DEPARTMENT OF COMMERCE
WASHINGTON, D. C.

COMMERCIAL STANDARDS MONTHLT

Monthly News Bulletin of Commercial Standards Group, Bureau of Standards.

April 15, 1929. S. F. TILLMAN, Editor No. 49

TABLE OF CONTENTS

PARAGRAPHS

Appendix 46

BUILDING AND HOUSING

Plumbing Requirements 32
Zoning Idea Spreads 33

COMMERCIAL STANDARDS

Commercial Standards Unit 13

DISTRIBUTION

Abreast of Competition 19
Cash Basis Adopted by Merchants 20
Changes in Distribution 25
Cleveland Industrial Census 22
Mass Movement by Trailers 21
Return of Goods Costly 24
Time Credit Accounts Outstanding 23

ELIMINATION OF WASTE

Vice President in Charge of Waste 41
Fire Waste 42
Engineering Economy 45
Industrial Waste 44
Standard Markings 43

MARINE STANDARDS

Committee News 12

NEW PUBLICATIONS 47

RESEARCH

Debunking Research 29
Future of Railroads 28

PARAGRAPHS

RESEARCH (Cont'd.)

Information on Medicinal Preparations 30
Photographs of Waves 27
Strength of Bricks 26
To an Anxious Father 31

SIMPLIFIED PRACTICE

Are Narrow Profits Margins Permanent 10
Cast Iron Pipe Report 7
Cooperation with A.S.T.M. 9
Division of Simplified Practice 2
Manufacturers' Interest in S. Practice 6
Personnel for Committee 11
Profitable Management 8
Rapid Turnover 3
Results and Benefits 1
Simplification Achieves Economy 4
What Is Rationalization 5

SPECIFICATIONS

Application of Certification Plan 14
Construction Specifications 17
Savings from Standardization 15
Value of Specifications 16
Willing-to-certify Lists 18

UTILIZATION OF WASTE

Checking Railroad Waste 36
Fabricator's Edition 40
Lumbermen to Meet 34
Making Profits 35
New Members Elected to Committee 37
Preserved Wood Subcommittee Formed 39
Wood Report Issued 38

"SIMPLIFY LINES AND STANDARDIZE KINDS"

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

1. RESULTS AND BENEFITS.

Results and Benefits of Applying Simplified Practice to Steel Barrels and Drums.

By - H. P. Dalzell,
Research Section.

Notwithstanding the fact that some manufacturers of steel barrels and drums are finding it necessary to make certain special sizes, the degree of adherence to the Simplified Practice Recommendation covering these commodities is quite high and on the upward trend. In 1925, 84% of the total steel barrels and drums produced by the acceptors of the recommendation were in accordance with the simplified list of sizes. In 1926 the percentage increased to 89.

This satisfactory performance, in an industry highly competitive within itself and serving others no less so, is a splendid example of the efficacy and practicability of voluntary cooperation and self-government in business.

The steel barrels and drums industry came to the division for assistance in 1924. A general conference was held on March 26th of that year, and the Simplified Practice Recommendation, now known as No. 20. - Steel Barrels and Drums, adopted. The original recommendation listed 24 sizes, eliminating 42. At the request of the standing committee of the industry, a second general conference was held on December 7, 1927, and one size of drum added to the list.

The Division of Simplified Practice wished to determine what benefits the industry had derived from these recommendations during the four years of operation. An inquiry was, therefore, addressed to each acceptor asking for his individual experience and whether or not he had observed any reduction of inventory, of capital investment, or other improvements traceable to Simplified Practice.

Among the eleven manufacturers, two distributors and forty-five users of steel barrels and drums who answered our inquiry, there was not a single instance of dissatisfaction. One manufacturer said, "Simplified Practice in the manufacture of steel barrels and drums enabled us to materially reduce our inventory, and also reduce selling expenses." Another gave a complete itemized list showing the ways in which this Simplified Practice is saving his firm $45,000 annually.

A distributor of general supplies for all classes of mining and industrial operations said: "We are please to advise that we have benefited greatly by the Simplified Practice, due to the fact that a number of the manufacturers who we represent have adopted this practice. It has enabled us to reduce our capital investments and inventory, reduce warehousing and storage, freight requirements, reduce handling expenses, which includes clerical, insurance and packing."

A user said: "We are small users and our impression is that cutting down the number of sizes and types gives us better service and better delivery than we could obtain when there were so many different varieties manufactured." An oil company credits a saving of approximately $1,000 during 1928 to better service effected by the adoption of simplified Practice by the manufacturers of steel barrels and drums.

It can readily be seen that the application of Simplified Practice in this field is producing results. The fact that some speicial sizes are being made is not on the whole operating to offset its benefits. An outstanding advantage of the program has been its success in preventing the introduction of more unnecessary sizes and varieties.

The foregoing is an abstract of a more detailed report on this subject. Those desiring further information may obtain a mimeographed copy of the report by addressing a request to the Division of Simplified Practice, Department of Commerce Building, Washington, D. C.

SIMPLIFIED PRACTICE

Edwin W. Ely.

Address all inquiries regarding Simplified Prazctice to Mr. Edwin W. Ely, Division of Simplified Prac5ice, United States Department of Commerce, Washingon, D. C.

2. DIVISION OF SIMPLIFIED PRACTICE.

Bituminous Coal: A general conference on simplification of sizes and terminology will be held at St. Paul, Minnesota, on April 10, 1929. This project covers high volatile bituminous coal handled over the docks at the American head of the Great Lakes, and distributed in the States of Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska and Montana. The coal dock operators have recommended the adoption of a simplified list of six sizes of screened coal, together with standard terminology for each. The recommendation will be presented at the general conference to wholesalers, retailers, and individual larger users in the territory covered.

Track Tools: The manufacturers of hand tools used in construction and maintenance of railroad tracks have prepared a simplified list of sizes and varieties, representing an elimination of more than 80% of present variety. This list has already been approved by the American Railway Engineering Association, and the Division of Simplified Practice expects to arrange a general conference of manufacturers, distributors and users in the near future, at which time the recommendation will be acted upon.

Industrial Truck Tires: A committee of experts from the various tire manufacturing companies recently prepared a tentative simplified list of sizes to be recommended as standard. A preliminary conference of manufacturers was held on March 29, 1929, and a simplified list agreed upon for presentation to all manufacturers of this equipment. In view of the effect upon the tire industry of simplification work already under way in connection with lift trucks, trailers, and similar equipment, the Division of Simplified Practice will cooperate on the tire simplification program. As soon as the present recommendation has been approved by all the tire manufacturers, it will be presented to a general conference of manufacturers, distributors and users for final action.

Industrial Casters: The Division of Simplified Practice is now arranging a preliminary conference of manufacturers of large casters used on industrial trucks and trailers. Suggestions have been received from a large number of users, regarding the possibility of establishing a simplified list of over-all heights, together with standard bolt hole spacing for each.

Tight Cooperage: A general conference of manufacturers, distributors and users of tight wooden barrels and kegs will be held in St. Louis on May 16, in conjunction with the convention of the Associated Cooperage Industries of America. The tentative recommendations worked out by the Standardization Committee of the association will be used as the agenda

for discussion as well as the basis for adoption of a Simplified Practice Recommendation covering lengths, and thicknesses of staves, diameter and thickness of heads, bilge circumference and distance from croze to finished end of stave for 5, 10, 15, 30, 45, 50 and 57/58 gallon sizes. The members of the association have been asked for suggestions or recommendations for consideration at the general conference in May.

Hospital Plumbing Fixtures: Plans are under way for a general conference of manufacturers hospital consultants and architects, and others interested to meet at Atlantic City, the week of June 17 to 21, to adopt a Simplified Practice Recommendation for hospital plumbing fixtures. This conference is being arranged at the joint request of the American Hospital Association and the manufacturers and will be held in conjunction with the annual convention of the American Hospital Association.

Luggage: At the request of the National Luggage Dealers Association the Division will conduct a survey among luggage manufacturers covering variety in sizes of luggage now being produced. This information will supplement data already prepared by the National Luggage Dealers Association all of which will be used as a basis for the development of a list of tentative recommendation for consideration at a general conference which is being planned for the month of August to be held in New York City in conjunction with the conventions of the retailers and manufacturers.

Carbonated Beverage Bottles: The Glass Container Association and the Joint Simplified Practice Committee of the carbonated beverage industry have requested the few manufacturers of bottles who have not replied to survey questionnaire to furnish data as soon as possible to the incorporated in a consolidated report showing the percentage of production on the various capacities, heights, dimaeters and weights of bottles sold. The report will be used by the Joint Simplified Practice Committee in preparing a tentative Simplified Practice Recommendation for adoption at a general conference to be held under the cooperative auspices of the Division.

Buffing Wheels: The Division is advised by the Chairman of the Simplified Practice Committee of the buffing wheel industry that a survey will be made in the near future to ascertain the demand for various types of buffing wheels being produced. The information thus obtained will be used by the committee in developing a tentative simplified practice recommendation for discussion at a subsequent general conference of all interests.

Forms for Concrete Ribbed Floor Construction: A sufficient number of acceptances for Simplified Practice Recommendation number 87. Forms for Concrete Ribbed Floor Construction having been received the Division has announced that the recommendation is effective. The program as approved provides for a reduction in the number of widths and depths used for the average job and further lists certain recommended widths for special filler forms.

Wheelbarrows: The Wheelbarrow Association of America through their simplified practice committee has drafted a tentative simplified practice recommendation based on the recent survey of the industry. It is expected that a general conference will be called during April to consider the recommendations for approval.

Safes: Representatives of the National Association of Safe Manufacturers visited the Division lately and have asked that one of the staff address the ne t general meeting of their association. This association plans to take up as one of their activities during the ensuing year the simplification of safe sizes with particular reference to overall dimensions.

Can Sizes: At the recent meeting of the National Canners Association a simplification and standardization committee composed of F. A. Wilder, Pratt-Low Preserving Company, Chairman, Sidney Steele, Continental Can Co., and H. A. Baker American Can Co., was appointed. Copies of the recent survey of the canning industry made by the National Canners Association under the auspices of the Division of Simplified Practice have been furnished the members of this committee and it is expected that progress will be made during the coming year looking toward the establishment of a simplified list of sizes.

Glass Containers for Preserves, Jellies and Apple Butter: The Division of Simplified Practice has received a sufficient number of signed acceptances for Simplified Practice Recommendation No. 91. - Glass Containers for Preserves, Jellies and Apple Butter, to insure the general adoption of the program by the industry as a whole. The Simplification is therefore announced as effective at once.

Photographic Paper: The Division of Simplified Practice, having received a sufficient number of signed acceptances from the industry, announces that Simplified Practice Recommendation No. 98 - Photographic Paper is now in effect. As soon as printed copies of the simplification are available, they may be purchased from the Superintendent of Documents, Government Printing Offic, Washington, D. C., at a cost of five cents each.

Governmental Aids: American business turns to the Government for help in certain matters of fundamental importance relating to stability and improvement in business, stated Dr. George K. Burgess, Director of the Bureau of Standards, in an address delivered last month before the Ohio Chamber of Commerce. Dr. Burgess outlined some of the activities which the Federal Government has undertaken to aid the business of the Country and discussed the study of distribution which the Bureau of Foreign and Domestic Commerce of the Department of Commerce, is making; and pointed out that the promotion of simplified practice and the adoption of commercial standards, (the two latter representing activities fostered by the Bureau of Standards) are reacting to the advantage of commerce and industry. Dr. Burgess indicated in his address that these activities are directed to the general welfare of the nation and that the farmer, industrialist and tradesmen are aided alike.

Earphone Batteries: At the suggestion of the National Carbon Company, an inquiry has been addressed to manufacturers of earphones, asking for an expression of opinion in regard to the simplification of batteries used in connection with their instruments. It is expected that a preliminary meeting of manufacturers of batteries and of earphones will be held in the near future to discuss simplification in this field.

Textile Machinery Parts: The Universal Winding Machine Company, manufacturers of textile machinery, has suggested the need in the industry for simplification of such parts as wooden filling bobbins, quills and taper paper cap cones and spindles. As a result of our inquiry among manufacturers of these components, regarding Mr. Parks' suggestion, it has been determined that others are in accord, and that simplification should result in benefits to all concerned. It is planned to hold a meeting in the near future as the first step in the solution of some of the problems in this field.

Shipping Tags: The Simplified Practice Committee for this program has been actively engaged in completing the tentative program since the last meeting of manufacturers. Differences regarding the textative schedule adopted at that meeting have been adjusted and the program is now before manufacturers for final approval. In case no further changes are necessary, a general conference of all interests will be held the latter part of April to develop the final recommendation.

Dental Hypodermic Needles: The Simplified Practice Committee for this project has been receiving comments and suggestions on the tentative schedule which was drafted at a meeting of manufacturers some time ago. It is expected that a final meeting of the committee will be held in the near future at which time the textative schedule will be completed.

Simplification and Purchasing: The important position of the purchasing agent in industry today is outlined in this brief discussion, which will be mailed gratis by the Division of Simplified Practice upon request. Simplification and purchasing are related. Two must be understood, and when they are effectively coordinated, it is hard to foretell or realize the beneficial effect they will have in the elimination of waste. Purchasing agents can cause the program to be more successful if they will make a definite effort to confine their purchases to the simplified practice recommendations whenever there is a choice offered. Mr. Roger Babson has said that "the get-to-gether spirit of the Purchasing Agent Associations is already bearing fruit and purchasing is regarded today as one of the direct functions of management."

Paper: Simplified Practice Recommendation No. 22 - Paper - has been reaffirmed by the Standing Committee, without change, for another twelve months. A survey conducted by the Committee, prior to reviewing the program, indicated that the degree of adherance to the simplification was 65 per cent.

Paint and Varnish Brushes: According to the report just rendered the Division of Simplified Practice by the standing Committee of Simplified Practice Recommendation No. 43, Paint and Varnish Brushes, this program has a degree of adherence of approximately 80 per cent. The committee reaffirmed the existing schedule of the program, without change, for another year.

Simplified Invoice League: One large company reports the following:

"The simplified invoice was adopted to the necessity of issuing invoices on special forms furnished by the purchaser.

"As our order entry and billing is a 'pre-billing' system, it was to our advantage to adopt this form as it eliminated, in about 75 per cent of the cases, the necessity of issuing invoices on special forms furnished by customers. This change in addition to decreasing the amount of typing, also makes it possible for us to mail invoices more promptly than before adoption of the form.

Considerable changes in our order forms were necessary, due to issuing orders on a duplicating machine, but the time spent in making the changes has been more than offset in the time gained due to the elimination of special invoices.

If all purchasers would adopt this form it would save considerable time on the part of vendors, and also assist in expediting the mailing of invoices. We believe it is only a matter of time before all vendors will be issuing invoices on the standard (simplified) form. This should automatically eliminate the special invoice evil."

We shall be glad to furnish further information regarding this form. The National Association of Purchasing Agents, 11 Park Place, New Yor,, New York, will also be glad to discuss this important subject with you.

The Division of Simplified Practice invited all firms and associations to review their incoming invoices over a period of ten (10) to fifteen (15) days and then inform the Division as to the number which conform in all respects to the simplified invoice form. Invoices which only partly conform to this standard should not be counted.

Our intention is to publish these reports in succeeding issues of the Commercial Standards Monthly. Our purpose is to promote the general adoption of this form wherever possible and practicable, in the economic movement for elimination of waste.

The New England Purchasing Agent's Association still leads in number of reports furnishes. (See Appendix for Table.)

Accountants Hear How They Are A Factor In Simplification: Over one hundred members of the Pace Alumni Association listened to a talk on "Simplification and the Accountants" on March 16, 1929, in New York, New York, by Mr.George A. Cooper of the Division of Simplified Practice. It was brought out in the discussion that accountants due to their strategic position in Industry, can render judgments and advice clients as to how simplified practice can be intelligently applied to their business with redounding benefits and advantages.

Manufacturers' Research Association Continues Simplification Activities: Members of this Association met in Boston on March 21, 1929 and discussed "The Modern Trend of Simplification." Many of the member companies have already reported savings due to the application of simplified practice within their organizations and strongly recommended that all industries should investigate the inherent advantages accruing through its proper use. Quite a few stated they were already investigating the simplified practice recommendations already established, and would adhere to the sizes, dimensions, etc., in their purchases insofar as it is possible and practical. It was also brought out that manufacturers could render a valuable service by advertising and identifying their simplified lines as such in catalogs, trade literature and other obvious outlets. George A. Cooper, of the Division of Simplified Practice, Department of Commerce, was the speaker at this meeting.

Boston and Maine Railroad Employees Disucss Simplification: Over 200 employees of the road, together with employees of the New York, Hew Haven and Hartford Railroad, the Boston and Albany Railroad and others met the night of March 22, 1929, and discussed "Simplification and the Railroad." The general discussion was divided into 6 parts.

1. Early recognition by the railroads of the value of simplification in the 19th century.

2. Present recognition by the railroads of simplification in the 20th century.

3. Accomplishments of foreign roads through simplification.

4. Present extent of simplification work throughout the United States.

5. The Boston and Maine Railroads opportunity to derive the maximum benefits from simplification.

6. The railroads position today as a consumer of materials to cause the simplification program to be more successful by concentrating their purchases on the simplified lines, whenever possible and practicable.

The discussion was illustrated by a number of lantern slides depicting the work of the Division of Simplified Practice, and was led by George A. Cooper, of the Division.

3. RAPID TURNOVER

"We discarded thirty shades and secured ten paint turnovers a year," writes C. C. Sapp, Manager, Paint Department, Brown-Rogers-Dixson Company of Winston-Salem, N. C. in The Hardware

Age. In his article, Mr. Sapp said that thirteen years ago the company was seriously considering discontinuing the paint department, since it was not paying for itself, and the salaries of the personnel in the paint department were paid from the profits of other departments.

"Before taking any definite steps toward abandoning the department, a survey was made to determine why this line - usually very profitable for the hardware dealer was making such a poor showing in this store," stated Mr. Sapp in his article, adding that "of the forty-eight shades handled, excluding black and white, it was found that the majority of sales were made from about one-third of the stock. The remaining shades were known as "show movers," some remaining on the shelves for an indefinite period of time. There is no thought now of discontinuing the paint department. In thirteen years, by eliminating slow moving stock, displaying paint to the best advantage and intelligently merchandising it, we have made this department one of the most profitable departments in the store, realizing from eight to ten turnovers a year."

4. SIMPLIFICATION ACHIEVES ECONOMY

In giving seven reasons why industry favors centralized purchasing, Mr. Walter N. Kirkman Purchasing Agent for the State of Maryland, lists the first as:

"Permits commodity standards to be established by all using agencies, thus reducing the number and variety of articles purchased."

Although the term simplification is not used in the wording, the principle is certainly implied. Centralized purchasing expedites simplification by revealing needless duplication and opportunities to reduce inventory by eliminating superfluous varieties.

Mr. Kirkman says centralized purchasing permits the development of commodity standards. We go a little further and say that centralized purchasing emphasizes the need of simplifying varieties as a means of arriving at commodity standards.

5. WHAT IS RATIONALIZATION?

Under the heading of "What Is Rationalization," NET RESULTS, published by H. A. Hopf and Company, Management Engineers, 40 Rector Street, New York City, says "What we think, of as scientific management is known in Europe as 'rationalization.' At the World Economic Conference held in Geneva, in May, of 1927, this definition was given of rationalization. 'The methods of technique and of organization designed to secure the minimum waste of either effort or material. It includes the scientific organization of labor, standardization both of material and products, simplification of processes, and improvements in the systems of transport and marketing."

6. MANUFACTURERS' INTEREST IN SIMPLIFIED PRACTICE.

In our bulletin of September, 1928, we reported that "46% of 212 producer-accepters behind Simplified Practice Recommendations Nos. 6, 8, 18, 29, 33, 35, 42, 46, 49, and 57 are capitalized at $500,000 and over; 26% between $100,000 and $500,000; and 14% below $100,000." Analysis of their published credit ratings shows 41% rates at $500,000 and over; 32% between $75,000 and $500,000; 12% between $3,000 and $75,000 and 15% "not reported."

A review of the 173 producer-accepters behind Simplified Practice Recommendations Nos. 1, 3, 9, 10, 11, 13, 43, 48, 51 and 52 shows 35% capitalized at $500,000 and over; 31% between $100,000 and $300,000; 14% between $5,000 and $50,000; and 20% "not reported." Analysis

of their published credit ratings shows 30% rated at $500,000 and over; 38% between $75,000; and 500,000; 15% between $5,000 and $75,000; and 17% "not reported."

The second ten recommendations reviewed are:

S.P.R. No	Commodity	Reduction From	Reduction To	Per Cent Reduction	Per Cent of Adherence.
1	Vitrified Paving Brick	6	5	92	79.8
3	Metal Lath	125	29	76	99.0
9	Woven-Wire Fencing	552	69	87	99.0
	Woven Wire Fence Packages	2072	138	93	
10	Milk Bottles and Caps.				
	Bottles	49	4	92	*
	Caps	10	1	90	
11	Bed Blankets (sizes)	78	12	85	90.5
13	Structural Slate for Plumbing and Sanitary Purposes	827	138	83	85.0
43	Paint and Varnish Brushes	480	143	70	80.5
48	Shovels, Spades and Scoops	5136	2178	57	96.6
51	Die Head Chasers (for self-opening and adjustable die heads)	(Original total not known)		75	80.7
52	Staple Vitreous China Plumbing Fixtures	441	58	87	*
					88.8%

* No adherence figures available for this project.

Since the Division of Simplified Practice does not endorse and publish any recommendation until it has been accepted by 80% of the industry according to volume of output, the figures above cited indicate that the smaller as well as the larger companies are cooperating in simplification.

The relative high adherence, viz., 90.3% for the first ten, and 88.8% for eight of the second ten indicates that manufacturers, large and small, are finding simplification beneficial. The adherence figures are based on actual production records submitted by the manufacturers to the Division of Simplified Practice, which is the only organization engaged in this field that makes a statistical review of the extent of adherence accorded its projects.

7. CAST IRON PIPE REPORT.

The American Standards Association, 29 West 39th Street, New York, New York, has released a progress report dated December 20, 1928, on the work of the Sectional Committee on Specifications for Cast Iron Pipe and Special Castings. This is project A-21, functioning under the American Standards Association. In the work of preparing new Standards for cast iron pipe and special castings, the Sectional Committee lays down the scope and program for the work, dividing it among the Technical Sub-Committees, who in turn prepare their part of the Specifications and submit them back to the Sectional Committee for a review, criticism, changes and adoption. There are three Technical Committees; No. 1, on Dimensions; No. 2 on metallurgy; Processes and Tests; and No. 3, on Corrosion and Protective Coatings.

8. PROFITABLE MANAGEMENT.

In a recent address delivered before the fifteenth national convention of the Society of Industrial Engineers, Mr. H. S. Person Managing Director of the Taylor Society, discussed "Conditions of Profit-making Management," in the following trend.

"And today the practical conception of profits is being extended to include an even greater range of factors. The first simple concept looked at money income and money outgo; the second concept looked at money income, money outgo and preservation of the integrity of the capital investment; the third concept which is developing looks at all of these, but also at the preservation of the status and good will of the enterprise as a going concern - at obsolescence, conceived not only in physical but also in social and ethical terms. That enterprise which has invested five, ten, twenty-five or fifty millions of capital in highly specialized forms of plant and equipment which must be amortized over a period of fifty years or more, and which instantly lose their value - because highly specialized - if the product becomes obsolescent in actual use value or in consumer esteem, can not ocnsider its management as profit making management, on the basis of this year's and next year's surplus of money income over money outgo, but can consider its management as profit making only if it so manages as to establish the highest degree of probability of a similar surplus in 1935, 1940 and 1950 and many years later.

"Conditions of profit-making management today and tomorrow involve study of industrial tendencies, including social customs, technology and consumer demand; of relations of industry to the state; of relations between capital and enterprise, and between employers and employees; and all of the detail processes of meeting the requirements of future demand and future technology. These are the conditions of profit making maagement in the huge enterprises and consolidations of enterprises in the twentieth century, and competing smaller enterprises must fall into line."

9. COOPERATION WITH A. S. T. M.

The Committee C-8 on Refractories of the American Society for Testing Materials, 1315 Spruce Street, Philadelphia, has voted to append Simplified Practice Recommendation No. 79, Malleable Foundry Refractories, to its specifications for "Clay Fire Brick for Maleable Furnaces With Removable Bungs and For Annealing Ovens" (C 63-28) as information, according to information received by the Division of Simplified Practice. In transmitting this information to the Division, the A. S. T. M., stated that they were "pleased that this particular recommended practice (S. P. R. #79) which relates so directly to one of our specifications, will hereafter appear as information in connection with it, as we think, this will be of value to the users of the specifications."

10. ARE NARROW PROFIT MARGINS PERMANENT?

That narrow profit margins are becoming an accepted feature of business practice is the verdict of practical business men and expert investigators who have made a most careful study of trade and industry during the post-war years.

Furthermore, the main conclusion reached is that narrow profit margins are not a passing phase of our economic life. They are here to stay because they are a part of the modern trend toward large-scale business units, mass production and new buying habits of the public.

This does not necessarily mean a lower return on invested capital. Experience has shown that very low profits on sales often bring about a greater volume of business accompanied by a much higher turnover of capital. In this news scheme of things profits are made by volum rather than by individual sales.

Some producers and traders will fall by the wayside. The old cut-throat competition, which resulted in the restraint of trade, is going. In its place has come a much keener and cleaner form of competition.

The acid test for survival, under this new competition, will be the alertness and efficiency of industrial and mercantile management.

The wise merchant or manufacturer will of course do what he has always done whenever changing conditions brought about a new and permanent situation. He will learn all there is to be known about this new problem, and then adjust his particular business to the new business trend.

It does not profit a man to ignore the stern laws of economic necessity, concludes the above message in "Trade Winds," of March, the monthly publication of the Union Trust Company of Cleveland.

11. PERSONNEL FOR COMMITTEES.

The American Standards Association has just announced the personnel of sectional committees on Standardization of Electric Motor Frame Dimensions; on Standardization of Speeds of Driven Machines; and on the Standardization of Plumbing Equipment.

The Scope of the committee on Standardization of Electric Motor Frame Dimensions is as follows: A series of standard dimensions for the distance from the base to center of shaft (shaft height); a series of standard distances between bolt holes, at right angles to the shaft; a series of standard distances between bolt holes parallel to shaft; certaindefinite combinations of a shaft height with any or both of the distances between bolt holes parallel and perpendicular to the shaft for sliding base or rails; horizontal distances from end of shaft to the bolt holes; bolt hole sizes for various sizes of motors; a series of standard distances between bolt holes parallel and perpendicular to the shaft for sliding base or rails; dimensions of the foundation bolt holes of the sliding base or rails; maximum diameter and length of the motor; shaft sizes and keyways. The National Electrical Manufacturers Association and The American Society of Mechanical Engineers, are the sponsors for this project Mr. Walter F. Dixon, Works Manager for the Singer Manufacturing Co., Elizabeth, N. J., is the chairman of the Committee and Mr. L. F. Adams, Commercial Engineer, General Electric Company, Schenectady, New York, is the secretary.

The scope for the Standardization of Speeds of Driven Machines is the standardization of such elements of mechanical power transmission as are functions of the speeds of driving and driven machinery. The American Society of Mechanical Engineers is the sponsor for this project. Mr. Allen E. Hall, Manager, Milling Machinery Department, Allis-Chalmers Manufacturing Company, Milwaukee, is the temporary Chaiman of the Committee, and Mr. W. S. Hays, Executive Secretary, Power Transmission Association, Philadelphia, Pennsylvania, is the temporary secretary.

Scope of the project for standardization of Plumbing Equipment is the standardization of plumbing equipment, including materials, uniformity of roughing in dimensions,efficiency of operation and other performance specifications. The American Society of Sanitary Engineering and the American Society of Mechanical Engineers, are the sponsors for the project. Mr. William C. Groeniger, Consulting Sanitary Engineer of Columbus, Ohio, is the chairman. In pursuance with the suggestion of the American Standards Association, the standing committees concerned with revisions of simplified practice recommendations and commercial standards projects on plumbing equipment, will serve as subcommittees of this sectional committee.

MARINE STANDARDS

A. V. Bouillon.

All inquiries for information pertaining to the work of the American Marine Standards Committee, should be addressed to the Secretary, Mr. A. V. Bouillon, United States Department of Commerce, Washington, D. C.

12. COMMITTEE NEWS.

The Executive Board of the American Marine Standards Committee, met on March 21 and approved the following standards for promulgation:

Rules for design and construction of marine boilers and non-fired pressure vessels.

The design of boilers and non-fired pressure vessels for American marine installations has heretofore been complicated by having to comply in a single design with several rules and regulations requiring different thicknesses of material or features of construction for any given pressure. The prime purpose is to establish single standard rules for American marine practice. The rules embody what the committee that was charged with their development deemed to be the best of prevailing marine practice in America and abroad.

Specification for Marine boiler steel plates.

This specification was developed in cooperation with the American Society for Testing Materials. Appointed a standing committee on Interpretation of Marine Standards composed of members of the present Executive Board as follows:

Captain Charles A. McAllister, Chairman; Chaptain R. D. Gatewood (CC), U.S.N., Vice Chairman; Mr. Theodore E. Ferris; Mr. Henry C. Hunter; Mr. S. D. McComb; Mr. H. B. Walker; Captain John F. Milliken. This committee is to decide cases of diarrangement that may arise among users of the standards as to their meaning.

Proposed standard specifications for wire rope for marine uses were submitted to the Technical Committees on "Hull Details," Engineering Details," and "Ship Operation Details and Supplies." They are approved by these committees subject to minor modifications and a revised draft is to be submitted to the membership and others interested in the near future. Progress has been made towards organization of a technical committee on Port Facilities.

The following publications have been ordered printed:

AMSC-50-Fittings for Tubular Steel Cargo booms; AMSC-52-Medical Equipment for Ocean Going Vessels; AMSC-53-Medical Equipment for Coastwise Freighters; AMSC-54-Medical Equipment for Small Vessels; AMSC-55-Specification for Ship Propellers; AMSC-56-Ship Scupper and Drains; AMSC-57-Chinaware for Ship Equipment - Maximum list of kinds and sizes; AMSC-58-Lifeboat Disengaging Apparatus - General specification; AMSC-59-Rat Proofing of Ships - General Instructions.

COMMERCIAL STANDARDS

I. J. Fairchild.

Address all inquiries on the subject of Commercial Standards to Mr. I. J. Fairchild, Commercial Standards Unit, Bureau of Standards, Washington, D. C.

13. COMMERCIAL STANDARDS UNIT.

COMMERCIAL STANDARDS DISTINGUISHED FROM SPECIFICATIONS.

"Purchase specifications," as the term is generally used, applies to detailed descriptions and tests of commodities purchased in quantities under conditions justifying complete inspection and tests. Such specifications are employed regularly by large organizations, such as railroads, public utilities, great industrial corporations and the like. The small industrial or individual consumer is barred from using specifications by economical considerations such as, insufficient quantities to justify expense of laboratory tests, delays due to tests and lack of specific data on relative merit of conflicting specifications.

The establishment of a given specification as a commercial standard removes the above drawbacks by (a) indicating the specification favored above all others by the entire industry, (b) indicating grades and varieties always immediately available, (c) announcing willingness of producers to certify conformity thereto, and (d) thereby removing immediate necessity for tests.

The chief distinction then, between the two, lies in the fact that commercial standards are recognized as the daily or constant basis for marketing and purchase whereas specifications supply an occasional basis for purchase, seldom if ever, for marketing.

THE RISING TIDE OF ESTHETICISM.

In an article under this title in the January issue of the Magazine of Business, Adolph Zukor says "At least a score of trends are plainly visible from our corporation's administrative offices: These trends show what conditions will be even 20 years from now." Some of the significant statements of Mr. Zukor are reproduced here as a matter of general interest to industries considering the establishment of Commercial Standards:

> "The United States will increase as a national market. National wealth has grown steadily and rapidly. It will continue to grow. Somebody will own the additional wealth. Somebody will buy additional goods.
>
> More people than now will possess any stated level of purchasing power.
> Practically every citizen will buy more than he buys now.
> We will be a leisure people.
> We will have more time to consume and pay more attention to consuning.
>
> The accent will shift from production, this country's forte in the past, to consumption. But production will be greater in volume than ever, more skillful and more economical.
>
> We will have an esthetic market. People will buy physical possessions with much better taste for form and color.

Color and form, harmony and fine design, will be indispensable aids to selling. The day of the artist in industry is at hand.

The market will be more sophisticated and more educated.

The same improvements, to a lesser extent, will characterize foreign markets. Manufacturers and dealers must catch up with these trends and keep with them, or better, anticipate them by just enough to retain leadership.

Leisure does not mean less production. It means more. For the people who are to enjoy luxuries will work more intensely to obtain the money to buy them. These time-consuming commodities fill an economic gap. They keep the cycle of industry going, and speed it up. They help productive industry, by giving workers something new to work for.

True. "My business is different." But our customers are alike. Your consumer and mine is the same man. He will make similar demands of every dealer.

If a business gets in line with future trends, it is often carried forward by the trend without much additional effort of individuals.

Certainly it requires much more strenuous personal effort by executives to get back into the trend after falling out of it or falling behind. Nor does every one find out soon enough how to get back into step. Many heads fall by the wayside during efforts to recover lost ground, especially if the loss could have been avoided by foresight."

BOY'S BLOUSE AND SHIRT MEASUREMENTS.

The National Boy's Blouse and Shirt Manufacturer's Association, a Division of the International Garment Manufacturers Association, has submitted a Proposed Commercial Standard for minimum key measurements of boy's blouses, waists, shirts and junior shirts, which has been transmitted to manufacturers, distributor's and consumers for comment and criticism accompanied by an invitation to attend the general conference to be held at 10:00 a.m., Wednesday April 17th in Room 704 Commerce Building, Washington, D. C. All who may be interested in this subject are invited to attend this conference in order that the Commercial Standard as finally established may be acceptable to all those directly concerned, whether producers, distributors or users. Copies of the Proposed Commercial Standard are available upon request.

DIAMOND DRILL FITTINGS.

The Diamond Core Drill Manufacturers Association has prepared a proposed Commercial Standard covering dimensions for diamond core drills, casings, core barrel bits, casing couplings and rods. From present indications it is expected that the remaining details of this recommendation will be completed promptly and a general conference of all interests arranged in the near future. Organizations desiring to receive information on this project may be assured of obtaining information at the earliest practical moment by notifying the Commercial Standards Unit of their interest in the subject.

BUILDERS' HARDWARE

Subcommittees on Locks, Shelf and Miscellaneous Hardware and Butts have been actively at work considering suggestions and drafting proposed revisions to Builders' Hardware, Simplifi

Practice Recommendation No. 18. These revisions have been referred to interested manufacturers for comment and criticism and after approval by the Advisory Committee on Standardization of Builder's Hardware will be submitted to the Standing Committee with the suggestion that the next revision of the pamphlet be printed as a Commercial Standard since the primary purpose of the work is standardization more than simplification.

WALL PAPER

A recent meeting of the Standardization Committee of the Wallpaper Manufacturers Association drew up tentative specifications, which were presented the following day to the manufacturers. This meeting was attended by members and non-members of the Wallpaper Manufacturers Association, and represented all the wall paper manufacturers in the entire United States except four. The opinion was overwhelmingly in favor of some definite basis enabling the consumer to recognize quality and serviceable wall paper through the adoption of Commercial Standard grades indentified by a self-certifying label.

These proposed specifications will be mimeographed and sent to all wall paper manufacturers, wholesalers, decorators, consumer groups, and others generally interested, together with an invitation to a general conference at Washington sometime in May to consider their adoption as standards for every day trade in the industry.

FUEL OIL

The Recommended Commercial Standard for Domestic and Industrial Fuel Oils is being enthusiastically received as indicated by the ever increasing list of acceptors who are anxious to have some common basis on which they can understand and be understood by the burner manufacturer, oil refiner, fuel distributor and individual consumer. Gravity, meager and meaningless reference to color and other vague criteria of quality in fuel oils will be replaced by six distinct grades any of which burner manufacturers can recommend with safety and oil companies can refine with confidence because of the anticipated demand by the consumer.

The oil burner manufacturers and oil refiners have been well circularized regarding this important matter, but if there are any consumers of fuel oil interested in these specifications, a copy will be mailed, upon request to the Commercial Standards Unit, Bureau of Standards, Washington, D. C.

HICKORY GOLD SHAFTS.

At a meeting on March 21st the joint committee of the Golf Shaft and Golf Club Manufacturers Associations decided upon definite specifications for hickory golf shafts. Several details of the mechanical testing method were referred to the Bureau of Standards for final approval.

A general conference will be held on May 3rd at White Sulphur Springs, W. Va., to consider the adoption of these standard grades. To this conference, will be invited manufacturers, of golf shafts, manufacturers of golf clubs, professional and amateur golfers, and all others generally interested in the sporting goods industry.

GOVERNMENTAL DEPARTMENTS COOPERATE.

Admiral H. H. Rousseau, U. S. N., Chief Coordinator, has issued a bulletin to all departments and establishments of the Federal Government, (Bulletin No. 109, Supplement No. 1, March 5, 1929) entitled "Procurement: Commercial Standards and their application to Government Purchases." In this bulletin, Admiral Rousseau said "the Federal Specifications Board

gives full consideration to existing Commercial Standards in the writing of new or revised U. S. Government Master Specifications and adopts their provisions whenever practicable. This procedure obviates the necessity of considering Commercial Standards when departments and establishments order materials in accordance with Master Specifications. However when material is procured for which there is no Master specification, consideration of the appropriate Commercial Standard should be given by those concerned in order that the benefits of this movement may be obtained by the Government.

"The several departments and establishments of the Government participate in the adoption of Commercial Standards either through their own representatives or those of the Federal Specifications Board. In order that the Government may lend its full support to this valuable movement, and, at the same time, enjoy its benefits, it is recommended that heads of departments and establishments issue appropriate instructions to insure acceptance of Commercial Standards whenever feasible and to require the purchase of materials and supplies, not covered by Government Master Specifications, in conformity with the Commercial Standards, except when such action would be prejudicial to the Government's interests."

SPECIFICATIONS

A. S. McAllister.

Address all inquiries on matters pertaining to Specifications and the Certifiaation and Labeling Plans, to Dr. A. S. McAllister, Division of Specifications, Bureau of Standards, Washington, D. C.

14. APPLICATION OF CERTIFICATION PLAN.

A recent analysis of the lists of willing-to-certify manufacturers of commodities covered by the 103 United States Government Master Specifications to which the certification plan has recently been applied, shows that 4,426 separate requests for listing have been received from these manufacturers, an average of 42 willing-to-certify manufacturers per specification, as compared with 23 per specification for the earlier 146 lists of manufacturers.

It has been found that every one of the lists of willing-to-certify manufacturers which exceeds 100 (running to as high as 182) is that of paint manufacturers. The average number of manufacturers on the 30 paint lists is 100; that on the 15 lists for mixed paints is 148 manufacturers. Arrangements are being made for applying the certification plan to Commercial Standards for clinical thermometers, surgical gauze, stoddard solvent, porcelain plumbing fixtures, steel pipe nipples, and brass pipe nipples.

15. SAVINGS FROM STANDARDIZATION.

"The standard specifications put into practice through the American Institute of Steel Construction have saved builders in the United States approximately $13,000,000 a year, estimated on the average yearly contracts," stated Mr. Charles F. Abbott, executive director of the American Institute of Steel Construction, when addressing the Institute meeting in Fort Worth, Texas, last February. Mr. Abbott continued, "When we standardize selling practices, which we are now endeavoring to do through the adoption and application of a definite code, I venture to say we will be able to save as much again by changes in the methods of distribution."

16. VALUE OF SPECIFICATIONS.

he economic value of the standardization of materials by the use of standard specifications embodying standard methods of tests when tests are required, and standard packages, is in itself quite obvious, writes Mr. G. M. Richardson, Purchasing Agent of the Southern California Edison Company in the March issue of "Public Utility Purchasing."

According to Mr. Richardson, not only does it broaden the sources of supply but it permits the manufacturer to reduce the cost of production of sales and of distribution, and to pass along part of the saving to the user of the material. The specific advantages to be secured by the consumer include: (1) He can secure truly competitive bids on the same quality of materials; (2) The details of purchasing are simplified and standardized, a matter of especial importance in large organizations, such as the modern municipality; (3) Standard methods of test and inspection are of particular value in establishing a routine procedure for acceptance of material; (4) The greater uniformity and reliability of material purchased under standard specifications, and the fact that its properties are more thoroughly understood, make possible its more economic use.

17. CONSTRUCTION SPECIFICATIONS.

The "American Contractor," of recent date editorially discusses a standard outline for specifications in the following words: "The need of standardizing and clarifying both nomenclature and practice in specifying the various subdivisions of work under proper headings which will be uniform throughout the country, has long been recognized by the leading elements in the construction industry. A start was made last year by the Associated Building Employers of Michigan, in conjunction with the Michigan Society of Architects, in issuing a Standard Specification Outline which places under the proper headings all the subdivisions entering into building construction.

"The need for such standards will hardly be questioned by anyone that is well acquainted with modern building practice. More than one contractor and sub-contractor has found himself in difficulties because the practice of architects varied in this respect. Not only architects in the different communities, but architects in the same community will have different ideas as to whether finish flooring is included in carpentry, or under a heading by itself; whether stairs are included in millwork or under carpentry; whether hardware on millwork items is included under millwork or whether this hardware should be under a separate heading. These and many similar items have contributed no little amount to the difficulties of the building contractor.

"Why not a national outline for standard headings and standard practice in specifications?"

18. WILLING-TO-CERTIFY LISTS (Typical Examples).

Specification Number	Commodities Covered	Willing-to-certify Manufacturers.
1a	Cement, Portland	67
4b	Oil, linseed, raw	29
5	Lead, white, basic, carbonate, dry and paste	45
6	Lead, white, basic, sulphate, dry and paste	36
7b	Turpentine (gum spirits of turpentine and steam distilled wood turpentine.)	23
8	Oxide, zinc, dry and paste	69

Specification Number	Commodities Covered	Willing-to-certify manufacturers.
9	Oxide, leaded zinc, dry and paste	48
10b	Paint, white, and tinted paints made on a white base, semi-paste and ready mixed	180
11	Lead, red, dry and paste	59
12	Ocher, dry and paste	111
13b	Paints, iron oxide and iron hydroxide	143
14b	Paint, black, semi-paste and ready mixed	17
15	Paint, gree, semi-paste and ready mixed	168
16	Spirits, volatile mineral, for thinning paints	41
17	Vehicle, composite, for thinning semi-paste paints when the use of straight linseed oil is not justified	105
18b	Varnish, spar, water resisting	138
19	Varnish, asphalt	124
20a	Drier, paint, liquid	122
21b	Paint, lithopone, flat interior white and light tints	182
22	Varnish, interior	141
53	Duck, cotton, numbered	19
66	Enamel, red, water-resisting	140
67	Paint, lithopone, gloss interior white and light tints	175

Readers interested in the complete list, as per above may secure the same upon request, for which there will be no charge.

DISTRIBUTION.

19. ABREAST OF COMPETITION.

According to the Wisconsin Retail Bulletin, every day new goods are brought to the attention of customers through the radio, newspapers, magazines or even by word-of mouth advertising. Manufacturers and their trade associations tell us that a 'steady stream of inquiries' come to them from the public, asking, 'Where can I get these things?' Here is a clear case of the customer seeking the merchant, rather than the usual procedure of the merchant seeking the customer. The alert retailer constantly watches the markets for new things that will meet the approval of his trade. In doing so he is rendering the customer a service, keeping abreast of competition, and increasing his own volume and profits."

The Division of Simplified Practice points out, in connection with the above expression, that merchants who advertise that they carry simplified lines are in position to cash in on the nation wide interest in simplified practice, partly created by various articles appearing in the leading publications.

20. CASH BASIS ADOPTED BY MERCHANTS.

The experiment of merchants in a Nebraska town of 1,500 inhabitants in effecting a transition from credit to cash sales is described in "The National Retail Clothier," for December 20, 1928. Thirty business concerns including stores, a newspaper office, and several professional men signed an agreement to go on an absolutely cash basis on and after a certain date, announced over a month in advance. The delivery system, in effect previously was continued with the understanding that all orders sent would be paid for in cash in advance, and all orders mailed sent C.O.D. The Plan was not 100 per cent in Scope; Beauty shops, plumbing companies, and produce stations not all entering into the voluntary agreement. It is

reported that no signer has withdrawn from the agreement. Although business was rather dull the first month, the general business volume is reported to be about the same as under the old system, with the added advantage of cash for stock replacement and elimination of bad feeling from overdue accounts.

21. MASS MOVEMENT BY TRAILERS.

A present-day trend in motor truck transportation is reported to be the growing practice of attaching a string of trailers to a truck, described in DISTRIBUTION ECONOMY for January. One manufacturer of radio equipment is said to have shipped by trucks and trailers, in a single day shortly before the Christmas holidays, approximately $500,000 worth of his products. Interplant hauling by means of truck tractors and semi-trailers is estimated to have saved one unit alone of a large automobile concern $12,760,000 in a single year, as compared with previous hauling costs.

22. CLEVELAND INDUSTRIAL CENSUS.

Preliminary analysis of findings in the Cleveland census of industrial purchases, indicates that industrial purchases in 1927 for the manufacture of food preparations and kindred products totaled $71,816,566. This total represents approximately 90 per cent of industrial purchases for this group of industries, although only plants manufacturing products with a value of $100,000 or more were included in the survey.

Raw materials represented 68.27 per cent of all industrial purchases; semi-finished products 24.54 per cent; mill supply, fuel, packing materials, etc., 5.34 per cent; and equipment, maintenance, etc., 1.85 per cent. A break-down of the raw materials total shows it made up as follows: Livestock, 74.02 per cent; coffee, 8.67 per cent; grain, 5.75 per cent; milk, cream and butterfat, 5.02 per cent; nuts 3.11 per cent; fruits, fresh, 1.69 per cent; eggs 1.41 per cent; and miscellaneous raw materials, 0.33 per cent.

Semi-finished products purchased were made up of meats fresh and cured, 21.43 per cent; flour, 17.44 per cent; sugar, glucose, and sirups, 10.25 per cent; dairy products, 7.71 per cent; fruits, canned, dried, and preserved, 5.98 per cent; lard and shortening, 4.72 per cent; poultry and stock feed materials, 4.53 per cent; nuts, shelled, 3.86 per cent; chocolate and cocoa products 2.93 per cent; sausage casings 2.44 per cent; salad and other edible oils, 1.65 per cent; spices, 1.4 per cent; yeast, 1 per cent; flavoring extracts, 0.58 per cent; chemicals and chemical products ,0.39 per cent; and miscellaneous food prod ducts, 13.69 per cent. The last item includes considerable amounts of some of the commodities shown separately, as it was necessary to put under that heading items grouped in the accounts of some reporting firms, on which separate figures were not available.

Purchases of mill supplies, fuel, packing materials, etc., have been broken down into packing and shipping, 56.72 per cent; fuel and power, 24.34 per cent; gasoline and oil, 2.58 per cent; and miscellaneous mill supplies 16.36 per cent. Repairs and additions to buildings, and repairs to equipment, represented 40.17 per cent of expenditures for equipment, maintenance, etc., factory equipment (unclassified) 23.72 per cent; office stationery, supplies, furniture, and equipment 13.4 per cent; machinery (new), 10.74 per cent; automobiles, trucks, repairs, and maintenance 8.22 per cent; and miscellaneous and unclassified expenses 3.75 per cent.

23. TIME CREDIT ACCOUNTS OUTSTANDING.

The National Retail Credit Survey which the Department of Commerce is conducting is expected to bring out, among other items information of value to retail merchants, the length of

time credit accounts are outstanding. Questionnaires ask for balances due when books are closed for the month and collections for each month for both open and installment credit accounts. By checking the collections of the month against the balance oustanding at the end of the previous month it is expected to secure a collection percentage which will indicate the time credit accounts are outstanding. This factor is important because interest upon capital required to finance accounts constitutes such a large part of the cost of credit extension. The lower the collection percentage, of course, the more money is required to finance the business and the higher the costs, all other things being equal, the less the profits.

24. RETURN OF GOODS COSTLY.

"For a number of years there has been much talk about waste in retail distribution," said Mr. Daniel Bloomfield, Manager of the Retail Trade Board of Boston, Massachusetts, in a recent address delivered before the convention of the National Retail Dry Goods Association in New York City, adding that "The growth of a scientific approach to the great profession of retailing has helped focus attention on some outstanding problems, and definite, substantial economies have resulted.

"But one of the problems on which too little success has been achieved is that of merchandise returns by customers. Many stores and merchants' groups have made intensive studies of this subject. Such studies have pointed to faults, both on the part of stores and of customers.

"Perhaps failure has been due to more fundamental reasons, namely that merchants are not aware of the tremendous economic wastes accompanying the returns of merchandise by customers; that merchants are indifferent to the results of this practice; that some even believe it to be sound merchandising to encourage a very liberal policy on returns. One answer to the problem is the development of consumer support in abolishing abuses of the return privileges."

25. CHANGES IN DISTRIBUTION.

"Where do you stand in the distribution picture?" asks the Union Trust Company of Cleveland in their publication, "TRADE WINDS," and then answers their question with the following statement. "Sweeping changes are occuring in methods of distribution. The chain stores are forging rapidly ahead, entering new territories, increasing volume of sales, offering the public attractive prices yet maintaining excellent profits.

"Some independents are dropping out of business. Others are joining buying associations to enjoy a mass purchasing power comparably to that of the chain stores. Others are developing specialties and personalized service to offset the price attractions of the chain stores. Manufacturers in many lines, following the lead of the chain stores, are going into a direct-to-consumer business through factory-owned retail outlets. Conversely, chain stores are in some cases going into the manufacturing of some of their lines.

"Many wholesalers are endeavoring to adapt themselves to this situation by curtailing number of lines carried, reducing sales territory, shifting from staples to specialties, or other devices, each one trying to solve the problem in accordance with his own particular position in his own field. Furthermore, according to experts who are studying the distribution field, changes in distribution methods have only just begun. The United States Department of Commerce is making exhaustive studies along this line. They suggest that it may be possible to govern distribution costs and methods with the same degree of accuracy, economy, and efficiency as now obtained in the case of factory production. They feel that there is a tremendous economic waste in distribution as it is done today, and that the near

future may bring about a still greater revolution in distribution practices. Where does your business stand in this picture."

RESEARCH

26. STRENGTH OF BRICKS.

Results of experiments to determine the compressive strength, flat and on edge, and the transverse strength of 27 makes of bricks, varying in manufacture and degree of burning, will be set forth in a report soon to be announced by the Bureau of Standards. The attempt was made to correlate the variation of ratios of these different measures of strength with the various structural features of the brick. The entire story will be told in the April, 1929, Journal of Research, of the Bureau of Standards.

27. PHOTOGRAPHS OF WAVES.

Pictures of the actual traveling of sound pressure waves dispersing from an explosion have been taken by the Bureau of Mines of the United States Department of Commerce, by a special photographic arrangement, as part of its program to study the effect which an explosion has toward inducing the ignition of another explosive substance nearby. The purpose of the work is to throw more light on the factors affecting sensitivity of explosives to detonation and to produce safer explosives for use in coal mines.

28. FUTURE OF RAILROADS.

Although in recent years the American railroads have attained the highest standard of performance in their history, railroad men are the first to realize that these standards must be continually improved upon in order to meet successfully the future transportation requirements of the country, remarks "The Index," published by the New York Trust Company.

This not only involves improvements in railroad service itself, but the adaption of such auxiliaries as the airplane and the motor bus. Under the supervision of the American Railway Association and the individual railroads, research is being carried on to an intensive degree, particularly in such matters as electrification, air and motor transport, and traveling safety and comfort.

29. DEBUNKING RESEARCH.

Dr. Charles M. A. Stine, Chemical Director, E. I. du Pont de Nemours and Company, writing in the February issue of Nation's Business, on the subject of research, says "the fallacy in the public and business attitude towards research in this country today is found in the failure to recognize that these processes must be kept in balance. If they are not, the whole effort is doomed to eventual failure. We are utilizing the basic raw material of research - the common fund of information about nature's laws-faster than we are adding to it. The raw material to which I have reference is comparable to the national supply of Currency. Under this analogy the practical application of scientific discoveries would compare with credit.

"Many great corporations already find themselves unable to go ahead in some lines today because of a lack of fundamental scientific information. They can see human needs and therefore markets for the products they have in mind. But before they can begin to supply those needs they must have more general and basic information."

30. INFORMATION ON MEDICINAL PREPARATIONS.

The Chemical Division of the Bureau of Foreign and Domestic Commerce is undertaking a compilation of information sources, relative to the production, distribution, and consumption of medicinal and toilet preparations usually marketed through retail drug stores, and analogous establishments. The compilation, which will probably be available in about three months, will include production figures for 1925 and 1927, based on reports of the Bureau of the Census, and a list of associations of manufacturers of these products, together with a bibliography of recent articles in trade journals pertaining to the subject. Tentative plans include also a financial section in which security houses as sources of information on chain drug stores will be listed. The compilation is intended to furnish, in readily available form, statistical information on toilet preparations, drugs, and patent medicines.

31. TO AN ANXIOUS FATHER.

An anxious father writes that the coming 25 years will not afford his sons the opportunity for big things which he has had in the last 25 years. "Everything seems to have been done," he laments.

So it seems. Since father started out, we have built the Panama Canal laid the first Pacific Cable, made the tungsten lamp available. Father saw the first trans-continental telephone line in 1915, the first air mail in 1918, and trans-Atlantic radio telephony in 1927. He saw rural free delivery in 1903, parcel post in 1913, and commercial photographs by wire in 1925.

Since father started out, telephone exchanges have added mechanical switchboards, and power stations have mechanical attendants; elevators have become self-stopping and self-leveling; while street cars are fitted with automotive brakes and ball and roller bearings. Railroads have been electrified for intercity transport, the Pullman berth has evolved into a comfortable room with a full-sized bed, ships are driven by electricity.

The present generation has seen radio broadcasting become a national institution, and commercial television rise above the horizon. It has forgotten the advent of the Photoplay - only 15 years ago - in its enjoyment of the photoplay's new dimension, the talking picture It has seen skyscrapers grow two stories a year for each of its 25, and observes welding beginning to compete with riveting. It reads in the morning paper of the discovery of a new alloy which will cut steel as a knife whittles wood, and at enormous speed, and on the same front page it gets word of a discovery, "the greatest since steel," by which cardboard, wood and silk can be given the strength of iron.

Our anxious correspondent may well inquire. Chemistry has added to his vocabulary such words as celotex, celophane, celanese, rayon, velox, duco, and pyrex, while science was providing him with mechanical refrigeration, oil heat, and direct incineration of garbage.

"Everything seems to have been done."

So it seemed in 1833 to the head of the Patent Office, who wanted to resign because he felt the limit of human invention had been reached and that there was no further need of his services. By 1860 there were less than 43,000 patents recorded; by the end of the century, 640,000. Today - the applications for patents have risen to 90,000 a year.

When our sons look back in 1950, they will doubtless chuckle over our anxieties, as we smile over the anxiety of an earlier patent commissioner.

For he must be of little faith indeed, who can not feel the tremendous creative impulse of the day, which, led by business, has as its goal the supply and distribution of more and more material comforts on which can be built a cultural and spiritual life such as the world has never seen. (Reprinted by special permission from an article in "Nation's Business by Merle Thorpe")

BUILDING AND HOUSING

James S. Taylor.

All inquiries on this subject should be addressed to Mr. James S. Taylor, Division of Building and Housing, United States Department of Commerce, Washington, D. C.

32. PLUMBING REQUIREMENTS.

Recommended requirements for plumbing in all types of buildings are presented in a report just issued by the Sub-Committee on Plumbing of the Department of Commerce Building Code Committee. The report is comprehensive, treating such questions as the size of pipes to be used, where venting should be installed, and the most efficient and sanitary types of traps. Precautions necessary to protect drinking water from pollution, and many other matters that directly affect health are emphasized. Tests made by experts at the Bureau of Standards and experience with actual plumbing installations form the basis for the committee's conclusions.

The report is entitled "Reocmmended Minimum Requirements for Plumbing." It contains nearly 300 pages of text and 107 illustrations, chiefly in connection with the report of experiments at the Bureau of Standards. Copies may be obtained from the Supreintendent of Documents, Washington, D. C., for 35 cents currency, or money order.

33. ZONING IDEA SPREADS.

The extent to which the municipal zoning idea has spread through the United States in recent years is revealed in a survey just completed by the Division of Building and Housing of the Department of Commerce. In 1916, the survey shows. zoning regulations were in force in only eight cities. The number increased slowly until 1920, after which the progress was rapid. At the end of 1928, 754 cities, towns and villages in all parts of the country, having a total population in excess of 37 millions, had regulations designed to promote construction and use of buildings so as to conserve the interests of home owners and other property holders, in conformance with the public welfare.

During 1928, 87 manicipalities passed zoning ordinances, while 101 either adopted more comprehensive zoning ordinances or amended existing regulations to make them more effective. An analysis of the 87 new zoning ordinances which were passed shows that 44 were comprehensive; that is, the use, height and area of buildings were regulated; 27 merely controlled the use of buildings; seven regulated the use and area of buildings; and two were merely temporary ordinances, pending the preparation of a zoning ordinance to suit local requirements.

Zoning activity is evident in pradtically all states, the report shows. New York led in the number of municipalities zoned during 1928, with 23 cities, towns and villages. Ohio and Pennsylvania tied for second place with six each. Youngstown, Ohio, Waterbury, Connecticut; and Altoona, Pennsylvania were three of the largest cities which adopted zoning legislation last year. South Dakota and Idaho were added to the states having zoned municipalities when four cities in the former and three in the latter adopted zoning ordinances during the year.

New York is the foremost State in the Union in the number of its municipalities having zoning ordinances in effect, with a total of 131. New Jersey is second with 84; California, third with 73; Illinois fourth with 71 and Massachusetts fifth with 62. Pennsylvania, Ohio, Michigan, Wisconsin, and Kansas follow in the order named.

UTILIZATION OF WASTE

34. LUMBERMEN TO MEET.

Subjects of vital interest to those engaged in the wood-utilization field will be discussed by the chairman of project sub-committees at the annual meeting of the National Committee on Wood Utilization of the Department of Commerce, to be held in the Commerce Building, April 29, 1929. Discussions will be presented on subjects pertaining to the seasoning and manufacture of lumber; the utilization of wood waste and the degree of elimination of waste made possible by the surveys now being carried on in several states; the standardization of wood products; wood preservation; and the results already achieved in the field of wood utilization.

35. MAKING PROFITS.

Profitable merchandising of cut-to-length and fabricated lumber presents an opportunity to every progressive retailer in industrial centers, says Mr. Reding Putman, of the Southern Pine Association, in charge of industrial research. He cited as an example, a retail plant that utilized its planning mill during slack periods and turned rejects into profitable items. This plant uses short lengths and lumber that otherwise might be scrapped, with a resultant profit to the yard and a saving to the industrial user. The use of waste lumber and items of degrade meets the current demand for the industrial items and the manufacturing is carried on in periods during which the planing mill would normally be idle.

36. CHECKING RAILROAD WASTE.

The story of how the Chicago Rock Island and Pacific Railroad keeps an eye on material waste is told in The Railway Age, The railroad has made a special business of reclaiming waste materials for nearly a quarter of a century. An unusual feature of the road's reclamation work, however, lies in the fact that consistently for 13 years, this work has not been promoted, but at the same time has been controlled jointly by all departments concerned, through committees of responsible officers who have made it their business to comb the property for waste at least six times a year and to settle controversial questions in the interest of all concerned.

37. NEW MEMBERS ELECTED TO COMMITTEE.

Announcement was made late in February of the election of eight new members to the National Committee on Wood Utilization of the Department of Commerce, which was organized in 1925 to bring about a more complete utilization of timber through the encouragement of efficient wood-using practices. The new members will devote their attention to such phases of the Committee's activities as the development of the wood by-products, paper and pulp, plywood and wood package fields.

One of them, who will act as adviser on research projects applying to the wood utilization field, is research professor of engineering materials at an eastern university. Another member, the president of a firm of engineers and contractors, is a nationally known authority on construction engineering in the mining field, who has for many years taken a keen interest in wood conservation work. He has been designated to serve on the executive committee. A

third member, the president of a railroad tie company, will devote his services on the Committee particularly to the development of the by-products field. A director of a state association of retail lumber merchants is another newly elected member. He will be called upon to aid in the Committee's project involving the retail distribution of treated lumber, in which he has taken keen interest. The principal interest of another member who represents the American Veneer Package Association, is in the elimination of waste. The two remaining members represent, respectively, the Douglas Fir Plywood Institute and the Western Door Manufacturers' Association. The former will be indentified with the Committee's veneer and plywood group, and the latter with its millwork group.

38. WOOD REPORT ISSUED.

The survey of nonutilized wood stocks in Virginia, conducted by the National Committee on Wood Utilization in cooperation with the State Government and the industry, has been completed and publshed. The bulletin, entitled, "Survey of Nonutilized Wood in Virginia," is available from the Superintendent of Documents, Government Printing Office, for 20 cents a copy. The bulletin points out the importance to the Committee's waste elimination and commercial reforestation program of the conversion of nonutilized wood, of which 28,000 carloads are annually available in Virginia, as raw material for wood-using industries. This surplus material, which is exclusive of the waste occurring in the woods and of wood used for fuel, is equivalent to the production in board feet of lumber from 93,000 acres of average stands of timber.

A series of tables gives names and locations by counties and towns of the plants in the State reporting nonutilized wood, and lists the quantity of each species of wood available at these plants, whose location is shown on a detailed map.

The report contains suggestions, not only for reducing to a minimum the waste in the manufacturing of wood, but also for the use of the irreducible minimum of waste material. The wider use of small dimension stock in the further manufacture of wood, the disposal of nonutilized wood to other industries which can use it to advantage, and its utilization as raw material for pulp and wood chemical manufacture, are proposed solutions for the wood-using industries. Possibilities of sawdust utilization in the manufacture of such varied products as dynamite, moulded articles, composition beads, and dolls are suggested.

The foreword expresses the hope that the treatise will aid in the establishment of wood-by-products industries in Virginia, thereby laying the foundations for a sound nnd practical policy of wood utilization in this country.

The Virginia Survey is the first of a series the National Wood Utilization Committee is conducting. It is announced that a similar survey in North Carolina, will be completed in a few weeks, Georgia, Maryland, New York, Tennessee and other States have requested the Committee to make surveys for them, which will be done as soon as arrangements can be made.

39. PRESERVED WOOD SUBCOMMITTEED FORMED.

The National Committee on Wood Utilization recently selected a subcommittee to develop sources of supply and distribution facilities for preserved wood, i.e., wood so impregnated with chemicals as to be resistant to decay and to the attacks of wood-destroying insects. The present aim of the subcommittee is to make it possible for the small consumer to take advantage of the use of preserved wood and to purchase it as does the large consumer. It is explained that, heretofore, this material has been available only to those who ordered in large quantities for such uses as railroad ties, poles and piling.

40. FABRICATOR'S EDITION.

The fabricators' edition of "Seasoning, Handling and Care of Lumber" prepared by the Fabricators' Subcommittee of the National Committee on Wood Utilization has just been issued. This bulletin is the third in a series of four reports. The fourth edition, the manufacturers', is to be issued later. All three editions are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., or from the District Offices of the Department of Commerce, the consumers' for fifteen cents, the Distributors' for twenty cents, and the fabrictor's edition for twenty-five cents a copy.

The fabricators" edition represents the best practices in handling lumber in the wood-fabricating field and was prepared with the need of fabricators in mind. It brings together the latest information on actual wood-seasoning practice and the literature resulting from surveys and experimental work carried on by public and private laboratories. The bulletin is very comprehensive, no phase of air or kiln-drying practice having been omitted in making the survey. The subjects treated range from kinds of pile foundations used in air seasoning to types of kilns used in drying, and from moisture content determination to the proper spacing of stickers in the pile. A bibliography on kiln drying and air drying lumber, moisture content determination, and of miscellaneous publications on wood seasoning is appended.

ELIMINATION OF WASTE

41. VICE PRESIDENT IN CHARGE OF WASTES:

"Nearly 20 years ago Harrington Emerson "made" the front page of newspapers and excited the ire of railroad men by declaring that the railroads could easily save $1,000,000 a day, "says the Magazine of Business editorially. "Within five years of his declaration, savings more than equaled his figure. Then appeared the American Engineering Council's report on "Waste in Industry" made under the inspiration of Herbert Hoover. We realized then that Mr. Emerson had been talking about the "small change" of business. In succession came the simplification work of the Department of Commerce (showing the wastes of excess varieties), and our awakening to the enormous wastes in distribution.

"These are the wastes in what might be called the normal avenues of busines. Even in them we are not at an end - as witness W. H. Leffingwell's statement that while we are reducing our man-hours per unit of production our clerical forces are increasing abnormally and threatening to make serious inroads on our profits.

"In these avenues alone the wastes reclaimable by known methods can add billions to our annual wealth production. But the area of waste reclaimation is still wider. The American Arbitration Association has awakened us to the wastes in litigation. The bankruptcy disclosures at New York show that there is a well-organized procedure for diverting to receivers' pockets enormous sums in assets rightly belonging to creditors. The National Association of Credit men has demonstrated that by sympathetic assistance to businesses under financial stress, bankruptcies and the losses normal thereto can be entirely avoided.

"These categories, out of the run of normal business, hold additional billions of wastes. Out of these two classes along - reclaimable by present methods - we could easily make a new and astounding prosperity. Added thereto will be the great increment of wealth that will flow from new processes and new products.

"Which suggests that, in addition to a vice-president in charge of development, large businesses might well have a vice-president in charge of waste elimination. He would have a dual job; on the inside, to hunt out and eliminate wastes; on the outside, to cooperate with agencies for eliminating wastes that impinge on businesses from without.

"Hail the vice-president in charge of waste elimination! Hard job, but necessary and profitable."

42. FIRE WASTE.

President William Butterworth, Chamber of Commerce of the United States, opened the meeting here on March 26, 1929, of the National Fire Waste Council, with an appropriate address on the need of the work that is being carried on by the council on fire prevention. Various committee reports were read and approved. In addition to the address of Mr. Butterworth, the outstanding subject presented to the meeting was the address by Mr. C. A. Tudlum, Vice-President of the Home Insurance Company, New York, N. Y., on the subject of "Fire Prevention - An Individual Matter."

43. STANDARD MARKINGS.

Is there any shop where bars of steel of different composition do not occasionally become mixed, editorially inquires MACHINERY for March, in a discussion on mark bar steel plainly. In outward appearance there is little or no difference in bars of steel of different grades, and even experienced shop men often can not tell them apart. For this reason, bars are kept in separate racks; but when one is removed and a part cut off, it may be returned to the wrong rack if there is no marking to identify it. In some shops the bars are identified by merely painting the end of the bar with a certin color, but this has the disadvantage that if the bar is cut off and the end piece removed, the marking is lost and must be renewed.

44. INDUSTRIAL WASTE.

Questionnaires returned in connection with the industrial traffic management survey being conducted by the Transportation Division of the Bureau of Foreign and Domestic Commerce cite specific examples of waste resulting from failure of other departments to cooperate with the traffic departments of establishments reporting. Not giving the traffic department complete information as to their activities is claimed to prevent it from rendering the maximum assistance. Among instances cited are changing the sources of supplies of raw materials without notifying the traffic department and having the rates checked to ascertain whether or not they were out of line with rates paid by competitors in other communities. The use of express service when freight service should be used, and vice versa; failure to furnish consignors with specific routing instructions; allowing consignors to forward shipments in less than carload lots when they could have been consolidated in carload lots; using larger cars then necessary in forwarding carload lots, resulting in consignees' paying charges on a higher minimum weight than necessary.

Another company cites the promiscuous transmitting of lumber, especially surfacing or kiln drying, at points too far removed from the origin of the shipment. As through rates are protected on the net outbound weight from the transit point, whether 10 or 100 miles from the point of production, exorbitant freight amounting on occasion to 20 to 25 per cent is sometimes paid on the waste, if transit service is sought at the more distant points. Consultation with the traffic department it is claimed would obviate this difficulty.

45. ENGINEERING ECONOMY.

In a discussion of "Power Transmission Engineering As An Economy," which recently appeared in the S.A.E. Journal, Mr. W. W. Nichols, offers the following study. "To summarize some of the requirements of testing and maintaining belting, I will make several definite recommendations. Provision should be made for a suitable storage and maintenance department

for belting. Lacing machines, belt-cutters and repair equipment should be provided, and plans should be made to inspect all belting upon receipt. Supervision should be under a man who is familiar with shop conditions and tools, selected also for his ability to manage men without friction. Reports should be made on the condition of pulleys and machinery, including those that are out of line, and on oily or sloppy conditions and any other factors affecting the efficiency of operation. Belts having excessive tension should be reported.

"Records should be made in connection with daily inspection of test belts, including watt-meter readings under running and starting conditions. Records should also be made of the amount of metal being removed per minute by machines that are operated by test belts; also specifications of the materials and observations as to the condition and grinding of the tools. Time and cost of maintenance should be recorded and also any changes in belt length. All forms used for records and reports should be standardized. Records should be kept of all belts and pulleys in service, including their speed. Any serious troubles found should be eliminated immediately.

"Foremen should report to the maintenance department any improper conditions existing in their own departments, such as belts rubbing on guards; shifter forks set too close or badly worn by belts; belts on cone pulleys that have a tendency to climb, and all belts tending to run off the pulleys; splashing of oil or cutting compounds upon belts; onditions where guards are needed to prevent injury to operators in case of belt breakage; and any condition where belts need to be run so tight that a rope is necessary to put them on the pulleys. Splashing of cutting compound sometimes occurs where it discharges into the tank. This can be prevented by means of a long nipple carrying the discharge down near the bottom of the tank, well below the level of the compound.

"In closing, I wish to warn those who are interested in this subject that they will not be successful in the application of these methods unless care is taken to apply them under the direction of a capable man. The person selected must be an analyst and capable of studying the problem from other than the power-transmission viewpoint. Many variables enter into an investigation of this kind; shold one or two be omitted, a false result will be obtained. Neglect may have caused conditions to grow to an extent such that some time will be required for their correction, but in the end their correction will be a great economy."

46. APPENDIX.

Simplified Invoice League - Reports received from February 25 to April 1, 1929.

Company	Period	Invoices Checked	On Simplified Form	Per Cent of Adherence
M. A. Hanna Company, Duluth, Minn.	-	-	-	100.00
A. C. Spark Plug Company, Flint, Mich.	12 days	-	-	70.00*
Purchasing Agents' Assn. of Baltimore, Baltimore, Md.	-	-	-	50.00*
Magnolia Petroleum Corporation, Dallas, Texas.	5 days	2545	930	36.54

Simplified Invoice League - Reports received from February 25 to April 1, 1929. (Cont's.)

Company	Period	Invoices Checked	On Simplified Form	Per Cent of Adherence
Clyde Iron Works, Duluth, Minn.	-	-	-	36.00*
Duluth Street Railway, Duluth, Minn.	-	-	-	36.00*
Sewell Paint & Varnish Co., Kansas City, Mo.	-	-	-	30.40*
Zenith Furnace Company, Duluth, Minn.	-	-	-	28.50
Consolidated Cement Corporation, Kansas City, Mo.				26.60
Gogebic Steam Boiler Works, Duluth, Minn.	-	-	-	25.00
(Name with-held by request), Columbia, S. C.	1 month	1000*	250*	25.00*
Utah Idaho Sugar Company, Salt Lake City, Utah.	7 days	165	41	24.73
Lehigh Coal & Navigation Co., Philadelphia, Pa.	2 weeks	-	-	22.50
Wallace Barnes Company, Bristol, Conn.	10 days	407	87	21.38
Hirschy Company, Duluth, Minn.	-	-	-	20.00
American La Francd & Foamite Corporation, Elmira, New York.	2 weeks	1293	242	18.72
General Box Company, Louisville, Ky.	30 days	527	82	- 15.56
Pur. Agents Assn. of New Orleans, New Orleans, La.	2 weeks	20,000*	2500*	12.50*
Gustin Bacon Manufacturing Co., Kansas City, Mo.	-	-	-	11.00
Duluty Show Case Company, Duluth, Minn.	-	-	-	10.00

Simplified Invoice League - Reports received from February 25 to April 1, 1929. (Cont's.)

Company	Period	Invoices Checked	On Simplified Form	Per Cent of Adherence
Louisville Railway Company, Louisville, Ky.	30 days	650	65*	10.00*
Wood Conversion Company, Cloquet, Minn.	-	-	-	10.00
Pittsburgh Plate Glass Company, Milwaukee, Minn.	10 days	-	-	8.00
W. S. Dickey Clay Mfg. Co., Kansas City, Mo.	-	-	-	7.70
Seidlitz Paint & Varnish Co., Kansas City, Mo.	-	-	-	5.00
Sanitary Milk Company, Louisville, Ky.	30 days	650	28	4.31
Dallas Gas Company, Dallas, Texas.	3 weeks	188	8	4.15
Standard Sanitary Mfg. Co., Dallas, Tex.	1 week	164	5	3.05
Kentucky Utilities Company, Louisville, Ky.	30 days	13,500	-	2.00
Patrick Garment Factory, Duluth, Minn.	-	-	-	2.00

* Approximate.

47. NEW BUREAU PUBLICATIONS.

Send orders for publications under this heading with remittance only to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Bureau of Standards Journal of Research, Vol. 2, No. 3, March, 1929 - by subscription only $2.75 per year (United States and its possessions, Canada, Cuba, Mexico, New Foundland, and Republic of Panama); other countries $3.50.

Research Papers (reprints from Journal); - RP45. Apparatus and methods for the separation, identification, and determination of the chemical constituents of petroleum; E. W. Washburn, Johannes H. Bruun, M. M. Hicks; price, 10 cents. RP 46. Recombination spectra of ions and electrons in caesium and helium; F. L. Mohler, and C. Boeckner; price, 5 cents. RP47. The spectral absorption of certain monoazo dyes; W. R. Brode; price 15 cents. RP 48 Transmission of sound through wall and floor structures; V. L. Chrisler and W. F. Snyder, price 10 cents. RP49. Discharge coefficients of square-edged orifices for measuring the flow of air; H. S. Bean, E. Buckingham, and P. S. Murphy: price 20 cents.

Simplified Practice Recommendations. RX-28 Organization of the American Marine Standards Committee and its constitution and rules as revised in 1928; price 10 cents. R47-28 Cut tacks and small cut nails; price 10 cents. R92-28. Hard fiber twines (ply and yarn goods); price 5 cents.

Building and Housing. - BH13 - Recommended minimum requirements for plumbing Report of subcommittee on plumbing of the Building Code Committee, revised August 30, 1928, price 35 cents.

Miscellaneous Publications: M86 Tables of spectral energy distribution and luminosity for use in computing light transmissions and relative brightnesses from spectrophotometric data; J. F. Skogland; price 10 cents.

Technical News Bulletin No. 144, April 1929, - by subscription only, 25 cents per year (foreign, 40 cents.)

In addition to the new publications announced during the past month by the Bureau of Standards, there is available upon request, without charge, a complete list of all completed simplified practice recommendations, American Marine Standards and Commercial Standards. This list, which is revised monthly, may be secured upon request, from the Division of Simplified Practice, Bureau of Standards, United States Department of Commerce, Washington, D. C.

STANDARDS YEARBOOK.

The Standards Yearbook for 1929 is the third issue of an annual which has proved indispensable to all interested in any phase of standardization in America and abroad. It is a standardization reference book, summarizing and bringing up to date current standardization activities and accomplishments in this country and elsewhere, since the 1928 edition of the Yearbook. The keen and world wide interest in standardization is shown by the suprisingly large sale of previous issues, of which repeated reprinting has been necessary to meet the demand.

The 1929 edition is full of suggestion and data for all engaged in standardization. The many aspects of the subject call for a concise summary for busy men who most need to keep in touch with the latest advances in the standards field. The Standards Yearbook is designed to meet this need. A special chapter (1) tells how the various countries standardize commercial weights and measures used in daily trade in the countless transactions of everyday life.

A brief account of international cooperation in standardization is followed by a synoptic summary of the activities of the national standards associations of the various countries. The Standards Yearbook should be in the personal library of all engaged in work on standards or concerned with their application in standardization.

-0-