INSECT WIRE SCREENING

COMMERCIAL STANDARD CS138–47

Effective Date for New Production From January 2, 1947

A RECORDED VOLUNTARY STANDARD
OF THE TRADE

UNITED STATES
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PROMULGATION
of
COMMERCIAL STANDARD CS138-47
for
INSECT WIRE SCREENING

On February 23, 1945, at the instance of the Insect Wire Screening Bureau, a meeting of producers of insect wire screening adopted the proposed commercial standard for this commodity. This was submitted on March 28, to leading manufacturers, interested Government agencies, distributor and user organizations for constructive comment. Following adjustment in the light of the comment received, the recommended commercial standard was circulated for written acceptance on July 16, 1945.

Those concerned have since accepted and approved the standard as shown herein for promulgation by the United States Department of Commerce, through the National Bureau of Standards.

The standard is effective for new production from January 2, 1947.

Promulgation recommended.

Promulgated.

Promulgation approved.

F. W. Reynolds,  
Acting Chief, Division of Trade Standards.

E. U. Condon,  
Director, National Bureau of Standards.

W. Averell Harriman,  
Secretary of Commerce.

Project Manager: E. C. Barrett, Division of Trade Standards.  
Technical Adviser: Dr. L. V. Judson, Metrology Division.
INSECT WIRE SCREENING
COMMERCIAL STANDARD CS138-47

PURPOSE

1. The purpose of this commercial standard is to provide a nationally recognized standard of quality of insect wire screening. It will assist ultimate consumers in determining what sizes and types of insect wire screening are standard with the industry; and to promote fair marketing practices and a better understanding between manufacturers, distributors, and consumers of insect wire screening.

SCOPE

2. This standard describes the nomenclature, definitions and general requirements for commercial standard insect wire screening designed and woven primarily for installation in or on, any dwelling, building, or structure, for the purpose of preventing the ingress of flies, mosquitoes, or other insects. A recommended form for guaranteeing compliance with this standard is included.

DEFINITIONS

3. Insect wire screening.—16×16, 18×14, and 18×18 mesh woven wire screening (carbon steel, commercial bronze, and copper), for protection against mosquitoes as well as flies and larger insects. (See par. 9.)

4. Galvanized steel wire screening.—16×16, 18×14, and 18×18 mesh carbon steel insect wire screening for protection against mosquitoes as well as flies and larger insects. (See par 9.) The metal used for the coating shall be zinc of at least 98 percent purity.

5. Bronze screening.—16×16, 18×14, and 18×18 mesh "commercial bronze" insect wire screening for protection against mosquitoes as well as flies and larger insects; woven from wire containing 89 to 91 percent of copper and the remainder zinc; lead or iron occurring as impurities shall not exceed 0.05 percent each. (See par. 9.)

6. Copper screening.—16×16, 18×14, and 18×18 mesh copper insect wire screening for protection against mosquitoes as well as flies and larger insects; woven from wire containing at least 99.8 percent of copper. (See par. 9.)

7. Mesh.—Mesh is the width of one opening plus the thickness of one wire; alternatively considered as being the distance from the center of one wire to the center of the next adjacent wire. The technical designation of the mesh count of insect wire screening is the number of meshes per linear inch, counted in the direction of both the warp and
the filler wires. When used as a common designation of the “mesh size” of insect wire screening, the word “mesh” is generically accepted as meaning the number of open spaces per linear inch in both warp and filler directions.

**MATERIAL AND WORKMANSHIP**

8. All standard wire screening shall be made of high-grade materials and with good workmanship. It shall be free from any defects that might affect its serviceability or its appearance. Well-made splices not over three-fourths of an inch long and showing no tails are permissible at any point of any individual wire, provided, however, that the number of splices shall not exceed 30 in any stock roll nor two splices in any 1 square foot of finished screening.

**GENERAL SPECIFICATIONS**

9. The mesh counts, sizes and kinds of wire, and types or character of finishes for standard insect wire screening shall be as shown in table 1.

<table>
<thead>
<tr>
<th>Table 1.—Insect wire screening</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metal</strong></td>
</tr>
<tr>
<td>Steel</td>
</tr>
<tr>
<td>Commercial bronze</td>
</tr>
<tr>
<td>Copper</td>
</tr>
</tbody>
</table>

**WIDTHS**

10. The stock widths of all types of standard insect wire screening shall be 24, 26, 28, 30, 32, 36, 42, 48 inches.

**ROLL LENGTH**

11. All standard stock rolls of insect wire screening shall be 100 linear feet in length; shall contain not more than two pieces per roll, and no piece shall be less than 10 linear feet in length.

**MESH COUNT**

12. Accuracy of mesh count in the direction of the warp or filler wires shall be determined by counting the mesh openings for any interval of one continuous linear foot and dividing the result by 12.

**WIRE DIAMETER**

13. Accuracy of the wire diameter of steel insect wire screening shall be determined by computing the average of the measured diameter of not less than 10 warp wires together with the same number of filler wires, taken at random from the finished screening, but with all coating or surface finish (if any) entirely removed.

13a. In commercial bronze and copper insect wire screening the same diameter of wire shall be used for both the warp and the filler, and accuracy of the wire diameter shall be determined by computing
Insect Wire Screening

separately the average measured diameter of not less than 10 warp wires and of the same number of filler wires taken at random from the finished screening.

13b. For standard galvanized insect wire screening a size of wire may be used for the warp that is different from that (size) employed for the filler; such variations in size, however, shall not be excessive, and in all cases the average diameter of warp and filler wires for galvanized steel insect wire screening shall be 0.011 inch. For all standard commercial bronze and copper insect wire screening, the same wire diameter (0.011 inch) shall be used for both the warp and the filler.

SELVAGES

14. Selvage.—There shall be one (1) or more wires in both selvage edges of all standard insect wire screening.

TOLERANCES

15. Permissible variations shall be:
   (a) For wire diameters: 0.0005-inch, plus or minus.
   (b) For mesh count:
      Warp, one-quarter mesh per linear inch, plus or minus.
      Filler, one-half mesh per linear inch, plus or minus.
   (c) For width: plus or minus \( \frac{1}{8} \) inch.
   (d) For length: minus 2 inches.

PACKAGING

16. Unless otherwise specified, standard insect wire screening shall be enclosed in such standard commercial containers, or wrapping, as will insure acceptance by common or other carriers for safe transportation to the ultimate point of delivery, at the lowest applicable rate.

LABELING

17. The mesh count, size, kind and finish of wire, the length and width of the screening enclosed, shall be shown in a conspicuous place, preferably by means of a printed label, on the outside wrapping or covering of each roll of standard insect wire screening.

GUARANTEE

18. In order to assure the purchaser that he is receiving insect wire screening that complies with the requirements of this standard, it is recommended that the label on each roll carry the following guarantee:

   We hereby guarantee that this insect wire screening complies with all requirements of Commercial Standard CS138-47, as issued by the National Bureau of Standards of the United States Department of Commerce.

   ________________________________
   (Signed)

EFFECTIVE DATE

19. The standard is effective for new production from January 2, 1947.
STANDING COMMITTEE

20. The following individuals comprise the membership of the standing committee, as appointed by the National Bureau of Standards. This committee is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Each organization nominated its own representative. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Division of Trade Standards, National Bureau of Standards, which acts as secretary for the committee.

Manufacturers:
L. B. Jackson, (chairman), Wickwire Brothers, Inc., Cortland, N. Y.
Stuart M. Jones, New York Wire Cloth Co., 500 Fifth Avenue, New York 18, N. Y.
Percy Jenkins, Hardware Products Department, Wickwire Spencer Steel Co., 500 Fifth Avenue, New York 18, N. Y.
John D. Stodder, Cyclone Fence Division, American Steel & Wire Co., Waukegan, Ill.
Ralph W. Bacon, Insect Wire Screening Bureau, 74 Trinity Place, New York 6, N. Y.

Distributors:
Waldo J. Tastet, Fries, Beall & Sharp Co., Inc., 734 Tenth Street NW., Washington 1, D. C. (Representing The National Wholesale Hardware Association.)
Rivers Peterson, National Retail Hardware Association, 333 North Pennsylvania Street, Indianapolis 4, Ind.
T. W. McAllister, Secretary, Southern Hardware Jobbers Association, 814 Metcalf Bldg., Orlando, Fla.

Consumers and General Interests:
G. Irving Baily, American Retail Federation, 1627 K Street NW., Washington, 6, D. C.
E. W. Donahue, Wabash Screen Door Co., 310 S. Michigan Ave., Chicago 4, Ill. (Representing National Door Manufacturers Assn., Inc.)
C. C. Kiker, Tennessee Valley Authority, Wilson Dam, Ala. (Representing The American Public Health Assn.)

HISTORY OF PROJECT

21. On September 26, 1944, the Insect Wire Screen Cloth Bureau requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for insect wire screening. A preliminary draft of the proposed commercial standard was submitted to manufacturers for their review and comment. All comment was carefully considered at a meeting held in New York City on February 23, 1945. An adjusted draft was then prepared and submitted on March 28, 1945, to technical organizations, Government agencies, testing laboratories, manufacturers, and wholesale, retail, and user organizations for further review and comment. The standard was then modified in accordance with composite recommendations of those concerned and circulated on July 16, 1945, to the trade for written acceptance.

22. Upon receipt of official acceptances estimated to represent a satisfactory majority of the production by volume, and in the absence of active valid opposition, the standard was promulgated on December 2, 1946, as Commercial Standard CS138-47.
ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date ______________________

Division of Trade Standards,
National Bureau of Standards,
Washington 25, D. C.

Gentlemen:

We believe that the Commercial Standard CS138-47 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production 1 distribution 1 purchase 1 testing 1

of insect wire screening.

We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer ________________________ (In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer ______________________

Organization ______________________ (Fill in exactly as it should be listed)

Street address ______________________

City, zone, and State ______________________

1 Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General Support" should be added after the signature.
TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. Enforcement.—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs; and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. The acceptor's responsibility.—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable, in the production, distribution, or consumption of the article in question.

3. The Department's responsibility.—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. Announcement and promulgation.—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.
23. The organizations listed below have individually accepted these grading rules for use as far as practicable in the production, distribution, testing, or purchase of insect wire screening. In accepting the standard they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles that actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS

(General Support)

Alabama, Retail Hardware Association of, Birmingham, Ala.
American Society of Bakery Engineers, Chicago, III.
Boy Scouts of America, National Council, New York, N. Y.
California Retail Hardware Association, Inc., San Francisco, Calif.
Insect Wire Screening Bureau, New York, N. Y.
Intermountain Consumer's Service, Inc., Denver, Colo.
National Committee for Farm Production Supplies, Washington, D. C.
National Retail Hardware Association, Indianapolis, Ind.
Oklahoma Hardware & Implement Association, Oklahoma City, Okla.
Z. C. M. L., Wholesale Hardware Division, Salt Lake City, Utah.

FIRMS

Agnew Hardware Co., Everett, Wash.
Alabama State of, Montgomery, Ala.
Albany Hardware & Iron Co., Albany, N. Y.
Allen Co., Inc., Walter H., Dallas, Tex.
Allen & Jenison Co., Tuscola, Ala.
American Grille & Screen Works, Dallas, Tex.
American Sash & Door Co., Kansas City, Mo.
American Wholesale Hardware Co., Long Beach, Calif.
American Wire Fabrics Corp. (Subsidiary of Colorado Fuel & Iron Corp.), New York, N. Y.
Anderson & Ireland Co., The, Baltimore, Md.
Anniston Hardware Co., Anniston, Ala.
Arizona Hardware Co., Phoenix, Ariz.
Armstrong & Sons, C. E., Clinton, Iowa.
Atchison Hardware Co., The, Atchison, Kan.
Austin Bros., Stockton, Calif.
Badger Paint & Hardware Stores, Inc., Milwaukee, Wis.
Baird Easy-Clean Window Co., Youngstown, Ohio.
Baird Hardware Co., Gainesville, Fla.
Baird Hardware Co., Reading, Pa.
Barker-Jennings Hardware Corp., Lynchburg, Va.
Barker, Ross & Kinball, Inc., Kilsyth, N. Y.
Barnes Lumber Co., W. F. & J. E., Wholesale Department, Waco, Tex.
Barr Lumber Co., Santa Ana, Calif.
Barrett Hardware Co., Joliet, Ill.
Baugman Lumber Co., The, Ponca City, Okla.
Bay Cities Wholesale Hardware Co., San Francisco, Calif.
Bay City Hardware Co., Bay City, Mich.
Bayonne Steel Products Co., Newark, N. J., and Paterson, N. J.
Beals, McCarthy & Rogers, Inc., Buffalo, N. Y.
Bentley Hardware Co., The, Great Bend, Kans.
Bering-Cortes Hardware Co., Houston, Tex.
Bieggs, Kurtz Hardware Co., The, Grand Junction, Colo.
Billings Hardware Co., Billings, Mont.
Birmingham, City of, Birmingham, Ala.
Black Hardware Co., Galveston, Tex.
Blish, Mize & Stillman Hardware Co., Atchison, Kans.
Bob Heady Hardware Co., New York, N. Y.
Bluefield Hardware Co., Bluefield, W. Va.
Blumberg Co., Inc., William L., New York, N. Y.
Boggs & Buhl, N. S., Pittsburgh, Pa.
Boston Supply Co., Inc., Boston, Mass. (General support)
Bostwick-Braun Co., The, Toledo, Ohio.
Bridge Hardware Co., Inc., New York, N. Y.
Bronson & Townsend Co., The, New Haven, Conn.
Brown-Camp Hardware Co., Des Moines, Iowa.
Brown Co., Inc., A. B., Woodside, N. Y.
Budge Co., Frank T., Miami, Fla.
Buell Lumber & Manufacturing Co., Dallas, Tex.
Buffalo, City of, Department of Public Works, Architectural Service, Buffalo, N. Y.
Buhl Sons Co., Detroit, Mich.
Buhrman-Flurr Hardware Co., Texarkana, Ark.
Builders Supply Co., San Antonio, Tex.
Bunting Hardware Co., Kansas City, Mo.
Burdiek-Baron Co., Dallas, Tex.
Burhans & Black, Inc., Syracuse, N. Y.
California Hardware Co., Los Angeles, Calif.
California Wire Cloth Corp., The, Oakland, Calif.
Cameron & Co., Inc., Wm. (wholesale), Waco, Tex.
Cameron Lumber Co., Inc., Newburgh, N. Y.
Canton Hardware Co., The, Canton, Ohio.
Carpenter Hardware Co., The, Athens, Ohio; Glouster, Ohio; Logan, Ohio; and Nelsonville, Ohio.
Ceco Steel Products Corp., Cleco, Ill.
Centre Hardware Co., Rossville, Mass.
Century Lumber Co., Des Moines, Iowa.
Charlestown Hardware Co., Charleston, W. Va.
Charlottesville Hardware Co., Inc., Charlottesville, Va.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Chicago & Riverdale Lumber Co., Chicago, Ill.
Cincinnati Lumber Co., Cincinnati, Ohio.
Clark Witbeck Co., Schenectady, N. Y.
Clendenin Brothers, Inc., Baltimore, Md.
Cloverdale Hardware & Lumber Co., Cloverdale, Ind.
Lawrence Lumber Co., Inc., The, Wichita, Kans.
LeDeit Glass Co., San Jose, Calif.
Lee Hardware Co., Ltd., The, Shreveport, La.
Lehi Brothers, Platteville, Wis.
Leob Hardware Co., Montgomery, Ala.
Leotcher & Burch Manufacturing Co., Des Moines, Iowa.
Logan-Gregg Hardware Co., Pittsburgh, Pa.
Long-Bell Lumber Co., The, Weed, Calif.
Lorezo Co., Klamath Falls, Ore.
Loring Lane Co., New York, N. Y.
Lourks Hardware Co., The, Scottsdale, Pa.
Louvilline Tim & Stove Co., Louisville, Ky.
Luebben Lumber Co., Des Moines City, Okla.
Luthie Hardware Co., Des Moines, Iowa.
macy's Bureau of Standards, New York, N. Y.
Madison Hardware Co., Madison, Wis.
Malone Sash & Door Co., The, Canton, Ohio.
Marine Manufacturing & Supply Co., New Brunswick, N. J.
Marion Hardware Co., Oscola, Fla.
Marion Hardware & Supply Co., Inc., Marion, Va.
Marshall Co., Inc., A. H., Plattsburgh, N. Y.
Marshall Wells Co., Duluth, Minn.; Portland, Ore.; and Spokane, Wash.
Martin Harding Co., The, Pittsburgh, Pa.
Mathes & Bro., New York, N. Y.
Mason City Millwork Co., Mason City, Iowa.
Matthes & Boucher, Rochester, N. Y.
Maxwell Wholesale Hardware Co., Oakland, Calif.
Maxwell Hardware Co., Washington, D. C.
McClung & Co., Inc., C. M., Knoxville, Tenn.
Mceown-Lyons Hardware & Supply Co., Mobile, Ala.
McGregor Hardware Co., Springfield, Mo.
McKee, R. E., Hagerstown, Md.
Meier & Frank Co., Inc., Portland, Ore.
Memphis Sash & Door Co., Memphis, Tenn.
Misker Bros. Iron Co., St. Louis, Mo.
Møltenes Screen Co., Boston, Mass.
Metropolitan Millwork Co., Brooklyn, N. Y.
Michigan Merchandising Co., Detroit, Mich.
Midstate Hardware Co., Bend, Ore.
Miller Bros. Hardware Co., Richmond, Ind.
Miller Soren Co., The, Paterson, N. J.
Minnesota Department of Highways, St. Paul, Minn.
Mnld Builders Supply Co., Minot, N. Dak.
Monroe Hardware Co., Inc., Monroe, La.
Monroe Hardware Co., Monroe, N. C.
Montana Hardware & Supply Co., Butte, Mont.
Montana Lumber & Hardware Co., Lewistown, Mont.
Montgomery & Crawford, Inc., Spartanburg, S. C.
Montgomery Ward & Co., Chicago, Ill.
Moore & Co., Dallas, Tex.
Morehouse & Wells Co., Decatur, Ill.
Morrison Sash & Door Co., Oklahoma City, Okla.
Morley Brothers, Saginaw, Mich.
Morley-Murphy Co., Green Bay, Wis.
Morrison-Mill & Co., Salt Lake City, Utah.
Morrow-Thomas Hardware Co., Amarillo, Tex.
Morse Hardware Co., Bellingham, Wash.
Murray-Brooks Hardware Co., Ltd., Lake Charles, La.
Nash Hardware Co., Fort Worth, Tex.
Nash, Robinson & Co., Waco, Tex.
Neal Millwork & Supply Co., Oklahoma City, Okla.
Nei Co., Thos. G., Paterson, N. J.
New Hampshire Hardware & Plumbing Supply Co., Manchester, N. H.
New York Wire Cloth Co., New York, N. Y.
Newark Wire Cloth Co., Newark, N. J.
Niagara Hardware & Plumbing Supply Corp., Niagara Falls, N. Y. (General support).
Nielsen Lumber Co., Seattle, Wash.
Niccolai Door Sales Co., San Francisco, Calif.
Northern Wholesale Hardware Co., Portland, Ore.
Odell Hardware Co., Greensboro, N. C.
O'Hara Lumber Co., Ottumwa, Iowa.
Ohio Valley Hardware & Roofing Co., Evansville, Ind.
Ohioan Co., Columbus, Ohio.
Ohioan Co., Columbus, Ohio.
O'Neill Co., The M., Akron, Ohio.
O'Neill McNamara Hardware Co., Vicksburg, Miss.
Oregon Co., Portland, Ore.
Ornamental Iron Works Co., The, Akron, Ohio.
Pacific Manufacturing Co., Santa Clara, Calif.
Pacific Wire Products Corp., Compton, Calif.
Pacific Wire Works Co., Seattle, Wash.
Pate, Steele & Flagg Co., The, New Haven, Conn.
Patten Lumber Co., Los Angeles, Calif.
Paxton & Gallagher Co., Omaha, Nebras.
Pearlstone & Sons, I. M., Charleston, S. C.
Peck Co., Geo. W., Bath, N. Y.; and Elmira, N. Y.
Peck Hardware Co., The, Canandaigua, N. Y.
Peeler Hardware Co., Macon, Ga.
Peirson Hardware Co., Pittsfield, Mass.
Pensacola Hardware Co., Pensacola, Fla.
People's Hardware Co., Washington, D. C.
Phenix Manufacturing Co., Inc., Milwaukee, Wis.
Phillips & Co., J. W., Tampa, Fla.
Phillips Hardware Co., The, Cambridge, Md.
Phoenix Hardware Co., Newark, N. J.
Pierce Hardware Co., Inc., The, Taunton, Mass.
Pinekenyville Home Lumber Co., Pinekenyville, Ill.
Porter Hardware Co., E. R., Dothan, Ala.
Prineville Hardware Co., Prineville, Oreg.
Purkey & Son, J. W., Berea, Ky.
Queensborough Lumber Co., Inc., Bayside, N. Y.
Quigley Co., J. R., Gloucester City, N. J.
Ramsay & Sons, Inc., A. H., Miami, Fla.
Raton Builders Supply, Raton, N. Mex.
Ravenna Hardware Co., Ravenna, Ohio.
Rhein Hardware Co., Chicago, Ill.
Riley Brothers & Son, Inc., Lancaster, Pa.
Reliable Hardware Store, New York, N. Y.
Reynolds Wire Co., Dixon, Ill.
Rice & Miller Co., Bangor, Maine.
Richards & Conover Hardware Co., Kansas City, Mo.
Richards & Davis Co., Fall River, Mass.
Richmond & Sons, J. W., Annapolis, Md.
Richmond Hardware Co., Richmond, Va.
Rieger Iron & Ware Works, Inc., Pittsburgh, Pa.
Rike-Kumler Co., The, Dayton, Ohio.
Rinn Scott Lumber Co., Chicago, Ill.
Rook & Co., L. W., Brookneal, Va. (General sup-
Robbins Manufacturing Co., Chicago, Ill.
Robeson & Son, Inc., A., Binghamton, N. Y.
Roberts Corporation, U. N., Davenport, Iowa.
Roberts Hardware Co., Inc., Utica, N. Y.
Robins & Smith, W. H., Taylor Co., Tex.
Robling's Sons Co., John A., Trenton, N. J.
Roberts & Bailey Hardware Co., Springfield, Mo.
Robles & Loomis Hardware Co., Portland, Ore.
Rohm & Schsche Co., Pella, Iowa.
Rousse & Co., New York, N. Y.
Rudiger-Lang Co., Berkeley, Calif.
Ruding, Inc., C. R., South Kearny, N. J.
Rust Supply & Door Co., Los Angeles, Calif.
St. Louis, City of, Board of Education, St. Louis, Mo.
Salt Lake Hardware Co., The, Salt Lake City, Utah.
San Jose Hardware Co., San Jose, Calif.
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<td>25-30</td>
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<td>26-30</td>
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<td>29-31</td>
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<td>Lace, cotton and strap leather.</td>
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<td>Foudrinier wire cloth (second edition).</td>
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<td>37-31</td>
<td>Steel bone plates and screws.</td>
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<td>39-37</td>
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Notice.—Those interested in commercial standards with a view toward accepting them as a basis of everybody practice may secure copies of the above standards, while the supply lasts, by addressing the Division of Trade Standards, National Bureau of Standards, Washington 25, D. C.

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1 Where “(E)” precedes the CS number, it indicates an emergency commercial standard, drafted under war conditions with a view toward early revision.

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