U. S. DEPARTMENT OF COMMERCE NATIONAL BUREAU OF STANDARDS

INDEX

TO THE REPORTS OF THE NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

FROM THE FIRST (1905) TO THE THIRTY-FIRST (1941), INCLUSIVE

MISCELLANEOUS PUBLICATION M172



U. S. DEPARTMENT OF COMMERCE

JESSE H. JONES, Secretary

NATIONAL BUREAU OF STANDARDS

LYMAN J. BRIGGS, Director

NATIONAL BUREAU OF STANDARDS MISCELLANEOUS PUBLICATION M172

INDEX

TO THE REPORTS OF THE NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

FROM THE FIRST (1905) TO THE THIRTY-FIRST (1941), INCLUSIVE

Compiled by

RALPH W. SMITH and WILLIAM T. McCORMAC

Issued October 14, 1942



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1942

CONTENTS

	Page
Preface	111
Index by subjects	
Index by names of speakers	
List of Conference Reports	

ΙI

PREFACE

This publication supersedes National Bureau of Standards Miscellaneous Publication M103 with respect to the index of the several Reports of the National Conference on Weights and Measures. The earlier index covered the Conference Reports from the First to the Twenty-first, inclusive; the present publication covers all Conference Reports from the First to the Thirty-first, inclusive. Thus, the large amount of information on a wide variety of weights and measures subjects, which is embraced within the published reports of the proceedings of the National Conference from the first meeting in 1905 through the meeting in 1941, is made more valuable by reason of the means herein provided for locating readily all material on any specific subject and all material presented by any particular speaker.

LYMAN J. BRIGGS, Director.

ш



INDEX TO THE REPORTS OF THE NATIONAL CON-FERENCE ON WEIGHTS AND MEASURES, FROM THE FIRST (1905) TO THE THIRTY-FIRST (1941), INCLUSIVE

Notes.—For ease of reference, the index is presented in two forms, first a subject index, and second an index by names of speakers. The subject index has been carefully cross-indexed, to enable those using it to locate the desired information under principal or associated words. In the name index, the names of speakers are arranged alphabetically, and under each name appear, in chronological order, references to the papers or addresses presented to the Conference by that speaker; in those instances in which a speaker's official or business connection has changed during the period covered by the index listings, his name is entered once for each such connection, with appropriate listing of papers or addresses under each entry.

addresses under each entry.

Citations to particular Conference Reports and to the pages in such Reports where the material in question begins, are given in the following manner: The "number" of the Conference (that is, first, second, and so forth) is given first by means of figures printed in bold-face type; immediately following, and printed in ordinary light-face type, there is given the number of the page on which the material begins. Thus the citation "20, 87" means that the material in question will be found beginning on page 87 of the Report of the Twentieth National Conference. When material corries over from one session of a Conference to When material carries over from one session of a Conference to a subsequent session, or when a presentation is interrupted and later resumed in the same session, a citation is given for the beginning of each portion of the material.

For information relative to the procurement or consultation of Conference Reports, and to the designation of the several Conference Reports according to the numeration followed in the series of Miscellaneous Publications of the National Bureau of Standards, see page 38 of this publication.

INDEX BY SUBJECTS

Addresses of-

Assistant Director, National Bureau of Standards, 25, 1. Assistant Secretary of Commerce, 23, 57; 25, 61; 28, 41.

President of conference, 1, 5; 2, 5; 4, 5; 5, 7; 6, 7; 7, 15; 8, 15; 9, 12; 10, 17; 11, 16; 12, 15; 13, 13; 14, 16; 16, 16; 17, 2; 18, 1; 19, 1; 20, 32; 21, 1; 22, 1; 23, 1; 24, 1; 26, 1; 27, 1; 28, 1; 29, 1; 30, 6; 31, 13.

Secretary of Commerce, 3, 55; 5, 8; 6, 111; 7, 11; 8, 12; 9, 11; 10, 13; 11, 13; 12, 119; 13, 57; 14, 79; 15, 25; 16, 76; 17, 135; 18, 74; 19, 116; 22, 47; 26, 73: 27, 84 26, 73; 27, 84.

Administration of weights and measures:

board of adjustment, 25, 95.

conduct of departments, 8, 177; 10, 122; 15, 75; 16, 28; 16, 34; 18, 170; 22, 29; 22, 62; 26, 18. contests, 28, 125.

cooperation among officials, 21, 60; 22, 29; 23, 29.

directing personnel, 31, 7.

extension of, 24, 72.

fee system, 10, 134; 12, 87; 26, 9. in Canada, 24, 61.

in Great Britain, 26, 83.

national unity in, 30, 6. observations on, 22, 62; 23, 48; 29, 31.

```
Administration of weights and measures—Continued.
      organization of departments, 8, 177; 10, 122; 15, 75; 16, 28; 16, 34; 18, 170: 22, 29; 22, 62; 26, 18. radio programs, 29, 19; 31, 44; 31, 165.
      school, weights and measures, novel form, 30, 32.
      State aids for local departments, 26, 27.
      State-wide inspection, 26, 29. survey on, by Department of Agriculture, 27, 16; 28, 28; 29, 48.
undercover buying, 25, 138; 26, 13. uniformity of, 28, 5; 30, 81. Air dissolved in gasoline, 22, 11.
Air elimination for-
      large-capacity meters, 31, 25.
      vehicle-tank meters, 26, 106.
Air eliminators, research on, resolution on, 26, 161.
Air releases on liquid-measuring devices, 23, 105.
Alcoholic beverages, containers for, resolution on, 31, 158.
Annual reports of officials, 23, 92.
American Automobile Association cooperative program, 22, 86.
Approval of type of commercial apparatus:
Federal, 4, 8; 8, 85; 9, 164; 10, 159; 12, 50; 12, 134; 15, 57; 15, 66; 15, 72; 18, 147; 20, 43; 20, 58; 21, 75; 21, 98.
resolutions on, 4, 58; 8, 223; 12, 205; 13, 177; 14, 109; 20, 120.
State, 15, 60; 20, 43; 20, 58; 30, 184; 31, 109.
A. R. E. A. specifications for vehicle scales, 25, 88; 31, 129.
Assay Commission, 25, 122.
Assistance to the States, 28, 19; 29, 144.
      committee on, reports of, 28, 80; 29, 25; 30, 29; 31, 16.
      proposed legislation on, 27, 25.
resolution on, 31, 158.
Assistant Secretary of Commerce, addresses, 23, 57; 25, 61; 28, 41.
Austin, John H.:
      special resolution relative to, 25, 23; 25, 53.
      tribute to, 25, 145.
Automatic-indicating scales, 10, 95; 12, 73.
      large-capacity, tolerances for, 14, 87; 15, 34; 16, 132; 22, 72. printed weight indications and remote weight indications, 30, 19.
      specifications for, 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117.
Automatic-recording scales, 30, 19.
Auxiliary automobile tanks for checking gasoline deliveries, use of, 19, 95; 19, 99.
Babcock glassware, specifications and tolerances, 19, 157.
Babcock test for milk and cream, 19, 13.
Baggage and freight scales, railroad supervision, 18, 34; 18, 46.
Balances.
              See Scales.
Barrels:
      beer:
            sizes 9, 146.
            testing, 25, 113.
      standard:
            law, 9, 53; 9, 56; 10, 176.
            resolution on, 8, 223.
Baskets:
      berry, specifications and tolerances, 9, 59; 9, 79; 9, 90; 10, 199.
      Federal law on (1928), 22, 13; 23, 53; 23, 65.
      standard, resolution on, 19, 168.
Beams, side, on counter scales, 22, 117; 23, 134.
Beer barrels. See Barrels, beer.
Berry baskets or boxes. See Baskets.
Board of adjustment, 25, 95.
Bottles:
      alcoholic beverage, resolution on, 31, 158.
      lubricating-oil, 19, 17; 24, 15; 24, 138.
            drainage characteristics of, 24, 22. resolutions on, 19, 170; 23, 144. specifications and tolerances for, 20, 71; 20, 137; 21, 142; 22, 70; 23, 124;
               24, 27; 24, 178; 25, 103.
```

Bottles-Continued. milk and cream: filling, National Bureau of Standards investigation, 16, 43. paper, 27, 115; 31, 109. specifications and tolerances, 9, 58; 9, 73; 9, 113; 10, 140; 10, 147; 10, 196; 11, 134; 11, App. 1, 11; 17, 128; 22, 121; 25, 99; 26, 128; 31, 103. testing, 16, 47. uniformity or requirements, 15, 30; 16, 45; 16, 64; 17, 26; 30, 168. resolutions on, 15, 125; 17, 138. Boxes, berry, specifications and tolerances, 9, 59; 9, 79; 9, 90; 10, 199. Bread: Nebraska decision, 17, 51. shrinkage, 18, 164. standard weight, legislation, 13, 115; 13, 188; 14, 24; 14, 72; 14, 80; 14, 83; 15, 88; 16, 98; 16, 112; 17, 40; 17, 51; 17, 76; 18, 143; 18, 154; 19, 83; **24**, 162; **26**, 34; **26**, 95. resolutions, **13**, 174; **19**, 170. tolerances, **14**, 37; **14**, 84; **15**, 79; **15**, 91; **16**, 112; **17**, 51; **17**, 63; **17**, 126; **18**, 143; **18**, 154; **18**, 163. Brick molds for ice cream, standardization, 22, 24. resolution, 23, 144.
Bureau of Standards. See National Bureau of Standards. Bureau of Standards. Burgess, George Kimball: life and work, 25, 2. resolution in memory of, 25, 141. Bushel weights, 8, 106; 8, 109; 16, 82; 22, 13. See also Dry commodities, sale by weight. Butter, tolerance and shrinkage, 16, 60. Butterfat-test scales, 9, 39. specifications, tolerances, and regulations, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72. California Gasoline and Oil Substitution Act, 28, 134. Canada, weights and measures administration, 24, 61. Canned foods, standardization of containers, 27, 35. resolutions, 27, 109; 28, 137. Cans: ice cream, standardization, 22, 24. lubricating oil: drainage characteristics, 26, 76, sealed, for dispensing lubricating oil, 25, 65. Capacity measures. See Measures, capacity. Carat, resolution, 8, 223. Cartons for ice cream, standardization, 22, 24. resolution, 23, 144. Centigrade temperature scale, use in government publications, 11, 39. Certification and labeling plan in connection with Federal specifications, 25, 42. Chain-store operation, weights and measures aspects, 21, 79. Cheese, limburger, net weight, 31, 135. Citations of court decisions, 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156. City and county departments, organization and administration, 16, 34; 22, 29, 22, 62; 26, 18. Civil service protection for sealers, necessity for, 8, 77. resolution, 8, 223; 26, 164. Clinical thermometers: resolution, 19, 168. testing, 19, 48. Coal: bootleg, control, 25, 110; 25, 129. chemically treated, 23, 66. resolution, 23, 144.

interstate trucking, 31, 140.

resolution, 16, 149. retail sale, 16, 127; 23, 66. tolerances on loads, 26, 102

quality, 18, 186.

```
4
```

Coal—Continued. uniform ton, 15, 53; 15, 124; 16, 65. resolution, 16, 142. weighing, **13**, 182; **14**, 54; **16**, 123. Coke: retail sale, 16, 127; 26, 100. weighing, 11, 159. Commercial standards, 21, 66. Committees: See entries as follows: Assistance to the States, Committee on. Constitution and By-Laws, Committee on. Executive Committee. Legislation, Committee on.

Methods of Sale of Commodities, Committee on. Resolutions. Specifications and Tolerances, Committee on. Standardization of Packaged Goods, Committee on. Uniformity in Weights and Measures Requirements, Committee on. Weights and Measures Education, Committee on. Commodities: See Dry commodities. dry. methods of sale, 30, 130; 30, 167. committee on, reports, 31, 118. retail sale, by weight or measure, 29, 16.
Computing scales, specifications, tolerances, and regulations, 8, 219; 9, 61; 9, 104; 10, 146; 10, 214; 10, 225; 11, 109; 11, App. 1, 33; 17, 131; 24, 91; 24, 146; 26, 121. Conditions in various weights and measures jurisdictions: abroad, 2, 35; 17, 81. Far West, 18, 69. Latin-American countries, 12, 135. New York City, 26, 50. Philippine Islands, 10, 50. Puerto Rico, 9, 138; 17, 17. Richmond, Virginia, 18, 39. South, 19, 73. Virginia, 9, 146. Conduct of weights and measures departments, 8, 177; 10, 122; 15, 75; 16, 28; **16,** 34; **18,** 170; **22,** 29; **22,** 62; **26,** 18. Conference, change in name, 18, 73. Constitution and by-laws, 26, 99.

committee, 5, 89; 20, 134; 25, 144.

reports of, 5, 119; 9, 115; 10, 58; 10, 110; 10, 114; 11, 168; 21, 74; 26, Containers alcoholic beverage, resolution, 31, 158. consolidation and amendment of Federal laws, 24, 44; 25, 107; 30, 8. deceptive, **30**, 138. Federal law (1928), 22, 13; 23, 53; 23, 65. fruit and vegetable, 12, 89; 22, 13; 23, 53; 23, 65. dimensional method of testing, 28, 128. paper, for milk, 27, 115; 31, 109. resolutions on net content marking, 4, 59; 7, 144; 19, 160. standardization, 6, 46; 6, 134; 12, 89; 13, 122; 13, 189; 27, 35. resolutions, 19, 168; 27, 109; 28, 137. Contests, weights and measures, 28, 125. Cooperation among weights and measures officials, 21, 60; 22, 29; 23, 29. Coordination between departments in relation to interstate shipments, 29, 9. Cordage and twine, 16, 63; 16, 71. Corrections to standards, 30, 114. Court decisions, citations, 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156. standardization of bale, 23, 22. weighing, 16, 26; 23, 22. Counter scales: side beams, 22, 117; 23, 134.

specifications, tolerances, and regulations, 8, 216; 8, 265; 9, 60; 9, 95; 10, 156; 10, 207; 10, 223; 11, 108; 11, 150; 11, App. 1, 25; 21, 151; 22, 72; 24, 91; 24, 145; 25, 106; 26, 126.

County and city departments, organization and administration, 16, 34; 22, 29; 22, 62; 26, 18.

Cream-test scales, specifications, tolerances, and regulations 8, 220; 9, 62; 9, 111;

10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72. Creameries, maintenance of scales in, 9, 39; 17, 11.

Customs service, weighing in, 18, 104.

D

Deceptive containers, 30, 138.

Decisions, court, citations 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156. Design of scales, 8, 123.

effect of highway and motor-truck design on, 22, 82.

fundamentals, 27, 55.

Development of large-capacity scales, 24, 99.

Dial scales, side beams, and hidden weights, 25, 134.

Digest of weights and measures cases, notes on, 21, 155.

Dimensional method of testing containers for fruits and vegetables, 28, 128. Drainage characteristics of-

dispensers for canned lubricating oil, 26, 76.

lubricating-oil bottles, 24, 22.

Dry capacity measures:

abolition (See also Dry commodities, sale by weight of), resolution 16, 146. specifications and tolerances 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; 24, 91.

Dry commodities:

sale by weight 8, 106; 8, 109; 9, 147; 10, 109; 10, 189; 11, 88; 12, 212; 13, 185; 15, 17; 16, 82; 17, 37; 19, 59; 22, 13.
resolutions 8, 200; 10, 189; 12, 205; 13, 177; 16, 139; 19, 167.

Education, weights and measures, committee on 26, 164; 29, 145.

reports of, 30, 103; 31, 45; 31, 52.

Educational activities and publicity (See also Weights and measures education, committee on), 9, 150; 11, 45; 13, 167; 14, 21; 17, 91; 19, 86; 20, 39; 20, 67; 20, 84; 21, 62; 21, 71; 27, 69; 29, 19; 30, 100; 31, 44; 31, 165. resolution, 12, 206.

Eggs, regulating sale, 19, 118.

Electric light bulbs, labeling 28, 13. resolution, 27, 110.

Electric meters, 10, 52; 21, 54. Emblem, National Conference, 30, 167; 31, 52; 31, 139; 31, 161.

Essay contests among school children, 21, 62. Evaporation of gasoline from delivery hose, 15, 111.

Executive committee, membership on, resolution, 20, 134.

Exhibit, manufacturers', at Conference, 17, 106. Extension of weights and measures administration, 24, 72.

Fabric-measuring devices:

method of test, 15, 93. specifications and tolerances 14, 87; 15, 126; 16, 118; 17, 21; 21, 149; 22, 69.

use, 11, 117; 13, 169; 20, 8.

Farm products, irregular or diversified packing, 22, 53. Federal laws in relation to short weight in interstate commerce, 19, 160; 19, 166.

Federal meat inspection act, 26, 132. Federal specification AAA-S-121 for weighing scales, 25, 23. Federal Specifications Board:

organization and function, 25, 23.

technical committee on weighing and measuring devices, 18, 146.

Federal specifications, labeling and certification plan in connection with, 25, 42.

Federal standard container act of 1928, 22, 13; 23, 53; 23, 65. Federal standard container legislation, consolidation and amendment of, 24,

44; 25, 107; 30, 8. Federal Trade Commission, weights and measures work of, 22, 42. Fee system of inspection, 12, 87; 26, 9.

resolution 10, 134.

6 Miscellaneous Publications, National Bureau of Standards Fischer, Louis Albert, address memorializing, 15, 2. Flour packages, decimal weight, resolution, 12, 205. Food and Drugs Act (Federal): enforcement of net weight amendment, 9, 18; 12, 148.
weights and measures provisions of Copeland bill to revise, 25, 119.
Food, Drug, and Cosmetic Act, weights and measures requirements, 29, 5; 30, 135.
Fraudulent practices, 17, 140; 23, 86; 27, 24; 29, 9.
Excipte and heavy Freight and baggage scales, railroad supervision, 18, 34; 18, 46. Freight weighing, National Bureau of Standards activities relating to, 18, 34. Fruit crop in Michigan, regulation, 20, 133. Fruits and vegetables. See also Containers. dimensional method of testing containers, 28, 128. method of sale, 11, 88. packing, irregular or diversified, 22, 53. standard shipping containers, 12, 89; 22, 13; 23, 53; 23, 65. resolution, 19, 168. Fuel oil: household meters for, testing of, 26, 101; 27, 24. methods for investigating short deliveries, 22, 96. storage tanks, testing, 19, 22. G Gages and gaging, 24, 125. Gas meters, 8, 90; 21, 54. Gases, liquefied petroleum, 30, 48. instruments for commercial measurement, 30, 62. measurement problems of distribution industry, 30, 65. physical properties, 30, 48. testing dispensing systems for, by gravimetric method, 31, 21. weights and measures regulation, 30, 71; 31, 21. Gasoline air dissolved in, 22, 112. deliveries, use of auxiliary automobile tanks for checking, 19, 95; 19, 99. evaporation, from delivery hose, 15, 111. losses in storage and handling, 25, 55. measurement, 19, 57. temperature as factor, 16, 50.

measuring devices. See Liquid-measuring devices. meters:

testing, 21, 104; 22, 79; 22, 104; 24, 41. twin, 24, 138. nontax-paid, 25, 50.

temperature, in underground storage, 25, 54. wholesale deliveries, in vehicle tanks, 15, 53.

Gasoline and Oil Substitution Act, California, 28,134. General regulations, weighing and measuring devices, 30, 112.

Glasses for liquor, 31, 143.

Glassware, precision, manufacture 31, 54. Gold, old, supervision over buying, 25, 34.

Graduates, glass:

for weights and measures officials, 9, 126. specifications and tolerances, 11, 132; 11, App. 1, 7; 17, 127; 20, 121. testing, 9, 39; 23, 74.

Grain:

developments in terminal weighing, 22, 65.

problems in weighing, 12, 140.

Grease-measuring devices, 20, 70; 23, 16; 26, 101.

specifications, tolerances, and regulations, 21, 83; 21, 165; 22, 71; 22, 89;
23, 41; 23, 63; 24, 141; 31, 104.

Great Britain, weights and measures administration in, 26, 83. Gross weight, elimination of sales by, 13, 118; 16, 69.

Hampers, standard: Federal law (1928), 22, 13; 23, 53; 23, 65. resolution, 19, 168. Hay, sale, 18, 72.

Heavy-capacity, heavy-duty, scales. See Scales, large-capacity.

Highway planning survey, use of vehicle scales, 27, 87. History of the standard weights and measures of the United States, 1, 6. Holbrook, Fay Stanley, in memoriam, 30, 1. memorial tablet, 31, 1. resolution, 30, 61. Horological Institute of America, certification of watchmakers, 27, 66. Hose, evaporation of gasoline from, 15, 111. Hub odometers, 22, 119. specifications and tolerances, 23, 43; 24, 140. I Ice: scoring machines, 20, 22 shortages in sales, 12, 77. Ice cream: cartons, 22, 24. resolution, 23, 144. method of sale, 18, 115. report of special committee, 19, 146. resolution, 20, 131. molds, 22, 24. resolution, 23, 144. regulation, in Wisconsin, 18, 137. sale by weight: viewpoint of manufacturer, 18, 122. viewpoint of retailer, 18, 133. viewpoint of weights and measures official, 18, 115. standardization of cans, brick molds, and cartons, 22, 24. resolution 23, 144. work of Joint Committee on Definitions and Standards, 18, 135 Identification by precision methods of comparison and measurement, 22, 49. Inch (United States), standardization, 28, 2. Industry: development, 21, 99. weighing apparatus, 11, 51; 19, 120. Insignia, National Conference, 30, 167; 31, 52; 31, 139; 31, 161. Installation and maintenance oflarge-capacity scales, 26, 38; 30, 45.
railway track scales, 11, 73.
International Bureau of weights and measures, 17, 81. Interstatecommerce, Federal laws in relation to short weight in, 19, 160; 19, 166. shipments, coordination between departments in relation to, 29, 9. status of packages, 17, 47. trucking of coal, 31, 140. Investigation by National Bureau of Standards onfilling of milk and cream bottles, 16, 43. scales: mine, 12, 161; 13, 182; 14, 57. railway track, 10, 82; 12, 64; 13, 182; 18, 34. vehicle, reports on, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. transmission drive for taximeters, 21, 21. weights and measures, reports on, 5, 101; 6, 41. Itinerant scale mechanic, 24, 154. J-K Jewelers' scales, 9, 39.

Jewelry, fraudulent marking, 17, 140.

L

Labeling and certification plan in connection with Federal specifications, 25, 42. Labeling of electric light bulbs, 28, 13. resolution, 27, 110.

Large-capacity meters. See Meters, large-capacity.
Large-capacity scales. See Scales: large-capacity; platform; vehicle. Latin-American countries, weights and measures conditions in, 12,,135. Law, Model State, on weights and measures. See Model State Law on weights and measures.

Leather-measuring devices, testing, 15, 44.

Legal status of rules and regulations as established by court decisions, 22, 132. Legislation, committee on, 29, 145.

reports, 30, 163; 31, 110. oth measures. See Linear measures. Length measures.

Length standards, testing, 20, 28.

Level and plumb conditions, demonstration of necessity for, 9, 34.

Licensing of scale repairmen and mechanics, 27, 62; 28, 38. resolution on, 27, 110. Limburger cheese, net weight, 31, 135.

Linear measures, specifications, tolerances, and regulations, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; 24, 91. Liquefied petroleum gases, 30, 48.

instruments for commercial measurement, 30, 62.

measurement problems of distribution industry, 30, 65.

physical properties, 30, 48.

testing dispensing systems for, by gravimetric method, 31, 21. weights and measures regulation, 30, 71; 31, 21.

Liquid capacity measures:

nonstandard sizes, 24, 137; 27, 103.

specifications and tolerances, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; **21**, 149; **22**, 120; **25**, 59.

testing of, 8, 181.

Liquid-measuring devices, 11, 57; 11, App. 2; 12, 169; 13, 59; 15, 111; 20, 95; **24,** 138.

air releases on, 23, 105.

servicing, testing, and repair, 30, 121.

servicing, testing, and repair, **30**, 121.

specifications, tolerances, and regulations, **8**, 211; **10**, 196; **11**, App. 1, 10; **12**, 184; **12**, 223; **13**, 64; **13**, 83; **13**, 127; **13**, 142; **13**, 193; **14**, 89; **14**, 93; **14**, 104; **14**, 116; **14**, 119; **14**, 123; **15**, 120; **17**, 133; **19**, 127; **20**, 102; **21**, 128; **22**, 70; **22**, 101; **23**, 123; **24**, 91; **24**, 140; **24**, 147; **25**, 82; **25**, 101; **26**, 100; **26**, 130; **27**, 103; **28**, 123; **29**, 64; **30**, 98; **31**, 104.

testing of, **14**, 64; **15**, 111; **21**, 104; **22**, 79; **22**, 104; **30**, 121.

visibility of indications, 31, 108.

Liquor, glasses for, 31, 143.

Livestock, problems in weighing, 19, 40.

Load, distribution, among supports of scale platform, 7, 169. Local sealer of weights and measures, problems, 22, 62; 26, 18.

Log rules, 23, 128.

Losses of gasoline in storage and handling, 25, 55.

Lubricating oil:

bottles. See Bottles, lubricating-oil. canned, drainage characteristics of dispensers, 26, 76.

sealed cans for dispensing, 25, 65. specifications and tolerances, 25, 103.

M

Maintenance and installation of-

large-capacity scales, 26, 38; 30, 45. railway track scales, 11, 73.

Markets, public, supervision, 16, 53; 16, 58.

Marking:

capacity of range boilers, storage tanks, etc., resolution, $\bf 9,\,123.$ jewelry, $\bf 17,\,140.$

net content of-

containers, resolution on, 4, 59; 7, 144; 19, 160. packages, 7, 107; 8, 79; 13, 122; 17, 47; 19, 121; 24, 42; 24, 158.

net weight on wrapped meats, 12, 145; 14, 45; 20, 121.

resolution, 11, 158.

toilet paper and paper towels, 11, 113.

resolution, 11, 182.

Mass standards, testing, 19, 103.

Master vehicle scales, local, 31, 87.

```
Measure-containers:
       paper, 28, 44.
       single-service:
             development, 31, 41.
             specifications and tolerances, 29, 134; 30, 97; 31, 102.
Measures:
      capacity:
             dry:
                    abolition, resolution, 16, 146.
                    specifications and tolerances, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137;
                       11, App. 1, 12; 24, 91.
             nonstandard sizes, 24, 137; 27, 103. specifications and tolerances, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; 21, 149; 22, 120; 25, 59. testing, 8, 181.
                    pharmaceutical, 23, 74.
linear, specifications, tolerances, and regulations for, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; 24, 91.

pharmaceutical, testing, 23, 74.

Measuring pumps. See Liquid-measuring devices.
Meat-packing industry, weighing in, 22, 56.
Meats and meat products, supervision over, under Federal Meat Inspection Act,
   26, 132.
Meats, wrapped:
      marking of net weight, 12, 145; 14, 45; 20, 121.
             resolution, 11, 158.
shrinkage, 20, 121.
Mechanics and repairmen:
      itinerant, 24, 154.
licensing, 27, 62; 28, 38.
resolution, 27, 110.
Merit system for weights and measures officials, resolution, 26, 164.
Meters:
      electric, 10, 52; 21, 54.
      gas, 8, 90; 21, 54.
      gasoline.
                     See also Liquid-measuring devices.
             testing, 21, 104; 22, 79; 22, 104; 24, 41. twin, 24, 138.
      household fuel oil, testing, 26, 101; 27, 24.
      large-capacity:
             air elimination, 31, 25.
             research program, 29, 45.
      testing equipments, 26, 110; 28, 17. testing, 24, 41; 26, 110; 28, 17. parking, 28, 21.
      standard, resolution on calibration, 26, 161.
      taxicab. See Taximeters.
      utility, regulation, 26, 145. vehicle-tank, 26, 104; 26, 106; 26, 110; 28, 17.
air elimination, 26, 106.
testing, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17.
water, 8, 118; 21, 54.
Methods of sale of commodities, 30, 130; 39, 167.
committee on, reports, 31, 118.

Metric system, 9, 27; 11, 183; 12, 112.
resolutions, 11, 178; 12, 206; 12, 210.

Michigan, regulation of fruit crop in, 20, 133.
Milk and cream:
      bottles. See Bottles, milk and cream.
      paper containers, 27, 115. wholesale sales, and Babcock test, 19, 13.
Mine scales, National Bureau of Standards investigation, 12, 161; 13, 182; 14, 57
Model State Law on weights and measures, 2, 53; 3, 64; 3, 88; 3, 107; 6, 109 6, 151; 8, 225; 8, 275; 10, 109; 10, 235; 14, 72; 14, 119; 14, 131; 18, 77; 18, 152; 20, 92; 21, 77; 26, 32; 26, 92; 30, 180.
Molds, brick, for ice cream, standardization, 22, 24.
      resolution, 23, 144.
```

Motor-truck scales. See Vehicle scales. Motor-vehicle loads, two-draft weighing, 28, 63.

N

National Bureau of Standards—

investigation on-

filling of milk and cream bottles, 16, 43.

scales:

mine, 12, 161; 13, 182; 14, 57.
railway track, 10, 82; 12, 64; 13, 182; 18, 34.
vehicle, reports, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35, 31, 61; 31, 145.

transmission drive for taximeters, 21, 21.

weights and measures, reports, 5, 101; 6, 41. master railway track scale, installation, 21, 44.

National Defense, weights and measures cooperation, 31, 2. National Scale Men's Association:

activities, 23, 136; 24, 168; 25, 88; 26, 46; 27, 71; 28, 9; 29, 30; 30, 78; 31,18. resolution, 23, 147; 24, 173.

bulletin on repair of large-capacity scales, 22, 33. resolution, 22, 145.

National unity in administration of weights and measures, 30, 6. Nebraska decision on bread, 17, 51.

Net-content marking of-

containers, resolutions 4, 59; 7, 144; 19, 160. packages, 7, 107; 8, 79; 13, 122; 17, 47; 19, 121; 24, 42; 24, 158.

Net weight:

amendment to Food and Drugs Act, enforcement, 9, 18; 12, 148.

of cotton bales, 23, 22.

of limburger cheese, 31, 135.

of wrapped meats, 12, 145; 14, 45; 20, 121.

resolution, 11, 158. sales by, 13, 118; 16, 69. News Letter, Weights and Measures, 30, 183.

Odometers, 22, 119.

specifications and tolerances, 23, 43; 24, 140.

See Lubricating oil; Fuel oil. Ordnance Department, work, 12, 99.

Organization of weights and measures departments, 8, 177; 10, 122; 15, 75; 16, 28;

16, 34; **18**, 170; **22**, 29; **22**, 62; **26**, 18.

P-Q

Packages. See also Standardization of packaged goods, committee on.

interstate status, 17, 47. net-content marking, 7, 107; 8, 79; 13, 122; 17, 47; 19, 121; 24, 42; 24, 158. slack-filled and deceptive, 29, 9. resolutions, 13, 178; 14, 111.

standardization, 28, 53; 29, 79; 29, 89; 31, 113; 31, 129. resolutions, 12, 207; 13, 175; 14, 110; 27, 109; 27, 11; 28, 138. Packing of farm products, irregular or diversified, 22, 53.

Paper-

containers for milk, 27, 115; 31, 109.

measure-containers, 28, 44.

towels and toilet paper, uniform marking, 11, 113.

resolution, 11, 182.

Parallax, 30, 131

Parking meters, 28, 21.

Pattern approval. See Approval of type of commercial apparatus. Peddlers, regulation, 18, 121.
Periodicals on weights and measures, 21, 71; 30, 183.

Person-weighers, 22, 128; 23, 126; 24, 106.

specifications, tolerances, and regulations, 23, 148; 24, 113; 24, 179; 25, 13; 25, 33; 25, 49; 27, 98; 28, 123.

Personnel, weights and measures, direction, 31, 7.

Petroleum gases, liquefied, 30, 48. instruments for commercial measurement, 30, 62. measurement problems of distribution industry, 30, 65. physical properties, 30, 48. testing dispensing systems, by gravimetric method, 31, 21. weights and measures regulation, 30, 71; 31, 21. Petroleum products and weights and measures, 25, 62. Petroleum products, measurement, 15, 53; 16, 50; 19, 57. Pharmaceutical weights and measures, testing, 23, 74. Philippine Islands, weights and measures conditions, 10, 50. Photographer, official, selection, 22, 12. Piping design for vehicle tanks, 31, 33. Plate-fulcrum railway track scales, 20, 11; 20, 15. Platform overhang of vehicle scales, 31, 92. Platform scales, 7, 146. specifications, tolerances, and regulations, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31, 106; 31, 129. testing and testing equipment, 15, 32; 18, 54; 18, 65; 19, 40; 20, 84; 21, 40; 21, 48; 22, 75; 24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67.

National Bureau of Standards reports, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. Plumb and level conditions, demonstration of necessity, 9, 34. Postal scales, testing, 8, 261; 17, 34; 18, 171; 24, 97. resolution on, 17, 138. Potatoes, sweet, measurement, 16, 63. Precisionglassware, manufacture, 31, 54. standards, manufacture, 15, 102. Prescription scales, 9, 39.

specifications, tolerances, and regulations, 11, 154; 11, App. 1, 37; 22, 73; 26, 121; 27, 95.

President of Conference, addresses, 1, 5; 2, 5; 4, 5; 5, 7; 6, 7; 7, 15; 8, 15; 9, 12; 10, 17; 11, 16; 12, 15; 13, 13; 14, 16; 16, 16; 17, 2; 18, 1; 19, 1; 20, 32; 21, 1; 22, 1; 23, 1; 24, 1; 26, 1; 27, 1; 28, 1; 29, 1; 30, 6; 31, 13.

Problems of local scaler of weights and measures, 22, 62; 26, 18. Prosecutions, 14, 50; 17, 85; 19, 89. Protection of highways by means of portable weighing devices, 15, 26. Public markets, supervision, 16, 53; 16, 58. Public officials, training, 26, 22. Publicity and educational activities. (See also Weights and measures education, committee), 9, 150; 11, 45; 13, 167; 14, 21; 17, 91; 19, 86; 20, 39; 20, 67; 20, 84; 21, 62; 21, 71; 27, 69; 29, 19; 30, 100; 31, 44; 31, 165. resolution on, 12, 206. Puerto Rico, weights and measures conditions, 9, 138; 17, 17.

Publicity, committee. See Weights and measures education, committee.

Pumps, measuring. See Liquid-measuring devices.

Radio programs, weights and measures, 29, 19; 31, 44; 31, 165. Railway track scales. See Scales, railway track. Ramp garage, gasoline meter installations, 22, 79. Range boilers, marked capacity, resolution, 9, 123. Reconditioning rejected or trade-in scales, 22, 122. Records, system of keeping, 7, 90; 10, 171. Regulations: legal status, as established by court decisions, 22, 132. study of promulgation, 25, 38.

Regulations for weighing and measuring devices (See also Specifications, tolerances, and regulations), 24, 83; 24, 91; 30, 112. Repair of large-capacity scales, 22, 33.

resolution, 22, 145. Repairmen and mechanics: itinerant, 24, 154. licensing, 27, 62; 28, 38.

resolution, 27, 110.

net weight of wrapped meats, 11, 158.
range boilers, storage tanks, etc., 9, 123.
toilet paper and paper towels, 11, 182.
merit system for weights and measures officials, 26, 164.
meters, standard, calibration, 26, 161.
metric system, 11, 178; 12, 206; 12, 210.
milk bottles, uniform requirements, 15, 125; 17, 138.
molds and cartons for ice cream, 23, 144.

Resolutions on—Continued. National Scale Men's Association, 23, 147; 24, 173. net-content marking of containers, 4, 59; 7, 144; 19, 160. net weight of wrapped meats, 11, 158. packages: slack-filled and deceptive, 13, 178; 14, 111. standardization, 12, 207; 13, 175; 14, 110; 27, 109; 27, 110; 28, 138. paper towels and toilet paper, uniform marking, 11, 182. postal scales, testing, 17, 138. Publicity, committee, 26, 164. range boilers, marked capacity of, 9, 123. repair of large-capacity scales, specifications, 22, 145. rules of procedure for National Conference, 25, 142. sale by weight, 8, 200; 10, 189; 11, 158; 12, 205; 13, 177; 16, 139; 19, 167; 20, 131. scale mechanics and repairmen, licensing, 27, 110. scales: postal, testing, 17, 138. small-capacity spring, specifications, 27, 110. seal, place for, on scales, 24, 173. spring scales, small-capacity, specifications, 27, 110. standardbarrel, 8, 223. baskets and hampers, 19, 168. containers for fruits and vegetables, 19, 168. standard-weight bread loaves, 13, 174; 19, 170. standardization ofcontainers, 19, 168; 27, 109; 28, 137. packages, 12, 207; 13, 175; 14, 110; 27, 109; 27, 110; 28, 138. standards of quality for coal, 16, 149. standards of weights and measures, proposed legislation on, 27, 109; 28, 137. storage tanks, marked capacity, 9, 123. Stratton, Samuel W.: In memory, 25, 141. life and work, 15, 36. taximeters, transmission drive, 21, 160. testing of postal scales, 17, 138. thermometers, clinical, 19, 168. toilet paper and paper towels, uniform marking, 11, 182. ton, 2, 000-pound, 16, 142. trading by weight, 31, 158. transmission drive for taximeters, 21, 160. type of commercial apparatus, approval, 4, 58; 8, 223; 12, 205; 13, 177; 14, 109; 20, 120. uniform laws, regulations, etc., among the States, 10, 186; 21, 161. weighing devices, used, sale, 27, 110; 28, 52. weight, sale of dry commodities by, 8, 200; 10, 189; 12, 205; 13, 177; 16, 139; 19, 167. weights and measures correspondence course, 18, 182. weights and measures standards, proposed legislation on, 27, 109; 28, 137. wrapped meats, marking of net weight on, 11, 158. Retail commodities, sale by weight or measure, 29, 16. Rewording and/or rearrangement of specifications, tolerances, and regulations, 9, 62; 9, 113; 15, 129; 25, 107; 26, 117; 26, 127; 28, 103. Rules and regulations: legal status, as established by court decisions, 22, 132. study of promulgation, 25, 38. Rules of procedure for National Conference, resolution, 25, 142. S Sale by weight:

dry commodities, 8, 106; 8, 109; 9, 147; 10, 109; 10, 189; 11, 88; 12, 212; 13, 185; 15, 17; 16, 82; 17, 37; 19, 59; 22, 13. resolutions on, 8, 200; 10, 189; 12, 205; 13, 177; 16, 139; 19, 167. elimination of sales by gross weight, **13**, 118; **16**, 69. general, resolution, **12**, 205; **19**, 167. 478609-42-3

```
Sale by weight—Continued.
       ice cream, 18, 115; 19, 146.
              resolution, 20, 131.
       meats, wrapped, 12, 145; 14, 45; 20, 121.
              resolution, 11, 158.
       retail commodities, 29, 16. sales by net weight, 13, 118; 16, 69.
Sale of commodities, methods. See Commodities, methods of sale. Salesmanship in weights and measures field, 27, 69.
Scale mechanics and repairmen:
itinerant, 24, 154;
licensing, 27, 62; 28, 38.
resolution, 27, 110.
Scale-testing device, 21, 40; 22, 75.
Scales:
       automatic-indicating, 10, 95; 12, 73.
              large-capacity, tolerances, 14, 87; 15, 34; 16, 132; 22, 72. printed weight indications and remote weight indications, 30, 19.
              specifications, 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117.
       automatic-recording, 30, 19.
       baggage, 18, 34; 18, 46.
       butterfat-test, 9, 39.
              specifications, tolerances, and regulations, 8, 220; 9, 62; 9, 111; 10, 216;
       11, 153; 11, App. 1, 36; 17, 132; 22, 72. computing, specifications, tolerances, and regulations, 8, 219; 9, 61; 9, 104;
           10, 146; 10, 214; 10, 225; 11, 109; 11, App. 1, 33; 17, 131; 24, 91; 24, 146;
          26, 121.
       counter:
              side beams on, 22, 117; 23, 134.
      specifications, tolerances, and regulations, 8, 216; 8, 265; 9, 60; 9, 95; 10, 156; 10, 207; 10, 223; 11, 108; 11, 150; 11 App. 1, 25; 21, 151; 22, 72; 24, 91; 24, 145; 25, 106; 26, 126.

cream-test and butterfat-test, 9, 39.
      specifications, tolerances, and regulations, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72. creamery, maintenance, 9, 39; 17, 11.
       customs service, 18, 104.
       design and construction, 8, 123; 22, 82; 27, 55.
       dial, side beams and hidden weights, 25, 134.
      distribution of load among platform supports, 7, 169. Federal specification AAA-S-121, 25, 23.
      general, specifications, tolerances, and regulations, 8, 213; 9, 59; 9, 90; 9, 99; 9, 112; 10, 139; 10, 148; 10, 151; 10, 200; 10, 220; 11, 107; 11, 137; 11, App. 1, 15; 16, 129; 17, 130; 21, 149; 23, 122; 24, 91; 24, 145; 25, 103; 26, 118; 26, 124; 27, 75; 27, 90; 28, 26; 28, 115; 29, 71; 39, 108; 31, 105. grain, 12, 140; 22, 65.
      freight, 18, 34; 18, 46.
      heavy-duty. See Scales, large-capacity. industrial, 11, 51; 19, 120. jewelers', 9, 39.
      large-capacity: See also Platform scales; Vehicle scales.
              Automatic-indicating, tolerances, 14, 87; 15, 34; 16, 132; 22, 72.
              development, 24, 99.
              installation and maintenance, 26, 38.
              platform:
                     21, 40; 21, 48; 22, 75; 24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67.

National Bureau of Standards reports, 26, 69; 27, 45; 27, 46;
                                28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145.
              repair, 22, 33.
                     resolution, 22, 145.
             standardization, 29, 1. test weights, 29, 35.
```

mine, National Bureau of Standards investigation, 12, 161; 13, 182; 14, 57

testing equipments, 26, 47.

livestock, 18, 55; 19, 40.

notes, 8, 135.

Scales-Continued. person-weighing, 22, 128; 23, 126; 24, 106. specifications, tolerances, and regulations, 23, 148; 24, 113; 24, 179; 25, 13; 25, 33; 25, 49; 27, 98; 28, 123. form, 7, 146. platform, 7, 146.

specifications, tolerances, and regulations, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31, 106; 31, 129. testing of and testing equipment, 15, 32; 18, 54; 18, 65; 19, 40; 20, 84; 21, 40; 21, 48; 22, 75; 24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67.

National Bureau of Standards reports, 26, 69; 27, 45; 27, 46; 28, 75 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. postal, testing, 8, 261; 17, 34; 18, 171; 24, 97. resolution, 17, 138. platform, resolution, 17, 138. prescription, 9, 39. specifications, tolerances, and regulations, 11, 154; 11, App. 1, 37; 22, 73; 26, 121; 27, 95.
railway track, 6, 67; 10, 82; 10, 86; 11, 62; 11, 73; 11, 97; 12, 64; 12, 107; 13, 182; 18, 34; 18, 176; 20, 11; 20, 15; 26, 124. developments in construction, 6, 67; 11, 97; 12, 107; 20, 11; 20, 15. freight weighing on, 18, 34. installation and maintenance, 11, 73. methods of adjusting, inspecting, and testing, 10, 86; 11, 62. National Bureau of Standards investigation, 10, 82; 12, 64; 13, 182; 18, 34. master, installation, 21, 44. plate fulcrum, 20, 11; 20, 15. test cars, 18, 176. tolerances, 29, 72. reconditioning of rejected, or trade-in, 22, 122. repair of large-capacity, 22, 33. resolution, 22, 145. seal on, place for, resolution, 24, 173. spring: specifications, tolerances, and regulations, 8, 217; 8, 219; 9, 60; 9, 99, 10, 140; 10, 211; 10, 213; 11, 109; 11, 152; 11, App. 1, 30; 11, App. 1, 33; 17, 131; 21, 152; 24, 91; 25, 106; 28, 104; 31, 105. resolution, 27, 110. straight-face, specifications, tolerances, and regulations, 8, 219; 10, 213; **11**, App. 33; **21**, 152; **26**, 124. stock, 18, 55; 19, 40. suspension, lever type, specifications, tolerances, and regulations, 10, 211; 11, 152; 11, App. 1, 29. testing device for large-capacity, 22, 75. trade-in, reconditioning, 22, 122. A. R. E. A. specifications, 25, 88; 31, 129. deflection of weighbridge members, 31, 129. end testing versus corner testing, 26, 64. master, local, 31, 87. platform overhang, 31, 92. selection, installation, and maintenance, 30, 45. specifications, tolerances, and regulations, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31, 106; 31, 129. testing and testing equipment, 15, 32; 18, 54; 18, 65; 20, 84; 21, 48; 22, 75; 24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67.

National Bureau of Standards reports, 26, 69; 27, 45; 27, 46; 28. 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. use, in highway planning survey, 27, 87. Wheel-load weighers, 15, 26; 24, 123. specifications, tolerances, and regulations, 19, 156. testing, 19, 151. School, weights and measures, novel form, 30, 32.

16 Miscellaneous Publications, National Bureau of Standards Scoring machines for ice, 20, 22. Sealing, methods, and seals, 8, 204; 27, 23. resolution, 24, 173. Seasonal aspects of weights and measures administration, 22, 62.

Secretary of Commerce, addresses, 3, 55; 5, 8; 6, 111; 7, 11; 8, 12; 9, 11; 10, 13; 11, 13; 12, 119; 13, 57; 14, 79; 15, 25; 16, 76; 17, 135; 18, 74; 19, 116; 22, 47; 26, 73; 27, 84. Secretary of conference, reports, 5, 12; 6, 13; 7, 16; 8, 15; 9, 15; 10, 46; 11, 83; 12, 25; 13, 18; 22, 36. Selection, installation, and maintenance of vehicle scales, 30, 45. Sensibility reciprocal, effect on, of packing pivots and bearings with grease, **30,** 88. Serialization of commercial apparatus. See Approval of type of commercial apparatus. Service, sale, 16, 23. Shipping containers, standard, for fruits and vegetables, 12, 89; 22, 13. resolution, 19, 168. Shrinkage on bread, 18, 164. butter in prints, 16, 60. wrapped meats, 20, 121. Side beams, dial scales, and hidden weights, 25, 134. Side beams on counter scales, 22, 117; 23, 134. Sight-glasses, function and operation, 30, 15. Simplification and standardization, 16, 94. Single-service measure-containers. See Measure-containers. Specifications and tolerances, committee on: enlargement of, 10, 143.
reports, 7, 121; 8, 209; 9, 57; 9, 89; 10, 137; 11, 127; 13, 64; 13, 83; 13, 127; 13, 142; 14, 89; 14, 93; 15, 34; 15, 79; 15, 87; 15, 120; 15, 126; 16, 89; 16, 118; 16, 129; 16, 132; 16, 151; 17, 21; 17, 100; 17, 115; 17, 126; 18, 25; 18, 97; 18, 107; 18, 163; 19, 38; 19, 127; 19, 156; 20, 71; 20, 102; 20, 121; 21, 83; 21, 128; 21, 142; 21, 147; 21, 165; 22, 68; 22, 89; 22, 101; 22, 120; 22, 121; 23, 41; 23, 43; 23, 79; 23, 122; 24, 27; 24, 83; 24, 91; 24, 113; 24, 140; 24, 147; 25, 13; 25, 33; 25, 59; 25, 70; 25, 82; 25, 99; 25, 103; 26, 117; 27, 75; 27, 90; 28, 103; 29, 64; 29, 133; 30, 97; 31, 102. cifications, A.R.E.A., for vehicle scales, 25, 88; 31, 129. Specifications, A.R.E.A., for vehicle scales, 25, 88; 31, 129. Specifications, tolerances, and regulations for automatic-indicating scales, 14, 87; 15, 34; 16, 132; 22, 72; 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117. Babcock glassware, 19, 157. balances, See Scales. berry baskets or boxes, 9, 59; 9, 79; 9, 90; 10, 199. bottles: lubricating-oil, 20, 71; 20, 137; 21, 142; 22, 70; 23, 124; 24, 27; 24, 178; **25**, 103. milk and cream, 9, 58; 9, 73; 9, 113; 10, 140; 10, 147; 10, 196; 11, 134; 11, App. 1, 11; 17, 128; 22, 121; 25, 99; 26, 128; 31, 103. boxes, berry, 9, 59; 9, 79; 9, 90; 10, 199. bread, 14, 37; 14, 84 15, 79; 15, 91; 16, 112; 17, 51; 17, 63; 17, 126; 18, 143; **18**, 154; **18**, 163. butter, **16**, 60. butterfat-test scales, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; **17,** 132; **22,** 72. computing scales, 8, 219; 9, 61; 9, 104; 10, 146; 10, 214; 10, 225; 11, 109; 11, App. 1, 33; 17, 131; 24, 91; 24, 146; 26, 121. counter scales, 8, 216; 8, 265; 9, 66; 9, 95; 10, 156; 10, 207; 10, 223; 11, 108; 11, 150; 11, App. 1, 25; 21, 151; 22, 72; 24, 91; 24, 145; 25, 106; 26, 126. cream-test scales, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; **22,** 72. dry capacity measures, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; **24,** 91. fabric-measuring devices, 14, 87; 15, 126; 16, 118; 17, 21; 21, 149; 22, 69. glass graduates, 11, 132; 11, App. 1, 7; 17, 127; 20, 121. grease-measuring devices, 21, 83; 21, 165; 22, 71; 22, 89; 23, 41; 23, 63;

24, 141; **31**, 104.

heavy-capacity, heavy-duty. See Scales, large-capacity.

Specifications, tolerances, and regulations for—Continued. hub odometers, 23, 43; 24, 140. large-capacity scales, 26, 122; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31, 106. automatic-indicating (See also automatic-indicating scales), 14, 87; 15, 34; 16, 132; 22, 72. linear measures, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; liquid-capacity measures, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; **21**, 149; **22**, 120; **25**, 99. 11, 149; 22, 120; 23, 99.
liquid-measuring devices, 8, 211; 10, 196; 11, App. 1, 10; 12, 184; 12, 223;
13, 64; 13, 83; 13, 127; 13, 142; 13, 193; 14, 89; 14, 93; 14, 104; 14, 116;
14, 119; 14, 123; 15, 120; 17, 133; 19, 127; 20, 102; 21, 128; 22, 70; 22, 101; 23, 123; 24, 91; 24, 140; 24, 147; 25, 82; 25, 101; 26, 100; 26, 130; 27, 103; 28, 123; 29, 64; 30, 98; 31, 104.
lubricating-oil bottles, 20, 71; 20, 137; 21, 142; 22, 70; 23, 124; 24, 27; 24, 178; 25, 103 178: **25,** 103. measure-containers, single-service, 29, 134; 30, 97; 31, 102. measures: dry capacity, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; 24, linear, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; 24, liquid capacity, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; 21, 149; 22, 120; 25, 59. See Liquid-measuring devices. measuring pumps. milk and cream bottles, 9, 58; 9, 73; 9, 113; 10, 140; 10, 147; 10, 196; 11, 134; 11, App. 1, 11; 17, 128; 22, 121; 25, 99; 26, 128; 31, 103. odometers, 23, 43; 24, 140. person weighers, 23, 148; 24, 113; 24, 179; 25, 13; 25, 33; 25, 49; 27, 98; 28, 123. platform scales, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31, 106; 31, 129. prescription scales, 11, 154; 11, App. 1, 37; 22, 73; 26, 121; 27, 95. pumps, measuring. See Liquid-measuring devices. railway track scales, 29, 72. rewording and/or rearrangement, 9, 62; 9, 113; 15, 129; 25, 107; 26, 117; 26, 127; 28, 103. scales: automatic-indicating, 14, 87; 15, 34; 16, 132; 22, 72; 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117. butterfat-test, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72. computing, 8, 219; 9, 61; 9, 104; 10, 146; 10, 214; 10, 225; 11, 109; 11, App. 1, 33; **17**, 131; **24**, 91; **24**, 146; **26**, 121.
counter, **8**, 216; **8**, 265; **9**, 60; **9**, 95; **10**, 156; **10**, 207; **10**, 223; **11**, 108; **11**, 150; **11**, App. 1, 25; **21**, 151; **22**, 72; **24**, 91; **24**, 145; **25**, 106; **26**, 126. cream-test and butterfat, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72. App. 1, 36; 17, 132; 22, 72.
general, 8, 213; 9, 59; 9, 90; 9, 99; 9, 112; 10, 139; 10, 148; 10, 151; 10, 200; 10, 220; 11, 107; 11, 137; 11, App. 1, 15; 16, 129; 17, 130; 21, 149; 23, 122; 24, 91; 24, 145; 25, 103; 26, 118; 26, 124; 27, 75; 27, 90; 28, 26; 28, 115; 29, 71; 30, 108; 31, 105.
large-capacity automatic-indicating (See also automatic-indicating), 14, 27, 15, 24, 16, 122, 27, 28 87; 15, 34; 16, 132; 22, 72. person-weighing, 23, 148; 24, 113; 24, 179; 25, 13; 25, 33; 25, 49; 27, 98; 28, 123. platform, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; **31,** 105; **31,** 106; **31,** 129. prescription, 11, 154; 11, App. 1, 37; 22, 73; 26, 121; 27, 95.

railway track, 29, 72.

```
18
```

```
Specifications, tolerances, and regulations for—Continued.
            scales-continued.
                        spring, 8, 217; 8, 219; 9, 60; 9, 99; 10, 140; 10, 211; 10, 213; 11, 109; 11, 152; 11, App. 1, 30; 11, App. 1, 33; 17, 131; 21, 152; 24, 91; 25, 106; 28, 104; 31, 105.
                                     resolution, 27, 110.
                                     straight-face, 8, 219; 10, 213; 11, App. 1, 33; 21, 152; 26, 124.
                        suspension, lever type, 10, 211; 11, 152; 11, App. 1, 29. vehicle, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 21, 151; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 150; 21, 
                               31, 105; 31, 106; 31, 129.
                         wheel-load weighers, 19, 56.
                                                                                                             See Measure-containers.
             single-service measure-containers.
            spring scales, 8, 217; 8, 219; 9, 60; 9, 99; 10, 140; 10, 211; 10, 213; 11, 109; 11, 152; 11, App. 1, 30; 11, App. 1, 33; 17, 131; 21, 152; 24, 91; 25, 106;
                   28, 104; 31, 105.
                         resolution, 27, 110.
            resolution, 27, 110.

straight-face spring scales, 8, 219; 10, 213; 11, App. 1, 33; 21, 152; 26, 124. suspension scales, lever type, 10, 211; 11, 152; 11, App. 1, 29. tanks, vehicle, 14, 88; 16, 89; 16, 151; 17, 100; 17, 115; 18, 25; 21, 149; 22, 71; 25, 70; 25, 76; 26, 104; 27, 98; 28, 106; 29, 65; 29, 129; 30, 107. taximeters, 18, 97; 18, 107; 19, 38; 22, 70; 24, 91.
            vehicle scales, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; 30, 110; 30, 112; 31, 105; 31,
                   106; 31, 129.
             vehicle tanks, 14, 88; 16, 89; 16, 151; 17, 100; 17, 115; 18, 25; 21, 149; 22, 71; 25, 70; 25, 76; 26, 104; 27, 98; 28, 106; 29, 65; 29, 129; 30, 107. weighers, wheel-load, 19, 156.
             weighing and measuring devices, 24, 83; 24, 91; 30, 112.
             weights, 8, 220; 9, 62; 9, 112; 10, 216; 11, 155; 11, App. 1, 41; 17, 132; 27, 96;
                   30, 110.
             wheel-load weighers, 19, 156.
Spring scales, specifications, tolerances, and regulations, 8, 217; 8, 219; 9, 60; 9, 99; 10, 140; 10, 211; 10, 213; 11, 109; 11, 152; 11, App. 1, 30; 11, App. 1, 33; 17, 131; 21, 152; 24, 91; 25, 106; 28, 104; 31, 105.

resolution, 27, 110.
             straight-face, specifications, tolerances, and regulations, 8, 219; 10, 213; 11, App. 1, 33; 21, 152; 26, 164.
 SR, effect on, of packing pivots and bearings with grease, 30, 88.
 Standard: (See also Standards)
             barrel:
                         law, 9, 53; 9, 56; 10, 176. resolution, 8, 223.
             baskets and hampers, resolution, 19, 168. container act, Federal, of 1928, 22, 13; 23, 53; 23, 65.
             container legislation, Federal, consolidation and amendment, 24, 44; 25, 107;
             containers for fruits and vegetables, 12, 89; 22, 13; 23, 53; 23, 65.
                         resolution, 19, 168.
             meters, resolution on calibration, 26, 161.
 Standard-weight bread. See Bread.
  Standardization and simplification, 16, 94.
 Standardization of-
              bread weights. See Bread, standard weight, legislation.
             containers, 6, 46; 6, 134; 12, 89: 13, 122; 13, 189; 27, 35.
resolutions, 19, 168; 27, 109; 28, 137.
containers for canned foods, 27, 35.
resolutions on, 27, 109; 28, 137.
cotton bales, 23, 22.
ice-cream cans, brick molds, and cartons, 22, 24.
resolution, 23, 144.
              inch (United States), 28, 2. large-capacity scales, 29, 1.
              packaged goods, committee reports, 29, 79; 29, 125; 30 145.
              packages. See also Standardization of packaged goods, committee, 29, 79; 29, 89; 31, 113; 31, 129.
resolutions, 12, 207; 13, 175; 14, 110; 27, 109; 27, 110; 28, 138.
                                            See also Standardization of packaged goods, committee, 28, 53;
```

```
Standards:
      capacity, testing, 8, 181.
      commercial, 21, 66. corrections, 30, 114. length, testing, 20, 28. manufacture, 15, 102; 31, 54.
      mass, testing, 19, 103.
      of weights and measures, proposed legislation, 27, 1. resolutions, 27, 109; 28, 137. precision, manufacture, 15, 102.
      quality, for coal, resolution, 16, 149.
United States history, 1, 6.
volumetric, calibration, 31, 142. Stock scales, 18, 55; 19, 40.
Storage tanks:
      fuel oil, testing, 19, 22.
      resolution on marked capacity, 9, 123.
Straight-face spring scales, specifications, tolerances, and regulations, 8, 219; 10, 213; 11, App. 1, 33; 21, 152; 26, 124.
Stratton, Samuel W.:
      presentation of resolutions and medallion to, 17, 108.
      resolutions:
         in memory, 25, 141.
         life and work, 15, 36.
Sugar industry, weights, 20, 35.
Supervision of-
      meats and meat products, Federal meat inspection act, 26, 132.
post office scales, 24, 97.
public markets, 16, 53; 16, 58.
Supervisional activities, 12, 57; 14, 50; 16, 53; 16, 58; 17, 85; 17, 111; 18, 44;
   19, 26; 19, 89; 21, 93; 23, 86.
Suppression of fraudulent practices, 23, 86.
Survey, weights and measures, by Department of Agriculture, 27, 16: 28, 28:
   29, 48.
Suspension scales, lever type, specifications, tolerances, and regulations, 10, 211;
   11, 152; 11, App. 1, 29.
Sweet potatoes, measurement, 16, 63.
                                                     \mathbf{T}
Tanks:
      fuel-oil storage, testing, 19, 22.
      storage, marking, resolution, 9, 123.
      vehicle, 15, 53.
            meters for-
                  air elimination, 26, 106. testing, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17.
            piping design, 31, 33.
            specifications, tolerances, and regulations, 14, 88; 16, 89; 16, 151; 17,
               100; 17, 115; 18, 25; 21, 149; 22, 71; 25, 70; 25, 76; 26, 104; 27, 98; 28, 106; 29, 65; 29, 129; 30, 107.
            testing equipments, 26, 110.
            testing, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110. valves for, 26, 98.
Taximeters:
      specifications, tolerances, and regulations, 18, 97; 18, 107; 19, 38; 22, 70;
         24, 91.
      test and inspection, 12, 85; 17, 117; 17, 121; 18, 78; 19, 31. transmission drive, 19, 31; 20, 80.
            National Bureau of Standards investigation, 21, 21.
            resolution, 21, 160.
Temperature-
      as factor in measurement of gasoline, 16, 50.
      of gasoline in underground storage, 25, 54.
 Terminal weighing of grain, 22, 65.
Test cars, railway track scale testing, 18, 176. Test weights of large denominations, 29, 35. Testing device for scales, 21, 40; 22, 75.
```

```
Testing of-
      beer barrels, 25, 113. bottles, milk and cream, 16, 47.
      capacity measures, 8, 181. pharmaceutical, 23, 74.
      clinical thermometers, 19, 48.
      containers for fruits and vegetables, dimensional method, 28, 128.
      electric meters, 10, 52; 21, 54.
      fabric-measuring devices, 15, 93.
      fruit and vegetable containers by dimensional method, 28, 128.
      fuel-oil storage tanks, 19, 22.
      gas meters, 8, 90; 21, 54.
gasoline meters, 21, 104; 22, 79; 22, 104; 24, 41.
glassware, graduated, 9, 39; 23, 74.
      grain scales, 12, 140.
      grease-measuring devices, 23, 16.
      jewelers' scales, 9, 39.
      large-capacity platform. See scales, platform.
      leather-measuring devices, 15, 44. length standards, 20, 28.
      liquefied petroleum gas dispensers, 31, 21.
      liquid-capacity measures, 8, 181
      liquid-measuring devices, 14, 64; 15, 111; 21, 104; 22, 79; 22, 104; 30, 121.
      livestock scales, 18, 55; 19, 40.
      mass standards, 19, 103.
      measures, capacity, 8, 181.
            pharmaceutical, 23, 74.
      meters:
            electric, 10, 52; 21, 54. gas, 8, 90; 21, 54.
             gasoline, 21, 104; 22, 79; 22, 104; 24, 41.
            household, fuel oil, 26, 101; 27, 24.
large-capacity, 24, 41; 26, 110; 28, 17.
taxicab, 12, 85; 17, 117; 17, 121; 18, 78; 19, 31.
vehicle-tank, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17.
water, 8, 118; 21, 54.
      milk and cream bottles, 16, 47. pharmaceutical weights and measures, 23, 74.
      platform scales. See scales, platform, postal scales, 8, 261; 17, 34; 18, 171; 24, 97. resolution, 17, 138.
      railway track scales, 10, 86; 11, 62.
      scales:
            grain, 12, 140.
jewelers', 9, 39.
livestock, 18, 55; 19, 40.
             platform, 15, 32; 18, 54; 18, 65; 19, 40; 20, 84; 21, 40; 21, 48; 22, 75;
                24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67.

by National Bureau of Standards, reports, 26, 69; 27, 45; 27, 46;
            28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. postal, 8, 261; 17, 34; 18, 171; 24, 97; resolution, 17, 138. railway track, 10, 86; 11, 62. stock, 18, 55; 19, 40.
             vehicle, 15, 32; 18, 54; 18, 65; 20, 84; 21, 48; 22, 75; 24, 130; 25, 110;
                26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99;
                31, 67.
                    by National Bureau of Standards, reports, 26, 69; 27, 45; 27, 46;
             28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. wheel-load weighers, 19, 151.
      standards:
             capacity, 8, 181. length, 20, 28.
             mass, 19, 103.
```

stock scales, 18, 55; 19, 40.

Testing of—Continued. tanks: fuel oil-storage, 19, 22. vehicle, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110. taximeters, 12, 85; 17, 117; 17, 121; 18, 78; 19, 31. thermometers, clinical, 19, 48. vehicle scales. See scales, vehicle. vehicle-tank meters, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17. vehicle tanks, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110. water meters, 8, 118; 21, 54. weighers, wheel-load, 19, 151. weights, standards and tost weights. weights, standards and test weights, 19, 103. pharmaceutical, 23, 74. wheel-load weighers, 19, 151. Thermometers, clinical: resolution on, **19**, 168. testing of, **19**, 48. Tobacco industry, weights, 20, 35.
Toilet paper and paper towels, uniform marking, 11, 113. resolution, 11, 182. Tolerances, 29, 12. and specifications. See Specifications, tolerances, and regulations. for large-denomination test weights, 29, 35. necessity for, in excess, 18, 110. on loads of coal, 26, 102. Ton: resolution on 2,000-pound, 16, 142. uniform, for coal, 15, 53; 15, 124; 16, 65. Track scales, railway track. See Scales, railway track. Trade-in scales, reconditioning, 22, 122. Trading by weight, resolution, 31, 158. Training of public officials, 26, 22. Transient vendors, regulation, 18, 121. Transmission drive for taximeters, 19, 31; 20, 80; 21, 21; resolution, 21, 160. Twine and cordage, 16, 63; 16, 71. Two-draft weighing of motor-vehicle loads, 28, 63. Type of commercial apparatus, approval. See Approval of type of commercial apparatus. Undercover buying, 25, 138; 26, 13. Uniform laws, regulations, etc., among the States, 21, 60. resolutions, 10, 186; 21, 161. Uniformity of weights and measures requirements, 28, 5; 30, 81. committee, 21, 160; 21, 161. reports, 22, 116; 24, 171. for milk and cream bottles, 15, 30; 16, 45; 16, 64; 17, 26; 30, 168. resolution, 15, 125; 17, 138. Used weighing devices, sale of, resolutions, 27, 110; 28, 52. Utility meters, regulation, 26, 145. Vegetables and fruits. See Fruits and vegetables. Vehicle scales: A. R. E. A. specifications, 25, 88; 31, 129. deflection of weighbridge members, 31, 129. end testing versus corner testing, 26, 64. local master, 31, 87. platform overhang, 31, 92. selection, installation, and maintenance, 30, 45. specifications, tolerances, and regulations, 8, 214; 9, 59; 9, 91; 10, 156; 10, 203; 10, 222; 11, 150; 11, App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25 88; 26, 122; 26, 125; 27, 75; 27, 90; 28, 26; 28, 115; 29, 72; 29, 133; 29, 140; **30**, 110; **30**, 112; **31**, 105; **31**, 106; **31**, 129.

```
22
```

Vehicle scales—Continued. testing of and testing equipment, 15, 32; 18, 54; 18, 65; 20, 84; 21, 48; 22, 75; 24, 130; 25, 110; 26, 47; 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; 31, 67. National Bureau of Standards, reports, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145. use, in highway planning survey, 27, 87. Vehicle tanks, 15, 53. meters forair elimination, 26, 106. testing, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17. piping design, 31, 33. specifications, tolerances, and regulations, 14, 88; 16, 89; 16, 151; 17, 100; 17, 115; 18, 25; 21, 149; 22, 71; 25, 70; 25, 76; 26, 104; 27, 98; 28, 106; 29, 65; 29, 129; 30, 107. testing equipments, 26, 110. testing, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110. valves, 26, 98. Vendors, transient, regulation, 18, 121. Visibility of indications ofcounter scales, 22, 117. liquid-measuring devices, 31, 108. Volumeters, research program, 29, 45. Watchmakers, certification, 27, 66. Water meters, testing, 8, 118; 21, 54. Weighbeams, 31, 71. Weighers, wheel-load: protection of highways by, 15, 26; 24, 123. specifications, tolerances, and regulations, 19, 156. testing, 19, 151. Weighingbaggage and freight, 18, 34; 18, 46. coal, 13, 182; 14, 54; 16, 123. coke, 11, 159. cotton, 16, 26; 23, 22. creamery, 9, 39; 17, 11. freight, 18, 34; 18, 46. grain, 12, 140; 22, 65. in customs service, 18, 104. in meat-packing industry, 22, 56. industrial, 11, 51; 19, 120. large-capacity, factors involved, 24, 147. live stock, 18, 55; 19, 40. motor-vehicle loads, two-draft, 28, 83. sugar, 20, 35. tobacco, 20, 35. Weighing and measuring devices: specifications, tolerances, and regulations, 24, 83; 24, 91; 30, 112. uniformity, 28, 5; 30, 81. Weighing devices, used, sale of, resolution, 27, 110; 28, 52. Weighmasters: Chicago ordinance, 27, 11. supervision, 18, 12. Weight: sale of dry commodities, 8, 106; 8, 109; 9, 147; 10, 109; 10, 189; 11, 88; 12, 212; 13, 185; 15, 17; 16, 82; 17, 37; 19, 59; 22, 13. resolutions, 8, 200; 10, 189; 12, 205; 13, 177; 16, 139; 19, 167. sale of ice cream, 18, 115; 19, 146. resolution 20, 131. sales, general resolutions on, 12, 205; 19, 167. sales by net weight, 13, 118; 16, 69.

```
Weights:
      hidden, side beams, and dial scales, 25, 134.
      pharmaceutical, testing, 23, 74.
      specifications, tolerances, and regulations, 8, 220; 9, 62; 9, 112; 10, 216; 11, 155; 11, App. 1, 41; 17, 132; 27, 96; 30, 110. standards and test weights, testing, 19, 103.
Weights and measures-
      administration:
             board of adjustment, 25, 95.
             conduct of departments, 8, 177; 10, 122; 15, 75; 16, 28; 16, 34; 18, 170;
             22, 29; 22, 62; 26, 18. contests, 28, 125.
             cooperation among officials, 21, 60; 22, 29; 23, 29.
             directing personnel, 31, 7.
             extension, 24, 72.
             fee system, 10, 134; 12, 87; 26, 9.
             in Canada, 24, 61.
             in Great Britain, 26, 83.
            national unity, 30, 6. observations, 22, 62; 23, 48; 29, 31.
            organization of departments, 8, 177; 10, 122; 15, 75; 16, 28; 16, 34; 18, 170; 22, 29; 22, 62; 26, 18. radio programs, 29, 19; 31, 44; 31, 165.
             school, weights and measures, novel form, 30, 32.
             State aids for local departments, 26, 27;
            State-wide inspection, 26, 29 survey by Department of Agriculture, 27, 16; 28, 28; 29, 48.
            undercover buying, 25, 138; 26, 13. uniformity, 28, 5; 30, 81.
      and petroleum products, 25, 62.
      cases, digest, notes on, 21, 155.
     chain store operation, aspects, 21, 79. conditions in various jurisdictions:
            abroad, 2, 35; 17, 81.
Far West, 18, 69.
             Latin-American countries, 12, 135.
             New York City, 26, 50.
             Philippine Islands, 10, 50.
     Puerto Rico, 9, 138; 17, 17.
Richmond, Virginia, 18, 39.
South, 19, 73.
Virginia, 9, 146.
contests, 28, 125.
     correspondence course, resolution, 18, 182. education, committee, 26, 164; 29, 145. reports, 30, 103; 31, 45; 31, 52. inspection, financing, 27, 25. international bureau, 17, 81.
     merit system for officials, 26, 164. model State law. See Model State
                                 See Model State law on weights and measures.
      News Letter, 30, 183.
      officials' cooperation on National Defense, 31, 2.
     periodicals, 21, 71; 30, 183. problems of local sealer, 22, 62; 26, 18.
     salesmanship, 27, 69. school, novel form, 30, 32.
      standards:
             of the United States, history, 1, 6.
            proposed legislation, 27, 1.
     resolutions, 27, 109; 28, 137. supervision, consumers' interest, 27, 16.
      survey by Department of Agriculture, 27, 16; 28, 28; 29, 48.
```

24 Miscellaneous Publications, National Bureau of Standards

Wheel-load weighers:
protection of highways by, 15, 26; 24, 123.
specifications, tolerances, and regulations, 19, 156.
testing, 19, 151.
Wood, sale, 12, 61.
Wrapped meats:
marking of net weight, 12, 145; 14, 45; 20, 121.
resolution, 11, 158.
shrinkage, 20, 121.

INDEX BY NAMES OF SPEAKERS

Adams, O. C., The Great Atlantic and Pacific Tea Co.: Weights and measures aspects of chain-store operation, 21, 79.

Alexander, Hon. Joshua W., Secretary of Commerce: Address, 13, 57.

Algeo, J. S., Glass Container Association of America: Standardization of packages, 29, 117.

Allen, Kenneth C., Hobart Manufacturing Co.: Fundamentals of scale design, 27, 55.

Allen, L. J., chief inspector of weights and measures, city of Seattle, Wash.: Heavy-capacity platform scales: Apparatus and methods for field tests, 18, 63.

Alsberg, C. L., United States Department of Agriculture: Enforcement of

net-weight amendment to the Food and Drugs Act, 9, 18; 12, 148.

Anderson, Herbert L., Federal Trade Commission: Work of the Federal Trade Commission relating to weights and measures, 22, 42.

Andresen, Hon. A. H., Member of Congress, third district, Minnesota: Weights and measures prosecutions, 19, 89.

Austin, George F., sealer of weights and measures, city of Detroit, Mich.: Inspection and regulation of taximeters, 12, 85.

Calibration of vehicle tanks in Detroit, Mich., 17, 94.

Heavy-capacity platform scales: Apparatus and methods for field tests, 18, 55.

Marked weight and shrinkage of hams and other wrapped meats 20, 124. Austin, George F., Jr., assistant supervisor, bureau of weights and measures, city of Detroit, Mich.: Inspection of weights and measures in pharmacies, 23, 74.

Austin, George F., Jr., supervising inspector of weights and measures, city of Detroit, Mich.: Broken glass, 29, 31.

Bacigalupo, A. W., inspector of weights and measures, city of Memphis, Tenn.: Safeguarding the merchant, 18, 44.

Baker, H. W., Ohmer Fare Register Co.: Transmission drive for taximeters,

20, 83.
Barnard, F. G., sealer of weights and measures, city of Battle Creek, Mich.: Regulations for the weighing of coke, 11, 159. Barnard, H. E., American Institute of Baking:

Bread legislation from the standpoint of the baker, 14, 24.

Divergence of bread-labeling requirements, 16, 98. Application of scientific methods of law enforcement, 17, 63.

Proposed tolerances for loaves of bread, 18, 143.

Barnes, Miss Margaretta, Hutzler Bros., Baltimore, Md.: Department-store con-

trol of fabric measurement, 20, 8.
Barrett, H. F., Buffalo Meter Co.: Testing of gasoline meters in the factory, **21,** 126.

Barron, R. F., commissioner of weights and measures, State of Minnesota:

Detecting shortages, securing evidence, and prosecuting offenders, 14, 50. Sale of service on the basis of weight or measure, 16, 23.

Batcheller, H. M., National Scale Men's Association: Activities of the National

Scale Men's Association, 29, 30.
Baucom, C. D., superintendent of weights and measures, State of North Carolina:
A study of the promulgation of rules and regulations as applied to the various States of the Union, 25, 38.

Air elimination for vehicle-tank meters, 26, 106. Vehicle-scale testing equipment, 28, 99; 31, 69. The function and operation of sight-glasses, 30, 15. Baumes, Harold I., League of Virginia Municipalities: The training of public officials, 26, 22.

Bean, Howard S., National Bureau of Standards:

Research program on volumeters of the ASME Special Research Committee on Fluid Meters, 29, 45.

Instruments for commercial measurement of liquefied petroleum gases. 30. 62.

Bearce, H. W., National Bureau of Standards:

Glass graduates suitable for weights and measures officials, 9, 126. Necessity for tolerances in excess as well as in deficiency, 18, 110.

The Annual Assay Commission, 25, 122. Parking meters, 28, 21. Corrections to standards, 30, 114.

Beaton, C. V., Shell Eastern Petroleum Products Inc.: Merchandising motor oil in sealed bottles, 24, 20.
Behrmann, John F., National Association of Retail Grocers: Irregular or diversi-

fied packing of farm products, 21, 53.
Bell, Raymond, United States Department of Agriculture: Wholesale sale of milk and cream, and the Babcock test, 19, 13.

Benjamin, Fred, superintendent of standards, State of Illinois: Operation of compulsory sales-by-weight statutes, 19, 59. Berka, Frank, deputy sealer of weights and measures, city and county of Los Angeles, Calif.: Testing of gasoline meters in the field, 21, 112.

Berry, Glenn L., superintendent of weights and measures, county of Monmouth, N. J.: Seasonal aspects of county weights and measures administration, 22, 62. Booth, John R., sealer of weights and measures, city of Haverhill, Mass.: Portable testing equipments for large-capacity meters and vehicle-tank compartments, **26,** 113.

Bousfield, A., E. & T. Fairbanks & Co.:

Design and construction of scales, 8, 123.

Development in heavy track-scale construction, 11, 97.

Heavy-capacity platform scales: Apparatus and methods for factory tests, **18,** 65.

Development of industry, 21, 99.

Development of large-capacity scales, 24, 99.

Boyer, L. R., Fairbanks, Morse & Company: Plate-fulcrum principle in scale construction, 20, 11.

Brand, Hon. Charles, Member of Congress, seventh district, Ohio: Standard

weight bread law, 17, 59; 19, 83.

Brenneman, O. E., chief deputy sealer, bureau of weights and measures, State of

Ohio: Not in the book, 28, 5. Bridge, M. A., sealer of weights and measures, city of Columbus, Ohio: Use of

auxiliary automobile tanks for checking gasoline deliveries, 19, 101.

Bridgeman, Oscar C., research associate at the National Bureau of Standards for the Society of Automotive Engineers: Dissolved air in gasoline, 22, 112.

Briggs, C. A., National Bureau of Standards:

Platform scales, 7, 146. Car weighing, 7, 162. Distribution of the load among the various points of support of a scale platform, 7, 169.

Notes on scales, 8, 135. Report of railroad track scale tests conducted by the Bureau of Standards, 10, 82.

Developments in specifications for railroad track scales, 12, 107.

Briggs, C. A., United States Department of Agriculture:

Heavy-capacity platform scales: Apparatus and methods for field tests,

Problems in livestock weighing, 19, 40.

Briggs, Lyman J., National Bureau of Standards:
President's address, 26, 1; 28, 1; 31, 13.

A proposal for legislation to fix the standards of weights and measures in the United States, 27, 1.

Proposes in the standardisation of large consists scales, 20, 1

Progress in the standardization of large-capacity scales, 29, 1.

Fay Stanley Holbrook—in memoriam, 30, 1.

National unity in the administration of weights and measures, 30, 6. Brooks, H. B., National Bureau of Standards: Testing of electric meters, 10, 52 Brooks, P. C., Scale and Balance Manufacturers' Association: Manufacturers attitude toward approval of type, 15, 72.

Bruckart, William, Western Newspaper Union: Dollar justice, 30, 100. Bulson, Charles H., sealer of weights and measures, county of Jefferson, N. Y.: Publicity as a means of increasing cooperation and efficiency, 17, 91.

Burgess, George K., National Bureau of Standards: President's address, 17, 2; 18, 1; 19, 1; 20, 32; 21, 1; 22, 1; 23, 1; 24, 1.

Bussey, W. S., chief, division of weights and measures, State of Texas:

The State aids in strengthening the local departments in Texas, 26, 27.

Licensing of scale mechanics, 28, 38.

Campbell, Carlos, National Canners Association: Standardization of packages, 29, 85.

Carey, L. C., United States Department of Agriculture:
The Byrd bill to consolidate Federal standard-container legislation, 25, 107. Dimensional method of testing containers for fruits and vegetables, 28, 128. Cheyney, A. R., Post Office Department: Post Office Department program for checking and maintaining accuracy of scales in service, 18, 171.

Clark, W. G., Pure Oil Co.: Merchandising motor oil in sealed bottles, 24, 16.

Cluett, W. F., chief deputy inspector of weights and measures, city of Chicago, Ill.:

Method of keeping sealers' records, 7, 90.

Proposed bread weight legislation in Illinois, 14, 30.

Enforcing sales-by-weight legislation and the elimination of the dry measure,

15, 17.

Organization and conduct of city and county departments of weights and measures, 16, 34.
Method of test of taximeters in Chicago, 17, 117.

Supervision of weighmasters, 18, 12.

Corwin, A. W., sealer of weights and measures, county of Allegany, N. Y.: Marked weight and shrinkage of hams and other wrapped meats, 20, 127. A periodical on weights and measures by the sealers' association, 21, 71. Log rules, 23, 128.

Cosby, Charles R., Label Manufacturers National Association: Standardization of packages, 29, 121.
Craig, James H., deputy secretary of internal affairs, State of Pennsylvania: Mandatory net-content marking of all commodities in package form, 19, 121. Crawford, Howard E., inspector of weights and measures, city of Jacksonville, Fla:

The problems of a local sealer in a State not having a State department of

weights and measures, 26, 18.

Parallax, 30, 131.
Crittenden, E. C., National Bureau of Standards: Address, 25, 1.
Cronin, P. D., United States Department of Agriculture: Federal laws in relation to short weight in interstate commerce, 19, 160; 19, 166.
Cruikshank, J. F., Fairbanks, Morse & Co.: Automatic-indicating scales—printed weight indications and remote weight indications, 30, 19.

Cummings, John J., inspector of standards, State of Massachusetts:

Testing leather-measuring machines, 15, 44. Testing of clinical thermometers, 19, 52.

Methods adopted for regulation of new types of devices, 20, 49.

Dalziel, William A., deputy sealer of weights and measures, State of Oregon; Progress of weights and measures in the far west, 18, 69.

Regulating the sale of eggs in Oregon, 19, 118.

Daniels, John M., chief inspector of weights and measures, department of agriculture, State of Michigan: Testing equipments for large-capacity scales, methods employed, and results obtained, 26, 59.

Dartt, Carl E., Columbia Scale Co.: Use and abuse of person-weighing scales, 23, 126.

Davis, H. N., deputy commissioner of weights and measures, State of Vermont: Flood conditions as affecting weights and measures officials in New England, 21, 153.

Testing vehicle-tank compartments by liquid meters, 23, 112.

Davis, H. N., supervisor, division of weights and measures, State of Vermont: Vehicle-scale testing equipment, 31, 69.

Dawson, J. J., inspector of standards, State of Massachusetts:

Testing of clinical thermometers, 19, 52.

Promotion of interest in weights and measures supervision by essay contests among school children, 21, 62.

Dewey, Philip H., secretary of internal affairs, State of Pennsylvania: Remarks. 24, 61.

Dickinson, H. C., National Bureau of Standards: Gasoline losses in storage and handling, 25, 55.

Dickinson, Hon. John, Assistant Secretary of Commerce: Address, 25, 61.

Discrio, Matthew J., deputy commissioner, department of public markets, weights, and measures, city of New York, N. Y.: Testing equipment for

large-capacity scales, methods employed, and results obtained, 26, 50.

Downing, F. P., chief inspector of weights and measures, State of Wisconsin:

Creamery, prescription, and jewelers' weighing and measuring appliances,

9, 39.

Downing, F. P., United States Department of Agriculture: Movement toward obtaining standard shipping containers for marketing fresh fruits and vege-

tables, 12, 89.

Drake, Fred R., National Wholesale Grocers' Association: Metric system, 9, 27. Draper, Hon. Ernest G., Acting Secretary of Commerce: Address, 26, 73.

Durgin, William A., National Bureau of Standards: Standardization and simplification, 16, 94

Egy, W. L., W. & L. E. Gurley: Difficulties encountered by manufacturers of

Egy, W. L., W. & L. E. Gurley: Difficulties encountered by manufacturers of precision standards due to nonuniform requirements, 15, 102.

Ellingwood, Lloyd, Toledo [Scale Co.: "Selection, Installation, and Maintenance of Vehicle Scales"—a sound-slide treatment of Form NBS 256, 30, 45.

Emery, J. Q., superintendent of weights and measures, State of Wisconsin: Maintenance of accuracy of scales in creameries, 17, 11.

Emhardt, Edwin C., supervisor, bureau of weights and measures, county of Philadelphia, Pa.: A board of adjustment, 25, 95.

Engelhard, Charles H., superintendent of weights and measures, county of Middlesex, N. J.: Vehicle-tank piping design, 31, 33.

Epright, A. W., Pennsylvania Railroad: Railroad track scales. 6.67.

Railroad track scales, 6, 67.

Railroad supervision of baggage and freight scales, 18, 46.

Plate-fulcrum master scale installation at Altoona works of Pennsylvania Railroad, 20, 15.
Morris L., Jewelers' Board of Trade, New York, N. Y.: Fraudulent

marking of jewelry, 17, 140.

Essig, A., National Meter Co.: Testing of gasoline meters in the factory, 21, 119. Estes, Howard R., sealer of weights and measures, city of Flint, Mich.:

Temperature as a factor in the measurement of gasoline, 16, 50.

Heavy-capacity platform scales: Apparatus and methods for field tests, 18,

Bottles for the sale of lubricating oil, 19, 17.

Fairchild, I. J., National Bureau of Standards: Ferner, R. Y., National Bureau of Standards: Commercial standards, 21, 66. Testing of capacity measures, 8, 181.

Ferris, C. H., National Bottle Manufacturers' Association: Divergence of re-

quirements affecting milk bottles, 15, 30.

Fetherston, Franklin R., Liquefied Petroleum Gas Association, Inc.: Measurement problems of the liquefied petroleum gas distribution industry, 30, 65.

Fischer, Louis A., National Bureau of Standards:

Secretary's report, 5, 12; 6, 13; 7, 16; 8, 15; 9, 15; 10, 46; 11, 83; 12, 25; 13,

History of United States weights and measures, 1, 6. Foreign weights and measures laws and regulations, 2, 35. Mine scale work of the Bureau of Standards, 14, 57.

Fitzgerald, F. F., Can Manufacturers Institute, Inc.: Standardization of packages, 29, 112.

Flaherty, Thomas, sealer of weights and measures, city and county of San Francisco, Calif.: Use of auxiliary automobile tanks for checking gasoline deliveries, **19,** 99.

Flurry, H. L., chief, division of weights and measures, State of Alabama:

Solving weights and measures problems in the South, 19, 73. Methods adopted for regulation of new types of devices, 20, 50.

Foley, J. Harry, superintendent of weights and measures, State of New Jersey: Elimination of sales by gross weight, 16, 69.

New Jersey sale-by-weight law, 17, 37.

Methods adopted for regulation of new types of devices, 20, 47.

Foster, William, sealer of weights and measures, city of Springfield, Mass.:
Organization and conduct of city and county departments of weights and measures, 16, 36.

Testing of gasoline meters in the field, 21, 104. Frisbie, W. S., United States Department of Agriculture:

Net-content marking of packages under Federal food and drugs act, 24, 158. The weights and measures provisions of the Copeland bill to revise the Federal food and drugs act, 25, 119.

Weights and measures requirements of the Federal food, drug, and cosmetic

act, 29, 5. General regulations of the Federal food, drug, and cosmetic act, relative to net weight, 30, 135.

Fuller, Robert L., chief sealer of weights and measures, city of Dallas, Tex.: Salesmanship in the weights and measures field, 27, 69.
Fuller, Charles M., sealer of weights and measures, county of Los Angeles, Calif.:

Enforcement of bread legislation, including proper tolerances, 14, 37. Organization and conduct of city and county departments of weights and

measures, 16, 39. Measurement of petroleum products, 19, 57.

Devices for dispensing greases and similar products, 20, 70.

Equipment for testing large-capacity meters for petroleum products, 24, 41.

Vehicle-scale testing equipment, 28, 96.
Weights and measures regulation of liquefied petroleum gases, 30, 71.

Testing liquefied petroleum gas meter systems by the gravimetric method,

Fullmer, I. H., National Bureau of Standards: Gages and gaging, 24, 125.

G

Gast, Fred W., United States Treasury Department: Weighing in the customs service, 18, 104.

Gatewood, Lieut. Col. C. B., United States Army: Work of the Ordnance De-

partment, 12, 99. Gordon, B. B., Pennsylvania Railroad: Inspection and testing of track scales,

11, 62. Gordon, E. D., National Bureau of Standards: Progress of track-scale investigation, 12, 64.
Gould, R. E., Horological Institute of America: Certification of watchmakers by

the Horological Institute of America, 27, 66. Greene, Edward L., National Better Business Bureau, Inc.: The business man and the weights and measures official, 21, 93.

Griffith, C. P., S. F. Bowser & Co., Inc.:

Testing of gasoline meters in the factory, 21, 117.

Air elimination for large-capacity meters, 31, 25.

Griffith, S. T., chief, division of weights and measures, city of Baltimore, Md.:

Personal element in our work, 18, 170.

How the public is educated in Baltimore, 20, 84.

Calibrating valviels tanks by large apparents assessment 22, 115.

Calibrating vehicle tanks by large-capacity measures, 23, 115.

The control of "bootleg" coal, 25, 129.

Paper measure-containers, 28, 44.

H

Hadlick, Paul E., American Petroleum Institute: Cooperation with weights and measures officials, 23, 29.
Hall, Thomas, National Association of Ice Cream Manufacturers: Methods of sale for ice cream, 19, 148.

Halsey, F. A., American Institute of Weights and Measures: Metric system, 12, 112.

Hammon, Frank L., director, bureau of weights and measures, State of Idaho. New vehicle-scale testing equipment of Idaho, 28, 19.

Hardwick, Hon. Thomas W., chairman, committee on coinage, weights, and measures, House of Representatives: Address, 7, 54.
Harrison, M. J. J., National Bureau of Standards: Mine scales and mine-scale

investigation, 12, 161.
Harrison, M. J. J., National Scale Men's Association:

Standardization activities of the N. S. M. A., 23, 136.

End testing versus corner testing for motor-truck scales, 26, 64. Harrison, M. J. J., Pennsylvania Railroad:
Factors involved in large-capacity weighing, 24, 147.

Tolerances, 29, 12.

Fay Stanley Holbrook-in memoriam, 30, 5.

Weighbeams, 31, 71.

Harrison, M. J. J., American Railway Engineering Association: Motor-truck scales and National Scale Men's Association activities, 25, 88.

Hartigan, Joseph, commissioner, mayor's bureau of weights and measures, city of New York.: Serialization of type, 9, 164.

Haskell, W. C., superintendent of weights, measures, and markets, District of Columbia: Difference in the amount of a bushel of a commodity when sold by measure, 8, 109. Hawkins, C. E., sealer of weights and measures, city of Springfield, Mass.:

Development of single-service measure-containers, 31, 41.

Hawkinson, C. F., National Scale Men's Association: N. S. M. A. Bulletin No. 1, on repair of heavy-capacity scales, 22, 33.

Hayman, H. V., assistant sealer of weights and measures, city of Norfolk, Va.: Local "master" vehicle scales, 31, 90.

Hedwall, F. H., Boston and Maine Railroad: Installation and maintenance of track scales, 11, 73.

Hem, H. O., Toledo Scale Co.:

Automatic scales 12, 73

Automatic scales, 12, 73.

Regulation of new types of devices, 20, 58.

Activities of the National Scale Men's Association, 28, 9.

Hem, H. W., Toledo Scale Co.

A new scale-testing device, 21, 40.

Automatic-indicating scales—printed weight indications and remote weight

indications, 30, 26.

Henrichson, W. T., meter inspector, division of weights and measures, State of Texas: Supervision of gas, electric, and water meters in Texas, 21, 54. Henry, H. H., commissioner of weights and measures, State of Vermont: Func-

tions of a State sealer, 8, 177. Higbee, L. C., W. & L. E. Gurley: Difficulties encountered by manufacturers of precision standards due to nonuniform requirements, 15, 102.

Hinds, Sherwood, St. Louis Pump & Equipment Co.: Regulation of new types of devices, 20, 64. Holbrook, F. S., National Bureau of Standards:

State legislation, résumé, 7, 18. Weights and measures of Puerto Rico, 9, 138.

Standard barrel law, 10, 176.

History of legislation in re approval of type, 15, 66.

Method of test in conformance with specification No. 8 for liquid-measuring devices, 15, 115.

Present status of negotiations toward obtaining uniform regulations for milk bottles, 16, 45.

Decision of the United States Supreme Court on Nebraska bread law, 17, 51.

Practicability of proposed sale of commodities on basis of moisture-free ingredients, 18, 154.

Visible devices for indication of full delivery, and drainage period of liquid-

measuring devices, 20, 95. Report as Secretary of Conference—résumé of State legislation, 22, 36.

Drainage characteristics of lubricating-oil bottles, 24, 22.

Present status of standard-weight bread legislation, 24, 162.

Newly installed motor-truck scales, 28, 88.

Holland, P. L., chief engineer, public service commission, State of Maryland:

The regulation of utility meters, 26, 145.

Holmes, Edward H., United States Department of Agriculture: The use of vehicle scales in the highway planning survey, 27, 87.

Holmes, John, Swift & Co.: Weighing in the meat-packing industry, 22, 56.

Holton, Elliott B., assistant superintendent of weights and measures, State of

New Jersey: Supervision over the buying of old gold, 25, 36.

Holwell, Joseph J., commissioner, mayor's bureau of weights and measures, city of New York, N. Y.:

Federal regulation of weighing and measuring devices, 12, 134.

Weights and measures education in the schools, 13, 167.

Relationship between weights and measures officials, merchants, and manufacturers, 15, 75.

Manner of sale of cordage, 16, 71.

Hoover, Hon. Herbert, Secretary of Commerce: Address, 14, 79; 15, 25; 16, 76; 17, 135; 18, 74; 19, 116.

Hortigan, J. B., United States Department of Agriculture: Interstate status of package goods, 17, 47.

Horton, C. F., National Bureau of Standards:

Method of test and inspection of vehicle scales developed by the National Bureau of Standards, 28, 75.

Reminiscences, 31, 145.

Hosch, G. Carlton, Measuregraph Co.: Machine measurement for fabrics, 11, 117.

Hovey, V. F., National Association of Ice Cream Manufacturers: Shall ice cream be sold by weight? Viewpoint of the manufacturer, 18, 129.

Hubbard, Henry D., National Bureau of Standards: Graphical presentation of

data in annual reports, 23, 95.

Hubbard, M. A., supervisor of weights and measures, State of Virginia: scale testing equipment, 31, 70.

Hunter, P. J., chief inspector, bureau of weights and measures, county of Allegheny, Pa.: Local "master" vehicle scales, 31, 89.

Intermann, E. A. G., Jr., New Jersey Retail Ice Cream and Candy Manufacturers' Association: Shall ice cream be sold by weight? Viewpoint of the

retailer, 18, 133.

Irvine, T. L., superintendent of weights and measures and oil inspection, city of Salt Lake City, Utah: Destination weighing of coal from the standpoint of the official, 14, 54.

Jarrett, Howard S., commissioner of weights and measures, State of West Virginia: Scope and preparation of annual reports, 23, 92.

State requirements for net-content marking of packages other than food packages, 24, 42.

Johnson, Charles G., superintendent of weights and measures, State of California: Proper publicity for a weights and measures department, 11, 45.

Net weight, 13, 118. Judson, L. V. National Bureau of Standards:

International Bureau of Weights and Measures and general impressions of weights and measures abroad, 17, 81. Testing of standards of length, 20, 28.

Kanzer, Barnett, director, bureau of weights and measures, State of New York:
 Vehicle-scale testing equipment, 28, 100.
 Keene, A., United States Taximeter Corporation: Transmission drive for

taximeters, 19, 34.

Kelly, Dennis, sealer of weights and measures, city of Bridgeport, Conn.: Heavy-capacity platform scales: Apparatus and methods for field tests, 18, 57.
Kennedy, Ridgway, International Association of Ice Cream Manufacturers:
Standardization of ice-cream cans, brick molds, and cartons, 22, 24.
Kerr, Robert H., United States Department of Agriculture: Supervision over meats and meat products under the Federal Meat Inspection Act, 26, 132.

Klein, Hon. Julius, Assistant Secretary of Commerce: Address, 23, 57. Klocker, C. L., inspector of weights and measures, State of Connecticut:

Vehicle-scale testing equipment, 28, 94; 31, 67.

Retail sale of commodities by weight or measure, 29, 16.

Klueter, Harry, assistant dairy and food commissioner, State of Wisconsin: Regulation of sale of ice cream in Wisconsin, 18, 137.

Kremer, C. J., Retail Bakers' Association of America: Bread-weight legislation

and the retail baker, 16, 104.

Kyrk, Hazel, American Home Economics Association: Standardization of packages, 29, 85.

Lamb, J. G., Scott Paper Co.: Need of a uniform method of marking toilet paper. **11,** 113.

Lamont, Hon. Robert P., Secretary of Commerce: Address, 22, 47.

Lang, Martin L., commissioner of weights and measures, State of Indiana: Sealed cans for dispensing lubricating oil, 25, 65.

Lawrence, David, The United States Daily:

The press and the official, 20, 39.

Radio talk on National Conference on Weights and Measures, 20, 67.

Lawrence, E. Kent, Baltimore and Ohio Railroad: Origin and destination weighing of coal in carload lots, 16, 123.

Lazo, Hector, Cooperative Food Distributors of America: Standardization of packages, 29, 89.

Letzkus, C. R., National Scale Men's Association: Activities of the National Scale Men's Association, 27, 71.

Levitt, John J., superintendent, division of standards, State of Illinois: Testing equipments for large-capacity scales, methods employed, and results obtained,

26, 54. Lewis, Herbert B., Brown and Sharpe Manufacturing Co.: The viewpoint of industry concerned with interchangeable manufacturing toward the proposal to standardize the inch, 28, 2.

Liles, J. E., inspector of weights and measures, State of Texas: Vehicle-scale testing equipment, 28, 95. Lindsay, C. A., Howe Scale Co.: Heavy-capacity platform scales:

and methods for factory tests, 18, 67.

Lohmann, Henry, National Association of Retail Grocers: The retail grocer, 23, 69.

Lutze, August, sealer of weights and measures, city of Sheboygan, Wis.: Cooperation between State and local weights and measures departments, 16, 28.

McAllister, A. S., National Bureau of Standards: The labeling and certification plan in connection with Federal specifications, 25, 42.

McBride, John P., director of standards and necessaries of life, State of Massachusetts: Fay Stanley Holbrook—in memoriam, 30, 3.

McCarty, J. G., National Scale Men's Association: Activities of the National

Scale Men's Association, 30, 78.

McGrady, W. B., chief, bureau of standards, State of Pennsylvania: Pennsylvania serialization law, 15, 60.

Valia serialization law, 15, 60.

McLin, DeForest, inspector of weights and measures, county of Huntington, Ind.: The itinerant scale mechanic, 24, 154.

McWilliams, Arthur, chief, division of dairies and foods, State of Ohio: Elimination of short weight and measure, 17, 85.

Mackall, John N., Maryland State Roads Commission: Protection of highways by means of portable weighing devices, 15, 26.

MacLean, A. D., Pittsburgh Equitable Meter Co.: Testing of gasoline meters in the factory, 21, 122.

Maroney, Edward J., sealer of weights and measures, city of New Haven, Conn.:

Maroney, Edward J., sealer of weights and measures, city of New Haven, Conn.: Problems arising in the supervision of public markets, 16, 53. Heavy-capacity platform scales: Apparatus and methods for field tests,

18, <u>5</u>8.

Mayer, Harry, National Scale Men's Association: Activities of the National Scale Men's Association, 31, 18.

Meads, Albert H., Toledo Scale Co.: Proposed amendments to specifications

for scales, 11, 107.

Meek, J. H., director, division of markets, State of Virginia:

Marked weight and shrinkage of hams and other wrapped meats, 20, 121. Some comments on cooperation among weights and measures officials, 21, 60. How are the benefits of State-wide inspection best to be secured?, 26, 29. Proposed Federal legislation in relation to the financing of weights and measures inspections, 27, 25.

Meek, Rollin E., chief, bureau of weights and measures, State of Indiana: The appearance in trade of liquid measures of nonstandard sizes, 27, 103.

Vehicle-scale testing equipment, 31, 67. Meredith, Francis, director of standards, State of Massachusetts:

Testing vehicle-tank meters, 23, 108.

Equipment for testing large-capacity scales, 24, 136.

Meyer, J. Franklin, National Bureau of Standards: Labeling of incandescentfilament lamps, 28, 13.

Miller, I. L., commissioner of weights and measures, State of Indiana:

Attitude of the Middle West toward the abolition of bushel weights, 16, 82. Enforcement of the Indiana bread law, 17, 40.

Operation of compulsory sales-by-weight statutes, 19, 61. Observations on certain air-operated gasoline-meter installations, 22, 104. Sale of chemically treated coal, 23, 66.

Equipment for testing large-capacity scales, 24, 130.

Mills, J. B., Ohmer Fare Register Co.: Transmission drive for taximeters, 19, 36.

Moller, Col. I. L., traffic department, District of Columbia: Portable devices designed for determining the axle loads of loaded trucks on highways, 19, 151. Montgomery, D. E., United States Department of Agriculture:

Consumers' interest in adequate weights and measures supervision, 27, 16. Surveying weights and measures from the consumers' viewpoint, 28, 28.

The consumer looks at weights and measures administration, 29, 48.

Moore, G. Denny, Gasoline Pump Manufacturers Association: Testing, servicing,

and repair of liquid-measuring devices, 30, 121. Moore, George B., chief inspector of weights and measures, county of Allegheny,

Pa.:

Organization and conduct of city and county departments of weights and measures, 16, 41.

Heavy-capacity platform scales: Apparatus and methods for field tests,

18, 64. Moran, J. J., Kimble Glass Co.: The manufacture of precision glassware, 31, 54. Morgan, Cleo C., sealer of weights and measures, city of Gary, Ind.: A novel

form of weights and measures school, 30, 32.

Mote, John M., assistant chief inspector of weights and measures, State of Ohio:
Reasons for standard-weight loaves of bread and enforcement of Ohio standard-

weight bread law, 15, 88.

Mueller, E. F., National Bureau of Standards: Testing of clinical thermometers, 19, 48.

N

Nagel, Hon. Charles, Secretary of Commerce and Labor: Address, 5, 8; 6, 111; 7, 11.

Neale, Charles C., commissioner of weights and measures, State of Minnesota:

Seals and methods of sealing, 8, 204.

Demonstration showing the necessity of maintaining scale levers level and lever connections plumb, 9, 34.
Weight standardization of bread, 13, 115.
Neale, Charles C., Toledo Scale Co.: Weighing in industry, 19, 120.
Neale, Charles C., Wayne Pump Co.: Fay Stanley Holbrook—in memoriam, 30, 4. Norgord, C. P., assistant commissioner of agriculture and markets, State of New York: Some observations on weights and measures administration, 23, 48.

O'Keefe, James, sealer of weights and measures, city of Chicago, Ill.:

Chicago ordinance, in relation to vehicle-tank meters and the enforcement thereof, 26, 104.

Recent decisions involving the Chicago weighmaster ordinance, 27, 11.

Fay Stanley Holbrook—in memoriam, 30, 3.

Directing the personnel of a weights and measures department, 31, 7. Vehicle-scale testing equipment, 31, 70.

P-Q

Palmer, Arthur W., United States Department of Agriculture: Sale of cotton by net weight, and standardization of the bale, 23, 22.

Parry, William, National Bureau of Standards:
Notes on digest of weights and measures cases, 21, 155.

Legal status of rules and regulations as established by decisions of the courts, **22,** 132.

Patterson, Hon. Richard C., Jr., Assistant Secretary of Commerce: Address, 28, 41.

Paul, Lawrence, chief, bureau of weights and measures, city of Richmond, Va.: Problems arising in the supervision of public markets, 16, 58.

Payne, William A., sealer of weights and measures, county of Monroe, N. Y.: Equipment for testing large-capacity scales, 24, 133.

Peffer, E. L., National Bureau of Standards:

Proposed method for testing milk and cream bottles, 16, 47.

Gauging of fuel-oil storage tanks, 19, 22.

Methods for investigating reported short deliveries of fuel oil, 22, 96.

Perkins, Hon. Randolph, chairman, committee on coinage, weights, and measures, House of Representatives: Address, 23, 46.

Pienkowsky, A. T., National Bureau of Standards: Testing standards of mass

(office standards and test weights), 19, 103.

Pisciotta, Alex, deputy commissioner, department of public markets, weights, and measures, city of New York, N. Y.: Recently enacted ordinance requiring licensing of scale repairmen, 27, 62.

Pisciotta, Alex, director, bureau of weights and measures, city of New York, N. Y.: Demonstration of fuel-oil meter-testing equipment of the city of

New York, 28, 17.

R

Rafferty, James J., collector of internal revenue for the Philippine Islands: Weights and measures conditions in the Philippine Islands, 10, 50.

Ragland, B. W., chief, bureau of weights and measures, city of Richmond, Va.: Activities of bureau in Richmond, 18, 39.

Gasoline meter installations in a ramp garage, 22, 79. Temperature of gasoline in underground storage, 25, 54.

Promoting contests, 28, 125. Rask, R. O., National Scale Men's Association: Recent activities of the National Scale Men's Association, 26, 46.

Rasmussen, Fred, National Association of Ice Cream Manufacturers: ice cream be sold by weight? Viewpoint of the manufacturer, 18, 122. The weights and measures

Reck, Dickson, Office for Emergency Management:

officer and the program for national defense, 31, 2.
Redfern, E. L., sealer of weights and measures, State of Iowa: Training the prospective housewife, 19, 86.
Redfield, Hon. William C., Secretary of Commerce: Address, 8, 12; 9, 11; 10, 13;

11, 13; 12, 119.

Reed, Willard E., superintendent of weights and measures, city of Newark, N. J.:

The testing of beer barrels, 25, 113.

Regar, R. S., Post Office Department: Supervision of Post Office scales, 24, 97.

Reichmann, Fritz, superintendent of weights and measures, State of New York: Content of container law, 8, 79.

Reichmann, Fritz, former superintendent of weights and measures, State of New York:

Selection and maintenance of apparatus in industrial plants, 11, 51. Machine measurements in retail dry goods stores, 13, 169.

Richard, C. L., National Bureau of Standards:

Test car accuracy, 18, 176. Two-draft weighing of motor-vehicle loads, 28, 63.

The effects on SR of packing pivots and bearings with grease, 30, 88. Platform overhang of vehicle scales, 31, 92.

Richard, C. L., National Scale Men's Association: Current activities of National Scale Men's Association, 24, 168.

Richards, W. S., Glass Container Association of America: The manufacturer of lubricating-oil bottles, 24, 15.

Roberts, George M., superintendent of weights, measures, and markets, District of Columbia:

Retail sale of coal and coke, 16, 127.

Regulatory activities of a weights and measures department, 19, 26.

Coin-controlled person-weighing scales, 22, 128.

Undercover buying as an aid to law enforcement, 25, 138. The fee system of inspection of weights and measures, 26, 9.

Roeser, H. M., National Bureau of Standards: What the Bureau of Standards is doing to increase the accuracy of weighing

revenue freight, 18, 34.
Testing methods and tolerances for portable devices designed for determining the axle loads of loaded trucks on highways, 19, 153.

Notes on apparatus for testing heavy-capacity scales, 20, 84. Installation of Bureau of Standards master scale, 21, 44.

Roeser, H. M., Streeter-Amet Company: Automatic-indicating scales—printed weight indications and remote weight indications, 30, 22.

Rogers, Joseph G., secretary, department of weights and measures, State of New Jersey:

Shall ice cream be sold by weight? Viewpoint of the weights and measures official, 18, 115.

New equipment for testing heavy-capacity scales in New Jersey, 21, 48.

Rogers, Joseph G., assistant superintendent and secretary, department of weights and measures, State of New Jersey: Twisted strands, 30, 81.

Roper, Hon. Daniel C., Secretary of Commerce: Address, 27, 84.

Rowe, Sumner C., United States Department of Agriculture: Deceptive containers, 30, 138.

Roylance, William M., Western Fruit Jobbers Association of America: Sales by weight, 10, 109.

Runkel, H., United States Department of Agriculture: Enforcement of law in the marking of weights on wrapped meets 14, 45.

re marking of weights on wrapped meats, 14, 45.

Saldaña, E. J., executive secretary of Puerto Rico:

Administration of weights and measures in Puerto Rico, 17, 17.

Weights in the sugar and tobacco industries, 20, 35.

Sauthoff, Hon. Harry, Member of Congress, second district, Wisconsin: Remarks relative to standardization of containers for canned foods, 27, 35. Schlink, F. J., National Bureau of Standards:

Automatic scales, 10, 95.

Liquid-measuring pumps, 11, 57; 11, App. 2. Schmitz, J. A., Chicago Board of Trade:

Problem of weights in the handling of grain, 12, 140. Developments in terminal weighing of grain, 22, 65.

Schwartz, A. W., assistant superintendent of weights and measures, State of New Jersey:

Standardization of containers for foodstuffs and the marking of the weight

of commodities in package form, 13, 122. Heavy-capacity platform scales: Apparatus and methods for field tests,

Air releases on power-operated gasoline-dispensing units, 23, 105.

Searle, F. A., Landers, Frary, and Clark: Regulation of new types of devices, 20, 61.

Sener, A. G., Sanitary Scale Co.: Reconditioning rejected or trade-in scales, 22, 122.

Seraphin, Theo. A., district supervisor of weights and measures, city and county of Philadelphia, Pa.:

Use of auxiliary automobile tanks for checking gasoline deliveries 19, 95.

Testing of gasoline meters in the field, 21, 110.
Sharp, Benjamin M., chief clerk bureau of weights and measures, city and county of Philadelphia, Pa.: System of keeping records, 10, 171.

Sherman, John H., superintendent of weights, measures, and markets, District of Columbia: Weights and measures work from the standpoint of the effi-

ciency engineer, 10, 122.

Siren, J. N., Sr., inspector of weights and measures, State of Louisiana: Weighing of cotton, 16, 26.

Skinner, W. W., United States Department of Agriculture: Work in relation to

ice cream of the Joint Committee on Definitions and Standards, 18, 135.

Small, A. R., Underwriters' Laboratories: Gasoline pumps from the standpoint

of safety, 13, 59.

Smedley, William, Retail Merchants' Association of Pennsylvania: The Retail merchant, 17, 111.

Smith, Albert B., chief, bureau of standard weights and measures, State of Pennsylvania.

sylvania: Raising the standard for local weights and measures officials, 22, 29. Smith, Archie T., inspector, department of weights and measures, State of New Jersey: Testing equipments for large-capacity scales, methods employed, and results obtained, 26, 47.

Smith, C. P., sealer of weights and measures, county of Suffolk, N. Y.: New

testing device for large-capacity scales, 22, 75.

Smith, Ernest N., American Automobile Association: Cooperative program of the American Automobile Association, 22, 86.
Smith, Leslie C., National Association of Ice Industries: Short weighing in ice

scales, 12, 77.

Smith, Ralph W., deputy commissioner of weights and measures, State of Minnesota: Uniformity of State laws in weights per bushel of commodities, 8, 106. Smith, Ralph W., chief inspector of weights and measures, State of Wisconsin:

Mechanical versus supervisional weights and measures work, 12, 57. Smith, Ralph W., National Bureau of Standards:

Testing of liquid-measuring devices, 14, 64.
Proposed procedure for field test of fabric-measuring devices, 15, 93.

Evaporation of gasoline from delivery hose of liquid-measuring devices, 15, 111.

Bureau of Standards investigation on commercial filling of milk and cream bottles, 16, 43.

Uniformity of regulations for milk bottles, 17, 26. Proposed method of test of taximeters, 18, 78.

Bureau of Standards investigation on the transmission drive for taximeters,

Notes on grease-measuring devices, 23, 16.

Extension of weights and measures supervision, 24, 72.

Federal specification AAA-S-121 for weighing scales, 25, 23.

Drainage characteristics of dispensers for canned lubricating oil, 26, 76. Report on the testing of vehicle scales by the National Bureau of Standards in cooperation with the States, 27, 46; 28, 81; 29, 57; 30, 35; 31, 61. Test weights of large denominations, 29, 35.

Snyder, A. Edward, inspector of weights and measures, city of Terre Haute, Ind.: The value of weights and measures radio programs, 29, 19.

Souder, Wilmer, National Bureau of Standards: Identification by precision

methods of comparison and measurement, 22, 49.

Spilman, H. A., United States Department of Agriculture:

Federal Standard Container Act of 1928, 22, 13; 23, 53. Consolidation and amendment of Federal Standard Container legislation,

The consolidated Standard Container Bill, 30, 8.

Staples, George H., inspector of weights and measures, State of Minnesota: Salary system versus fee system of inspection, 12, 87.
Starr, M. H., Howe Scale Co.: Effect on scale design of highway and motor-truck design, 22, 82.

Stephenson, John H., sealer of weights and measures, city of Rochester, N. Y.:

Testing of gasoline meters in the field, 21, 115. Stillman, M. H., National Bureau of Standards: Testing of dry gas meters, 8, 90. Stratton, S. W., National Bureau of Standards:

President's address, 1, 5; 2, 5; 4, 5; 5, 7; 6, 7; 7, 15; 8, 15; 9, 12; 10, 17; 11, 16; 12, 15; 13, 13; 14, 16; 16, 16.

Address memorializing Louis Albert Fischer, 1864–1921, 15, 2.

Stratton, S. W., Massachusetts Institute of Technology: Address, honorary president of Conference, 17, 89.

Straus, Hon. Oscar S., Secretary of Commerce and Labor: Address, 3, 55.

Stringer Anthur National Association of Broadcesters: "You're on the sir" 31, 44.

Stringer, Arthur, National Association of Broadcasters: "You're on the air," 31, 44.

Strobridge, Edward K., sealer of weights and measures, county of Alameda, Calif.: Heavy-capacity platform scales: Apparatus and methods for field tests, 18, 59. Testing equipments for large-capacity scales, methods employed, and results obtained, 26, 58.

Strong, L. P., chief, division of weights and measures, State of Michigan:

Regulating the fruit crop in Michigan, 20, 133.

Wheel weighers on highways, 24, 123. Stroop, D. V., American Petroleum Institute: Weights and measures and petro-

leum products, 25, 62. Stutz, W. F., National Bureau of Standards: Testing of water meters, 8, 118. Sweeney, James A., sealer of weights and measures, city of Boston, Mass.: Meeting

the problem of peddlers and transient vendors, 18, 21.

Swoger, William F., director, bureau of standard weights and measures, State of Pennsylvania: Methods adopted for regulation of new types of devices, 20, 43.

T-U

Theilmann, R. H., inspector of weights and measures, State of Arizona: Progress of weights and measures in the Far West, 18, 71. Thompson, W. E., supervisor of scales, State of Minnesota: Heavy-capacity

platform scales: Apparatus and methods for field tests, 18, 60.

Tinkey, J. C., deputy State sealer, State of Ohio:

Side-beam and hidden-weight scales, 23, 134.
Side beams, hidden weights, and dial scales, 25, 134.
Trump, R. J., Controller, Standards Department, Board of Trade of England:
Weights and measures administration in Great Britain, 26, 83.

Tucker, C. E., chief, division of weights and measures, State of California: California gasoline and oil substitution act, 28, 134.

Coordination between departments in relation to interstate shipments, 29, 9.

Van Keuren, H. L., National Bureau of Standards: Method of adjusting railroad

track scales, 10, 86.
Vanderslice, J. M., district supervisor, bureau of weights and measures, county of Philadelphia, Pa.:

Suppression of fraudulent practices, 23, 86. Testing equipment for large-capacity scales, 25, 110.

Vestal, Hon. Albert H., chairman, committee on coinage, weights, and measures, House of Representatives:

Approval of type, 15, 57.

Veth, Albert, Fair Scale Company: The installation and maintenance of largecapacity scales, 26, 38.

Votaw, G. A., commissioner of markets, weights, and measures, city of Cleveland, Ohio: Scoring machines for ice, 20, 22.

Walsh, J. L., commissioner of weights and measures, city of New York, N. Y.:

Federal regulation of weighing and measuring apparatus, 8, 85.

Warner, George, chief inspector of weights and measures, State of Wisconsin:

Wisconsin equipment for testing heavy-capacity scales, 15, 32.

Heavy-capacity platform scales: Apparatus and methods for field tests,

Methods adopted for regulation of new types of devices, 20, 56.

Standardization of packages of canned foods, 27, 36.

Way, E. O., director, weights and measures inspection service of Canada: Administration of weights and measures in Canada, 24, 61.

Weaver, E. R., National Bureau of Standards: Physical properties of liquefied

petroleum gases, 30, 48.

Webster, H. A., commissioner of weights and measures, State of New Hampshire: Sale of wood, 12, 61. Weibley, John W., Pittsburgh Taximeter Co.: Transmission drive for taxi-

Wells, W. C., Pan American Union: Weights and measures of Latin-American countries, 12, 125.
West, Hon. Charles, Member of Congress, seventeenth district, Ohio: Address, 24, 77.

Wheeler, Hon. William R., Assistant Secretary of Commerce and Labor: Address, 4, 77.
White, W. T., director, bureau of weights and measures, State of New York:

Education of public to appreciation of necessity for accuracy, 14, 21. Wholesale deliveries of gasoline, with special reference to vehicle tanks,

15, 53. White, Walter G., commissioner of weights and measures, State of New Hampshire: Portable testing equipments for large-capacity meters and vehicle-tank compartments, 26, 110.

Williams, Arthur P., National-American Wholesale Grocers' Association: Stand-

ardization of packages, 29, 104.

Williams, William O., deputy sealer of weights and measures, county of Trumbull, Ohio: Sealer's responsibility relative to person-weighing scales, 24, 106. Wilson, S. H., State oil chemist, State of Georgia: Nontax-paid gasoline, 25, 50. Winslow, M. H., Winslow Government Standard Scale Works, Inc.: Heavy-capacity platform scales: Apparatus and methods for factory tests, 18, 68. Witt, Louis E., sealer of weights and measures, city of Milwaukee, Wis.: Local "master" vehicle scales, 31, 87.

LIST OF CONFERENCE REPORTS

Notes.—The Reports of the proceedings of the several meetings of the National Conference on Weights and Measures may be purchased, as long as sales copies are available, from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices indicated. The purchase order, accompanied by the proper remittance (stamps are not accepted), should be sent direct to the Superintendent of Documents.

Reports of the National Conference may be consulted at many of the Government depository libraries located throughout the United States. A list of the names and locations of Government depository libraries will be supplied without cost upon application to the National Bureau of Standards.

Reports of the National Conference on Weights and Measures

Designation in NBS Miscellaneous Series of publications	Number of conference	Date of conference	Purchase price 1
M4	1	1905	Cents
M5	2	1906	
M6	$\frac{2}{3}$	1907	
M7	4	1908	
M8	5 .	1910	
M9	6	1911	
M10	. 7	1912	
M11	8	1913	
M12	9	1914	
M13	10	1915	
M14	11	1916	35
M41	12	1919	20
M43	13	1920	20
M48	14	1921	20
M51	15	1922	15
M55	16	1923	30
M59	17	1924	35
M70	18	1925	50
M74	19	1926	60
M80	20	1927	45
M87	21	1928	35
M101	22	1929	30
M116	23	1930	35
M129	24	1931	50
M156	25	1935	
M157	26	1936	20
M159	27	1937	15
M161	28 .	1938	30
M164	29	1939	25 55
M167	30 31	1940 1941	35
M170	91	1941	30

¹ Where the price is not given, the publication is no longer available for purchase.



