

DEPARTMENT OF COMMERCE AND LABOR  
BUREAU OF STANDARDS  
S. W. STRATTON, Director

SECOND ANNUAL CONFERENCE

ON

THE WEIGHTS AND MEASURES OF  
THE UNITED STATES

HELD AT THE BUREAU OF STANDARDS  
WASHINGTON, D. C.  
APRIL 12 AND 13, 1906



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1906



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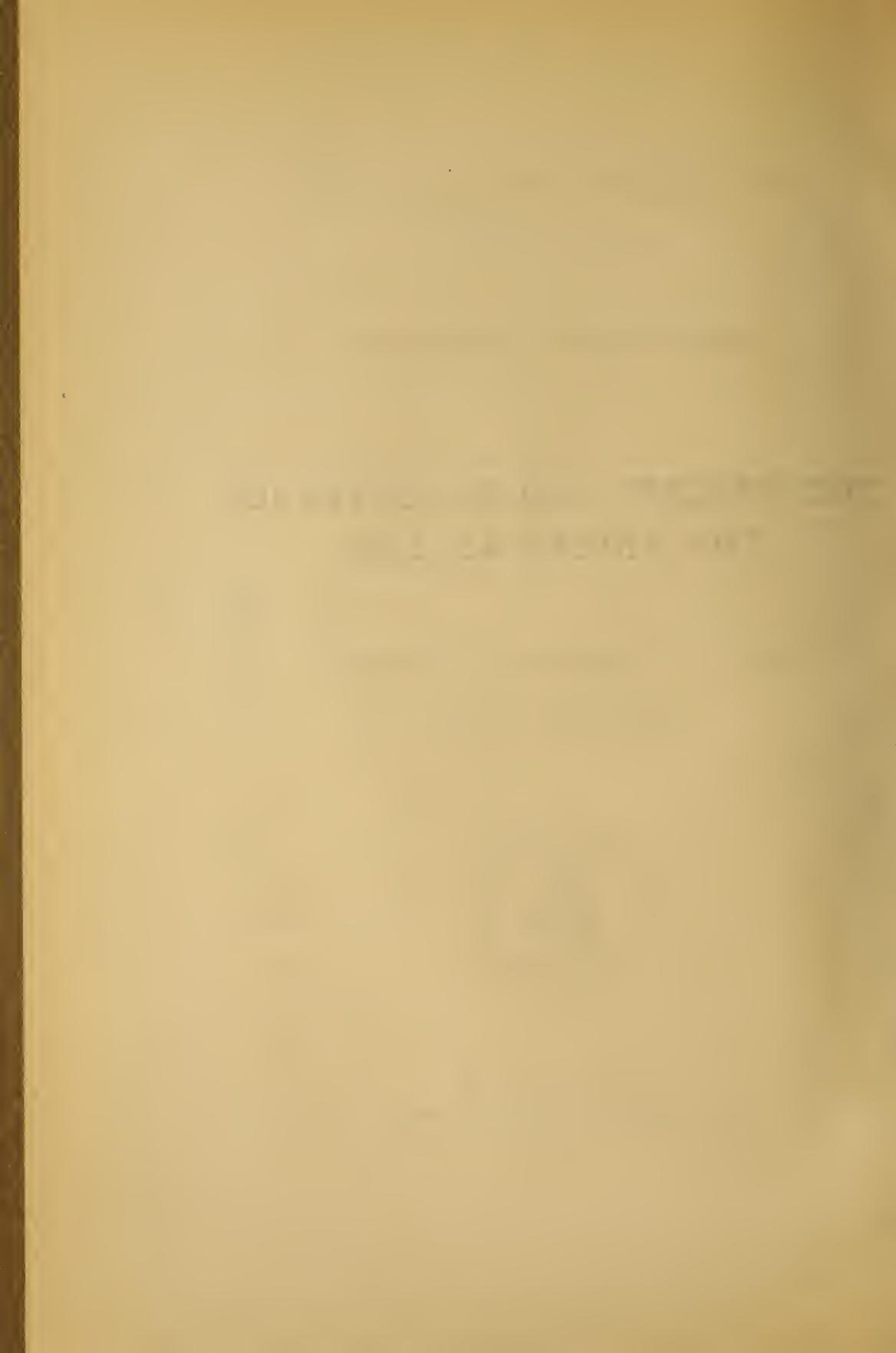
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## LETTER OF SUBMITTAL.

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DEPARTMENT OF COMMERCE AND LABOR,  
BUREAU OF STANDARDS,  
*Washington, November 20, 1906.*

SIR: I have the honor to submit herewith for publication a report of the proceedings of the Second Annual Conference on the Weights and Measures of the United States, held under the auspices of the Bureau of Standards, April 12 and 13, 1906.

The reasons which prompted the Bureau to arrange for regular conferences on the subject of weights and measures are set forth in a letter sent to the governors of the several States, the text of which is given below to complete the record:

DEAR SIR: The second annual meeting of the State sealers of weights and measures will be held in Washington, D. C., on April 12, 1906, and it is earnestly requested that your State be represented. The object of these meetings, as stated in former communications to you, is to improve conditions affecting commercial weights and measures.

The functions of the Bureau of Standards include the construction and verification of State standard weights and measures, but the use of these standards for the regulation of commercial weights and measures is a function which has been largely left to the State and municipal authorities, and in the exercise of which the Bureau of Standards is ready to assist.

It is evident from the number of convictions for the use of dishonest weights and measures in localities where rigid inspection is maintained that the amount of fraud in States and cities where there is no inspection, or inefficient inspection, must be enormous; and, unfortunately, the loss usually falls upon those too poor or unintelligent to protect themselves.

The Bureau was led to take up this matter by the increasing number of inquiries received from the citizens of every State in regard to weights and measures matters which could only be properly attended to by local inspectors.

It is believed that the free interchange of views and experience will result in the passage of a Federal law applicable to all States, or in the enactment of uniform laws by the separate States.

At the first meeting, held at the Bureau on January 16 and 17, 1905, facts were brought out which showed that almost all the States have laws concerning standards and commercial weights and measures, but only a few have made the necessary provisions for their enforcement. An examination of the proceedings of the first meeting, a copy of which is forwarded to you under separate cover, will show how little has been done in this direction and how much room there is for improvement.

It is earnestly requested that you inform the Bureau of what action is taken in the matter, and if a delegate is appointed that his address be furnished in order that he may be supplied with whatever literature we have on the subject of weights and measures.

All of the replies to the above indicated an appreciation of the importance of the subject and a cordial desire to cooperate actively in establishing a satisfactory system of inspection of trade weights and measures throughout the United States.

Respectfully,

S. W. STRATTON,  
*Director.*

The SECRETARY OF COMMERCE AND LABOR.

DELEGATES APPOINTED TO ATTEND THE SECOND ANNUAL CONFERENCE ON WEIGHTS AND MEASURES,  
APRIL 12 AND 13, 1906.

WILLIAM A. BAYER, Albuquerque, N. Mex.	GEORGE H. PETTIS, <i>State Sealer of Weights and Measures,</i> Providence, R. I.
ISAAC BROWN, <i>Secretary of Internal Affairs,</i> Harrisburg, Pa.	FRITZ REICHMANN, <sup>a</sup> Troy, N. Y.
E. W. BURKE, Evanston, Wyo.	JOHN W. RICHARDSON, <i>Register of the Land Office and ex officio State Superintendent of Weights and Measures,</i> Richmond, Va.
JOSEPH L. CAHALL, <i>Secretary of State, and ex officio in charge of the Standards,</i> Dover, Del.	EDMUND D. ROBERTS, <i>City Sealer of Weights and Measures,</i> Hartford, Conn.
A. F. CUMMINGS, <i>City Sealer of Weights and Measures,</i> Nashua, N. H.	LEONARD S. SMITH, <i>Professor of Geodesy, University of Wisconsin, and ex officio State Sealer of Weights and Measures,</i> Madison, Wis.
LOUIS A. FISCHER, <i>Chief of the Weights and Measures Division, Bureau of Standards,</i> Washington, D. C.	S. W. STRATTON, <i>Director, Bureau of Standards,</i> Washington, D. C.
CHARLES M. FLOYD, <i>Member of Congress from Arkansas.</i>	FRANK STRONG, <i>Chancellor of the State University and ex officio State Sealer of Weights and Measures,</i> Lawrence, Kans.
WILLIAM C. HASKELL, <i>District Sealer of Weights and Measures,</i> Washington, D. C.	B. F. THOMAS, <i>Professor of Physics, Ohio State University, and ex officio State Sealer of Weights and Measures,</i> Columbus, Ohio.
PERLEY F. HAZEN, St. Johnsbury, Vt.	A. L. P. WOOLF, <i>City Sealer of Weights and Measures,</i> Baltimore, Md.
J. R. KNOWLAND, <i>Member of Congress from California.</i>	A. N. YODER, <i>Secretary of State,</i> Helena, Mont.
W. B. LAMAR, <i>Member of Congress from Florida.</i>	
C. J. NORWOOD, <i>State Superintendent of Mines, and Curator of the Geological Bureau,</i> Lexington, Ky.	
DANIEL C. V. PALMER, <i>Deputy State Sealer of Weights and Measures,</i> State House, Boston, Mass.	

<sup>a</sup> Later appointed State Superintendent of Weights and Measures of New York.

REPORT OF THE  
SECOND CONFERENCE ON WEIGHTS AND MEASURES,

HELD AT THE BUREAU OF STANDARDS,  
WASHINGTON, D. C., APRIL 12 AND 13, 1906.

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*APRIL 12, 1906.*

Dr. STRATTON. It affords me very great pleasure, indeed, to welcome you again to the Bureau of Standards. Most of you know about the pleasant meeting we had last year. I notice a number of new faces, and we have also a number who were here last year, and I am sure we all remember the pleasure and interest in that meeting. It was worth the trip from the Pacific coast to hear and learn what our friends in Massachusetts were doing and what our friends in Virginia were not doing. We are going to hear more of these interesting stories this year.

Now, while the Bureau of Standards is very much interested in this work and inaugurated the movement, and while it is our duty to improve conditions affecting weights and measures, we believe that it will be better for you to perfect your own organization, elect your own officers, and carry on these annual meetings in a manner independent of the Bureau, just as any scientific organization would. The first thing in order, therefore, will be the perfecting of the organization. I would suggest that this be made the first business of the meeting. After that I would be pleased to say a few words in regard to uniform laws and some other matters in connection with our work. This will not be formal, but merely with a view to bringing up points that should be discussed during the meeting. To-morrow morning we hope to have with us Mr. Southard, the chairman of the Committee on Coinage, Weights, and Measures of the House of Representatives, and Representative Littauer, who is also greatly interested in matters pertaining to weights and measures.

Remarks on the proposition to form a permanent organization are now in order.

Mr. RICHARDSON. Mr. Chairman, before we proceed in that matter I would like to have your opinion of the number and character of offices there should be in this organization.

Dr. STRATTON. I think we should have a chairman and a secretary. The organization should be as simple as possible.

Mr. RICHARDSON. I think so, myself. I think it would be very well to have a chairman, a secretary, and an advisory board of from three to five to act with them.

Mr. FISCHER. Would not the work of the committee mentioned be taken care of by committees which might be appointed to consider special questions as they come up?

Mr. RICHARDSON. My idea was that a board of three would take the place of all the committees.

Mr. FISCHER. I merely suggested that as one way in which special matters might be handled to greater advantage than they would be if a single committee had to consider every question.

Mr. RICHARDSON. I suppose the prime object of this meeting is to get at uniform laws for all States in the Union.

Dr. STRATTON. Not only uniform laws but uniform methods of inspection.

Mr. RICHARDSON. Would it not also be wise to petition Congress to pass uniform laws, and make suggestions to them as to what we would like?

Dr. STRATTON. Personally I am of the opinion that it would be a good plan.

Mr. PETTIS. Make the organization as simple as possible; have as few officers as we can get along with. I think it is only necessary to have a secretary and a chairman. I move you, sir, that Dr. S. W. Stratton be made the chairman of this meeting.

Dr. STRATTON. I hope that motion will not be seconded. I think it much better to select one of the State representatives.

Mr. NORWOOD. I second the motion. I think Dr. Stratton is the man to be chairman of the meeting.

Mr. HAZEN. Well, we can find that out by a vote.

Dr. STRATTON. Do I understand that this motion is to provide for a chairman of this meeting and that you will elect a chairman at each meeting?

Mr. NORWOOD. I understood that it was to be a chairman of the association. I presume, Mr. Chairman, the first thing for us to do is to agree to form an association, or has that already been done?

Dr. STRATTON. No, sir.

Mr. NORWOOD. I move that a permanent organization be formed. I do not know what it should be called.

Mr. RICHARDSON. I would suggest that it be called the National Sealers' Association.

Dr. STRATTON. I think at the meeting last year the sentiment was in favor of a permanent organization, but if I remember correctly no details were discussed.

Mr. FISCHER. Yes, that is correct; a resolution was adopted at the last meeting which favored annual meetings.

Mr. NORWOOD. We all agree that there should be a national organization formed. The question of a name can be settled later.

We have no State sealer in our State, and really I am not the proper person to be here. I find on looking through the documents I received and read yesterday, for the first time, that in Kentucky the secretary of state is the custodian of weights and measures. I doubt, however, if the secretary himself knows that he is the custodian; but he is really the one who ought to be here and represent our State in such an organization.

Dr. STRATTON. I would like to say to the gentleman from Kentucky that he need not feel out of place, as most of the States are in the same position. We shall probably have representatives from many States who are not technical men and yet are very much interested in the subject, and are perhaps the best men to secure the needed reforms. I think that eventually the representative from the States should be a technical man, but that is entirely out of the question at present and the other class of men is perhaps better at this time.

Mr. PETTIS. My motion was that we should elect first a chairman and a secretary, and then proceed to business.

Dr. STRATTON. The motion is that we will proceed to elect a chairman and a secretary, and if there are no objections I shall assume that the motion is agreed to. Nominations for a permanent chairman are now in order.

Mr. PETTIS. I suggest, Mr. Chairman, that Mr. Fischer be made permanent secretary.

Mr. NORWOOD. I understood that the chairman had already been nominated.

Dr. STRATTON. I had hoped, gentlemen, that you would select one of your own number as chairman, but I think Mr. Fischer would make a very good secretary.

Mr. RICHARDSON. If you will allow me to say a word, I think the work of this organization largely centers in the Bureau of Standards,

and if you elect some one from Kentucky, Connecticut, Ohio, or Rhode Island as chairman and a secretary who has his residence at Washington the arrangement will not be a convenient one. The secretary has to confer with the chairman at all times, and I think it is best to have the head of the Bureau of Standards as chairman and the chief of the weights and measures division of the Bureau as secretary, and then the work can be conveniently done.

Mr. REICHMANN. I think the best scheme is to have a chairman, a secretary, and an executive committee composed of the sealers of the different States. Then the work will devolve upon the executive committee, but at the same time the Bureau of Standards would be identified with it, as it should be.

Mr. HAZEN. I think we all agree that the Bureau of Standards should take the lead in this work, and I therefore call for a vote on the nomination of Dr. Stratton. All those in favor of the election of Dr. Stratton as chairman of the association will say aye. The ayes have it. You are elected, Dr. Stratton.

Mr. RICHARDSON. I second the nomination of Mr. Fischer as secretary of the association.

Dr. STRATTON. All those in favor of the election of Mr. Fischer as secretary will please say aye. The ayes have it. Mr. Fischer is elected.

Mr. PALMER. I move that we now elect an executive committee of three. The motion was agreed to.

Mr. REICHMANN. I would like to nominate as the first member of that committee Mr. Palmer, of Massachusetts.

Mr. PETTIS. It seems to me that this power ought to be vested in the chairman of the organization. It might be well to elect them this time, but it seems to me that in the future the committee should be appointed by the chairman.

Mr. RICHARDSON. If the gentleman who made the motion to elect the executive committee will withdraw his motion I will make a motion that the committee be appointed by the chairman of the organization. That is the usual procedure.

Mr. PALMER. I will then withdraw my motion.

Mr. RICHARDSON. I move that an executive committee be appointed by the chair. The motion was seconded by Dr. Reichmann and was carried.

Dr. STRATTON. Shall the committee be appointed now or later?

Mr. PALMER. Just as you suggest.

Dr. STRATTON. I appoint Messrs. Palmer, Thomas, and Pettis.

Mr. THOMAS. I am perfectly willing to do anything in my power to further the object of this organization, but with all deference to the wishes of the chair in the matter I think there are other members of the association who are better able to render effective service than I am; a copy of last year's report which I received indicates that there are a number of men who are doing a great deal of work in carrying out the regulations pertaining to weights and measures, while, unfortunately, on account of the State laws in Ohio being insufficient we have not been able to make much show in regard to weights and measures matters. I think there are sealers here whose attention has been directed more to the subject and who have had considerably more experience with this matter than I have.

Dr. STRATTON. I think, Mr. Thomas, Ohio is one of the few States that have made a step in the right direction. I think you would be the right man on the committee and I hope you will consent to serve.

Mr. PALMER. It is well to find out how many States are represented here and I would request that the roll of States be called.

Dr. STRATTON. Will the secretary please call the roll?

The following delegates responded to the roll call:

WILLIAM A. BAYER, New Mexico.  
A. F. CUMMINGS, New Hampshire.  
P. F. HAZEN, Vermont.  
C. J. NORWOOD, Kentucky.  
DANIEL C. V. PALMER, Massachusetts.  
GEO. H. PETTIS, Rhode Island.  
F. REICHMANN, New York.  
JOHN W. RICHARDSON, Virginia.  
B. F. THOMAS, Ohio.  
A. L. WOOLF, Maryland.

Mr. FISCHER. Mr. Haskell, sealer of the District of Columbia, just telephoned that he had not received notice of the meeting until this morning, but that he would be present to-morrow. We also have a letter from Professor Strong, who was to have represented Kansas, stating that he has recently recovered from a severe illness, and regretted his inability to be present. Mr. Roberts, the delegate from Connecticut, Mr. Brown, of Pennsylvania, and Mr. Cahall, secretary of the State of Delaware, wrote that they would be here, but they have not yet arrived.

Representatives were appointed by the governors of Wisconsin and Iowa, but no provision was made by either State to defray expenses and we have been informed that it is unlikely that either State will be

represented here. Wyoming and Montana appointed delegates, but we have not heard from them. The governors of Arkansas, California, and Florida appointed their representatives in Congress, but as this is a very busy time at the Capitol it is improbable that any of the gentlemen named will attend. Altogether twenty-two States or Territories appointed representatives, and in almost every case our notices of the meeting to the governors elicited replies which favored the movement.

Mr. PALMER. I saw Mr. Roberts, the State sealer of Connecticut, at Hartford a few days ago and he was in very poor health. He has been the sealer of weights and measures in Hartford for more than thirty years. He would be a very valuable man for us to have with us, and I did my best to persuade him to come to Washington.

The CHAIRMAN. I think we shall probably have a few more delegates here to-morrow morning.

Mr. PALMER. I would like to offer a suggestion. There are a number here who were here last year, and the different delegates can get an idea of the condition of matters pertaining to weights and measures in our States by reading the report of the meeting held last year. There are several here who were not here last year, and there are several new States represented. It would be interesting to know what is done in those States.

The CHAIRMAN. I think it would be a good feature to have a report from the delegates at every meeting.

Mr. PALMER. I think we should have this meeting reported and gotten out the same as the meeting last year. But I do not know whether we could have the proceedings printed again as they were last year. I would be willing to help create a fund for the purpose of printing the reports of these meetings if that is necessary.

The CHAIRMAN. We had some difficulty in getting the report printed last year, but the matter was finally arranged satisfactorily.

Mr. RICHARDSON. I think it would be a good idea for us who were here last year to hear from the new delegates who have come in, and to-morrow we can take up other matters of executive nature. I would like to hear from the delegate from Rhode Island regarding conditions in his State.

Mr. PETTIS. I was not here last year; I had just come out of the hospital two days before the meeting was held. It was one of the disappointments of my life, as my every energy is in this business of sealing. Back in 1653 or 1654 the people of Newport sent a Mr. John Clark to Boston to get proper weights, so that the weights which were

in use by the storekeepers could be tested and made correct. In Rhode Island the inspection of trade weights and measures has been kept up, next to Massachusetts, or perhaps as well. Mr. Palmer is well acquainted there, as he comes to our town once in a while and knows how we do business. Our State is small. There are no counties in it.

Mr. RICHARDSON. Your State is just one big county.

Mr. PETTIS. Just about. As I said, I think we have this work in very good shape. Massachusetts is in fine shape, although it is a much larger State. We are interested to have other States take hold of this thing and get where they belong. I was raised at Cohoes, in New York State, about 9 miles above Albany, and have always had a great interest in the State. In January, when my annual report was published, I sent a copy to every official who would be liable to be interested in it. I sent one to the State sealer, or custodian, of the State of New York. I was ambitious that New York might become aroused and interested and take up the matter, just as has been done by Massachusetts and Rhode Island, and my purpose is to do all I can to push this matter forward. We will make a good start at this meeting and get some of the States on the way of doing the thing right. That is all I have got to say.

Mr. RICHARDSON. Before the gentleman sits down I would like to ask on what particular line he has the most trouble in keeping the people straight on weights and measures.

Mr. PETTIS. With the peddlers. In any State you will find the merchants—the people who are in regular business and who have a permanent habitation—are generally honest and anxious to have their scales correct, and are willing to pay to have them tested, but we do have trouble with the peddlers with their sliding scales and the hucksters with their fraudulent dry measures.

Mr. RICHARDSON. How often do you find it necessary to seal them?

Mr. PETTIS. Once a year all small scales are tested, and twice a year all wagon scales are tested and sealed.

Mr. RICHARDSON. The people of your State then have more incentive to be honest than mine have. The weights in Virginia are only sealed every ten years.

Mr. PETTIS. I shall say more on that matter at the meeting to-morrow.

Mr. NORWOOD. I come from a State where speakers are supposed to live. I, unfortunately, am not one myself and so I have no reputation to sustain. As I mentioned before, I myself am not a sealer and I suppose that technically I should not be here. The secretary of my

State, who is the custodian of the weights and measures that were given to the State by Congress many years ago, should be here. I do not suppose there is any State in the Union that is in a more chaotic condition about weights and measures than Kentucky, so far as laws are concerned and so far as inspections are concerned. The volume that was compiled last year by the Bureau of Standards, which I have been reading, contains about all the law in Kentucky on the subject, and any of you gentlemen who will look at it will see that it amounts to nothing. There is no law that I am aware of—and I believe I would know of it if it were there—that compels anyone to have his scales or his measures sealed. It is rather a privilege that anyone has to ask a sealer to come and examine his scales and weights. I think that is the law. I will frankly say that I am ignorant on this subject, how ignorant I did not know until I read this pamphlet of your proceedings of last year. I read it yesterday, and I really did not know how little I knew on this subject.

I was one of the early members of the Metrological Society, an association formed in the seventies. I dropped out of it after a while because at that time I was not a decimal man, or didn't think I was a metric man. Although, as I said, I was one of the early members of that society, I never realized how important this subject was until I read this document—your proceedings of last year. I came here at the request of the governor of Kentucky. I happen to be somewhat of a Pooh Bah in my State. I hold two or three offices. I am the head of the geological survey, head of the Mine and Engineering School, State College, and also State inspector of mines, and when anything like this comes up the governor thinks I am the only man to look after it and as I had other business in Washington, that explains why I am here now. I am very glad that I am here. I came here to learn, because I am anxious to go back to Kentucky having learned all I can from you gentlemen and the proceedings and try to get the State interested in this subject, for I see its importance. The State inspector of mines, since I come to think of it, may be a brother-in-law of the State sealer. Their spheres must touch somewhere, for the reason that our legislature, which recently adjourned, provided that in cases of disagreement between coal operators and their miners as to the condition of the scales upon which the coal is weighed, that these differences should be submitted to the chief inspector of mines, and he, either in person or by one of his assistants, should examine the scales in question and require that they be put in accurate condition if they are incorrect.

I do not remember the exact language of the act, but there is a tolerance allowed for the scales. If they do not show any greater error than is permitted in similar scales of standard make—and I want to learn from the sealers here what that tolerance is—they should be approved. But, as I said, things are in a chaotic condition in our State as far as laws are concerned. We have no sets of standard weights and measures—that is, no British standards. The first set that was supplied to the State by the Federal Government is believed to have disappeared during the war; at any rate, it is lost now. It so happens that I have tried to find it. We have, so far as I can ascertain, only the set of measures of length of the metric system that was supplied a few years ago, but I do not think we have the standards of capacity. I think they are gone, and one of the things the governor's secretary said to me over the phone was, to be sure and get two sets of the standards, one of the old system and one of the metric system. I presume that I will be able to report that if the State will supply the money we can get another set, but I would really like to know, and I think it would be an important thing for the association to ascertain, what States need new sets, and then possibly we might induce Congress to provide them. I think it would be difficult to induce our State to buy a set unless we can get up a sentiment in Kentucky for better conditions. If a sufficient number of States have lost their standards, it seems to me we might possibly, through Congress, get new standards supplied to those States. Are they very expensive, Dr. Stratton?

The CHAIRMAN. No.

Mr. NORWOOD. I understand there is a question as to whether the standards that were supplied to the States would conform to the standards here. They are off a small fraction, say, your yard is a little bit shorter or longer, and it might be that we could get new sets if all the States would try. We need all the help we can get. I believe I have said all there is to be said about Kentucky; there isn't very much. I think I have perhaps said a great deal more than I should.

Mr. RICHARDSON. Before you sit down. You have said a great deal about weights, can't you say something about measures, liquid measures?

Mr. NORWOOD. There is one thing, perhaps, I might tell which would be worthy of mention. This law which you have seen in the book there does provide for a county sealer. One of the absurdities that was proposed in some legislation last winter referred to a county

sealer. I doubt whether there is a county sealer in Kentucky. I have never been able to find one. There may be two sealers in Kentucky, one at Covington and one at Lexington. They had a sealer in Louisville. I remember reading of a raid he made on the market men.

Mr. RICHARDSON. He was controlled by the city authorities?

Mr. NORWOOD. Yes. He was created by the city authorities four years ago or perhaps six years ago, and I remember that he made a raid on the market people and found a great many frauds, particularly with respect to strawberry baskets or boxes. I remember some-one last year speaking of this thing, but I am not sure that that office is now in existence in Louisville. I remember that within the last two years strong efforts were made to abolish the office. It was not satisfactory to some of the people in control of things. We need a great deal of education on this subject in Kentucky, gentlemen. There is one thing more I would like to say, because I may not be here at the meeting to-morrow. I would like to see uniformity in what constitutes a bushel of a certain commodity in the different States. I don't think there is any such uniformity. I believe our recent legislature passed a law regulating the number of pounds of beans in a bushel and the number of pounds of corn in a bushel. I would like to feel that if I were to buy a bushel of grain in one State I would receive the same number of pounds as I would in Kentucky. I should like to see that uniformity throughout States, and anything that can be done to bring that about I should like to aid.

Mr. RICHARDSON. A bushel of corn in Virginia is 70 pounds in the ear and 56 pounds shelled.

Mr. NORWOOD. It depends on what time of the year you take the corn as to what a bushel would weigh.

The CHAIRMAN. I want to say to Mr. Norwod that the question of supplying the new States with standards and replacing some that have been destroyed in the older States is one that we have been considering for the last two or three years. It has come up frequently. We are just on the point of including that expense in our estimates for the coming year. I think it should be included, and I think that there will be no difficulty in getting Congress to make an appropriation for new sets.

Mr. RICHARDSON. Do you think there would be any likelihood of giving old parts in part payment for the new ones?

The CHAIRMAN. Your sets are good as far as they go. We would like to hear from the gentleman from Maryland.

Mr. WOOLF. I have very little to say, as I came over here to learn. The conditions in Maryland are about the same as in Kentucky, except that in Baltimore there is some sort of inspection. Otherwise the laws are not carried out in the counties. I don't know anything else I can say that would be of interest.

The CHAIRMAN. Now we will listen to the gentleman from Massachusetts, Mr. Palmer.

Mr. PALMER. I always do have a good deal to say, as I am greatly interested in weights and measures. In Massachusetts the State treasurer is ex officio sealer of weights and measures. It seems to me that the delegates who are here from States where no supervision of weights and measures is made should make a report to their governors, calling attention to the fact that other States provide for the supervision of commercial weights and measures, and that their own States have practically no inspection, with the result that the public is at the mercy of unscrupulous dealers and the people are victims of false weights and measures at any and all times during the year. I believe that their governors would take a great interest and would probably call the attention of their legislatures to the matter. That would accomplish a great deal along the lines of effective weights and measures inspection in the different States.

Probably a great many of you are familiar with our laws in Massachusetts. They are about the same as when I was here last year, with the single exception that we have one amendment allowing prosecution in cases where we seize false scales and balances—i. e., that the possession of false scales and balances shall be prima facie evidence that they were to be used for the sale of commodities. Previously in case a seizure was made we had to prove a sale except in the case of measures. In this case we could prosecute. We have taken up the subject quite thoroughly in Massachusetts. I think if I could have you all up there and show you the amount of false weights and measures we unearthed by inspection you would be surprised. We have been making some attempt at strict prosecution in our large cities, and it would be amazing if you knew the amount of money that is lost in our cities and towns through the use of false weights and measures every year.

On my return from the convention last year I stopped at New York City and called on the city sealer, Mr. Derry. At his suggestion I spent a day and a half with him and took ten of his deputies among the stores, showing them methods of inspection of weights and measures. I remember of going into one of the largest stores on Sixth

avenue, where we tested the yard sticks in use and found many of them from 33 to 36 inches in length. It was a very rare case where we found a yard stick which exceeded 36 inches. An abstract of Mr. Derry's report has appeared in the public press, and during a recent conversation with Mr. Derry he told me that the prosecuting attorney had received over 150 cases for prosecution during the quarter. Now, these are the cases that the inspectors of weights and measures discover when making tests with their small testing outfit, and they do not include inspection of large scales. I know that Mr. Derry would be glad to send any of you a copy of his report, and that you would be very much interested in it. New York has had no State officer who takes an interest in weights and measures, but I trust that before long there will be some change in that department, for there is a big field for an efficient officer.

We have no law in Massachusetts which compels the use of a standard package. I recently investigated the dealers in creamery butter, and found they were putting butter up in what are called "prints." I only found one instance where the print weighed full 16 ounces. Some I found as light as 14 ounces. Upon further investigation I found that these prints were supplied by the creameries in the country, and that the dealers were losing as well. They were selling the article in good faith, the matter never having been brought to their attention before. No prosecution could be made. The only way we would have prosecuted under the law would have been by charging that they were obtaining money under false pretenses. We finally decided to give the facts to the public press, and within twenty-four hours everyone who bought butter made certain that he was getting 16 ounces for a pound. The creamery people were also informed that they would be prosecuted if they did not comply with the law.

One of the particular things that will have to come up before these meetings sooner or later is the question of uniform packages. There should be some national legislation in regard to that, or at least uniform legislation by the States. The farmers of Maryland and Virginia ship into the Boston markets short barrels of sweet potatoes, although we have a law which requires that potato barrels shall contain so many pounds. I am a firm believer in the packing of such articles as crackers, etc., where they are made, but it seems to me that some statement as to the weight should be placed on all packages, otherwise the full weight is not given even if the packing is included. Such legislation would be fair to the manufacturers and at the same time the public would be protected. Certainly the public should have

some redress when it is deliberately sold 14 ounces for 16 ounces. I could go on talking about conditions in Massachusetts the rest of the afternoon, but I want to know about the conditions in the other States.

I will be glad to answer questions at any time, and I hope the delegates at this meeting will take an interest and do everything to bring the matter to the attention of their governors by making written reports to them. Report that the people are absolutely at the mercy of unscrupulous dealers unless a thorough inspection is made. I believe that conditions are no different in the States of Virginia and Ohio than they were in Massachusetts before we had inspection, and I know it exists there yet, despite all we have done, and it must exist in a larger degree where no attention is paid to it. I have at home many examples of incorrect scales which were found in use and seized. I hope the delegates who are here will not let this matter drop, but will perfect a national organization and have a State supervision of every city in every State of the Union before we get through.

The CHAIRMAN. I have taken up the question of national legislation with some Congressmen recently, but there is always an uncertainty as to what subjects may be covered by national legislation. I asked Mr. Southard, chairman of the Committee on Coinage, Weights, and Measures, to meet with us—in fact he should have been here this afternoon to talk to us in regard to this matter. It is generally felt by Members of Congress that such matters can not be covered by national legislation unless it is in connection with the collection of duties and revenues. You may be interested to know that the pure-food bill, which is now being considered, contains a provision for the marking of packages. An amendment was offered by Mr. Mann, of Illinois, which provides that all package goods be marked to show the weight. I do not know if it is a subject for national legislation, but every Member that I have talked with in regard to the question is of the opinion that it ought to be covered by national legislation if possible. It is one of the most important things, I think, we can discuss. I hope that the time is not far distant when it will be a misdemeanor to misrepresent the quantity or quality of any article offered for sale to the public.

Mr. CUMMINGS. I am here as a representative from the State of New Hampshire, at the request of Governor McLane. At the present time I am sealer of weights and measures for the city of Nashua.

The State treasurer is custodian of the State standards of weights and measures, and by them tests and proves all scale beams, weights, and measures brought to him for that purpose. Each county has a

sealer appointed by the governor; also the cities and towns have sealers selected by their local governments or appointed by the selectmen. The standards of the county sealers are, once in three years, required to be tested by the State standards, while those of the city and town sealers are required to be tested as often by the county sealer. The city and town sealers are required, once in each year, within three months after the 1st of April, to examine all scales and measures used in the buying or selling of any goods or commodities.

The State treasurer and county sealer receive 10 cents and the city and town sealers 25 cents for each steelyard, scale, or scalebeam, and 10 cents for each measure examined and sealed, excepting where more than five scales or measures belonging to one person or firm are sealed, in which case the fee is one-half of that sum for each additional scale or measure. In many instances the fees charged by the sealers have not been in accordance with the law, different sealers having different prices. Especially in the testing and sealing of railroad and street scales the fee of 25 cents was not considered proper compensation, and charges of \$3 have been made for this class of scales, and in case of portable platform scales fees of from 50 cents to \$1 have been charged. This sliding scale of fees caused much dissatisfaction among the merchants, and the matter was referred to the board of trade and the law was published in the local papers for the benefit of those not conversant with it.

In my rounds of last year I had very little trouble with the dealers, and all seemed satisfied with the fees charged, although they considered that it belonged to the city to pay the charges rather than to the individual merchants.

In some respects the present law is a farce, as a scale is very easily adjusted to weigh as many ounces to the pound, or the proportionate part thereof, as the dealer is inclined to give, and twelve months may elapse before another test will be made. I have no doubt there are those who make up in this way the amount of the fees paid the sealer. The law reads that any person buying or selling merchandise by scales or measures which have not been sealed, or who shall buy or sell any commodity by any scale or measure which has been sealed but is not correct, shall be fined \$10 for each offense. Few complaints or prosecutions have ever been made, to my knowledge. All scales, after being tested, are labeled "Approved" or "Disapproved," with the date and sealer's name attached. I can make few suggestions, as I am a new man in the business, but came here to listen to suggestions, and will report them to the governor, who will, without doubt, be ready to

unite with the other States in securing uniformity of laws concerning weights and measures whereby the people of our State will be benefited.

Mr. RICHARDSON. Allow me, what method do you use in testing hay scales?

Mr. CUMMINGS. I have a set of copper measures for liquids, iron measures for dry measures, and 10, 25, and 50 pound iron weights for scales. When I test hay scales I use forty of the 50-pound weights, testing each corner separately, and if all bearings are correct the scales are approved.

Mr. RICHARDSON. You take these weights with you?

Mr. CUMMINGS. I usually make three rounds of the city, starting out with the light testing weights for light scales, then take the medium scales, with weight of 500 pounds, and last with a ton of weights for scales of large capacity.

Mr. RICHARDSON. Do you test drug-store scales?

Mr. CUMMINGS. Yes, sir.

Mr. RICHARDSON. Do you have a means of impressing your seal on the scales to show that you have made the test?

Mr. CUMMINGS. I attach a label stating that the scales have been tested and found correct with the date and my signature.

Mr. RICHARDSON. I thought I understood you to say that you test every three years.

Mr. CUMMINGS. No, sir. The standards I use are required to be tested every three years by the county sealer, but I make a test of all city scales once a year.

Mr. RICHARDSON. You are not the State sealer?

Mr. CUMMINGS. No, sir; a city sealer.

Mr. RICHARDSON. You are not amenable to the State authorities?

Mr. CUMMINGS. No, sir; I am under the county sealer and he is under the State sealer.

Mr. RICHARDSON. Do these labels attached to the scales remain on?

Mr. CUMMINGS. I find most of them on.

Mr. RICHARDSON. Do you have any penalty for their removal?

Mr. CUMMINGS. No, sir. That is not covered by our law.

Mr. RICHARDSON. It ought to be.

Mr. FISCHER. How much of your time does it take?

Mr. CUMMINGS. About six weeks.

Mr. PALMER. You are paid by salary or fees?

Mr. CUMMINGS. Fees.

Mr. PALMER. You collect all fees?

Mr. CUMMINGS. Yes, sir.

Mr. PALMER. And make a return to the city?

Mr. CUMMINGS. All fees are retained by the sealer and a report made to the city.

Mr. RICHARDSON. The city authorities fix the fees, or do you fix them?

Mr. CUMMINGS. They are fixed by law.

Mr. NORWOOD. The seal you place on the scale, is that something pasted on?

Mr. CUMMINGS. Yes, sir.

Mr. NORWOOD. It is not of any particular value if it does not stay on?

Mr. CUMMINGS. I have a record of every scale sealed in the city, and if any question comes up I can easily look up and see if the scale has been tested.

Mr. PETTIS. Suppose you condemn scales that may be repaired. How do you indicate that?

Mr. CUMMINGS. I disapprove or condemn them and notify the party of the repairs required, and as soon as they are made I make a new test.

Mr. NORWOOD. I should think there ought to be some way of indicating the state of scales which are out of order, so that the dealer could not use them.

Mr. CUMMINGS. It would be well. When disapproved scales are found attention is called to the law in regard to the penalties attached for using them.

Mr. NORWOOD. But you have no way of indicating that you have condemned it?

Mr. CUMMINGS. No, sir; only by notification to the party using them. I am paid to test and seal scales that are correct and disapprove those that are not; that is my duty according to our law. A party could adjust his scales to weigh 14 ounces for a pound after 1 had gone and my record would show that they were correct when the test was made.

Mr. RICHARDSON. Well, they were when you left them?

Mr. CUMMINGS. Yes, sir.

Mr. PETTIS. In Rhode Island if a measure is incorrect and can not be made correct we knock the bottom out of it. I understood you to say you disapproved of these dry measures and gave them back. We do not allow them to be used; we break them up.

Mr. CUMMINGS. I have no authority to destroy them, although in many instances I take them away if I believe the owner is likely to use them again.

Mr. RICHARDSON. Mr. Cummings, when you come across an iron or brass weight used on balances, if it is either too heavy or too light, how do you handle it?

Mr. CUMMINGS. I disapprove of the weight, as in the case of scales, and usually at the request of the parties properly adjust them by drilling and plugging with lead. For such service I charge in accordance to the time it takes in making the adjustment. I think the State of New Hampshire would welcome any law that would lead to uniformity in regard to the sealing of weights and measures, and also one that would aid in the conviction of short weight and measure merchants. I know they would be glad to welcome such an improvement.

Mr. BAYER. You increase the weight, then, by plugging with lead, and decrease the weight by boring when it is too heavy?

Mr. RICHARDSON. They do not usually show error by being too heavy.

Mr. PALMER. In Massachusetts the sealer of weights and measures has the right to adjust with such means as he has at hand, for which he is allowed a fair and reasonable compensation. For this purpose he is supplied with a kit of tools which you have probably seen.

The CHAIRMAN. An outfit is on exhibit downstairs in the rooms of the weights and measures division.

Mr. PALMER. This kit contains a number of tools which the sealers have devised for such purposes as straightening needles on spring balances, etc. The sealers of Massachusetts seize, practically, everything they condemn, and I doubt the efficiency of the condemned label method.

Mr. RICHARDSON. How do you mark glass bottles?

Mr. PALMER. With a marking acid, sometimes called "diamond fluid." We have discontinued using the diamond for marking the glass, as it breaks more easily where cut with the diamond. Condemned bottles, after being marked, are returned to the owners, as they have a value and can be used for other purposes. Many are shipped to New York City or Albany and other places where there is no inspection. Not long ago some condemned bottles were returned to the owners, who attempted to remove the mark and place them on the market as correct bottles, but we were able to identify them. However, measures are usually marked with a large marking stamp with the word "condemned" lettered in full, so that it is very easy

for the sealer to discover if they are used again. Scales or other apparatus which can be made to conform to standard are tagged. The tag contains a printed abstract of the law which states the penalty for removing the tag and the penalty for using false weights and measures. In some instances it is pasted on or attached with a lead seal so that the scale can not be used without breaking the seal. The scales may be repaired and again submitted to the sealer, who removes the seal if the scale is correct.

One of the principal things we have to contend with in Massachusetts was touched upon by Mr. Cummings, and that is the practice of charging fees. Unfortunately we still charge fees because they are prescribed by the statutes, and there is more trouble from this source than from any other. I hope some day to have this practice abolished. Under the fee system the sealer has no incentive to inspect scales, etc., but once during the year, as no fees can be collected for a second examination. If a sealer were provided with a salary, he could then go at any time he saw fit to inspect any scales or measures. As long as fees are charged these conditions will exist, and I trust that if anybody here has anything to do with the recommending of legislation, that he will eliminate fees if he can.

Mr. RICHARDSON. You believe that the sealer should be paid a stated salary?

Mr. PALMER. Yes. A large proportion of them are now paid by salary in Massachusetts. I have probably been before twenty-five different boards of aldermen and selectmen within the last year to advocate this method of compensation.

Going through the District market this morning I looked at the scales which Mr. Haskell had tested. In many cases it was difficult to see the seal on them. If you will inspect these scales you will see that he has a wire with a lead seal attached. As I have previously stated, this method is used by some sealers, but I recommend a paper seal such as Mr. Pettis has shown, on account of its educational value. When I planned our new seal, with Mr. Reichmann, I had placed on the tag a statement to the effect that the seal must not be removed or defaced, and anyone standing in front of scale is bound to see it. The seal is therefore an indication to the public that the scale is in good order.

Mr. REICHMANN. Everybody will see a paper seal and curiosity leads him to read it.

Mr. PALMER. Every weight used in connection with a scale is sealed as an individual weight. It is marked with the initial letter of the city; in the case of Boston it is a "B" and number "06" to indicate

the year. I am inspector and prosecuting officer for the whole State, and I can, at any time and place, inspect trade weights and measures and if they are not correct I can prosecute.

Mr. THOMAS. I can readily understand that a man would be very anxious to so preserve any seal on his scales or measures stating that they are O. K. But what I am trying to get at is what is done when you condemn scales.

Mr. PALMER. We always use a paper tag. There is a penalty for removing it, and the sealer keeps a record, in a sealer's record or receipt book. The firm of W. and L. E. Gurley is supplying for our use apparatus of all kinds, and they have gone to great expense to prepare the same.

At present we issue two identical receipts, except that one is white and the other is yellow. Both are numbered the same and contain the same printed matter. The copy is manifolded by the use of carbon paper, and one is torn out and given to the owner of the scale and the other is kept by the sealer in his record book, so that at all times he has a duplicate or autograph copy of the receipt issued.

The CHAIRMAN. We will now hear from Mr. Reichmann, representing the State of New York.

Mr. REICHMANN. Mr. Chairman and gentlemen of the convention, Dr. Boss, of the Dudley Observatory, Albany, N. Y., is State sealer of New York. His duties as astronomer have been so great since he received the grant from the Carnegie Institution that he did not have time to come to the convention and urged me to represent the State, which I agreed to do. The conditions in New York State are chaotic in most places, except in the city of New York, where there has been considerable improvement in the last four or five years, particularly during the last year—I think largely due to the interview which Mr. Palmer had with Mr. Patrick Derry on his return from this convention last year. Mr. Derry gave me a copy of his report for last year, which gives the number of seizures, convictions, etc. But the thing that strikes me as the most interesting part of his report, and also of his report of the first quarter, is that, out of 600 seizures made for false weights the first year, when those places were visited the next year only 23 cases of false weights and measures were found. We have here a good indication of what the sealing has done in New York.

I think the same effect will follow in all cases where the sealing of weights and measures is organized, and inspection is thoroughly and systematically done. It will tend in a very short time to mitigate the evil to such an extent that the second or third, or at latest the seventh

or tenth, year the inspection will become a very simple matter, because the public will have been educated. Mr. Derry has encountered considerable difficulty. In one of the largest stores in New York he had to send police with two inspectors for protection, because the manager refused them permission to enter the store, but they convicted him on three counts—three false yard measures. In a number of the East Side districts in New York City clerks in small grocery stores and also in butcher shops are paid no salary at all. What they get at the end of the week is the amount they have cheated the public out of. In other words, the stock of meat is carefully weighed by the proprietor, then each clerk as he makes a sale hands in a slip with the weight and price to the cashier. In the evening the slips for each clerk are added up. From total weight is deducted the original weight of the meat, the excess is the profit of the clerk. The result is that the clerk always throws his meat on the scale and reads it as it reaches the bottom point.

On spring balances you might put a pound weight on that way and make it read a pound and a half, so that the man who buys a pound pays for a pound and a half. There are many ways in which people can be defrauded by weights and measures. I am making an interesting collection of "snide" weights and measures, and I had hoped to bring down to the convention a whole case of them. I have one "spring" balance which I bought for \$2, worth about 10 cents to the junk dealer. It had no spring in it. The spring had been removed completely. The pointer was attached to a wire in such a manner that it could be moved up and down at the will of the operator. With this device one could weigh anything, the amount indicated depending upon the skill and will of the merchant using it. I have also fraudulent half-peck measures, and milk bottles.

I wish to correct one remark made by Mr. Palmer, namely, that the milk bottles marked "Condemned" in Massachusetts and sold in New York are used merely for catsup. They are also used for milk. I occasionally find bottles of milk marked "Condemned," and when I ask what "condemned" means I am told that that was one of their old methods of indicating whether they were clean or not—if not perfectly clean they were marked "Condemned," and that the bottle in question is one of the old bottles. Of course we all know that is not true, but it would do no good to report it. I notified the chief of police about a year ago of a number of cases where short weights and measures were used and it had no effect. I think the way to bring the matter of weights and measures before the people is to show them a lot of snide weights and measures, and I have a plan I want to in-

roduce in New York. I have talked to the members of the chambers of commerce of several cities on weights and measures, but I want a whole table full of snide weights and measures. They will be a better argument than ten men could make with the average audience.

Take the question of milk bottles. At a conservative estimate 10,000,000 short bottles are used in New York daily. Also, at a conservative estimate, they are at least 5 drams short each. It would be easy to figure at 4 cents a quart the amount the people are defrauded of—about \$3,000,000 annually. Talk dollars and cents—that is the thing that appeals to the public.

It is the same with butter. About a year ago, in central New York State, I bought 24 pounds of butter from 12 different stores, and out of the 24 only 3 were full 1 pound. Most of them fell below 14 ounces, 5 of them being less than 11 ounces. Mind you, this was the weight including the wooden tray and wrapping paper. On each package I put the price of the butter per pound, and the highest price paid per pound was for butter supposed to be the cheapest. This was sold at the store the bulk of whose business was with the poorer classes. In other words, for the butter which was apparently cheapest—26 cents—I really paid 40 cents per pound, while for the higher-priced butter I paid only 35 cents. That shows how the public is defrauded, and these are the arguments that appeal to most of the people.

Mr. FISCHER. How was the weighing done?

Mr. REICHMANN. It was done on spring balances by throwing the butter on the scale, and also by using false weights. A number of cities have no inspection. While in Pittsburg a short time ago I stopped in three grocery stores. With half the balances in the district you could not make a correct weighing to save your life. In one case there the dial of a spring scale read 5 ounces when there was no weight on the pan. Another great scheme is to put a big hook on the scale to hang a pad of cashier's tags on, ostensibly for convenience.

Mr. FISCHER. What do they do in the case of equal-arm balances?

Mr. REICHMANN. Simply put a piece of lead on one side and then weigh on that side of the beam.

Mr. PALMER. One concern in Boston which controls 125 stores and four or five other concerns controlling almost as large a number use ordinary equal-arm balances, and have a scheme of keeping one or two pound weights on one side and on the other side three to four paper bags folded up. We prosecuted one man for that and fined him \$50. He claimed that he weighed sugar in bags and that his practice corresponded to that. He was fined, nevertheless.

Mr. REICHMANN. The magnet and other schemes are used on equal-arm balances. The public is largely to blame for the fact that there is no inspection of weights and measures. The case is entirely in their hands and the cost is not great. Twenty inspectors in New York City, where a good deal of work is now done, cost the city  $4\frac{1}{2}$  cents per capita for the whole of last year. It seems to me everyone ought to be willing to pay at least ten times that amount to have systematic inspection in their city. If everybody paid ten times that much the efficiency would be phenomenal.

I think the main point of the whole weights and measures question is the one Mr. Palmer emphasizes, and that is the sociological point; that people who can least afford it are the ones who suffer most—people who buy butter by the pound or half pound and who buy coal by the basket, and not those who put in a supply for the whole winter; those who can least afford are the worst sufferers. It seems to me that there is more chance for home mission work there than to knit woolen socks for the heathen in Africa.

Mr. RICHARDSON. You talk of snide weights and measures. Who detected these snide scales you speak of?

Mr. REICHMANN. The collection I have was collected by various sealers. I get them from every sealer I meet. Everyone I have was detected by a sealer. We have plenty of laws in New York, but they are not enforced. We hope, however, to rectify that sometime.

Mr. PALMER. Mr. Reichmann spoke of coal. During the strike and the cold season when coal sold for \$12 per ton, in many cases in Massachusetts people were paying at the rate of \$42 a ton. That is an extreme case. It was quite common, however, to find them paying \$22 per ton. We have now a strict coal law, which I had drawn up and passed by the legislature. Owing to the coal and ice situation I am instructing all my sealers to take up the ice and coal law and inspect thoroughly. All our ice dealers are obliged to carry ice scales. Every wagon is supposed to have a scale, and it is the duty of the customer to request that the ice be weighed. In such a case they must weigh the ice, according to law.

Mr. RICHARDSON. Where a dealer furnishes coal to public buildings, does the city weigh it or does the dealer?

Mr. PALMER. Proposals for coal provide that sworn weighers shall weigh it. The sealer of weights and measures also has a right to inspect it at any time. If a load of coal is being delivered within the city limits, that coal must be weighed by a sworn weigher. To perform his duty conscientiously he must issue a certificate stating the

weight of the coal, name of the driver, person to whom the coal is designated, and the amount of the coal, and sign it by name as sworn weigher, so that the sealer has at all times evidence that the coal has been weighed. He can even then require that it be taken to a scale and check the weighing.

Mr. RICHARDSON. It seems to me with that system the people could not be cheated very much.

Mr. PALMER. It is the ignorant class of people who pay 10 or 15 cents a bucket who are cheated worst. We only have twelve inspectors in Boston, and it is rather difficult for them to get around. As I said before, the people who can least afford it are the ones who are cheated worst.

The CHAIRMAN. Ohio is one of the foremost States in promoting pure-food laws. We would like to hear what Professor Thomas has to say about the weights and measures in that State.

Professor THOMAS. After that flattering introduction I am sorry to be obliged in the interest of truth and sobriety to put a different construction upon the state of things existing in Ohio.

The set of standard weights and measures furnished to the State of Ohio under the act of Congress of 1836 was by State law made the legal set of standards for business in that State. The secretary of state was made ex-officio State sealer of weights and measures and for many years the standards were kept in his possession. He was required to furnish copies of these standards to the several counties of the State and the county auditors were made ex-officio county sealers with authority to appoint deputy sealers. The State laws regarding the powers of municipalities conferred upon them the power to regulate questions relating to weights and measures, subject, of course, to the State laws as to what the legal weights and measures were. That included, of course, the power to appoint city and village sealers of weights and measures.

As to the duties of the State sealer they were limited, so far as they were defined by statute, to furnishing copies of the State standards to county auditors, and on request similar copies to cities and municipalities at their expense and to the testing and sealing of gas-meter provers. The latter is the only test that the law specifies must be made by the State sealer of weights and measures. County auditors are required to test and seal, when found correct, any measures that may be brought to them for such purpose. That is about the extent of the laws in the State of Ohio regarding standard weights and measures, except as regards the quantities of certain commodities

which go by certain names; for example, bushel of corn, coke, etc. There is no obligation resting on State officers, as the law now stands, to enforce anything with regard to weights and measures in Ohio, with the single exception of that for the testing of gas-meter provers.

Some of the cities and villages of the State have their specific ordinances relating to weights and measures and some of them have their own sealers of weights and measures, but so far as my observation goes they are only spasmodic in performing their duties. In Columbus during the present year only within a very short time has the existence of the city sealer of weights and measures really been made certain. At the last election there was a somewhat marked change in the party complexion of the city government, and as a result the question as to who should appoint a city sealer of weights and measures was disputed, bandied back and forth, and only recently settled. I know, simply from casual observation, that a city sealer has been at work. I have had no occasion to look into his work, but note in the daily press that he has been doing work.

It seems to me that in order to effect anything like a common basis of action with regard to weights and measures and inspection and enforcement in the several States, we need to go a little further than any consideration of the question by State sealers. I am not sure—not being versed in the law—whether under the Ohio constitution it would be possible for the State itself to enact a code of laws which could be made of universal application throughout the State and which could be enforced directly by the activities of State officers.

I have been thinking while sitting here of the advisability of one of two things: Either an attempt should be made by the State representatives to get together local State meetings of a character similar to this, only bringing together the existing city and village sealers of weights and measures throughout the different States, or perhaps as an initial move it might be even better, in order to get some fundamental points of agreement and some fundamental points of operation to start upon, to call together at the next meeting of this association not only State officials, but also the city sealers of weights and measures of, say, the chief cities in each of the several States represented.

It would be somewhat difficult in the case of Ohio for me to go into the question of State action without having behind me the active interest and the cooperation of city and village sealers. In fact, they are the people who can exert the most influence where State legislation is possible. It seems to me that, in order that action may be effective, we need a uniform system of regulations and uniform prac-

tice in the matter of inspection and of enforcement, and then the lively and effective interest of city and village inspectors.

Mr. RICHARDSON. Mr. Thomas, I want to ask you a question. You spoke of municipal inspectors as being most useful. Do you not believe that since we have to have county inspectors that county and city inspectors should all be under State authority and governed by State laws?

Mr. THOMAS. In Ohio the State delegates authority to the municipality and the municipality has under the State law authority to make its own ordinances on weights and measures, conforming only to the State standards. I neglected to state that when, some years ago, the secretary of state found the space allotted to him in the State House encroached upon to such an extent that he was obliged to use the room where the balances and weights and measures were he decided to store them in the basement of the building. But those of us who were interested—particularly Professor Mendenhall, at that time Superintendent of the Coast and Geodetic Survey and of the Weights and Measures Office—conceived the idea of having the office of State sealer transferred from the office of the secretary of state to the professor of physics at the State university. This was done by a special act of the legislature, and the State standards were transferred to my care and are now at the State university.

The CHAIRMAN. Mr. Thomas, you have a State oil inspector, insurance inspector, and quite a number of others. Why would it be unconstitutional to have a State inspector of weights and measures?

Mr. THOMAS. I do not say that it would be so, but I am not familiar with the law and do not know whether it would be possible or not.

The CHAIRMAN. If we assume that it would be unconstitutional for the National Government and also for the State government, then that would leave it to the cities and the counties, and it would be almost impossible to get uniformity.

Mr. THOMAS. I find I have overlooked one point. The State superintendent of mines is ex officio State sealer of weights and measures as regards the mining operations.

The CHAIRMAN. I noticed that provision in the laws.

We have with us Mr. Pettis, of Rhode Island, who needs no further introduction.

Mr. PETTIS. We have no county organization in our State, but township governments. The town and city sealers are elected by the town and city councils, and retain all the money they get in fees. It is not a very lucrative position for some of them. For example, the

town of Middletown, between Newport and Portsmouth, elects a town sealer every year, and Mr. John D. Blair is now sealer. They never had a store in that township, but they pay me \$15 every year to examine the standards they never use. Providence is the only town that pays a salary to the sealer and that is a recent arrangement. Prior to that the sealer retained all the fees collected. I was city sealer there myself for seven years.

Speaking of fraudulent measures and how to dispose of them, when I became sealer of weights and measures in Providence, March 10, 1890, I confiscated 1,600 dry measures from that date to July 4, all of which helped to keep the Fourth of July bonfire going. It took me all day to carry them to the fire and burn them. During the balance of the year I confiscated 400 more, making altogether 2,000 measures. During the next year I did not find 100, which shows that my predecessors had been lax in their attention to business. In Rhode Island we do not give back false weight or measures, except in cases where they can be repaired. The merchants are required to buy new ones. Where we think they can be repaired we affix a tag with the words, "Examined and found incorrect," and when they have been put in order the sealer examines them a second time and if he finds them correct he takes the tag off, puts on his seal, and collects the fee. In the case of incorrect wooden dry measures we knock the bottom out and throw the pieces in our wagon. Copper or tin measures are broken up with a hammer—that is the best way—for then no one can use them again. I think we do things better in Rhode Island than they do in any other State in the Union—we have the best working system.

The CHAIRMAN. I do not believe that we can overestimate the moral effect of having some one to look after things. We find that illustrated in our work here every day. I had occasion to sign a certificate the other day for a batch of thermometers submitted for test, and I noticed that they were from a firm that had submitted the first thermometers when that work was started. In that first batch 30 per cent were wrong, in the last batch of fifty or sixty there were none. Now it was not due to any desire to make wrong thermometers in the first case, but the firm did not have correct standards. The fact that we are testing thermometers has had a very important effect on the quality of those now made.

Mr. PERTIS. I might say, if you will allow me to say one more word, that the State sealer of Rhode Island goes to the towns once in three years and examines their standards, scales, weights, and measures, and sees that they are correct. He is paid for it by the town. While

on these trips I go through the stores in the town, and if I find anything wrong I call the attention of the town sealer to the matter.

The CHAIRMAN. We have with us again Mr. Hazen, from Vermont, who gave us a very interesting talk last year.

Mr. HAZEN. After the convention last year, and after learning something more in regard to the laws in my State than I knew before, I wrote to the State treasurer, who is the custodian of weights and measures provided by the Government, asking him to give me a list of the standards in his possession. In reply I was informed that he had no list, but that he would attempt to furnish me one later on. I think quite likely he had not familiarized himself with the law on that subject, which reads:

The State treasurer shall preserve in his office and keep in repair all the standard scales, weights, and measures furnished by the General Government to the State, and shall keep a record of the same.

The law also provides that each county treasurer shall provide and keep in repair certain weights and measures, but when I telephoned to the county officer he said that he remembered having seen something of that sort years before, but did not know where they were.

I also found that while the law required each town to keep copies on hand, I could not find any trace of them whatever around my town. It all goes to show what has been emphasized here to-day, that the laws in our States are very lax on this subject, and it is a great injustice to the people. Of course, in the State of Vermont, where there are not so many large cities, we do not feel the effect of it nearly as much as they do in the larger cities, but at the same time I do not question that a great many fraudulent weights and measures exist in my State. When we buy meat of our butchers, butter and sugar of our grocer, we are not at all sure that we are getting what we pay for. The law in the State of Vermont requires that our weights and measures shall be sealed; that the State, county, or town treasurer shall prove and seal scales, weights, and measures presented to them for that purpose—that is, it is optional with the owners of weights and measures to present them for that definite purpose.

Now, if I am correctly informed, the laws in England are very much more stringent. Mr. Pettis informed us that in Rhode Island the sealer has no jurisdiction over scales used by private individuals and corporations in their own work and for their own purposes, and that, I believe, is also the case in England. A mill owner may have his scales examined as he pleases and the Government has no jurisdiction over them, but whenever they are used for the purposes of

trade then they must be examined in such a way that the evidence of their having been inspected can not be removed or changed thereafter. The laws are very much more stringent than they are here. I think this is one of the most important subjects before us. I might say it is second only to the pure-food laws which are being adopted by Congress, and the important question before this convention is, What can we do about it?

It has been suggested that it is not constitutional for the National Government; and there is where the first step must be taken. I wish there were some way whereby a large amount of literature could be prepared and distributed. I would like to distribute any amount of it in the State of Vermont, for the purpose of public education, and to get up public sentiment, and then if the National Government should move I am sure all or a great many of the States would be ready to move on the same lines. It has been suggested this afternoon that the delegates to this convention should make reports to their respective governors, and I would say that when I returned from the convention last year I did make a typewritten report of several pages, most of which was published in the local papers. I knew that would reach only a small percentage of the people, but it was a small start in the right direction, and I hope the actions of this convention, the information which has been brought out here this afternoon, will be disseminated as widely as possible, so that as time goes on there may be more attempts to interest the National Legislature, State legislatures, and accomplish something, for surely it is a very important question and one that affects a great many poor people.

Mr. RICHARDSON. I would like to ask you a question. I understand from the drift of your remarks that you have no county sealers in your State at all, only one State sealer.

Mr. HAZEN. They are in existence and they are required to seal any weights and measures brought to them for that purpose and they are allowed certain fees for doing it, but I am not able to find anything that requires them to go about inspecting weights and measures used in trade.

Mr. RICHARDSON. Do you mean that you do have county sealers, but that persons using weights and measures are not obliged to take them to the county sealers if they get out of order?

Mr. HAZEN. That is the way the statute reads. I don't know but what there may be in the larger cities local laws on the subject.

Mr. PETTIS. I might mention that in Rhode Island every sealer is required to give thirty days' notice when he is ready to certify work,

and that anybody who brings in his weights, measures, balances, and scales during this thirty days will save the expense of cartage or teaming, but after thirty days he is required to inspect every scale, weight, and measure in town.

Mr. RICHARDSON. I am disappointed to see so few here this year, after the interesting and instructive speeches, etc., that were sent out through our chairman's report of last year to sealers of every State—especially the speech delivered by your humble servant; I thought that would bring everybody here from the South, but I believe I captured only one southern delegate—the gentleman from Kentucky. I don't believe anything has occurred in my State since the last meeting. Things have been running along in about the same old rut. I had printed some extracts from the laws of my State on the subject of weights and measures, which I have brought along with me. I would be glad to have any sealer take one before leaving and read it over before to-morrow; that will put you in a position to make some suggestions to me that I may make to the executive committee of our legislature which has the matter in charge.

I would like to mention one thing that happened in my State since I was here last year. The county sealers are appointed by the county judges of each county in Virginia, and since our last meeting here we have had one sealer appointed in that part of the State we call Red Brush. After his appointment I received a letter from him. (I will here state that I hold pretty near as many offices in my State as Mr. Norwood does in Kentucky. I am the register of the land office and have a great deal of work to do in connection with that; ex officio superintendent of buildings and grounds of the State; superintendent of weights and measures, and chief of the capital police, so if any of you get down to Richmond I am in good shape to take care of you.)

To get back to my story, the county sealer resigned and the county judge appointed another in his place. Soon after his appointment he wrote to me that he had no apparatus with which to test weights and measures. He said: "I am in a great hurry for those things, and wish you would send them to me by registered mail." The proposition to send a couple of thousand pounds of cast weights that way was rather hard on me, so I referred the matter to our governor. Now, our governor is a little fond of joking, so he said to me: "Richardson, aren't you the register; can't you send them that way?"

Now, I suppose it is not necessary for me to call your attention to the wonderful speech I delivered here last year, for no doubt all of you read it in the proceedings. If not, I hope you will. Then I

want you to take this abstract of laws, read it over, and if you have any suggestions to offer or any changes you think should be made I would be very glad to have you indicate them.

Mr. NORWOOD. Mr. Richardson, I believe your State is a coal-mining State?

Mr. RICHARDSON. The coal-mining business in our State is not very extensive. We have only a few counties in the western section that produce coal.

Mr. NORWOOD. I was of the opinion that your State was quite an extensive producer of coal. What I want to know about is the inspection of the mine scales. Is that under your jurisdiction?

Mr. RICHARDSON. No, sir; the mine business is something that is really new in our State, outside of the lead and iron mines. If you will read this abstract you will see exactly what the sealer of weights and measures is required to do in the State of Virginia.

Mr. NORWOOD. I am trying to find out something about the track scales of mines. I believe they would correspond to some extent to hay scales.

Mr. RICHARDSON. As far as the State sealer of weights and measures and the subsealers of our counties are concerned they accomplish nothing, and with the implements they have to carry it out it is almost impossible to do anything. They have a great clumsy lot of stuff.

At 4.45 p. m. the meeting adjourned, after it had been decided to meet the next morning at 10 o'clock.

*FRIDAY, APRIL 13, 1906.*

The meeting was called to order by the chairman, who spoke as follows:

I am very sorry to say that Mr. Southard, the chairman of the Committee on Coinage, Weights, and Measures, was called home rather unexpectedly yesterday evening, and will not be able to be with us. He expected to be here this morning and say something about the prospects or the possibilities of national legislation in regard to the questions that we have been discussing. I have discussed the question a great many times, and I think the attitude of most of the legislators is that there ought to be national legislation, and they are willing to do just as much as is constitutional in the way of uniform laws. If it could be attached to some appropriation bill, or bill for revenue tax, there would be no question as to its passage. I have been looking over the laws of the different States and have made a synopsis of the provisions in each State so far as sealers, custodians,

and officers are concerned, and one or two of the principal provisions. If we have time later I shall be glad to present them.

Mr. Fischer has been looking up the question of foreign laws and regulations regarding weights and measures, and when we come to formulate a law concerning weights and measures we can learn a great deal from the older countries. I think there is perhaps no one of the great countries that has given as little attention to weights and measures as this. There are a great many things they do we would not want to do, and they have a great variety of details; nevertheless there are a great many important things which we can learn from the experience of those countries that have gone into this subject very thoroughly for the last hundred years. Unless there is some other business that you desire to transact, I will now ask Mr. Fischer to present his paper.

Mr. FISCHER. Since one of the most important duties of this and future conventions will be the framing of laws and regulations which shall provide for the testing of commercial or trade weights and measures, it is of the highest importance that the practice of other countries be considered.

I shall therefore attempt in as few words as possible to lay before you the organization of the inspection service of a few of the more important countries in this respect, namely, Great Britain, Germany, and France. Among these might also be included Switzerland, admitted by its neighbors to have the most perfect laws and system of inspection in continental Europe. It appears to me, however, that it will be more profitable for us to consider those countries more analogous to ours in point of population.

*Great Britain.*—In Great Britain practically all commercial transactions involving the use of weights and measures are regulated by the acts of Parliament passed in 1878, 1889, 1897, and 1904. The 1878 act gave the standards department under the board of trade power to conduct “all comparisons, verifications, and other operations with reference to standards of measure and weight, in aid of scientific researches or otherwise, as the board of trade from time to time thinks expedient.”

The standards department has the custody of the imperial standards and is required to compare all copies of any standards submitted by any local authority, and if found fit for the purpose of being used by inspectors of weights and measures they are required to stamp them.

The important duty of verifying and inspecting the weights and measures used in trade is carried out in England by inspectors ap-

pointed by local authorities, such as county councils, and in the case of boroughs the town councils. The law states that the local authorities of every county and borough, from time to time, shall provide such local standards of weights and measures as they deem requisite for the purpose of verification or inspection of all weights and measures in use in their county or borough, and shall fix the places at which such standards are to be deposited. The said local authorities shall also provide from time to time proper means for verifying weights and measures by comparison with the local standards, and for stamping the weights and measures so verified.

A local standard of weight shall not be considered legal nor be used for the purpose of trade unless it has been verified or reverified by the board of trade within five years before the time at which it is used. Measures must be verified within ten years from the time they are used.

Every local authority shall from time to time appoint a sufficient number of inspectors of weights and measures for safely keeping the local standards provided by such authority and for the discharge of the other duties of inspectors under this act, and the local authority may suspend or dismiss any inspector appointed by them or appoint additional inspectors as occasion may require.

A maker or seller of weights or measures, or a person employed in making or selling thereof, shall not be an inspector of weights and measures.

A weight or measure duly stamped by an inspector of weights and measures shall be a legal weight or measure throughout the United Kingdom, unless found to be false or unjust, and shall not be liable to be restamped because used in any other place than the one in which it was originally stamped.

The expense of providing and re verifying local standards, the salaries of inspectors, and other expenses incurred by the local authority shall be paid out of the local rate.

Previous to 1904 the local authorities could establish by-laws for regulating the testing of weights and measures with the local standards, but such regulations are now made by the board of trade and laid before Parliament.

The operation of the British laws is admirable so far as the control of trade weights and measures is concerned. I had the privilege of inspecting one of the local stations in London, of which there are six. Attached to this station were three inspectors, a couple of coal inspectors, and a number of assistants. The buildings, which were of the most substantial character, covered very nearly an acre of ground

in the busiest part of the city. In addition to the equipment for testing and sealing, this station has two wagons with platform scales built in them for the weighing of coal, which is compulsorily delivered in bags weighing 2 hundredweight, 1 hundredweight, one-half hundredweight, one-fourth hundredweight, and 14 pounds. There were also two handsome cassettes, with complete inspection outfits which could be stored under the seats. The driver sits outside and may be communicated with by a speaking tube. When making an inspection the vehicle is left a short distance out of sight of the premises to be inspected, and the inspector proceeds on foot. If any irregularities are found, the standards are brought from the vehicle and the inspection is made in the trader's store or warehouse. In testing scales and weights used by hawkers use is made of the cassette as a testing room.

Where weights and measures or scales are so unjust as to necessitate legal proceedings against the owner they are seized, but if the defects are trifling the owner is cautioned and a revisit is made by the inspector later. Incorrect weights or measures not confiscated must be sent to a scale or weight maker and repaired, as no adjustments are made by the inspectors in London. Permission is granted to some inspectors in country districts by the board of trade to adjust weights and measures and to repair scales.

In England all beer glasses, and jugs if used as measures, must be tested and stamped before they can be used. These are, therefore, shipped in barrels and crates directly to the inspectors, who test and stamp them. While at the station referred to, in 1903, I saw a number of barrels of glasses just received from the United States and, much to my gratification, was informed by the officer in charge that American glasses were usually more uniform and accurate than any others submitted.

While the responsibility for using unstamped weights and measures rests upon the trader, it is the manufacturer who usually submits his goods to be stamped, preferring to pay the fees and sell his goods ready for trade use.

In England, Scotland, and Ireland there are employed altogether about 1,100 inspectors. Inspectors can not be appointed as such unless they pass an examination and hold a certificate from the board of trade, and a penalty is imposed on persons acting as inspectors without having obtained such certificate.

*France.*—The law regulating the inspection of trade weights and measures in France was passed in 1837 and except for a rearrangement of the inspection districts and the manner of the appointing of

the verifiers and their deputies the organization is substantially unchanged. The execution of the law is under the minister of commerce, who is assisted in carrying it out by a consulting committee composed of scientists, legislators, and technical men. Originally each communal district had a verifier and the necessary assistants, all of whom were appointed by the minister of commerce on the recommendation of the prefects of the communes to whom they were directly responsible.

In 1873 the number of districts was reduced to five, each under a chief verifier, who is assisted by the necessary number of verifiers, assistant verifiers, helpers, etc. Every year simultaneous examinations are held in the duties of assistant verifier, in the largest cities of the five districts. A special committee named by each district classes the candidates in the order of their merit, and the findings are then sent to the minister of commerce, who turns them over to a central committee where the different marks are examined and the candidates are finally classified. Appointments are then made by the minister as vacancies occur. The verifiers are appointed from the list of assistant verifiers who have served at least three years, and the chief verifiers are promoted from the verifiers who have served six years.

At the present time there are about 400 verifiers and assistant verifiers, all of whom are paid by the Government and are required to take an oath before they are permitted to assume their duties. Each verifier is furnished with the necessary standards and stamps by the Government and these standards must be verified at the chief office once in every ten years.

The law provides that all weights and measures shall be brought to the verifier and stamped before being issued for trade use and that trade weights and measures shall be tested once each year.

Balances, steelyards, and other weighing machines must also be submitted for verification before being exposed for sale or issued to the public. It is also provided that the mayor and police should keep watch against any unjust dealings in goods which, when cast or molded, are sold by the piece, or in a packet of a stated weight. In retail dealings in beverages or other liquids no specific or definite measure shall be sold unless it shall have been actually measured. Verifiers are authorized to seize false or defective weights, measures, or weighing and measuring instruments and to prosecute offenders. The law also specifies the weights, measures, and measuring and weighing instruments which are allowed in trade.

There are two distinct kinds of verification of weights and measures—the original before being issued for use, and the periodical veri-

fications. There is no charge for the original verification, a license duty upon all makers of weights and measures being substituted, but fees are charged for subsequent verifications.

In addition to the testing of trade weights and measures by the verifiers they may be inspected at any time by the police authorities, who are required by law to keep copies of the principal weights and measures for the purpose, and the prosecutions for fraud are conducted by the police. It appears to be the practice of the verifier to simply test and stamp such weights and measures as are presented and the duty of the police to see that no unstamped or incorrect weights are used in trade.

*Germany.*—In Germany the inspection service is under the minister of commerce, industry, and public works. The present inspection laws are, with slight modifications, the same as those established by the German Confederation in 1869, when the metric system was adopted.

For purposes of administration, the country is divided into twenty-three inspection districts, the district representing the various States or provinces which make up the Empire. At the head is the Normal Eichungs Kommission, which has the custody of the standards and maintains a large laboratory in Berlin. It is the duty of the Kommission to prescribe rules for the inspection and stamping of trade weights and measures throughout the Empire and to compare the district standards with national standards from time to time. The Kommission also has authority to prescribe the kind of weights and measures to be used in trade, to establish tolerance errors, the kinds of scales which may be used in trade, and the general supervision of the work of the district bureaus.

Each district establishes and maintains a sufficient number of local bureaus to cover the territory, but the law provides that each local bureau must have at least two officials, a director, who is an administrative officer, and a sealer, who supervises the technical work. Over each district is an inspector, who is a state officer, and who acts as director of the local bureau where he makes his headquarters. Such a bureau then becomes a state bureau and is supported by the state. The sealers and assistant sealers are required to be technical men and to pass an examination before appointment. Further than to test the standards at prescribed intervals the German Government does not contribute to the support of the inspection service. The fees collected by any local bureaus go to the support of that bureau. The local sealers work under the general supervision of the inspector, but

also in accordance with regulations published by the Eichungs-Kommission. No local bureau can be established without the authority of the minister of commerce, industry, and public works.

Each sealer has a distinctive seal, prescribed by the Eichungs-Kommission, and any measure, weight, or instrument sealed by a local sealer may be used in public trade anywhere in Germany.

Beer glasses and mugs are not tested by the Aichämter (sealers) but are marked by the manufacturers and inspected by the police.

The equipment and character of the scientific work of the German Eichungs-Kommission far excels that of the national bureaus maintained by other governments, but, so far as my observation went, the practical testing of trade weights and measures is quite as well done in England as in Germany.

*Austria.*—The Austrian weights and measures system is under the minister of commerce, but like that of Germany, which it closely resembles, the supreme technical control is under an Eichungs-Kommission, which maintains a thoroughly equipped laboratory in Vienna. For administration purposes the country is divided up into ten districts under an inspector, and each district is again divided into smaller districts under sealers. At some central point in each of the ten districts is established a complete testing bureau, which is the headquarters of the inspectors and is in close touch with the Eichungs-Kommission at Vienna. The local sealers also have offices where they make tests, but in addition they must go out and test the trade weights and measures in their districts at regular intervals. All inspectors and sealers are required to pass a technical examination held under the supervision of the Eichungs-Kommission, and are appointed by the same authority, and, as in France, are paid by the general government. In some of the remote and sparsely settled communities, the local sealers may devote only a part of their time to the work of sealing, and during the most of the year they carry on some other business.

*Russia.*—In Russia the control of weights and measures of the Empire is in the department of trade and manufacturing, under the jurisdiction of the minister of finance. The central office, in St. Petersburg, is well equipped with appliances of the highest order, but, unfortunately, its practical usefulness in testing and controlling commercial weights and measures has been of little importance. This is due to the absence of a complete system of local bureaus and to the inadequacy of the enforcement of existing laws.

At present but a very limited number of cities of Russia possess standardized sets of weights and measures. A scheme has recently been adopted which contemplates placing secondary standards in

various parts of the Empire, commencing with, say, five, and gradually increasing the number, and with this object in view a number of these secondary standards have already been prepared.

There is no country in Europe so poor but what it maintains an efficient inspection service, and in the more progressive ones practically every weight and measure used in trade is periodically tested and stamped. The inspection is so rigid and the penalty for using fraudulent weights and measures so promptly enforced that tradesmen usually find it profitable to be just in their dealings with the public.

In a few sections of our own country the inspection service is perhaps as efficient as in any of the countries mentioned, but a similar statement can not be made of the country as a whole. In some of the States no provision whatsoever is made to examine and stamp the weights and measures in use in trade, and it would be contrary to the experience of those sections where inspection is maintained to assume that fraudulent weights and measures are not extensively used. Sometimes the wealthy and more intelligent people are able to prevent being defrauded by purchasing scales or by other means, but the poorer and less intelligent are the ones who suffer most. It seems to me, therefore, that no more important matter could be considered by this body than a plan that would make it unprofitable for anyone to use dishonest weights and measures anywhere in the United States.

The CHAIRMAN. Is there any discussion of this paper? I am sure Mr. Fischer would be pleased to answer any questions.

Mr. REICHMANN. I would like to ask Mr. Fischer if he knows about the inspection of weights and measures in South America.

Mr. FISCHER. Only in a general way. There are inspection laws, but I do not know how rigorously they are enforced. They have quite complete laws, especially in Mexico, Cuba, and Porto Rico.

Mr. REICHMANN. They have an inspection in Cuba, and I know that in the city of Mexico they carry out some specific system.

Mr. FISCHER. We have copies of the Mexican laws, the Cuban laws, the laws of Porto Rico, and those of a number of other States in this hemisphere, but it would require a personal investigation by a competent person before we could say anything about the efficiency of the inspection in the countries mentioned.

Mr. REICHMANN. Have you any report of their inspections?

Mr. FISCHER. We have copies of the laws, but no reports such as the English report I quoted from.

Mr. REICHMANN. I was rather surprised at the statement made by Mr. Fischer as to the decrease in the number of confiscations, as shown by the London report, because the confiscations in Canada for

a number of years past showed a decided decrease and finally became practically constant.

Mr. FISCHER. In explanation of what I said I might say that the inspection service had been in force for fifteen or more years before the period treated in this report, and consequently the number of confiscations had practically reached a constant state.

Mr. RICHARDSON. Mr. Chairman, I think Mr. Fischer's remarks demonstrate the fact that there ought to be an annual inspection made everywhere. That is the only way to keep down fraudulent weights and measures. In my opinion those foreign reports should be examined carefully by the executive committee, as I think there is a great deal in them which would be of value if grafted into the laws of this country. I hope if Mr. Fischer has any more of those foreign reports that he will place them at the disposal of the executive committee.

While I am on my feet I want to ask the privilege of making a statement. I picked up the Washington Post this morning down at the hotel and I found stated therein that John W. Richardson, of Virginia, spoke of the lax laws in Virginia, and related numerous incidents of methods employed to defraud customers by the use of false bottoms, etc. I would like, Mr. Chairman, to have that statement corrected in the record of this meeting. If any of the sealers present here yesterday remember of my saying anything of that sort I would like them to say so.

Mr. PETTIS. I didn't hear Mr. Richardson say anything of the kind.

Mr. RICHARDSON. What I want is that this statement be corrected in to-morrow's issue, because the Washington Post circulates quite extensively in Virginia. I hope the report of this meeting will include what I have said to-day, and also the fact that the association bears me out that I did not make any such remarks in my talk yesterday. This statement makes out that the people of my State are dishonest. I hope the stenographers will take down what I have said during this meeting; also record that the association bears me out that I did not make any such remarks in my address of yesterday.

The CHAIRMAN. Your remarks will appear as they were taken yesterday, and as no such statement was made I do not see how it can be published.

Mr. RICHARDSON. The reporter of the Washington Post is not here to-day?

The CHAIRMAN. Not that I know of.

Mr. RICHARDSON. I have a very kindly feeling for reporters. They are mighty clever men as a rule, but they sometimes make mistakes like the rest of us and have to be corrected. There is one other state-

ment I would like to have inserted in my remarks, and that is that since I have been superintendent of weights and measures I have never had any complaint from any consumer about being imposed upon by the merchants. Sometimes I have had one or two reports from some of the counties in which the apparatus furnished the sealer of the county had gotten out of order, and asking that it be remedied. Our laws require the county sealer to send his apparatus to the State capital to be resealed and put in order. It is true the laws are lax—that is, the laws are all right, but their operation and enforcement are lax. Since I have been sealer I have had no complaint from any purchaser of goods about not receiving the proper weight.

The CHAIRMAN. Are we to infer from that that the conditions in Virginia are ideal? Virginia is looked upon as a model State in a good many respects.

Mr. RICHARDSON. No, sir; they may not be ideal, but the people are not complaining.

The CHAIRMAN. They are very easily satisfied in Virginia, I infer. Is it your belief, Mr. Richardson, that the dealers throughout Virginia are using honest weights and measures?

Mr. RICHARDSON. Yes, sir; from the evidence that reaches me.

The CHAIRMAN. That there is very little fraud?

Mr. RICHARDSON. That is my honest belief. I suppose they would complain promptly to the county sealers and they would report the matter to the State sealer. None of the county sealers have reported anything of that sort.

The CHAIRMAN. Well, we have always looked upon Virginia as a model State in a great many respects. There is one thing I have never been able to straighten out in regard to weights and measures in Virginia—that is as regards a bushel of corn. In every county I visit I ask about the bushel of corn. I am always referred to tubs and barrels, etc., but never anything definite.

Mr. RICHARDSON. You haven't read that extract of laws I brought up to you. Let me have a copy and I will look up and inform you a little later on.

Mr. REICHMANN. I just wanted to mention one point that I failed to, when I made that remark about Canada, when Mr. Fischer stated that London had reached the constant state. I have been asked by so many people in the past few years as to the benefit to be derived from inspection, and I think it would be interesting to show from an educational point of view that it has a distinctive value, to show that by a system of inspection the number of confiscations and the amount of fraud committed have actually been decreased, and I always pick

out cases where I show that curve, as I think it is a good point to use these reports, going back far enough, however, to show the conditions when the inspection was started.

The CHAIRMAN. Are there any further questions for Mr. Fischer?

Mr. PETTIS. In Great Britain the board of trade has control of the weights and measures of the Kingdom. Now, the question for us to decide here is how are we going to proceed in this matter of regulating the fees, and the manner of testing and sealing, etc., unless the authority comes from headquarters, from the Government at Washington. We have committees in both Houses of Congress on weights and measures and we have here the magnificent Bureau of Standards. It seems to me that Congress at Washington would be the proper authority to make all laws regulating weights and measures in the United States. I hope I am not going to offend my friend, Mr. Bayer, but I know in New Mexico they have two measures in local use; the almud, about 12 inches square and about 4 inches deep. It holds about a peck. They have a dry measure there which may be made by any carpenter. This holds a little more than  $2\frac{1}{2}$  bushels. These are readily devised measures in New Mexico. They take an iron and brand it to make it legal. Now, it seems to me that the Government of the United States should regulate these measures, and they should all be alike.

The CHAIRMAN. That is very true, Mr. Pettis, we all agree with you. I am sure that the Bureau of Standards will do everything in its power to bring this about, but our forefathers, who were so wise in many respects, when they wrote the Constitution, did not have weights and measures in mind except so far as establishing standards. Now, if we can not do what you mention we can do the next best thing. The main object in organizing this association was that we might unite on uniform laws. If one State adopts this new law the others will quickly follow. If we can establish in each State a practical system of inspection—a sealer or custodian at the head of the department of weights and measures in each State, a technically trained man interested in the subject, one who will see that weights and measures are used according to law, who will see that laws are enacted in accordance with suggestions that are made here—it seems to me that we should at least do that much. We can assist in the first place by suggesting model laws, as it were, and the manner in which they be carried out.

Mr. PETTIS. How are these suggestions to be made to the States, from the Bureau of Standards to the governors of the States?

The CHAIRMAN. Yes, or by this body of sealers. There are a great many ways in which the Bureau of Standards can assist. We can gather information from foreign countries and can give suggestions in regard to methods of testing and limits of tolerance. On the other hand, when it comes to fixing the fees and penalties we can get information from those who have had actual experience in sealing, and together the Bureau and the sealers should be able to recommend something in the way of a model law that each State might adopt. Questions will come up from year to year in regard to package goods and matters of that kind on which it will perhaps be advisable to secure national legislation.

Mr. RICHARDSON. Don't you think it would be a good idea to compile the laws of every State and select the best points and combine them in one law?

The CHAIRMAN. I think it would be an excellent idea to do that, and also to collect the laws of foreign countries. We have already begun a collection of the laws of foreign countries.

Mr. PETTIS. Might I ask if all the States in the Union have been supplied from this department with a cabinet of scales and standard weights and measures?

The CHAIRMAN. Yes, all except a few of the new States and some of the older ones whose standards have been destroyed. But that is not the important thing just now. What is lacking in every State is the machinery for carrying out the laws. What is the use of giving a State a set of standards if they are kept locked up by the secretary of state? How to use these standards so that the public will derive the greatest benefit from them is the important point.

There ought to be in every State an inspector of weights and measures—a State official who receives a good salary and who has charge of the standards. He may or may not have a laboratory. It is not necessary for him to start with one. If he has charge of these standards, he might have one in connection with a large city sealer until the State has provided him suitable apparatus. Certainly the State inspector should have charge of the State standards, and he should submit them to this Bureau occasionally for verification. His function in the State is not especially that of a sealer of county sets, or city sets. That should be the smallest part of his work. An annual or semiannual inspection of the standards used by sealers would be all that is necessary, but the important thing is that the State official should visit the sealer in every county and see that he is doing his work. He should see that the sealer is a technical man, properly trained, that he understands his work, and that the cities and towns are carrying out the law.

Mr. PETTIS. Should not the Bureau of Standards send a man to each State to see the condition of the standards furnished by the Government and what use is being made of them? A visit from this office by my friend, Mr. Fischer, would be an inducement to that State to get together and do something. The statutes in Rhode Island required for fifteen years that the State sealer should be a professor in Brown University, to be appointed by the governor upon the recommendation of the faculty of that college. My predecessor was Prof. James W. Coffin, who has passed over the divide. When I was appointed I called up the college on the phone and said I would like to have the standards. I found that all those magnificent standards and balances sent to us by the National Government had been boxed up for years. It seems to me that this department ought to know this, ought to find out by sending a man there to see that they are in a proper place and properly used.

The CHAIRMAN. We are interested in them and have made inspections whenever the opportunity offered. We have kept account of them to a certain extent by correspondence, but we have no authority in the matter at the present time. If we went to a State and the governor should say "It is none of your business," we could do nothing.

Mr. PETTIS. No governor would say that.

The CHAIRMAN. They have done it under similar circumstances.

Mr. PETTIS. Suppose you send a communication to the governor of my State, or to Richmond, saying that the State standards that were sent you from this department thirty, forty, fifty years ago, whatever it may be, have not been tested for a number of years, please send them here for test. That would awaken interest. They would go back there neat, new, and effective, and that would be something.

The CHAIRMAN. The Bureau would be pleased to do that, and I am sure that in Virginia we would receive a courteous reception, but we have no authority to do it, and the officials of the State could do exactly as they pleased about accepting or disregarding our recommendations. The standards were given to the State to do as they pleased with them.

Mr. PETTIS. The States would, however, extend every courtesy to this Bureau.

The CHAIRMAN. I am sorry to disagree with you, but I have seen too much of this conflict between State and national authority.

Mr. PETTIS. I go around every year to examine the scales in my State. The State standards we call them because each town is furnished by the State. They can not be taken out of the town. I can not describe to you the places that I have taken this apparatus from, but I always insist on it being properly cared for.

The CHAIRMAN. Do not misunderstand me. I certainly wish that there were a law authorizing this Bureau to make such an inspection and requiring the States to comply with the national law in regard to the care and use of its standards, but there is nothing that would warrant us in taking that attitude now, much as we would like to do so. Could not that same result be reached by having in each State a proper official, a man who is posted on weights and measures, a man trained to do the work?

Mr. RICHARDSON. That's what is coming. This official could report to the authorities that the weights and measures were not properly used. Can we not with the present inspection laws do something? It is one thing to get new legislation, another thing to make the best of our present legislation.

Mr. FISCHER. I think it is already effectively done in Massachusetts, Rhode Island, and perhaps a couple of other States. I merely mention these States as examples. Massachusetts has a very good inspection service, as far as my observation goes.

Mr. BAYER. A law ought to be enacted in every State in the Union that the standards in use by the several States be sent to Washington to be compared with the standards of the United States at regular intervals.

The CHAIRMAN. You may enact laws and give every State an elaborate outfit, but if there is not some individual in each State whose business it is to see that the laws are carried out, whose heart and soul is in the matter, the situation will not be improved.

Mr. RICHARDSON. I think you are on the right track now. We should have a technical man at the head of the department of weights and measures in each State, and, further, every town and every county sealer in the State should be a qualified man. Our present law merely says that the weights, balances, and measures provided for each county shall be kept in such place and by such person as may be appointed by the court.

Much as I dislike to tear myself away from this interesting talk on the subject, and which I am very much interested in, I have, as I told you yesterday, an engagement at noon to-day with some of our representatives from the State of Virginia. I would like to be excused to go down there. I wish to state to the gentlemen that I will try to be with them at the afternoon session.

Mr. PALMER. In case the delegates present here have anything to do with State legislation, I would advise you to omit county inspection and to have your State and town sealers, as suggested by Dr. Stratton, made responsible to a State sealer. Of course your State

department could be as large as you wish to have it. I would suggest one State sealer to be in the office all the time, and two or three deputies for the purpose of inspecting local standards, and one deputy to attend to the work of prosecution. If you have a State officer who has a right to prosecute, who can go over the head of the local sealers of weights and measures in making prosecutions, you will find that it will have a tendency to have the weights and measures law enforced by local sealers more than any other step you can take.

As to the supervision of the inspection service by the National Government, I don't know how far that should go, but I think it should be taken up more thoroughly than it is at the present time. I think the National Bureau of Standards should be a clearing house for all questions affecting the various States, as far as national questions go, and that they should have at least one man detailed for that work. I know that Dr. Stratton has his hands full and is handicapped for want of assistants. It is impossible for the Bureau of Standards to secure as much money as it needs. I know that Mr. Fischer is handicapped. We have had some experience in getting work put through the Bureau of Standards. It is not quick enough. In Massachusetts when we send apparatus to the Bureau for test we need it badly, and the Bureau should be equipped so that it is able to promptly take care of cases of this kind.

Dr. Stratton should not be handicapped by lack of appropriation. If he wants more men in the Bureau, owing to the increase in work, he should have them. I believe, and always have believed, that there should be at least one man in the weights and measures division of the Bureau who should devote his entire time to the gathering of information that relates to the inspection of trade weights and measures, such information to be issued as a United States bulletin from this Bureau and sent to the various States. That officer should have a knowledge of the practical methods of the sealing of weights and measures, so that the State sealer could come to the Bureau for a course of practical instruction. There is no means of learning at the present time what the proper method is of sealing weights and measures, except by actual experience, as there is little literature on the subject.

When a new sealer is appointed in Massachusetts I am often requested to send him necessary instructions as to his work. I could sit down and write for two or three days and then he would know but little. I will illustrate by a case which we had a short time ago. In one of our largest cities, which, unfortunately, are subject to political changes, a change was made in the office of the sealer of

weights and measures. The sealer was appointed by the new city government and asked his predecessor for instruction in the work, which he refused to give. The man was thrown on his own resources, with practically no knowledge of weights and measures, and he might have worked for two or three years thus handicapped before he acquired any knowledge of the subject. He came to my office and, as my time for this kind of work is limited, I referred him to the city sealer of Cambridge, whose deputy has been in office for eight or nine years. The man received instructions for a week and accumulated more practical knowledge than he would otherwise have obtained alone in a long time. That sort of work tells, but in order to do it we have to get at it in some systematic way.

The National Bureau of Standards should be the place to disseminate knowledge of this kind; it is the fountain head from which this work should start, and it seems to me that Mr. Fischer ought to have one man that he could detail for that work. New States are continually asking for information as to the sealing of weights and measures. Am I not right, Dr. Stratton?

The CHAIRMAN. Yes, and we are glad to have any sealer visit the Bureau. We began a year ago to get sealers' apparatus together. We have been accumulating model sets such as are used by foreign inspectors.

Mr. PALMER. That is, model sets for inspectors.

Mr. HAZEN. Do I understand that it is the opinion of Mr. Palmer that the sealer of weights and measures should be an inspector of weights and measures or a repairer of weights and measures? I think there is a distinction between the two.

Mr. PALMER. We do not ask the sealers of weights and measures to make repairs, but we do expect the sealer to be able to tell whether the scale is incorrect because it has a dull knife-edge, etc.

The CHAIRMAN. If you send your standards down we will endeavor to take care of them promptly. Nearly everything that you suggested is under way. We began about a year ago to get together model outfits such as are used in Europe and contemplated the designing of model sealers' outfits for our own sealers. I can assure you that every effort will be made to increase the efficiency of the weights and measures section of this Bureau, and our object in calling this meeting is to get together a body of men who will cooperate with the Bureau in accomplishing the results sought. We expect to learn just as much from the sealers as they do from us.

MR. PALMER. Would it not be possible for this officer who gives instruction to travel from State to State?

THE CHAIRMAN. I have seen that thing tried in a number of other cases; but, after all, suppose a State official should question our right to inspect his standards and methods?

MR. PALMER. I did not mean to raise that question. I understand that the Bureau has had inquiries from the State of California. Could they not be best answered by some one on the spot?

THE CHAIRMAN. It is not only the States but the great cities that will call on us for information. It may interest you to know that before Mr. Low went out of office in New York we submitted a plan to remodel the whole sealing department, but he did not have time to put it into effect, as he went out of office a few months later. Nearly all the sealers were put under civil service rules at the time. We will take just the same interest in helping any other city or State.

MR. PALMER. I am glad to know that some of the States have taken the matter up in that way.

THE CHAIRMAN. It is difficult to realize the extent to which the work of the Bureau has grown, especially in the weights and measures department.

MR. HAZEN. It seems to me, Mr. Chairman; that the main question is this; first, fraudulent weights and measures, and, second, fraudulent use of weights and measures. Now, if this body can influence such legislation as will do away with both by very stringent laws and severe penalties for the use of fraudulent weights and measures it will be doing a very important work.

MR. BAYER. Mr. Pettis spoke about some of the measures in Arizona, but they are not used now. We sell things by the pound. We are all more or less familiar with the confusion in weights and measures throughout the country and there has not been any plan yet suggested to do away with that. We should formulate a plan and then submit it to the legislators, and then we will have something to go by when we meet again. I do not want to impose a task upon Dr. Stratton or Mr. Fischer, of the executive committee, but something has to be done and we shall expect the executive committee to decide what it is.

MR. REICHMANN. I think the point made by Mr. Hazen is well taken, but before we can do anything we must get the public interested. The week before last I spent nearly a week talking weights and measures to Lieutenant-Governor Bruce, Governor Higgins, and dozens of others in New York State, but unless we can get them to feel the pressure from the public they will do nothing. Just as soon

as I get back to Troy I am going to telephone every newspaper in Troy and give them an interview and, furthermore, I have written three popular articles for magazines. The New York Herald has done a magnificent work in New York City, and has helped Mr. Derry, the city sealer, very much. That is shown by the fact that in reputable dry-goods stores in New York men were convicted on three counts for using fraudulent measures. I am working in Troy, and since the 1st of January 15 men have complained to the mayor about scales in different parts of the city. During the previous administration they would have been sent away and told "That does not concern us." But the present mayor is beginning to get interested.

Of course Mr. Palmer does not have that to contend with. The people of Massachusetts are educated to the point of appreciating an inspection service. The trouble elsewhere is that when you speak to the governor of any State the first question he asks is what good it will do the party. I think the primary duty of every delegate when he goes home should be to try to interest as many people as possible in the subject.

The CHAIRMAN. I do not believe that anything brings it home to a person so much as a collection of fraudulent weights and measures.

Mr. REICHMANN. I think Mr. Palmer's point was very well taken, that one of the most important parts of the Bureau of Standards is the division of weights and measures and that that particular division has not sufficient help and that every delegate should do all in his power to see that more help is secured for this work.

Mr. PALMER. That is the point exactly; this body of delegates is strong enough to secure what is needed. If a bill is presented to Congress we should go to our Senators and our Representatives and urge the importance of the measure. They are all very fair men.

The CHAIRMAN. It is only fair to Congress to say that it has given us nearly everything we have asked for, but the demands upon the Bureau have grown so rapidly that we are necessarily behind in our work. Congress has been generous to the Bureau. The work covers a large field and all branches have grown more rapidly than we anticipated. I am not, however, nearly so interested in that as I am in discussing a plan by which the Bureau will cooperate with the State sealers and be of the most assistance to the State sealers.

Mr. PALMER. It seems to me that it is necessary to get assistance before you can do that. If one man could give all his time to this work and be in touch with the man from Maryland and the man from Virginia, etc., the thing can be systematized.

The CHAIRMAN. That is a matter we can take up the next time. Here are a number of questions that we ought to take up and discuss at once. For instance, before a law can be formulated it must provide for a system in the State and which also involves cooperation between the Bureau of Standards and the State officials. Then there are questions pertaining to the custody and use of the State standards, in regard to fees, and salaries and penalties. Also as to methods of inspection, limits of tolerance, and the apparatus each State official should have. What apparatus should a traveling inspector have? I notice in looking over the weights and measures laws of the different States a great diversity. Take the District of Columbia; we have here a sealer of weights, an inspector of gas meters, etc. Now, these officials ought to be under the same office.

Mr. THOMAS. Is there any way to make one who knowingly uses false weights and measures amenable to the United States penal law?

The CHAIRMAN. I can not answer that question, but I would like to see it answered in the affirmative.

Mr. THOMAS. I did not mean to ask whether there was any existing legislation covering, but whether an act of Congress might not be passed to reach the offenders whenever the offense is committed within the bounds of the United States. I think the pure-food bill, now being considered, illustrates the power of Congress in interstate commerce. It is required that all moneys used in local commerce shall be standard moneys of the United States. The question is whether it might not be unlawful under United States laws to use any weight or measure which does not conform to what Congress has declared the proper pound, quart, or half bushel. I don't know whether the question has been considered or not, but as one interested member of this organization I would like to have that looked into from a legal standpoint.

A great deal might be done if the use of illegal standards could be made a penal offense under United States law. In some parts of the United States there is a great deal more respect for the United States courts than there is for the local police courts. It is recognized to be a more serious thing to be summoned as an evildoer in the United States court than to be summoned before a justice of the peace or police court.

The CHAIRMAN. Well, Mr. Thomas, suppose it were possible to handle that matter in somewhat the same way as the pure-food laws are handled. How would this be put into effect, how would the penalty be inflicted?

Mr. THOMAS. The same way that any offense against the penal laws of the United States is punished.

The CHAIRMAN. You mean in cases where weights and measures are used in interstate commerce?

Mr. THOMAS. I would carry it just a little bit further than that. I believe it is within the province of Congress to enact legislation making the use of false weights and measures an offense in interstate commerce, but my question is broader. Can it not be made an offense against the United States laws to use false weights or measures anywhere in any part of the country? The Congress can fix what the half bushel is in the United States just as it has fixed what a dollar is in the United States.

The CHAIRMAN. Suppose, Mr. Thomas, you put that in the form of a motion and if the motion passes we will ask the opinion of the Attorney-General of the United States as to the possibility of making the use of false weights and measures in commerce of any kind an offense against the criminal law of the United States and whether it would be possible to provide for the trial and punishment of offenders.

Mr. FISCHER. Mr. Bayer has just suggested that the question of drawing up a law, a model law and regulations, be referred to the executive committee for a report next meeting. It seems to me that it would be the proper thing to lay the decision of the Attorney-General before that committee if that would be in order, so that the decision might be carefully considered by the committee before they draw up their report.

The CHAIRMAN. I will put Mr. Thomas's motion and get that out of the way. Then we can take this up. It seems to me that that is a very good suggestion. In case we do instruct the executive committee to draw up a model law, then these legal opinions should be obtained as soon as possible, so they can incorporate them in this report.

The motion was carried.

The CHAIRMAN. There is one suggestion that I would like to make, and that is that the chairman and the secretary be considered as members of the executive committee. This law should be drawn up by strict cooperation between the Bureau of Standards and the State officials.

Mr. PATTIS. I should suppose the chairman and the secretary would be ex officio members of the committee, under all parliamentary laws and usages.

The CHAIRMAN. Is anyone prepared to make a motion concerning instruction to the executive committee?

MR. REICHMANN. I move that the executive committee be instructed to draw up a model set of laws to be submitted to this body at the next meeting.

The motion was carried.

The CHAIRMAN. Would it not be wise to take up one or two or three important questions that will be sure to arise and get an expression of opinion, or shall we leave the matter entirely to the executive committee?

MR. FISCHER. Every proposition recommended by the committee will be thoroughly discussed by the members at the next meeting, before it is adopted, and that ought to be sufficient.

The CHAIRMAN. There is one point that I would like to see discussed now; that is the question of fees. I have discussed that question many times with different officials and there is a great difference of opinion as to whether a sealer should be compensated by fees or salary.

MR. PALMER. In Massachusetts the State sealer is paid a salary. The city sealers are paid by fees or salary, at the option of the local government, but where fees are paid they are not paid to the sealer but go into the city or town treasury and help to make the office self-supporting.

The CHAIRMAN. I think all here agree that the State sealer should be a salaried man, but there may be opposition to that in some cases. It will be looked upon as a new State or city office and for that reason will encounter opposition.

MR. PETTIS. Mr. Chairman, in the State of Rhode Island the State sealer is paid both by salary and by fees. He receives an annual salary of \$500 and is required to be in his office at the statehouse on Tuesdays and Fridays of each week from 9 to 12—that is, six hours each week. When he visits a town to examine, to test, or to adjust a set of standards he doesn't touch the working sets at all, but merely the standards, for which he receives \$15 and expenses for transporting his apparatus back and forth.

The CHAIRMAN. Suppose we assume that our model law will provide for, say, three classes of officials. Personally, I think two would be sufficient, but suppose it provides for three—a State official, a county official, and a city official. Are we all of the opinion that these officials should receive salaries, or that the merchants should pay a fee for inspection?

MR. PETTIS. In Rhode Island we have no counties.

The CHAIRMAN. Leave out the county sealers then. Say you have a State official and deputies who may be either county or city sealers.

Should these officials be salaried officials? I think that we would probably all agree as to the salary, but should fees be charged for inspection? I don't suppose that there is any question but that fees should be charged. The inspection should not, however, depend upon fees being paid.

Mr. PALMER. We say no in Massachusetts. We wish to eliminate fees for inspection. Under the fee system the sealer can only inspect once a year and consequently a merchant could deliberately change his scales if he wished to and have no fear of the inspector coming around again. The inspector has collected his fee for that year and there is no incentive for him to go again.

Then there is the case of peddlers and hawkers. I know of one man who owns twenty teams which he lets out by the day to hawkers and peddlers, so that practically every day these teams have a different owner. We seized twelve teams last year because the hawkers were using false measures, but it was very seldom that we got the man in charge of the team, and so we held the owner.

The CHAIRMAN. Your idea is that the official should be paid for inspecting weights and measures, and should inspect them whenever it is necessary, or as often as he deems it necessary.

Mr. PALMER. It is for the public good, as it protects everybody in the town or city where the work is performed.

The CHAIRMAN. Now, if we instruct our executive committee to that effect, we have settled one vital point of the whole thing. Are we all agreed on that point?

Mr. PALMER. We have found the collection of fees very bad and have eliminated it from our judicial system; clerks of the courts are now paid by a certain scale of salaries and all fees which they collect are turned into the county treasurer.

The CHAIRMAN. I have often thought that we might have in each State a State inspector, or sealer, and two or three classes of district inspectors. Suppose we assume three classes of inspectors; an inspector such as you would find in the city of New York would rank as one of the first class. I am speaking of the head official of the city of New York, not of his local inspector, an inspector or sealer who is directly responsible to the State sealer. A city of the first class should be provided with facilities for testing not only ordinary weights and measures, but the higher grade weights and measures used by druggists, jewelers, etc. He should also be provided with equipment for testing water and gas meters.

There is no reason why the testing of meters should not be done at the same office, and thus be concentrated under one head. There is no

reason why that inspector should not test voltmeters and ammeters. That will some day be required by city regulations. We would then have an inspector of the first class, with an office which is suited to the needs of a great city. An office of the second class should suit the needs of a county or a moderately large city where the city does not go into the regulation of all these other matters. An inspector of the third class is an inspector who would have charge of the county district where there are several small towns and be prepared to visit them from time to time. It seems to me that our model law should provide for some things that are not ordinarily classed as a sealer's duty. There is no reason why all the States should not be provided with a laboratory and an outfit; that, of course, is the desirable thing, but our first plan need not involve that. There is no reason why the State inspector should not establish himself in a first-class office and make that the State office as well. That's practically what you do in Boston, is it not, Mr. Palmer?

Mr. PALMER. Yes, but one difficulty now is that different towns have different town ordinances.

The CHAIRMAN. I am assuming that the National Government will have a right to legislate for the States and that the States will have the right to legislate for the different counties and that consequently we will have uniform ordinances. I am also assuming that all State inspectors would meet here annually. They would meet here to compare notes and to cooperate with the Bureau of Standards, and the Bureau of Standards would have authority to inspect the work of the State inspectors or sealers.

Mr. PALMER. I think "State inspectors" would be a better title than "State sealer." They should be subject to Government inspection.

Mr. PETTIS. I agree with what Mr. Palmer, of Massachusetts, has said, and I would like to add something. When a man takes the place of the State sealer he should come here and be instructed in all the mechanics of the different scales. One or two appointments have been made in my State this week, and when I get home I shall address them letters of instruction. The city councils or town councils appoint these men.

The CHAIRMAN. Are there any requirements? Does the sealer have to be a certain kind of man, or can anybody be appointed a sealer?

Mr. PETTIS. There are no requirements whatever, except that the candidate shall be acceptable to the council. It looks as if the executive committee has a lot of work mapped out for the year, and I would like to see Dr. Reichmann on it. I make a motion, Mr.

Chairman, that the executive committee be increased to five, two additional members to be appointed. I think we will find it necessary to carry on considerable correspondence during the year and to gather considerable information before the next meeting. I think we will find it necessary to have two additional members in addition to the chairman and the secretary.

The motion was carried, and Messrs. Reichmann and Hazen were added to the committee by the chairman.

Mr. PALMER. We should have some kind of by-laws, and I move that during the recess the executive committee draw up tentative by-laws, so that we may have something to work with.

The motion was carried.

Mr. FISCHER. I would like to inquire just what relation the chairman and secretary have to the executive committee.

Mr. PALMER. I think the chairman and the secretary of the association should be the chairman and secretary of the executive committee as well. I thought that was understood.

At 12.35 the meeting adjourned to reassemble at 2 p. m.

#### AFTERNOON SESSION.

After the meeting of the executive committee the conference was called to order at 2.30 p. m. by the chairman.

Mr. PALMER. I would like to ask the secretary if the report of the executive committee is ready?

The CHAIRMAN. Will the secretary please read the resolutions of the executive committee?

The secretary read as follows:

Meeting of the executive committee held at 2 o'clock p. m. on April 13, 1906, in the Director's office, Bureau of Standards.

Present: Messrs. Stratton, chairman; Palmer, Pettis, Thomas, Reichmann, Hazen, and Fischer, secretary.

Upon motion, it was decided to call the meeting "The National Conference on Weights and Measures."

Upon motion by Mr. Pettis, it was decided that the officers shall consist of a president, secretary, and an executive committee of five, in addition to the president and secretary.

It was moved and carried that the chief of the weights and measures division of the Bureau of Standards shall be permanent secretary of the organization.

A motion was made by Mr. Pettis that the annual meetings shall take place on the first Wednesday in April. After some discussion the motion was withdrawn by Mr. Pettis, and Mr. Palmer then moved that future meetings be held on the first Wednesday in October, in order that the Director of the Bureau of Standards might incorporate in his estimates any recommendations of the conference. The motion was carried.

Mr. Palmer moved that the executive committee be appointed by the Chair, the first appointments to be for one, two, three, four, and five years, and subsequent appointments to be for a period of five years. After some discussion by Messrs. Thomas, Hazen, and Reichmann, Mr. Palmer withdrew his motion and instead moved that the committee be appointed each year by the president. The motion was carried.

Mr. Hazen moved that the duties of the president, secretary, and the executive committee be those which usually appertain to such officers and committees, and that the executive committee also perform any special duty assigned to it by the conference.

Mr. THOMAS. I move that the executive committee be directed to prepare and to send to the governor of each State not represented at this meeting an urgent appeal requesting the presence of an official representative of his State, preferably a person warmly interested in the subject of weights and measures. My idea is that the appeal should not be simply a request, but that it should embody also a brief, direct statement of the purposes of this organization and contain some few facts regarding the experiences that have been here related as to the prevalence of incorrect weights and measures, the purpose being to impress them with the importance of the object aimed at, and that it can only be attained by the cooperation of all the States in the Union.

Mr. CUMMINGS. I heartily approve of what Mr. Thomas has said and hope that the motion will be carried.

Mr. THOMAS. I meant to add another thought—that the executive committee be authorized to sign to that appeal the names of all the representatives here present.

The CHAIRMAN. I would suggest that that recommendation be put in the form of a resolution.

Mr. THOMAS. I accept that suggestion.

The CHAIRMAN. If there are no objections, the executive committee will feel authorized to prepare and send to the governor of each State a letter as suggested by Mr. Thomas.

There were no objections, and the motion was therefore carried.

The CHAIRMAN. Practically all the letters received from the governors in response to our notification concerning this meeting expressed approval of the movement. The only reason that every State is not represented is that in many cases no funds were available from which the expenses of delegates could be paid. The time has come, however, when every State will be compelled to take up this work.

Mr. PALMER. I would like to ask whether it is the intention to incorporate in the report of the proceedings the names of the dele-

gates. It was not done last year, I suppose, because the number was so small.

The CHAIRMAN. I think it would be a good idea to send to every State custodian or sealer a report of our proceedings, with a request that he make every effort to interest the proper people in the necessity for an efficient inspection service.

The SECRETARY. That was done this year. Every governor was furnished with a copy of the compiled laws and the proceedings of the meeting held last year. In cases where we knew the State sealer or custodian, we also sent a letter.

Mr. PALMER. Every delegate here should constitute himself a committee to educate States surrounding his own. I would like next year to see a larger number of States represented. If we have to wait very long for the proceedings of this meeting, I would recommend that the letters we decided to send to the governors be sent as soon as possible.

The CHAIRMAN. According to the decision of the executive committee, the next meeting will be held in the first week in October<sup>a</sup> of this year. That will make two meetings this year.

Mr. PETTIS. Before we adjourn I would like to show a few forms that our sealers use in Rhode Island. I have here a receipt book, an inspection card, and a condemnation card. If any delegate cares for the copies he is at liberty to help himself. I do not care to take them back.

Mr. HASKELL. I would suggest that the chairman request certain members of the association who are sealers of weights and measures to prepare special papers on subjects to be assigned by the chairman. It would create more interest in our meeting if there were a half dozen papers prepared on different subjects and read before the association. Has this matter been considered?

The CHAIRMAN. We have left that in the hands of the executive committee. I agree with you that we ought to have a definite programme the next time.

Mr. HASKELL. I can see that the interest is growing. I am very sorry I was unable to be here yesterday.

Mr. THOMAS. I move that a vote of thanks be given to the Director, the chief of the division of weights and measures, and the staff of the Bureau for the courtesies extended to this association.

Mr. PETTIS. I second the motion.

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<sup>a</sup>After further consideration the meeting announced for October was postponed to a later date.

Mr. HASKELL. I will put the motion. All in favor say aye. The ayes have it, and the motion is carried.

The CHAIRMAN. I am sure, gentlemen, that we appreciate your action. We are very glad to have you with us and only regret that there are not more representatives this year. I am sure all of us recognize the division of weights and measures as one of the most important divisions of the Bureau, as it reaches the people directly. I feel confident that this organization will be of very great assistance to the Bureau in finding a solution to the important problem of how to render effective inspection service throughout this country.

Mr. PALMER. Is there any further business? If not, I move that we adjourn.

Mr. REICHMANN. I second the motion.

The motion carried and, at 4.15 p. m., the meeting adjourned.





