DEPARTMENT OF COMMERCE

MISCELLANEOUS
PUBLICATIONS
OF THE
NATIONAL
BUREAU
OF
STANDARDS

NOS. 241-246







INDEX

TO

THE

REPORTS

of the National Conference on Weights and Measures

From the First to the Forty-fifth 1905 to 1960



U.S. Department of Commerce National Bureau of Standards Miscellaneous Publication 243



Index to the Reports of the National Conference on Weights and Measures

From the First to the Forty-fifth 1905 to 1960

Prepared by the

OFFICE OF WEIGHTS AND MEASURES



National Bureau of Standards Miscellaneous Publication 243

Issued June 28, 1962

(Supersedes Miscellaneous Publication 203)

FOREWORD

Over the past 55 years a great deal of information on a wide variety of weights and measures subjects has been published in the Reports of the National Conference on Weights and Measures. The present publication is designed to aid the users of these Reports in locating information on a specific subject or presented by a particular speaker. It comprises a subject index and an index by speaker for the proceedings of each Conference from the First, in 1905, through the Forty-fifth, in 1960. It thus supersedes National Bureau of Standards Miscellaneous Publication 203, which provided an index of the Conference Reports from the First through the Thirty-sixth.

A. V. Astin, Director

Contents

	Page
Foreword	II
Introduction	1
Index by subjects	3
Index by names of speakers	45
List of Conference Reports	73



Index to the Reports of the National Conference on Weights and Measures

From the First to the Forty-Fifth (1905 to 1960)

Introduction

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 the 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.
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-faced italic type; immediately following, and printed in ordinary light-faced 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 carries over from one session of a Con-

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

ference to a subsequent session, or when a presentation is interrupted

73.



Index by Subjects

A

Accuracy requirements for quantity declarations, 41, 82.

Accurate livestock weights—important to agriculture, 40, 47.

Acetylene gas in cylinders, method of sale of, 39, 63.

Addresses of:

Assistant Director, National Bureau of Standards, 25, 1.

Assistant Secretary of Commerce, 23, 57; 25, 61; 28, 41; 38, 1.

Chairman of Conference, 43, 4; 44, 5; 45, 4.

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; 32, 6; 33, 1; 34, 1; 35, 1; 36, 1; (37, 2); 37, 71; 38, 4; 39, 3; 40, 4; 41, 3; 42, 1; 43, 6; 44, 7; 45, 7.

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; 41, 1; 43, 1; 44, 1; 45, 1.

Secretary of Internal Affairs, State of Pennsylvania, 41, 5; 44, 12.

Under Secretary of Commerce, 39, 1; 40, 3; 42, 1.

Adjustments by weights and measures officials, 34, 163.

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.

Administration of weights and measures—Continued

fee system, 10, 134; 12, 87; 26, 9.

improvement of, in United States, 42, 50; 43, 89.

in Alaska, 42, 116; 44, 69.

in Canada, 24, 61; 36, 7; 42, 44.

in France, 44, 77.

in Germany, 43, 11.

in Great Britain, 26, 83; 36, 15; 42, 22.

in Puerto Rico 42, 90.

in United States, improvement of, 42, 50; 43, 89.

national survey on, 42, 60.

national unity in, 30, 6.

observations on, 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; 35, 103; 35, 105; 35, 107.

radio programs, 29, 19; 31, 44; 31, 165.

school, weights and measures, novel form of, 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. symposium on, 42, 105; 43, 110; 44,

117; 45, 133.

undercover buying, 25, 138; 26, 13. uniformity of, 28, 5; 30, 81.

Administrative support for weights and measures, 43, 112.

Advisory committee, weights and measures, to National Bureau of Standards:

establishment of, 39, 12.

nominations for, 40, 26; 41, 16; 42, 12. reports of, 40, 100; 41, 14; 42, 56; 43, 28; 44, 62; 45, 29.

Aerosol:

bomb-type containers, method of sale of, 44, 112; 45, 32.

commodities, weights and measures in, 45, 77.

Aerosols:

glossary of terms, 45, 85.

minimum fills, 45, 84.

premarketing product check, 45, 82.

Agriculture, weights and measures program in a State department of, 40, 13.

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 Force, weights and measures standards used by, 45, 61.

Air releases on liquid-measuring devices, 23, 105.

Alaska, administration of weights and measures in, 42, 116; 44, 69.

Alcohol, Federal quantity requirements for, 41, 23.

Alcoholic beverages, containers for, resolution on, 31, 158.

Alloys, dental, method of sale of, 40, 97. American Automobile Association coop-

erative program, 22, 86. American Petroleum Institute, report on automotive transportation, 32, 23.

Ammonia, anhydrous, method of sale of, 38, 76.

Anhydrous ammonia, method of sale of, 38, 76.

Animal scales, tolerances for, 41, 167. Annual reports of officials, 23, 92.

Approval of pattern (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; 45, 33; 45, 139.

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.

Approval seals, weights and measures, 39, 65; 40, 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 of, 23, 57; 25, 61; 28, 41; 38, 1.

Attendance honor awards, National Conference, 40, 21.

presentation of, 41, 10; 42, 11; 43, 4; 44, 4; 45, 3.

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 of, 30, 19.

specifications for, 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117.

Automatic package-weighing machinery, 38, 40; 41, 52.

Automatic packaging scale, 41, 52.

Automatic-recording scales, 30, 19.

Auxiliary automobile tanks for checking gasoline deliveries, use of, 19, 95; 19, 99.

Awards, attendance honor, National Conference, 40, 21.

presentation of, 41, 10; 42, 11; 43, 4; 44, 4; 45, 3.

Axle-load scales:

specifications, tolerances, and regulations for, 38, 89.

Axle-load weighing:

current situation in, 41, 145.

investigation of, 39, 72.

Axle loads on highway vehicles, resolutions on investigation for determination of, 37, 89; 38, 98; 40, 124.

B

Babcock:

glassware, specifications and tolerances for, 19, 157.

test for milk and cream, 19, 13.

Baggage and freight scales, railroad supervision of, 18, 34; 18, 46.

Balances. See also Scales.

National Bureau of Standards, 1,000-pound, 40, 31.

State, specifications for, 45, 57. Banana market, the, 45, 23.

INDEX BY SUBJECTS Barbecued chickens, method of sale of, Bottles-Continued 43, 50. milk and cream-Continued uniformity of requirements for, 15, Barrel: beer: 30; 16, 45; 16, 64; 17, 26; 30, 168. Federal quantity requirements for, resolutions on, 15, 125; 17, 138. 41, 23. sizes for, 9, 146. Boxes, berry, specifications and tolerances for, 9, 59; 9, 79; 9, 90; 10, testing of, 25, 113. 199. standard: law. 9, 53: 9, 56: 10, 176. Bread: Nebraska decision on, 17, 51. resolution on, 8, 223. shrinkage of, 18, 164. Baskets: standard weight, legislation, 13, 115; berry, specifications and tolerances 13, 188; 14, 24; 14, 72; 14, 80; for, 9, 59; 9, 79; 9, 90; 10, 199. 14, 83; 15, 88; 16, 98; 16, 112; Federal law on (1928), 22, 13; 23, 53; 17, 40; 17, 51; 17, 76; 18, 143; 23, 65. 18, 154; 19, 83; 24, 162; 26, 34; standard, resolution on, 19, 168. 26, 95. Beams, side, on counter scales, 22, 117; resolutions on, 13, 174; 19, 170. 23, 134. tolerances for, 14, 37; 14, 84; 15, 79; Bed sheets, method of sale of, 45, 32. 15, 91; 16, 112; 17, 51; 17, 63; Beer: 17, 126; 18, 143; 18, 154; 18,163. barrels. See Barrel, beer. Brick molds for ice cream, standardiza-Belt conveyor scales, 37, 65. tion of, 22, 24. Berry baskets or boxes. See Baskets. resolution on, 23, 144. Board of adjustment, 25, 95. Briggs, Lyman J., President, National Bottles: Conference on Weights and Measalcoholic beverage, resolution on, 31, ures, 25, 4. 158. resignation of, 32, 4. lubricating-oil, 19, 17; 24, 15; 24, 138. Budget increases, justification for: drainage characteristics of, 24, 22. general considerations, 42, 112. resolutions on, 19, 170; 23, 144. workload statistics, 42, 115. specifications and tolerances for, Building a State program, 40, 15. 20, 71; 20, 137; 21, 142; 22, Bureau of Standards. See National Bureau of Standards. 70; 23, 124; 24, 27; 24, 178; 25, 103; 32, 86. Burgess, George Kimball: milk and cream, 32, 66. life and work of, 25, 2. resolution in memory of, 25, 141. capping, system for, 36, 92. filling of, National Bureau of Bushel weights (See also Dry com-Standards investigation on, modities, sale by weight of), 8, 106; 16, 43. 8, 109; 16, 82; 22, 13. paper, 27, 115; 31, 109. Butter, tolerance and shrinkage on, 16, specifications and tolerances for, 9, 60. 58; 9, 73; 9, 113; 10, 140; 10, Butterfat-test scales, 9, 39. 147; 10, 196; 11, 134; 11, specifications, tolerances, and regu-

lations for, 8, 220; 9, 62; 9, 111;

10, 216; 11, 153; 11, App. 1, 36;

17, 132; 22, 72.

App. 1, 11; 17, 128; 22, 121;

25, 99; 26, 128; 31, 103.

testing of, 16, 47.

C

Calibration of:

tank cars, 35, 145.

volumetric standards, 34, 75.

California:

Gasoline and Oil Substitution Act, 28, 134.

weights and measures in, a consumer view, 45, 126.

Canada, weights and measures administration in, 24, 61; 42, 44.

Canned:

foods, standardization of containers for, 27, 35.

resolutions on, 27, 109; 28, 137. poultry, 39, 31.

Cans:

ice cream, standardization of, 22, 24. lubricating oil, drainage characteristics of, 26, 76.

sealed, for dispensing lubricating oil, 25, 65.

Capacity measures. See Measures, capacity.

Carat, resolution on, 8, 223.

Carry-out meals, method of sale of, 43, 50.

Cartons:

ice cream, standardization of, 22, 24. resolution on, 23, 144.

tomato, retail, 37, 5.

Cedar closet lining in package form, method of sale of, 39, 63.

Centigrade temperature scale, use of, in government publications, 11, 39.

Central programme for weights and measures in Canada, 42, 44.

Certificates, uniform weight, for shipment of household goods, 40, 125.

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

Chain-store operation, weights and measures aspects of, 21, 79.

Chairman of Conference, addresses of, 43, 4; 44, 5; 45, 4.

Charcoal briquets, method of sale of, 41, 135.

Check-weighing scales, 39, 29.

Cheese:

in plastic wrappings and casings, method of sale of, 37, 76; 44, 112.

Limburger, net weight of, 31, 135.

Chemicals from petroleum (petrochemicals)—their composition, handling, and quantity control, 41, 31.

Chicago plan for consumer education, 43, 23.

Chickens:

barbecued, method of sale of, 43, 50. canned, 39, 31.

Chips, hickory wood, method of sale of, 39, 63.

Citations of court decisions, 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156.

City and county departments, organization and administration of, 16, 34; 22, 29; 22, 62; 26, 18.

Civil service protection for sealers, necessity for, 8, 77.

resolutions on, 8, 223; 26, 164.

Clinical thermometers:

resolution on, 19, 168.

testing of, 19, 48.

Cloths, wiping, 34, 124; 35, 122; 37, 55. Coal:

bootleg, control of, 25, 110; 25, 129. chemically treated, 23, 66.

resolution on, 23, 144.

interstate trucking of, 31, 140.

quality of, 18, 186.

resolution on, 16, 149.

retail sale of, 16, 127; 23, 66.

tolerances on loads of, 26, 102.

uniform ton for, 15, 53; 15, 124; 16, 65.

resolution on, 16, 142.

weighing of, 13, 182; 14, 54; 16, 123.

Coffee, packages of, 36, 98.

Coke:

retail sale of, 16, 127; 26, 100. weighing of, 11, 159.

Commercial:

measurement in the United States, 45, 12.

standards, 21, 66.

Committees. See entries as follows:

Advisory committee, weights and
measures, to National Bureau of
Standards.

Assistance to the States, committee on.

Commodities, methods of sale of, committee on.

Constitution and by-laws, committee

Education, weights and measures, committee on.

Executive committee.

Flour, special committee on.

Laws and regulations, committee on. Legislation, committee on.

Methods of sale of commodities, committee on.

Resolutions, committee on.

Specifications and tolerances, committee on.

Standardization of packaged goods, committee on.

Standing committees.

Trading by weight, committee on.
Uniform regulations, committee on.
Uniformity in weights and measures
requirements, committee on.

Commodities:

dry. See Dry commodities. methods of sale of, 30, 130; 30, 167; 32, 28.

committee on, reports of, 31, 118; 32, 27; 33, 41; 34, 112; 35, 122; 36, 92; 37, 57; 37, 72; 38, 75; 39, 61; 40, 94.

retail sale of, by weight or measure, 29, 16.

tolerances for, 34, 137.

Communications in weights and measures enforcement, 44, 41.

Compartment indicators, multiple, for vehicle tanks, 38, 93.

Computing scales:

money-value increments on, 44, 91. money-value tolerance on, 44, 90.

specifications, tolerances, and regulations for, 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; 42, 90.

Richmond, Virginia, 18, 39.

South, 19, 73.

Virginia, 9, 146.

Condon, Edward U., resignation as President of Conference, 37, 1.

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 of, 18, 73. Conference (proposed), international, on legal metrology, 38, 72.

Conspicuousness and prominence of quantity statements on package labels, 43, 125.

Constitution and by-laws, 26, 99.

committee on, 5, 89; 20, 134; 25, 144.
reports of, 5, 119; 9, 115; 10, 58;
10, 110; 10, 114; 11, 168; 21,
74; 26, 148.

Consumer:

education, Chicago plan for, 43, 23.

interest:

legislation in, 43, 31.

symposium on, 43, 31.

protection, 44, 105.

labor's stake in, 45, 122.

view of weights and measures in California, 45, 126.

Container Act, Federal Standard, of 1928, 22, 13; 23, 53; 23, 65; 39, 53; 39, 60; 39, 89.

resolution on, 39, 91.

Containers:

alcoholic beverage, resolution on, 31, 158.

consolidation and amendment of Federal laws on, 24, 44; 25, 107; 30, 8.

deceptive, 30, 138.

fruit and vegetable, 12, 89; 22, 13; 23, 53; 23, 65; 39, 53; 39, 60; 39, 89.

Containers—Continued

fruit and vegetable—Continued

dimensional method of testing, 28, 128.

resolution on, 39, 91.

standardization of, 32, 18.

glass, 32, 67.

measure, 35, 162.

paper, for milk, 27, 115; 31, 109; 38, 22; 40, 103; 40, 107.

resolutions on net content marking of, 4, 59; 7, 144; 19, 160.

standardization of, 6, 46; 6, 134; 12, 89; 13, 122; 13, 189; 27, 35; 32, 18

resolutions on, 19, 168; 27, 109; 28, 137.

transparent, 33, 141.

Contests, weights and measures, 28, 125.

Control:

of packages, State authority in, 43, 103.

of weights on prepackaged products, 43, 74; 43, 97; 44, 121.

quantity, on production lines, 43, 97. Conveyor, belt, scales, 37, 65.

Cooked poultry, method of sale of, 42, 101; 43, 50.

Cooperation among weights and measures officials, 21, 60; 22, 29; 23, 29.

Cooperative program of public relations and education, 40, 23.

Coordination:

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

of State, county, and city activities, 44, 117.

Cordage and twine, 16, 63; 16, 71. method of sale of, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102.

Cordage-measuring devices, 36, 100. specifications, tolerances, and regulations for, 37, 82.

Corrections to standards, 30, 114. Cotton:

standardization of bale, 23, 22. weighing of, 16, 26; 23, 22.

Counter scales:

side beams on, 22, 117; 23, 134.

specifications, tolerances, and regulations for, 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 of, 16, 34; 22, 29; 22, 62; 26, 18.

Court:

cases:

preparation of, 41, 17. technicalities in, 38, 63.

decisions, citations to, 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156.

Cream-test scales, specifications, tolerances, and regulations for, 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.

Crimping ribbon, method of sale of, 41, 140.

Current position of:

Food and Drug Administration regarding labeling of packing house products, 43, 96.

U.S. Department of Agriculture regarding labeling of packing house products, 43, 93.

U.S. Department of Agriculture regarding labeling of poultry and poultry products, 45, 71.

Current situation in highway axle-load weighing, 41, 145.

Customs service, weighing in, 18, 104.

D

Dairy products, fluid, special units for, 43, 46; 44, 111.

Deceptive:

containers, 30, 138.

packaging, 43, 37; 44, 99; 45, 109. resolution on, 43, 108.

Decimal:

fractions of pounds, statement of scale tolerances in, 42, 79.

graduation of scales, 39, 60.

Decisions, court, citations to, 19, 68; 20, 80; 23, 120; 26, 160; 27, 107; 31, 156.

Definition, new, of the international meter, 44, 9.

Dental alloys, method of sale of, 40, 97. Design of scales, 8, 123.

effect of highway and motor-truck design on, 22, 82. fundamentals of, 27, 55.

Development of:

large-capacity scales, 24, 99.

weights and measures control in the United Kingdom, 42, 22.

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.

Distilled spirits, Federal quantity requirements for, 41, 23.

Drafts, testing, for wholesale liquidmeasuring devices, 38, 93.

Drainage characteristics of:

dispensers for canned lubricating oil, 26, 76.

lubricating-oil bottles, 24, 22.

Dry capacity measures:

abolition of (See also Dry commodities, sale by weight of), resolution on, 16, 146.

specifications and tolerances for, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; 24, 91.

Dry commodities:

sale by weight of, 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.

E

Education:

and public relations, cooperative program of, 40, 23; 44, 45.

consumer, Chicago plan for, 43, 23.

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

reports of, 30, 103; 31, 45; 31, 52; 32, 51; 33, 115; 34, 71; 35, 99; 36, 47; 37, 39; 38, 56; 39, 32; 40, 27; 41, 97; 42, 41; 43, 21; 44, 24; 45, 16.

weights and measures, in England, 36, 15.

Educational activities and publicity (See also Education, weights and measures, 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 on, 12, 206.

resolutions on motion pictures, 38, 100; 41, 171.

Eggs, regulating sale of, 19, 118.

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

Electricity meters, 10, 52; 21, 54.

Electromagnetic flowmeter, 39, 42.

Electronic:

scales, 38, 52.

weighing, 35, 43.

Emblem, National Conference, 30, 167; 31, 52; 31, 139; 31, 161.

Enforcement:

law, philosophy of, 45, 87.

of package-marking requirements, 42, 109.

uniformity of, 34, 90.

weights and measures, national survey on, 42, 60.

England, weights and measures education in, 36, 15.

Envelopes and stationery, method of sale of, 39, 63; 45, 32.

Equipment, testing, developments in, 45, 133.

Essay contests among school children, 21, 62.

Establishing a Burcau of Standards in Oklahoma, 45, 137.

Evaporation of gasoline from delivery hose, 15, 111.

Evidence, obtaining, and preparing a case for court, 41, 17.

Evolution of gasoline pumps, 39, 32.

Exchange of information with other weights and measures officials, 42, 110.

Executive committee:

membership on, resolution on, 20, 134. reports of, 39, 71; 40, 19; 41, 23; 43, 61; 44, 39; 45, 41; 45, 145.

reports on meeting of, 37, 90; 38, 101; 39, 92; 40, 110; 41, 140, 42, 104; 43, 109; 44, 116; 45, 132.

Exhibit, manufacturers', at Conference, 17, 106.

Exhibits, weights and measures, 39, 32. Experiment in farm milk tank gaging and testing, 40, 112.

Extension of weights and measures administration, 24, 72.

Extraordinary terms:

on containers for ice cream, 40, 94. used in sale of commodities, 41, 135; 43, 135.

F

Fabric-measuring devices:

method of test of, 15, 93.

specifications and tolerances for, 14, 87; 15, 126; 16, 118; 17, 21; 21, 149; 22, 69; 44, 88.

use of, 11, 117; 13, 169; 20, 8; 39, 64. Facial tissues, 34, 117.

Factors contributing to package fill variation, 40, 35.

Farm holding tanks. See Farm milk tanks.

Farm milk tanks, 37, 20; 39, 44; 39, 46; 40, 112.

experiment in gaging and testing of, 40, 112.

gaging and testing experiment on, 40, 112.

Farm milk tanks—Continued

specifications, tolerances, and regulations for, 38, 90; 39, 82; 41, 166; 41, 167; 45, 98.

surface gaging of, 39, 44.

testing and gaging experiment on, 40, 112.

Farm products, irregular or diversified packing of, 22, 53.

Federal aid in weights and measures programs, 34, 105.

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 of, 25, 23. technical committee on weighing and measuring devices of, 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:

and consumers, 45, 116.

its authority, its activities, 44, 93.

weights and measures work of, 22, 42.

Fee system of inspection, 12, 87; 26, 9. resolution on, 10, 134.

Fertilizers, liquid:

meters for, specifications, tolerances, and regulations for, 43, 69; 44, 88.

method of sale of, 38, 76; 38, 77; 39, 61; 40, 94; 41, 137; 42, 103.

Fill variation of packages, 40, 35.

Financing a weights and measures organization, 33, 145.

Fischer, Louis Albert, address memorializing, 15, 2.

Fish:

fresh frozen, method of sale of, 42, 101.

frozen, 33, 33; 33, 37; 33, 39; 33, 40.

in plastic wrappings and casings, method of sale of, 37, 75; 44, 112. Flour:

packages, decimal weight, resolution on, 12, 205.

packaging of, progress report on, 41, 72.

shrinkage on, 34, 65.

special committee on, reports of, 39, 58; 40, 87; 44, 26.

weights of, 37, 7; 38, 32; 44, 106.

Flowmeter, electromagnetic, 39, 42.

Fluid dairy products, special units for, 43, 46; 44, 111.

Following through on Conference actions, 43, 120; 45, 40.

Food and Drug Administration:

activities of, 32, 16.

survey on net weight of packaged food, 45, 101.

Food and Drugs Act (Federal):

enforcement of net weight amendment to, 9, 18; 12, 148.

weights and measures provisions of Copeland bill to revise, 25, 119.

Food, Drug, and Cosmetic Act, weights and measures requirements of, 29, 5; 30, 135.

Food packages:

Food and Drug Administration survey on net weight of, 45, 101.

resolutions on, 43, 107; 43, 108.

standardization of, 37, 14; 38, 68; 41,

weight supervision of, in Wisconsin, 44, 121.

when the responsibility of the State, 41, 110.

Food, prepackaged, 38, 12; 39, 22; 39,

Food products, shrinkage losses on, 43,

Food store, duties of an inspector in, 35, 36.

Forms, report:

for the weights and measures official, 41, 35.

standardization of, 34, 76.

Fractional-ounce terms and markings on packages, 37, 63; 39, 63.

France, weights and measures administration in, 44, 77.

Fraudulent practices, 17, 140; 23, 86; 27, 24; 29, 9.

Freight and baggage scales, railroad supervision of, 18, 34; 18, 46.

Freight weighing, National Bureau of Standards activities relating to, 18, 34.

From John Quincy Adams to Madison Ave., U.S.A., 44, 99.

Frozen Food Institute, Inc., 33, 29.

Frozen foods, 33, 17; 33, 33; 33, 37; 33, 39; 33, 40; 33, 42; 34, 113; 42, 101.

Fruit and Vegetable Branch, USDA, regulatory responsibilities of, 33, 133.

Fruit crop in Michigan, regulation of, of, 20, 133.

Fruits and vegetables. See also Containers.

dimensional method of testing containers for, 28, 128.

in paper cartons, method of sale of, 41, 138; 42, 102.

method of sale of, 11, 88; 41, 138; 42, 102.

packing of, irregular or diversified, 22, 53.

standard containers for, 12, 89; 22, 13; 23, 53; 23, 65; 39, 53; 39, 60; 39, 89.

resolutions on, 19, 168; 39, 91.

Fuel oil:

domestic sales of, 33, 161.

household meters for, testing of, 26, 101; 27, 24.

methods for investigating short deliveries of, 22, 96.

preheated, method of sale of, 37, 72; 38, 77; 39, 63.

storage tanks, testing of, 19, 22.

Full measure, 44, 73.

G

Gages and gaging, 24, 125.

Gaging of farm milk tanks, experiment in, 40, 112.

Gaging, surface, of farm milk tanks, 39, 44.

Gallon, meaning of, on temperature compensated meters, 45, 32.

Garlic buds, method of sale of, 40, 94.

Gas, liquefied petroleum, 30, 48.

instruments for commercial measurement of, 30, 62.

measurement problems of distribution industry, 30, 65.

physical properties of, 30, 48.

testing dispensing systems for, by gravimetric method, 31, 21.

weights and measures regulation of, 30, 71; 31, 21.

Gas meters, 8, 90; 21, 54.

Gasoline:

air dissolved in, 22, 112.

deliveries, use of auxiliary automobile tanks for checking, 19, 95; 19, 99.

dispensing systems, remote control, 38, 69.

evaporation of, from delivery hose, 15, 111.

losses of, in storage and handling, 25, 55.

measurement of, 16, 50; 19, 57.

measuring devices. See Liquid-measuring devices.

meters:

testing of, 21, 104; 22, 79; 22, 104; 24, 41.

twin, 24, 138.

non-tax-paid, 25, 50.

pump industry, 32, 56.

pumps:

evolution of, 39, 32.

performance of, 38, 82; 38, 95.

temperature as factor in measurement of, 16, 50.

temperature of, in underground storage, 25, 54.

wholesale deliveries of, in vehicle tanks, 15, 53.

Gasoline and Oil Substitution Act of California, 28, 134.

Gear lubricants, method of sale of, 39, 62.

General code of specifications, tolerances, and regulations, 41, 149; 42, 76; 43, 63; 44, 80.

General regulations for weighing and measuring devices, 30, 112.

Germany, weights and measures administration in, 43, 11.

Glasses for liquor, 31, 143.

Glassware, precision, manufacture of, 31, 54.

Gold, old, supervision over buying of, 25, 34.

Graduates, glass:

for weights and measures officials, 9, 126.

pharmaceutical, 45, 41.

specifications and tolerances for, 11, 132; 11, App. 1, 7; 17, 127; 20,

testing of, 9, 39; 23, 74.

Graduation:

decimal, of scales, 39, 60.

of prepackaging scales back of zero, 44, 91.

Grain:

developments in terminal weighing of, 22, 65.

moisture determinations on, 44, 47. resolution on, 43, 106.

problems in weighing of, 12, 140.

trading in, on weight basis (See also Trading by weight, committee on, reports of), 42, 94; 42, 97; 43, 51; 45, 33.

resolution on, 42, 99.

weighing of, 37, 30.

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

specifications, tolerances, and regulations for, 21, 83; 21, 165; 22, 71; 22, 89; 23, 41; 23, 63; 24, 141; 31, 104; 39, 80.

Great Britain, weights and measures administration in, 26, 83; 42, 22.

Gross weight:

elimination of sales by, 13, 118; 16, 69. sale of meats by, resolution on, 39, 91.

H

Halibut fletches, fresh frozen, method of sale of, 42, 101.

Hampers, standard:

Federal law (1928) on, 22, 13; 23, 53; 23, 65.

resolution on, 19, 168.

ards publications):

37—resolution adopting, 33, 173.

44-reprint of, 39, 88.

45—resolution adopting, 36, 113.

67—resolution adopting, 44, 115.

Hassler, Ferdinand Rudolph, in memoriam, 33, 137.

Hawaii, resolution on, 45, 132.

Hav, sale of, 18, 72.

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

Hickory wood chips, method of sale of, 39, 63.

Highway:

axle-load weighing, current situation in, 41, 145.

planning survey, use of vehicle scales in, 27, 87.

truck weighing, 38, 25.

resolution on, 41, 171.

vehicles, resolution on investigation for determination of axle-loads on, 37, 89; 38, 98; 40, 124.

History of the standard weights and measures of the United States, 1, 6.

Holbrook, Fay Stanley, in memoriam. 30, 1.

memorial tablet to, 31, 1.

resolution on, 30, 61.

Holding tanks, farm. See Farm milk tanks.

Homogenized concentrated milk, method of sale of, 37, 72.

Honor awards, attendance, National Conference, 40, 21.

presentation of, 41, 10; 42, 11; 43, 4; 44, 4; 45, 3.

Hopper scales, specifications, tolerances, and regulations for, 42, 79.

Horological Institute of America, certification of watchmakers 27, 66.

Hose, evaporation of gasoline from, 15, 111.

Household goods, uniform weight certificates for shipment of, 40, 125. Hub odometers, 22, 119.

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

Handbook (National Bureau of Stand- Hundredweight or bushel as trading unit for grain. (See also Trading by weight, committee on, reports of), 42, 94; 42, 97; 43, 51; 45, 33 resolution on, 42, 99.

T

Ice:

scoring machines for, 2θ , 22. shortages in sales of, 12, 77.

Ice cream:

cartons, 22, 24.

resolution on, 23, 144.

containers, liners in, 39, 63.

method of sale of, 18, 115; 32, 88; 33, 73; 36, 35; 37, 58; 38, 82.

report of special committee on, 19,

resolution on, 20, 131.

molds, 22, 24.

resolution on, 23, 144.

on sticks, 36, 97.

prepackaged, measure-containers for, 38, 20.

specifications, tolerances, and regulations for, 37, 76.

regulation of, in Wisconsin, 18, 137. sale by weight of:

in Salt Lake City, 37, 48.

viewpoint of manufacturer on, 18, 122.

viewpoint of retailer on, 18, 133.

viewpoint of weights and measures official on, 18, 115.

standardization of cans, brick molds, and cartons for, 22, 24.

resolution on, 23, 144.

work of Joint Committee on Definitions and Standards on, 18, 135.

Ices on sticks, 36, 97.

Identification by precision methods of comparison and measurement, 22,

Implementation of Conference actions, 43, 120; 45, 40.

Improvement of weights and measures administration in United States, 42, 50; 43, 89.

Impulse indicators, 45, 99.

Inch (United States), standardization Investigation by National Bureau of of, 28, 2; 44, 9. Indicators: impulse, 45, 99. multiple, for vehicle-tank compartments, 38, 93. Industrial weighing, 33, 107. Industry: development of, 21, 99.

weighing apparatus in, 11, 51; 19, 120. Insignia, National Conference, 30, 167; 31, 52; 31, 139; 31, 161.

Inspectors, performance of, 38, 82. Installation and maintenance of:

large-capacity scales, 26, 38; 30, 45. pit scales, 45, 97.

railway track scales, 11, 73.

International:

Bureau of Weights and Measures, 17,

meter, new definition of, 44, 9.

Organization of Legal Metrology, 37, 19; 39, 69.

proposed international conference on, 38, 72.

resolution on, 38, 90.

pound, 44, 9.

resolution on, 44, 114.

yard, 44, 9.

resolution on, 44, 114.

Interpretations:

by committee on specifications and tolerances, 40, 121; 41, 167; 44, 88; 44, 89.

uniformity of, 34, 90.

Interstate:

commerce, 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 on:

filling of milk and cream bottles, 16,

scales:

axle-load weighing, 39, 72. mine, 12, 161; 13, 182; 14, 57. railway track, 10, 82; 12, 64; 13, 182; 18, 34.

Standards on-Continued

scales—Continued

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, the, 24, 154.

J-K

Jewelers' scales, 9, 39.

Jewelry, fraudulent marking of, 17, 140. Job descriptions for weights and measures personnel, 41, 99.

Justification for budget increases: general considerations, 42, 112.

workload statistics, 42, 115.

Keeping laws and regulations modern, 43. 115.

L

Labeling:

and certification plan in connection with Federal specifications, 25,

deceptive, on food packages in interstate commerce, resolution on, 43, 108.

electric light bulbs, 28, 13.

resolution on, 27, 110.

meat products, wholesale, 35, 148. poultry and poultry products, USDA position on, 45, 71.

prepackaged merchandise, 35, 91.

Labor's stake in consumer protection, **45**, 122.

Large-capacity meters. See Meters. large-capacity.

Large-capacity scales. See Scales: largecapacity; platform; vehicle.

Latin-American countries, weights and measures conditions in, 12, 135.

Laws:

and regulations committee on, reports of, 41, 135; 42, 100; 43, 46; 44, 111; 45, 32.

Laws-Continued Liquefied petroleum gas-Continued enforcement of, philosophy of, 45, 87. liquid-measuring devices, specifications, tolerances, and regulations keeping them modern, 43, 115. model State. See Model State law for, 37, 83; 38, 89; 41, 154; 42, 87; 43, 66. on weights and measures. measurement problems of distribuweights and measures, of Maryland, 36, 31. tion industry for, 30, 65. Leather-measuring devices, testing of, metering systems for: problems in testing, 34, 28. 15, 44. Legal: proving of, 40, 51; 42, 72. metrology: in Miami, Florida, 39, 52. progress report on, 39, 54. international organization of, 37, 19:39,69. methods of sale of, 35, 128. resolution on, 39, 90. physical properties of, 30, 48. supervision over sales of, 34, 36. proposed international conference on, 38, 72. testing dispensing systems for, by gravimetric method, 31, 21. status of rules and regulations as established by court decisions, units of measurement for, 34, 22. vapor meters for, 35, 159. 22, 132. Legibility of quantity declaration, 41, weights and measures regulation for, 30, 71; 31, 21. Legislation: Liquid capacity measures: nonstandard sizes of, 24, 137; 27, 103. committee on, 29, 145. reports of, 30, 163; 31, 110; 32, 52; specifications and tolerances for, 8, 211; 9, 58; 9, 68; 10, 195; 11, 33, 123; 34, 19; 35, 21; 36, 58; 37, 43; 38, 67; 39, 50; 40, 78. 130; 11, App. 1, 3; 21, 149; 22, in the consumer interest, 43, 31. 120; 25, 59; 39, 79. weights and measures, national surtesting of, 8, 181. vey on, 42, 60. Liquid fertilizers, method of sale of, 38, Length: 76; 38, 77; 39, 61; 40, 94; 41, 137; measures. See Linear measures. **42**, 103. standards, testing of, 20, 28. Liquid-measuring devices, 11, 57; 11, Level and plumb conditions, demonstra-App. 2; 12, 169; 13, 59; 15, 111; tion of necessity for, 9, 34. 20, 95; 24, 138. Licensing of scale repairmen and meair releases on, 23, 105. chanics, 27, 62; 28, 38. conversion of, 34, 45. resolution on, 27, 110. drafts, testing, for, 38, 93. Limburger cheese, net weight on, 31, performance of, 38, 82; 38, 95. 135. price signs on, 32, 107. Linear measures, specifications, tolerremote control of, 38, 69. ances, and regulations for, 8, 210; servicing, testing, and repair of, 30, 9, 57; 9, 68; 10, 193; 11, App. 1, 121. 4; 17, 127; 21, 148; 24, 91; 39, 77; sight glasses for, 40, 79. 44, 87. specifications, tolerances, and regu-Liners in ice cream containers, 39, 63. lations for, 8, 211; 10, 196; 11, Liquefied petroleum gas, 30, 48; 34, 22; App. 1, 10; 12, 184; 12, 223; 13, 39, 70; 40, 51. 64; 13, 83; 13, 127; 13, 142; 13, dispensing equipment for, retail, 36, 193; 14, 89; 14, 93; 14, 104; 14, 22. 116; 14, 119; 14, 123; 15, 120; distribution of, 33, 86. 17, 133; 19, 127; 20, 102; 21, instruments for commercial measure-128; 22, 70; 22, 101; 23, 123; 24, ment of, 30, 62. 91; 24, 140; 24, 147; 25, 82; 25,

80; 43, 65; 44, 84; 44, 86; 45, 97. testing of, 14, 64; 15, 111; 21, 104; 22, 79; 22, 104; 30, 121; 36, 25; 36,

108. visibility of indications of, 31, 108. wholesale:

testing drafts for, 38, 93. tolerances for, 38, 94; 42, 83.

Liquor, glasses for, 31: 143.

Livestock:

marketing, State cooperation in a national program for, 39, 19. scales:

"Packers and Stockyards" jurisdiction over, 44, 125.

specifications, tolerances, and regulations for, 33, 100; 39, 87; 41, 150.

testing of 18, 55; 19, 40; 35, 111. use of, for weighing small loads, 45, 97.

weighing:

problems in, 19, 40; 38, 50.

problems in supervision over, 38, 46. weights, accurate, important to agriculture, 40, 47.

Load distribution among supports of scale platform, 7, 169.

Local:

and State activities, coordination of,

sealer of weights and measures, problems of, 22, 62; 26, 18.

Log rules, 23, 128.

Logs, pressed, method of sale of, 43, 51. Looking ahead in the scale industry, 39, 16.

Losses:

of gasoline in storage and handling, 25, 55.

shrinkage, on food products, 43, 79. LPG. See Liquefied petroleum gas. Lubricants, gear, method of sale of, 39, 62. Lubricating oil:

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

quantity of, in sealed cans, 41, 71. sealed cans for dispensing of, 25, 65; 36, 95; 41, 71.

M

Machinery, automatic, for package weighing, 38, 40; 41, 52.

Maintenance and installation of:

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

Management and the control of weights on prepackaged products, 43, 74; 43, 97.

Marketing of bananas, 45, 23.

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

Marking. (See also Methods of sale): capacity of range boilers, storage tanks, etc., resolution on, 9, 123.

fractional ounce, on packages, 37, 63; 39, 63.

jewelry, 17, 140.

net content, of:

cans and packages of tobacco, 37, 51.

containers, resolutions 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 on, 11, 158.

packages:

enforcement of requirements for, 42.109.

model regulation for, 37, 43; 38, 68. revision of, 44, 113; 45, 34.

packing house products, 41, 92; 42, 100; 43, 93; 43, 96.

poultry and poultry products, 45, 71. toilet paper and paper towels, 11, 113. resolution on, 11, 182.

weights, measures, and weighing and measuring devices, 33, 156.

Maryland, State of, new weights and measures law of, 36, 31.

Meats-Continued Mass standards: State, 45, 45. specifications for, 45, 51. testing of, 19, 103. Master vehicle scales, local, 31, 87. Meals, carry-out, method of sale of, 43, 50. Measure-containers, 35, 162. paper, 28, 44. pre-packaged-ice-cream, 38, 20. specifications, tolerances, and regulations for, 37, 76. single-service: 39, 91. development of, 31, 41. specifications and tolerances for, 29, 134; 30, 97; 31, 102. Measurement: commercial, in the United States, 45. of petroleum, 37, 23. Measures: itinerant, 24, 154. capacity: drv: abolition of, resolution on, 16, 146. specifications and tolerances for, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; 24, 44. 9. 91; 32, 81. Meters: liquid: nonstandard sizes of, 24, 137: gas, 8, 90; 21, 54. **27,** 103. specifications and tolerances for, devices.) 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; 21, 24, 41. 149; 22, 120; 25, 59; 33, 97; twin, 24, 138. 39, 79. testing of, 8, 181. 27, 24. linear, specifications, tolerances, and large-capacity: regulations for, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; 24, 91; 36, 105; 39, 77; 44, 87. pharmaceutical, testing of, 23, 74. Measuring pumps. See Liquid-measuring devices. Meat packing industry: trade practice in, 41, 124. weighing in, 22, 56. liquid: Meats: and meat products, supervision over, under Federal meat inspection

in plastic wrappings and casings, method of sale of, 36, 94; 37, 73; 40. 95: 44. 112. method of sale of, 37, 62; 37, 73; 39, 62; 40, 95; 41, 137; 44, 112. packaged, method of sale of, 37, 62; 37, 73; 44, 112. prepackaging of, in meat packing plants. 41. 95. quantity statements on, 41, 92; 42, 100; 43, 93; 43, 96. sale by gross weight, resolution on, sale by net weight, 39, 62. shrinkage on, 20, 121. wrapped, marking of net weight on, 12, 145; 14, 45; 20, 121; 35, 140; 36, 71; 36, 68. resolution on, 11, 158. Mechanics and repairmen: licensing of, 27, 62; 28, 38. resolution on, 27, 110. Men who make the Conference, 37, 4. Merit system for weights and measures officials, resolution on, 26, 164. Meter, international, new definition of, electricity, 10, 52; 21, 54. gasoline. (See also Liquid-measuring testing of, 21, 104; 22, 79; 22, 104; household fuel oil, testing of, 26, 101; air elimination on, 31, 25. research program on, 29, 45. testing equipments for, 26, 110; 28, 17; 34, 38. testing of, 24, 41; 26, 110; 28, 17. liquified petroleum gas, testing of, 40, 51; 42, 72. in Miami, Florida, 39, 52. progress report on, 39, 54. fertilizer, specifications, tolerances, and regulations for, 43, 69; 44, 88. hydrocarbon, 32, 71.

act, 26, 132; 35, 148; 36, 88.

Methods of sale of—Continued

Meters—Continued

envelopes and stationery, 39, 63; 45, parking, 28, 21. printer type, for retail fuel-oil sales, fertilizers, liquid, 38, 76; 38, 77; 39, standard, resolution on calibration of, 61; 40, 94; 41, 137; 42, 103. 26, 161. fish: taxicab. See Taximeters. fresh frozen, 42, 101. in plastic wrappings and casings, temperature-compensated: in liquefied-petroleum gas service, 37, 75; 44, 112. 45, 64. floor sweeping compounds, 41, 135. meaning of "gallon" on, 45, 32. fruits and vegetables in paper cartons, utility, regulation of, 26, 145. 41, 138; 42, 102. vapor, 35, 159. fuel oils, preheated, 37, 72; 38, 77; 39, vehicle-tank, 26, 104; 26, 106; 26, 63. garlic buds, 40, 94. 110; 28, 17. air elimination on, 26, 106. gear lubricants, 39, 62. testing of, 23, 108; 24, 41; 26, 104; halibut fletches, fresh frozen, 42, 101. 26, 110; 28, 17; 37, 66; 39, 57. hickory wood chips, 39, 63. tolerances for, 42, 83. ice cream, 18, 115; 32, 88; 33, 73; 36, water, 8, 118; 21, 54. 35; 37, 58; 38, 82. wholesale, equipment for testing, 24, liquid fertilizers, 38, 76; 38, 77; 39, 61; 40, 94; 41, 137; 42, 103. Method of proving liquefied petroleum logs, pressed, 43, 51. gas liquid meter systems: lubricants, gear, 39, 62. National Bureau of Standards, 42, 72. meals, carry-out, 43, 50. symposium on, 40, 51. meats, 37, 62; 37, 73; 39, 62; 40, 95; Methods of sale of: 41, 137; 44, 112. acetylene gas in cylinders, 39, 63. in plastic wrappings and casings, aerosol bomb-type containers, 44, 112; 37, 73; 40, 95; 44, 112. 45, 32. packaged, 37, 62; 37, 73; 44, 112. alloys, dental, 40, 97. milk, homogenized concentrated, 37, anhydrous ammonia, 38, 76. barbecued chickens, 43, 50. moss, peat, 37, 58; 38, 78; 39, 63; 41, bed sheets, 45, 32. 140; 43, 46; 44, 111. carry-out meals, 43, 50. oleomargarine, 43, 49. cedar closet lining in package form, oysters in containers, 40, 98; 41, 136. 39, 63. packing house products, 41, 137. charcoal briquets, 41, 135. paints, tinting base color systems for, cheese in plastic wrappings and cas-40, 96; 41, 138. ings, 37, 76; 44, 112. paper, waxed, 42, 101. chickens, barbecued, 43, 50. peat moss, 37, 58; 38, 78; 39, 63; 41, chips, hickory wood, 39, 63. 140; 43, 46; 44, 111. commodities, 30, 130; 30, 167; 32, 28. permalite, 37, 61. committee on, reports of, 31, 118; pickles, 38, 68; 38, 81. 32, 27; 33, 41; 34, 112; 35, 122; poultry: 36, 92; 37, 57; 37, 72; 38, 75; cooked, 42, 101; 43, 50. 39, 61; 40, 94. in plastic wrappings and casings, cooked poultry, 42, 101; 43, 50. 37, 73; 40, 95; 44, 112. cordage, 38, 80; 40, 99; 40, 100; 41, stuffed, 40, 98; 42, 101; 43, 50. 137; 42, 102. precious metal alloys for dental purcrimping ribbon, 41, 140. dental alloys, 40, 97. poses, 40, 97.

Methods of sale of—Continued preheated fuel oils, 37, 72; 38, 77; 39, 63.

pressed logs, 43, 51.

pulp wood, 42, 102.

ribbon, crimping, 41, 140.

rope, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102.

seeds, 38, 81; 39, 62; 41, 138.

sheets, bed, 45, 32.

soap (bars and cakes), 37, 57; 42, 102. stationery and envelopes, 39, 63; 45, 32.

string and rope, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102.

stuffed poultry, 40, 98; 42, 101; 43, 50. sweeping compounds, 41, 135.

tinting base color systems for paints, 40, 96; 41, 138.

tissue, wrapping, 40, 99.

tomatoes in package form, 37, 61. turpentine, 40, 99.

twine, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102.

vegetables and fruits in paper cartons, 41, 138; 42, 102.

wall coverings, 41, 122; 42, 103.

wallpaper, 41, 122; 42, 103.

waxed paper, 42, 101.

wood, pulp, 42, 102.

wrapping tissue, 40, 99.

Metric system of weights and measures, 9, 27; 11, 183; 12, 112; 43, 52; 43, 57.

resolutions on, 11, 178; 12, 206; 12, 210.

Metrology, legal:

international organization of, 37, 19; 39, 69.

resolution on, 39, 90.

proposed international conference on, 38, 72.

Michigan, regulation of fruit crop in, 20, 133.

Mileage-measuring devices, specifications, tolerances, and regulations for, 39, 77; 42, 89.

Milk:

and cream:

bottles. See Bottles, milk and cream.

wholesale sales of and Babcock test for, 19, 13.

Milk-Continued

and other fluids, new system for packaging of, 40, 107.

concentrated, 36, 93; 37, 72.

homogenized, concentrated, method of sale of, 37, 72.

machine measurement of, 36, 67.

paper containers for, 27, 115; 33, 154; 38, 22; 40, 103; 40, 107.

tanks, farm, 37, 20; 39, 44; 39, 46; 40, 112.

specifications, tolerances, and regulations for, 38, 90; 39, 82; 41, 166; 41, 167; 45, 98.

Mine scales, National Bureau of Standards investigation on, 12, 161; 13, 182; 14, 57.

Model regulation for package marking requirements, 37, 43; 38, 68.

revision of, 44, 113; 45, 34.

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; 32, 113; 35, 24; 36, 58; 39, 51; 40, 78; 41, 136; 43, 46; 43, 49; 44, 111; 44, 113; 45, 37.

Moisture:

determinations for grains, 44, 47.

resolution on, 43, 106.

measurement in the grain industry, 44, 47.

Molds, brick, for ice cream, standardization of, 22, 24.

resolution on, 23, 144.

Money-value:

increments on computing scales, 44, 91.

tolerance on computing scales, 44, 90.

Moss, peat:

method of sale of, 37, 58; 38, 78; 39, 63; 41, 140; 43, 46; 44, 111. sale of, 37, 54.

Motion pictures:

"A True Standard," resolution on, 40, 123.

educational, resolutions on, 38, 100; 41, 171.

National Bureau of Standards program for, resolution on, 41, 171.

"Testing Mass Standards by Substitution," resolution on, 41, 171.

Motor-vehicle loads, two-draft weighing of, 28, 63; 40, 120; 41, 167.

Moving ahead in accurate commercial measurement in the United States,

Multiple vehicle tank compartment indicators, 38, 93.

National Association of Scale Manufacturers:

activities of, 32, 63.

program of publicity on weighing devices, 39, 70.

National Bureau of Standards: activities, report on, 38, 4.

Handbook 37, resolution of adoption, *33*, 173.

Handbook 44, reprint of, 39, 88.

Handbook 45, resolution of adoption,

Handbook 67, resolution of adoption, 44, 115.

investigation on:

filling of milk and cream bottles,

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.

master railway track scale, installation of, 21, 44.

1,000-pound balance, 40, 31.

railway track scale activities, 41, 142.

services of, 39, 39.

support of, resolution on, 43, 107.

training schools, resolution on, 43, 107.

Motor-truck scales. See Vehicle scales. National Conference on Weights and Measures, 35, 133.

actions, implementation of, 43, 120; 45. 40.

attendance honor awards, 40, 21.

presentation of: 41, 10; 42, 11; 43, 4; 44, 4; 45, 3.

procedure of, 25, 142; 45, 145.

report of study committee on organization of, 42, 14.

National Defense, weights and measures cooperation in, 31, 2.

National Scale Men's Association:

activities of, 23, 136; 24, 168; 25, 88; 26, 46; 27, 71; 28, 9; 29,

30; 30, 78; 31, 18; 32, 20; 33,

105; 34, 42; 35, 28; 36, 5; 39, 15; 40, 12; 41, 12; 42, 58; 43,

60. resolution on, 23, 147; 24, 173.

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

resolution on, 22, 145.

National survey of State weights and measures legislation, administration, and enforcement, 42, 60.

National unity in administration of weights and measures, 30, 6.

Neale, Charles C., in memoriam, 40, 1. Nebraska decision on bread, 17, 51.

"Net" in quantity declarations on packages, 37, 12; 44, 113.

Net-content marking of:

containers, resolutions on, 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 of 9, 18; 12, 148.

of cans and packages of tobacco, 37, 51; 38, 67.

of cotton bales, 23, 22.

of Limburger cheese, 31, 135.

of meat, 39, 62.

of packages, 39, 63.

of wiping cloths, 37, 55.

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

resolution on, 11, 158.

sales by, 13, 118; 16, 69; 36. 113.

Association, resolution on, 45, 133. New system for packaging milk and other fluids, 40, 107.

News Letter, Weights and Measures, 30, 183; 32, 3; 32, 98.

Obtaining evidence and preparing a case for court, 41, 17.

Odometers, 22, 119.

specifications and tolerances for, 23, 43: 24, 140: 42, 89.

Office of Weights and Measures (National Bureau of Standards), improving service of, 35, 154; 38, 59. Oil. See Lubricating oil; Fuel oil.

Oklahoma, establishing a Bureau of Standards in, 45, 137.

Oleomargarine, method of sale of, 43, 49. Ordnance Department, work on, 12, 99. Organization:

and procedure of the National Conference:

proposed amendments to, 45, 145. report of study committee on, 42, 14.

resolution on, 25, 142.

of weights and measures departments, 8, 177; 10, 122; 15, 75; 16, 28; 16, 34; 18, 170; 22, 29; 22, 62; 26, 18.

Ounce fractional terms, 37, 63; 39, 63. Oysters in containers, method of sale of, 40, 98; 41, 136.

Package (See also Packages):

fill variation, 40, 35.

marking requirements:

enforcement of, 42, 109.

model regulation for, 37, 43; 38, 68. revision of, 44, 113; 45, 34.

weighing machinery, automatic, 38, 40; 41, 52.

Packaged (See also Prepackaged): commodities:

standardization of, 28, 53; 29, 79; 29, 89; 31, 113; 31, 129; 33, 124; 34, 19; 37, 14; 38, 68; 41, 127.

New Jersey Weights and Measures | Packaged (See also Prepackaged)— Continued

commodities-Continued

standardization of—Continued

committee on, reports of, 29, 79; 29, 125; 30, 145; 32, 96.

resolutions on, 12, 207; 13, 175; 14, 110; 27, 11; 27, 109; 28, 138: 43, 107.

symposium on, 41, 57 43, 93.

weights of, 37, 7; 38, 32; 44, 106; 44, 121.

food:

Food and Drug Administration survey on net weight of, 45,

standardization of, 37, 14; 38, 68; 41, 127.

resolution on, 43, 107.

meats, methods of sale of, 37, 62; 37, 73; 44, 112.

Packages (See also Packaging):

accuracy requirements for quantity declaration on, 41, 82.

control of, State authority in, 43, 103. control of weights on, 43, 74; 43, 97. interstate status of, 17, 47; 36, 74. legibility of quantity declarations on, 41, 77.

markings on, 32, 32.

fractional ounce, 37, 63; 39, 63.

net content, 7, 107; 8, 79; 13, 122; 17, 47; 19, 121; 24, 42; 24, 158; 37, 51; 38, 67; 38, 68; *39*, 63.

model regulation for marking requirements on, 37, 43; 38, 68.

revision of, 44, 113; 45, 34.

"net" in quantity declarations on, 44, 113.

net weight of, 39, 63.

of food:

standardization of, 29, 79; 29, 125; 30, 145; 32, 96; 37, 14; 38, 68; 41, 127.

resolution on, 43, 107.

weight supervision of, in Wisconsin, 44, 121.

when the responsibility of the State, 41, 110.

of soap, quantity declarations on, 34, 79.

of wheat products, shrinkage on, 34, 62.

See Approval of

Packages (See also Packaging)—Continued | Pattern approval.

quantity control: pattern (type) of commercial on production lines, 43, 97. apparatus. statistics in, 41, 57. Peat moss: quantity declarations on, 37, 63; 38, method of sale of, 37, 58; 38, 78; 39, 67; 38, 68; 39, 63; 41, 77; 41, 82; 63; 41, 140; 43, 46; 44, 111. 41, 92; 42, 100; 43, 93; 43, 96; sale of, 37, 54. Peddlers, regulation of, 18, 121. 43, 125; 43, 128; 44, 99; 44, 113. short weight and deceptive, 32, 11. Performance of: slack filled and deceptive, 29, 9. inspectors, 38, 82. resolutions on, 13, 178; 14, 111; liquid-measuring devices, 38, 82; 38, 43, 108. standardization of, 28, 53; 29, 79; Periodicals on weights and measures, 29, 89; 31, 113; 31, 129; 33, 21, 71; 30, 183. 124; 34, 19; 37, 14; 38, 68; 41, Permalite, method of sale of, 37, 61. Person-weighers, 22, 128; 23, 126; 24, Federal bill on, 33, 124. 106. resolutions on, 12, 207; 13, 175; specifications, tolerances, and regu-14, 110; 27, 11; 27, 109; 28, lations for, 23, 148; 24, 113; 24, 179; 25, 13; 25, 33; 25, 49; 27, 138; 43, 107. 98; 28, 123. statistics in quantity control of, 41, Personnel, weights and measures, direc-57. symposiums on, 41, 57; 43, 93. tion of, 31, 7. Petrochemicals—their composition, hansystematized supervision over, 34, dling, and quantity control, 41, 31. 103. Packaging (See also Prepackaging): Petroleum gases, liquefied. See Liqueas a technique of deceit, 43, 37. fied petroleum gases. Petroleum products: deceptive, 32, 11; 43, 37; 44, 99; 45, 109. and weights and measures, 25, 62. measurement of, 15, 53; 16, 50; 19, of flour, progress report on, 41, 72. 57; 37, 23. practices, 44, 99. scale, automatic, 41, 52. Pharmaceutical: "Packers and Stockyards" jurisdiction graduates, 45, 41. weights and measures, testing of, 23, over scales, 44, 125. Packing-house products: 74. Philippine Islands, weights and measures methods of sale of, 41, 137. quantity statements on, 41, 92; 42, conditions in, 10, 50. 100; 43, 93; 43, 96. Philosophy of law enforcement, 45, 87. Photographer, official, selection of, 22, Packing of farm products, irregular or diversified, 22, 53. 12. Paints, tinting base color systems for, Pickles, method of sale of, 38, 68; 38, 81. Piping design for vehicle tanks, 31, 33. method of sale of, 40, 96; 41, 138. Paper: Plate-fulcrum railway track scales, 20, containers for milk, 27, 115; 31, 109; 11; 20, 15. 38, 22; 40, 103; 40, 107. Platform overhang of vehicle scales, 31, measure-containers, 28, 44. 92. towels and toilet paper, uniform mark-Platform scales, 7, 146. ing of, 11, 113. specifications, tolerances, and regularesolution on, 11, 182. tions for, 8, 214; 9, 59; 9, 91; 10, waxed, method of sale of, 42, 101. 156; 10, 203; 10, 222; 11, 150; 11, weights of, 35, 139. App. 1, 20; 17, 131; 21, 151; 22, Parallax, 30, 131. 71; 24, 91; 25, 88; 26, 122; 26, Parking meters, 28, 21. 125; 27, 75; 27, 90; 28, 26; 28,

Platform scales—Continued specifications, tolerances, and regulations for—Continued 115; 29, 72; 29, 133; 29, 140; 30,

110; 30, 112; 31, 105; 31, 106; 31, 129.

testing of and testing equipment for, 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 on, 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 for, 9, 34.

Popcorn, 36, 96.

Position descriptions for weights and measures personnel, 41, 99.

Postal scales, testing of, 8, 261; 17, 34; 18, 171; 24, 97.

resolution on, 17, 138. otatoes, sweet, measurement of

Potatoes, sweet, measurement of, 16, 63. Poultry:

and poultry products, USDA position on, 45, 71.

barbecued, method of sale of, 43, 50. canned, 39, 31.

cooked, method of sale of, 42, 101; 43, 50.

in plastic wrappings and casings, method of sale of, 36, 94; 37, 73; 40, 95; 44, 112.

market, retail, 36, 78.

stuffed, method of sale of, 40, 98; 42, 101: 43, 50.

Pound, international, 44, 9. resolution on, 44, 114.

Precious metal alloys for dental purposes, method of sale of, 40, 97.

Precision:

glassware, manufacture of, 31, 54. standards, manufacture of, 15, 102.

Preheated fuel oils, method of sale of, 37, 72; 38, 77; 39, 63.

Prepackaged (See also Packaged):

ice cream measure containers, 38, 20. specifications, tolerances, and regulations for, 37, 76.

merchandise (See also Packages: control of weights on), 43, 74; 43, 97; 44, 121.

Prepackaged (See also Packaged)—Continued

merchandise (See also Packages: Control of weights on)—Continued foods, 38, 12; 39, 22; 39, 28. ice cream, measure-containers for, 38, 20.

specifications, tolerances, and regulations for, 37, 76.

marking of, 38, 68.

perishable, 35, 84; 36, 71.

produce, 41, 86.

standardization of, 37, 14; 38, 68; 41, 127.

resolution on, 43, 107.

State authority in control of, 43, 103.

symposium on, 41, 57; 43, 93. transparent containers for, 33, 141. produce, 41, 86.

Prepackaging (See also Packaging): of meat in meat packing plants, 41, 95. scales:

graduations back of zero on, 44, 91. specifications, tolerances, and regulations for, 44, 84; 45, 95.

use of, 44, 84; 44, 89.

Preparing a case for court, 41, 17.

Prescription scales, 9, 39.

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

Presentation of attendance honor awards, National Conference: 41, 10; 42, 11; 43, 4; 44, 4; 45, 3.

President of Conference, addresses of, 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; 33, 1; 34, 1; 35, 1; 36, 1; (37, 2); 37, 71; 38, 4; 39, 3; 40, 4; 41, 3; 42, 1; 43, 6; 44, 7; 45, 7.

Pressed logs, method of sale of, 43, 51. Pricing charts, resolutions on, 35, 166; 36, 112.

Printer type meters for retail fuel-oil sales, 45, 40.

Problems:

in livestock weighing supervision, 38, 46. in weighing livestock, 38, 50.

of local sealer of weights and measures, 22, 62; 26, 18.

Procedure and organization of National | Puerto Rico: Conference, 42, 14.

proposed amendments to, 45, 145. resolution on, 25, 142.

Produce, prepackaged, 41, 86.

Production line quantity control, 43, 97. Program:

building a State, 40, 15.

cooperative, of public relations and education, 40, 23.

N.A.S.M., of publicity on weighing devices, 39, 70.

weights and measures, in a State department of agriculture, 40,

Progress report on packaging of flour, 41, 72.

Prominence and conspicuousness of quantity statements on package labels, 43, 125.

Prosecutions, 14, 50; 17, 85; 19, 89.

Protection:

of consumers, 44, 105.

labor's stake in, 45, 122.

of highways by means of portable weighing devices, 15, 26.

Provers for liquefied petroleum gas liquid metering systems:

National Bureau of Standards, 42, 72. symposium on, 40, 51.

Public:

markets, supervison of, 16, 53; 16, 58. officials, training of, 26, 22.

relations:

and education, cooperative program of, 40, 23; 44, 45.

in setting up a new weights and measures organization, 35, 107.

mutual problems in, of weights and measures officials and American agriculture, 34, 56.

Publicity and educational activities (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; 39, 32; 39, 70; 40, 23; 44, 45.

resolution on, 12, 206.

weights and measures:

adminstration in, 42, 90.

conditions in, 9, 138; 17, 17.

Pulp wood, method of sale of, 42, 102.

Pumps (See also Liquid-measuring devices):

gasoline, evolution of, 39, 32. performance of, 38, 82; 38, 95.

Qualifying terms used with quantity statements 43, 128.

Quantity:

control:

of packages, statistics in, 41, 57. on production lines, 43, 97.

declarations (See also Methods of sale):

on packages, 34, 79; 37, 63; 38, 67; 38, 68; 39, 63; 41, 77; 41, 82; 41, 92; 42, 100; 43, 93; 43, 96; 43, 125; 43, 128; 44, 99; 44, 113; 45, 71.

on packing house products, 41, 92; 42, 100; 43, 93; 43, 96.

on poultry and poultry products, 45, 71;

on soap, 34, 79.

on wall coverings and wallpaper, 41, 122; 42, 103.

of lubricating oil in sealed cans, 41, 71. requirements under Federal alcohol and tobacco tax regulations, 41, 23; 41, 27.

R

Radio programs, weights and measures, 29, 19; 31, 44; 31, 165.

Railway track scales. See Scales, railway track.

Ramp garage, gasoline meter installations in, 22, 79.

Range boilers, marked capacity of, resolution on, 9, 123.

Recommendations, general, by committee on specifications and tolerances, 41, 168.

Reconditioning rejected or trade-in scales, 22, 122.

Records:

and reporting, uniform, 45, 134. system of keeping, 7, 90; 10, 171.

Regulation, model, for package marking requirements, 37, 43; 38, 68. revision of, 44, 113; 45, 34.

Regulations:

and laws, keeping them modern, 43, 115.

for scales, 39, 87.

for weighing and measuring devices (see also Specifications, tolerances, and regulations), 24, 83; 24, 91; 30, 112; 36, 20.

legal status of, as established by court decisions, 22, 132.

study of promulgation of, 25, 38.

United States weights and measures, 36, 85.

Relations between:

officials and manufacturers and dealers in weighing and measuring devices, 42, 107.

State and local departments, 42, 105. Remote control gasoline dispensing systems, 38, 69.

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

Repairmen and mechanics:

bonding of, 33, 130; 33, 179.

itinerant, 24, 154.

licensing of, 27, 62; 28, 38; 33, 179. resolution on, 27, 110.

model bill on, 33, 130.

regulation of, 33, 122; 34, 19.

Report forms:

for the weights and measures official, 41, 35.

standardization of, 34, 76.

Reporting and records, uniform, 45, 134. Reports of:

committees. See name of committee. officials, annual, 23, 92.

Secretary of National Conference, 5, 12; 6, 13; 7, 16; 8, 15; 9, 15; 10, 46; 11, 83; 12, 25; 13, 18; 22, 36; 37, 1.

Requirement for sight glasses on retail liquid fuel dispensers, 40, 79.

or trade-in Resolutions on:

air eliminators, research on, 26, 161. alcoholic beverages, containers for, 31, 158.

approval of type of commercial apparatus, 4, 58; 8, 223; 12, 205; 13, 177; 14, 109; 20, 120.

assistance to the States, 31, 158.

"A True Standard" (motion picture), 40, 123.

Austin, John H., in memoriam, 25, 23; 25, 53.

axle loads on highway vehicles, determination of, 37, 89; 38, 98; 40, 124.

barrel, standard, 8, 223.

baskets, standard, 19, 168.

bottles:

alcoholic beverage, 31, 158.

lubricating-oil, 19, 170; 23, 144.

milk, uniform requirements for, 15, 125; 17, 138.

bread, standard weight loaves for, 13, 174; 19, 170.

budgetary procedure, 35, 165.

Burgess, George K., in memoriam, 25, 141.

canned foods, standardization of, 27, 109; 28, 137.

carat, 8, 223.

cartons and molds for ice cream, 23, 144.

civil service for weights and measures officials, 8, 223; 26, 164.

clinical thermometers, 19, 168.

coal:

chemically treated, 23, 144.

standards of quality for, 16, 149. uniform ton for, 16, 142.

committees, function of Conference standing, 38, 99.

consolidation of weights and measures activities with other government activities, 38, 99.

containers:

alcoholic beverage, 31, 158; 32, 124. net-content marking of, 4, 59; 7, 144; 19, 160.

standard, for fruits and vegetables, 39, 91.

standardization of, 19, 168; 27, 109; 28, 137.

Resolutions on-Continued

deceptively labeled food packages in interstate commerce, 43, 108.

dry commodities, sale by weight of, 8, 200; 10, 189; 12, 205; 13, 177; 16, 139; 19, 167.

dry measures, abolition of, 16, 146. education of public, 12, 206.

educational motion picture films, 38, 100; 41, 171.

electric-light bulbs, labeling of, 27, 110.

Executive committee, membership on, 20, 134.

fee system for weights and measures inspection, 10, 134.

flour, packages, decimal-weight, 12, 205.

food pricing charts, 35, 166; 36, 112. "Food Topics," 33, 173.

fruits and vegetables, standard containers for, 39, 91.

function of Conference standing committees, 38, 99.

grain moisture determinations, 43, 106.

grain trading on weight basis, 42, 99. gross weight, sale of meats by, 39, 91. hampers, standard, 19, 168.

Handbook 37, NBS, adoption of, 33, 173.

Handbook 45, NBS, adoption of, 36, 113.

Handbook 67, NBS, adoption of, 44, 115.

Hawaii, 45, 132.

highway-vehicle axle loads, 37, 89; 38, 98; 40, 124.

Holbrook, Fay Stanley, in memoriam, 30, 61.

hundredweight basis for trading in grain, 42, 99.

ice cream:

method of sale of, 20, 131.

molds and cartons for, 23, 144.

international organization on legal metrology, 39, 90.

international yard and pound, 44, 114. investigation for accurate determination of axle loads on highway vehicles, 37, 89; 38, 98.

Resolutions on—Continued

labeling:

deceptive, on food packages in interstate commerce, 43, 108. of electric light bulbs, 27, 110.

legal metrology, international organization on, 39, 90.

licensing of scale mechanics and repairmen, 27, 110.

lubricating-oil bottles, 19, 170; 23, 144.

marking:

net content of containers, 4, 59; 7, 144; 19, 160.

net weight of wrapped meats, 11, 158.

range boilers, storage tanks, etc., 9, 123.

toilet paper and paper towels, 11, 182.

meats, sale of, by gross weight, 39, 91. merit system for weights and measures officials, 26, 164.

meters, standard, calibration of, 26, 161.

metric system, 11, 178; 12, 206; 12, 210.

metrology, legal, international organization on, 39, 90.

milk bottles, uniform requirements for, 15, 125; 17, 138.

moisture determinations for grain, 43, 106.

molds and cartons for ice cream, 23, 144.

motion pictures:

"A True Standard," 40, 123.

educational, 38, 100; 41, 171.

program of National Bureau of Standards, 41, 171.

"Testing Mass Standards by Substitution," 41, 171.

National Bureau of Standards:

Handbook 37, adoption of, 33, 173. Handbook 45, adoption of, 36, 113. Handbook 67, adoption of, 44, 115. motion picture program, 41, 171. support of, 43, 106.

training schools, 43, 107.

National Scale Men's Association, 23, 147; 24, 173.

Resolutions on-Continued Resolutions on—Continued net-content marking of containers, 4, standards: 59; **7**, 144; **19**, 160. of quality for coal, 16, 149. net weight of wrapped meats, 11, 158. of weights and measures: New Jersey Weights and Measures for States, 40, 124; 44, 114. Association, 45, 133. proposed legislation on, 27, 109; packages: 28, 137. slack-filled and deceptive. 13, 178: storage tanks, marked capacity of, 9, 14. 111. standardization of, 12, 207; 13, 175; Stratton, Samuel W.: 14, 110; 27, 109; 27, 110; 28, in memoriam, 25, 141. 138; 43, 107. on life and work of, 16, 136. support of NBS weights and measures paper towels and toilet paper, uniform marking of, 11, 182. program, 43, 106. postal scales, testing of, 17, 138. taximeters, transmission drive for, 21, pound, international, 44, 114. 160. "Testing Mass Standards by Substipricing charts, 35, 166; 36, 112. publicity, committee of National Contution" (motion picture), 41, 171. ference on, 26, 164. testing of postal scales, 17, 138. range boilers, marked capacity of, 9, testing of railway track scales, 35, 166. thermometers, clinical, 19, 168. repair of large-capacity scales, specifications for, 22, 145. toilet paper and paper towels, uniform rules of procedure for National Conmarking of, 11, 182. ference, 25, 142. ton, 2,000-pound, 16, 142. sale by weight, 8, 200; 10, 189; 11, trading by weight, 31, 158; 32, 124. 158; 12, 205; 13, 177; 16, 139; trading in grain on weight basis, 42. 19, 167; 20, 131; 36, 113. 99. scale mechanics and repairmen, licenstraining schools, 43, 107. ing of, 27, 110. transmission drive for taximeters, 21, scales: postal, testing of, 17, 138. "True Standard, A" (motion picture), small-capacity spring, specifications 40, 123. type of commercial apparatus, apfor, 27, 110. schools, training, 43, 107. proval of, 4, 58; 8, 223; 12, 205; seal, place for, on scales, 24, 173. 13, 177; 14, 109; 20, 120. Special Committee on Uniform Reguuniform laws, regulations, etc., among lations, 34, 166. the States, 10, 186; 21, 161. spring scales, small-capacity, specifiweighing devices, used, sale of, 27, cations for, 27, 110. 110: 28, 52. standard: weight: barrel, 8, 223. basis for trading in grain, 42, 99. baskets and hampers, 19, 168. sale of dry commodities by, 8, 200; containers for fruits and vegetables, 10, 189; 12, 205; 13, 177; 16, 19, 168; 39, 91. 139; 19, 167. sizes for packages, 43, 107. weights and measures: weights for bread loaves, 13, 174; correspondence course, 18, 182. 19. 170. school, 33, 172. standardization of: standards for States, 40, 124; 44, containers, 19, 168; 27, 109; 28, 114. standards, proposed legislation on, packages, 12, 207; 13, 175; 14, 110; 27. 109: 28. 137.

week, 43, 107; 44, 115.

27, 109; 27, 110; 28, 138.

Resolutions on—Continued

wrapped meats, marking of net weight on, 11, 158.

yard, international, 44, 114.

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

Revision of:

model regulation for package-marking requirements, 44, 113; 45, 34.

model State law on weights and measures, 44, 113; 45, 37.

specifications, tolerances, and regulations, 40, 116.

Rewording and/or rearrangement of specifications, tolerances, and regulations, 9, 62; 9, 113; 15, 129; 25, 107; 26, 117; 26, 127; 28, 103; 40, 116.

Ribbon, crimping, method of sale of, 41, 140.

Road test, simulated, for taximeters, 40, 45.

Roofing, 34, 123.

Rope and string, method of sale of, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102.

Rug cleaning, 35, 143; 36, 97.

Rules and regulations:

legal status of, as established by court decisions, 22, 132.

study of promulgation of, 25, 38.

Rules of procedure for National Conference:

proposed amendments to, 45, 145. report of study committee on, 42, 14. resolution on, 25, 142.

S

Salaries for weights and measures personnel, 37, 41; 39, 36; 42, 67; 43, 21.

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 on, 12, 205; 19, 167.

Sale by weight—Continued

ice eream, 18, 115; 19, 146; 32, 38; 33, 73; 36, 35; 37, 48.

resolution on, 20, 131.

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

resolution on, 11, 158.

retail commodities, 29, 16.

sales by net weight, 13, 118; 16, 69. meat, 39, 62.

wiping cloths, 37, 55.

Sale of:

commodities, methods of. See Methods of sale of. See also name of commodity.

peat moss, 37, 54.

Salesmanship in weights and measures field, 27, 69.

Sample testing of commercial devices, 45, 12.

Scale:

industry—looking ahead, 39, 16. mechanics and repairmen:

formal qualifications of, 32, 20.

itinerant, 24, 154.

licensing of, 27, 62; 28, 38. resolution on, 27, 110.

testing device, 21, 40; 22, 75.

Scales:

animal, tolerances for, 41, 167.

automatic-indicating, 10, 95; 12, 73.

large-capacity, tolerances for, 14, 87; 15, 34; 16, 132; 22, 72.

printed weight indications and remote weight indications of, 30,

specifications for, 22, 119; 23, 79; 23, 150; 24, 146; 25, 104. See also 26, 117.

automatic-packaging, 41, 52.

automatic-recording, 30, 19.

axle-load, specifications, tolerances, and regulations for, 38, 89.

baggage, 18, 34; 18, 46.

belt conveyor, 36, 53; 37, 65.

butterfat test, 9, 39.

specifications, tolerances, and regulations for, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72.

check-weighing, 39, 29.

Scales-Continued

combination, for weighing motor trucks and railway freight cars, 32, 22.

computing:

money-value increments on, 44, 91. money-value tolerance on, 44, 90. specifications, tolerances, and regulations for, 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.

conveyor, belt, 37, 65.

counter:

side beams on, 22, 117; 23, 134. specifications, tolerances, and regulations for, 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; 33, 100.

cream-test and butterfat-test, 9, 39. specifications, tolerances, and regulations for, 8, 220; 9, 62; 9, 111; 10, 216; 11, 153; 11, App. 1, 36; 17, 132; 22, 72.

creamery, maintenance of, 9, 39; 17, 11.

customs service, 18, 104.

decimal graduation of, 39, 60.

design and construction of, 8, 123; 22, 82; 27, 55.

dial, side beams, and hidden weights on, 25, 134.

distribution of load among platform supports of, 7, 169.

electronic, 38, 52.

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

freight, 18, 34; 18, 46.

general specifications, tolerances, and regulations for, 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; 32, 91; 32, 94; 33, 100; 36, 109; 37, 84; 37, 86; 37, 87; 38, 89; 39, 86; 41, 150; 41, 167; 42, 77; 43, 63; 44, 81; 45, 93.

Scales—Continued

graduation back of zero on prepackaging, 44, 91.

graduation, decimal, of, 39, 60.

grain, 12, 140; 22, 65.

heavy-duty. SeeScales: capacity.

hopper, specifications, tolerances, and regulations for, 42, 79.

industrial, 11, 51; 19, 120.

jewelers', 9, 39.

large-capacity: See also Platform scales; Scales, railway track; Vehicle scales.

automatic-indicating, tolerances for, 14, 87; 15, 34; 16, 132; 22, 72. development of, 24, 99.

installation and maintenance of, 26, 38.

platform:

testing of and testing equipment for, 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 on, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145.

repair of, 22, 33.

resolution on, 22, 145.

standardization of, 29, 1.

test weights for, 29, 35.

testing equipments for, 26, 47.

livestock, 18, 55; 19, 40; 33, 57; 34, 50. specifications, tolerances, and regulations for, 39, 87; 41, 150. under "Packers and Stockyards" jurisdiction, 44, 125.

use of, for weighing small loads, 45, 97.

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

notes on, 8, 135.

packaging, automatic, 41, 52.

person-weighing, 22, 128; 23, 126; 24, 106.

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

Scales—Continued

railway track—Continued

Scales—Continued

pit, installation of, 45, 97.

platform, 7, 146. report of special committee on, 36, specifications, tolerances, and regulations for, 8, 214; 9, 59; 9, 91; test cars for, 18, 176. 10, 156; 10, 203; 10, 222; 11, testing program for, 37, 34. 150; 11, App. 1, 20; 17, 131; tolerances for, 29, 72. 21, 151; 22, 71; 24, 91; 25, 88; reconditioning of rejected, or trade-in, 26, 122; 26, 125; 27, 75; 27, 90; 22, 122. 28, 26; 28, 115; 29, 72; 29, 133; regulations for, 39, 87. 29, 140; 30, 110; 30, 112; 31, repair of large-capacity, 22, 33. 105; 31, 106; 31, 129. resolution on, 22, 145. testing of and testing equipment seal, place for, on, resolution on, 24, for, 15, 32; 18, 54; 18, 65; 19, 173. 40; 20, 84; 21, 40; 21, 48; 22, small capacity: 75; 24, 130; 25, 110; 26, 47; shift-test tolerances for, 37, 84; 37, 26, 64; 27, 45; 27, 46; 27, 117; 28, 19; 28, 75; 28, 81; 28, 99; statement of tolerances for, in deci-31. 67. mal fractions of pounds, 42, 79. National Bureau of Standards uncompensated, tolerances for, 39, reports on, 26, 69; 27, 45; 86; 42, 80. 27, 46; 28, 75; 28, 81; 29, 57; spring: 30, 35; 31, 61; 31, 145. specifications, tolerances, and regupostal, testing of, 8, 261; 17, 34; 18, lations for, 8, 217; 8, 219; 9, 60; 9, 99; 10, 140; 10, 211; 171; 24, 97. resolution on, 17, 138. 10, 213; 11, 109; 11, 152; 11, App. 1, 30; 11, App. prepackaging, 36, 106; 36, 110. 1, 33; 17, 131; 21, 152; 24, graduations back of zero on, 44, 91. specifications, tolerances, and regu-91; 25, 106; 28, 104; 31, 105; 37, 86; 37, 87; 39, 86; 42, 80; lations for, 44, 84; 45, 95. 43, 64. use of, 44, 84; 44, 89. prescription, 9, 39. resolution on, 27, 110. specifications, tolerances, and regustraight-face, specifications, tolerlations for, 11, 154; 11, App. 1, ances, and regulations for, 8, 37; 22, 73; 26, 121; 27, 95. 219; 10, 213; 11, App. 1, 33; railway track, 6, 67; 10, 82; 10, 86; 11, 21, 152; 26, 124. 62; 11, 73; 11, 97; 12, 64; 12, suspension, lever type, specifications, 107; 13, 182; 18, 34; 18, 176; tolerances, and regulations for, 10, 211; 11, 152; 11, App. 1, 29. 20, 11; 20, 15; 26, 124. developments in construction of, testing device for large-capacity, 6, 67; 11, 97; 12, 107; 20, 11; 22, 75. 20, 15. tolerances following intra-test adjustfreight weighing on, 18, 34. ment, 40, 121. installation and maintenance of, trade-in, reconditioning of, 22, 122. *11*, 73. under expanded "Packers and Stockmethods of adjusting, inspecting, yards" jurisdiction, 44, 125. and testing, 10, 86; 11, 62. vehicle: National Bureau of Standards: A.R.E.A. specifications for, 25, 88; activities relative to, 41, 142. *31*, 129. investigation on, 10, 82; 12, 64; deflection of weighbridge members

of, 31, 129.

of, 26, 64.

end testing versus corner testing

13, 182; 18, 34.

plate fulcrum, 20, 11; 20, 15.

master, installation of, 21, 44.

ales-Continued Seals, approval, weights and measures, vehicle—Continued 39, 65; 40, 109. master, local, 31, 87. Seasonal aspects of weights and measplatform overhang on, 31, 92. ures administration, 22, 62. selection, installation, and main-Secretary of Commerce, addresses of, tenance of, 30, 45. 3, 55; 5, 8; 6, 111; 7, 11; 8, 12; 9, 11; 10, 13; 11, 13; 12, 119; 13, 57; specifications, tolerances, and regulations for, 8, 214; 9, 59; 9, 14, 79; 15, 25; 16, 76; 17, 135; 18, 91; 10, 156; 10, 203; 10, 222; 74; 19, 116; 22, 47; 26, 73; 27, 84; 11, 150; 11, App. 1, 20; 17, 41, 1; 43, 1; 44, 1; 45, 1. 131: 21, 151: 22, 71: 24, 91: Secretary of Internal Affairs, State of 25, 88; 26, 122; 26, 125; 27, Pennsylvania, addresses of 41, 5; 75; 27, 90; 28, 26; 28, 115; 44, 12. 29, 72; 29, 133; 29, 140; 30, Secretary of National Conference, re-110; 30, 112; 31, 105; 31, ports of, 5, 12; 6, 13; 7, 16; 8, 15; 106; 31, 129; 39, 88. 9, 15; 10, 46; 11, 83; 12, 25; 13, 18; testing of and testing equipment 22, 36; 37, 1. for, 15, 32; 18, 54; 18, 65; Seeds: 20, 84; 21, 48; 22, 75; 24, garden, 33, 159. 130; 25, 110; 26, 47; 26, method of sale of, 38, 81; 39, 62;41, 64; 27, 45; 27, 46; 27, 117; 138. 28, 19; 28, 75; 28, 81; 28, Selection, installation, and maintenance 99; 31, 67. of vehicles scales, 30, 45. National Bureau of Standards Selection and training of weights and reports on, 26, 69; 27, 45; measures personnel, 43, 110. 27, 46; 28, 75; 28, 81; 29, Selling weights and measures to top 57; 30, 35; 31, 61; 31, 145. government officials, 43, 112. use of, in highway planning survey, Sensibility reciprocal, effect on, of 27.87. packing pivots and bearings with wheel-load: grease, 30, 88. scales, specifications, tolerances Serialization of commercial apparatus. See Approval of pattern (type) of and regulations for, 38, 89. weighers, 15, 26; 24, 123. commercial apparatus. specifications, tolerances, and Service: regulations for, 19, 156. men, training of, 37, 64. testing of, 19, 151. sales of, 16, 23; 33, 155. Schools: station, duties of inspector in, 35, 30. training, for weights and measures Services of the National Bureau of officials and servicemen, 37, 64; Standards, 39, 39. 38, 56; 41, 120; 43, 110. Sheets, bed, method of sale of, 45, 32. resolution on, 43, 107. Shift test tolerances for small capacity weights and measures: scales, 37, 84; 37, 87. novel form of, 30, 32. Shipping containers, standard, for fruits resolution on, 33, 173. and vegetables, 12, 89; 22, 13. suggested program for, 33, 5. resolution on, 19, 168. why? 41, 120. Should word "net" be mandatory in Scoring machines for ice, 20, 22. quantity statements?, 37, 12; 44, Scroll for National Bureau of Standards, 113. 36, 6; 36, 41. Shrinkage on: bread, 18, 164. Sealing methods and seals, 8, 204; 27,

23.

resolution on, 24, 173.

butter in prints, 16, 60.

food products, 43, 79.

Shrinkage on—Continued Specifications and tolerances, committee meats, wrapped, 20, 121. on—Continued soap, bar, 36, 62. reports of—Continued wheat products, packaged, 34, 62. 25, 13; 25, 33; 25, 59; 25, 70; Side beams, hidden weights, and dial 25, 82; 25, 99; 25, 103; 26, 117; scales, 25, 134. 27, 75; 27, 90; 28, 103; 29, 64; 29, 133; 30, 97; 31, 102; 32, 72; Side beams on counter scales, 22, 117; 23, 134. 33, 95; 34, 40; 35, 80; 36, 103; Sight glasses: 37, 76; 38, 89; 39, 76; 40, 116; 41, 149; 42, 76; 43, 63; 44, 80; function and operation of, 30, 15. requirement for, on retail liquid fuel 45, 92. dispensers, 40, 79. Specifications, tolerances, and regula-Simplification and standardization, 16, tions: complete revision of, 34, 141; 40, 116. 94. Simulated road test for taximeters, interpretations of, by committee on *40*, 45. specifications and tolerances, 40, Single-service measure-containers. 121; 41, 167; 44, 88; 44, 89. Measure-containers. uniformity of, 44, 89. Small-capacity scales: Specifications, tolerances, and regulashift-test tolerances for, 37, 84; 37, 87. tions for: tolerances for, stated in decimal fracautomatic-indicating scales, 14, 87; 15, 34; 16, 132; 22, 72; 22, 119; tions of pounds, 42, 79. 23, 79; 23, 150; 24, 146; 25, 104; Soap: bar, 34, 118; 36, 62. See also 26, 117. bars and cakes, method of sale of, axle-load scales, 38, 89. 37, 57; 42, 102. Babcock glassware, 19, 157. packages of, 34, 79. balances: Some aspects of legal metrology in commercial. See scales. Germany, 43, 11. State, 45, 57. berry baskets or boxes, 9, 59; 9, 79; Specifications: A. R. E. A., for vehicle scales, 25, 88; 9, 90; 10, 199. *31*, 129. bottles: for weighing machinery, impact on lubricating-oil, 20, 71; 20, 137; 21, 142; 22, 70; 23, 124; 24, 27; steel business of, 34, 96. 24, 178; 25, 103. Specifications and tolerances, committee on: enlargement of, 10, 143; 15, 121. milk and cream, 9, 58; 9, 73; 9, 113; 10, 140; 10, 147; 10, 196; 11, general recommendations of, 41, 168. 134; 11, App. 1, 11; 17, 128; interpretations by, 40, 121; 41, 167; 44, 88; 44, 89. 22, 121; 25, 99; 26, 128; 31, reports of, 7, 121; 8, 209; 9, 57; 9, 89; 103; 32, 83. 10, 137; 11, 127; 13, 64; 13, 83; boxes, berry, 9, 59; 9, 79; 9, 90; 10, 13, 127; 13, 142; 14, 89; 14, 93; 15, 34; 15, 79; 15, 87; 15, 120; bread, 14, 37; 14, 84; 15, 79; 15, 91; 15, 126; 16, 89; 16, 118; 16, 129; 16, 112; 17, 51; 17, 63; 17, 126; 16, 132; 16, 151; 17, 21; 17, 100; 18, 143; 18, 154; 18, 163. 17, 115; 17, 126; 18, 25; 18, 97; butter, 16, 60. 18, 107; 18, 163; 19, 38; 19, 127; butterfat-test scales, 8, 220; 9, 62; 19, 156; 20, 71; 20, 102; 20, 121; 9, 111; 10, 216; 11, 153; 11, 21, 83; 21, 128; 21,142; 21, 147; App. 1, 36; 17, 132; 22, 72. 21, 165; 22, 68; 22, 89; 22, 101; computing scales, 8, 219; 9, 61; 9, 22, 120; 22, 121; 23, 41; 23, 43; 104; 10, 146; 10, 214; 10, 225; 23, 79; 23, 122; 24, 27; 24, 83; 11, 109; 11, App. 1, 33; 17, 131;

24, 91; 24, 146; 26, 121.

24, 91; 24, 113; 24, 140; 24, 147;

```
tions for-Continued
```

cordage-measuring devices, 35, 82; 36, 105; 37, 82.

counter scales, 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 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; 35, 82; 44, 88.

farm milk tanks, 38, 90; 39, 82; 41, 166; 41, 167; 45, 98.

fertilizer meters, 43, 69; 44, 88.

general code, 35, 81; 41, 149; 42, 76; 43, 63; 44, 80.

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; 39, 80.

hopper scales, 42, 79.

hub odometers, 23, 43; 24, 140.

ice-cream measure-containers, 37, 76. identification of weighing and measuring devices, 32, 73.

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), 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; 24, 91; 36, 105; 39, 77; 44, 87.

liquefied petroleum gas liquid-measuring devices, 37, 83; 38, 89; 41, 154; 42, 87; 43, 66.

liquid-capacity measures, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; 21, 149; 22, 120; 25, 99; 39, 79.

Specifications, tolerances, and regula- Specifications, tolerances, and regulations for-Continued

> 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; 32, 86; 33, 96; 33, 98; 35, 83; 36, 108; 37, 84; 37, 86; 38, 93; 38, 94; 38, 95; 39, 79; 41, 152; 42, 80; 42, 83; 43, 65; 44, 84; 44, 86; 45, 97.

> livestock scales, 33, 100; 39, 87; 41, 150.

> lubricating-oil bottles, 20, 71; 20, 137; 21, 142; 22, 70; 23, 124; 24, 27; 24, 178; 25, 103; 32, 86.

mass standards, State, 45, 51.

measure containers:

prepackaged-ice-cream, 36, 103; 37,

single service, 29, 134; 30, 97; 31, 102; 32, 81.

measures:

dry capacity, 8, 212; 9, 59; 9, 79; 10, 197; 11, 137; 11, App. 1, 12; 24, 91.

linear, 8, 210; 9, 57; 9, 68; 10, 193; 11, App. 1, 4; 17, 127; 21, 148; 24, 91; 39, 77; 44, 87.

liquid capacity, 8, 211; 9, 58; 9, 68; 10, 195; 11, 130; 11, App. 1, 3; 21, 149; 22, 120; 25, 59; 33, 97; 39, 79.

measuring pumps. See Liquid-measuring devices.

meters:

fertilizer, 43, 69; 44, 88.

vehicle-tank, 42, 83; 44, 86.

mileage-measuring devices, 39, 77; 42, 89.

milk:

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; 32, 83.

```
Specifications, tolerances, and regula-|Specifications, tolerances, and regula-
    tions for—Continued
                                              tions for—Continued
  milk-Continued
                                            scales—Continued
    tanks, farm, 38, 90; 39, 82; 41, 166;
                                              general—Continued
         41, 167; 45, 98.
                                                   122; 24, 91; 24, 145; 25, 103; 26
  odometers 23, 43; 24, 140; 42, 89.
                                                   118; 26, 124; 27, 75; 27, 90;
                                                   28, 26; 28, 115; 29, 71; 30,
  person weighers, 23, 148; 24, 113; 24,
         179; 25, 13; 25, 33; 25, 49; 27,
                                                   108; 31, 105; 32, 91; 32, 94;
         98; 28, 123.
                                                   33, 100; 36, 109; 37, 84; 37,
  platform scales, 8, 214; 9, 59; 9, 91;
                                                   86; 37, 87; 38, 89; 39, 86; 41,
       10, 156; 10, 203; 10, 222; 11, 150;
                                                   150; 41, 167; 42, 77; 43, 63;
       11, App. 1, 20; 17, 131; 21, 151;
                                                   44, 81; 45, 93.
       22, 71; 24, 91; 25, 88; 26, 122;
                                              hopper, 42, 79.
       26, 125; 27, 75; 27, 90; 28, 26;
                                              large-capacity automatic-indicating
       28, 115; 29, 72; 29, 133; 29, 140;
                                                   (See also automatic-indicating)
       30, 110; 30, 112; 31, 105; 31, 106;
                                                   14, 87; 15, 34; 16, 132; 22, 72.
       31, 129.
                                              livestock, 33, 100; 39, 87; 41, 150.
  prepackaged-ice-cream measure-con-
                                              person-weighing, 23, 148; 24, 113;
                                                   24, 179; 25, 13; 25, 33; 25, 49;
       tainers, 37, 76.
  prepackaging scales, 44, 84; 45, 95.
                                                   27, 98; 28, 123.
  prescription scales, 11, 154; 11, App.
                                              platform, 8, 214; 9, 59; 9, 91; 10,
       1, 37; 22, 73; 26, 121; 27, 95.
                                                   156; 10, 203; 10, 222; 11, 150;
                                                   11, App. 1, 20; 17, 131; 21,
  pumps,
            measuring.
                          See
                                Liquid-
       measuring devices.
                                                   151; 22, 71; 24, 91; 25, 88;
  railway track scales, 29, 72.
                                                   26, 122; 26, 125; 27, 75; 27,
  rewording and/or rearrangement of, 9,
                                                   90; 28, 26; 28, 115; 29, 72; 29,
       62; 9, 113; 15, 129; 25, 107;
                                                   133; 29, 140; 30, 110; 30, 112;
       26, 117; 26, 127; 28, 103.
                                                   31, 105; 31, 106; 31, 129.
                                              prepackaging, 44, 84; 45, 95.
  scales:
    automatic-indicating, 14, 87; 15,
                                              prescription, 11, 154; 11, App. 1,
         34; 16, 132; 22, 72; 22, 119;
                                                   37; 22, 73; 26, 121; 27, 95.
         23, 79; 23, 150; 24, 146; 25,
                                              railway track, 29, 72.
         104; 35, 83.
                       See also 26, 117.
                                              small capacity, shift-test tolerances
    axle-load, 38, 89.
                                                   for, 37, 84; 37, 87.
     butterfat-test, 8, 220; 9, 62; 9, 111;
                                              spring, 8, 217; 8, 219; 9, 60; 9, 99;
         10, 216; 11, 153; 11 App. 1,
                                                   10, 140; 10, 211; 10, 213; 11,
         36; 17, 132; 22, 72.
                                                   109; 11, 152; 11, App. 1, 30;
     computing, 8, 219; 9, 61; 9, 104;
                                                   11, App. 1, 33; 17, 131; 21,
         10, 146; 10, 214; 10, 225; 11,
                                                   152; 24, 91; 25, 106; 28, 104;
         109; 11, App. 1, 33; 17, 131;
                                                   31, 105; 32, 92; 33, 96; 37, 86;
                                                   37, 87; 39, 86; 43, 64.
         24, 91; 24, 146; 26, 121.
     counter, 8, 216; 8, 265; 9, 60; 9,
                                                 resolution on, 27, 110.
         95; 10, 156; 10, 207; 10, 223;
                                                 straight-face, 8, 219; 10, 213; 11,
         11, 108; 11, 150; 11, App. 1,
                                                      App. 1, 33; 21, 152; 26, 124.
         25; 21, 151; 22, 72; 24, 91; 24,
                                                 uncompensated, tolerances for,
         145; 25, 106; 26, 126.
                                                     39, 86; 42, 80.
     cream-test and butterfat, 8, 220;
                                              suspension, lever type, 10, 211; 11,
         9, 62; 9, 111; 10, 216; 11, 153;
                                                   152; 11, App. 1, 29.
         11, App. 1, 36; 17, 132; 22, 72.
                                              vehicle, 8, 214; 9, 59; 9, 91; 10, 156;
     general, 8, 213; 9, 59; 9, 90; 9,
                                                   10, 203; 10, 222; 11, 150; 11,
         99; 9, 112; 10, 139; 10, 148;
                                                   App. 1, 20; 17, 131; 21, 151;
         10, 151; 10, 200; 10, 220; 11,
                                                   22, 71; 24, 91; 25, 88; 26, 122;
         107; 11, 137; 11, App. 1, 15;
                                                   26, 125; 27, 75; 27, 90; 28, 26;
```

28, 115; 29, 72; 29, 133; 29,

16, 129; 17, 130; 21, 149; 23,

Specifications, tolerances, and regula- Specifications, tolerances, and regulations for-Continued tions for-Continued scales-Continued vehicle—Continued vehicle-Continued scales—Continued 140; 30, 110; 30, 112; 31, 105; 31, 106; 31, 129; 32, 94; 32, 31, 106; 31, 129; 32, 94; 32, 95; 33, 103; 39, 88. 95; 33, 103; 39, 88. tanks, 14, 88; 16, 89; 16, 151; 17, wheel-load: 100; 17, 115; 18, 25; 21, 149; scales, 38, 89. 22, 71; 25, 70; 25, 76; 26, 104; weighers, 19, 56. 27, 98; 28, 106; 29, 65; 29, single-service measure-containers. 129; 30, 107; 39, 81; 41, 154; See Measure-containers. 42, 85; 43, 66; 44, 86; 45, 98. small-capacity scales, shift-test tolermeters for, 42, 83; 44, 86. ances on, 37, 84; 37, 87. weighers, wheel-load, 19, 156. spring scales, 8, 217; 8, 219; 9, 60; 9, weighing and measuring devices, 24, 99; 10, 140; 10, 211; 10, 213; 11, 83; 24, 91; 30, 112. 109; 11, 152; 11, App. 1, 30; 11, weights, 8, 220; 9, 62; 9, 112; 10, 216; App. 1, 33; 17, 131; 21, 152; 24, 11, 155; 11, App. 1, 41; 17, 132; 91; 25, 106; 28, 104; 31, 105; 32, 27, 96; 30, 110; 36, 109. 92; 33, 96; 33, 102; 37, 86; 37, wheel-load: 87; 39, 56; 43, 64. scales, 38, 89. resolution on, 27, 110. weighers, 19, 156; 35, 84. uncompensated, tolerances for, 39, Spirits, distilled, Federal quantity re-86; 42, 80. quirements for, 41, 23. State: Spring scales, specifications, tolerances, balances, 45, 57. and regulations for, 8, 217; 8, mass standards, 45, 51. 219; 9, 60; 9, 99; 10, 140; 10, 211; straight-face spring scales, 8, 219; 10, 10, 213; 11, 109; 11, 152; 11, App. 213; 11, App. 1, 33; 21, 152; 26, 1, 30; 11, App. 1, 33; 17, 131; 21, 124. 152; 24, 91; 25, 106; 28, 104; 31, suspension scales, lever type, 10, 211; 105; 32, 92; 33, 96; 33, 102; 37, 11, 152; 11, App. 1, 29. 56; 37, 87; 39, 56; 43, 64. tanks: resolution on, 27, 110. farm milk, 38, 90; 39, 82; 41, 166; straight-face, 8, 219; 10, 213; 11, 41, 167; 45, 98. App. 1, 33; 21, 152; 26, 124. vehicle, 14, 88; 16, 89; 16, 151; 17, uncompensated, tolerances on, 39, 100; 17, 115; 18, 25; 21, 149; 86; 42, 80. 22, 71; 25, 70; 25, 76; 26, 104; SR, effect on, of packing pivots and **27**, 98; **28**, 106; **29**, 65; **29**, 129; bearings with grease, 30, 88. 30, 107; 39, 81; 41, 154; 42, Standard. (See also Standards): 85; 43, 66; 44, 86; 45, 98. barrel: taximeters, 18, 97; 18, 107; 19, 38; law, 9, 53; 9, 56; 10, 176. 22, 70; 24, 91; 39, 77; 42, 89. resolution on, 8, 223. uncompensated spring scales, tolerbaskets and hampers, resolution on, ances for, 39, 86; 42, 80. 19, 168. vehicle: container act, Federal, of 1928, 22, scales, 8, 214; 9, 59; 9, 91; 10, 156; 13; 23, 53; 23, 65; 39, 53; 39, 10, 203; 10, 222; 11, 150; 11, 60; **39**, 89. App. 1, 20; 17, 131; 21, 151; 22, 71; 24, 91; 25, 88; 26, 122; resolution on, 39, 91. 26, 125; 27, 75; 27, 90; 28, 26; container legislation, Federal, con-28, 115; 29, 72; 29, 133; 29, solidation and amendment, 24,

44; 25, 107; 30, 8.

140; 30, 110; 30, 112; 31, 105;

State—Continued

Standard (See also Standards)—Con-Standards—Continued

tinued

containers for fruits and vegetables, of weight and measure, resolution 12, 89; 22, 13; 23, 53; 23, 65; on, 40, 124; 44, 114. 39, 53; 39, 60; 39, 89. primary, care of, 34, 132. resolution on, 19, 168; 39, 91. United States, history of, 1, 6. meters, resolution on calibration of, volumetric, calibration of, 31, 142. 26, 161. weights and measures, used by Air Standard-weight bread. See Bread. Force, 45, 61. Standardization and simplification, 16, Standing committees. (See also Com-94. mittees): Standardization of: number of, 34, 4. bread weights. See Bread, standard standardization of membership on, weight, legislation. 34.4. containers, 6, 46; 6, 134; 12, 89; 13, State: 122; 13, 189; 27, 35. and local activities, coordination of, resolutions on, 19, 168; 27, 109; 28, 137. authority in package control, 43, 103. containers for canned foods, 27, 35. balances, specifications for, 45, 57. resolutions on, 27, 109; 28, 137. cooperation in a national program of cotton bales, 23, 22. livestock marketing, 39, 19. ice-cream cans, brick molds, and standards: cartons, 22, 24. calibration of, 33, 166. resolution on, 23, 144. of mass, 45, 45; 45, 51. inch (United States), 28, 2; 44, 9. of weight and measure, resolutions large-capacity scales, 29, 1. on 40, 124; 44, 114. packaged goods, committee reports primary, care of, 34, 132. on, 29, 79; 29, 125; 30, 145; Stationery and envelopes, method of 32, 96. sale of, 39, 63; 45, 32. packages, 28, 53; 29, 79; 29, 89; 29, Statistical consideration of performance 125; 30, 145; 31, 113; 31, 129; of inspectors and gasoline pumps, 32, 96; 37, 14; 38, 68; 41, 127. 38, 82. resolutions on, 12, 207; 13, 175; Statistics in quantity control of pack-14, 110; 27, 109; 27, 110; 28, ages, 41, 57. 138: 43, 107. Stock scales. See Livestock scales. report forms, 34, 76. Storage tanks: Standards: fuel oil, testing of, 19, 22. capacity, testing of, 8, 181; 34, 75. resolution on marked capacity of, commercial, 21, 66. 9, 123. corrections to, 30, 114. Straight-face spring scales, specificalength, testing of, 20, 28. tions, tolerances, and regulations manufacture of, 15, 102; 31, 54. for, 8, 219; 10, 213; 11, App. 1, mass, testing of, 19, 103; 36, 42. 33; 21, 152; 26, 124. of weights and measures, proposed Strain load tests, 35, 156. legislation on, 27, 1. Stratton, Samuel W.: resolutions on, 27, 109; 28, 137. presentation of resolutions and medalprecision, manufacture of, 15, 102. lion to, 17, 108. quality, for coal, resolution on, 16, resolutions on: in memoriam, 25, 141. State: on life and work of, 16, 136. calibration of, 33, 166. mass, 45, 45. String and rope, method of sale of, 38, 80; 40, 99; 40, 100; 41, 137; 42, 102. specifications for 45, 51.

Study committee on organization of National Conference, report of, 42, 14.

Stuffed poultry, method of sale of, 40, 98; 42, 101; 43, 50.

Sugar industry, weights in, 20, 35.

Supervision:

of food package weights in Wisconsin, 44, 121.

of meats and meat products under Federal meat inspection act, 26, 132.

of post office scales. (See also Postal scales, testing of), 24, 97.

of public markets, 16, 53; 16, 58. weights and measures, 42, 6.

Supervisional activities, 12, 57; 14, 50; 16, 53; 16, 58; 17, 85; 17, 111; 18, 44; 19, 26; 19, 89; 21, 93; 23, 86.

Support, administrative, for weights and measures, 43, 112.

Suppression of fraudulent practices, 23, 86.

Surface gaging of farm milk tanks, 39,

Survey:

national, of State weights and measures legislation, administration, and enforcement, 42, 60.

weights and measures, by United States Department of Agriculture, 27, 16; 28, 28; 29, 48.

Suspension scales, lever type, specifications, tolerances, and regulations for, 10, 211; 11, 152; 11, App. 1, 29.

Sweeping compounds, method of sale of, 41, 135.

Sweet potatoes, measurement of, 16, 63. Symposium on:

administrative problems, 42, 105; 43, 110; 44, 117; 45, 133.

consumer interest, 43, 31.

methods of proving liquefied petroleum gas liquid meter systems, 40, 51.

packaged commodities, 41, 57; 43, 93.

T

Tank cars, calibration of, 35, 145.

Tanks: farm holding. See farm milk.

farm milk, 37, 20; 39, 44; 39, 46; 40, 112.

specifications, tolerances, and regulations for, 38, 90; 39, 82; 41, 166; 41, 167; 45, 98.

fuel-oil storage, testing of, 19, 22.

storage, marking, resolution on, 9, 123.

vehicle, 15, 53.

meters for:

air elimination on, 26, 106.

testing of, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17.

piping design for, 31, 33.

specifications, tolerances, and regulations for, 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; 39, 81; 41, 154; 42, 85; 43, 66; 44, 86; 45, 98.

testing equipments for, 26, 110. testing of, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110.

valves for, 26, 98.

Tare graduations back of zero on prepackaging scales, 44, 91.

Task ahead, the, 43, 69.

Taximeters:

simulated road test for, 40, 45.

specifications, tolerances, and regulations for, 18, 97; 18, 107; 19, 38; 22, 70; 24, 91; 39, 77; 42, 89; test and inspection of, 12, 85; 17, 117. 17, 121; 18, 78; 19, 31; 40, 45.

transmission drive for, 19, 31; 20, 80.

National Bureau of Standards in-

vestigation on, 21, 21.

resolution on, 21, 160.

Technicalities in weights and measures court cases, 38, 63.

Temperature: Testing of—Continued as factor in measurement of gasoline, glassware, graduated, 9, 39; 23, 74. 16, 50. grain scales, 12, 140. compensated meters: grease-measuring devices, 23, 16. in LP-gas service, 45, 64. jewelers' scales, 9, 39. meaning of "gallon" on, 45, 32. large-capacity platform. See Scales, of gasoline in underground storage, platform. 25, 54. leather-measuring devices, 15, 44. Terminal weighing of grain, 22, 65. length standards, 20, 28. Terms: liquefied petroleum gas: extraordinary: dispensers: on standard containers for ice gravimetric testing of, 31, 21. cream, 40, 94. testing equipment for, 35, 53. used in sale of commodities, 41, liquid metering systems, symposium 135; 43, 128. on, 40, 51. fractional ounce, 37, 63; 39, 63. meters, 40, 51; 42, 72. qualifying, used in connection with in Miami, Florida, 39, 52. quantity statements, 43, 128. progress report on, 39, 54. Test: liquid-capacity measures, 8, 181. build-up, 35, 156. liquid-measuring devices, 14, 64; 15, cars, railway track scale, accuracy of, 111; 21, 104; 22, 79; 22, 104; 30, 121; 36, 25. 18, 176. methods, 33, 59. wholesale, 38, 93. strain-load, 35, 156. livestock scales, 18, 55; 19, 40; 35, weights of large denominations, 29, 111. 35. mass standards, 19, 103. Testing: measures, capacity, 8, 181. device for scales, 21, 40; 22, 75. pharmaceutical, 23, 74. drafts for wholesale liquid-measuring measuring devices, resolution on, 36, devices, 38, 93. 103. equipment: meters: developments in, 45, 133. electricity, 10, 52; 21, 54. stand-by service of, during repairs, gas, 8, 90; 21, 54. *34*, 68. gasoline, 21, 104; 22, 79; 22, 104; Testing of: 24, 41. beer barrels, 25, 113. household fuel oil, 26, 101; 27, 24. bottles, milk and cream, 16, 47. large-capacity, 24, 41; 26, 110; capacity measures, 8, 181. 28, 17. pharmaceutical, 23, 74. liquid, for liquefied petroleum gas, clinical thermometers, 19, 48. 40, 51; 42, 72. commercial devices by sample, 45, 12. in Miami, Florida, 39, 52. containers for fruits and vegetables, progress report on, 39, 54. dimensional method, 28, 128. taxicab, 12, 85; 17, 117; 17, 121; electricity meters, 10, 52; 21, 54. 18, 78; 19, 31. fabric-measuring devices, 15, 93. vehicle-tank, 23, 108; 24, 41; 26, farm milk tanks, 39, 44; 39, 46; 40, 104; 26, 110; 28, 17; 37, 66; 112. 39, 57. fruit and vegetable containers by water, 8, 118; 21, 54. dimensional method, 28, milk: fuel-oil storage tanks, 19, 22. gas meters, 8, 90; 21, 54. bottles, 16, 47. tanks, farm, 39, 44; 39, 46; 40, gasoline meters, 21, 104; 22, 79;

22, **1**04; 24, 41.

112.

Testing of-Continued Testing of-Continued taximeters, 12, 85; 17, 117; 17, 121; pharmaceutical weights and measures, 23, 74. 18, 78; 19, 31; 40, 45. platform scales. See Scales, platform. thermometers, clinical, 19, 48. postal scales, 8, 261; 17, 34; 18, vehicle scales. See Scales, vehicle. vehicle-tank meters, 23, 108; 24, 171; 24, 97. resolution on. 17, 138. 41: 26, 104: 26, 110: 28, 17: 37, 66; 39, 57. railway track scales, 10, 86; 11, 62; 36, 38; 37, 34. vehicle tanks, 17, 94; 19, 57; 23, resolution on, 35, 166. 112: 26, 104: 26, 110. water meters, 8, 118; 21, 54. scales: weighers, wheel-load, 19, 151. grain, 12, 104. jewlers', 9, 39. weights, standards and test weights, livestock, 18, 55; 19, 40; 35, 111. 19, 103. platform, 15, 32; 18, 54; 18, 65; 19, pharmaceutical, 23, 74. 40; 20, 84; 21, 40; 21, 48; 22, wheel-load weighers, 19, 151. 75; 24, 130; 25, 110; 26, 47; wholesale liquid-measuring devices, 26, 64; 27, 45; 27, 46; 27, 117; 38. 93. 28, 19; 28, 75; 28, 81; 28, 99; Tetra Pak system for packaging milk 31, 67. and other fluids, 40, 107. by National Bureau of Standards, Textiles: reports on, 26, 69; 27, 45; model law for, 35, 24. weights of, 35, 139. 27, 46; 28, 81; 29, 57; 30, 31, 61; 31, 145. Thermometers, clinical: postal, 8, 261; 17, 34; 18, 171; 24, resolution on, 19, 168. 97. testing of, 19, 48. resolution on, 17, 138. Thread, 34, 113. railway track, 10, 86; 11, 62; 36, Tinting base color systems for paints, 38; 37, 34. method of sale of, 40, 96; 41, 138. resolution on 35, 166. Tissue: resolution on. 33, 173. Association, report of, 32, 54. stock, 18, 55; 19, 40; 35, 111. wrapping, method of sale of, 40, 99. vehicle, 15, 32; 18, 54; 18, 65; 20, Tobacco: 84; 21, 48; 22, 75; 24, 130; 25, Federal quantity requirements for, 110; 26, 47; 26, 64; 27, 45; 27, 41, 27. 46; 27, 117; 28, 19; 28, 75; 28, industry, weights in, 20, 35. 81; 28, 99; 31, 67. net-weight markings on cans and by National Bureau of Standards. packages of, 37, 51; 38, 67. reports on, 26, 69; 27, 45; Toilet paper and paper towels, uniform 27, 46; 28, 75; 28, 81; 29, 57; marking of, 11, 113. 30, 35; 31, 61; 31, 145. resolution on, 11, 182. wheel-load weighers, 19, 151. Tolerances, 29, 12. standards: specifications. See Specificaand capacity, 8, 181. tions, tolerances, and regulalength, 20, 28. tions. mass, 19, 103. commodity, 34, 137. stock scales, 18, 55; 19, 40; 35, 111. necessity for, in excess, 18, 110. tanks: on loads of coal, 26, 102. farm milk, 39, 44; 39, 46; 40, 112. on scales: fuel-oil storage, 19, 22. at zero load, 44, 91. vehicle, 17, 94; 19, 57; 23, 112; computing, for money values, 44, 26, 104; 26, 110. 90.

Tolerances—Continued Training: on scales—Continued course, NBS, for office testing work, following intra-test adjustment, 40, 33, 5; 34, 135. 121. public officials, 26, 22. small-capacity: schools for weights and measures shift test, 37, 84; 37, 87. officials and servicemen, 37, 64; 38, 56; 41, 120; 43, 110. stated in decimal fractions of pounds, 42, 79. resolution on, 43, 107. Tolerances for: servicemen, 37, 64. animal scales, 41, 167. weights and measures officials, 35, large-denomination test weights, 29, 105; 37, 64; 38, 56; 41, 120; 43, 110. liquid-measuring devices, 38, 95. resolution on, 43, 107. wholesale, 38, 94; 42, 83; 44, 86. Transient vendors, regulation of, 18, meters, vehicle-tank, 42, 83; 44, 86. 121. spring scales, uncompensated, 39, 86; Transmission drive for taximeters, 19, 31; 20, 80; 21, 21. test weights, large-denomination, 29, resolution on, 21, 160. Truck, weighing, highway, 38, 25. uncompensated spring scales, 39, 86; resolution on, 41, 171. 42, 80. Turpentine, method of sale of, 40, 99. Twentieth century problems in equity vehicle-tank meters, 42, 83; 44, 86. wholesale liquid-measuring devices, in quantity, 45, 109. 38, 94; 42, 83; 44, 86. Twine and cordage, 16, 63; 16, 71. Tomatoes: method of sale of, 38, 80; 40, 99; 40, in package form, method of sale of, 100; 41, 137; 42, 102. 37, 61. Two-draft weighing of motor-vehicle loads, 28, 63; 40, 120; 41, 167. in retail cartons, 37, 5. Type of commercial apparatus, approval resolution on 2,000-pound, 16, 142. See Approval of type of comuniform, for eoal, 15, 53; 15, 124; 16, mercial apparatus. 65. Track scales, railway. See Scales, rail-U wav track. Trade-in scales, reconditioning of, 22, Uncompensated spring scales, tolerances for, 39, 86; 42, 80. Trade practice in the meat packing in-Under Secretary of Commerce, addustry, 41, 124. dresses of, 39, 1; 40, 3; 42, 1. Trading by weight: Undercover buying, 25, 138; 26, 13. committee on, reports of, 32, 25; 33, 164; 34, 75; 35, 52; 36, 7; Uniform: 37, 18; 38, 17; 39, 53; 40, 87; laws, regulations, etc., among the 41, 124; 44, 66. States, 21, 60. resolution on, 31, 158. resolutions on, 10, 186; 21, 161. Trading in grain, hundredweight or regulations, committee on: bushel as trading unit for (See also, formation of, 34, 166. Trading by weight, committee on, reports of, 35, 40; 36, 20. reports of), 42, 94; 42, 97; 43, 51; reporting and records, 45, 134.

45. 33.

resolution on, 42, 99.

weight certificates for shipment of

household goods, 40, 125.

Uniformity of weights and measures requirements, 28, 5; 30, 81; 44, 89. committee on, 21, 160; 21, 161.

reports of, 22, 116; 24, 171.

for milk and cream bottles, 15, 30; 16, 45; 16, 64; 17, 26; 30, 168. resolution on, 15, 125; 17, 138.

specifications, tolerances, and regulations, 44, 89.

United Kingdom, development of weights and measures control in, 42, 22.

Units, special, for fluid dairy products, 43, 46; 44, 111.

Use of prepackaging scales, 44, 84; 44, 89.

Used weighing devices, sale of, resolutions on, 27, 110; 28, 52.

Utility meters, regulation of, 26, 145.

V

Variation in package fill, 40, 35.

Vegetables and fruits. See Fruits and vegetables.

Vehicle scales:

A.R.E.A. specifications for, 25, 88; 31, 129.

deflection of weighbridge members of, 31, 129.

end testing versus corner testing of, 26, 64.

four-section, 32, 21; 32, 48; 34, 47. local master, 31, 87.

platform overhang on, 31, 92.

selection, installation, and maintenance of, 30, 45.

specifications, tolerances, and regulations for, 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; 39, 88.

testing of and testing equipment for, 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.

Vehicle scales—Continued

testing of and testing equipment for— Continued

National Bureau of Standards, reports on, 26, 69; 27, 45; 27, 46; 28, 75; 28, 81; 29, 57; 30, 35; 31, 61; 31, 145.

use of, in highway planning survey, 27, 87.

weighbridges on, 32, 49.

Vehicle tanks, 15, 53.

calibration of. 33, 60.

indicators, compartment, multiple, 38, 93.

meters for:

air elimination for, 26, 106.

testing of, 23, 108; 24, 41; 26, 104; 26, 110; 28, 17; 37, 66; 39, 57.

tolerances on, 42, 83; 44, 86.

piping design, 31, 33.

specifications, tolerances, and regulations for, 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; 39, 81; 41, 154; 42, 85; 43, 66; 44, 86; 45, 98.

testing equipments for, 26, 110.

testing of, 17, 94; 19, 57; 23, 112; 26, 104; 26, 110.

valves on, 26, 98.

Vendors, transient, regulation of, 18, 121.

Vice Presidents, number of, 34, 4; 34, 95. Visibility of indications of:

counter scales, 22, 117.

liquid-measuring devices, 31, 108.

Volumeters, research program on, 29, 45.

W

Wall coverings, method of sale, of 42, 103.

Wallpaper rolls, quantity statements on, 41, 122; 42, 103.

Watchmakers, certification of, 27, 66.

Water meters, testing of, 8, 118; 21, 54.

Waxed paper, method of sale of, 42, 101.

Week, weights and measures:

reports on, 43, 25; 44, 19; 45, 19.

resolutions on, 43, 107; 44, 115.

Weighbeams, 31, 71. maintenance of, 35, 109.

Weighbridges of vehicle scales, 32, 49. Weight: Weighers, wheel-load: basis for trading in grain. (See also protection of highways by, 15, 26; Trading by weight, committee on, reports of), 42, 94; 42, 97; 43, **24**, 123. specifications, tolerances, and regula-51; 45, 33. tions for, 19, 156. resolution on, 42, 99. testing, 19, 151. certificates, uniform, for shipment of Weighing: household goods, 40, 125. axle-load: net, of cans and packages of tobacco, current situation in, 41, 145. 37, 51. investigation on, 39, 72. sales by: resolutions on, 37, 89; 38, 98; 40, net, 13, 118; 16, 69. of dry commodities, 8, 106; 8, 109; baggage and freight, 18, 34; 18, 46. 9, 147; 10, 109; 10, 189; 11, 88; 12, 212; 13, 185; 15, 17; coal, 13, 182; 14, 54; 16, 123. 16, 82; 17, 37; 19, 59; 22, 13. coke, 11, 159. cotton, 16, 26; 23, 22. resolutions on, 8, 200; 10, 189; creamery, 9, 39; 17, 11. 12, 205; 13, 177; 16, 139; devices, used, sale of, resolutions on, 19, 167. of ice cream, 18, 115; 19, 146; 37, 27, 110; 28, 52. for hire, exclusion from "commercial" 48. category, 45, 100. resolution on, 20, 131. of meat, 39, 62. freight, 18, 34; 18, 46. grain, 12, 140; 22, 65; 37, 30. of wiping cloths, 37, 55. resolutions on, 12, 205; 19, 167. highway: Weights: axle-load, current situation in, 41, 145. hidden, side beams, and dial scales, truck, 38, 25. 25, 134. resolution on, 41, 171. of flour, 37, 7; 38, 32; 44, 106. in customs service, 18, 104. of food packages, supervision of in in meat-packing industry, 22, 56. Wisconsin, 44, 121. industrial, 11, 51; 19, 120. of livestock, 40, 47. of packaged commodities, 37, 7; 38, large-capacity, factors involved in, 24, 147. 32; 44, 106; 44, 121. livestock, 19, 40; 38, 46; 38, 50. of prepackaged merchandise, control machinery, automatic, for packages, of, 43, 74; 43, 97; 44, 121. pharmaceutical, testing of, 23, 74. 38, 40; 41, 52. motor-vehicle loads, two-draft, 28, specifications, tolerances, and regula-63. tions for, 8, 220; 9, 62; 9, 112; sugar, 20, 35. 10, 216; 11, 155; 11, App. 1, supervision, livestock, 38, 46. 41; 17, 132; 27, 96; 30, 110; 36, tobacco, 20, 35. 109. truck, highway, 38, 25. standards and test weights, testing resolution on, 41, 171. of, 19, 103. two-draft, of motor-vehicle loads, 28, Weights and measures: 63; 40, 120; 41, 167. administration: Weighmasters: board of adjustment, 25, 95. Chicago ordinance on, 27, 11. conduct of departments, 8, 177; 10, Model Law on, 35, 22; 36, 62. 122; 15, 75; 16, 28; 16, 34; 18, supervision of, 18, 12. 170; 22, 29; 22, 62; 26, 18. uniform legislation on, 34, 20. contests, 28, 125.

Weights and measures—Continued Weights and measures—Continued administration-Continued conditions in various jurisdictionscooperation among officials, 21, 60; Continued New York City, 26, 50. 22, 29; 23, 29. directing personnel, 31, 7. Philippine Islands, 10, 50. extension of, 24, 72. Puerto Rico, 9, 138; 17, 17. Richmond, Virginia, 18, 39. Federal aid in, 34, 105. South, 19, 73. fee system for, 10, 134; 12, 87; Virginia. 9, 146. 26, 9. contests, 28, 125. improvement of, in United States, control in United Kingdom, develop-42, 50; 43, 89. in Alaska, 42, 116; 44, 69. ment of, 42, 22. correspondence course, resolution on, in Canada, 24, 61: 42, 44. in France, 44, 77. 18, 182. in Germany, 43, 11. education (See also Education), 32, 49. in Great Britain, 26, 83; 42, 22. committee on, 26, 164; 29, 145. reports of, 30, 103; 31, 45; 31, in Puerto Rico, 42, 90. national unity in, 30, 6. 52; 32, 51; 33, 115; 34, 71; observations on, 22, 62; 23, 48; 35, 99; 36, 47; 37, 39; 38, 56; 39, 32; 40, 27; 41, 97; **29**, 31. organization of departments, 8, 42, 41; 43, 21; 44, 24; 45, 16. 177; 10, 122; 15, 75; 16, 28; 16, consumer, Chicago plan for, 43, 23. 34; 18, 170; 22, 29; 22, 62; enforcement, national survey on, 42, 26, 18. 60. exhibits, 39, 32. radio programs, 29, 19; 31, 44; 31, 165. forms, report, 34, 76; 41, 35. school, weights and measures, novel in aerosol commodities, 45, 77. form of, 30, 32. in California, a consumer view, 45, State aids for local departments, 26, 27. inspection, financing of, 27, 25. State-wide inspection, 26, 29. international bureau of, 17, 81. surveys, national, on, 27, 16; 28, laws, publication on, 35, 120. 28; 29, 48; 42, 60. legislation, national survey on, 42, 60. symposiums on, 42, 105; 43, 110; model State law on. See Model State 44, 117; 45, 133. law on weights and measures. undercover buying, 25, 138; 26, 13. News Letter, 30, 183. uniformity of, 28, 5; 30, 81. officials: and petroleum products, 25, 62. cooperation of, on National Deapproval seals, 39, 65; 40, 109. fense, 31, 2. aspects of chain store operation, 21, exchange of information among, 42, 110. association, responsibilities of the merit system for, 26, 164. official to, 35, 94. position descriptions for, 41, 99. salaries for, 37, 41; 39, 36; 42, 67; cases: digest, notes on, 21, 155. 43, 21. training of, 35, 106; 37, 64; 38, 56; preparation of, 41, 17. publication on, 35, 120. 41, 120; 43, 110. technicalities in, 38, 63. resolution on, 43, 107. communications, 44, 41. organization: conditions in various jurisdictions: problems involved when starting, abroad, 2, 35; 17, 81. **35**, 103. Far West, 18, 69. public regulations for, 35, 107. Latin-American countries, 12, 135. training for, 35, 105.

Weights and measures—Continued periodicals, 21, 71; 30, 183. personnel: position descriptions for, 41, 99. salaries for, 37, 41; 39, 36; 42, 67; selecting and training of, 35, 105; *43*, 110. problems of local sealer, 22, 62; 26, 18. program in a State department of agriculture, 40, 13. progress in Puerto Rico, 42, 90. report forms, 34, 76; 41, 35. salary schedule, 37, 41; 39, 36; 42, 67; 43, 21. salesmanship, 27, 69. school, novel form of, 30, 32. schools, why? 41, 120. seals, approval, 39, 65. standards: of the United States, history of, 1, proposed legislation on, 27, 1. resolutions on, 27, 109; 28, 137. State, resolutions on, 40, 124; 44, 114. used by Air Force, 45, 61. supervision, 42, 6. consumers' interest in, 27, 16. survey by Department of Agriculture,

27, 16; 28, 28; 29, 48. week, reports on, 43, 25; 44, 19; 45,

Wheel-load:

resolutions on, 43, 107; 44, 115.

scales, specifications, tolerances, and regulations for, 38, 89.

Wheel-load—Continued weighers: protection of highways by, 15, 26; 24, 123. specifications, tolerances, and regulations for, 19, 156. testing of, 19, 151. Wholesale liquid-measuring devices: testing drafts for, 38, 93. tolerances for, 38, 94; 42, 83. Why weights and measures schools? 41, Wine, Federal quantity requirements for, 41, 23. Wiping cloths, 34, 124; 35, 122; 37, 55. Wood: pulp, method of sale of, 42, 102. sale of, 12, 61. Working together for the consumer's protection, 44, 105. Workload statistics, 42, 115. Wrapped meats:

14, 45; 20, 121; 35, 148; 36, 71; 36, 88. resolution on, 11, 158.

marking of net weight on, 12, 145;

resolution on, 11, 158 shrinkage of, 20, 121.

Wrapping tissue, method of sale of, 40, 99.

Y-Z

Yard, international, 44, 9. resolution on, 44, 114. Zero-load tolerance for scales, 44, 91.

Index by Names of Speakers

A

Adams, O. C., The Great Atlantic & 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, K. C., Hobart Manufacturing

Co.:

Fundamentals of scale design, 27, 55. An automatic prepackaging scale, 41, 52.

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., U.S. Department of Agriculture:

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

Anderson H. L., Federal Trade Commission:

Work of the Federal Trade Commission relating to weights and measures, 22, 42.

Andresen, Hon. August H., Member of Congress, third district, Minnesota:

Weights and measures prosecutions, 19, 89.

Astin, A. V., National Bureau of Standards:

Address, 37, 2.

President's address, 37, 71; 38, 4; 39, 3; 40, 4; 41, 3; 42, 1; 43, 6; 44, 7; 45, 7.

Austin, G. 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.

Transmission drive for taximeters, 19, 31.

Marked weight and shrinkage of hams and other wrapped meats, 20, 124.

Austin, G. F., Jr., Assistant Supervisor, Bureau of Weights and Measures, City of Detroit, Mich.:

Inspection of weights and measures in pharmacies, 23, 74.

Weights and Measures, City of Detroit, Mich.:

Broken glass, 29, 31.

————, Deputy Sealer of Weights and Measures, City of Detroit, Mich.:

Flour weights, 37, 7.

Prepackaged foods, 38, 12.

B

Bacigalupo, A. W., Inspector of Weights and Measures, City of Memphis, Tenn.:

Safeguarding the merchant, 18, 44. Badger, H. L., National Bureau of Standards:

National Bureau of Standards railway track scale activities, 41, 142.

Baker, C. A., Director, Bureau of Weights and Measures, State of New York:

Frozen foods, 33, 17.

Check-weighing scales, 39, 29.

- Baker, H. W., Ohmer Fare Register Co.: Baucom, C. D.—Continued 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.:
 - Department-store control 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 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.
- BATEMAN, C. F., Wayne Pump Co.: Remarks on requirement for sight glasses on retail liquid fuel dispensers, 40, 80.
- 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 sightglasses, 30, 15; 40, 79.

- - Remarks on graduating the indicating elements of scales in tenth pounds, 39, 60.
 - Remarks on proving LP-gas liquid meters, 40, 75.
 - Remarks on requirement for sight glasses on retail liquid fuel dispensers, 40, 79.
- Baumes, H. L., League of Virginia Municipalities:
- The training of public officials, 26, 22.
- BEACHAM, L. M., Food and Drug Administration:
 - Current position of the Food and Drug Administration regarding the labeling of packing house products, 43, 96.
 - Prominence and conspicuousness of quantity statements on package labels, 43, 125.
- Bean, H. S., Member Joint ASME-API Committee for Volumetric Research:
 - A tentative code on the installation. proving, and operation of positive displacement meters in liquid hydrocarbon service, 32, 71.
- ---. 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,
 - 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.

Beck, T. C., Assistant Director, Market- Blood, F. E., U.S. Department of Agriing Division, State of Oklahoma:

Problems involved in setting up a new weights and measures organization, 35, 103.

BEHRMANN, J. F., National Association of Retail Grocers:

Irregular or diversified packing of farm products, 21, 53.

Bell, Raymond, U. S. 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-byweight 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.

Bernard, J. A., Commissioner of Weights and Measures, City of St. Louis, Mo.:

Quantity declarations on packaged soap products, 34, 79.

BERRY, G. L., Superintendent of Weights and Measures, County of Monmouth, N. J.:

Seasonal aspects of county weights and measures administration, 22, 62.

BERRYMAN, NALLS, Superintendent, Weights and Measures Division, State of Florida:

Testing equipment for LPG measuring devices, 35, 62.

BEYHAN, S. J., American Feed Manufacturers Association:

Remarks on trading in grains by weight, 42, 97.

BLATT, MISS GENEVIEVE, Secretary of Internal Affairs, State of Pennsylvania:

Address, 41, 5; 44, 12.

BLICKLEY, J. F., Director, Bureau of Standard Weights and Measures, State of Pennsylvania:

Liquefied petroleum gas, units of measurement, 34, 22.

Should word "net" be mandatory in quantity statements? 37, 12.

culture:

Current position of the U.S. Department of Agriculture regarding the labeling of poultry and poultry products, 45, 71.

BOOTH, J. R., Sealer of Weights and Measures, City of Haverhill, Mass .:

Portable testing equipments for large-capacity meters and vehicletank compartments, 26, 113.

BOUGHNER, W. W., Supervisor, Division of Weights and Measures, State of Michigan:

Care and use of primary State standards, 34, 135.

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

Design and construction of scales, 8,

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,

BOWMAN, A. P., Oscar Mayer & Co.: Quantity control on production lines, 43, 97.

BOWMAN, D. L., U.S. Department of Agriculture:

Scales under expanded packers and stockyards jurisdiction, 44, 125.

Boyd, W. C., Chief, Sanitary Bedding Section, Division of Weights and Measures, Board of Health, State of Indiana:

Communications in weights and measures enforcement, 44, 41.

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

BOYLE, J. A., Sealer of Weights and Measures, Portland, Maine:

Supervision over domestic sales of fuel oil, 33, 161.

Bradley, R. O., Toledo Scale Co.:

Belt conveyor scales, 37, 65.

BRADY, MRS. MILDRED E., Consumers Union:

Twentieth century problems in equity in quantity, 45, 109.

Brand, Hon. Charles, Member of Briggs, L. J.—Continued Congress, Seventh District, Ohio:

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

Brandly, P. J., U.S. Department of Agriculture:

U.S. regulations—weights and measures—poultry, 36, 85.

BRENNEMAN, O. E., Chief Deputy Sealer, Bureau of Weights and Measures, State of Ohio:

Not in the book, 28, 5.

Brenton, J. E., Chief, Bureau Weights and Measures, State ofCalifornia:

Testing equipment for LPG measuring devices, 35, 53.

Wiping cloths, 37, 55.

Bridge, M. A., Sealer of Weights and Measures, City of Columbus, Ohio: Use of auxiliary automobile tanks for checking gasoline deliveries, 19, 101.

BRIDGEMAN, O. 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.

 U. S. Department of Agriculture:

Heavy-capacity platform scales—apparatus and methods for field tests, 18, 55.

Problems in livestock weighing, 19,

Briggs, L. 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.

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.

Resignation, 32, 4.

—, Director Emeritus, National Bureau of Standards:

Review of Conference accomplishments, 32, 7.

Remarks, 34, 112; 35, 43.

Brinkley, P. C., National Association of State Departments of Agriculture: Address, 43, 89.

Brode, W. R., National Bureau of Standards:

Remarks, 38, 75.

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.

BRYANT, G. H., Frozen Food Institute, Inc.:

Frozen foods, 33, 29.

Bulson, C. H., Sealer of Weights and Measures, County of Jefferson, N.Y.: Publicity as a means of increasing

cooperation and efficiency, 17, 91.

Burgess, G. 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,

Licensing of scale mechanics, 28, 38. Frozen foods, 33, 35.

- BUSSEY, W. S., National Bureau of CARPENTER, G. E., Supervisor, Division Standards:
 - Care and use of State primary standards, 34, 132.
 - Improving the service of the National Bureau of Standards Office of Weights and Measures to officials and manufacturers, 35, 154.
 - Report as Secretary of Conference, 37, 1.
 - Remarks as Secretary of Conference, 40, 125.
 - Report on LPG meter testing-progress and experimental test-setup, 42, 72.
- BUTLER, B. J., Commissioner, Department of Agriculture, State of Kentucky:

The task ahead, 43, 69.

Full measure, 44, 73.

- CAMPBELL, CARLOS, National Canners Association:
 - Standardization of packages, 29, 85.
- CAMPBELL, MRS. PERSIA, Consumer Counsel to the Governor, State of New York:
 - Legislation in the consumer interest, 43, 31.
- CAMPBELL, V. D., Deputy State Sealer, State of Ohio:
 - The testing of wheel-load weighers, *35*, 133.
- ---, Supervisor, Division of Weights and Measures, Department of Agriculture, State of Ohio:
- Keeping laws and regulations modern, 43, 115.
- CAREY, D. J., National Association of Commissioners, Secretaries, and Directors of Agriculture:
 - Address, 42, 6.
- CAREY, L. C., U.S. 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.

- of Weights and Measures, State of Vermont:
 - Vehicle tanks, 33, 70.
- CARPENTER, R. G., The Great Atlantic & Pacific Tea Co.:
 - Prepackaged perishable commodities—the marketer's viewpoint, 35, 84.
- CARTER, T. A., Supervisor, Division of Standards, State of Washington: Sale of peat moss, 37, 54.
- CHEYNEY, A. R., Post Office Department: Post Office Department program for checking and maintaining accuracy of scales in service, 18, 171.
- CHRISTIE, S. H., JR., Senior Inspector, Division of Weights and Measures, State of New Jersey:
 - Strain-load tests and build-up tests, 35. 156.
 - —, Deputy Superintendent, Division of Weights and Measures, Department of Law and Public Safety, State of New Jersey:
 - Qualifying terms used with quantity statements, 43, 128.
- CLARK, W. D., Fairbanks, Morse & Co., and Past President, NSMA:
 - A report from the National Scale Men's Association, 34, 42.
- CLARKE, W. G., Pure Oil Co.:
 - Merchandising motor oil in sealed bottles, 24, 16.
- CLEVELAND, R. S., National Bureau of Standards:
 - Basis weights for paper and textiles, 35, 139.
- 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.

CONDON, E. U., National Bureau of CRITTENDEN, E. C.—Continued Standards:

President's address, 32, 6; 33, 1; 34, 1; 35, 1; 36, 1.

National Bureau of Standards training course program, 33, 5.

Considine, D. M., Brown Instrument Co.:

Some aspects of industrial weighing, *33*, 107.

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, C. R., Label Manufacturers National Association:

Standardization of packages, 29, 121.

Cottom, C. O., Supervising Inspector of Weights and Measures, Department of Agriculture, StateMichigan:

Administrative problems—relations between the official and the manufacturers and dealers in weighing and measuring devices, *42*, 107.

Craig, J. H., Deputy Secretary of Internal Affairs, State of Pennsylvania: Mandatory net-content marking of all commodities in package form, 19, 121.

Crawford, H. 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.

Chairman's address, 45, 4.

Crews, Major P. W., Executive Officer, Department of State Police, State of Virginia:

Philosophy of law enforcement, 45, 87. CRITTENDEN, E. C., National Bureau of Standards:

Address, 25, 1.

Federal aid in weights and measures programs, 34, 108.

Address—international organization on metrology, 37, 19.

Report on proposed international conference on legal metrology, 38, 72.

CROCKER, D. A., The Tissue Association, Inc.:

A report from the Tissue Association 32, 54.

Cronin, P. D., U.S. 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, J. J., Inspector of Standards, State of Massachusetts:

Testing leather-measuring machines, 15, 44.

Testing of clinical thermometers, 19,

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

Curry, T. C., U.S. Department of Agriculture:

Regulatory responsibilities Fruit and Vegetable Branch, U.S.D.A., 33, 133.

Dalziel, W. A., Deputy Sealer Weights and Measures, State Oregon:

Progress of weights and measures in the far west, 18, 69.

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

Daniels, J. 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, C. E., Columbia Scale Co.:

Use and abuse of person-weighing scales, 23, 126.

INDEX BY NAMES OF SPEAKERS

General, Department of Law and Public Safety, State of New Jersey: State authority in package control, 43,

103.

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.

---, 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, P. H., Secretary of Internal Affairs, State of Pennsylvania:

Remarks, 24, 61.

DIAZ, A. E., Head, Division of Weights and Measures, Economic Stabilization Administration, Commonwealth of Puerto Rico:

Weights and measures progress in Puerto Rico, 42, 90.

Selecting and training new inspectors, 43, 110.

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.

DIETZ, J. M., Superintendent of Weights and Measures, County of Union, N.J.

Testing procedures for vehicle-tank compartments, 34, 126.

DIPIERO, ALFRED, Superintendent of Weights and Measures, City of Camden, N.J.

Our work in the field, 37, 45.

D'AURIA, ALFRED, Deputy Attorney DISERIO, M. 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.

Dobell, B. E., Safeway Stores, Inc.: Prepackaged produce, 41, 86.

Downer, J. H., Secretary, National Scale Men's Association:

A report from the National Scale Men's Association, 36, 5.

Downing, F. P., Chief Inspector of Weights and Measures, State of Wisconsin:

Creamery, prescription, and jewelers' weighing and measuring appliances, 9, 39.

-, U.S. Department of Agriculture:

Movement toward obtaining standard shipping containers for marketing fresh fruits and vegetables 12, 89.

Drake, F. R., National Wholesale Grocers' Association:

Metric system, 9, 27.

DRAPER, HON. ERNEST G., Acting Secretary of Commerce:

Address, 26, 73.

DURGIN, W. A., National Bureau of Standards:

Standardization and simplification, *16*, 94.

E

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.

INDEX BY NAMES OF SPEAKERS

EMHARDT, E. C., Supervisor, Bureau of Ferris, C. H., National Bottle Manu-Weights and Measures, County of Philadelphia, Pa.:

A board of adjustment, 25, 95.

Engelhard, C. 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 supervision of baggage and freight scales, 18, 46.

Plate-fulcrum master scale installation at Altoona works of Pennsylvania Railroad, 20, 15.

Ernst, M. 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, H. 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, 63.

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

EVERS, C. F., National Association of Frozen Food Packers:

Frozen foods, 33, 25.

F

FAIRCHILD, I. J., National Bureau of Standards:

Commercial standards, 21, 66.

FAKLER, HERMAN, Millers' National Federation:

Flour weights, 38, 32.

FAUGHT, W. A., U.S. Department of Agriculture:

Hundredweight or bushel as a trading unit for grain, 42, 94.

Ferner, R. Y., National Bureau of Standards:

Testing of capacity measures, 8, 181.

facturers' Association:

Divergence of requirements affecting milk bottles, 15, 30.

Fetherston, F. R., Liquefied Petroleum Gas Association, Inc.:

Measurement problems of the liquefied petroleum gas distribution industry, 30, 65.

FINDLAY, R. A., Deputy Inspector of Weights and Measures, Department of Territorial Police, Territory of Alaska:

Remarks, 42, 116.

—, Inspector, Division of Weights and Measures, Department of State Police, State of Alaska:

Weights and measures in Alaska the 49th State, 44, 69.

Fischer, L. A., National Bureau of Standards:

History of United States weights and measures, 1, 6.

Foreign weights and measures laws and regulations, 2, 35.

Secretary's report, 5, 12; 6, 13; 7, 16; 8, 15; 9, 15; 10, 46; 11, 83; 12, 25; 13, 18.

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 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. H., Superintendent of Weights and Measures, State of New Jersey: Elimination of sales by gross weight, **16.** 69.

Foley, J. H.—Continued

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., U.S. 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.

Friz, Nelson, Esso Standard Oil Co. and Member, Joint ASME-API Petroleum P.D. Meter Committee:

Test procedures for liquid-measuring devices—retail, 36, 27.

Fullen, R. L., Chief Sealer of Weights and Measures, City of Dallas, Tex.: Salesmanship in the weights and measures field, 27, 69.

Fuller, C. M., Sealer of Weights and Measures, County of Los Angeles, Calif.:

Enforcement of bread legislation, including proper tolerances, 14,

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.

FULLER, C. M.—Continued

Weights and measures regulation of liquefied petroleum gases, 30, 71.

Testing liquefied petroleum gas meter systems by the gravimetric method, 31, 21.

Financing a weights and measures organization, 33, 145.

LPG—problems encountered in testing metered systems, 34, 28.

Selling weights and measures to top government officials, 43, 112.

Chairman's address, 44, 5.

Fuller, H. J., National Scale Men's Association:

Report from National Scale Men's Association, 43, 60.

Fullmer, I. H., National Bureau of Standards:

Gages and gaging, 24, 125.

G

Gast, F. W., U.S. Treasury Department: Weighing in the customs service, 18, 104.

Gatewood, Lieut. Col. C. B., U.S. Army:

Work of the Ordnance Department, 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.

Gordon, L. J., Weights and Measures Research Center, Denison Universitu:

National survey of State weights and measures legislation, administration, and enforcement, 42, 60.

Uniform reporting and records, 45, 134.

Gould, R. E., Horological Institute of America:

Certification of watchmakers by the Horological Institute of America, 27, 66.

Graham, G. F., Streeter Amet Co.: Electronic scales, 38, 52.

INDEX BY NAMES OF SPEAKERS

GREENE, E. L., National Better Business | Hansen, Erling, Superintendent, De-Bureau, Inc.:

The business man and the weights and measures official, 21, 93.

Greene, F. M., Deputy Commissioner, Food and Drug Commission, State of Connecticut:

Duties of an inspector in a retail food store, 35, 36.

—, Chief, Division of Weights and Measures, State of Connecticut: Farm milk tank testing, 39, 46.

GRIFFITH, C. P., S. F. Bowser & Co.,

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

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

----, Bowser, Inc.:

Meter type gasoline pumps, 33, 79. Electromagnetic flowmeter, 39, 42.

Griffith, S. T., Chief, Division of Weights and Measures, City Baltimore, Md.:

Personal element in our work, 18, 170. How the public is educated in Baltimore, 20, 84.

Calibrating vehicle tanks by largecapacity measures, 23, 115.

The control of "bootleg" coal, 25, 129. Paper measure-containers, 28, 44.

H

Hadlick, P. 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, F. L., Director, Bureau of Weights and Measures, State of

New vehicle-scale testing equipment of Idaho, 28, 19.

partment of Weights and Measures, State of Minnesota:

A program of livestock scale testing, 35, 111.

HARDWICK, HON. THOMAS W., Chairman, Committee on Coinage, Weights, and Measures, House of Representatives:

Address, 7, 54.

HARKS, W. M., Bowser, Inc., Fort Wayne, Ind.:

LPG dispensing equipment—retail, 36, 22.

HARRIS, T. C., JR., Supervisor, Weights and Measures Section, Division of Markets, Department of Agriculture, State of Virginia:

Why weights and measures training schools? 41, 120.

HARRISON, M. J. J., American Railway Engineering Association:

Motor-truck scales and National Scale Men's Association activities, 25, 88.

-, National Bureau of Standards:

Mine scales and mine-scale investigagation, 12, 161.

-, 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.

-, Pennsylvania Railroad:

Factors involved in large-capacity weighing, 24, 147.

Tolerances, 29, 12.

Fay Stanley Holbrook-in memoriam, 30, 5.

Weighbeams, 31, 71.

Weighbeam maintenance, 35, 109.

Hart, J. L., Gloucester Fisheries Association:

Frozen fish, 33, 37.

HARTIGAN, Joseph, Commissioner, Mayor's Bureau of Weights and Measures, City of New York, N.Y.: Serialization of type, 9, 164.

INDEX BY NAMES OF SPEAKERS

HARTMAN, C. H., The Durman Com- | HEM, H. O., Toledo Scale Co.:

Simulated road test for taximeters, 40, 45.

HARVEY, J. L., Food and Drug Administration:

Shrinkage on packaged wheat products, 34, 62.

Working together for the consumer's protection, 44, 105.

HARVEY, J. W. D., State Oil Laboratory, State of Georgia:

Quantity of lubricating oil in sealed cans, 41, 71.

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.

HASSLER, F. R., Director, Bureau of Laboratories, Department of Health, State of Oklahoma:

Ferdinand Rudolph Hassler, 1770-1843, 33, 137.

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. HEASLIP, W. B., Supervising Inspector of Weights and Measures, City of Detroit, Mich .:

Duties of an inspector in a service station, 35, 30.

HEDWALL, F. H., Boston and Maine Railroad:

Installation and maintenance of track scales, 11, 73.

Heim, J. R., Federal Trade Commission: The Federal Trade Commission and consumers, 45, 116.

HELLER, DAVID, National Association of Scale Manufacturers:

Remarks on educational publicity program of the NASM, 39, 70.

Automatic scales, 12, 73.

Regulation of new types of devices,

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:

Functions of a State sealer, 8, 177. Hessee, E. W., Senior Chemist, Weights and Measures Division, State of North Carolina:

Testing equipment for LPG measuring devices, 35, 65.

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.

HOFFMAN, E. L., Socony-Vacuum Oil Co., Inc.:

Measurement of petroleum, 37, 23.

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 liquidmeasuring 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.

- Holbrook, F. S.—Continued
 - 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, E. H., U.S. 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, E. B., Assistant Superintendent of Weights and Measures, State of New Jersey:
 - Supervision over the buying of old gold, 25, 36.
- Holwell, J. 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.
- Horigan, J. B., U.S. 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. C., Measuregraph Co.:
 - Machine measurement for fabrics, 11, 117.
- IIovey, V. F., National Association of Ice Cream Manufacturers:
 - Shall ice cream be sold by weight? View point of the manufacturer, 18, 129.
- HOWARD, H. E., Supervisor of Weights and Measures, City of Miami, Fla.:
 - Prepackaged merchandise, informative labeling and enforcement procedures, 35, 91.
 - LPG meter testing in Miami, Florida, 39, 52; 39, 70.
- HOXIE, W. M., John Wood Co.:
 - Training schools for weights and measures officials and servicemen, 37, 64.
- Hubbard, H. 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:
 - Vehicle-scale testing equipment, 31, 70.
- Hubble, C. T., Food and Drug Administration:
 - Report from the Food and Drug Administration, 45, 101.
- Hunter, P. J., Chief Inspector, Bureau of Weights and Measures, County of Allegheny, Pa.:
 - Local "master" vehicle scales, 31, 89.
- Hutton, H. P., President, National Association of Commissioners, Directors, and Secretaries of Agriculture, and President, State Board of Agriculture, State of Oklahoma:
 - The weights and measures program in a State department of agriculture, 40, 13

Ι

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.

J

Jackson, C. L., Chief, Division of Economic Practices, Department of Agriculture, State of Wisconsin:

State-city weights and measures cooperation in Wisconsin, 41, 116.

Supervision of food package weights in Wisconsin, 44, 121.

Jacob, M., Director, Service de la Métrologie, Ministère des Affaires Économiques, of Belgium:

Remarks on international organization on metrology, 39, 69.

Jarrett, H. 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.

Jensen, M. W., Sealer of Weights and Measures, City of Madison, Wis.:

The retail poultry market, 36, 78.

National Bureau of Standards:

Performance of inspectors and gasoline pumps, 38, 82.

Weights and measures approval seals, 39, 65.

Paper milk containers, 40, 103.

Weights and measures approval seals, 40, 109.

An experiment in farm milk tank gaging and testing, 40, 112.

Report on LPG meter testing—NBS LPG meter prover, 42, 75.

JOHNSON, HON. BYRON L., Member of Congress, Colorado: Statement, 45, 145.

Johnson, C. G., Superintendent of Weights and Measures, State of California:

Proper publicity for a weights and measures department, 11, 45.

Net weight, 13, 118.

Johnson, G. L., Director, Division of Weights and Measures, State of Kentucky:

New weights and measures organization, public relations, 35, 107.

Administrative problems—enforcement of package-marking requirements, 42, 109.

Johnson, J. T., Metric Association,

Metric system of weights and measures 43, 52.

Johnson, W. B., Jr., Erie Meter Systems, Inc.:

Remote gasoline pumps, 38, 69.

Jones, J. R., Commissioner of Agriculture, State of South Carolina:

The responsibilities of the official to his weights and measures association, 35, 94.

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.

K

Kanzer, Barnett, Director, Bureau of Weights and Measures, State of New York:

Vehicle-scale testing equipment, 28, 100.

Keay, William, Gilbert & Barker Manufacturing Co.:

Evolution of gasoline pumps, 39, 32.

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, J. T., Director, Department of Weights, Measures, and Markets, District of Columbia:

Methods of sale of ice cream, 33, 73. Prepack meat counters, 36, 71.

————, Chief, Weights, Measures, and Markets, District of Columbia: Remarks on reweighing prepackaged meats, 39, 28.

Kennedy, L. L., Standard Oil Company of New Jersey:

The distribution of LPG, 33, 86.

————, Weights and Measures Committee, American Petroleum Institute:

Progress report on LPG meter testing, 39, 54.

Kennedy, Ridgway, International Association of Ice Cream Manufacturers:

Standardization of ice-cream cans, brick molds, and cartons, 22, 24.

Kennedy, V. C., Jr., Executive Director, University of Oklahoma Research Institute, State of Oklahoma:

Establishing a Bureau of Standards in Oklahoma, 45, 137.

Kennedy, V. C., Sr., National Scale Men's Association:

Report from the National Scale Men's Association, 40, 12.

Kerlin, W. A., Sealer of Weights and Measures, County of Alameda, Calif: Ice cream—sale by weight, 36, 35. Testing of vehicle-tank meters, 37, 66.

Kerr, R. H., U.S. Department of Agriculture:

Supervision over meats and meat products under the Federal Meat Inspection Act, 26, 132.

Kirschbaum, N. E., Supervisor, Weights and Measures Section, Department of Agriculture, State of Wisconsin:

Improving weights and measures administration in the United States, 42, 50.

Sealer of Weights Klein, Hon. Julius, Assistant Secretary
City of Bridgeport, 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.

Krach, Louis, Chief Engineer, Service of Instruments of Measure, Ministry of Industry and Commerce, Republic of France:

Weights and measures administration in France, 44, 77.

Kremer, C. J., Retail Bakers' Association of America:

Bread-weight legislation and the retail baker, 16, 104.

Kyrk, Miss Hazel, American Home Economics Association:

Standardization of packages, 29, 85.

L

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, M. L., Commissioner of Weights and Measures, State of Indiana: Sealed cans for dispensing lubricating oil, 25, 65.

LARSON, FRED, Shell Oil Co.:

Remarks on Shell Oil Co. LP-gas liquid meter prover, 40, 75.

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. K., Baltimore and Ohio Railroad:

Origin and destination weighing of coal in carload lots, 16, 123.

INDEX BY NAMES OF SPEAKERS

Lazo, Hector, Cooperative Food Distributors of America:

Lundeen, David, Weighmaster, Track
and Hopper Scale Department, State

Standardization of packages, 29, 89. Lee, E. P., General Foods Corporation: Factors contributing to package fill variation, 40, 35.

Statistics in quantity control of packages, 41, 57.

LEITHAUSER, G. H., Senior Assistant Superintendent of Weights and Measures, City of Baltimore, Md.:

Charges for rug cleaning, 35, 143.

Retail sale of bar soap, 36, 62.

Net-weight markings of packages and cans of tobacco, 37, 51.

Letzkus, C. R., National Scale Men's Association:

Activities of the National Scale Men's Association, 27, 71.

Levitt, J. J., Superintendent, Division of Standards, State of Illinois:

Testing equipments for large-capacity scales, methods employed, and results obtained, 26, 54.

Levy, I. M., Sealer of Weights and Measures, City of Chicago, Ill.:

Systematized package supervision, 34, 103.

Standardization of food packages, 37, 14.

Canned poultry, 39, 31.

Chicago plan for consumer education 43, 23.

Lewis, H. 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—apparatus and methods for factory tests, 18, 67.

LOHMANN, HENRY, National Association of Retail Grocers:

The retail grocer, 23, 69.

LUNDEEN, DAVID, Weighmaster, Track and Hopper Scale Department, State of Minnesota, and President, National Scale Men's Association:

Grain weighing, 37, 30.

LUTHER, HAROLD, National Fisheries
Institute:

Frozen fish, 33, 40.

Lutze, August, Sealer of Weights and Measures, City of Sheboygan, Wis.:

Cooperation between State and local weights and measures departments, 16, 28.

Lynch, J T., Millers' National Federation:

Progress report on packaging of flour, 41, 72.

Lyon, C. A., Director, Division of Markets and Standards, State of New Hampshire:

Tomatoes in retail cartons, 37, 5.

Mac—Mc (See also M)

McAliister, A. S., National Bureau of Standards:

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

McBride, J. P., Director of Standards and Necessaries of Life, State of Massachusetts:

Fay Stanley Holbrook—in memoriam, 30, 3.

Chairman's address, 43, 4.

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

Activities of the National Scale Men's Association, 30, 78.

McClintock, J. H., Esso Standard Oil Co.:

Petro-chemicals—their composition, handling, and quantity control, 41, 31.

McDade, H. J., Sealer of Weights and Measures, County of San Diego, Calif.:

Farm holding tanks, 37, 20.

Quantity statements on rolls of wall-paper, 41, 122.

- McDowell, D. N., Director of Agri- Magoffin, Ralph, Director, Bureau of culture, State of Wisconsin:
 - Moving ahead in accurate commercial measurement in the United States, 45, 12.
- McGrady, W. B., Chief, Bureau of Standards, State of Pennsylvania:
 - Pennsylvania serialization law, 15, 60.
- MacIntosh, John, Suburban Rulane Gas Co.:
 - Suburban Rulane LP-gas liquid meter prover, 40, 59.
- MacLean, A. D., Pittsburgh Equitable Meter Co.:
 - Testing of gasoline meters in the factory, 21, 122.
- MacLean, R. W., Director, Standards Division, Department of Trade and Commerce of Canada:
 - Weights and measures service in Canada, 36, 7.
 - Central programme for weights and measures in Canada, 42, 44.
- McLin, Deforest, Inspector of Weights and Measures, County of Huntington, Ind.:
- The itinerant scale mechanic, 24, 154. McPherson, A. T., National Bureau
- of Standards:
 - Remarks, 38, 62; 40, 50; 42, 105.
 - Services of the National Bureau of Standards, 39, 39.
- McWilliams, Arthur, Chief, Division of Dairies and Foods, State of Ohio:
 - Elimination of short weight and measure, 17, 85.

M (See also Mac-Mc)

- Mackall, J. N., Maryland State Roads Commission:
 - Protection of highways by means of portable weighing devices,
- MACURDY, L. B., National Bureau of Standards:
 - Standards of mass, 36, 42.

- Inspection, Department of Agriculture, State of South Carolina:
- Remarks as moderator of symposium on packaged commodities, 41, 57.
- MAGUIRE, LEONARD, Fairbanks, Morse & Co., St. Johnsbury, Vt.:
 - Belt conveyor scales, 36, 53.
- Maroney, E. 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, 58.
- Masters, D. W., Consumers Union of *U.S.*, *Inc.*:
 - From John Quincy Adams to Madison Avenue, U.S.A., 44, 99.
- MAYER, A. J., Director, Division of Weights and Measures, State of Louisiana:
 - New weights and measures organization—training, 35, 105.
- MAYER, HARRY, National Scale Men's Association:
 - Activities of the National Scale Men's Association, 31, 18.
- Meads, A. 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.
 - Federal aid in weights and measures programs, 34, 105.

INDEX BY NAMES OF SPEAKERS

and Measures, State of Indiana:

The appearance in trade of liquid measures of nonstandard sizes, 27, 103.

Vehicle-scale testing equipment, 31,

-, Director, Division of Weights and Measures, State of Indiana:

Remarks as Moderator of symposium on proving LPG liquid metering systems, 40, 51.

Statement as Chairman-elect of National Conference, 45, 145.

MEITH, E. V., Eli Lilly & Co.:

The big change to the metric system, 43, 57.

MEREDITH, FRANCIS, Director of Standards, State of Massachusetts:

Testing vehicle-tank meters, 23, 108. Equipment for testing large-capacity scales, 24, 136.

MEYER, J. F., National Bureau of Standards:

Labeling of incandescent-filament 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-byweight 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.

MILSTEAD, K. L., Food and Drug Administration:

Legibility of quantity declaration on packaged commodities, 41, 77.

Moller, Col. I. L., Traffic Department, District of Columbia:

Portable devices designed for determining the axle loads of loaded trucks on highways, 19, 151.

MEEK, R. E., Chief, Bureau of Weights | Montgomery, D. E., U.S. 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, C. R., Federal Trade Commission:

Federal Trade Commission, its authority, its activities, 44, 93.

MOORE, E. V., Assistant Commissioner, Department of Agriculture and Markets, State of New York:

Mutual public relations problems of weights and measures officials and American agriculture, 34, 56.

Moore, G. 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.

Moore, G. D., Gasoline Pump Manufacturers Association:

Testing, servicing, and repair of liquid-measuring devices, 30, 121.

The gasoline pump industry-one year after the war, 32, 56.

MORAN, J. J., Kimble Glass Co.:

The manufacture of precision glassware, 31, 54.

Pharmaceutical graduates, 45, 41.

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

Vapor meters, 35, 159.

Morgan, C. C., Sealer of Weights and Measures, City of Gary, Ind.:

A novel form of weights and measures school, 30, 32.

---, NationalScaleMen's Association:

Report from National Scale Men's Association, 39, 15.

Morsell, N. T., U.S. Treasury Depart-

Quantity requirements for tobacco under Federal alcohol and tobacco tax regulations, 41, 27.

Moss, J. E., American Petroleum Insti- Neale, R. J., U.S. Department of Agritute:

Report of central committee on automotive transportation of the API, 32, 23.

Vehicle tanks, 33, 60.

Mote, J. 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.

MUELLER, HON. FREDERICK H., Secretary of Commerce: Address, 45, 1.

MÜHE, WALTER, Physikalisch-Technische Bundesanstalt of Germany:

Some aspects of legal metrology in Germany, 43, 11.

Murphy, J. A., Assistant Deputy Attorney General, State of New Jersey:

Technicalities in weights and measures court cases, 38, 63.

Murphy, R. W., U.S. Department of Commerce:

NPA regulations and weighing and measuring devices, 36, 56.

NAGEL, HON. CHARLES, Secretary of Commerce and Labor:

Address, 5, 8; 6, 111; 7, 11.

NEALE, C. C., Commissioner of Weights and Measures, State of Minnesota: Seals and methods of sealing, 8, 204.

Demonstration showing the necessity of maintaining scale levers and lever connections level plumb, 9, 34.

Weight standardization of bread, 13, 115.

_____, Toledo Scale Co.:

Weighing in industry, 19, 120. -, Wayne Pump Co.:

Fay Stanley Holbrook-in memoriam, 30, 4.

culture:

State cooperation in a national program, 39, 19.

NELSON, MRS. HELEN E., Consumer Counsel, Governor's Office, State of California:

Weights and measures in California a consumer view, 45, 126.

Nelson, M. A., Chief, Division of Foods and Standards, Department of Agriculture, State of Michigan:

Following through on Conference actions, 43, 120.

NICHOLAS, J. E., Indiana Motor Truck Association:

Highway truck weighing, 38, 25.

Norgord, C. P., Assistant Commissioner of Agriculture and Markets, State of New York:

Some observations on weights and measures administration, 23, 48.

Oakley, C. H., Inspector of Weights and Measures, State of Wyoming:

Adjustments by weights and measures officials, 34, 163.

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,

Fay Stanley Holbrook-in memoriam, 30, 3.

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

70. O'MEARA, A. C., Swift and Co.:

Shrinkage losses in food products, 43, 79.

O'Neill, J. L., Inspector, Division of Weights and Measures, Board of Agriculture, State of Kansas:

Second annual national weights and measures week, 44, 19.

istration:

Frozen foods, 33, 21.

P

PADDOCK, J. M., Superintendent of Standards, State of Illinois:

Vehicle scales-testing equipment and procedures, 33, 112.

PALMER, A. W., U.S. Department of Agriculture:

Sale of cotton by net weight, and standardization of the bale, 23,

PARRON, J. A., Assistant Sealer of Weights and Measures, City of Norfolk, Va .:

Special test for vehicle tank meters,

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, W. A., Sealer of Weights and Measures, County of Monroe, N.Y .: Equipment for testing large-capacity scales, 24, 133.

PEARSON, J. C., Food and Drug Administration:

Accuracy requirements for quantity declaration on packaged commodities, 41, 82.

PEET, R. W., Association of American Soap and Glycerine Producers, Inc.: Quantity declarations on packaged soap products, 34, 82.

OSBORNE, R. A., Food and Drug Admin- Peffer, E. L., National Bureau of Standards:

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

> Gauging of fuel-oil storage tanks, 19,

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

Peiser, H. S., National Bureau of Standards:

State mass standards, 45, 45.

PERKINS, HON. RANDOLPH, Chairman. Committee on Coinage, Weights, and Measures, House of Representatives: Address, 23, 46.

Peterson, H. E., Chemical Specialities Manufacturers Association:

Weights and measures in aerosol commodities, 45, 77.

Pienkowsky, A. T., National Bureau of Standards:

Testing standards of mass (office standards and test weights), 19,

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.

-, Director, Bureau of Weights and Measures, City of New York, N.Y.:

Demonstration of fuel-oil metertesting equipment of the city of New York, 28, 17.

Pommersheim, John, Rockwell Manufacturing Co.:

Testing LPG measuring devices, 35, 73.

POPPY, T. G., Controller of the Standards, Standard Weights and Measures Department, Board of Trade of England:

Development of weights and measures control in the United Kingdom 42, 22.

Powers, J. J., Supervisor, Bureau of Redfern, E. L., Scaler of Weights and Weights and Measures, County of Philadelphia, Pa.:

Administrative problems—relations between State and local departments, 42, 105.

Prause, J. H., Martin & Schwartz, Inc.. Price signs on gasoline service stations, 32, 107.

QUEEN, W. A., Food and Drug Administration:

Recent activities of the Food and Drug Administration regarding short weight and deceptive packaging, 32, 11.

R

Rafferty, J. 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

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:

Shall ice cream be sold by weight? Viewpoint of the manufacturer, 18, 122.

RAYMUND, F. M., Assistant Sealer of Weights and Measures, County of Los Angeles, Calif.:

Fabric-measuring devices, 39, 64.

Reck, Dickson, Office for Emergency Management:

The weights and measures officer and the program for national defense, 31, 2.

Measures, State of Iowa:

Training the prospective housewife,

REDFIELD, HON. WILLIAM C., Secretary of Commerce:

Address, 8, 12; 9, 11; 10, 13; 11, 13; 12, 119.

REED, E. E., Phillips Petroleum Co.:

Phillips LP-gas liquid meter prover,

Reed, W. 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,

REICHMANN, FRITZ, Superintendent of Weights and Measures, State of New York:

Content of container law, 8, 79.

----, (retired):

Selection and maintenance of apparatus in industrial plants, 11,

Machine measurements in retail dry goods stores, 13, 169.

RENFREW, PAUL, Ralph N. Brodie Co., Inc.:

Testing equipment for large-capacity meters, 34, 38.

RICE, T. D., Massachusetts Fisheries Association:

Frozen fish, 33, 39.

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.

-, National Scale Men's Association:

Current activities of National Scale Men's Association, 24, 168.

, U.S. Department of Agriculture:

Tests of livestock scales, 33, 57.

Testing procedures for livestock scales, 34, 50.

RICHARD, C. L.—Continued

Developments in electronic weighing, 35, 43.

Problems in livestock weighing supervision, 38, 46.

ers Association:

Current situation in highway axleload weighing, 41, 145.

RICHARDS, W. S., Glass Container Association of America:

The manufacture of lubricating-oil bottles, 24, 15.

Roberts, G. 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.

ROBERTS, W. H., Inspector of Weights and Measures, County of Vigo, Ind.: Sale of garden seeds, 33, 159.

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.

, National Scale Men's Association:

Activities of the National Scale Men's Association, 32, 20.

——, Inland Steel Co.:

Impact on the steel business of formal specifications for weighing machinery, 34, 96.

ROESER, H. M., Streeter-Amet Co.:

Automatic-indicating scales—printed weight indications and remote weight indications, 30, 22.

Rogers, J. 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 heavycapacity scales in New Jersey, 21, 48.

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, S. C., U.S. Department of Agriculture:

Deceptive containers, 30, 138.

Food and Drug Administra-

Foods and drugs, 36, 89.

Prepackaged foods, 39, 22.

ROYLANCE, W. M., Western Fruit Jobbers Association of America:

Sales by weight, 10, 109.

Rumsey, Herbert, Jr., National Independent Meat Packers Association: Prepackaging of meat in meat packing plants, 41, 95.

Runkel, H., U.S. Department of Agriculture:

Enforcement of law in re marking of weights on wrapped meats, 14, 45.

Russell, H. H., National Bureau of Standards:

Testing procedures for four-section vehicle scales, 34, 47.

Calibration of tank cars, 35, 145.

Testing cordage-measuring devices, 36, 100.

National Bureau of Standards 1,000pound balance, 40, 31.

Ruttenberg, S. H., American Federation of Labor and Congress of Industrial Organizations:

Labor's stake in consumer protection, 45, 122.

S

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.

Sanders, Arthur, National Association of Scale Manufacturers:

Activities of the National Association of Scale Manufacturers, 32, 63.

______, Scale Manufacturers Association, Inc.:

Report on first national weights and measures week, 43, 25.

Sattler, Charles, Commissioner, Department of Labor, State of West Virginia:

Interstate packages, 36, 74.

Sauthoff, Hon. Harry, Member of Congress, Second District, Wisconsin: Remarks relative to standardization

of containers for canned foods, 27, 35.

SAYBOLT, J. W., Glass Container Manufacturers Institute, Inc.: Forward march, 32, 66.

Remarks, 38, 10.

Scheurer, W. A., National Scale Men's Association:

Automatic package weighing machinery, 38, 40.

Schindler, Hon. Alfred, Acting Secretary of Commerce:

Greetings, 20, 5.

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: Problems of weights in the handling of grain, 12, 140.

Developments in terminal weighing of grain, 22, 65.

Schneider, J. C., Association of Food and Drug Officials of the United States:

Activities of the Association of Food and Drug Officials of the United States, 32, 16.

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. 18, 57.

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

Schwarz, Mrs. Kathryn M., National Bureau of Standards:

The laws and the case book, 35, 120. Remarks, 38, 75.

SCOTT, G. D., Ex-Cell-O Corporation:

Machine measurement of market milk, 36, 67.

Scott, J. R., U.S. Department of Agriculture:

Wholesale labeling of meat products, 35, 148.

Packing house products, 36, 88.

Quantity statements on packing house products, 41, 92.

Current position of the U.S. Department of Agriculture regarding the labeling of packing house products, 43, 93.

SEARLE, F. A., Landers, Frary, & Clark: Regulation of new types of devices, 20, 61.

Seer, H. A., U.S. Treasury Department: Quantity requirements for distilled spirits, beer, wine, and alcohol, under Federal alcohol and tobacco tax regulations, 41, 23.

SENER, A. G., Sanitary Scale Co.:

Reconditioning rejected or trade-in scales, 22, 122.

Seraphin, T. 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.

Shanhouse, W. M., S. S. Hunter, Inc.: Surface gaging farm milk tanks, 39, 44.

Oil Inspection Division, State of North Carolina:

Supervision over sales—LPG, 34, 36. SHARP, B. M., Chief Clerk, Bureau of

Weights and Measures, City and County of Philadelphia, Pa.:

System of keeping records, 10, 171. SHEAFFER, HON. CRAIG R., Assistant Secretary of Commerce:

Address, 38, 1.

SHEEHY, W. E., Sealer of Weights and Measures, County of Fairfield, Conn.: The men who make the Conference. 37, 4.

SHERMAN, J. H., Superintendent of Weights, Measures, and Markets, District of Columbia:

Weights and measures work from the standpoint of the efficiency engineer, 10, 122.

Siegel, Charles, National Association of Retail Grocers:

Prepackaged perishable commodities-the marketer's viewpoint, 35, 89.

SIEGER, W. H., Neptune Meter Co., and Chairman of the Meter Manufacturers Weights and Measures Committee:

Test procedures and equipment for liquid-measuring devices—wholesale, 36, 25.

SINCLAIR, J. W., American Petroleum Institute:

Test procedures for vehicle-tank compartments, 34, 129.

SINCLAIR, L. D., U.S. Department of Agriculture:

Trade practice in the meat packing industry, 41, 124.

SIREN, J. N., SR., Inspector of Weights and Measures, State of Louisiana: Weighing of cotton, 16, 26.

SKINNER, W. W., U.S. Department of Agriculture:

Work in relation to ice cream of the Joint Committee on Definitions and Standards, 18, 135.

SLOUGH, R. K., Sealer of Weights and Measures, City of Akron, Ohio: Commodity tolerances, 34, 137.

SHANKLE, H. L., Chief, Gasoline and | 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, A. B., Chief, Bureau of Standard Weights and Measures, State of Pennsylvania:

Raising the standard for local weights and measures officials, 22, 29.

SMITH, A. R., National Truck Tank and Trailer Tank Institute:

Vehicle tanks, 33, 68.

SMITH, A. T., Inspector, Department of Weights and Measures, State of New

Testing equipments for large-capacity scales, methods employed, and results obtained, 26, 47.

-, Assistant State Superintendent, Department of Weights and Measures, State of New Jersey:

Vehicle tanks, 33, 63.

SMITH, C. B., National Scale Men's Association:

Activities of the National Scale Men's Association, 33, 105.

SMITH, C. P., Sealer of Weights and Measures, County of Suffolk, N.Y.: New testing device for large-capacity scales, 22, 75.

SMITH, E. N., American Automobile Association:

Cooperative program of the American Automobile Association, 22, 86.

SMITH, L. C., National Association of Ice Industries:

Short weighing in ice scales, 12, 77.

Smith, R. W., Deputy Commissioner of Weights and Measures, State of Minnesota:

Uniformity of State laws in weights per bushel of commodities, 8, 106.

—, Chief Inspector of Weights and Measures, State of Wisconsin:

Mechanical versus supervisional weights and measures work, 12,

- ards:
 - 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, 21, 21.
 - 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.
- —, Secretary, National Conference on Weights and Measures:

Report of the Secretary, 32, 2.

- The regulation of repairmen, 33, 122. A common problem, 33, 179.
- —, Honorary Life Member, National Conference on Weights and Measures:
 - Charles C. Neale—in memoriam; presentation of memorial gavel to National Conference, 40, 1.
- SNYDER, A. E., Inspector of Weights and Measures, City of Terre Haute, Ind.:
 - The value of weights and measures radio programs, 29, 19.

- SMITH, R. W., National Bureau of Stand-Souder, Wilmer, National Bureau of Standards:
 - Identification by precision methods of comparison and measurement, 22, 49.
 - Calibration of State standards, 33, 166.
 - Southwick, C. A., Jr., American Tetra Pak Corporation:
 - New system for packaging milk and other fluids, 40, 107.
 - SPILMAN, H. A., U.S. Department of Agriculture:
 - Federal Standard Container Act of 1928, 22, 13; 23, 53.
 - Consolidation and amendment of Federal standard container legislation, 24, 44.
 - The consolidated Standard Container Bill, 30, 8.
 - Spinks, J. M., National Scale Men's Association:
 - Report from National Scale Men's Association, 42, 58.
 - STAPLES, G. 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.
 - Steel, R. E., National Fisheries Institute, Inc.:
 - Frozen fish, 33, 33.
 - STENDER, C. H., Assistant to Commissioner of Agriculture, State of South Carolina:
 - National type approval, 45, 139.
 - STEPHENSON, J. H., Sealer of Weights and Measures, City of Rochester, N.Y.:
 - Testing of gasoline meters in the field, 21, 115.
 - STERN, L. E., Deputy Attorney General, Department of Law and Public Safety, State of New Jersey:
 - Food packages—when the responsibility of the State, 41, 110.

Markets, State of Maryland:

The new Marvland weights and measures law, 36, 31.

STILLMAN, M. H., National Bureau of Standards:

Testing of dry gas meters, 8, 90.

STOLLE, COL. RICHARD, U.S. Air Force: Weights and measures standards used by the Air Force, 45, 61.

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.

-, Massachusetts Institute of Technology:

Address, honorary president of Conference, 17, 89.

STRAUS, HON. OSCAR S., Sccretary of Commerce and Labor: Address, 3, 55.

STRAUSS, HON. LEWIS L., Secretary of Commerce:

Address, 44, 1.

STRAW, R. F., National Association of Scale Manufacturers:

Cooperative program of public relations and education, 40, 23.

STRINGER, ARTHUR, National Association of Broadcasters:

"You're on the air," 31, 44.

STROBRIDGE, E. 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.

STIER, H. L., Chief, Department of STROOP, D. V., American Petroleum Institute:

> Weights and measures petroleum products, 25, 62.

Stutz, W. F., National Bureau of Standards:

Testing of water meters, 8, 118.

SULLIVAN, G. H., Frozen Food Foundation, Inc.:

Frozen foods, 33, 39.

SULLIVAN, T. E., Director, Food and Drug Division, State Board of Health, State of Indiana:

Packaged food standardization, 41.

SWEENEY, J. A., Sealer of Weights and Measures, City of Boston, Mass .:

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

SWOGER, W. F., Director, Bureau of Standard Weights and Measures, State of Pennsylvania:

Methods adopted for regulation of new types of devices, 20, 43.

Т

Tate, D. R., National Bureau of Stand-

Investigation of axle load weighing, 39. 72.

TAYLOR, G. F., Chief Assistant Prosecuting Attorney, City of Pontiac, Mich .:

Obtaining evidence and preparing a case for court, *41*, 17.

TAYLOR, TYRE, National Association of Retail Grocers:

Frozen foods, 33, 36.

TEWKSBURY, R. B., Fruit Dispatch Co.: The banana market, 45, 23.

THEILMANN, R. H., Inspector of Weights and Measures, State of Arizona:

Progress of weights and measures in the Far West, 18, 71.

- THOMPSON, R. D., Supervisor, Weights | Tucker, C. E., Chief, Division and Measures Section, Department of Agriculture and Immigration, State of Virginia:
 - Adoption of test methods by the National Conference on Weight and Measures, 33, 59.
 - Standardization of report forms, 34, 76.
 - Problems in livestock weighing, 38,
- U.S. Department of Agriculture:
- Accurate livestock weights-important to agriculture, 40, 47.
- THOMPSON, W. E., Supervisor of Scales, State of Minnesota:
 - Heavy-capacity platform scales—apparatus and methods for field tests, 18, 60.
- THOMPSON, W. I., Superintendent of Weights and Measures, County of Monmouth, N.J.:
 - Coordination of State, county, and city activities, 44, 117.
- 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.
- Todd, J. N., Southern Railway System: Railway track scale testing program, 37, 34.
- Tough, W. H., Sanitary Scale Co.:
 - Weights and measures education in England, 36, 15.
- True, J. F., State Sealer, Weights and Measures Division, State of Kansas:
 - Stand-by service of testing equipment during repairs, 34, 68.
- TRUMAN, HON. HARRY S., President of United States:
 - Greetings, 32, 5.
- TRUMP, R. J., Controller, StandardsDepartment, Board of Trade of England:
 - Weights and measures administration in Great Britain, 26, 83.

- Weights and Measures, State of California:
 - California gasoline and oil substitution act, 28, 134.
 - Coordination between departments in relation to interstate shipments. **29,** 9.
- TURNBULL, D. M., Deputy Sealer of Weights and Measures, City of Seattle, Wash .:
 - Paper milk containers, 38, 22.

Usher, E. F., Sealer of Weights and Measures, Highland Park, Mich.:

Transparent containers for prepackaged merchandise, 33, 141.

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.

- VAN KEUREN, H. L., National Bureau of Standards:
 - Method of adjusting railroad track scales, 10, 86.
- VESTAL, HON. ALBERT H., Chairman, Committee on Coinage, Weights, and Measures, House of Representatives: Approval of type, 15, 57.
- VETH, ALBERT, Fair Scale Co.:

The installation and maintenance of large-capacity 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.
- WARNE, C. E., Consumers Union:
- Packaging as a technique of deceit, 43, 37.

Measures Inspection, State of Wisconsin:

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

Heavy-capacity platform scales-apparatus and methods for field tests, 18, 54.

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

Standardization of packages of canned foods, 27, 36.

Measure-containers and nonmeasurecontainers, 35, 162.

WARREN, J. A., American Management Association:

Management and the control of weights on prepackaged products, 43, 74.

WATSON, O. H., National Scale Men's Association:

Report from National Scale Men's Association, 41, 12.

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.

WEEKS, HON. SINCLAIR, Secretary of Commerce:

Address, 41, 1; 43, 1.

WEHMANN, E. F., Neptune Meter Co.: Evaluation of the volumetric and gravimetric methods of testing LP-gas liquid meters, 40, 70.

Temperature compensated meters in LP-gas service, 45, 64.

Weibley, J. W., Pittsburgh Taximeter Co .:

Transmission drive for taximeters, 19, 38; 20, 81.

Wellington, R. R., Skelly Oil Co.:

Skelly Oil Co. LP-gas liquid meter prover, 40, 68.

WARNER, G. W., Supervisor, Weights and | Wells, W. C., Pan American Union: Weights and measures of Latin-American countries, 12, 125.

> Wessels, F. H., Special Assistant to the Commissioner of Agriculture, Commonwealth of Virginia:

Building a State program, 40, 15.

WEST, HON. CHARLES, Member of Congress, Seventeenth District, Ohio: Address, 24, 77.

Westwood, E. C., Sealer, Department of Weights and Measures, City of Salt Lake City, Utah:

Salt Lake City and ice cream, 37, 48. WHEELER, HON. WILLIAM R., Assistant

Secretary of Commerce and Labor: Address, 4, 77.

White, W. G., Commissioner of Weights and Measures, State of New Hampshire:

Portable testing equipments for largecapacity meters and vehicle-tank compartments, 26, 110.

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.

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

Standardization of packages, 29, 104. Williams, D. H., International Associa-

tion of Ice Cream Manufacturers:

Pre-packaged-ice-cream measure-containers, 38, 20.

WILLIAMS, ROBERT, Sealer of Weights and Measures, County of Nassau, N.Y.:

Remarks, 38, 82.

Administrative problems—justification for budget increases, 42, 112.

Williams, W. O., Deputy Sealer of Weights and Measures, County of Trumbull, Ohio:

Sealer's responsibility relative to person-weighing scales, 24, 106

WILLIAMS, HON. WALTER, Under Secretary of Commerce:

Address, 39, 1; 40, 3; 42, 1.

WILSON, S. H., State Oil Chemist, State of Georgia:

Nontax-paid gasoline, 25, 50.

Standard Scale Works, Inc.: Heavy-capacity platform scales—ap-

paratus and methods for factory tests, 18, 68.

WITT, L. E., Sealer of Weights and Measures, City of Milwaukee, Wis.: Local "master" vehicle scales, 31, 87. Uniformity of interpretation and enforcement, 34, 90.

Wollin, H. F., National Bureau of Standards:

Report forms for the weights and measures official, 41, 35.

WORTHLEY, G. C., Fairbanks, Morse, & Co. and President, National Association of Scale Manufacturers:

Looking ahead in the Scale Industry, 39. 16.

Y

WINSLOW, M. H., Winslow Government Youden, W. J., National Bureau of Standards:

> Performance of inspectors and gasoline pumps, 38, 82.

Young, Hon. John Russell, President, Board of Commissioners, District of Columbia:

Address of welcome, 36, 1.

Z

ZELENY, LAWRENCE, U.S. Department of Agriculture:

Moisture measurement in the grain industry, 44, 47.

List of Conference Reports

Some of the Reports of the proceedings of the National Conference on Weights and Measures are still available for purchase at the prices shown. Purchase orders, accompanied by remittance (stamps are

not accepted), should be sent to the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

The publications of the National Bureau of Standards are sent to leading scientific, technical, and public libraries, and, in addition, the Superintendent makes available to Government Depository Libraries publications issued by the Government. It is possible, therefore, that copies of the Conference Reports may be available for reference use in such libraries.

LIST OF CONFERENCE REPORTS

Reports of the National Conference on Weights and Measures

Designation in NBS miscellaneous series of publications	Number of conference	Date of conference	Purchas price 1
			Cents
$\mathrm{M4}_{}$	1	1905	
M5	$\tilde{2}$	1906	
	3		
M6		1907	
M7	4	1908	
M8	5	1910	
			5
M9	6	1911	
M10	7	1912	
M11	8	1913	
M12	9	1914	
M13	10	1915	
M14	11	1916	
	12		
M41		1919	
M43	13	1920	
M48	14	1921	
M51	15	1922	
M55	16	1923	
M59	17	1924	
M70	18	1925	
M74	19	1926	
M80	20	1927	
1407	21	1928	
M87			
M101	22	1929	
M116	23	1930	
M129	24	1931	
M156	25	1935	
M157	26	1936	
M159	27	1937	
M161	28	1938	
M164	$\frac{29}{29}$	1939	
M167	30	1940	
M170	31	1941	
M186	32	1946	40
M189	33	1947	40
M195	34	1949	
M199	35	1950	
	0 -		
M202	36	1951	
M206	37	1952	
M209	38	1953	40
M212	39	1954	50
M216	40	1955	70
	10	1000	, ,
M219	41	1956	70
M222	42	1957	55
M225	43	1958	65
M228	44	1959	65
	44	1960	75
M235			

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

C







