor organization, but the facts of production stoppage at the supply sources cannot be ignored in explaining why the industry is not able to meet the demand for pumps more than a year after the war. The fault can be laid nowhere but at the door marked "Organized Labor," which in this case let the pump industry out in the street where it started when the war was over.

The manufacturing of gasoline pumps is an assembly line process, as it is with automobiles and other mass production products. It requires an uninterrupted flow of materials and parts to every operation in the line. This calls for a heavy and continuous supply in the plant at all times. This efficient and economical method of production

has not been possible since pump manufacturing was resumed. Instead, materials and parts have been trickling into the plants on a hand-to-mouth basis, usually the result of hounding the sources of supply for even these meager deliveries.

To make the shortage of materials fully effective, the situation has had the further handicap of exhausted inventories. When the pump industry went back in business, there was practically nothing with which to start the machinery going. The supply bins of the manufacturers were empty, or what limited inventories they had were sadly unbalanced. Normally they carried in stock enough parts and materials for 3 months' production on the average. This enabled them to buy when prices were most advantageous and insured them against labor or delivery problems outside their own plants.

The inventory drought went even further. The usual stock of completed pumps held by the manufacturers, from which daily orders were filled, had completely disappeared to meet emergency wartime needs. And the same was true of the petroleum marketers. Their warehouse stocks of new pumps had all been withdrawn to replace worn-out equipment. This inventory void has made it necessary in the past year for pumps to be delivered direct from the assembly line to the point of installation, and every halt in the supply of materials has been reflected in production.

I don't want to sound a pessimistic note on the production outlook. I would like to convince myself that it won't be long before happy days are here again for the pump industry. But I am afraid that the realization of that rosy dream is not just around the corner. More likely it will still be around the corner 6 months from now. There are too many imponderables to make it any more than a guess—labor agitation, continued shortages, public state of mind, international developments, and many other factors that can prolong the period of scarcity.

One thing sure, the manufacturers, given the materials and uninterrupted production, can meet any foreseeable demand for gasoline pumps. They have the plant capacity, the machinery, the capital, and the know-how to turn out double their usual volume. All they need is a steady flow of enough materials. It is unlikely that even the most extravagant estimate of postwar market growth would extend the industry beyond the regular 40-hour week schedule.

In some quarters of the market while the demand for pumps has been urgent and production has been limited, the question has been raised as to the fair distribution of the industry output. Here I want to say that a thorough check among all of the manufacturers showed that they have been following a policy of dividing their production among their customers in the same percentages that prevailed before the war, with the proper consideration for date of order. This policy has been applied throughout the market to all purchasers alike, from the small retail marketers to the large major oil companies. This, I am sure, will interest you because the demand for pumps has been no respecter of territories or buyers, and it would not relieve your problem to have any preference shown in delivery as to location or class of purchaser.

Next to the production outlook, I believe the most pressing question being asked of the pump industry today is, What changes are going to

take place in gasoline pumps? The weights and measures officials probably know as much about this as the manufacturers themselves, because most changes contemplated for the near future have likely already been submitted to you for approval.

Product change in every field is usually for one of two purposes, either to improve the product or to obsolete it, and sometimes even these two can mean the same thing. Regarding improvement of the product, I cannot conceive of any change in the architectural lines or the construction of the present gasoline pump that would add appreciably to its usefulness, because the current product has about every serviceable feature imaginable in one model or another, and its eye appeal is surely all that could be desired. For the purpose of obsolescence, a radical departure from the current and quite modern product is surely unnecessary. Obsolescence among gasoline pumps in the field today has reached such an advanced state that practically 90 percent of the entire market demand is for replacements, and more than 60 percent of all pumps in operation are so out of date that no further obsolescence is needed to warrant their immediate replacement.

I would not want to give the impression that the gasoline pump has reached its limits in development, or even that changes will not occur in the near future. Already some new models have appeared lower in altitude than those produced in 1941. There is little doubt that a moderate reduction in height will prevail in future gasoline pumps. Aside from this change and the adjustments in construction necessary to permit it, I do not look for any radical departure from the general character of the latest prewar product.

So much for the situation in the gasoline pump industry. Now, I cannot imagine a weights and measures conference without some reference to uniformity of regulations toward which this organization has labored for so many years. The gasoline pump industry has a special interest in this endeavor and I will occupy a few minutes of my allotted time with a brief review of what has been accomplished toward uniformity of the laws affecting gasoline pumps in recent years and the status of the situation today.

In some parts of the United States, the specification, Units of Delivery, indicating the fractions of the gallon in which gasoline must be sold, has required these fractions to be in quarts and pints, although in all other parts of the country decimal units or tenths of the gallon were in common use. This condition has existed even though the decimal system is simpler and far better adapted to gasoline pricing with the complication of State tax variation.

A glaring inconsistency in prohibiting decimal units of delivery in the computer pump especially, is that these same law-making bodies had accepted this type of pump, which combines both the measuring and the calculating of the sale in one operation for any quantity or fraction of the gallon. If any part of the computing operation is wrong, then the whole is wrong.

This challenge to reason in varying the regulation on Units of Delivery at State lines is now fortunately past history. At the outbreak of the war only three holdouts against the national standard remained, and in the past 3 years they have fallen in line, thus making it unanimous. The complete standardization of this law throughout the Na-

tion is the result of long and tireless effort on the part of weights and measures officials, the law-making bodies, the petroleum marketers and the gasoline pump manufacturers. It is a noteworthy example of successful cooperation covering a period of many years.

Other examples of the individual policy of law making may be cited, some of them not connected with weights and measures. One is the fire department regulation requiring the so-called "hose pull," a device attached to the hose connection on gasoline pumps to prevent the imaginary pulling of the pump from its foundation by a moving automobile while the nozzle is in the tank opening.

The exaggeration of such a danger in connection with the modern gasoline pump with the wet hose nozzle control is obvious because the refuelling service does not require the attendant to leave his position at the tank to shut off the flow of liquid. The entire operation is under his control to close the nozzle and remove it in one motion in case of premature starting of the car.

In fact, this Hose-Pull law dates back to the dry hose era before the wet hose with nozzle control was introduced. In those days the operator had to shut the gasoline off at the pump and then drain the hose to give the motorist full measure. Surely such a law is as antiquated as the obsolete and discarded condition that inspired it.

We are much encouraged in the progress made against this objectionable law. It now exists in only three municipalities and I believe it is quite definitely on the way out of the national picture.

Still other city laws, as well as State laws, outside the weights and measures field, depart widely from the uniformity line, among them certain biased specifications for electrical fittings and connections. One of these is the requirement of vapor-proof electric light fittings in gasoline pumps to prevent fires alleged to be caused by moisture penetrating the standard fitting. The extra size of this cumbersome device makes it a disturbing addition to the closely assembled top section of the present-day pump and promises even a greater handicap in the lower and more compact models of the future.

Experience will not sustain this law. In some places it has already been eliminated and there is hope that it will eventually be cleared from all the statutes.

Another carry-over from the early years of petroleum marketing is the requirement in many States that price signs be attached to gasoline pumps. Prior to the introduction of the computer pump, this law as entirely proper in order that the motoring public could see the price it was paying, and a sign was the only method of price display available. When the computer appeared, however, with the price shown on the face of the pump as a built-in part of the computing and measuring mechanism, there was obviously no need for a price sign on this type of pump. Today, with the computer accounting for practically 100 percent of all pumps sold (actually 99.6 percent since the war), this superfluous fixture is sheer duplication in price posting, and is just another example of the common habit of hanging things on the gasoline pump.

With so many States having this law on their statutes, there is a lot of work ahead to clear the slate. Amendments are being made,

however, one-by-one to accept the alternate method of price display provided in the computer pump.

Time will not permit me to go further on the legislative line. Suffice it to say that many long-standing variations from the accepted weights and measures standards have finally joined the uniformity club. New State codes have been established according to the master prescription, and all but a very few of the States without formal specifications admit that what is good enough for the National Conference is none too good for them. In addition, isolated local laws and ordinances aimed at situations beyond the scope of Handbook H29, are being erased or nullified one by one. Surely the hope of standardization long deferred promises to become a reality in time.

It was really inspiring to hear from this very platform yesterday your beloved ex-leader, Dr. Briggs, repeat this oft-expressed desire for uniformity in weights and measures. I believe he must be gratified to know what progress has been made as he stepped into his very honorable, and I would say very comfortable, retirement.

Now it occurs to me that you may be interested in a special study on this entire subject just completed by the Gasoline Pump Manufacturers Association. This work covers an analysis of the laws in the various States and large cities affecting gasoline pumps and other liquid-measuring, as well as grease-measuring, devices. Its purpose is to provide in ready reference form a reliable record of not only what the law is, but how it varies from one place to another, and also what progress is being made toward national uniformity.

Only those who have tried the questionnaire method of getting information from State and city governments can appreciate what a job we set out to do. Although many of the States have more or less complete laws governing weights and measures devices, it took a lot of time and correspondence to get official copies of the regulations for comparison with the National Conference code.

The task was all the more difficult in that more than half of the States had only a limited set of regulations on the subject, and some had none at all. To find out just what stand they would take with respect to each of the specifications listed in Handbook H29, was nothing short of an endurance test. To get the complete national picture covered practically a year, and many times in the course of the work it was almost regretted that the start had ever been made.

As the survey is now finally complete, the whole record is being compiled in a volume to be known as the Gasoline Pump Red Book. This volume is divided into two sections, the first consisting of a reference table of the specifications on Liquid-Measuring and Grease-Measuring Devices, indicating opposite each specification whether or not it is uniform from one State to another. The second section consists of the full text of the Weights and Measures Laws and other regulations on pumps and lubricating equipment for each State with detailed description of any variations from the National Conference recommendations. It also includes a complete reproduction of the 62 specifications appearing in Handbook H29.

This preview of the Gasoline Pump Red Book is not for advertising purposes, but is a move in self-defense. I realize that I am facing

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many State officials in this audience, who have been plagued for nearly a year with an endless flood of letters from my office checking and rechecking information for this book. You have the right to know what has been accomplished, if anything. Well, you will soon find out. As soon as the first issue of this long-deferred opus is ready, a copy will be sent to each of the State heads as part payment for their cooperation.

My message would not be complete without a word on the splendid service rendered by the weights and measures organizations to the users of gasoline pumps during the war years. From Pearl Harbor to V-J Day, with no new equipment being produced and repair parts reduced to a painful minimum, the problem of the Sealers was a trying one. Overworked and obsolete gasoline pumps had to be kept in use, requiring more than the usual amount of testing and retesting. But in spite of the handicaps, accurate measurement has been maintained at its proper level and equipment has been kept in operation, which redounds to the everlasting credit of this field of public service.

I will conclude my small part in this great reunion program by saying that I hope there will never again be a break in the chain of these important National Conferences.

DISCUSSION OF FOREGOING PAPER

Mr. Boyle. I would like to ask Mr. Moore if he can give us any more information on the coin-operated gasoline pump.

Mr. Moore. I can't answer that specifically. I know about it what you do. There has been publicity on it. There have been press releases. There are members of the gasoline pump industry that are now vitally interested in developing the proposition as far as it can be developed.

I am going to suggest, therefore, that at some appropriate time your question be directed to the Bowser Company, which I believe is heading up an investigation and development of that particular product.

Mr. Leithauser. Mr. Moore, you say that ninety-nine and six-tenths percent of the pumps manufactured are computer pumps. Are the other four-tenths of one percent visible-bowl pumps?

Mr. Moore. I haven't had a record of a visible-bowl pump being shipped this year. That four-tenths percent represents the hand-operated, 5-gallon type—I am not including gallon-stroke at all.

Mr. Leithauser. Maybe I am a little ahead here, but I noticed in the report of the Committee on Specifications and Tolerances that they recommend that, "the bottom of the lowest indicating element shall be not less than 36 inches above the roadway level, and the top of the highest indicating element shall be not more than 60 inches above the roadway level." I was wondering how that would affect the visible bowl pump.

Mr. Moore. I asked the Committee a question concerning that amendment to specification 7, and I was given the impression that the amendment is intended to apply to the meter pump with the dial indications, and not to the visible pump. I foresaw, as some of our members did, that same possibility that you think of. It is for the Committee to state its intention and interpretation.

Mr. LEITHAUSER. Of course, if the visible pump isn't going to be made any more, it doesn't matter, but if we get some visible bowls, then there would be a question.

ACTIVITIES OF THE NATIONAL ASSOCIATION OF SCALE MANUFACTURERS

By ARTHUR SANDERS, *Secretary and Counsel, National Association of Scale Manufacturers, Inc.*

I want to express the appreciation of the scale manufacturing industry for the opportunity to tell you about our Association, its work, and ways in which your group and our group may cooperate.

In 1920, Dr. S. W. Stratton, President of the Conference on Weights and Measures, and Director of the National Bureau of Standards, called to the attention of this organization the three main groups which are interested in its deliberations: First, Government officials, Federal, State, and local; second, the users of weights and measures devices; and third, the manufacturers of the equipment. In specifying these three groups, Dr. Stratton undoubtedly intended that Government officials should represent the interests of the public. His implication was clear that manufacturers should be consulted in drafting specifications as equipment must be built to meet requirements, and manufacturers should be able to make practical suggestions to avoid the possibility of undue interferences with production methods. One of the objectives of the National Association of Scale Manufacturers is to work with your Conference. The manufacturers believe they can be helpful to you and as one of the interested groups they wish to fulfill this responsibility. We can provide for the Conference and for weights and measures officials a focal point for obtaining needed information about the industry and the equipment it produces. We can get for you the consensus of views and opinions of the manufacturers on technical and other matters. Heretofore, when you needed information from manufacturers, you dealt with them individually. Oftentimes the opinions differed—or seemed to. Now, we hope to be able to give you the consolidated viewpoint of the producing industry, developed through committees within our organization., At the invitation of your Secretary, our Association has designated a Technical Committee to work with and make recommendations to your Conference. This Committee is ready to function at your instigation.

There are more than 1,100 associations of manufacturers operating in the United States. This fact is sufficient evidence that much constructive work can be done through a manufacturers association. The scale industry has long realized that it needed an organization of its members Last year a group of scale manufacturers started in earnest to establish an association and, after a great deal of preliminary work, the organization was formalized and commenced to function in September 1945.

The principal objectives of the Association are: The advancement of the industry, its customs, and practices; the advancement of weighing and of equipment to measure weight; to determine public requirements and standards; and to provide for collective action for the benefit of the whole industry and the public.

During the first year of our operations, the work of the Association has been quite diversified. A great deal of time has been spent by the directors and officers in establishing a firm organization. We have developed a concrete program of activities and have made progress under this program. An industry such as this has need for statistical information on volume of sales of the various types of equipment. Such data will enable individual members to chart sales trends and make long-range production plans. We found there were no reliable data on the scale industry. We requested the Census Bureau to develop a quarterly statistics plan for the industry. Working with the interested parties, the Association sponsored adoption of a classification showing the different types of scales produced and sold. Under this program of the Census Bureau, the scale industry, the Government, and the public are now provided each quarter with reliable facts on the industry. Probably some of you would like to receive these reports. If you would, I should be pleased to have them mailed to you if you will give me your address.

The Association has engaged in research of world scale exports and has made reports to the industry. The United States is one of the principal scale exporting countries of the world and the American scale industry expects to maintain and extend this business. We are actively seeking, through our Government, to obtain lower foreign tariffs against the entry of American-made scales. These efforts are made to increase the volume of American scale business and thus to enable the industry to produce better scales for less money.

We prepare and issue each week a News Bulletin to the industry, reporting current developments relating to the scale business. Our members say this service provides a reliable short-cut to the busy executives in keeping informed. The Association assists its members in complying with Government requirements by providing them with opinions and interpretations of the regulations. We are always glad to receive information and advice about regulations and requirements of Federal, State, and local weights and measures departments. This information is promptly passed on to executives of the scale companies and this should insure prompt compliance with requirements. The quickest and easiest way for you to issue notifications to the scale industry is through the facilities of this Association.

We are establishing relationships with other organizations and with government agencies whose operations have a bearing on the scale business. The field of government regulations has been tremendously broadened in recent years. This was especially true during wartime when serious limitations were placed on the production of scales.

With substantial increases in costs of production it became unprofitable to produce many models of scales. There was only one thing for a company to do and that was to concentrate on output of models on which it could make some profit. This practically eliminated from the market many of the lower-priced popular types of scales. We explained this situation and other facts to the Office of Price Administration with the result that price controls have been suspended from practically all types of scales. We believe this will contribute immeasurably to the availability of new scales as producers will again be able to build those popularly priced models at a reasonable profit. The small

price increases should not work a hardship and actually purchasers will derive benefits through their ability to procure the types of scales actually needed.

The scale manufacturing business is based on the necessity that buyers and sellers be provided with the best practicable weighing devices for their commercial transactions. It is my understanding that it is your job to see that the weighing equipment used in trade meets with prescribed standards. In fact, you go further, in that you establish the standards of performance for the equipment. In most instances your standards and requirements have the force and effect of law and must be complied with by equipment producers. This places a dual responsibility on you—to promulgate rules to assure the protection of the public; and to see that practical requirements are established which will not increase the cost of weighing equipment by burdening production. To aid you in meeting these heavy responsibilities the scale industry offers you the facilities of its Association. We can advise you of the probable effect of proposed requirements.

We need only to recall history to demonstrate our endorsement of your work in developing standards and regulations. Prior to the organizing of your Conference, there were decided variations in weights and measures laws among those States which had regulations. Just as bad, from the manufacturers' standpoint, was the fact that many of the States had no regulations at all. Oftentimes, each customer of each particular industry insisted upon its own specifications for scales. Usually these specifications were determined by price considerations. This situation, of course, was not a healthy or a profitable one for the manufacturers. Equipment was produced in job-shop fashion and a great portion of the output was of "tailor made" units. There could be very little production-line manufacturing and the customer had to pay the cost of this illogical practice. This Conference and the National Bureau of Standards have done a great deal to eliminate conflicts among State regulations. Many additional States and cities have adopted regulations, generally based on model laws prepared by your Conference. Under these regulations, it has been possible to a reasonable extent to standardize and simplify lines of weighing equipment. The design, workmanship, accuracy, and reliability of scales have shown marked improvement. There is no question that American scale manufacturers build the best scales in the world. This statement is supported by world export figures. The United States was the world leader in scale exports before the war, even in competition with subsidized exports of Germany and the import preference system of Great Britain.

In producing for war much emphasis was placed on standardizing and simplifying products so as to avoid waste. Production of scales was limited to a relatively few models. Savings of manpower and materials resulted. Similar savings are possible in peacetime and they will pay dividends in the form of lower prices to the purchasers. Simplification and standardization cannot be accomplished by manufacturers alone. They need the cooperation of all interested parties and they need substantial uniformity in specifications to which scales must be built.

I have reviewed a number of the official reports of your Conferences. I have become convinced that your ability to achieve real results in your efforts to give the American public the best possible weighing service has been partly due to your willingness to work with all interested groups and permit them to be heard. You have a most difficult task in coordinating the views of many to develop reasonable and uniform rules for weights and measures in the many jurisdictions of this country. The manufacturers appreciate the attitude your Conference and its individual members have shown in promoting requirements which will cause the least amount of interference with normal production of weighing equipment. We hope you will accept our offer of the facilities of this Association and will consult with us and allow us the privilege of giving you our views on matters of mutual interest.

FORWARD MARCH

By J. W. Saybolt, *Special Representative, Glass Container Manufacturers Institute, Inc.*

The pressure of business at this Conference forbids the extensive use of words to express appreciation of this privilege to appear before you. That appreciation must be obvious, and I will attempt to emphasize it, both for myself and the Glass Container Manufacturers Institute which I am representing, in a presentation as brief, clear, and direct as the circumstances permit.

With the World pot still seething, as an aftermath of 10 or more years of conflict, it is probably in order to state that the return to a happy National existence is dependent, among other things, on sane thinking and acting and a reasonable and sensible relation between Government and business. To this bare statement, I add the modification that this objective involves a complete and sympathetic understanding, by *each*, of the problems and of the rights of the other with the contemplation that failure by either could mean the destruction of both.

While much more could be said along this line, I will leave the thoughts with you which may generate from this preface, and proceed with a few paragraphs which are closer to the business of the Conference, involving Government, as expressed by weights and measures, and Business as indicated by the client which I am representing on this program, the Milk Bottle Committee of the Glass Container Manufacturers Institute. Particularly, today, I wish to talk to you about milk bottles, which are presumed to be sufficiently important in the life of our people to justify a separate code in National Bureau of Standards Handbook H29. Casually, I will refer to other containers.

If there is an acceptance of my inference that a sucessful nation must have as a running partner, successful business, then any unnecessary handicap which lessens the efficiency of commerce must, per se, exert a negative influence on the country's progress. It is possible that some few weights and measures statutes or regulations have such a negative influence, as they are applied to certain containers, and that, with some slight revision in those rules, greater efficiency would result.

Among measure containers which have come to my notice which I believe fall in this category are, paper measure-containers, oil and milk

bottles. In making such suggestions as follow, let me state it is my belief that no sacrifice of accuracy and no lessening of protection to buyers would result from the universal adoption of these proposals. As the item of paper containers is obviously not a matter within the scope of the Institute, I shall limit my recommendations to glass milk and oil bottles.

Square milk bottles are fast replacing round ones, and I hazard the guess that within the next few years, round milk bottles will be as unique as today's horse and buggy. The popularity of the square bottle is apparent with the manufacturer, the dairyman, the storekeeper, the hotel and restaurant, and the household consumer.

Among the advantages of this square container and standing prominently in the front rank is space saving.

The outstanding advantage the square bottle brings to the dairymen is the space saved on both retail and wholesale trucks.

While it would be almost an impossibility to show the actual increase in truck carrying capacities for all makes of milk-truck bodies, we cite the potential increase in capacity of a popular model rated to carry 42 standard round-bottle cases. By modification of bottom strips. side guide angle irons, etc., the carrying capacity can be increased to 70 square cases which is equivalent to 66⅔ percent increase. In other milk bodies, the same type changes, plus modification of fender racks and cooler cabinets in some instances, result in increasing case carrying capacity about 50 percent.

While it may not be practicable to increase carrying capacity to the full extent the space saving will permit because of the physical limitations of trucks, any increase in the case capacity of trucks will bring about substantial reduction in the "per unit" home and store delivery costs. With larger routes and increased demand facing the average dairy today—and with manpower and equipment shortages acute in every locality—space saving in delivery equipment is a strong advantage which cannot be overlooked.

In the cold room, space economies are exceptional. For example, in a 20-foot square, with cases piled seven high without aisles between, 2,240 square-quart cases can be stacked containing a total of 26,880 bottles, compared to only 1,456 standard round-quart bottle cases (17,472 bottles)—an increase of 53.8 percent.

In bottle storage for empty bottles stored in cases, this space economy is identical to that pointed out above.

In service cartons square milk bottles make possible important space economies in plant and in transportation equipment. For example, in 1,000 cubic feet of shipping or storage space, 115½ gross of square quarts are accommodated, compared to only 78½ gross of standard round quarts—an increase in excess of 47 percent.

The same square bottle feature that appeals most to dairymen—its unusual space savings—is the feature outstandingly popular among homemakers. While it has been determined by actual survey that more than 9 out of every 10 women like the square bottle, 61 percent mention some space-saving feature as the reason for their preference. Dependent upon the design of the household refrigerator in use, it is reasonably safe to say that eight square bottles can be packed in the space needed for either four or five round bottles.

The storekeeper finds increased consumer acceptance, refrigerator convenience and space saving, and check-out counter convenience, with easier and quicker case handling.

In restaurants, hotels, hospitals, industrial plants, and lunch wagons, the same savings are apparent, with the easy pour feature added.

In addition to advantages mentioned above, the dairyman can obtain more delivery truck space for other products, such as butter, cheese, etc., and generally finds that lighter weight results, saving tires and gasoline.

All things considered, the square milk bottle is a hall-mark of progress.

Due to many precision measurement requirements involving these bottles, the cases, case cells, washers, fillers and cappers, and the ability to use other equipment now vogue, including trucks, no embossed characters are possible which would project beyond the plane of the straight side of these bottles. Any blown projection above the plane of the straight sides, as on the shoulder or neck, because of weakening or breakage tendencies resulting, cannot reasonably be included in the design of these bottles by the manufacturers.

A vast amount of redesigning and experimentation during the past year has developed a contour and visibility factor on the lower roll of these bottles, wherein the redesigned capacity and other marking appearing at that position have been pronounced satisfactory as well as clear and conspicuous by a number of weights and measures officials, and as meeting the requirements of the Milk Bottle Code as it appears in National Bureau of Standards Handbook H29, wherein it states that the "capacity" shall be "clearly blown" "in or on the side". It is my feeling, in order to lessen the chance of misinterpretation, that the phrasing of paragraph 2 of this code might be clarified so it will be understood that such marking is permissible on the lower roll, or that the lower roll is considered a part of the side of the bottle.

It has been vogue in a very limited number of jurisdictions to require a so-called State seal of approval to be blown on the shoulder of milk bottles, as indicative of test approval having been given such bottles. As indicated earlier, this cannot be reasonably done on square milk bottles, and in the cases of all milk bottles, this requirement makes for more costly manufacture (with, therefore, higher costs to subsequent buyers), and complicated, excessive inventories. It prohibits the interstate operation by dairies (if adjoining States each require a seal), because of the inability to use what could otherwise be interchangeable bottles with flexible inventories, and necessitates these dairies having duplicate stocks of bottles, each with individual State seals.

Milk bottle manufacturers find no fault with the insistence of weights and measures requirements that milk bottles be tested; rather they subscribe wholeheartedly to that procedure, and, with the acknowledged importance of the milk bottle as a measure in its service of billions of deliveries per annum to the public, this Institute, at the cost of months of research and the expenditure of thousands of dollars, has devised a plan whereby every milk bottle manufactured by those companies which the Institute represents will carry a triple identification code, translatable by every weights and measures offi-

cial, tying in each bottle with its maker, its capacity and its mold designation which identifies the pattern or design of the bottle.

Milk Bottle Markings
Recommendation of the Milk Bottle Manufacturers to the Specifications and Tolerances Committee, National Conference on Weights and Measures

The present specifications as set forth in Handbook H29 and as approved by the majority of States and municipalities require that each milk bottle "shall have its capacity clearly blown or otherwise clearly and permanently marked in or on the side of the bottle, and in or on the side or bottom the name, initials or trade-mark of the manufacturer thereof". In addition many States require the inclusion of the word "Sealed" and a number designating the manufacturer and registered at the State capitol; in a few cases, an individual State seal of approval has also been required on the side or shoulder of the bottle. Such nonconformity among 49 jurisidictions is costly to manufacturers and consumers alike, and restricts the freedom of interstate traffic in milk bottles.

The development and increasing use of the square milk bottle has multiplied the problems born of nonconformity. The design of this bottle as a space saver in dairies, delivery trucks, and homes, does not permit blown lettering on the straight sides or shoulders on account of the close fit in cases, washers, and fillers.

In order better to achieve uniformity throughout the Nation, the Milk Bottle Committee of the Glass Container Manufacturers Institute recommends to the Specifications and Tolerances Committee that one standard system of identification be established, such plan to be as follows:

Each milk bottle shall have clearly blown in the lower roll thereof the capacity, the manufacturer's name or trade-mark, the word "Sealed," and an identification mark, which mark will be used on all sizes of bottles in a given line. To illustrate, the lines which are now standard among one or more milk bottle manufacturers will be marked and the mold pattern or design identified as shown below—

Line	GCMI print	Identification mark[1]
22 oz, A shape	M–500	A
22 oz, B shape	M–500	B
17¾ oz, round	M–300 and M–310	D
17¾ oz, square	M–200	S
22 oz, cream top round		CR
22 oz, cream top square		CS
22 oz, 9½ in. tall square		AS
25½ oz, round		HW
Nonstandard height		NH
Modern top round		MR
Modern top square		MS
17¾ oz, modern top round		MD
Baby top round		BR
Baby top square		BS

[1] Additional marks can be added to indicate different fill points.

The above requirement would provide weights and measures inspectors with a triple set of identification symbols as proof of the manufacturer's integrity:

1. The manufacturer's name or trade-mark.
2. The capacity lettering.
3. The letter or letters identifying the mold pattern or design.

The manufacturer, or the Institute, will furnish to the various interested Weights and Measures jurisdictions blueprints of those lines in common usage as set forth in the Simplified Practice Recommendations submitted to the National Bureau of Standards. Uncommon lines and sizes listed above but not covered with a GCMI print will be cleared by the manufacturer direct with the jurisdiction involved. Any new lines to be developed will similarly be cleared direct by the manufacturer.

Such additional marks as are now imposed, such as the date of manufacture, plant number, etc., will be placed on the bottom of the bottle so as to avoid possible confusion with the basic required markings.

Steps are being taken to make this plan effective upon approval by this Conference.

Some of my associates who are present at the Conference, and I will count it a compliment if any interested members will permit our verbal detailing of the plan during other hours of your Conference stay in Washington. May I call attention to the display of bottles which have been produced in sample runs which are displayed on the table here in the Conference room, and others which will be in the quarters of my associates and myself upstairs in the hotel?

The final specific item in this general program which I will present involves the matter of fill-point of milk in glass and refers to that situation in the case of milk bottles which do not have a blown-in or other clearly defined and marked line for capacity fill.

Two most generally accepted fill-points are vogue, they being "cap-seat" and "¼ inch below cap-seat." The present jurisdictional attitudes, if my information is correct, line up as follows: ¼ inch below cap-seat, 23 States; cap-seat, 13 States and District of Columbia; no regulation, 11 States; plus 1 State which permits either.

The manufacturing specification difference between a cap-seat bottle and a ¼ inch below cap-seat one is extremely slight, yet to the manufacturer they are still different bottles. As such, they contribute to the added costs, the separate inventory problems and other complications which attach to special methods. They restrict that march toward uniform laws and regulations which, by almost every admission, seems to be the desired Utopia, not only by industry but by weights and measures groups also.

I believe that more may be said in favor of ¼ inch below cap-seat than for cap-seat fill. I believe the milk bottle industry believes there are good reasons for the ¼ inch below cap-seat fill. It must be realized that the dairy industry has a stake in this item and that any change will affect that group, and perhaps for the better. We hope that the dairymen will cooperate toward any effort that encourages uniformity. Time does not permit a detailed exposition of the reasons for this fill-point but I can say that milk bottle makers are a unit in desiring ONE NATIONALLY UNIFORM FILL POINT. We, of the milk bottle

industry, stand ready, during this Conference, or after, to personally outline this feature to any interested listener.

It is a safe presumption that you gentlemen are leaders of thought in your chosen field of endeavor of weights and measures regulation, and this problem is essentially in that field. If you believe in uniform laws and regulation; if you become convinced that one national fill-point is a desirable objective; if you subscribe to simplification of business procedure, then this question warrants your study. We offer our interested and unbiased help, to whatever extent you may wish it.

I have heard on many occasions, when weights and measures laws and regulations have been discussed, expressions which indicate the natural interest which attaches to "State's Rights". Surely a national unity of opinion, of laws, of regulations, do not lessen the rights of States. If that unity of thought and action is wrapped up in a cover of common sense, of wisdom, then each State profits thereby.

Let me summarize this presentation. Glass milk bottle manufacturers ask your helpful consideration and action concerning the positioning of capacity lettering, fill-point uniformity, and identification method covering milk bottles. It would also be beneficial if a similar identification plan was to be made operative and if the present rule requiring "State Approval Seals" on oil bottles be withdrawn in favor of the simplified and fully comprehensive method proposed for milk bottles. The Institute unselfishly suggests that an adaptation of the identification plan may be applied to other measure containers and perhaps, with some modification, to other devices. Such changes mean simplification of operation and products which would then be, in their entirety of production, applicable for use in all States and cities, without specialized marking. The adoption of these proposals would lend helpful support to the proposed National Simplified Practice Program which is sponsored by the Federal Government and being led by the National Bureau of Standards under the guidance of Mr. W. E. Braithwaite.

I have enjoyed 45 years of industrial experience; I have had pleasure and experience in 25 years of intimate weights and measures contacts, some of those years having been concurrent. I am convinced that each of these two groups can be helpful to the other, and more so than at present. Complete understanding of mutual problems and applications of that knowledge to our composite activities will, I am sure, lend impetus to a still more constructive cooperation and result.

A TENTATIVE CODE ON THE INSTALLATION, PROVING, AND OPERATION OF POSITIVE DISPLACEMENT METERS IN LIQUID HYDROCARBON SERVICE

By H. S. Bean, *Member, Joint ASME-API Committee for Volumeter Research*

This tentative code on the Installation, Proving, and Operation of Positive Displacement Meters in Liquid Hydrocarbon Service was prepared by a joint committee representing the American Society of Mechanical Engineers Special Research Committee on Fluid Meters, the American Petroleum Institute Topical Committee on Pipe Line Technology, and the meter manufacturers. The information and instructions are based on the results and experience gained from a series

of tests, on a number of representative meters, which was sponsored by the Fluid Meters Committee and carried out at the University of Oklahoma and the U. S. Naval Engineering Experiment Station at Annapolis: on such published material as the Standard Specifications for Cold Water Meters of the American Water Works Association and National Bureau of Standards Handbook H29, 1942, Specifications, Tolerances and Regulations for Commercial Weighing and Measuring Devices; and on the experience of many users of metering equipment for petroleum products as reported to the committee.

During the course of preparing the code the committee frequently went outside its membership for advice and suggestions. The present draft has been submitted to all members of the two parent committees and the editorial staffs of both the American Society of Mechanical Engineers and the American Petroleum Institute. This, however, does not insure that the present draft is above criticism or that it will meet all situations. It is fully expected that after the code has been in the hands of the industry for a year or two, numerous suggestions and criticisms will require and enable the committee to clarify and improve the code.

The main part of the code is divided into three sections, preceded by a glossary of the special terms used in the code. The first section describes the recommended methods of installing meters and their auxiliary equipment used in the sale or exchange of liquid hydrocarbons.

The second section deals with the testing of the meters and includes instructions for the calibration of the meter testing or proving equipment. The testing of both stationary meters and tank-truck meters is covered. However, the testing of gasoline service-station meters or pumps used in retail sales is not included, except insofar as some of the general provisions may apply, because these meters come under the supervision of the various city, county, and State weights and measures departments which have their own rules and regulations for such tests.

In the third section are suggestions for the operation and maintenance of metering equipment.

Copies of this code may be obtained at one dollar each, from the New York office of the American Petroleum Institute, 50 West Fiftieth Street, New York 20, N. Y.

It was the hope of both the American Society of Mechanical Engineers and the American Petroleum Institute that the copies of this tentative code could be distributed free; but the costs of publication were heavier than they anticipated, and consequently they are on sale.

REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON SPECIFICATIONS AND TOLERANCES, PRESENTED BY J. P. McBRIDE, CHAIRMAN, AND DISCUSSION THEREON

The Committee on Specifications and Tolerances recommends to the Thirty-second National Conference on Weights and Measures the adoption of the additions and amendments to the specifications, tolerances, and regulations for commercial weighing and measuring devices

which are set forth below. As these recommendations are read, explanatory comments will be interpolated from time to time.

J. P. McBride, *Chairman*,
G. F. Austin, Jr.,
C. M. Fuller,
J. G. Rogers,
R. W. Smith,
Committee on Specifications and Tolerances.

Mr. McBride. The Secretary of the Conference has informed me that the original edition of the Committee report was exhausted yesterday, but that an additional supply has been obtained; copies are now available from the table at the rear of the room and also from Mr. Smith's table.

(It was agreed to consider and act upon the report of the Committee item by item.)

SECTION ON GENERAL SPECIFICATIONS

Mr. McBride (reading):

Add a general specification to apply to all weighing and measuring devices except weights, to be presented, when the codes are published, as the first requirement, to read as follows:

1. Identification of Weighing and Measuring Devices.—*All weighing and measuring devices except weights shall be conspicuously, clearly, and permanently marked, for purposes of identification, with the name, initials, or trade-mark of the manufacturer and with the manufacturer's designation which positively identifies the pattern or the design of the device.*

The important part of this specification is the phrase, "with the manufacturer's designation which positively identifies the pattern or design of the device." The purpose of the Committee in offering this specification is to provide a means for relieving the situation which now exists in relation to the marking of approved devices with statements of such approval by separate States. In some cases this marking becomes so burdensome to the manufacturers that it might almost be said to interfere with the free movement of trade.

Under this specification a manufacturer would be required to identify each device as to pattern or design. The States could then refer to these designations for purposes of pattern approval and identification, and there should be no necessity for any additional marking.

(It was moved and seconded that the specification be adopted.)

Mr. Harrison. I would like to request information on the interpretation of this, if and when adopted. Consider a large-capacity scale, which is one of the classes of devices to which this would apply. Assume that the manufacturer's designation is placed on some part of the indicating element, which I presume would be the normal place in which to place it. Assume that the owner of the scale subsequently desires to make a change or replacement in the indicating element—for example, conversion of a beam scale into an automatic-indicating scale. What is the suggestion of the Committee as to the interpretation of this requirement in such a case?

Mr. McBride. Of course, this Committee can't say what the inter-

pretation would be. Individual States will have to work out their own procedures. In my opinion such a change as you suggest, if made by a manufacturer before the sale of a device, would constitute a pattern change and would thus require a new approval. But if the change were made by the scale user or at his direction, some time after original purchase of the device, the specification would not be applicable, since it is directed to the manufacturer and to new devices.

Mr. SANDERS. As I get it, this specification would cover all weighing devices, not only those that are subject to type approval, but all types, household and so forth.

Mr. MCBRIDE. It would cover all weighing and measuring devices which come within the jurisdiction of weights and measures officials. A household device which would not be used for buying and selling or for determining wages, would not come within the purview of weights and measures statutes.

Mr. SANDERS. This is not restricted to that, is it, Mr. McBride? It says, "all weighing and measuring devices."

Mr. MCBRIDE. By the nature of our official scope, we can't go beyond that, so that it applies only to the extent of our authority.

Mr. SANDERS. This does make a real problem for manufacturers. There are many hundreds of models of scales. As I get it. this would mean that each model would require a separate designation number.

Mr. MCBRIDE. I think a good many manufacturers do it already. This is intended to eliminate the necessity of putting on something additional. A good many of the devices now carry a number or a designation of the pattern or design of the particular device.

I don't think it is anything detrimental to the industry. I rather think that industry seeks this type of thing. This is the best offer that we can advance to bring about elimination of some of the burden that manufacturers are called upon to carry because of technical requirements of the States for identification.

Mr. SANDERS. Would it be possible that each manufacturer be given a designating number? If he ever sells a scale in that jurisdiction which has not been approved, it has that designation number on it, and then he is responsible and would be guilty and could be fined under the regulation.

Mr. MCBRIDE. The designation of pattern or design lies with the manufacturer. He is the one that selects that.

Mr. SANDERS. What I mean is that he must have a separate designation for almost every model he makes, that would have to be stamped on the device.

Mr. MCBRIDE. He can, to some extent, group his devices within certain pattern or design groups. For example if there are varying capacities growing out of the same scale, of the same general type of construction, they may all be of the same pattern designation—there could be a pattern number for that line.

Mr. WOODLAND. We will assume that an even-balance scale in four different sizes, from 4-pound capacity to 26-pound capacity, is submitted by my company for approval. At the present time, they must carry the manufacturer's name and capacity mark. There are seven companies building even-balance scales. They are relatively the same in design—the lever, the bases. Some of them look very much alike.

Would it be necessary for us to put a name plate on each of those even-balanced scales designating that it was "Jacobs" even-balance scale? The name Jacobs already appears on it and the capacity mark appears on all scales.

The designating numbers are on two pages of our catalogue. There are 86 different types of even-balance scales, each of which has a style number; they may have round pan, flat pan, sugar scoop, or coffee scoop, and there are the four capacities. To put a name plate on a scale would cost 15 cents for the name plate, and 51 cents to install it.

Mr. McBride. This doesn't say that you must put a name plate on it. It says positively identified. You might call this group of even-balance scales a certain "line."

Mr. Woodland. They comprise Jacobs "Even-Balance Line," and that is the way it is on your approval, and all of the approvals that have been granted so far. I believe the same thing would apply to Fairbanks, Howe, Troemmer, and Chatillon even-balance scales.

Mr. McBride. How do you catalogue them?

Mr. Woodland. As Jacobs "even-balance" scales.

Mr. McBride. That is all?

Mr. Woodland. Yes, outside of our catalogue number which designates style.

Mr. McBride. I don't think that would be sufficient. If an approval is issued for the Jacobs line of even-balance scales, there might be some of your even-balance scales in that line that would not be approved. I think you will have to work this problem out. I can not answer it, nor can this Committee answer for the interpretations of the various authorities.

All the specification requires is that you shall positively identify the pattern or the design of the device. What the pattern or the design of the device may be I think can very well be worked out as you go along. I know that some companies have what they call their 1,200 line or 1,400 line, which embraces essentially the same design and perhaps different capacities. You can work out something like that.

Mr. Woodland. I only used the even-balance line as an illustration. Various companies build what is called a "union" scale. It is known as a union scale by all companies, and is used in hardware stores for weighing nails and things like that. Each company has its number designating their type of union scale. Then there are crowfoot scales, and other types of scales, which are sometimes used in retail trade, that have no patented name designation, no copyrighted designation.

Mr. McBride. This is p-a-t-t-e-r-n.

Mr. Woodland. I understand that. A scale with a copyrighted name would be properly identified, such as our name, "Dectectogram" which specifies one particular type of scale.

Mr. McBride. I hesitate to answer. We give you this language now. What may be the construction as to what a pattern is, I don't know. You have a method of production, somebody else has another method. I don't think I am capable of giving to you a construction of this language by the multiple minds that are going to consider it. I think that all you have to do is to adopt a pattern designation that positively identifies the design.

Mr. Woodland. It would be a tremendously expensive matter for any manufacturer of these scales that are so similar in type to put on each scale a different serial or style number or something like that.

What I am trying to explain is that we take a lever and a few other basic parts, and from that starting point we build 32 different types of scales, some with beams, some without beams, some with weights, some with drug pans, flat pans, round pans, coffee scoops, and sugar scoops. Each one has a different number. Something would have to be cast in there to designate each deviation, just as we cast our name on the base. That would apply to union scales, portable platform scales, crowfoot scales, even-balance; and those types are so well standardized that several companies build scales so nearly alike that if they didn't carry a name, you wouldn't know they were made by different companies.

Mr. McBride. Would it be a difficult thing to specifically identify these different types by fixing the catalogue number to the device?

Mr. Woodland. It would cost about $1.02 to each purchaser under the present costs of labor and material.

Mr. McBride. Would that be less expensive than the approval plate that goes on now?

Mr. Woodland. You don't require us to put an approval plate on an even-balance scale, or on a crowfoot scale.

Mr. McBride. There would have to be some specific identification of the items in that line that were approved until you had accomplished approval of the whole line. You could cure that by submitting your whole line and getting it cleared up at once, and then simplify your marking requirements. But it wouldn't be an identification if you had 80 items in the line and only 10 of them were approved.

Mr. Woodland. I think that the entire line has always been approved.

Mr. Chatillon. Our scales have been serialized and our particular designation is the letter "H". We have serialization numbers 30, 31, 32, up to 37. Spring scales, let's say, are 33. That goes on any scale that has been approved, no matter what the capacity is. The same dial that goes on a hanging scale may be on a platform scale of the same capacity. Our platform scales are No. 34. Our instrument scales are what we used to call Sportsman scales, some of the line being approved, while others are not legal for use in trade. For those that are legal for use in trade, let's say the number is 35; all of those scales would be stamped H–35. As I understand it, that could not comply with your requirements, and what you actually want is an identification of each scale by its capacity and by its type.

Mr. McBride. That's right. It is a positive identification of the device.

Mr. Leithauser. Due to the controversial nature of this specification, and since it is the desire of this Conference to act not too hastily in any matter affecting the scale manufacturers, I move that the Committee on Specifications and Tolerances meet some time today with the scale manufacturers present here and try to work out an amendment that is satisfactory to all concerned, and report back to this Conference some time later today or tomorrow morning.

The Chairman. Mr. Rogers, you made the motion to adopt the

Committee recommendation, which is still before the house. Do you accept Mr. Leithauser's motion as a substitute?

Mr. ROGERS. I would like to have something to say about it. What we are proposing here does just what you manufacturers want. You wanted uniformity. You wanted uniformity of action, something that will prevail throughout the entire country. At the present time you have various jurisdictions requiring serialization of your products. The serial mark may be different for various States. If that is going to prevail, sooner or later you may have the whole 48 States in the Union with different serialization marks.

We think that the individual device in any instance can very readily be marked for identification. We ask a marking so that the official in the field can positively identify that that device has gone through State approval procedure. There is no other way of doing it. Under serialization, a State may give to a manufacturer a single number to apply to every device he turns out. That isn't positive identification. The man in the field doesn't know then whether or not that individual scale that he is running across has undergone State approval.

Gentlemen, if you want uniformity, we are giving it to you. If you want to let this hodge-podge system prevail, all right; we can go back to it, but then you are going to have trouble. The first thing you know you are not going to have room on your scales for anything but serialization marks of the States.

Mr. NEALE. If this is adopted, what will be the effect in New York City, Massachusetts, North Carolina, and Pennsylvania, being the four jurisdictions that now require a special registration mark? If this were adopted, would those four jurisdictions let go of their individual approval marking?

Mr. MCBRIDE. For Massachusetts, Charlie, when your Model 40 line, for example, is approved, you would have "Model 40" on your device, or whatever the model number might be, and that would be all that would be necessary. No additional approval indication would be necessary on the device. The fact that your model was approved, would be a matter of record with our office, and with your concern.

We are one of the approval-authority States, and we approve devices and we circularize our weights and measure officials, intermittently, and give them a list of the devices that have been approved. So that all the official would have to do would be to consult his list. He would be acquainted with the old devices, but on new devices he would consult his list and see if that model were approved, and that is all there would be to it.

The CHAIRMAN. Probably Mr. Baucom could give an answer for North Carolina.

Mr. BAUCOM. I have always favored uniformity. I am for it now and shall ever be. I came into this work in 1928. It was very confusing, to say the least. We had to have some identification upon which we could issue our approval. As Mr. McBride said a minute ago, as far as North Carolina is concerned I assure you that we will accept this identification and will give approval based on that model number.

We have no desire to paint over the face of your pump or scale, "North Carolina approved." We are not trying to advertise that way.

But it is necessary for the purchaser to be protected. We try to go back in all our rulings to the first paragraph of our law, which says, "In order to protect the purchaser or seller." In protecting, we have required some identification that our inspectors could recognize.

As I see this, gentlemen, I think it is a good thing. It may require some changes in the molding or casting of some of these scales which Mr. Woodland mentioned a moment ago, but I think that can be added just as easily as he could put it on the dial now, the NCBA and MASS and all those things that have to go on the scale now.

I think this would simplify it. It is something new that has come up here today and we haven't had time to analyze it in toto. But in answer to Mr. Neale's question, as far as North Carolina is concerned, we will accept positive identification for approval purposes.

The CHAIRMAN. Is Mr. Blickley in the house?

Mr. BLICKLEY. Pennsylvania's approval law at the present time requires that every weighing and measuring device shall have stamped or otherwise marked thereon in a conspicuous place the serial number, the manufacturer's name, and his address.

I believe I am one of the original sponsors to remedy that part of our law in order to make for uniformity throughout the United States. As Mr. Rogers pointed out, very soon you may have 48 designations to put on that particular weighing or measuring device. We, of Pennsylvania, will adopt and stand by the National Conference recommendations.

I do not believe it will be a handicap to any manufacturer to put this particularly recommended marking on the device. It must be done in Pennsylvania now anyway. As a matter of fact, we are going to try to amend our law to relieve manufacturers from the necessity of putting on the serial number. But there must be a plate on there as far as Pennsylvania is concerned, anyway, and I believe that holds true in the 14 different approval jurisdictions in the country at the present time. If adopted, the State of Pennsylvania will go along with the National Conference recommendation.

Mr. LEITHAUSER. I am not opposing this recommendation, but it seems that the scale manufacturers don't know what is required of them, and I thought that if they and the Committee could meet they could thrash this thing out. That is the only thing I had in mind when I made that substitute motion.

The CHAIRMAN. Sorry, but the substitute motion was not accepted.

Mr. KENNEDY. We do not have type approval in Washington, D. C., but I was previously in buying, and in buying we would like to know what we bought. I think that this recommendation of the Committee is the best thing we have had for years. I have had to write letters to companies relative to their scales and could find no model number or serial number or anything else, and I could only refer to 'their scale". I don't think it is right to have to work in that way. I believe even if it costs a little more, it is a very good recommendation.

Mr. WOODLAND. On our even-balance scales, underneath the level on the base, there is the number, 1, 2, 3, 4; the name plate is across the top or side, Jacobs Brothers or Detecto Scales, Brooklyn, New

York; and some place on the scale there is a capacity marking. Those scales are known as Jacobs' Even-Balance Scales, No. 1, 2, 3, or 4; those numbers 1, 2, 3, and 4 take all the different styles with and without beams and with the various types of scoops. My question is whether that is or is not sufficient marking.

Mr. McBride. The principal persons who would operate under this specification are the weights and measures officials in the approval-authority States, and they want a ready means of identification or knowing that the device has been approved. I think that there are some things that are procedural that can be worked out. If you want to give your line a code designation which will indicate the pattern or design satisfactorily to the approval authority, that is all you have to do. He has to be satisfied that he has a positive identification of the device that he has approved.

In exercising his authority now the approval official is entitled to say that a new device shall carry identification. In some cases this is done, but in other cases and particularly during the critical periods of the war, we did not require that devices carry identification because we didn't want to impose the additional duty of affixing a tag.

From Mr. Kennedy's remarks, apparently our recommendation has the additional advantage of specific identification of a scale for other than approval purposes.

Mr. Woodland. My desire is to try to find out whether the plan that we have used in the past, will be sufficient if this specification is approved. If Mr. Kennedy writes to us about our "even-balance scale No. 4," we know exactly what he means. If he just says "even-balance scale," we don't know what model that is; if he says "No. 4," we do.

Mr. McBride. In general, the idea is to relieve manufacturers of the burden of having the device itself carry in each State that State's approval identification. We are trying to offer you a plan whereby some common symbol or indication can be used—but it must be one which really identifies the device—to eliminate the chaos that now exists and which will increase if the number of State approval authorities increases. The manufacturers have said the problem is a burdensome one. All we are trying to do is help you. If we aren't helping you, we don't want to do this. To us the present system is really the better, but we are willing to forego some of the requirements that we are making, because these are principally for the convenience of the official and to make his work easier.

We have offered a way out to you fellows. The procedure that will be involved will still be your problem. We are not prescribing a method for each State; they will work that out themselves.

Mr. Woodland. I do not want it to appear that the manufacturers do not appreciate the efforts that you boys are putting forward to give us some kind of a standardization to work on. I do believe that by discussions of this type, at this time, we get a lot of clarification and a better understanding of what is to be required, and what you boys are trying to do to assist us in the manufacture of scales.

I believe the discussion helps us all, and I hear the remark here that the thing should be killed. I would be very definitely against having

this particular part of the change in specifications killed. I believe it is a help to the manufacturers. As I say, it should not be killed, but a little time should be given, perhaps a little bit more time than you are giving us at the present time, because material and labor conditions are not settled by any means, at the present time.

Mr. McBride. It is a nonretroactive measure that doesn't give you a definite time, as it is offered now.

The Chairman. Gentlemen, we have arrived at the time when it is absolutely necessary that we discontinue this discussion. It will be resumed immediately after lunch. Now we must recess so that the official group photograph can be made.

(At this point, at 12 : 30 p. m., the Conference recessed for luncheon.)

FOURTH SESSION, AFTERNOON OF FRIDAY, SEPTEMBER 27, 1946

(The Conference reassembled at 2:05 p. m., L. E. Witt, Vice President of the Conference, presiding.)

REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON SPECIFICATIONS AND TOLERANCES, PRESENTED BY J. P. McBRIDE, CHAIRMAN, AND DISCUSSION THEREON—CONTINUED

SECTION ON GENERAL SPECIFICATIONS—CONTINUED

(The specification under discussion when the Third Session recessed was as follows:

IDENTIFICATION OF WEIGHING AND MEASURING DEVICES.—*All weighing and measuring devices except weights shall be conspicuously, clearly, and permanently marked, for purposes of identification, with the name, initials, or trademark of the manufacturer and with the manufacturer's designation which positively identifies the pattern or the design of the device.*

The discussion was immediately resumed.)

Mr. SANDERS. May I offer the suggestion that we, the manufacturers, through our Association, try to work out a recommendation to meet your objective, and that we bring this up to a Conference next year?

Mr. BLICKLEY. I think that things have been satisfactorily explained to all members of the scale industry now. In many States, the legislatures convene the first Monday in January of 1947. We, of those States, have some amendments to make to the laws. If this is going to be postponed another year, it means that in those States it is going to be postponed for 2 years, because the legislatures in many States only convene every 2 years.

I believe there has been a motion on the floor by Mr. Rogers from New Jersey to adopt this specification as recommended by the Committee, and I feel that we should not postpone for another year something that will be beneficial to everybody concerned, not only the weights and measures men but the industry in general.

The CHAIRMAN. There is a motion before us, which has been duly seconded, to adopt the first item of the report of the Committee.

(The question was taken and the motion was agreed to.)

SECTION ON SINGLE-SERVICE MEASURE-CONTAINERS (EXCEPT MILK BOTTLES)

Mr. McBRIDE (reading):

Amend Specification 1 by substituting for the words "1 gill" the words "¼ pint."

The Committee thinks that probably "¼ pint" is more definitive or more informative than "1 gill."

(The amendment to Specification 1, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

Amend Paragraph 4 to read as follows:

4. A measure-container shall have its capacity, in terms of one of the units prescribed in paragraph 1, conspicuously marked in one of the following ways: (1) on the side of the measure-container, (2) on that portion of the top fold which will be exposed to view when the measure-container is closed, or (3) both on the bottom and on the lid or cover of such measure-containers as have removable lids or covers; this marking shall be in combination with the word "Liquid" or the letters "Liq" when the word "Quart" or "Pint" occurs. If the filling point is defined by a graduation near the top edge of the measure-container, there shall be on the side of the measure-container a conspicuous and suitable statement clearly identifying this filling point. The name, initials, or trademark of the manufacturer shall appear on the measure-container. All required markings shall be clear and legible.

This changes existing Specification 4 with relation to the marking requirements. Remember that these single-service measure-containers are containers used to determine quantity at the time of a retail sale. The code was adopted at the 1941 Conference to be effective as of July 1, 1942.

Since that time, of course, we have had no Conference, but it has been represented to the Committee that Specification 4 as now written offers considerable difficulty to certain branches of the single-service measure-container industry, particularly in relation to two types, the so-called "cylindrical spiral-wound" container, and the so-called "pleated" container. These containers are made by a process that does not readily allow the required marking on the side. To accommodate that type of container, but also to provide adequate consumer protection, we propose to make it permissible, as an alternative to the side marking, to mark on that portion of the top fold which will be exposed to view when the measure-container is closed, or both on the bottom and on the lid or cover of such measure-containers as have removable lids or covers.

That will give industry an opportunity to comply with the code, and likewise to give to the consumer the information that we believe the consumer should have.

There is another change in the code as originally written. There was a requirement that if the filling point is below the top edge, there shall be on the side of the measure-container a conspicuous and suitable statement clearly identifying the filling point provided. In Specification 3, acceptable filling points are specified as the top edge, a graduation near the top edge, or the lowest portion of a shoulder, cap seat, lid seat, or indentation near the top edge, of the measure-container. The only point of fill which might be confusing to the customer would be the one defined by a graduation below the top edge. Accordingly, we have limited the requirement of Specification 4 for a statement identifying the filling point to the single case where a graduation is employed.

(The amendment to Specification 4, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

Amend the tolerances by doubling the tolerances in excess, so that the table under the heading "Tolerances" will read as follows:

Capacity	Tolerance			
	In excess		In deficiency	
	Fluid drams	*Cubic inches*	*Fluid drams*	*Cubic inches*
1 gallon	12	2. 8	6	1. 4
½ gallon	9	2	4. 5	1
1 quart	6	1. 4	3	0. 7
1 pint	4	1	2	0. 5
½ pint	3	0. 6	1. 5	0. 3
1 gill	3	0. 6	1. 5	0. 3

Some types of containers are not rigid, and unwarranted rejections may take place when these are tested because of unavoidable slight deformation of the container. The Committee has felt that this can be overcome by enlarging the tolerances in excess and that this is entirely justified under the circumstances.

Mr. Saybolt. For the purposes of uniformity, it may be that you will want to change the last item in the first column of the tolerance table from "1 gill" to "¼ pint".

Mr. McBride. That is right, Mr. Saybolt. We didn't know that Specification 1 was going to be amended, so we had to follow the original language. Since No. 1 has been amended the table should be made to agree and "1 gill" should be changed to "¼ pint".

(The amendment to the tolerances, as proposed by the Committee but with the change agreed to by Mr. McBride, was duly adopted.)

SECTION ON MILK BOTTLES

Mr. McBride (reading):

Amend Specification 2 to read as follows:

2. *Each milk bottle shall be clearly and permanently marked with its capacity, with the word "Sealed", and, for purposes of identification, with the name, initials, or trade-mark of the manufacturer and the manufacturer's mold designation which identifies the pattern or design of the bottle; the capacity designation and the word "Sealed" shall not be on the bottom of the bottle.*

Present Specification 2 reads:

Each milk bottle shall have its capacity clearly blown or otherwise clearly and permanently marked in or on the side of the bottle, and in or on the side or bottom, the name, initials, or trade-mark of the manufacturer thereof.

A practical manufacturing difficulty has made it a very difficult thing, and probably an impossible thing with the development of the so-called square milk bottle, to mark on the side as the existing code requires. We are, of course, interested in this marking being some-

thing that is readily apparent or reasonably conspicuous to the observer, which includes the consumer as well as the official. To accommodate the specification requirement to the possibilities of compliance in line with the progress of the times and the development of this new type of package, the Committee offers the language in the amendment to say that the bottle shall be clearly and permanently marked with its capacity, with the word "sealed" and, for purposes of identification, with the name, initials, or trade-mark of the manufacturer and the manufacturer's mold designation which identifies the pattern or design of the bottle.

Mr. Baucom. This business of square bottles has been a thorn in the flesh of our State for about a year and a half. I wish to correct the Committee by stating that the Glass Bottle Manufacturers Association have developed a square milk bottle with the declarations as called for in this amendment on the side of the bottle.

There is no objection to the change proposed here, as I see it. I don't particularly see the necessity of using the word "Sealed." I do not object to it. There may be reasons for it that I am not acquainted with.

I just offer this to you, that the manufacturers can comply with the present specifications; or we can adopt this amendment and we still will have a question to determine. The amendment says that this marking shall not be on the bottom. In other words, the Committee left out the word "side." That means it could be put down on the heel. It is my personal opinion, not based on proof, that if you allow the marking to be pushed down on the heel, it may be pushed down clear under the heel. We said it should be a plain and conspicuous marking showing net contents upon the side of the bottle. I would like to see us keep it up on the side of the bottle.

Mr. McBride. The Committee did have presented to it the bottle Mr. Baucom has in mind. The difficulty with the present language is that it definitely says "on the side." What is the "side" is open to argument. Is it all of the space that runs in one direction until you reach a curvature, on the bottom side, top side, or mid-side? The language that is proposed intends to clarify, and to leave out the word "side." The lower roll where the Committee finds acceptable marking on these new bottles, may or may not be a part of the "side" of a bottle, but definitely it is not a part of the "bottom" of the bottle. Therefore, to eliminate the possibility of confusion, the Committee is proposing that the capacity designation and the word "sealed" shall not be on the bottom of the bottle.

The word "sealed" on a bottle satisfies a technical requirement of most laws that apparatus in commercial use must be sealed.

Mr. Saybolt. Mr. Baucom's remarks were distinctly in line and there is no conflict of opinion between his expression and the attitude of the glass manufacturers. But as Mr. McBride has intimated, there is a question of distinction in the meaning of a word—what constitutes the side.

May I say that in the industry, that section of the bottle which Mr. Baucom referred to as the "heel," we have dignified by calling it the "lower roll."

Mr. Baucom was more than helpful to the glass industry in being

instrumental in causing the redesign of the contour of the lower roll, beginning perhaps a year and a half ago, in several discussions with him in North Carolina. And where the lower roll in the earlier bottles more nearly resembled the arc of a perfect circle, the slope has been changed decidedly so that the upper line representing the end of that roll is now appreciably higher from the bottom of the bottle than was the case before. But it is still a roll.

That change permitted the raising of the blown lettering on the roll an appreciable distance from its previous somewhat obscure position.

I would like to add just a word or two more as to the reason for this point of distinction. Even with the raised lower roll of the bottle with its embossed or raised lettering, there is still no point or spot in that lettering which projects beyond the plane of the straight surface of the side. And the reason that is an important feature is that the specifications as to measurements on these bottles are so tight, so minute, that were any projection made it would be necessary to use larger cases. If larger cases were used, the present measurement of cases being such that they just fit exactly within the present delivery trucks of dairymen, it would mean that lost space would be involved, and that the saving in space in trucks of from 50 to 66⅔ percent, which I mentioned this morning, would be lost.

In addition to that, any projection beyond the plane of the side of the bottle might create a sticking in the washers, fillers, cappers, and what have you.

So I offer my assurance for whatever it is worth, that the bottles, as proposed, fully meet your suggested requirements, Mr Baucom. And I think that the word "side" was left out of the proposed specification, due to the fact that there has been much misunderstanding in the field among the inspectors as to what constituted the side. If we leave "side" in the specification, the controversy will go on and on.

The Chairman. I would like to tell Mr. Baucom that while I speak only for Wisconsin, our statutes provide that the word "sealed" must be blown somewhere in the side of the bottle where it is legible.

Mr. Bussey. In the last phrase it says, "The capacity designation and the word 'sealed' shall not be on the bottom of the bottle." I assume there would be no objection to the wording appearing on the bottom of the bottle, if it appeared on the side of the bottle also. In other words, it wouldn't make any difference if it appeared in both places. If it was on the bottom of the bottle, that would not be construed as complying with specifications.

Mr. Saybolt. There is a very strong reason for it not being on the bottom, in addition to the desirability of having it on the lower roll for visibility purposes, and that is this: All surfaces of the bottle other than the bottom have been designed for publicity markings, if I may use that term. And the manufacturers plan to use exclusively, with the exception of the lower roll, for trade-mark purposes, the bottom of the bottle for such private marking as is of interest to them. On some milk bottles a designation of the plant number is put in there—where the bottle was made; the manufacturer may have half a dozen plants making bottles of that type. In addition, two or more numerals indicating the year of manufacture of the bottle may be there, and there

may be other markings of interest to the manufacturer and of considerable use to him, which he would also plan to put on the bottom.

If the option was left to the glass manufacturer, he would much prefer to leave the bottom clear for his own private markings, and certainly would much prefer to put the word "sealed" other than on the bottom.

Mr. BUSSEY. Certainly it would be his prerogative to do that. I didn't intend to even insinuate that I wanted the marking on the bottom of the bottle instead of on the top of the bottle. I did construe that as prohibiting putting it on the bottom also, if somebody saw fit to do so. If you want to put it both places, I wouldn't have any objection.

(The amendment to Specification 2, as proposed by the committee, was duly adopted.)

SECTION ON LUBRICATING-OIL BOTTLES

Mr. MCBRIDE (reading):

Amend the "Definition" at the beginning of the code to read as follows:
Lubricating-oil bottles shall be construed to include all bottles used for the measurement of lubricating oil for direct delivery to the crankcase of a motor vehicle, whether or not the bottle is sealed with a cap or some other device.

The purpose of this amendment is to clarify the language in our existing definition, which reads:

Lubricating-oil bottles shall be construed to include all bottles used for the sale of lubricating-oils for immediate delivery to the crankcase of a motor vehicle whether or not the bottle is used to determine the quantity of oil sold and whether or not it is sealed with a cap or some other device.

The amendment proposed limits the definition specifically to the case where the bottle is used for the measurement of lubricating oil, for direct delivery to the crankcase at the time of sale, and clarifies the confusion that exists in some places between the prepacked, predetermined-quantity bottle, and the bottle that is used as a measure.

(The amendment to the Definition as proposed by the Committee, was duly adopted.)

SECTION ON LIQUID-MEASURING DEVICES

Mr. MCBRIDE (reading):

Under Specification 6, delete the second paragraph under "Notes" which now reads as follows:
In applying the elapsed-time test outlined above it is recommended that the delivery be not made through a hose, since the amount of gasoline necessary to wet the inside of the hose will cause an additional shortage in the delivery.

Obviously, this recommendation was written with the "dry hose" type of pump in mind. Even though better than 99 percent of present pump production is of the "wet hose" type, as has been stated here, the elapsed-time test is still needed, but the Committee feels that it is not consistent to retain the recommendation for a removal of the hose during such a test.

Mr. SLOUGH. I personally see no reason for the use of the elapsed-time test any more. We had quite a discussion at our summer conference in Ohio. Mr. Griffith of the Bowser Company led the discussion, and it was proven that the elapsed-time test is not used to any

extent, and is only applicable to pumps that are more or less obsolete. I think the whole elapsed-time test should be stricken from the code.

Mr. McBride. In Massachusetts we often find that, after a period of idleness, meters will show an appreciable error due to idleness of the device. So, insofar as Massachusetts is concerned, I would think there would be no good reason for eliminating the elapsed-time test in toto.

Mr. Fuller. There are occasions when that elapsed-time test does serve a useful purpose. In fact, we used it only a few weeks ago in certain tests in a garage which occupied several floors, where the meter was installed on the floor below, at the place where the supply line came in. It is true we do not use it very often, but there are times when it is exceedingly valuable to have it, and I do not think it should be deleted entirely.

(The deletion of the paragraph under "Notes", as proposed by the Committee, was duly agreed to.)

Mr. McBride (reading):

Amend Specification 7 by adding, at the end of the first sentence, a new sentence reading as follows:

The bottom of the lowest indicating element shall be not less than 36 inches above the roadway level, and the top of the highest indicating element shall be not more than 60 inches above the roadway level.

The first part of Specification 7 reads as follows:

Counters, graduated scales and dials, and reading faces, used on liquid-measuring devices to tally sales and deliveries to individual purchasers or to indicate the amount delivered when any portion of the cycle or stroke has been completed, or the unit price or the total price thereof, shall be of such size and style and shall be so located and disposed that they are clearly visible to and readable by the customer from any position which he may reasonably be expected to assume;

This is followed by language which interprets what has gone before by prescribing the horizontal range within which the indications of the device must be readable, as follows:

In the case of a retail device this position shall be construed to mean any position within a field of 120°, defined by two vertical planes each at an angle of 30° with the counter, graduated scale or dial, or reading face, and passing through the center thereof.

It is now proposed, in effect, to prescribe the vertical range in addition to the horizontal range of vision.

Mr. Neale. Does that have anything to do with the so-called visible pump?

Mr. McBride. Yes, it would, because it relates to indicating and registering parts of liquid-measuring devices.

Mr. Neale. The visible pump is not extinct yet; it has a decided use in many places where they haven't got electric power, and some are still being manufactured. This amendment plainly reads that in the visible pump the top marking cannot be more than 60 inches above the level of the road. That would present a problem.

Mr. McBride. I wonder if I may interrupt. The visible pump is probably passing out, but to meet the difficulty which I think you have in mind, and to expedite our procedure here, I propose for the Committee that we strike out the limitation on the height of the highest indicating element, and retain only that much of the proposed new lan-

guage as relates to the height of the bottom of the lowest indicating element. The lowest element then could be at any point not lower than 36 inches, and there would be no control over the top element at all.

Mr. LEITHAUSER. May I propose an amendment which I think will be satisfactory to Mr. Neale and clear this up? Suppose we say that the bottom of the lowest indicating element of a computer pump shall not be less than 36 inches above the roadway level, and the highest indicating element shall be not more than 60 inches above the roadway level.

Mr. MCBRIDE. There are noncomputing pumps, too.

Mr. LEITHAUSER. I stated computing pumps.

Mr. MCBRIDE. Wouldn't you want the same thing for a dial pump?

Mr. SIEGER. I don't know whether you gentlemen realize it or not, but our standard pump, with which you are all familiar, would no longer comply with this regulation.

The regulation, standard, computing pump stands about 6 feet high, and the highest indicating markings are, roughly, a foot and a half or 15 inches below; add an island to that, and you come out with an answer that no longer complies with this regulation. I don't think, as a matter of fact, it was your intent to interfere with the present pump, but that what you had in mind was the low type.

Mr. MCBRIDE. The figures we had on the others would not indicate that a 60-inch height limitation would be violated with the accepted standard of a 5- or 6-inch island. However, an amendment might well be offered to strike that part out.

Mr. FULLER. Mr. Chairman, in order to clarify this and settle it, I move that the latter part of this recommendation, following the comma, be striken out and that the amendment be adopted as it reads up to that point, affecting the lowest indicating element only.

Mr. ROGERS. I second the motion.

(The question was taken and the motion agreed to, thus adding to Specification 7 only the words, *"The bottom of the lowest indicating element shall be not less than 36 inches above the roadway level."*)

Mr. MCBRIDE (reading):

Amend the second paragraph of Specification 33 by adding after the word "devices" the words "for dispensing motor fuels," so that the paragraph will read:

This specification shall be construed to require that in the case of all devices for dispensing motor fuels which have a graduated scale or dial or similar indicating means which at some point or points or at all points constitutes the sole or most sensitive means of determining the amount of liquid discharged, the length on such scale or dial equivalent to the tolerance at any graduation must be readily appreciable when the character of the indicating element and its normal distance from and position in reference to the observer's eye are taken into consideration; the gross, inside cross-sectional area of the measuring chamber shall in no case be less than 75 square inches nor more than 118 square inches and, if cylindrical, the inside diameter of the measuring chamber shall in no case be less than 9.75 inches nor more than 12.25 inches.

This paragraph, as it now stands, was drawn with particular reference to visible pumps for dispensing gasoline, but the language covers devices for dispensing other liquids for which it is not appropriate. To clarify the situation the Committee recommends the insertion of the words "for dispensing motor fuels."

(The amendment to Specification 33, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

Amend Regulation 1 by adding after the word "devices" the words "installed in a fixed location," so that the Regulation will read as follows:

1. Plumb and Level Installation.—All liquid-measuring devices installed in a fixed location shall be installed plumb and level, and their installation shall be of such strength and rigidity as to maintain this condition.

There are portable dispensing devices for which the requirement for plumb and level installation is inappropriate, being intended to apply to devices permanently installed in a fixed location. The proposed amendment is designed to correct this situation.

(The amendment to Regulation 1, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

Add a new Regulation, to be numbered 7, to read as follows:

7. Identification of Responsible Party.—A coin-operated retail device shall be permanently and legibly marked with a statement containing the name and address of the person, firm, or corporation to whom application may be made for adjustment of any failure of the device to deliver by reason of exhaustion of the supply of liquid in the supply tank.

Information has reached the Committee to the effect that a coin-operated gasoline-dispensing device is being developed. This will be a conventional model—the same gasoline dispensing device that is operated manually except that an attachment will be affixed to the device permitting coin operation of the device when the attendant is absent.

That type of device will comply with all of our existing specification requirements with relation to liquid-measuring devices. However, the new phase of the mechanical salesman presents the problem of occasions when the user may not receive a complete delivery because of exhaustion of the liquid in the supply tank. A man might put in a quarter and the supply might be down, and before the quarter's worth was dispensed, the liquid level in the supply tank might drop below the level of the inlet of the suction line, so that the quarter's worth could not be delivered by the pump.

Conceivably that could happen, but in all probability, it would be a rare occurrence. Nevertheless, being a possibility, the Committee has felt that this regulation which I have just read to you is necessary. It is similar to the regulation we have in relation to person-weighers when they fail to operate.

Mr. Aitken. There is a technical question that comes in here. The proposed Regulation states that "a coin-operated retail device shall be permanently and legibly marked with a statement containing the name and address of the person, firm, or corporation," and so on. The question is whether or not that language is so broad that it includes other types of coin-operated devices, such as vending machines in general.

Mr. McBride. This Regulation would be a part of the code for liquid-measuring devices, and so would apply only to such devices.

Mr. Bussey. You say "permanently" marked. The question has been asked back here if that would not better be changed to "legibly marked at all times"? If it were permanently marked and it changed hands, it might be difficult to change a permanent marking.

Mr. McBride. "Permanently" wouldn't mean impossibility of removal. We mean permanently in the sense that it will not be easily removable.

Mr. Bussey. You mention failure to make delivery on account of exhaustion of supply; failure to deliver for any other reason is just as important.

Mr. McBride. Would it be any of our business if a coin-operated device failed entirely to operate? Then it wouldn't be a measuring device at all. I see no objection to the language. The name of a responsible party would be there anyway. If the device failed to operate at all, the party would go to this person who is responsible for the device. We use the qualifying language because our field is weights and measures.

(New Regulation 7, as proposed by the Committee, was duly adopted.)

SECTION ON VEHICLE TANKS

Mr. McBride (reading):

In the first sentence of the "Definition" at the beginning of the code, substitute for the words "wagon, automobile truck, or trailer" the word "vehicle", so that the sentence will read:

A vehicle tank is an assembly used for the delivery of liquids, comprising a tank, which may or may not be subdivided into two or more compartments, mounted upon a vehicle, together with its accessory piping, valves, meters, etc.

(The amendment to the Definition, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

In Specification 5 whenever the expression "fill opening" is used, change this to read "fill or inspection opening".

The Committee is informed that the practice of "bottom filling"—filling a compartment from a connection at the bottom of the compartment instead of through the opening at the top—is growing. In such cases the top opening is retained but it is an "inspection" rather than a "fill" opening. To cover all situations, the Committee proposes this amendment.

(The amendment to Specification 5, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

In the second sentence of Specification 10, add the words "lowest portions of the" before the word "indicators", so that the sentence will read:

In addition, the tank shall be plainly and conspicuously marked to show the capacity, to the nearest half gallon, of each compartment *and such marking shall indicate that the capacities given are measured to the lowest portions of the indicators provided.*

The purpose of this amendment is to establish a uniform practice. At present the top of the indicator is sometimes used and at other times some midpoint on the indicator. The recommendation is consistent with the existing requirement for liquid capacity measures which specifies that when the capacity is defined by a plate, bar, or wire it shall be determined "to the lowest portion of such plate, bar, or wire."

(The amendment to Specification 10, as proposed by the Committee, was duly adopted.)

SECTION ON SCALES

Mr. McBride (reading):

Amend the first sentence of Specification B–2b (2) so that this will read as follows:

Any scale which is portable and which is designed for use upon a counter or table, and any person-weigher, whose weight indications are changed by an amount greater than one-half the tolerance allowed when set in any position on a surface making an angle of 5 percent or approximately 3 degrees with the horizontal, shall be equipped with a device which will indicate when the scale is level, and in no case shall any pendulum operating the scale be considered a leveling device; the indications of the level-indicating device shall be readily observable without the necessity of disassembly of any scale parts requiring the use of a tool or device outside of and separate from the scale.

It is recommended that the foregoing amendment be made effective January 1, 1948.

The language following the semicolon—*the indications of the level-indicating device shall be readily observable without the necessity of disassembly of any scale parts requiring the use of a tool or device outside of and separate from the scale*—is new, and in some cases this requirement would necessitate a material change in existing design and construction. The purpose of a level-indicating device is to advise the user whether or not the scale is level; yet in some recent scale designs, the level-indicating device is so positioned that it is not readily observable by the user.

In recommending that this amendment be made effective January 1, 1948, the Committee has taken cognizance of the fact that at the present time manufacturers are facing much uncertainty regarding labor, materials, and other factors. Conditions may have stabilized by January 1, 1948; in any event another National Conference will intervene between now and then, and if further postponement of effective date is advisable, this can be accomplished at the next Conference. The same thinking applies to similar recommendations regarding effective dates for proposals to follow.

Mr. Baucom. I move that we tentatively adopt this recommendation, subject to the approval of the next Conference. This action will put the manufacturers on notice as to our intentions.

(The motion was seconded, the question was taken, and the amendment to Specification B–2b (2), as proposed by the Committee, was tentatively adopted, subject to approval by the next National Conference.)

Mr. McBride (reading):

Amend Specification B–2d by deleting the words "person weighers and of small-capacity", so that the Specification will read as follows:

B–2d. Device for Adjusting Balance or Level.—*All mechanical devices for adjusting the balance condition or the level of scales except cream-test scales and perscription scales, shall be of such construction that they are operable or acceshible only by the use of some tool or device which is outside of and entirely separate from the device in question, such as a screw driver, wrench, etc., but not an adjusting pin.*

It is recommended that the foregoing amendment be made effective January 1, 1948.

That brings within the purview of the Specification all types of scales except cream-test scales and prescription scales.

Mr. HARRISON. Do I understand that the Committee literally recommends this to be effective to large-capacity scales?

Mr. MCBRIDE. Yes.

Mr. HARRISON. I submit to the Committee and to the Conference that the requirement as proposed in relation to large-capacity scales makes the situation worse. Consider, if you please, a vehicle scale exposed to the weather. In the case of a rainstorm, you require that scale to be kept in balance just the same as though the weather were as it is today, all day long. If you require a balancing device for that type of scale such as contemplated by the Committee's recommendation, you are making it more difficult for the operator to keep the scale in balance than though you give him a device whereby he can conveniently balance the scale from time to time, as he uses it during the day.

In the case of the small-capacity scale, it was the desire of this body to set up requirements which would prevent fraud, if you please, on the part of an operator who might be unscrupulous, which sort of fraud might conceivably be practiced as a kind of sleight-of-hand, even in the presence of the customer. On the large-capacity scale, I think that that is something that need not be considered. To my mind, it is much more important on the large-capacity scale to make it easy for the operator to keep the scale in balance. The proposed requirement makes it more difficult for him to do that. I would respectfully ask the Conference not to approve this recommendation for application to large-capacity scales—in other words, to leave the requirements affecting large-capacity scales standing exactly as they are now.

Mr. AUSTIN. The reason this requirement was proposed by the Committee was that we have had numerous reports from different sections of the country complaining particularly about the use of junk yard scales. When some one comes in to make a sale to the junk yard, the operator of the scale has the advantage of being able to spin his balance ball forward; when he is selling, he spins it back the other way. We have seen much of this in our own jurisdiction, and I think it is quite general throughout the country.

Mr. HARRISON. The requirement proposed by the Committee does not make the thing fool-proof by any means. It does not make it as nearly fool-proof as the present requirement.

(The amendment to Specification B–2d, as proposed by the Committee, was duly adopted by a rising vote.)

Mr. MCBRIDE (reading):

Make appropriate changes to fix the tolerances for uncompensated spring scales at the same values as those now fixed for compensated spring scales, and to fix the tolerances for straight-face spring scales at four times these values, as follows, these amendments to be made effective January 1, 1948:

In paragraph J–2, delete the words "except uncompensated spring scales." This change will automatically delete the footnote now referred to the word "uncompensated".

Delete the words "Except Uncompensated Spring Scales" from the heading of Table 3 under paragraph J–2, and add, between the heading and the table, the following:

[Tolerances for stright-face spring scales are four times the values shown]

Delete paragraph J–3 with its footnote and Table 4.

The basic change proposed is to prescribe the same tolerances for uncompensated spring scales (except straight-face spring scales) as for compensated spring scales, with the tolerance for straight-face spring scales becoming four times the latter values; the specific recommendations made would accomplish this.

Members of the Conference know that for quite some time there has been a feeling in relation to the trend in spring scales. Various appelations have been used in referring to these scales; sometimes they have been called "cheap" scales, and sometimes they have been called "tin pans". At one time the Conference considered a method of correcting this trend, and the question was whether or not it should be done by going into some of the metallurgical features of racks and pinions and chassis and so on. At that time we urged that the immediate thing to be done was for the weights and measures officials to enforce rigidly and fairly the existing code.

The present recommendation is suggested as a means of accomplishing the desired end result rather than going into the metallurgical questions.

Mr. Sanders. The remarks I am going to make apply to this change and to the next three proposed changes concerning scales.

We are now engaged in a very difficult process of reconverting from the production of war materials over to the production of normal products. There has been a great pent-up demand for scales and many other products. Several of these four remaining changes concerning scales will require design changes in order to produce scales in compliance, and they will require revisions of manufacturing processes.

Even though the changes are not made effective until January 1, 1948, the designing must be started now and it will be effective in slowing down production. There is a great demand for many of these scales, especially the inexpensive models. To adopt these changes will increase the cost of production at a time when the Government, and I think most of the States, are trying to combat inflation.

I would like to suggest that these changes be considered at the next annual meeting of the Conference. This would give the manufacturers an opportunity to study them, to make suggestions, and to make their recommendations.

I don't know how many manufacturers are ready to approve them or to oppose them; only several of them are represented here, and I have not had a chance to communicate with all the manufacturers. There are about 70 scale manufacturers. We knew about these proposed changes on Tuesday. I think I have talked to seven or eight manufacturers since then.

We would like your indulgence to give us an opportunity to make our recommendations because we are an interested party. You are the jury here today, and your action can affect the livelihood of manufacturers and it can affect a great many of the users of scales who desire to purchase them.

Mr. Kennedy. I believe that the request made is a very reasonable one. We do not want to delay new scales any more than necessary. I move you that this matter be held over for one year.

(The motion was seconded, the question was taken, and the motion was agreed to; as a result, action on the amendments relating to spring scales, as proposed by the Committee, was deferred until the next National Conference.)

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Mr. McBride (reading):

Amend Regulation K–2 to read as follows:

K–2. Straight and Level Approaches.—*A vehicle scale shall have at each end of the scale a straight approach at least equal in length to the length of the scale platform, except that in no case shall this length be required to exceed 40 feet.*

The Committee wishes to amend its recommendation for the rewording of Regulation K–2 by changing the word "shall" in line 1 to "should", and by inserting the phrase "and in the same plane as the plaform" which was inadvertently omitted from your mimeographed copies, so that our proposed text will read,

K–2. Straight and Level Approaches.—*A vehicle scale should have at each end of the scale a straight approach at least equal in length to the length of the scale platform, and in the same plane as the platform, except that in no case shall this length be required to exceed 40 feet.*

It has long been required that there should be a level approach, but the required length is only 12 feet, a length which the Committee feels is inadequate under present-day conditions. To provide for discretionary power for enforcing officials in working out the best arrangements in many difficult situations which we know will be encountered in the field, we feel that "should" is better in this case than the customary "shall".

(The amendment to Regulation K–2, as proposed by the Committee, was duly adopted.)

Mr. McBride (reading):

Amend Regulation K–6a by deleting the entire proviso and the words "other than fruits and vegetables" at the end of the sentence, making the Regulation read as follows:

K–6a. Food Scales.—*The value of the minimum weight graduations on a scale equipped with a weighbeam or reading face, used in the sale of foodstuffs at retail, shall not exceed 1 ounce. A spring scale not equipped with a device intended to compensate for changes in the elasticity of the springs due to temperature effects, or not so designed as to be substantially independent of such changes, shall not be used in the retail sale of foodstuffs.*

It is recommended that the foregoing amendment be made effective January 1, 1948.

The language proposed would withdraw the existing permission to use, in the sale of fruits and vegetables, scales having minimum graduations with values in excess of 1 ounce and spring scales which are not compensated. There are involved some of the same considerations as were mentioned in our earlier discussion of the proposed changes in tolerances for uncompensated spring scales.

Mr. Woodland. I believe this should be held over until next year. I can see no advantage in holding the tolerance change over until next year if you are going to adopt this recommendation now.

Mr. Palmer. I move that this recommendation be held over until next year.

(The motion was seconded, the question was taken, and the motion was agreed to. This action was reconsidered.)

Mr. Fuller. It seems to me that this recommendation really consisted of two parts. Would it not be advisable to reconsider the action we have just taken and then act on these two parts separately? Surely,

with the high prices for fruits and vegetables which prevail at the present time these commodities can no longer be considered to be in a cheap category, and to use in their sale scales with graduations greater than one ounce is conducive to deception and fraud.

Mr. BELLE ISLE. I might say that all retail scales today have increments of one ounce.

(A motion to reconsider the previous action relative to Regulation K–6a was duly adopted.)

Mr. PALMER. I move that we separate the question, and that the first sentence of Regulation K–6a be amended as proposed by the Committee, effective at once.

(The motion was duly agreed to, thus deleting the proviso of Regulation K–6a and making the first sentence thereof nonretroactive.)

Mr. ROGERS. I move that action on the Committee recommendation for the deletion of the words "*other than fruits and vegetables*" at the end of Regulation K–6a, be deferred until the next National Conference.

(The motion was duly agreed to.)

Mr. MCBRIDE (reading):

Amend Regulation K–6b by deleting the words "having a capacity of not more than 60,000 pounds", so that the regulation will read as follows:

K–6b. VEHICLE SCALES.—*The value of the minimum weight graduations on the weighbeam and/or on the reading face of a vehicle scale shall not exceed 20 pounds.*

It is recommended that the foregoing amendment be made effective January 1, 1948.

This change would have the effect of removing the present limitation of 60,000 pounds, and requiring vehicle scales of any capacity to meet the requirement.

Mr. SANDERS. I haven't been in touch with all of the manufacturers who might be involved. At least one manufacturer has said that as far as his equipment is concerned, it is quite all right. However, one manufacturer of weight recorders has said that this restriction will severely affect several models of his weight recorders, and that he will be put in a bad spot. I don't know, from the technical side, how bad a spot he will be put in. If it is possible for you to give him and the entire industry a chance to study this recommendation, it will be appreciated very much.

Mr. FULLER. At the present time our public weighmasters throughout the country are installing scales with a 60-foot length and of heavier capacity than formerly, to accommodate some of the large-sized trucks and semijobs that are coming on. These same public weighmaster scales are going to be used in weighing all loads that come over them. And it certainly seems reasonable to us that regardless of the capacity of the scale, a person going there to get a public weighmaster certificate, which is accepted as the correct weight in the purhase or sale of commodities, should be able to get it within this 20 pounds.

(The amendment to Regulation K–6b, as proposed by the Committee, was duly adopted.)

SECTION ON WEIGHTS

Mr. McBride (reading):

Amend paragraph 6 by adding, after the first sentence, a new sentence to read as follows:

In the case of weights of the troy and apothecaries systems the nominal values of which are expressed in terms of pounds and ounces, and in the case of weights of the apothecaries system the nominal values of which are expressed in terms of drams, the identifying letters "T" and "Ap" shall be used in combination with the designations of nominal values for weights in the troy and apothecaries systems respectively, whenever the weights are not so small as to make this impracticable. In the case of weights of the metric system, nominal values shall be expressed in terms of kilograms, grams, and milligrams only; the abbreviations "kg", "g", and "mg", respectively, shall be employed.

We already have in our code the requirement, "All weights shall be clearly marked with their nominal value, *and in addition weights intended for use on multiplying-lever scales shall be clearly marked with the value they represent when used upon the scale for which they are intended.* Provided, however, That the values of weights of less than 1 gram, 1 pennyweight, or 1 scruple may be designated by dots, lines, figures, distinctive shapes, or other appropriate means."

The suggested new language is proposed because it has been reported that absence of any designation of its "system" on a weight tends to confuse, particularly in relation to druggists weights.

(The amendment to Specification 6, as proposed by the Committee, was duly adopted.)

REPORT OF THE SPECIAL NATIONAL CONFERENCE COMMITTEE ON CONFERENCE STANDARD FOOD PACKAGE BILL, PRESENTED BY J. H. MEEK, CHAIRMAN

The standardization of food packages is a subject which deserves a great deal of thought not only from the point of view of protection to the consumer, in whose welfare all departments of weights and measures are most vitally and primarily interested, but also from the view of the manufacturer and retail dealer himself.

To meet this need, the National Conference on Weights and Measures approved a Standard Food Package Bill which was introduced in Congress on March 13, 1942, by the Hon. Andrew L. Somers of New York, Chairman of the House Committee on Coinage, Weights and Measures. This bill is designated as H. R. 6784, and was referred to the Committee on Coinage, Weights and Measures, of which Mr. Somers is the Chairman.

To educate the housewife, home maker, manufacturer, and retail dealer of the benefits of this bill, considerable work has been done by Mr. R. W. Smith, Secretary, National Conference on Weights and Measures and by various weight and measure officials throughout the country.

One of the means of educating the public has been by giving educational talks at the public and parochial schools, housewives alliances, parents and teachers groups, home economic associations and talks over the radio.

Representatives of the apple industry and the United States Department of Agriculture were opposed to this bill. Several conferences with representatives of the United States Department of Agriculture

were held, to try to eliminate opposition to the bill, but we were not successful.

It now appears that the field covered by this bill should be divided into three separate bills, one relating to containers for canned foods, and one relating to containers for fresh fruits and vegetables under authority of the United States Department of Agriculture. Then the bill, known as H. R. 6784, could be revised to apply to all other foods in package form.

Your committee therefore recommends that this matter be referred to the Committee on Legislation for further consideration.

(Signed) J. H. MEEK, *Chairman*,
G. H. LEITHAUSER,
Committee on National Conference Standard Food Package Bill.

(The report of the Committee was duly adopted.)

REPORT OF NATIONAL CONFERENCE COMMITTEE ON NOMINATIONS, PRESENTED BY J. F. BLICKLEY, CHAIRMAN, AND ELECTION OF OFFICERS

The Committee on Nominations have met and have unanimously agreed upon the following nominations, which are submitted for the consideration of the Conference:

For President: E. U. Condon, Director, National Bureau of Standards.

For Vice Presidents: Nalls Berryman of Florida; J. F. Blickley of Pennsylvania; J. A. Boyle of Portland, Me.; C. M. Fuller of Los Angeles County, Calif.; C. C. Morgan of Gary, Ind.; and W. P. Reed of Georgia.

For Secretary: R. W. Smith, National Bureau of Standards.

For Treasurer: G. H. Austin, Jr., of Detroit, Mich.

For members of the Executive Committee: All officers, *ex officio;* R. S. Ackerman of Minneapolis, Minn.; C. A. Baker of New York; C. D. Baucom of North Carolina; V. D. Campbell of Ohio; H. E. Crawford of Jacksonville, Fla.; Erling Hansen of Minnesota; J. T. Kennedy of the District of Columbia; C. L. Klocker of Connecticut; J. P. McBride of Massachusetts; M. M. Palmer of Washington; G. A. Ritchey of Illinois; J. G. Rogers of New Jersey; R. D. Thompson of Virginia; J. D. Walton of Dallas, Tex.; and Robert Williams of Nassau County, N. Y.

(Signed) J. F. BLICKLEY, *Chairman*,
H. E. CRAWFORD,
C. M. FULLER,
C. L. KLOCKER,
C. C. MORGAN,
G. A. RITCHEY,
ROBERT WILLIAMS,
Committee on Nominations.

(It was regularly moved and seconded that the Secretary cast one ballot for the officers and members of the Executive Committee named by the Committee on Nominations, the question was taken, and the motion was agreed to. The Secretary having cast the ballot as directed, these nominees were declared to be duly elected.)

OPEN FORUM

The Chairman. We now come to the open forum part of our session this afternoon. Members of the Conference are invited to express their views on matters of general or regional interest associated with any phase of weights and measures supervision, to outline problems, and to ask questions. Following are some topics which have been proposed for consideration:

Importance of testing prescription scales; combination vehicle and railway track scales; mandatory one-draft weighing; the Weights and Measures News Letter; coordination of Federal, State, and local services; firewood.

THE WEIGHTS AND MEASURES NEWS LETTER

Mr. Blickley. On the Weights and Measures News Letter, there has been some discussion of stopping the printing of the letter. I would like to bring before the Conference my views on that letter. I think it is a very important letter, and it should be continued. In the past, due to the war effort, many of us neglected to send Mr. Smith, our Secretary, information that should appear in the News Letter. I think after this Conference, when we all go back to our jurisdictions, we should be more attentive to the information that should be contained in the News Letter. I, for one, am in favor of continuing the News Letter, and I so move that the News Letter be continued.

(The motion was seconded.)

The Chairman. The Chair recognizes Mr. Smith, Secretary of the Conference.

The Secretary. Mr. Chairman and gentlemen, I appreciate what Mr. Blickley has said, but I should like to present to you a little more of the story than he has told you. He couldn't tell you this part of the story, of course, because he doesn't know it; or at least, he doesn't know all of it.

Some 6 weeks ago, as Secretary of the National Conference on Weights and Measures, I sent out 68 letters, 43 to active heads of State weights and measures offices and 25 to the heads of local weights and measures offices. The purpose of the letter was to develop the feeling of this representative group of officials on the question of the usefulness of the Weights and Measures News Letter—which the National Bureau of Standards has been issuing in cooperation with the National Conference—and the advisability of continuing its issuance. This letter read, in part, as follows:

> As you know, the News Letter * * * was started in September 1940. Since that time a number of States or weights and measures associations have started, and are continuing, similar publications. As a result, there is considerable duplication of published material. There has always been a degree of duplication between the News Letter and the Scale Journal.
>
> Although there have been some expressions from weights and measures officials, from time to time, indicating that the News Letter is considered valuable, these have been few in number. Moreover, the support which has been given by the States to the Secretary of the Conference in the matter of supplying information suitable for inclusion in the News Letter has been disappointingly weak; as a consequence of this indifference on the part of the majority of the States, not enough suitable material has recently been available to warrant issues oftener than once in 4 months.

The National Bureau of Standards feels that unless there is a very definite demand for continuance of the News Letter, its issuance should be discontinued. This letter to you is in no sense a request for support of a project which the Bureau is anxious to continue. On the contrary, your frank opinion is requested on the question at issue. If it is demonstrated that there exists a strong desire among officials that the News Letter be continued, and if it is demonstrated further that the State and local jurisdictions are sufficiently interested to supply to the National Conference Secretary factual information of the character normally carried by the News Letter, the Bureau is prepared to continue as it has in the past. On the other hand, in the absence of such desire and support, the Bureau on its part strongly wishes to leave the field of weights and measures "news" to the other publications mentioned above. A frank expression of your opinion is requested.

The most significant result of this sampling of opinion is that 5 weeks after the letter was sent out, 54 percent of those addressed had failed to make any reply at all. It is a fair presumption that this group is not interested in the News Letter. Of the remaining 46 percent, less than half expressed themselves as strongly in favor of the continuance of the News Letter; some 16 percent of the total of those replying expressed the opinion that the News Letter should be discontinued.

In an effort to gather further information which would be helpful in reaching a decision on this matter, I inquired from the editor of the Scale Journal whether, in the event of the discontinuance of the News Letter, the Scale Journal would be in a position to undertake publication of such of the customary News Letter material as it is not now duplicating. The reply which I received was to the effect that it should be practicable to do this provided that such material be supplied regularly direct to the Scale Journal.

Two conclusions appear to be clear: (1) There is no general demand on the part of the approximately 280 weights and measures officials now receiving the Weights and Measures News Letter (out of a total distribution of approximately 600), for continuance of this news sheet. (2) There is an opportunity for the regular publication of material such as has been carried by the News Letter, in the pages of the Scale Journal, a monthly periodical devoted exclusively to subjects of weights and measures interest.

Accordingly, it seems unnecessary at this time to ask for any oral discussion of this matter by the members of the Conference. As was stated in the letter from which I quoted, the National Bureau of Standards wishes to leave coverage of the field of weights and measures news to other agencies in the absence of a strong desire among officials that the News Letter be continued, and it is believed that such a desire does not exist. The Bureau proposes, therefore, to discontinue issuance of the Weights and Measures News Letter with the next issue, which will carry an announcement to this effect while making a summary report of the proceedings of the Thirty-Second National Conference on Weights and Measures.

Mr. H. E. Crawford. Mr. President, this is a surprise to me; we have enjoyed the News Letter. I have been one who is lacking in contributing to it. One of the very difficult things for all of us is to answer a half-dozen different publications. We are all pretty busy. There is too much duplication.

I wonder whether all of you have felt as I felt during the past few

years when it comes to answering questions. I am just delighted with the idea that this might be turned into the hands of some other publication. Down in Florida, we have accepted—not in Florida alone, but in the entire South, through the Southern Conference of Weights and Measures—the Scale Journal as our official publication, and it would be a pleasure to know that we could, on any occasion, write them and have them clear the news for us, and have all of you fellows who are here today get the message through that one medium.

If the Scale Journal can be used as our official publication, every one of us, from month to month, would know exactly what is going on in the National Bureau of Standards, everything related to the National Conference on Weights and Measures, and I hope our Southern Association of Weights and Measures, too. I want to recommend it and appreciate very much the opportunity to speak in behalf of this.

Mr. BLICKLEY. Mr. Chairman, in view of the circumstances which I did not know about, I will withdraw my motion.

The CHAIRMAN. I, too, regret the news that Mr. Smith has given us. I certainly appreciated receiving the News Letter. However, if he is giving us the flat statement that it will not be continued, of course we can't do anything about it.

Mr. R. E. MEEK. I believe it would be unforgivable at this time not to go on record as expressing our appreciation to Mr. Smith for his efforts in publishing the News Letter for the past several years.

Having been active in publishing a News Letter in Indiana for about the same period of time, which News Letter was mailed to members of the Indiana Association and some few others who requested or indicated they wanted a copy, I can appreciate the difficulties which stood in his way in publishing this News Letter. One receives very little cooperation. I know that Mr. Smith did not receive from us the degree of cooperation to which he was entitled.

I want Mr. Smith to know, to feel, that his efforts were not fruitless. Having been raised on a farm and having lived there for many years, I know that every seed sown doesn't grow, but some of those seeds do grow and produce the fruits for the harvest. I am quite sure that even though our letters back to Mr. Smith did not indicate our true belief in the value of that publication, much good was accomplished.

So I would like to make a motion that this Conference go on record as expressing to Mr. Smith our appreciation for his fine efforts, efforts begun at our request and carried on as long as we indicated to him that we wanted it so done.

(The motion was seconded, the question was taken, and the motion was agreed to.)

COORDINATION OF FEDERAL, STATE, AND LOCAL SERVICES

Mr. J. H. MEEK. This matter has been in my heart since I first assumed the obligation for administering the weights and measures law in the State of Virginia, some 20 years ago.

I would hesitate to take any of your time this late in the evening, except for the fact that it has bothered me very much, and I think I have visions of future enlarged services of weights and measures not only in the field that we have been working in, but in new fields that we haven't been working in so much.

Having in charge numerous activities in connection with marketing foods and farm products and weights and measures, I get some comparisons of developments nationally in weights and measures and in marketing services. Before I entered this work I had some years' experience in relation to various Federal agencies in the field of marketing. I thought when we came over to the National Bureau of Standards, we were going to really standardize and really do things in a greater way than we had ever done them in connection with foods and farm products.

There has been a great deal done considering the amount of money that is used in weights and measures services in this country. The results are marvelous. But I am wondering if we are making the progress that the changing times require. We all know that this is a changing world and that we have many new things coming up, and some one has said that in the past 5 years there have been more changes than there were in 500 years, and that in the next 5 years there will probably be a hundred times more changes than there have been in the past 5 years, except for the war.

What are we going to do about it? We find practically the same representation here, probably not as many as attended the first meeting I attended 25 years ago, and endeavoring to cover the field, doing a marvelous job considering the amount of money that is being spent and the number of people involved. But had we made the progress of covering approximately that 50 percent of weights and measures activities throughout this country that we haven't covered, there would never have been the need for the vast expenditure of great sums of money by the Federal Government during the war by putting out people that knew very little about what they were undertaking, getting very little results for the money spent, when we could have done many times the service at much less cost.

Being in an administrative capacity, that is the phase of weights and measures work that worries me. We have various services developed in these other connections with men technically trained for special services, but we don't get very many technically trained men in weights and measures. We have made progress in Virginia that I am proud of, but it is not what we should have done by any means. It is tragic that Congress, the Federal Government, haven't put more into it. It is almost inhuman to expect, from the few that they have engaged in the service, to meet the needs. A man told me today that not a representative had been to a State meeting for a number of years in his State.

In these other activities you can draw specialists from various lines of work to help your specialist, things that those in an administrative capacity can not keep up with. We ought to have specialists on the different types of scales, on the gas pumps, the packages, and the various things. The report yesterday of the Committee on Methods of Sale of Commodities covered a field that I said should be covered by probably 25 committees. They did a wonderful job, but when they go down to talk about fish and oysters, and things like that, just attend some of these conferences we have on food products such as eggs, and you can realize the great field that is being forgotten. Various matters relating to quality, for example.

If we regulate the quantity, the man is gypped in quality. I know that is somewhat tied in with our other program, but we have to reach out and protect against these things. I know there is a great sentiment among people who don't have very much money in their States to protect their States' independence. I am a State's rights man, so far as rendering services is concerned, but I am first for services. If the joint efforts of the State and Federal Governments can perform greater service for the money expended, I am for that. My motto is the greatest service for the greatest number at the least cost.

What are we going to do about it? I don't know, but I wonder if we are not suffering from an overdose of indifference as to the amount of money expended in training employees, training technical people to perform these technical services, which most of us can't keep up with at all. Congress recently passed a bill that will give to the States, if they meet the requirements, marketing services and research work for approximately $60,000,000 a year and then the States will probably put in $25,000,000 to $40,000,000. That sounds big. When you realize that Federal funds are being used to support potatoes, alone, running to much more than that, and many other activities of the Federal Government that run way up into the millions, and some of them into the billions, you can see it is insignificant.

We need more coordinated official services of the Federal agencies, State agencies, and local agencies. That is why we are making progress in some of these other activities.

Our program in Virginia was something like $275,000 last year; we cover some 75 different commodities. These people who work on the commodities must be highly trained in the technicalities of those commodities. We are just marking time in a way, but we are struggling, we are not getting the money. What are we going to do about it?

My guess is that if we have another war, there may be some things created that will crowd us out of the field if we don't do something in a coordinated way. I would rather do something in a coordinated way than be knocked out of the field like many of these war agencies. They had their departments overstaffed, falling over one another, while Mr. Smith and his coworkers were worked to death. How in the world can we expect these men to advise us on all these technicalities, many of which were discussed here yesterday and today?

Some States, some years ago, said they were for serialization by States, but they were against Federal serialization. They are just digging their own graves. They admitted that today, because they want to establish something that will coordinate, some method, so why can't they do that in the simple way through Federal serialization? It is the simple way, the easy way, and yet we go the long way around to keep the thing in the States, and then go some other way to get uniformity.

We have 48 States and local jurisdictions, many of them operating independently of the States, more or less. I don't care who the people are, there are no hundred people who are going to try these things in the same way, and you have no one to interpret the language, the technicalities. That has been demonstrated here today. It is left to each State to determine.

Gentlemen, it is time for us to wake up. I don't know what we are

going to do, but I want to see this thing grow. We are going to do in Virginia what we can. We have increased some six or eight times since I have been in charge, but what are we going to do in the future? Are we going to rock along in the buggy days and not use the flying machine, not use the automobile? Or are we going to get into that period of the automobile and the age of flying? If we don't watch out, we are going to get in the rocket age. I want to see something done to change this. We can't go along in the same way; we have got to revise these things.

Mr. Chairman, I move that a committee be appointed on Federal, State, and local coordination.

(The motion was seconded.)

Mr. JENSEN. I, for one, belong in one State out of the 48. When the time came that our country called there wasn't a State that didn't answer the call. And I, for one, think that there is too much Federalization in our States today, and that it is time to make some changes and keep our States' rights under one nation. I am sure I can take care of North Dakota with the cooperation of my people up there. I am sure that each and every one can. I do think that this educational program that we have adopted in North Dakota, following the recommendations of the National Bureau of Standards, which we have adopted right down to minute detail in weights and measures, is great for us, and I want to continue with this.

Mr. ROGERS. Gentlemen, this revives an old issue that was settled down here a number of years ago, I thought, and most conclusively. Certainly we should have coordination, and I think we do have coordination through cooperation. Coordination in another sense is something entirely different. Coordination through Federal subsidies is something that will just strike at the thing Mr. Jensen talked about.

We are jealous of our State's rights and sovereignty, and so were our forefathers. It doesn't lessen our respect for our Government down here. But there have been unpleasant experiences in the subsidization that has gone on in certain agencies of our Government back in New Jersey. We asked them how it worked out, and learned that in some instances it was forced upon them—in the Health Department, for instance. They had to accept it whether they would or not. Then, when the Federal people were sent in, they were practically subordinated to the Federal Government because the Government was contributing to the upkeep of the service.

I have always contended that any State worthy of the name can take care of its own people. We do in New Jersey, at considerable cost. We expect to go on doing that. If we need appropriations, it is our job to sell that idea to the Appropriations Committees of our State Legislature and get the money that is needed for the protection of the people. We haven't had much difficulty in getting that money. There have been some refinements and facilities we haven't been able to get, and we are a little bit short on manpower; but I think we are going to mend that, too. Our representative has gotten the picture already. He agrees that we are understaffed. We believe he is the man who will be able to increase that staff of ours.

I say we have to be careful about this thing. Cooperation is one thing, and the other is something else. In cooperating with various organizations I have sometimes found that they have different complexions. I am more or less of a quasi member of the Association of Eastern Food and Drug Officials, for instance, and I attend their meetings. There is an interlocking relationship in quality and quantity. There is economics involved in both. We have been advancing the idea, and we hope to accomplish it sometime, that weights and measures officers should not only be quantitative officers, but also qualitative officers. They can handle both lines in their normal operations. You go out and pick up a sample of something; you could test it in your own laboratory if you had one.

We are not going to go so far as to encroach upon the Food and Drug Administration in Trenton; we don't have to. We have a very fine set-up there, that takes care of the purities of things. What I mean about the National Bureau of Standards idea is that there is a multitude of other things that we have in the commercial picture over which there is absolutely no control. I know in our State we are very deficient in these things. They can sell the bottom of the Lehigh River, which they have done in the past, for coal; there is no one to say what constitutes a good fuel or what does not. You can sell any kind of gasoline or oil in the State of New Jersey; there is no official test on it.

On paints, oils, and varnishes, I ran on to a criminal thing right in my office. It was during the depression. A caller came in. The man was on his uppers. He had taken a little painting contract, and he had about $25 to buy some material with. The man for whom he was going to do the work was very careful in the specifications for the things he wanted. He wanted pure linseed oil and pure turpentine. My caller actually had tears in his eyes. He said, "Smell this." "What does it smell like to you?"

I said, "It smells like kerosene."

He said, "That is what I bought for turpentine."

I said, "We can't do anything about it."

He said, "What is my action, how can I get redress?"

I said, "As a civilian, you can take this sample to a professional laboratory, pay a fee to have it analyzed, and then file suit in civil court."

Imagine, here we are protecting the people on the quantity and giving no protection on the quality, and there are hundreds and hundreds of things that are outside the Food and Drug range.

So, there is something to think about. We can advance ourselves. This thing should grow. I think every State in the Union should have a department of standards, not limited to weights and measures. Some places already have such facilities.

I think the way to go about getting coordination is to form very active affiliation with groups around you who have something of a correlative nature, some work that ties in with yours. We do that with the Agricultural Department. We attend their meetings. We don't step on each other's toes. If we can be helpful to each other, we do it. That is the kind of coordination I like, because that is coordination through cooperation.

That is my view. I think it represents the view of a great many who attend this Conference. I am being very careful about subordinating our State's rights.

Mr. J. H. Meek. May I have one more word, Mr. Chairman? I don't want to discourage expression of feelings at all. I don't interpret these statements as opposing the appointment of a committee. The committee can do nothing but make a report back to this Conference. However, if the Conference refuses to appoint a committee, it is perfectly clear that anything that is done in that direction will have to be done through some other organization. That is one of the things I want to determine, anyway.

(The question was taken and the motion was lost, the Conference thus declining to authorize the establishment of a committee on Federal, State, and local coordination.)

CHARLES C. NEALE

Mr. Saybolt. I hope you will not criticize me for using a few minutes of your time. There is something I must say while the Conference is in session, must say because I want to say it, and tomorrow will be a busier day than today.

You gentlemen have all known a member, possibly an associate member of this group who at one time was an active member, and who has been attending these sessions since they first began thirty-odd years ago, a man whose loyalty to this field and to his later endeavors in industry has been unquestioned, whose unselfishness and whose willingness to extend help to anyone who ever asked for it has been undoubted. He is a man, a character, loved by every one from coast to coast.

On the 29th of next month Charlie Neale will celebrate his Diamond Jubilee Birthday through a plan which had its genesis, perhaps in equal amounts, with Erling Hansen of Minnesota and Rollin Meek of Indiana, both of whom have called as helpers the few of us who are in an appropriate geographical position. Arrangements have been made to celebrate Charlie Neale's birthday on the concluding day of the fall meeting of the Indiana Association of Weights and Measures in Charlie's home town of Fort Wayne.

I am not here to publicize that birthday party, and I know that those of you who cannot attend—and I might say that all of you are invited—will be there in spirit, and will wish Charlie everything that is good for his present and his future. My object in presenting this thought to you today is to suggest that because of his attitude, because of his health, because of his very constructive nature, his undoubted beneficial influence to all National Conferences on Weights and Measures, this important event in his life should be recognized by this body. I express the hope that this Conference will desire to have the Secretary recognize it by some suitable wording in the proceedings of this conference.

Mr. H. E. Crawford. Mr. Chairman, I feel humble when I realize what Charlie Neale did to contribute toward my interest in weights and measures when I first got into that field. He was always a helping hand. A letter of inquiry directed to Charlie was always promptly answered. He was always helpful and beneficial, he never showed any selfish interest at any time. I hope that all of us at the Conference

will do what Walter Saybolt has suggested in acknowledging to Charlie not only their personal appreciation but that of this group. I am sure that most of you know him intimately and personally.

I move that the Chair appoint a committee to address a letter to Charlie Neale, or a resolution, expressing to him the sentiments of the Conference on this occasion.

Mr. ROGERS. I second the motion.

(The question was taken and the motion was agreed to.)

The CHAIRMAN. I would like to defer appointing the committee, so that I can discuss the matter with some of the men who know Charlie best.[5]

(At this point, at 4:50 p. m., the Conference adjourned, to reconvene at 10 a. m., Saturday, September 28, 1946.)

[5] The membership of the committee was announced at the opening of the Saturday Morning Session. See page 107.

FIFTH SESSION—MORNING OF SATURDAY, SEPTEMBER 28, 1946

(The Conference reconvened at 10:15 a. m., L. E. Witt, Vice President of the Conference, presiding.)

APPOINTMENT OF SPECIAL COMMITTEE

The CHAIRMAN. Yesterday afternoon the Chair was directed to appoint a special committee to convey to Mr. Charles C. Neale the greetings and felicitations of this body on the occasion of Mr. Neale's approaching seventy-firth birthday anniversary. For this purpose the following persons are appointed: H. E. Crawford of Jacksonville, Fla., chairman; Erling Hansen of Minnesota; C. M. Fuller of Los Angeles County, Calif.; J. W. Saybolt; and R. W. Smith.

At this time I should like to present to the Conference the newly elected President, Dr. Condon. Gentlemen, your new President.

(At this point E. U. Condon, President of the Conference, assumed the chair.)

OPEN FORUM

The CHAIRMAN. There is present a gentleman who wished to speak during the Open Forum but found no opportunity to do so; if there is no objection we shall briefly continue the Open Forum by recognizing him now.

PRICE SIGNS IN GASOLINE SERVICE STATIONS

Mr. PRAUSE. I would like to bring to the attention of the Conference the subject of price sign requirements in the several States. It is realized that in the majority of States and municipalities these signs are not under direct jurisdiction of weights and measures, but they are so closely tied in with gasoline dispensing pumps as to merit the attention of this organization.

A month ago, I sent out a questionnaire to all the States in order to bring our records up to date and after reading the sixteen (16) questions it was necessary to include, one of the State sealers added a notation to the questionnaire to the effect that this matter should be taken up by the National Conference. This appeared to be sound advice, as we cannot hope to influence States to change their laws unless the weights and measures officials understand the problem and are in agreement with the proposed solution.

In approximately 40 States there is either no price sign law or the law is sufficiently general to permit one type of sign to serve the purpose. However, the remaining States and one or more municipalities have the price sign manufacturer and the oil companies going around in circles. For example, an oil company doing business in Massachusetts, Connecticut, New York City, New Jersey, Iowa, and

Wisconsin must maintain a stock of five slightly different types of signs. I would like just briefly to show you what these signs look like and see if you do not agree that some standardization would be in order. [A number of signs were displayed to the Conference.]

Connecticut.—Sign required to be not more than 126 square inches in area, show gasoline price, combined Federal and State tax, and total price per gallon in figures at least 2½ inches high.

New York City.—Over-all size of sign 12¼ inches by 8½ inches, showing price per gallon, combined Federal and State tax, and total price per gallon, together with a notation reading "City Sales Tax Extra."

New Jersey.—The sign is required to be not less than 5½ inches by 8 inches and not more than 8 inches by 10 inches, showing only the total price per gallon (including taxes) not less than 3½ inches high, with a notation to indicate that this price includes all taxes. The same sign can be used in the State of Massachusetts, whose requirements are practically the same, except that the figures are required to be at least 2 inches high.

Iowa.—Over-all size of sign 10¼ inches by 8½ inches. Four sets of figures are required to be shown, namely, price per gallon, Federal tax, State tax, and total price per gallon, in figures not less than 1 inch.

Wisconsin.—Over-all size of sign 10¼ inches by 8½ inches, showing price per gallon, combined tax, and total price per gallon in figures at least 1 inch high, together with a notation reading "See Posted Notice."

All of the above-described signs, except in the State of Iowa, are required to be mounted on each pump in the service station. With the trend in the industry toward smaller pumps, our customers look forward with apprehension to the day when the motorist will have difficulty finding the pump among the price signs.

We believe that a price sign is not necessary on a computing-type pump because the price per gallon on this type pump is automatically indicated in the best possible location—that is, on the dial face where the customer's attention is naturally attracted in order to see how many gallons he is receiving and how much it will cost. It is a generally known fact that the price per gallon indicated on the dial includes all taxes and is the price at which the computing mechanism computes. Regardless of what State he is driving through or which manufacturer produced the pump, the motorist finds the price displayed in a familiar location in figures large enough to be easily read if he cares to look. We believe that a price displayed in 2½-inch or 3½-inch figures serves no purpose except to divert the attention of the passing motorist, who, for safety's sake, should have his eyes on the road ahead. Furthermore, the price sign projecting from the pump forms an obstruction at face level which can cause injury to the service-station operator or the motorist. Mr. William Loutham, of Tokheim Oil Tank & Pump Co., has informed me that three major oil companies have reported to him accidents due to the presence of these signs on pumps. This danger is particularly possible in a few States where the sign is required to be mounted in a plane parallel to the face of the pump and, therefore, projects as much as 14 inches from the pump.

If unsuccessful in obtaining the removal of signs from computing-

type pumps, our efforts will be directed toward a standardization of price-sign requirements in the States previously mentioned. Any support received from weights and measures officials will be greatly appreciated.

Mr. Saybolt. Mr. Prause asked me to supplement his report because of the fact that in my multitudinous duties, pleasant and otherwise, a number of my clients are definitely interested in this situation, some of them on the pro side and some of them on the con. One of my clients told me that their last lot of gasoline price signs cost them $57,000. That is a lot of money in anybody's language.

I would like to go back several years by saying that the object of first designing the signs and asking the legislatures to pass statutes requiring their placement in some conspicuous place at the service stations, was for the purpose of explaining to the public, by the medium of signs, that the price which they paid to the service-station operator for the gasoline which went into their tanks, was in some instances as high as 33⅓ percent tax, the tax being divided between Federal and State. That occurred probably 15 years ago. The reason legislation was asked for the conduct of this matter was because it was thought that while there might be enthusiasm at the moment on the part of the petroleum companies to advise the public of the considerable percentage of tax which was being paid, it was further felt that perhaps without insistence by law, the custom would gradually fade, and the objective be lost.

It happens, as I say, that opinion is now divided among the oil companies as to their desire or lack of desire for these things. I think that the majority of them still wish to show the public that gasoline is a relatively low-priced product. That means that in that respect the situation is in a state of flux. If I understand correctly, Mr. Prause is interested in the matter because he is a manufacturer of signs, and the cost and inconvenience because of the multiplicity of signs and requirements is considerably higher than the intrinsic value of the sign.

In furthering my investigation at the request of my clients, it developed that 16 States have the requirement, and while I have yet to hear from the State of Utah, in only two instances was it reported that administration of the law is in the hands of the Weights and Measures Group; in the balance it was generally in the hands of the Motor Fuel Tax Division or Department of the State or some equivalent administrative group.

I would think that the only interest this organization would have in the matter is a desire to add to their picture of uniformity whatever assistance they can give to the regulatory bodies in the respective States for some more uniform definition of the sign requirements.

Mr. McBride. In my jurisdiction I happen to have these signs within my control, but not because it is a Weights and Measures Division. I think the subject doesn't properly belong to us, because the reason for those signs stems out of another source. They are primarily signs that are required to be sufficiently large to be more than informative—they are inducement signs.

I move, however, that we do pledge our support in so far as we can to the advancement of uniformity of size of the signs, although I do

not believe the required sign we have in computing devices would be ample in size to meet the requirements of the organizations that are interested in the so-called price signs.

(The motion was seconded.)

Mr. NEALE. You have heard the discussion from a gentleman who makes signs and from members of the Weights and Measures Division.

The thought occurs to me it is also important to the pump manufacturer. The part we object to is putting on the special brackets for these signs which require material and time and extra work. As pump manufacturers, we wouldn't care how many signs there are except for the extra work of equipping our pumps with brackets to hold them. We object to signs on that ground.

(The question was taken and Mr. McBride's motion was agreed to.)

NBS HANDBOOK H37

Mr. WITT. Mr. President, I ask to be heard for just a few minutes on the Open Forum.

You will recall that one of the speakers on this year's program told us with considerable and justifiable pride that his organization was preparing a manual which would prescribe the conduct and discharge of the official duties of the enforcement officials who made up the membership of the organization he represented. The value of such a manual is obvious. Many police departments have them; the Army and Navy use them. The National Conference on Weights and Measures has always stressed, and again this year has placed much emphasis upon, uniformity of action in our own official field.

I wonder how many members here present and how many active weights and measures officials who never attended these conferences have ever heard of National Bureau of Standards Handbook H37 entitled, "Testing of Weighing Equipment," which was written by Mr. Ralph W. Smith. I quote from the preface of that book:

> This volume is one of a series of handbooks designed to present in compact form comprehensive information relative to weights and measures supervision, and describes various types of scales and weights, the principles of their operation, and methods for their inspection and tests.

No doubt many of you own and have read the handbook. Such members of the Conference will understand why the book is a "must"; in my own department from the top down, each inspector is required to carry this handbook in his automobile with his testing equipment. I know for certain that an inspector testing a computing scale in the north-side territory of the city of Milwaukee is applying the identical test that another inspector is applying to a similar scale on the south side of the city. Our inspections and tests are uniform. What a comfort such a manual must be for the official who conducts a small one-man department. If he uses his Handbook H37, he knows his test is right. If all weights and measures officials in the field would use the information contained in the manual, there would be, indeed, uniformity of our actions, at least in that particular phase of our work.

May I, then, respectfully suggest and request that the editors of the various State Weights and Measures Association publications and

the editors of the Scale Journal soon run an announcement in their publications that National Bureau of Standards Handbook H37 may be purchased from the Superintendent of Documents, Washington 25, D. C., for 75 cents each. Such announcement, together with a description of the manual, would have news value and would be greatly appreciated, I am sure, by weights and measures officials throughout the nation.

ABSTRACTS OF REPORTS OF REPRESENTATIVES OF STATE AND REGIONAL ASSOCIATIONS OF WEIGHTS AND MEASURES OFFICIALS [6]

CALIFORNIA ASSOCIATION OF WEIGHTS AND MEASURES OFFICIALS

By C. M. Fuller, *Sealer of Weights and Measures of Los Angeles County, Calif.*

Mr. Fuller noted three factors as contributing to the success of the Association: (1) Statutory requirement for attendance of county sealers at association meetings with authorization for payment of expenses. (2) Division of the State into five areas with one member of the Association Legislative Committee from each; "area" meetings of sealers two or three times a year, Legislative Committee members serving as chairmen. (3) Publication every 4 months of a magazine of 30 to 40 pages, containing minutes of area meetings and other items of interest.

CONNECTICUT SEALERS' ASSOCIATION

By Lieut. C. L. Klocker, *State Division of Weights and Measures*

Lieut. Klocker reported that meetings of the Association are held twice a year, the January meeting being the business session and the summer meeting being primarily an outing. The smallness of the State geographically contributes to good attendance at all meetings.

ILLINOIS WEIGHTS AND MEASURES ASSOCIATION

By G. A. Ritchey, *Administrative Assistant, State Division of Standards*

Mr. Ritchey stated that the Association had been inactive during the war years, but that it is planned to resume meetings in 1947.

INDIANA ASSOCIATION OF INSPECTORS OF WEIGHTS AND MEASURES

By C. C. Morgan, *Sealer of Weights and Measures of Gary, Ind.*

Mr. Morgan reported that the Association had held meetings regularly during the war, the normal schedule being an "annual" meeting in April and a shorter "fall" meeting in October. Meetings are held in the larger cities throughout the State, and the attendant favorable local publicity is considered important in making the public weights and measures minded. The question-and-answer feature of the meetings has resulted in the preparation and publication to date of answers to 356 weights and measures questions.

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[6] As presented at the Conference, some of these reports were combined with the State reports. However, for convenience of reference, the Association reports and State reports are separately grouped and presented herein, in alphabetical order by States.

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MASSACHUSETTS WEIGHTS AND MEASURES ASSOCIATION

By J. W. Bradley, *Deputy Sealer of Weights and Measures of Boston, Mass.*

Mr. Bradley noted the existence of the Massachusetts Association as a functioning organization for the past 50 years. Meetings are held annually in the fall in different cities throughout the State.

MICHIGAN ASSOCIATION OF WEIGHTS AND MEASURES OFFICIALS

By A. C. Westphal, *Sealer of Weights and Measures of Port Huron, Mich.*

Mr. Westphal described the close cooperation existing between the Association and the State Department of Agriculture in connection with the annual meetings of the Association. A Southeastern Michigan Weights and Measures Group, taking in officials within the metropolitan area of Detroit, has been holding regular meetings.

NEW JERSEY WEIGHTS AND MEASURES ASSOCIATION

By J. M. Dietz, *Superintendent of Weights and Measures of Union County, N. J.*

Mr. Dietz stated that the Association regularly holds three meetings each year, short "business" meetings in April and December and the "annual conference" in Atlantic City during Labor Day week. He reported an unusually large attendance at the last annual meeting.

NEW YORK STATE WEIGHTS AND MEASURES ASSOCIATION

By C. A. Baker, *Director, State Bureau of Weights and Measures.*

Mr. Baker said that with one exception the annual meetings of the Association were held during the war. The next meeting is scheduled for July 1947, at Saratoga Springs.

OHIO SEALERS' ASSOCIATION

By R. W. Searles, *Deputy Sealer of Weights and Measures of Medina County, Ohio.*

Mr. Searles commented on the cooperation extended to the Association by the State officials and by representatives of industry, and upon the program of exhibits and education being carried on. Several regional meetings are held each year, and there is a summer "school", and the annual conference is held in December.

PENNSYLVANIA ASSOCIATION OF INSPECTORS OF WEIGHTS AND MEASURES

By J. F. Blickley, *Director, State Bureau of Standard Weights and Measures*

Mr. Blickley noted the unbroken record of the Association in holding its annual meetings. He stressed the importance of the work and the accomplishments of the Legislative Committee, and mentioned particularly the policy of a school of instruction as part of the annual conferences; it is contemplated that the "school" part of the 1947 program will extend over two days.

TEXAS WEIGHTS AND MEASURES ASSOCIATION

By W. S. Bussey, *Chief, State Division of Weights and Measures*

Mr. Bussey reported a suspension of Association activity during the war. It is hoped shortly to resume the regular program of a fall school of instruction and a general conference in the spring.

VIRGINIA WEIGHTS AND MEASURES ASSOCIATION

By C. C. Mundy, *Chief, Bureau of Weights and Measures of Richmond, Va.*

Mr. Mundy stated that meetings of the Association were held each year during the war, that the membership is growing, and that the Publicity Committee of the Association expects shortly to publish an article on the history and activities of weights and measures supervision in Virginia for State-wide distribution.

NORTHWEST WEIGHTS AND MEASURES ASSOCIATION

By Erling Hansen, *Supervisor, Minnesota Department of Weights and Measures*

Mr. Hansen discussed the formation of the Association to meet the needs of a number of northwestern States in which State associations are impracticable because of the small numbers of officials in office. Present membership is about 300. In addition to annual meetings, monthly evening gatherings are held, at which the attendance averages about 50.

SOUTHERN WEIGHTS AND MEASURES ASSOCIATION

By H. E. Crawford, *Inspector of Weights and Measures of Jacksonville, Fla.*

Mr. Crawford reported the organization of the Association in 1946, embracing officials of 14 southern States, and discussed in some detail the proceedings of the first conference, held in Jacksonville, Fla., May 1, 2, 3, 1946. Annual conferences are planned.

AMENDMENTS TO MODEL STATE LAW ON WEIGHTS AND MEASURES, PROPOSED BY THE SECRETARY OF THE CONFERENCE

The Secretary. The following amendments to the Model State Law on Weights and Measures are recommended to the National Conference on Weights and Measures for adoption.

Section 8, Form 1
Section 8, Form 2
Section 13, Form 3

As presently worded, this section makes it the duty of officials to inspect and test, without exception, all weighing and measuring devices "kept, offered, or exposed for sale [or] sold." Such a requirement is obviously impracticable. The amendment would give the official power to examine such equipment, but would make it his duty only to examine equipment used commercially. The amendment also strengthens the authority of the official with respect to the stopping of persons and vehicles.

It is proposed that Section 8 of Form 1 be amended to read as follows, and that corresponding changes be made in Section 8 of Form 2, and Section 13 of Form 3:

When not otherwise provided by law the State superintendent (commissioner) shall have the power to inspect, test, try, and ascertain if they are correct, all weights, measures, and weighing or measuring devices kept, offered, or exposed

for sale; and it shall be his duty at least twice each year and as much oftener as he may deem necessary to inspect, test, try, and ascertain if they are correct, all weights, measures, and weighing or measuring devices commercially used or employed in proving the size, quantity, extent, area, or measurement of quantities, things, produce, or articles for distribution or consumption, purchased or offered or submitted for sale, hire, or award, or in computing any charge for services rendered on the basis of weight or measure, or in determining weight or measure when a charge is made for such determination; and he shall have the power to and shall from time to time weigh or measure and inspect packages or amounts of commodities of whatsoever kind kept for the purpose of sale, offered or exposed for sale, or sold or in the process of delivery, in order to determine whether the same contain the amounts represented, and whether they be offered for sale or sold in a manner in accordance with law. He may for the purposes above mentioned, and in the general performance of his official duties, enter and go into or upon, and without formal warrant, any stand, place, building, or premises, or stop any vendor, peddler, itinerant buyer, person in charge of any delivery vehicle, or any person whatsoever, and require him, if necessary, to proceed, with or without any vehicle involved, to some place which the State superintendent (commissioner) may specify. Whenever the State superintendent (commissioner) finds a violation of the statutes relating to weights and measures, he shall cause the violator to be prosecuted.

Section 23, Form 1
Section 30, Form 2
Section 28, Form 3

As presently worded, the section prescribes milk-bottle capacities which do not agree with those specified in the National Conference code of specifications for milk bottles, it requires that a bottle carry a special "designating number" in addition to the "name, initials, or trade-mark of the manufacturer," and it requires that certain information appear "in the side" of the bottle. It is believed that the Model Law and the specifications should be in agreement. Since the "designating number" serves only to identify a particular manufacturer, a result already accomplished by the manufacturer's "name, initials, or trade-mark," the requirement for a designating number seems unnecessary. What constitutes the "side" of a bottle is not well understood; what is important in the case of milk bottles is that certain marks appear elsewhere than on the bottom of the bottle. The proposed amendment covers these points. Also, there has been added a requirement for mold-design identification.

It is proposed that Section 23 of Form 1, Section 30 of Form 2, and Section 28 of Form 3 be amended to read as follows:

Bottles used for the sale of milk or cream shall be of the capacity of one gallon, a multiple of the gallon, one-half gallon, one quart, one pint, one-half pint, or one gill. Each bottle used for the sale of milk or cream shall be clearly and permanently marked with its capacity, with the word "Sealed," and, for purposes of identification, with the name, initials, or trade-mark of the manufacturer and the manufacturer's mold designation which identifies the pattern or design of the bottle; the capacity designation and the word "Sealed" shall not be on the bottom of the bottle. As a condition precedent to the sale or offering for sale, for use within this State, of milk or cream bottles, the manufacturer thereof shall have on file with the State superintendent (commissioner) of weights and measures a bond in the sum of $1,000, with sureties, approved by the secretary of state (attorney general), and conditioned upon conformance of the bottles so sold or offered for sale with the requirements of this section.

Section 26 and Section 27, Form 1
Section 33 and Section 34, Form 2
Section 31 and Section 32, Form 3

The majority of the States have enacted statutes fixing the sizes of packages of flour and meal on a decimal basis. The Model Law should be changed to conform.

It is proposed that Section 26 of Form 1, Section 33 of Form 2, and Section 31 of Form 3 be amended by changing "196" to "200" in two places, these figures referring to the net weight of a "barrel" of flour.

It is proposed that Section 27 of Form 1, Section 34 of Form 2, and Section 32 of Form 3 be amended to read as follows:

It shall be unlawful to pack for sale, sell, offer or expose for sale, or keep for the purpose of sale any of the following commodities except in containers of net avoidupois weights of two, five, ten, twenty-five, fifty, and one hundred pounds, and multiples of one hundred pounds: Wheat flour, self-rising wheat flour, phosphated wheat flour, bromated flour, enriched flour, enriched self-rising flour, enriched bromated flour, corn flour, corn meal, hominy, and hominy grits: *Provided, however,* That the provisions of this section shall not apply to (a) the retailing of flours, meals, hominy, and hominy grits direct to the consumer from bulk stock, or (b) the sale of flours and meals to commercial bakers or blenders, in containers of more than one hundred pounds, or (c) the sale of flours and meals for export, or (d) flours, meals, hominy, and hominy grits packed in cartons the net contents of which are five pounds or less, or (e) the exchange of wheat for flour by mills grinding for toll.

Section 30, Form 1
Section 37, Form 2
Section 35, Form 3

As presently worded, the section penalizes the offering or exposing for sale, selling, or retaining in possession of a weighing or measuring device which has not been sealed within one year. Thus, in effect, noncommercial equipment (household devices, and devices for intra-plant industrial use) could not legally be sold because the official does not take jurisdiction over such devices; commercial equipment could not legally be offered for sale or sold until tested; and replacement equipment such as scales and pumps could not be stored by an owner pending installation unless they were sealed at yearly intervals. These requirements are not considered sound.

Normally, prohibition of the use of equipment not sealed within a specified period is proper. However, it should be recognized that cases will arise in which new equipment should be permitted to go into service pending the arrival of the official for the purpose of making tests, and in which sealed equipment should be permitted to remain in service when the official does not appear in time to reseal the equipment within the specified period.

As now presented (in a single paragraph), the separate provisions of this important penalty section do not stand out clearly, and the language is involved.

To overcome the objections recited, it is proposed that Section 30 of Form 1 be amended to read as follows, and that corresponding changes be made in Section 37 of Form 2, and Section 35 of Form 3:

Any person who, by himself or by his servant or agent, or as the servant or agent of another person, performs one of the acts enumerated in subparagraphs

(a) through (i) of this section, shall be guilty of a misdemeanor, and shall be punished by a fine of not less than $20 or more than $200, or by imprisonment for not more than three months, or by both such fine and imprisonment, upon a first conviction in any court of competent jurisdiction; and upon a second or subsequent conviction in any court of competent jurisdiction, he shall be punished by a fine of not less than $50 or more than $500, or by imprisonment in the county jail for not more than one year, or by both such fine and imprisonment.

(a) Use, sell, offer or expose for sale or hire, or have in possession for the purpose of using, selling, or hiring, a false weight or measure or weighing or measuring device or any device or instrument to be used to or calculated to falsify any weight or measure.

(b) Use, or have in possession for the purpose of current use, in the buying or selling of any commodity or thing, or for hire or award, or in the computation of any charge for services rendered on the basis of weight or measure, or in the determination of weight or measure when a charge is made for such determination, any weight or measure or weighing or measuring device which has not been sealed by the State superintendent (commissioner), or his deputy or inspectors, at his direction, within one year, unless written notice has been given to the office of the State superintendent (commissioner), to the effect that such weight, measure, or weighing or measuring device is available for examination or is due for reexamination, as the case may be.

(c) Dispose of any condemned weight, measure, or weighing or measuring device in a manner contrary to law.

(d) Remove from any weight, measure, or weighing or measuring device, contrary to law or regulation, any tag placed thereon by the State superintendent (commissioner), or his deputy or inspectors, at his direction.

(e) Sell or offer or expose for sale less than the quantity he represents of any commodity, thing, or service.

(f) Take more than the quantity represented of any commodity, thing, or service, when, as buyer, he furnishes the weight, measure, or weighing or measuring device by means of which the amount of the commodity, thing, or service is determined.

(g) Keep for the purpose of sale, offer or expose for sale, or sell any commodity in a manner contrary to law.

(h) Use in retail trade, except in the preparation of packages put up in advance of sale, a weighing or measuring device which is not so positioned that its indications may be accurately read and the weighing or measuring operation observed from some position which may reasonably be assumed by a customer.

(i) Violate any provision of this act for which a specific penalty has not been provided.

(The foregoing amendments to the Model State Law on Weights and Measures, as proposed by the Secretary, were duly adopted.)

ABSTRACTS OF STATE REPORTS[7]

CALIFORNIA

By C. M. Fuller, *Sealer of Weights and Measures, County of Los Angeles*

This report discussed State legislation, enacted since 1941, as follows: A law requiring sale by weight, determined by weighing at time of retail sale, of poultry, meat, and fish. A law under which official tare weights are established for all containers used by processors, shippers, and handlers for the delivery of edible agricultural commodities. A law requiring notification to the county sealer, within

[7] As presented at the Conference, some of these reports were combined with the reports of Associations. However, for convenience of reference, the State reports and association reports are separately grouped herein, in alphabetical order by States.

24 hours, of the installation, repair, or adjustment of any commercial weighing or measuring instrument, by the person making such installation, repair, or adjustment. A law establishing standard packages for flour, meal, etc.

CONNECTICUT

By Lieut. C. L. Klocker, *State Division of Weights and Measures*

Lieut. Klocker noted recent legislation requiring the sale of preheated petroleum products by weight, and reported that this was working out to the advantage of customers and dealers alike.

DISTRICT OF COLUMBIA

By J. T. Kennedy, *Director of Weights, Measures, and Markets*

Mr. Kennedy reported that his department had been very active. He mentioned the inspection in 1 year of 450 prescription scales with more than 25 percent of condemnations, and the seizure of a considerable number of prescription weights.

FLORIDA

By Nalls Berryman, *Supervisor, State Division of Weights and Measures*

Mr. Berryman described the activities planned and under way to make effective the statewide general weights and measures law (patterned after the Model Law of the National Conference) enacted in 1945. Progress is being delayed because of failure to get deliveries on necessary testing equipment. A "medium" testing truck has been in operation for several months, carrying 4,000 pounds of test weights. A large unit, to carry a 20,000-pound test-weight load, is under construction. Small scale testing will begin upon receipt of the equipment therefor. The testing of pumps, meters, vehicle tanks, and prescription scales, and the checking of packaged goods continue under authority of earlier laws. A weights and measures laboratory is being set up in Tallahassee.

GEORGIA

By W. P. Reed, *Supervisor, State Division of Weights and Measures*

Mr. Reed traced briefly the history of his Division—its creation by statute in 1941, the first appropriations in 1943, the procurement of large-capacity-scale testing equipment in 1944, and, as typical of present activities, the statistics for the fiscal year of 1946. Small scales are handled by inspectors in each of five "districts." There is a light truck equipped for the testing of scales in warehouses and manufacturing plants. The Division is presently unable to meet all requests for testing, and additional testing equipment is planned. Gasoline and oil measuring equipment, as formerly, is tested under the supervision of the State Oil Chemist.

ILLINOIS

By G. A. Ritchey, *Administrative Assistant, State Division of Standards*

Mr. Ritchey reported the enactment of a revision of the State weights and measures act, effective July 1, 1946, which includes authority for pattern approval. Equipment for the measuring of liquid fuels is receiving particular attention; trailer-mounted meters, one of which is already in service, will calibrate meters and vehicle tanks in the field, and a master calibration station will be constructed on the State Fair Grounds at Springfield. This work will be handled on a fee basis, so as to be self-sustaining.

INDIANA

By W. F. Moore, *State Commissioner of Weights and Measures*

Mr. Moore reported the promulgation by Indiana of the National Conference codes of specifications, tolerances, and regulations for commercial weighing and measuring devices, without change except for the elimination of the code for dry capacity measures. He noted a general, although small, increase in the rate of compensation for weights and measures officials throughout the State. Funds are being requested for increasing the efficiency of the State Division, and it is hoped to obtain a second large-capacity-scale testing unit, a "light" testing unit, and equipment for testing vehicle tanks and large-capacity meters.

MASSACHUSETTS

By J. P. McBride, *State Director of Standards and Necessaries of Life*

Mr. McBride stated that activities in cooperation with industrial plants and with Army and Navy facilities in the Boston area had been increased. Stability among the approximately 400 local sealers in the State has been improved by a law extending civil-service status to sealers in jurisdictions down to towns of 5,000 population. The coal quality statute has been strengthened. Better control of short weighing has been achieved through a law establishing the principle that a customer may assume that the price at which he is expected to pay for merchandise bought is the prevailing price indicated by any means in the establishment of the seller.

MICHIGAN

By D. C. Meese, *Assistant Chief, State Bureau of Marketing and Enforcement*

Mr. Meese commented upon the establishment of civil-service status for State employees, upon the constructive accomplishments of the quarterly District Conferences in the Detroit Metropolitan area, and upon the addition of two testing trucks, each carrying a 5,000-pound test-weight load, to the equipment of the State. The only weights and measures legislaion enacted since 1941 was said to be a law requiring every weighmaster of livestock to be registered with the State Division of Weights and Measures.

MINNESOTA

By Erling Hansen, *Supervisor, State Department of Weights and Measures*

Mr. Hansen reported that State inspectors are now under Civil Service, with increased salary scales, that the State has acquired equipment for calibrating 1,000-pound weights, and that the field equipment has been increased by the addition of five panel trucks equipped with 100-gallon measures for meter calibration and three vehicle-scale testing units making a total of five such units. Efforts to effect changes in the organization of the Department have been frequent, but have been successfully combatted; a current proposal would place official inspections in the hands of bonded representatives of the equipment companies!

MISSOURI

By J. A. Bernard, *Commissioner of Weights and Measures of St. Louis*

Mr. Bernard reported only for the City of St. Louis, and mentioned that his department was now under Civil Service, and in recent years put into service a vehicle-scale testing unit and a calibrating plant for vehicle tanks.

NEW HAMPSHIRE

By C. E. Bourassa, *Sealer of Weights and Measures of Manchester*

Mr. Bourassa reported primarily for the City of Manchester, where he said much educational work is needed to develop an appreciation of weights and measures in the minds of the public. He added, however, speaking with respect to the State as a whole, that more men are needed in order to do the work as it should be done.

NEW JERSEY

By Joseph Giuliano, *State Superintendent of Weights and Measures*

Mr. Giuliano spoke of a recodification of the weights and measures statutes now under way; of the interest of the Department in obtaining legislation to require content marking of all packaged commodities, to provide for the sale of ice cream by weight, to require sale by weight for poultry and meat, and to control the sale of liquified gases; of plans for a new 44,000-pound scale-testing unit and for a unit for testing vehicle tanks and meters; of the success of the plan of regional weights and measures meetings; and of classes of instruction on legal matters and on the construction of weighing and measuring devices, held by the State for local officials.

NEW YORK

By C. A. Baker, *Director, State Bureau of Weights and Measures*

Mr. Baker said that during the war, because of the shortage of trucks, his vehicle-scale testing truck was turned over to the State Department of Public Works; it is hoped soon to replace this with two smaller units and also to acquire a unit designed for vehicle-tank calibration. He noted an amendment to the law penalizing the taking or accepting of more than the quantity represented, and relating also to charges for services.

NORTH CAROLINA

By C. D. Baucom, *State Superintendent of Weights and Measures*

Mr. Baucom reported the enactment of a law defining a cord of wood as 128 cubic feet of piled wood, construed as consisting of 30 percent of voids and 70 percent, or 90 cubic feet, of solid wood, and providing for sale on a "solid" basis if the wood can not be piled. Another new law requires, before sale or use, that a second-hand, rebuilt, or reconditioned scale be tested and approved by the State or by a registered scale mechanic with written notice to the State. Mr. Baucom also spoke about shrinkage on tobacco and the licensing of peanut weighers, and reported acquisition of a third large-capacity-scale-testing unit carrying 18,000 pounds of test weights and hydraulically operated.

NORTH DAKOTA

By A. J. Jensen, *Chief State Inspector of Weights and Measures*

Mr. Jensen reported that his organization was in a prosperous condition and that he was getting new heavy-duty weights and measures trucks. He said that North Dakota is following the National Conference recommendations and concluded his report with an account of an interesting prosecution, resulting in a heavy fine and jail sentence, for use of a device to falsify the indications of a large-capacity scale.

OHIO

By V. D. Campbell, *Deputy State Sealer*

Mr. Campbell said that a large-capacity-scale testing unit, carrying ten 1,000-pound weights, would shortly be placed in service, and that it was hoped to obtain a unit for meter and vehicle-tank calibration within the next 2 years. Revised regulations, paralleling the National Conference recommendations more closely than before, are in print. Weighers of livestock and milk are now required to be licensed. Some amendments have been made to the statutes; one of these authorizes the Director of Agriculture to call weights and measures conferences for attendance at which city and county sealers may have their expenses paid.

OKLAHOMA

By F. R. Hassler, *Director, State Health Laboratories*

Mr. Hassler, reporting for himself and for the President of the State Board of Agriculture, said that in Oklahoma weights and measures supervision is primarily administered by the Board of Agriculture, but that the Highway Department checks gasoline pumps and that the Health Department provides laboratory facilities and enforces the Food and Drug Act. Scale testing is on a fee basis. An expanded program is planned and additional legislation will be sought.

PENNSYLVANIA

By J. F. Blickley, *Director, State Bureau of Standard Weights and Measures*

Mr. Blickley reviewed the legislative accomplishments of his Bureau and mentioned particularly the solid fuel law passed in 1941 under which control is exercised over weighmasters, weighmasters' certifi-

cates, records of dealers, and truckers; vigorous enforcement of this law, with numerous prosecutions resulting in heavy fines and jail sentences, was said to have established effective controls over sales of solid fuels. The "commodity law" was revised, laws were enacted to standardize flour packages and to require scales to be positioned in full view of customers, and further legislative proposals will be made to the 1947 legislature.

RHODE ISLAND

By E. R. Fisher, *State Sealer of Weights and Measures*

Mr. Fisher reviewed the activities of his organization with particular reference to the services rendered to war agencies having establishments within the State. He noted the addition of an assistant to his immediate staff, plans for the formation of a Rhode Island weights and measures association, and proposals for new and improved testing equipment.

TENNESSEE

By W. C. Stone, *Superintendent, State Division of Feeds, Seeds, and Fertilizers*

Mr. Stone stated that the weights and measures program of the State is administered by his Division. Plans are under way, with the hearty cooperation of the Commissioner of Agriculture, to improve the service; to this end information is being sought regarding the equipment being used in other States.

TEXAS

By W. S. Bussey, *Chief, State Division of Weights and Measures*

Mr. Bussey said that during the war years the Division suffered serious personnel losses because of entry into the armed services and resignations to accept more remunerative employment. The situation was said to be improving, however, and an active program is being planned for 1947.

VERMONT

By G. E. Carpenter, *Supervisor, State Division of Weights and Measures*

Mr. Carpenter noted his return to weights and measures work after an absence of 30 years. He said that some expansion of this work in his State is being planned, and commented upon the problem, peculiar to only a few States, of the handling and marketing of maple syrup.[8]

VIRGINIA

By R. D. Thompson, *State Supervisor of Weights and Measures*

Mr. Thompson spoke particularly of the difficulties resulting from inadequate funds and personnel. The counties are being asked to share the cost of testing small scales within their boundaries, and the response has been encouraging. Vehicle scale testing has been somewhat curtailed but there has been some increase in the testing of vehicle

[8] Mr. Carpenter requested that the Secretary send the greetings of the Conference to Mr. H. N. Davis, for many years in charge of weights and measures work in Vermont and now retired; this was agreed to by the Conference and the Secretary later wrote to Mr. Davis as directed.

tanks and in the check-weighing of coal and other commodities. A weights and measures news letter was started in January 1945, and has been well received.

WASHINGTON

By M. M. Palmer, *State Supervisor of Weights and Measures*

Mr. Palmer reported that the effectiveness of the work was materially lowered during the war by loss of personnel and obsolescence of equipment. The organization is being built up again, a systematic program of training for inspectors is showing good results, and plans call for the procurement of additional manpower and new office and field standards, light trucks for the inspectors, a new large-capacity-scale testing unit with electrically-operated weight-handling equipment, and equipment for the testing of large meters and vehicle tanks. Three first-class cities in the State maintain local weights and measures offices; elsewhere the work is carried on by State inspectors.

WISCONSIN

By L. E. Witt, *Sealer of Weights and Measures of Milwaukee*

Mr. Witt reported only briefly for the State mentioning the enactment of the flour-package law and a law legalizing the third-quart milk bottle; in relation to the latter law Mr. Witt said that Mr. Warner, the State Supervisor of Weights and Measures, had vigorously opposed the introduction of the third-quart bottle through court channels, but to no avail.

REPORT OF THE NATIONAL CONFERENCE TREASURER, G. F. AUSTIN, JR.

Mr. Austin. My report this year consists of three parts, one being a special report dealing with the National Conference emblem, and the other two being regular financial reports dated June 1, 1942 and June 1, 1946, respectively. These will be separately presented. [Reading:]

NATIONAL CONFERENCE EMBLEM REPORT

June 1, 1946.

At the last meeting of this Conference in 1941, it was decided to have a National Conference emblem to be made in the form of a lapel button. The authority for the purchase and responsibility for the sale and distribution of same was vested in the Treasurer of the Conference, who was to accept orders for the emblems, together with an advance payment of $1.25 for each emblem.

Up until February 1942, I had received only 35 orders for the emblem, so the matter was brought to the attention of the Conference Secretary, Ralph W. Smith, who in turn referred the situation to the Conference membership through the medium of the National Bureau of Standards News Letter. The result of the News Letter publicity gave evidence of a definite evaporation of interest in the subject on the part of weights and measures men, and inasmuch as it was necessary to obtain orders for at least 100 emblems before placing an initial order with the Robbins Co., of Attleboro, Mass., we found it necessary

to drop the matter. Therefore, on May 21, 1942, I returned the advance payment to each of those who had placed an order for the emblem.

Respectfully submitted,
GEO. F. AUSTIN, JR., *Treasurer.*

FINANCIAL REPORT

		June 1, 1942
Balance on hand June 1, 1941		$337.52
Receipts:		
June 5. Dues—1941 Conference	$229.00	
Interest accrued	4.41	233.41
		570.93
Disbursements:		
June 4. Social evening, Hotel Mayflower—		
Refreshments	187.25	
Music	96.00	
Messenger, mimeographing, and stenographic services	30.00	
Cartage and telephone services	4.60	
Check charge and postage expense in connection with the return of deposits on National Conference lapel emblems	2.03	319.88
Balance on hand June 1, 1942		251.05

Respectfully submitted,
GEO. F. AUSTIN, JR., *Treasurer.*

FINANCIAL REPORT

	June 1, 1946.
Balance on hand June 1, 1942	$251.05
(No Conference meetings took place in 1942, 1943, 1944, 1945.)	
Receipts:	
Interest accrued, period 1942–46, inclusive	15.35
	266.40
Disbursements:	
May 15, 1946. Receipt book for Conference dues	1.80
Balance on hand June 1, 1946	264.60

Respectfully submitted,
GEO. F. AUSTIN, JR., *Treasurer.*

(The reports of the Treasurer were duly accepted.)

REPORT OF THE NATIONAL CONFERENCE COMMITTEE ON RESOLUTIONS, PRESENTED BY C. A. BAKER, CHAIRMAN

APPRECIATION TO DIRECTOR AND STAFF OF THE NATIONAL BUREAU OF STANDARDS

Whereas Dr. Edward U. Condon, Dr. Lyman J. Briggs, R. W. Smith, and their able and efficient staff have extended valuable assistance and guidance to this Conference, of which the Conference is highly appreciative: Therefore be it

Resolved, That this, the Thirty-Second National Conference of Weights and Measures, does hereby record its grateful appreciation to the above-named gentlemen.

APPRECIATION TO THOSE PARTICIPATING IN PROGRAM

Whereas numerous committees, speakers, and individuals have given their valuable time and effort to make this, the Thirty-Second National Conference on Weights and Measures, a success: Therefore be it

Resolved, That the Thirty-Second National Conference on Weights and Measures does hereby record its grateful appreciation to all who have constributed to the success of this Conference.

APPRECIATION TO OFFICIALS COOPERATING

Whereas the governing officials of the various States, counties, and cities, through their manifest interest in weights and measures work, have made it possible for their respective jurisdictions to be represented at this, the Thirty-Second National Conference on Weights and Measures; and

Whereas such cooperation and attendance have in a most practical way furthered uniformity in regulations for the various jurisdictions and have otherwise assisted the general good of the work: Therefore be it

Resolved, That this, the Thirty-Second National Conference on Weights and Measures, does appreciate such practical cooperation and does make this resolution a part of the record of its meeting.

APPRECIATION TO MANAGEMENT OF HEADQUARTERS HOTEL

Whereas the management of the Mayflower Hotel has done everything within its power to make our present meeting the success which it has been: Therefore be it

Resolved, That this, the Thirty-Second National Conference on Weights and Measures, assembled at the Mayflower Hotel this 28th day of September 1946 does express its warmest appreciation and thanks to the management of the said hotel for the careful provisions made for our meeting; and be it further

Resolved, That the Secretary of the Conference be instructed to transmit a copy of this resolution to the management of the Mayflower Hotel.

TRADING BY WEIGHT

Whereas this Conference has repeatedly stressed sale by weight instead of by dry measures: Therefore be it

Resolved, That we, of the Thirty-Second National Conference on Weights and Measures, do hereby recommend that every reasonable effort be made to eliminate dry measures in so far as practicable and to establish trading by weight.

CONTAINERS FOR ALCOHOLIC BEVERAGES

Whereas a chaotic condition exists in containers for alcoholic beverages; and

Whereas there is a great deviation from the adopted standard of liquid measurements in the United States for alcoholic beverages: Therefore be it

Resolved, That the Thirty-Second National Conference on Weights and Measures go on record as recommending to the Federal Revenue Department, or other proper agency of the Government, the adoption of standards of liquid measurement for containers used in the sale of alcoholic beverages and that such standards be based on the United States gallon of 231 cubic inches and its binary submultiples such as one-half-gallon, 1 quart, 1 pint, one-half pint, and 1 gill, and that we further go on record as condemning the use of odd-size bottles or containers in existence such as four-fifths gallon, one-fifth gallon, three-fourths quart, and such other containers as are outside the recommended standards.

IN MEMORY OF DECEASED MEMBERS

Whereas since the last Conference meeting we have lost through the plan of Divine Providence several members of this Conference; and

Whereas our association with these departed members has been an inspiration to us to continue with greater determination toward the ideals set by them: Therefore be it

Resolved, That we, of the Thirty-Second National Conference on Weights and Measures, do hereby record this expression of sincere sorrow at the loss of these members.

APPRECIATION TO THE PRESS AND TO THE SCALE JOURNAL

Whereas the press of the city of Washington has been generous in reporting the activities of our present meeting; and

Whereas the Scale Journal has likewise been generous in giving advance notices of our present meeting: Therefore be it

Resolved, That this, the Thirty-Second National Conference on Weights and Measures, does hereby record its appreciation to the press of Washington and to the Scale Journal.

(Signed) C. A. Baker, *Chairman*,
R. S. Ackerman,
J. A. Bernard,
J. T. Kennedy,
Alfred Lirio,
W. F. Moore,
R. D. Thompson,
Committee on Resolutions

(The foregoing resolutions, as presented by the Committee, were duly adopted.)

UNFINISHED AND NEW BUSINESS

CONFERENCE EXPENSES

Mr. Fuller. I move that the Secretary of the Conference be authorized to draw upon the Treasurer for the expenses incurred in connection with this meeting.

(The motion was duly agreed to.)

The Chairman. Are there any other items of unfinished or new business?

A motion for adjournment is in order, but before that is offered I want to say that I am very happy to be connected with this work and I hope that all of you will feel free at any time to bring any special problems to me by which I may be encouraged to do a better job of helping in the work.

(It was moved and seconded that the Conference adjourn, the question was taken, and the motion was agreed to.)

(Thereupon, at 1:30 p. m., the Thirty-Second National Conference on Weights and Measures adjourned *sine die.*)