U. S. DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS

BUILDERS' HARDWARE

(NONTEMPLATE)

COMMERCIAL STANDARD CS22–30

ELIMINATION OF WASTE
Through
SIMPLIFIED COMMERCIAL PRACTICE

Below are described some of the series of publications of the Department of Commerce which deal with various phases of waste elimination.

Simplified Practice Recommendations.

These present in detail the development of programs to eliminate unnecessary variety in sizes, dimensions, styles, and types of over 100 commodities. They also contain lists of associations and individuals who have indicated their intention to adhere to the recommendations. These simplified schedules, as formulated and approved by the industries, are indorsed by the Department of Commerce.

Commercial Standards.

These are developed by various industries under a procedure similar to that of simplified practice recommendations. They are, however, primarily concerned with considerations of grade, quality, and such other characteristics as are outside the scope of dimensional simplification.

American Marine Standards.

These are promulgated by the American Marine Standards Committee, which is controlled by the marine industry and administered as a unit of the division of simplified practice. Their object is to promote economy in construction, equipment, maintenance, and operation of ships. In general, they provide for simplification and improvement of design, interchangeability of parts, and minimum requisites of quality for efficient and safe operation.

Lists of the publications in each of the above series can be obtained by applying to the National Bureau of Standards, Washington, D. C.

U. S. DEPARTMENT OF COMMERCE
R. P. LAMONT, Secretary
BUREAU OF STANDARDS
GEORGE K. BURGESS, Director

BUILDERS' HARDWARE

(NONTEMPLATE)

COMMERCIAL STANDARD CS22–30

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ASSOCIATIONS

Dairymen's League Cooperative Association (Inc.), New York, N. Y.
National Hardware Association of the United States, Philadelphia, Pa.
National Retail Hardware Association, Indianapolis, Ind.
Southern Hardware Jobbers Association, New Orleans, La.

FIRMS

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Acme Well Supply Co. (Inc.), New York, N. Y.
Adams (Inc.), Elwood, Worcester, Mass.
Adams, William H., Detroit, Mich.
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Andersen Foundry Co., Bayport, Minn.
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Richards & Conover Hardware Co., Kansas City, Mo.
Richmond Hardware Co., Richmond, Va.
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Rogerson & Co., J. C., Hudson, N. Y.
Rudolph & West Co., Washington, D. C.
Russell & Co. (Inc.), J., Holyoke, Mass.
Russell & Erwin Manufacturing Co., New Britain, Conn.
Sargent & Co., New Haven, Conn.
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Simons & Son, C. A., Fort Scott, Kans.
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Wyeth Hardware & Manufacturing Co., St. Joseph, Mo.
Zink, John J., Baltimore, Md.

GOVERNMENT

Department of the Treasury, Washington, D. C.
Federal Specifications Board, Washington, D. C. (in principle).

BUILDERS' HARDWARE (NONTEMPLATE)

COMMERCIAL STANDARD CS22–30

[Second Revision of Simplified Practice Recommendation No. 18]

On May 7, 1929, the Advisory Committee on Standardization of Builders' Hardware, with the approval of the standing committee, adopted a commercial standard for builders' hardware (nontemplate). The industry has since accepted and approved for promulgation by the Department of Commerce the nomenclature, types, sizes, finishes, and practices shown herein.

The commercial standard comprises all the recommendations and types as listed in Simplified Practice Recommendation No. 18 (first revision) with additions and corrections, and supersedes that pamphlet.

This recommendation is effective for new production from June 1, 1930.

Promulgation recommended.

I. J. Fairchild,
Division of Trade Standards.

Promulgated.

George K. Burgess,
Director, Bureau of Standards.

Approved.

R. P. Lamont,
Secretary of Commerce.

GENERAL

The rules, practices, finishes, types, and sizes given herein are recommended as standard as regards domestic use.

Types, sizes, finishes, and variations of these not specifically enumerated should be eliminated.

GENERAL PRACTICES

All labels shall indicate the predominating metal, in accordance with trade usages, of which the goods are made.

Manufacturers shall work toward the use of the decimal packing and pricing system.

Manufacturers shall work toward packing all carton goods with screws.

In listing all kinds of builders' hardware with more than one dimension, the vertical dimension shall be given first.

All arabesque goods, except where specifically mentioned herein, shall be eliminated.

Architectural details affecting hardware. It is recommended that:

(*a*) The face width of door stiles be catalogued and specified in preference to over-all width.

(*b*) The face width of stiles for all standard 1⅜-inch and 1¾-inch doors shall be not less than 4⅛ inches.

(*c*) The term "French window" should be applied to glazed, narrow-stile openings hinged at the side, which do not extend to the floor, and the face width of stiles for such openings shall be not less than 2 inches.

(*d*) The term "French door" should be applied to glazed, narrow-stile openings hinged at the side which extend to the floor, and the face width of stiles for such openings shall be not less than 3 inches.

(*e*) All rabbets should be eliminated as a standard practice, and wherever unavoidable, a ½-inch-square rabbet, not beveled, should be used.

(*f*) The setback for door trim (casings) shall be not less than ⅜ inch.

(*g*) Contractors should be urged to have doors fitted to the frames by dressing off the hinge stile before applying the butts, thus providing space for the lock and improving the appearance of the door.

(*h*) Millwork manufacturers should work toward the proposed "Standard mortises for turned wheel sash pulleys." See Figure 1, for such sash pulleys as are not sold with the frames.

(*i*) It is unnecessary and impracticable to mount knobs at the exact center of the door stile.

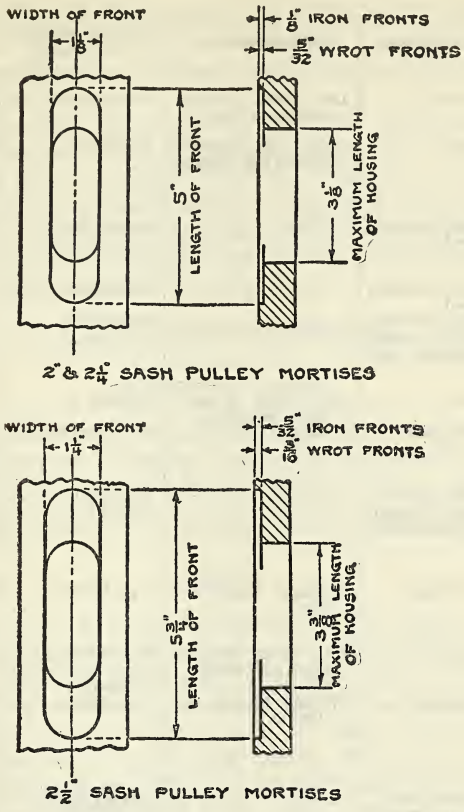

FIGURE 1.—*Standard mortises for turned wheel sash pulleys*

FINISHES

Finishes on builders' hardware shall be confined to the following standard and special finishes as listed:

U. S. No.	General description	Metal applied to—	Samples selected as standard	Restrictions
USP	Primed for painting			
US1B	Bright japanned			
US1D	Dead black japanned			
US2C	Cadmium plated			
US2G	Electro-galvanized			
US2H	Hot galvanized			
US2S	Sherardized			
US3	Bright brass	Iron, steel, wrought brass, cast brass.	Yale AZ10	
US4	Dull brass	do	Corbin EA	
US5	Dull brass, oxidized, and relieved.	do	Russwin 9C	Limited to ornamental designs. Plain hardware to match to be finish US4.
US6	Sanded brass, oxidized, and relieved.	do	Sargent RD	
US7	Sanded brass, oxidized, and relieved, raised ornamentation polished.	do	Russwin O9B, edges not polished.	Limited to ornamental designs. Polishing confined to raised ornamentation, edges not polished.

U. S. No.	General description	Metal applied to—	Samples selected as standard	Restrictions
US8	Antique copper	Iron, steel, wrought brass, cast brass.	Chantrell 24	Sample to show color only; mottling to be optional.
US9	Bright bronze	Iron, steel, wrought bronze, cast bronze.	Yale BZ10	Wrought designs limited to 2. Round corner and broad bevel.
US10	Dull bronze	do	Corbin DB	
US11	Dull bronze, oxidized, and relieved.	do	Sargent O6P	Limited to ornamental designs. Plain hardware to match to be finish US10.
US12	Sanded bronze, oxidized, and relieved.	do	Penn SBZ	
US13	Sanded bronze, oxidized, and relieved, raised ornamentation polished.	do	Penn SBZ9	Limited to ornamental designs. Polishing confined to raised ornamentation, edges not polished.
US14	Nickle plated	Iron, steel, wrought brass, cast brass.	Russwin 4	
US15	Nickel plated, dull	do	Lockwood 90	Also applicable to ornamental designs, as Lockwood 91 or Sargent L5N.
US16	Nickel plated, sanded	do	Yale NX10	
US17	Nickel plated, sanded, raised ornamentation, polished.	do	Penn SN9	Limited to ornamental designs. Polishing confined to raised ornamentation, edges not polished.
US18	"Rustproof" black	Wrought steel, cast iron.	Yale FX80	Wrought designs limited to 2. Round corner, and broad bevel.
US19	Sanded, dull black	Iron, steel, wrought brass, cast brass.	Yale BX80 (Bze.), Yale F X 90 (Steel).	
US20	Statuary bronze	Wrought bronze, cast bronze.	Penn BBZ4	Wrought designs limited to 2. Round corner and broad bevel. Limited on iron and steel to butts.
US20A	Statuary bronze, dark	do	Sargent A3B	Do.
US21	Statuary bronze, sanded	do	Penn SBZ4	Do.
US22	Verde antique	Cast bronze	Yale BX67	Limited on iron and steel to butts and on wrought bronze to kick plates, push plates, and butts.
US23	Silver plated, dull; oxidized and relieved.	Cast brass, cast bronze	Lockwood 72	Do.
US24	Gold plated, dull	do	Corbin DG	
US25	White bronze	Cast white bronze, wrought white bronze in push plates, kick plates, and butts.	Sargent EM	
US26	Bright chromium plated			Polished surfaces.
US26D	Dull chromium plated			Do.

SPECIAL FINISHES

Special	Nickel-plated imitation half - polished iron, sanded, oxidized, and relieved.	Cast iron, cast brass, cast bronze.		
Do	Fine wheel finish	Cast brass, cast bronze		Designs limited to plain only.
Do	Dull brass or bronze, oxidized, and oil rubbed.	do		
Do	Statuary bronze, waxed	Cast bronze		

It is the intention of each manufacturer approving the list of standard finishes to bring his product into close conformity with the colors and effects indicated by the United States symbols.

Oxidized and antique finishes represent the natural ageing of metals and change with time; therefore variations may be expected. An oxidized finish artificially produced may not exactly match a similar finish produced by age.

Samples of standard finishes Nos. US3 to US25, inclusive, shall be filed at the Bureau of Standards for reference.

The standard finish symbols US1 to US26D, inclusive, shall be published opposite the manufacturers' symbols in the catalogues.

As respects all plated goods those polished before plating shall be catalogued as "polished"; for other plated goods no term describing the surface shall be used.

LOCKS AND LATCHES

HANDS OF LOCKS

It is recommended that the following rules be printed verbatim in each manufacturers' catalogue as early as practicable, together with such supplementary rules and illustrations as may be desired.

RULES FOR HANDS OF LOCKS AND CASEMENT SASH

LOCKS

(*a*) The hand of a lock, including locks for French doors, is determined from the outside of the door to which it is applied. The outside of a cupboard, bookcase, or closet door is the room side.

(*b*) If, standing outside of a door, the butts are on the right, it takes a right-hand lock; if on the left, it takes a left-hand lock.

(*c*) If, standing outside, the door opens from you, it takes a lock with a regular bevel latch bolt; if opening toward you, it takes a lock with a reverse bevel latch bolt.

CASEMENT SASH TRIM

(Including cremone bolts)

(*d*) The hand of casement sash is taken from the room side. If the butts are on the right, it is a right-hand sash; if on the left, it is a left-hand sash. It is necessary to state whether sash opens in or out.

BACKSETS

Regular and special backsets for mortise locks and latches should be confined to the following dimensions, viz, 1, 1½, 2, 2½, 2¾, 3, or 3¼ inch.

The purpose of this plan is to eliminate such special and irregular backsets as 1¼, 1¾, and 2¼ inch, as well as other intermediate and larger dimensions.

The following data are given to illustrate the application of the standard backsets to the various types of locks and latches:

(*a*) Locks and latches for cabinet and cupboard doors, regular backset, 1-inch.

(*b*) Locks and latches for French doors and narrow stile doors, regular backset, 1½-inch; special backset, 2-inch.

(*c*) Light locks and latches for inside doors, regular backset, 2½-inch; special backset, 2-inch.

(*d*) Medium and heavy locks and latches for inside, office, front, vestibule, store, and other outside doors, regular backset, 2½ or 2¾ inch; special backsets, 2 and 3 or 3¼ inch.

(*e*) Cylinder locks with gun or French spring for lever handles, regular backsets for grille, narrow stile, and other doors, 1, 1½, 2, and 2½ inch.

(*f*) Mortise casement fasteners or turnbuckles, regular backset, light, 1-inch; medium, 1½-inch; heavy, 2-inch.

(*g*) Mortise double extension bolts, regular backsets, 1½, 2, and 2½ inch.

(*h*) In giving the backset for rabbeted locks dimensions for both sides, or their equivalent, should be stated.

CUP ESCUTCHEONS

Cup escutcheons for sliding doors to be made with or without keyholes.

CYLINDERS

The word "cylinder" shall be applied only to a locking mechanism which is fitted with pin tumblers and a paracentric or milled key.

A standard cylinder is one with paracentric or milled keys for not less than five pin tumblers and not less than 1⅛ inches in diameter of cylinder back of the head.

DESIGNS

In new wrought designs in addition to knobs and escutcheons list only: Key plates, French window escutcheons; push buttons in bronze or brass only; door pulls in bronze or brass only; push plates in bronze or brass only, except plain type.

In new wrought designs it is no longer necessary to make cup escutcheons for sliding-door sets.

List certain wrought designs in either brass finish or bronze finish, but not in both.

Advertise ornamental wrought designs in not more than four finishes.

Advertise broad bevel or round corner plain designs on steel base in not more than eight finishes, viz, Nos. US 4, 6, 8, 9, 14, 15, 18, and 19.

Advertise broad bevel or round corner, plain designs on brass or bronze base in not more than six finishes, viz, Nos. US 4, 6, 8, 9, 14, and 15.

Make plain cast-bronze escutcheons in not more than three designs with a view toward eventual reductions to two designs.

Pendant type wrought escutcheons shall be made in not more than two sizes for interior and exterior locks.

ELIMINATIONS

Cylinder locks should not be advertised in iron or steel trim except rustproof finish and mill handles.

Eliminate all 4½-inch bit key mortise inside door locks, standard pattern, with knob above keyhole.

Eliminate all bit key inside door locks larger than 5 inches.

Eliminate all upright bit key rim knob locks larger than 5 inches.

Eliminate all horizontal bit key rim knob locks larger than 5¼ inches.

Eliminate all sizes of horizontal rim dead locks with folding keys.

All swing bolts applied to standard locks to be eliminated. Anti-friction bolts may be retained, if desired, on corridor door cylinder locks, but should be eliminated on all other locks.

All astragal fronts to be eliminated.

Work toward elimination of all cast-iron fronts, flat or rabbeted.

Eliminate arabesque cast-iron store-door handles.

Eliminate all two-piece wrought brass and bronze plain and ornamental knobs except in such designs as have no other knobs.

Eliminate all wood knobs.

Eliminate all types of turn knobs, except two sizes each of crescent and oval types and 1¼-inch glass knobs to correspond with 2-inch glass knob designs.

Eliminate all glass lever handles.

Eliminate all wrought-steel push buttons.

KEYS

Master keying in all cylinder locks to be confined to standard size cylinders.

Class "A" keys have bits not more than ½ inch wide, the width of the bit being the dimension measured parallel to the barrel or post of the key.

Class "B" keys have bits greater than ½ inch wide, the width of the bit being the dimension measured parallel to the barrel or post of the key.

KNOBS

[For glass knobs see type numbers 200 to 208, inclusive]

All 2¼ and 2½ inch cast bronze knobs to be made with triplex, threaded, or screwless spindles.

Plain cast brass or bronze round knobs to be made in two shapes only, regular or spheroid, in 1¾, 2, 2¼, and 2½ inch sizes only.

Plain cast brass or bronze oval knobs to be made in 1¾, 2¼, and 2½ inch sizes only.

Two-piece wrought-steel knobs to be made in 2¼ inch size only.

One-piece wrought brass or steel knobs to be made in 1¾, 2, and 2¼ inch sizes only.

In new designs of wrought brass or bronze make only one-piece knobs.

2¼-inch porcelain knobs to be furnished only with japanned, plated, and bronze shanks and roses, and porcelain roses.

2¼-inch jet knobs to be furnished only with japanned and plated shanks and roses.

1¾-inch porcelain mineral and jet knobs to be furnished only with japanned shanks and roses.

TURN KNOBS

"Turn knob" is the official term for thumb turns, thumb knobs, etc.

Make not more than two sizes of crescent turn knobs.

Crescent turn knobs to be furnished with not more than three sizes of oval plates.

Oval turn knobs to be furnished in not more than two sizes and with the same three sizes of oval plates as furnished with crescent turn knobs.

LEVER HANDLES

Lever-handle lengths should be measured from center of post to end of handle.

LOCKS AND LATCHES

DEFINITIONS

A lock is a fastening device which has a key function or dead bolt, or both.

A latch is a fastening device which has a latch bolt, but without key function or dead bolt.

Rim and mortise night latches are exceptions to the above rules.

The term "Front door locks" shall be applied only to locks with knob action on both sides.

The term "Entrance door locks" shall be applied only to cylinder locks with thumb pieces (handles) on one or both sides.

Nonstandard locks for domestic use of the classes covered should not be catalogued, but may be carried in stock for replacement or spare parts.

SASH PULLEYS

It is recommended that: (*a*) Manufacturers work toward the standard mortises (see fig. 1) as patterns for turned wheel sash pulleys are replaced or new lines are brought out, and pulleys should be modified to suit the standard mortises and given a new designation to avoid confusion with samples already distributed.

(*b*) All wrought fronts be made of No. 20 B. & S. gage (0.032 inch) metal fastened to the regular iron face.

(*c*) All "applied" fronts be listed regularly in wrought bronze only.

(*d*) All turned wheel sash pulleys be packed in cartons with screws.

RABBETS

Rabbeted locks and latches for cabinets, cupboard, and light French doors to have front with ⅜-inch rabbet. All other rabbeted locks to have front with ½-inch rabbet.

SIZES

ENTRANCE-DOOR HANDLES

In plain cast-bronze designs list broad bevel entrance door handles in not more than two sizes, 16 by 3½ inches and 18 by 4 inches. List in one weight only.

Make plain cast-bronze entrance-door handles, other than broad bevel, in not more than two sizes, viz, 15 by 3 inches and 18 by 4 inches.

ESCUTCHEONS

In plain cast-bronze designs list broad bevel escutcheons in not more than four sizes, 5, 7 to 7½, 8, and 10 to 11 inch. List in one weight only.

Make plain cast-bronze escutcheons, other than broad bevel, in not more than four sizes, viz, 5 to 5½, 7 to 7½, 8, and 10 to 11 inch.

Make plain escutcheons in wrought designs in not more than six sizes, 5, 6, 7, 8, 10, and 12 to 14 inch.

Make plain broad bevel wrought escutcheons in not more than five sizes, 5, 7, 8, 10, and 14 inch.

Make ornamental wrought escutcheons in not more than four sizes, 7½, 8½ where made, 10½, and 14 inch where made. (Measurements include one-half the terminals.)

List all front-door locks and vestibule latches with only one size of escutcheon outside and one size elongated escutcheon inside.

PUSH PLATES

In plain cast-bronze design list broad bevel push plates in not more than three sizes, 12 by 3½ inches, 16 by 3½ inches, and 16 by 4 inches. List in one weight only.

Make plain cast-bronze push plates, other than broad bevel, in not more than five sizes, viz, 12 by 3 inches, 14 by 3½ inches, 16 by 3½ inches, 16 by 4 inches, and 18 by 4 inches.

SPINDLES

Work toward standardization on $\frac{5}{16}$-inch spindle (knob ends) on all locks, except extra-heavy locks, as underwriters.

Turn-knob spindles for all mortise locks, except turnbuckles and night latches, to be made $\frac{3}{16}$ inch.

TYPES OF LOCKS AND LATCHES

INSIDE DOOR LOCKS

MORTISE, BIT KEY

Type 1.—3½ to 3¾ inch steel or iron case, mortise knob lock. Steel front. One tumbler. Backset 2½ inches. Steel or iron key.

Type 1A.—3½ to 3¾ inch steel or iron case, mortise knob lock. Rabbeted steel front. One tumbler. Backset 2 inches on short side. Steel or iron key.

Type 2.—3½ to 3¾ inch steel or iron case, mortise knob lock. Brass or bronze front and bolts. One tumbler. Backset 2½ inches. Steel key.

Type 2A.—3½ to 3¾ inch steel or iron case, mortise knob lock. Brass or bronze bolts and rabbeted front. One tumbler. Backset 2 inches on short side. Steel key.

Type 3.—3½ to 3¾ inch mortise knob lock. Single extension easy spring. Steel front. Iron bolts. One tumbler. Backset 2½ inches. Steel key.

Type 3A.—3½ to 3¾ inch mortise knob lock. Single extension easy spring. Steel front. Iron bolts. Three tumblers. Backset 2½ inches. Steel key.

Type 3B.—Same as type 3A, except master keyed.

Type 4.—3½ to 3¾ inch mortise knob lock. Single extension easy spring. Cast brass or bronze front and bolts. One tumbler. Backset 2½ inches. Steel key.

Type 4A.—3½ to 3¾ inch mortise knob lock. Single extension easy spring. Cast brass or bronze front and bolts. Three tumblers. Backset 2½ inches. Steel key.

Type 4B.—Same as type 4A, except master keyed.

Type 4C.—Same as type 4A, except rabbeted front.

Type 4D.—Same as type 4A, except rabbeted front, master keyed.

Type 5.—3½ to 3¾ inch mortise knob lock. Double compression easy spring. Cast brass or bronze front and bolts. Three tumblers. Backset 2¾ inches. Steel key.

Type 5A.—Same as type 5, except master keyed.

Type 6.—4 to 4¼ inch mortise knob lock. Single extension easy spring. Cast brass or bronze front and bolts. One tumbler. Backset 2¾ inches. Steel key.

Type 6A.—4 to 4¼ inch mortise knob lock. Single extension easy spring. Cast brass or bronze front and bolts. Three tumblers. Backset 2¾ inches. Steel key.

Type 6B.—Same as type 6A, except master keyed.

Type 6C.—Same as type 6A, except rabbeted front.

Type 6D.—Same as type 6A, except rabbeted front master keyed.

Type 7.—4 to 4¼ inch mortise knob lock. Double compression easy spring. Cast brass or bronze front and bolts. Brass hub. Three tumblers. Backset 2¾ inches. Steel key.

Type 7A.—Same as type 7, except master keyed.

Type 7B.—Same as type 7, except rabbeted front.

Type 7C.—Same as type 7, except rabbeted front, master keyed.

Type 7D.—4 to 4½ inch mortise knob lock. Heavy case. Double compression easy spring. Cast brass or bronze front and bolts. Brass hub. Four tumblers. Backset 2¾ inches. Steel key.

Type 7E.—Same as type 7D, except master keyed.

Type 8.—5-inch mortise knob lock. Double compression easy spring. Cast brass or bronze front and bolts. Brass hub. Four tumblers. Backset 3 or 3¼ inches. Steel key.

Type 8A.—Same as type 8, except master keyed.

Type 8B.—Same as type 8, except rabbeted front.

Type 8C.—Same as type 8, except rabbeted front, master keyed.

Type 9.—5-inch mortise knob lock. Double compression easy spring. Cast brass or bronze front and bolts. Brass hub. Key above knob. Three tumblers. Backset 2¾ inches. Steel key.

Type 9A.—Same as type 9, except master keyed.

Type 9B.—5-inch mortise knob lock. Double compression easy spring. Cast brass or bronze front and bolts. Brass hub. Key above knob. Four tumblers. Basket 2¾ inches. Class B steel key.
Type 9C.—Same as type 9B, except master keyed. Class B key.

COLONIAL TYPE HORIZONTAL BIT KEY MORTISE LOCK

[Key in line with knob]

Type 10.—3 by 5½ inches, japanned iron case. Bronze front and bolts. Three tumblers. Steel key.

FRENCH DOOR LOCKS

MORTISE, BIT KEY

[French window locks. Backsets to 2 inches, inclusive]

Type 11.—3½ to 3¾ inch mortise knob lock. Wrought steel front. Iron bolts. One tumbler. Backset 1½ inches. Steel key.
Type 11A.—Same as type 11, except rabbeted front.
Type 12.—3½ to 3¾ inch mortise knob lock. Brass or bronze front and bolts. One tumbler. Backset 1½ inches. Steel key.
Type 12A.—3½ to 3¾ inch mortise knob lock. Brass or bronze front and bolts. Three tumblers. Backset 1½ inches. Steel key.
Type 12B.—Same as type 12, except rabbeted front.
Type 13.—3½ to 3¾ inch mortise knob lock. Brass or bronze front and bolts. One tumbler. French spring. Backset 1½ inches. Steel key.
Type 13A.—Same as type 13, except rabbeted front.
Type 14.—4 to 4¼ inch mortise knob lock. Heavy spring for lever handles. Brass or bronze front and bolts. Three tumblers. Backset 1½ inches. Steel key.
Type 14A.—Same as type 14, except master keyed.
Type 14B.—Same as type 14, except rabbeted front.
Type 14C.—Same as type 14, except rabbeted front, master keyed.
Type 14D.—4 to 4¼ inch mortise knob lock. Heavy spring for lever handles. Brass or bronze front and bolts. Turn knob. Backset 1½ inches.
Type 14E.—Same as type 14D, except rabbeted front.

BATHROOM DOOR LOCKS

(MORTISE, WITH OR WITHOUT EMERGENCY KEYS)

Type 15.—3½ to 3¾ inch case. Single compression spring. Steel or iron front. Two iron bolts. Turn knob. Backset 2½ inches.
Type 16.—3½ to 3¾ inch case. Single compression spring. Brass or bronze front and bolts. Turn knob. Backset 2½ inches.
Type 17.—3½ to 3¾ inch case. Single extension easy spring. Brass or bronze front and bolts. Turn knob. Backset 2½ inches.
Type 17A.—3½ to 3¾ inch case. Double compression spring. Brass or bronze front and bolts. Turn knob. Backset 2½ inches.
Type 18.—4 to 4¼ inch case. Double compression easy spring. Brass or bronze front and bolts. Brass hub. Turn knob. Backset 2¾ inches.

COMMUNICATING DOOR LOCKS

MORTISE (WITHOUT KEYS)

Type 19.—3½ to 3¾ inch case. Cast brass or bronze front and bolts. Split bolt. Two turn knobs.
Type 20.—4¼ to 4½ inch case. Cast brass or bronze front and bolts. Brass hub. Split bolt. Two turn knobs.
Type A20.—4¾ to 5¼ inch case. Cast brass or bronze front and bolts. Brass hub. Split bolt. Two turn knobs.

FRONT DOOR LOCKS

MORTISE, BIT KEY

Type 21.—4¾ to 5 inch case. Plated steel or iron front and bolts. One tumbler. Key control both sides. One keyhole. Stop works in front. Flat front only. Backset 2½ inches. Steel key.
Type 22.—Same as type 21, except brass or bronze front and bolts. Flat front only.
Type 22A.—4¾ to 5 inch case. Brass or bronze front and bolts. Three tumblers. Key control both sides. One keyhole. Stop works in front. Flat front only. Backset 2½ inches. Steel key.

VESTIBULE LOCKS

MORTISE, BIT KEY

Type 23.—4 to 4¼ inch case. Iron or steel front and bolts. One tumbler. Stop works in face. Backset 2½ inches. Steel key.
Type 24.—4 to 4½ inch case. Brass or bronze front and bolts. One tumbler. Stop works in face. Steel key.
Type 24A.—4 to 4½ inch case. Brass or bronze front and bolts. Three tumblers. Stop works in face. Steel key.

MORTISE KNOB LATCHES

Type 25.—1¼-inch iron or steel case, front, and bolt. Backset 2½ inches.
Type 26.—1⅝-inch iron case. Brass or bronze front and bolt. Backset 2½ or 2¾ inches.
Type 27.—2¼-inch iron case. Cast bronze front and bolt. Backset 2½ or 2¾ inches.
Type 28.—2½-inch iron case. Cast bronze front and bolt. Backset 2¾ inches.
Type 29.—3-inch iron case. Cast bronze front and bolt. ¾-inch throw bolt. Backset 2¾ inches.
Type 30.—3-inch iron case. Cast bronze front and bolt. ¾-inch throw bolt. Auxiliary latch bolt. Backset 3 inches.
Type 31.—1⅜-inch iron case. Cast bronze front and bolt. Backset 1 inch.
Type 32.—2¼-inch iron case. Cast bronze front and bolt. Backset 1 inch.
Type 32A.—Same as 32, but with rabbeted front.
Type 33.—2-inch iron case. Cast bronze front and bolt. Backset 1½ or 2 inches.

Type 34.—2⅜-inch iron case. Cast bronze front and bolt. Backset 1½ or 2 inches.
Type 34A.—Same as 34, but with rabbeted front.

SCHOOLHOUSE LOCKS

FOR CLASSROOM DOORS

[Mortise, bit key]

Type 35.—5 to 5½ inch iron case. Cast bronze front and latch bolt. Recessed front. Three tumblers. Class B key.
Type 36.—5 to 5½ inch iron case. Cast bronze front and latch bolts. Auxiliary latch bolt. Three tumblers. Class B key.

MORTISE DEAD LOCKS

BIT KEY

Type 37.—Iron case. Cast bronze front and bolt. One tumbler. Backset 2 inches. One steel key.
Type 38.—Iron case. Cast bronze front and bolt. One tumbler. Backset 2¾ inches. One steel key.
Type 38A.—Iron case. Cast bronze front and bolt. Three tumblers. Backset 2¾ inches. One steel key.
Type 39.—2½-inch iron case. Cast bronze front and bolt. Three or four tumblers. Backset 2¾ inches. One steel key.
Type 40.—3-inch iron case. Cast bronze front and bolt. Three or four tumblers. Backset 2¾ inches. One steel key.

FLAT KEY

Type 41.—Iron case. Cast bronze front and bolt. Three tumblers. Backset 2 inches. Two flat steel keys.

SLIDING-DOOR PULLS

Type 42.—Flush. All cast bronze.
Type 43.—Mortise. Cast bronze front and pull.

SLIDING-DOOR LOCKS

MORTISE, BIT KEY

Type 44.—Iron or steel case, front, and bolts. Backset 2½ inches. For single doors.
Type 44A.—Iron or steel case, front, and bolts. Backset 2½ inches. For double doors.
Type 45.—Iron case. Cast bronze front and bolts. One or three tumblers. For single doors.
Type 45A.—Iron case. Cast bronze front and bolts. One or three tumblers. For double doors.
Type 46.—Iron case. Cast bronze front and bolts. Three or four tumblers. Recessed front.
Type 47.—Elevator. All cast bronze.
Type 48.—Barn door. Japanned iron.

MORTISE LATCHES

FOR DOOR HANDLES

Type 49.—Iron case. Cast bronze front and latch bolt.

STORE-DOOR LOCKS

MORTISE, FLAT KEY

Type 50.—Iron case, front, and bolts. Three or four tumblers. Two flat steel keys.

Type 51.—Iron case. Cast bronze front and bolts. Three or four tumblers. Two flat steel keys.

Type 51A.—Same as type 51, except rabbeted.

COMMUNICATING-DOOR LOCKS

MORTISE, BIT KEY

Type 52.—4¾ to 5¼ inch case. Cast brass or bronze front and bolts. Brass hub. Split bolt. Two turn knobs. Key controlled. Class A or B key.

Type 52A.—4¾ to 5¼ inch case. Cast brass or bronze front and bolts. Brass hub. Solid dead bolt. One turn knob. Key controlled. Class A or B key.

Type 53.—4¾ to 5¼ inch case. Two bolts. Cast brass or bronze front and bolts. Three tumblers. Turn knob inside, key controlled outside. Class A or B key.

Type 53A.—Same as type 53, except master keyed. Class A or B key.

Type 54.—4½ to 5 inch case. Three bolts. Cast brass or bronze front and bolts. Three tumblers. Turn knob inside, key controlled outside. Class A key.

Type 54A.—Same as type 54, except master keyed.

Type 54B.—4½ to 5 inch heavy case. Three bolts. Cast brass or bronze front and bolts. Three and four tumblers. Turn knob inside, key controlled outside. Class B key. Master keyed.

Type 54C.—Same as type 54B, except with emergency key.

HOTEL LOCKS

FOR CORRIDOR DOORS

[Mortise, bit key]

Type 55.—5 to 6 inch case. Three bolts. Bronze front and bolts. Class A key. Guest, master, grand master, and emergency keys.

Type 56.—6 to 6¼ inch case. Three bolts. Key above knob. Bronze front and bolts. Class B key. Guest, master, grand master, display, and emergency keys.

Type 57.—7½-inch case. Three bolts. Key above knob. Bronze front and bolts. Class B key. Guest, master, grand master, display, and emergency keys.

UPRIGHT RIM-KNOB LOCKS

Type 58.—3½ by 2 inch case. Two iron bolts. Iron key.
Type 59.—4 by 3¼ inch case. With stop. Two iron bolts. Iron or steel key.
Type 59A.—4 by 3¼ inch case. With stop. Two plated bolts. N. P. steel key.
Type 59B.—4 by 3¼ inch case. With stop. Two brass bolts. N. P. steel key.
Type 60.—4 by 3¼ inch case. With slide bolt. Three iron bolts. Iron key.
Type 60A.—4 by 3¼ inch case. With slide bolt. Three plated bolts. N. P. steel key.
Type 60B.—4 by 3¼ inch case. With slide bolt. Three brass bolts. N. P. steel key.
Type 61.—4¼ to 4½ by 3½ inch case. With stop. Two iron bolts. N. P. steel key.
Type 61B.—4¼ to 4½ by 3½ inch case. With stop. Two brass bolts. N. P. steel key.
Type 62.—4¼ to 4½ by 3½ inch case. With slide bolt. Three iron bolts. N. P. steel key.
Type 62B.—4¼ to 4½ by 3½ inch case. With slide bolt. Three brass bolts. N. P. steel key.
Type 63.—4½ by 3¼ inch case. Two or three brass bolts. Master keyed. N. P. steel key.
Type 64.—5 by 3½ inch case. With stop. Two iron bolts. N. P. steel key.
Type 64B.—5 by 3½ inch case. With stop. Two brass bolts. N. P. steel key.
Type 65.—5 by 3½ inch case. With slide bolt. Three iron bolts. N. P. steel key.
Type 65B.—5 by 3½ inch case. With slide bolt. Three brass bolts. N. P. steel key.

HORIZONTAL RIM-KNOB LOCKS

Type 66.—3⅜ by 4¼ inch case. With stop. Two iron bolts. Iron key.
Type 66A.—3⅜ by 4¼ inch case. With stop. Two plated bolts. N. P. steel key.
Type 66B.—3⅜ by 4¼ inch case. With stop. Two brass bolts. N. P. steel key.
Type 67.—3⅜ by 4¼ inch case. With slide bolt. Three iron bolts. Iron key.
Type 67A.—3⅜ by 4¼ inch case. With slide bolt. Three plated bolts. N. P. steel key.
Type 67B.—3⅜ by 4¼ inch case. With slide bolt. Three brass bolts. N. P. steel key.
Type 68.—3¾ by 5 inch case. With stop. Two iron bolts. N. P. steel key.
Type 68B.—3¾ by 5 inch case. With stop. Two brass bolts. N. P. steel key.
Type 69.—3¾ by 5 inch case. With slide bolt. Three iron bolts. N. P. steel key.

Type 69B.—3¾ by 5 inch case. With slide bolt. Three brass bolts. N. P. steel key.
Type 70.—3¼ by 5 inch case. With or without stop. Key in horizontal line with knob. Two iron bolts. N. P. steel key.
Type 70B.—3¼ by 5 inch case. With or without stop. Key in horizontal line with knob. Two brass bolts. N. P. steel key.

FOLDING BIT KEY LOCKS

Type 71.—4 by 6 inch case. One tumbler. Two iron bolts. Two folding steel keys.

ORNAMENTAL RIM-KNOB LOCKS

Type 72A.—4 by 3¼ inch case. With stop. Two plated bolts. N. P. steel key.
Type 72B.—4 by 3¼ inch case. With stop. Two brass bolts. N. P. steel key.
Type 73A.—4 by 3¼ inch case. With slide bolt. Three plated bolts. N. P. steel key.
Type 73B.—4 by 3¼ inch case. With slide bolt. Three brass bolts. N. P. steel key.
Type 74A.—3¼ by 4¼ inch case. With stop. Two plated bolts. N. P. steel key.
Type 74B.—3¼ by 4¼ inch case. With stop. Two brass bolts. N. P. steel key.
Type 75A.—3¼ by 4¼ inch case. With slide bolt. Three plated bolts. N. P. steel key.
Type 75B.—3¼ by 4¼ inch case. With slide bolt. Three brass bolts. N. P. steel key.

HORIZONTAL RIM-KNOB LOCKS

COLONIAL TYPE

Type 76.—3 to 3¾ by 4 to 6 inch iron case. One or three tumblers. With stop. Two brass bolts. Brass key.
Type 77.—3 to 3¾ by 4 to 6 inch iron case. One or three tumblers. With slide bolt. Three brass bolts. Brass key.
Type 78.—3 to 3¾ by 4 to 6 inch case. All brass. One or three tumblers. Without stop. Two brass bolts. Brass key.
Type 79.—3 to 3¾ by 4 to 6 inch case. All brass. One or three tumblers. With slide bolt. Three brass bolts. Brass key.

RIM-KNOB LATCHES

Type 80.—2⅝ by 3¾ inch case. Single iron latch.
Type 81.—2⅝ by 3¾ inch case. With slide bolt. Two iron bolts.

RIM NIGHT LATCH

BIT KEY

Type 82.—One line only. Iron case and bolt. Slide stop. Two iron or steel keys.

RIM DEAD LOCKS

BIT KEY

Type 83.—2 by 2¾ inch case. One tumbler. Iron bolt. Iron key.
Type 84.—2½ by 3½ inch case. One tumbler. Iron bolt. Iron or steel key.
Type 84A.—2½ by 3½ inch case. One or three tumblers. Master keyed. Iron bolt. Steel key.
Type 85.—2½ to 3 by 4 inch case. One tumbler. Iron bolt. Iron or steel key.

FOLDING BIT KEY

Type 86.—4 by 2½ to 3 inch case. One tumbler. Iron bolt. Two folding steel keys.
Type 87.—5 by 3 to 3¾ inch case. One tumbler. Iron bolt. Two folding steel keys.

CYLINDER FRONT-DOOR LOCKS

Type 88.—5 to 6 inch case; minimum thickness, ¾ inch. One cylinder. Brass or bronze front and bolts. Backset 2¾ inches. Key control outside; turn knob inside. Stop works in face. Three keys.
Type 88A.—Same as type 88, but with rabbeted front.
Type A88.—5 to 6 inch case; minimum thickness, ¾ inch. One cylinder. Brass or bronze front and bolts. Gun spring for narrow stile doors. Backsets 1, 1½, 2, and 2½ inches. Key control outside; turn knob inside. Stop works in face. Three keys.
Type A88A.—Same as type A88, except with rabbeted front.
Type 89.—5 to 6 inch case; minimum thickness, ¾ inch. Light construction. One cylinder. Brass or bronze front and bolts. Backset 2½ inches. Key control outside; turn knob inside. Stop works in face. Three keys.
Type 90.—7-inch case; minimum thickness, 1 inch. Extra heavy construction. One cylinder. Brass or bronze front and bolts. Backset 2¾ inches. Key control outside; turn knob inside. Stop works in face. Three keys.
Type 90A.—Same as type 90, but with rabbeted front.

CYLINDER VESTIBULE OR OFFICE-DOOR LOCKS

Type 91.—5 to 6 inch case. One cylinder. Brass or bronze front and latch bolt. Key control outside. Stop works in face. Three keys. Backset 2¾ inches.
Type 91A.—Same as type 91, but with rabbeted front.
Type 92.—5 to 6 inch case. Light construction. One cylinder. Brass or bronze front and latch bolt. Key control outside. Stop works in face. Three keys. Backset 2½ inches.

CYLINDER OFFICE LOCKS

Type 93.—5 to 6 inch case. One cylinder and turn knob. Brass or bronze front and bolts. Key-control outside. Three keys.
Type 93A.—Same as type 93, but with rabbeted front.

Type 94.—5 to 6 inch case. Two cylinders. Brass or bronze front and bolts. Key control outside. Three keys.
Type 94A.—Same as type 94, but with rabbeted front.
Type 95.—Light type. 5 to 6 inch case. One cylinder and turn knob. Brass or bronze front and bolts. Key control outside. Three keys.
Type 96.—Light type. 5 to 6 inch case, minimum thickness ¾ inch. Two cylinders. Brass or bronze front and bolts. Three keys.

CYLINDER OFFICE OR FRONT-DOOR LOCKS

Type 97.—5 to 6 inch case. One cylinder. Brass or bronze front and bolts. Auxiliary latch bolt. Key control outside. Stop works in face. Three keys.
Type 97A.—Same as type 97, but with rabbeted front.
Type 98.—5 to 6 inch case. One cylinder and turn knob. Brass or bronze front and latch bolt. Key control outside. Stop works in face. Turn knob deadlocks against key and knob. Three keys.
Type 99.—Light type. 5 to 6 inch case. One cylinder. Brass or bronze front and bolts. Auxiliary latch bolt. Key control outside. Stop works in face. Three keys. Backset 2½ inches.
Type 100.—Light type. 5 to 6 inch case. One cylinder and turn knob. Brass or bronze front and bolt. Key control outside. Stop works in face. Turn knob deadlocks against key and knob. Three keys.
Type 101.—5 to 6 inch case. One cylinder and turn knob. Brass or bronze front and bolts. Auxiliary latch bolt. Key control outside. Stop works in face. Turn knob deadlocks against key and knob. Three keys.

CYLINDER LONG THROW BOLT LOCKS

Type 102.—6-inch extra heavy case. ¾-inch throw latch bolt. One cylinder. Brass or bronze front and bolts. Auxiliary latch bolt. Key control outside. Stop works in face. Three keys.
Type 103.—6-inch extra heavy case. ¾-inch throw latch bolt. One cylinder and turn knob. Brass or bronze front and bolts. Key control outside. Three keys.
Type 104.—6-inch extra heavy case. ¾-inch throw latch bolt. Two cylinders. Brass or bronze front and bolts. Key control outside. Three keys.

CYLINDER SCHOOLHOUSE LOCKS

Type 105.—5 to 6 inch iron case. Brass or bronze front and bolts. Two cylinders. Auxiliary latch bolt. Three keys. Stop works controlled by inside cylinder.
Type 106.—5 to 6 inch iron case. Brass or bronze front and bolts. Two cylinders. Three keys. Stop works controlled by inside cylinder.
Type 107.—5 to 6 inch case for store door handles, both sides. Brass or bronze front and bolts. Two cylinders. Auxiliary latch bolt. Stop works controlled by inside cylinder. Key control outside. Three keys.

Type 108.—5 to 6 inch case, for knob. ¾-inch throw latch bolt. Two cylinders. Brass or bronze front and bolts. Auxiliary latch bolt. Stop works controlled by inside cylinder. Key control outside. Three keys.

CYLINDER MORTISE NIGHT LATCHES

Type 109.—Iron case. Cast bronze front and bolt. Backset 2½ inches. Three keys.

Type 110.—Iron case. Cast bronze front and bolt. Backset 2¾ inches. Three keys.

Type 111.—Iron case. Cast bronze front and bolts. Auxiliary latch bolt. Backset 2¾ inches. Three keys.

CYLINDER MORTISE DEAD LOCKS

Type 112.—Iron case. Cast bronze front and bolt. One cylinder and turn knob. Three keys. Standard backset 2½ inches. Special backset 2 inches.

Type 112A.—Same as type 112, except rabbeted front.

Type 113.—Iron case. Cast bronze front and bolt. Two cylinders. Three keys. Standard backset 2½ inches. Special backset 2 inches.

Type 113A.—Same as type 113, except rabbeted front.

Type 114.—Iron case. Cast bronze front and bolt. One cylinder and turn knob. Three keys. Standard backset 2¾ inches. Special backset 2½ inches.

Type 114A.—Same as type 114, except rabbeted front.

Type 115.—Iron case. Cast bronze front and bolt. Two cylinders. Three keys. Standard backset 2¾ inches. Special backset 2½ inches.

Type 115A.—Same as type 115, except rabbeted front.

Type 116.—Iron case. Cast bronze front and bolt. One cylinder and turn knob. Three keys. Standard backset 2¾ inches. Special backsets 1½, 2, 2½, and 3¼ inches.

Type 117.—Iron case. Cast bronze front and bolt. Two cylinders. Three keys. Standard backset 2¾ inches. Special backsets 1½, 2, 2½, and 3¼ inches.

CYLINDER SLIDING-DOOR LOCKS

Type 118.—5½-inch iron case. Cast bronze front and bolts. Two cylinders. For single doors. Three keys.

Type 118A.—5½-inch iron case. Cast bronze front and bolts. Two cylinders. For double doors. Three keys.

Type 119.—5-inch iron case. Cast bronze front and latch bolt. Recessed front. Two cylinders. Three keys.

Type 120.—Night latch. Iron case. Cast bronze front and bolt. Flush drop handle. One cylinder. Three keys.

Type 121.—Deadlock. Iron case. Cast bronze front and bolt. One cylinder. Three keys.

CYLINDER ENTRANCE-DOOR LOCKS

HANDLE OUTSIDE, KNOB INSIDE

Type 122.—5 to 6 inch iron case. Thumb piece outside, knob inside. Cast bronze front and bolts. Stop works in face. Backset 2¾ inches. One cylinder and turn knob. Three keys.

Type 122A.—Same as type 122, except rabbeted front.

Type 122B.—5 to 6 inch iron case. Light construction. Thumb piece outside, knob inside. Cast bronze front and bolts. Stop works in face. Backset 2½ inches. One cylinder and turn knob. Three keys.

CYLINDER VESTIBULE LOCKS

Type 123.—5 to 6 inch iron case. Thumb piece outside, knob inside. Cast bronze front and latch bolt. Stop works in face. Backset 2¾ inches. One cylinder. Three keys.

Type 123B.—5 to 6 inch iron case. Light construction. Thumb piece outside, knob inside. Cast bronze front and latch bolt. Stop works in face. Backset 2½ inches. One cylinder. Three keys.

CYLINDER ENTRANCE-DOOR LOCKS

HANDLE BOTH SIDES

Type 124.—5 to 6 inch iron case. Thumb piece both sides. Plain latch bolt. Cast bronze front and bolts. Backset 2¾ inches. Two cylinders only. Three keys.

Type 125.—5 to 6 inch iron case. Heavy construction. Thumb piece both sides. Plain latch bolt. Cast bronze front and bolts. Backset 2¾ inches. Two cylinders only. Three keys.

Type 125A.—Same as type 125, except rabbeted front.

Type 126.—5 to 6 inch iron case. Thumb piece both sides. Plain latch bolt. Cast bronze front and bolts. Stop works in face. Backset 2¾ inches. One cylinder and turn knob. Three keys.

Type 126A.—Same as type 126, except rabbeted front.

Type 127.—5 to 6 inch iron case. Thumb piece both sides. Plain latch bolt. Cast bronze front and bolts. Stop works in face. Backset 2¾ inches. Two cylinders. Three keys.

Type 127A.—Same as type 127, except rabbeted front.

RIM NIGHT LATCHES

TUBULAR

Type 128.—2 by 3 inch japanned iron case. Plated bolt and turn knob. Two flat keys.

Type 128B.—2 by 3 inch japanned iron or steel case. Brass bolt. Turn knob. Two flat keys.

Type 129.—2¼ by 3 to 3½ inch japanned iron case. Plated bolt. Two flat keys.

Type 129B.—2¼ by 3 to 3½ inch japanned iron case. Brass bolt and turn knob. Two flat keys.

END CUT FLAT KEY

Type 130.—2¾ by 3¾ inch japanned iron case. Plated bolt. Two keys.

PIN TUMBLER TUBULAR

Type 131.—2¼ by 3 inch japanned iron case. One cylinder. Plated bolt. Three keys.

CYLINDER RIM NIGHT LATCHES

SMALL CYLINDER

Type 132.—2 to 2¼ by 3 inch japanned iron case. One cylinder. Bronze plated bolt and turn knob. Three milled or corrugated keys.

Type 132B.—2 to 2¼ by 3 inch japanned iron case. One cylinder. Bronze bolt and turn knob. Three milled or corrugated keys.

Type 133.—2 to 2½ by 3⅝ inch japanned iron case. One cylinder. Bronze bolt and turn knob. Three milled or corrugated keys.

STANDARD CYLINDER

Type 134.—2½ by 3 inch japanned iron case. One cylinder. Bronze bolt and turn knob. Three keys.

Type 135.—2½ by 3 inch all bronze latch. One cylinder and turn knob. Three keys.

Type 136.—2½ by 3½ inch japanned iron case. One cylinder. Bronze bolt and turn knob. With stop, or to deadlock against key. Three keys.

Type 137.—2½ by 3½ inch all bronze latch. One cylinder and turn knob. Three keys.

Type 138.—2½ by 3½ inch japanned or plated case. Concealed screws. One cylinder. Bronze bolt and turn knob. Three keys.

Type 139.—2½ by 3½ inch all bronze latch. Concealed screws. One cylinder and turn knob. Three keys.

Type 140.—2½ by 3⅝ inch japanned or plated case. Auxiliary latch. One cylinder. Bronze bolt and turn knob. Three keys.

Type 141.—2½ by 3⅝ inch japanned or plated case. Double throw latch bolt. One cylinder. Bronze bolt and turn knob. Three keys.

Type 142.—2½ by 3⅝ inch japanned or plated case. Drawback knob. One cylinder. Bronze bolt and knob. Three keys.

CYLINDER RIM DEAD LOCKS

Type 143.—2½ by 3¾ inch iron case. Bronze bolt and turn knob. One cylinder. Three keys.

Type 144.—2¾ by 2½ inch iron case. Bronze bolt and turn knob. One cylinder. Three keys.

Type 145.—4 by 2½ inch iron case. Bronze bolt and turn knob. One cylinder. Three keys.

Type 146.—4 by 2½ inch iron case. Bronze bolt. Two cylinders. Three keys.

GLASS KNOBS

Type 200.—Pressed glass. Plain or flat top octagon knob. 2-inch size.

Type 202.—Cut-glass plain octagon knob. 1¾ and 2¼ inch sizes.

Type 203.—Cut-glass octagon knob with double row of facets. 1¾, 2, and 2¼ inch sizes.

Type 204.—Pressed-glass octagon knob with cut star. 2-inch size.

Type 205.—Pressed milk-white glass octagon knob. 2-inch size.

Type 206.—Pressed milk-white glass round knob. 2-inch size.

Type 207.—Lapidary cut clear-glass knob. 1¾ and 2¼ inch sizes.

Type 208.—Pressed glass, round, fluted, or swirled knob. 2-inch size.

EXIT BOLT LOCKS

Type 800.—Exit bolt lock. Cases not less than 5⅜ by 4⅛ by ¾ inches with two cylinders. Brass or bronze fronts and bolts with auxiliary bolt. Stop controlled by inside cylinder, key control outside, operated by exit bar or lever inside and by the thumb latch from the outside. Three keys. Bolt operation on inside of door shall consist of cast bronze or brass brackets, and bars 1 inch in diameter. 1-inch diameter crossbar of drawn brass or bronze tubing. Operated by a slight downward pressure which retracts latch bolt of lock. Bar held in retracted position by use of steel key.

Type 801.—Same as type 800 except operated by knob outside instead of thumb latch.

Type 802.—Cast bronze or cast brass brackets and levers, 1-inch diameter cross rod of drawn brass or bronze tubing, ½-inch diameter vertical solid rod of brass or bronze. Solid vertical rods automatically projected into the strikes at top and bottom by gravity or spring when door is closed, and released by slight pressure on horizontal bar on inside. Operated by knob outside with outside cylinder to control knob. (Has no mortise lock case.)

EXIT BOLT LATCH

Type 820.—Exit bolt latch case 3 by 3⅞ by ⅝ inches, backset 2¾ inches, bronze or brass front and bolts. Latch and auxiliary latch bolt operated by exit push bar from inside only. No outside operation. One point contact. Cast bronze or cast brass brackets. Horizontal bar 1 inch in diameter of drawn brass or bronze tubing.

EXIT BOLTS

Type 830.—Cast bronze or cast brass brackets, and levers, 1 inch diameter cross bar of drawn brass or bronze tubing, ⅜ or ½ inch diameter vertical solid rod of brass or bronze. Solid vertical rods automatically projected into the strikes at top and bottom by gravity or spring when door is closed, and released by slight pressure on horizontal bar.

SHELF AND MISCELLANEOUS HARDWARE

GENERAL

All shelf and miscellaneous hardware which is not strictly builders' hardware trim should be listed as brass, and all which is strictly builders' hardware trim should be listed as bronze.

TYPES OF SHELF AND MISCELLANEOUS HARDWARE

CASEMENT ADJUSTERS

Type 1000.—Friction type wrought bronze sliding rod and tube. 8-inch extension. Friction adjustable. For out or in swinging casements. Lengths 10 or 12 inches.

Type 1001.—Wrought-steel bars ⅛ by ¾ inch. 10 and 12 inch lengths. With pins. For casements opening out.

Type 1002.—Cast iron and bronze, ⅜-inch round rod. 10 and 12 inch lengths. With thumbscrew. For casements opening out.

Type 1003.—Slide bar type. Cast iron and bronze. $\frac{5}{16}$-inch round rod. 9 and 13 inch lengths. With thumbscrew. For casements opening out.

Type 1004.—Cast-iron or bronze plate 1⅜ by 8¾ inch, with slot. $\frac{5}{16}$-inch round rod, 8 inches long. With thumb nut. For casements opening out.

Type 1005.—Cast iron or bronze plate 1⅜ by 10½ inch, with slot. $\frac{5}{16}$-inch round rod, 10 inches long. With thumb nut. For casements opening out.

Type 1006.—Cast iron and bronze. ⅜-inch round rods. 10 and 12 inch lengths. With thumbscrew. For casements opening in.

Type 1007.—Cast bronze only. ½-inch rod, 18 inches long. With thumbscrew. For casements opening out.

Type 1008.—Cast bronze only. $\frac{5}{16}$ by ½ inch bar. 12 and 15 inch lengths. With thumbscrew. For casements opening in.

PUSH BARS

Type 1009.—All types. Limit size of rod to ½-inch solid and 1-inch tubular.

SHUTTER BARS

Type 1010.—Bar type. Wrought brass and steel. Size 1¾ and 2 inches.

Type 1011.—Hook type without plates. Wrought brass and steel. Size 2 inches.

Type 1012.—Hook type with bevel edge plates. Cast brass. Sizes 2 and 2½ inches.

ROTARY DOORBELLS

Type 1013.—Turns. Brass and steel. Not more than three designs. Plain round corner, broad bevel, and one ornamental design.

Type 1014.—Bells. One size only in wrought steel One size only in bell metal.

BARREL BOLTS

Type 1015.—Wrought-steel cellar window bolts. 2, 2½, 3, and 3½ inch in all finishes.

Type 1016.—Cast-iron barrel bolts. 3, 4, 5, and 6 inch.
Type 1017.—Wrought-steel light barrel bolts. 2½, 3, 4, 5, and 6 inch.
Type 1018.—Wrought-brass barrel bolts. 2½, 3, 4, 5, and 6 inch.
Type 1019.—Wrought-steel heavy barrel bolts. 3, 4, 5, 6, and 8 inch.
Type 1020.—Cast-bronze and cast-iron barrel bolts. 3, 4, and 5 inch.

CHAIN BOLTS

[Eliminate spring bolts with rods]

Type 1021.—Chain bolts for screen doors, etc. Cast iron and bronze. 2-inch only.
Type 1022.—Wrought-steel chain bolts. 2, 3, 6, 8, and 10 inch.
Type 1023.—Plain cast-iron chain bolts with clover-leaf ends. Regular bevel. 3, 4, 5, and 6 inch.
Type 1023A.—Plain cast-iron chain bolts with clover-leaf ends. Reverse bevel. 3, 4, and 6 inch.
Type 1024.—Ornamental pattern cast-iron chain bolts. Regular bevel. 3, 4, 5, 6, 8, and 10 inch.
Type 1024A.—Ornamental pattern cast-iron chain bolts. Reverse bevel. 4, 6, 8, and 10 inch.
Type 1025.—Plain, straight-line pattern cast iron or brass chain bolts. 3, 4, 6, and 8 inch. Make one line only. Pack with two strikes.
Type 1026.—Extra heavy cast-iron chain bolts. 13-inch only.

CREMONE BOLTS

[Eliminate tee handle types]

Type 1027.—½-inch half-round or oval rods. Oval knob or lever handle. Wrought bronze rods, cast or wrought guides.
Type 1027A.—Same as type 1027 except with steel rods.
Type 1028.—⅝-inch half-round rod. Oval knob or lever handle. Wrought bronze rods, cast or wrought guides.
Type 1028A.—Same as type 1028 except with steel rods.
Type A1028.—Extra heavy garage bolts, Cremone type. Cast iron or wrought steel, japanned or galvanized. Width of rod ¾ inch, half oval. Length of handle 7 inches.

CUPBOARD BOLTS

[Eliminate cast-iron cupboard bolts]

Type 1029.—Cast brass, without knob. 2-inch only.
Type 1030.—Cast brass, with knob. Size without strike 1½ by 1¾ inches.

ESPAGNOLETTE BOLTS

Type A1030.—Extra heavy garage bolts. Espagnolette type. Cast iron or wrought steel, japanned or galvanized. Diameter of rod ⅝ inch. Length of handle 7 inches.

FLAT BOLTS

[Eliminate types with flat strikes]

Type 1031.—Cast-brass flat bolt with strap staple. 2½-inch only.
Type 1032.—Wrought-steel or brass flat spring bolts with staples. Two patterns only. 2, 2½, 3, and 4 inch.

FLUSH BOLTS

Type 1033.—Cast-brass flush bolt. 1¾ by 1¼ inch only.
Type 1034.—Wrought-steel flush bolts. Plate ¾ inch wide by 6, 9, 12, and 18 inches.
Type 1034A.—Wrought-steel flush bolts. Plate 1 inch wide by 6, 9, and 12 inches. (Eliminate 1¼-inch widths.)
Type 1035.—Wrought-brass flush bolts. Plate ⅜ inch wide by 2, 2½, and 3 inches.
Type 1035A.—Wrought-brass flush bolts. Plate ½ inch wide by 2½, 3, 4, and 5 inches.
Type 1035B.—Wrought-brass flush bolts. Plate ⅝ inch wide by 4 and 6 inches.
Type 1035C.—Wrought-brass flush bolts. Plate ¾ inch wide by 4, 6, and 9 inches.
Type 1035D.—Wrought-brass flush bolts. Plate 1 inch wide by 6, 9, 12, and 18 inches.
Type 1036.—Cast-brass flush bolts. Plate ¾ inch wide by 4, 6, and 9 inches.
Type 1036A.—Cast-brass flush bolts. Plate 1 inch wide by 6, 9, 12, and 18 inches.
Type 1037.—Wrought-steel flush bolts with knob. Plate ⅝ inch wide by 3, 6, 9, and 12 inches.
Type 1037A.—Wrought-steel or cast-iron flush bolts with knob. Plate 1 inch wide by 6, 9, and 12 inches.
Type 1037B.—Wrought-steel flush bolts with knob. Plate 1¼ inches wide by 6, 9, 12, and 18 inches.
Type 1038.—Cast-bronze flush bolts with knob. Plate ⅝ inch wide by 2 and 3 inches.
Type 1038A.—Cast-bronze flush bolts with knob. Plate ¾ inch wide by 3, 4, and 6 inches.
Type 1038B.—Cast-bronze flush bolts with knob. Plate 1 inch wide by 4 and 6 inches.

DUTCH DOOR FLUSH BOLTS

Type 1039.—Dutch door flush bolts. Cast bronze 1¼ inches wide by 7 inches.

EXTENSION FLUSH BOLTS

Type 1040.—Slide type. Cast bronze. Plate 6½ by 1⅝ inches. Rods 12, 18, and 24 inches.
Type 1041.—Turn-knob type. Cast iron and bronze. Plate 5⅝ by 1½ inches. Rods 9, 12, 18, and 24 inches.
Type 1042.—Tee-handle type. Cast bronze. Plate 6¾ by 2¼ inches. Rods 9, 12, 18, and 24 inches.

LEVER FLUSH BOLTS

[Eliminate 7/8-inch widths in all metals]

Type 1043.—Cast-bronze lever-flush bolt. Plate 5/8 inch wide by 6, 9, and 12 inches. (One manufacturer will furnish 3½, 5, and 10 inch lengths in lieu of above.)

Type A1043.—Cast-bronze and brass-lever flush bolt. Plate 1 to 1¼ inches wide by 9, 12, and 18 inches.

EXTENSION-LEVER FLUSH BOLTS

[Measure length of rods from center line of lever pivot when bolt is retracted]

Type 1044.—Cast iron and bronze. Plate 6 by 5/8 inch. Rods 12, 18, and 24 inches.

Type 1044A.—Cast iron and bronze. Plate 6 by 7/8 inch. Rods 12, 18, and 24 inches.

Type 1044B.—Cast iron, steel, and bronze. Plate 6¾ by 1¼ inches. Rods 9, 12, 18, and 24 inches.

Type A1044B.—Same as type 1044B except rabbeted. Bronze only.

Type 1044C.—Cast bronze. Plate 7 by 1½ inches. Rods 12, 18, 24, 30, and 36 inches.

Type 1044D.—Wrought bronze. Plate 6¼ to 6¾ by 1¼ inches. Rods 9, 12, 18, and 24 inches.

Type 1044E.—Same as type 1044D except wrought steel.

Type B1044.—Wrought bronze. Plate 3¾ by 5/8 inch. Rods 6, 9, 12, and 18 inches. ½-inch throw.

Type B1044A.—Same as type B1044 except wrought steel.

Type 1045.—Cast bronze with round face 2¼-inch radius. Plate 6¾ by 1¼ inches. Rods 9, 12, 18, and 24 inches.

FOOT BOLTS

[Eliminate bottom bolts without trip, 4-inch size and larger]

Type 1046.—Cast-iron and bronze foot bolts. 2⅝ inches only.

Type 1047.—Cast-iron and bronze foot bolts with trip. 4, 6, and 8 inches.

Type 1048.—Ornamental cast-iron japanned foot bolts with trip. 6 and 8 inches.

Type 1049.—Wrought-steel foot bolts with trip. 2, 3, 6, 8, and 10 inches.

Type 1050.—Wrought-steel positive-action foot bolts. 6, 8, and 10 inches.

Type 1051.—Cane foot bolts. Cast iron. One size only. (Length unsettled.)

Type 1051A.—Wrought steel cane foot bolts. Plates and guides japanned. Bolts sherardized. Sizes 5/8 by 18 inches, 5/8 by 24 inches, 3/4 by 24 inches.

LAVATORY DOOR BOLTS

Type A1051.—Swing latch with rubber bumper and reversible box flange strike and keeper, with rubber bumper. Strike secured with through bolts and cap nuts. Brass or bronze, nickel plated

or white bronze. For hanging stile thicknesses 1, 1¼, 1½, 1¾, and 2 inches.

Type B1051.—Swing bar, not smaller than 4⅞ by 1⅛ by $\frac{7}{32}$ inch, reversible, with keeper. Size of plates about 2 by 2 by $\frac{5}{32}$ inch. Cast brass or bronze, nickel plated or white bronze.

Type C1051.—Tee or oval handle rim bolt, with keeper. With or without indicator. Size of case about 2½ by 2⅝ inches. Brass or bronze, nickel plated or white bronze.

Type D1051.—Extra heavy rim slide bolt, not smaller than 3⅜ by ⅞ by ¼ inch, with keeper. Size of plate about 2½ by 3 inches. Brass or bronze, nickel plated.

Type E1051.—D-handle rim bolt, not smaller than 3⅞ by ⅝ by $\frac{3}{16}$ inch, with rubber bumper on handle, and keeper. Size of plate 2⅞ by 1⅝ inches. Brass or bronze, nickel plated.

Type K1051.—2½-inch box flange reversible strike and keeper, with through bolts and rubber bumper. For swing latch, door opening in. Flange adjustable ⅛ inch over or under nominal stile thickness. Brass or bronze not less than 0.09 inch thick, nickel plated. For stile thicknesses 1, 1¼, 1½, 1¾, and 2 inches.

Type L1051.—2½-inch box flange reversible strike and keeper, with through bolts and rubber bumper. For sliding bolt, door opening in. Flange adjustable ⅛ inch over or under nominal stile thickness. Brass or bronze not less than 0.09 inch thick, nickel plated. For stile thicknesses 1, 1¼, 1½, 1¾, and 2 inches.

Type M1051.—2½-inch box flange reversible strike and keeper, with through bolts and rubber bumper. For swing latch, door opening out. Flange adjustable ⅛ inch over or under nominal stile thickness. Brass or bronze not less than 0.09 inch thick, nickel plated. For stile thicknesses 1, 1¼, 1½, 1¾, and 2 inches.

Type N1051.—Surface stop with rubber bumper for application to wood door. Brass or bronze, nickel plated.

Type P1051.—2-inch stop with rubber bumper for application to edge of door or partition. Brass or bronze, nickel plated.

MORTISE BOLTS

[Eliminate mortise door bolts with cast cases]

Type 1052.—Mortise door bolts. Cast or wrought bolt, wrought-steel trim. Backset 1⅝ inches.

Type 1053.—Mortise door bolts. Cast or wrought bolt, wrought-bronze trim. Round or oval knobs. Backset ¾ inch.

Type 1053A.—Mortise door bolts. Cast or wrought bolt, wrought-bronze trim. Round or oval knobs. Backset 1⅝ inches.

NECK BOLTS

Type 1054.—Wrought-brass or steel-neck bolts. 2½, 3, and 4 inches. Pack with round-head screws.

Type 1055.—Cast-bronze neck bolts. 4-inch only.

Type 1056.—Wrought-brass or steel-neck spring bolts. 2½, 3, and 4 inches. Pack with round-head screws.

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SHUTTER BOLTS

Type 1057.—Wrought-steel shutter bolts. 6, 8, and 10 inches.

SQUARE BOLTS

[Eliminate square-cased bolts]

Type 1058.—Cast-brass square bolts. 4-inch only.
Type 1059.—Wrought-steel square bolts. 3, 4, 5, 6, 8, 10, and 12 inches. Pack 100 per cent with two strikes, flat, and strap.

SURFACE BOLTS

(Pack with two strikes. Eliminate 5/8-inch steel rod)

Type 1060.—Wrought-bronze or steel-surface bolts. 3/8-inch half-round or oval rods, 4 and 6 inches.
Type 1060A.—Wrought-bronze or steel surface bolts. 1/2-inch half-round or oval rods, 6, 9, 12, and 18 inches.
Type 1060B.—Wrought-bronze surface bolts. 5/8-inch half-round or oval rods, 8, 12, and 18 inches.

HANDRAIL BRACKETS

Type 1061.—To screw. Wrought steel. Length 6 inches.
Type 1062.—Wrought steel. 3 3/8-inch base to center of rail.
Type 1063.—Cast iron only. 2 and 2 1/2 inch base to center of rail.
Type 1064.—Adjustable. Cast iron and bronze. 2 3/4 and 3 3/4 inch base to center of rail.
Type A1064.—Cast-iron handrail bracket with base 3-inch diameter, Projection, base to center of rail 3 1/8 inches. Fastened with 1/2 inch by 4 inch square head iron lag screws and expansion shield.
Type B1064.—Same as type A1064 except made of cast bronze or cast brass.

POLE BRACKETS

Type 1065.—For 1 1/2-inch single pole. Cast iron only.
Type 1066.—For two poles at same height. Cast iron only.
Type 1067.—For two 1 1/2-inch poles, different heights. Cast iron only.

SHELF BRACKETS

Type 1068.—Wrought-steel shelf brackets with corrugated braces and embossed plates.

Sizes

3 by 4	7 by 9
4 by 5	8 by 10
5 by 6	10 by 12
5 by 7	12 by 14
6 by 8	16 by 18

SHELF RESTS

Type A1068.—Wrought or cast iron milled pin 3/8-inch diameter.

DOOR BUMPERS

Type R1068.—Rubber bumpers with holders for wood jambs.

DOOR BUTTONS

Type 1069.—Cast iron or wrought steel, japanned and galvanized. Sizes 1¼, 1½, 1¾, 2, and 2½ inches.
Type 1070.—Wrought or cast brass. Sizes 1½, 1¾, and 2 inches.

DOOR BUTTONS ON PLATE

Type 1071.—Cast iron or wrought steel, japanned. Size 1¾ inches.
Type 1072.—Cast or wrought brass. Sizes 1½, 1¾, and 2 inches.

CUPBOARD CATCHES

(Sizes without strikes. Vertical dimension given first)

Type 1073.—Wrought steel and wrought bronze. 1⅜ by 1 to 1¼ inches.
Type 1073A.—Wrought steel and wrought bronze. 1⅜ by 1¾ inches.
Type 1074.—Cast iron or bronze. 1¼ to 1½ by 1 to 1¼ inches.
Type 1074A.—Cast iron or bronze. 1¼ to 1½ by 1½ to 2 inches.
Type 1075.—Ornamental cast iron. 1¼ by 1¾ inches.
Type 1076.—Flush type. Wrought brass. 1 by 1⅝ inches.
Type 1077.—Flush showcase catch. Cast bronze. 1⅛ by 1½ inches.
Type 1077A.—Flush showcase catch. Cast bronze. 1¼ by 2 inches.
Type 1078.—Lever cupboard catch. Cast bronze and cast iron. Plate to inside of hook 1½ inches.
Type 1079.—Elbow catch. ⅝ by 1¼ inches. Cast iron. Japanned, with screws; or polished and plated, with or without screws.
Type 1080.—Elbow catch. ⅝ by 1¼ inches. Unpolished brass, with screws.
Type 1081.—Elbow catch on plate. Cast bronze.

CUPBOARD TURNS

(Eliminate type with diamond bolt)

Type 1082.—Oval knob only. Size without strike 1⅞ by $1\frac{3}{16}$ inches. Wrought and cast.
Type 1083.—Oval knobs only. Size without strike 2¼ by 1½ inches. Wrought and cast.
Type 1084.—Tee handle. Size without strike 2¼ by 1½ inches. Wrought steel and cast iron.

ROLLER CATCHES

Type A1084.—Roller catch for hospital doors, either roller or plunger type.

SCREEN-DOOR CATCHES

Type 1085.—Upright rim type. Two lever handles. Cast iron or bronze. Case $2\frac{9}{16}$ by $1\frac{3}{16}$ inches.
Type 1086.—Rim type. Knob outside. Lever handle inside. Cast iron or bronze. Case 2¼ by 1⅞ inches.
Type 1087.—Same as type 1086, except ornamental cast iron.

Type 1088.—Rim type. Two knobs. Ornamental cast iron, case 2¼ by 3½ inches.

Type 1089.—Rim type. Wrought steel and bronze. Case 2¼ by 1⅞ inches. One lever handle and one 1-piece knob with 4½ by 1½ inch bevel edge escutcheon.

Type 1090.—Full mortise type. Wrought bronze or steel trim, bevel edge. Lever handle inside. One-piece knob outside. Slide stop in escutcheon.

Type 1091.—Full mortise type. Wrought bronze or steel trim, bevel edge. With dead bolt. Lever handle and turn knob inside. One-piece knob outside.

Type 1092.—Full mortise type. Wrought bronze or steel trim, bevel edge. Lever handle and slide stop inside. One-piece knob outside. Steel bit key.

Type 1093.—Cylinder mortise type. Wrought bronze or steel trim, bevel edge. Lever handle inside. One-piece knob outside. Operated by key from outside when outside knob is set by stops in face.

TRANSOM CATCHES

(Vertical dimension given first. Size without strike)

Type 1095.—Flush type with flat strike. Cast bronze. 1½ by 2½ inches.

Type 1096.—Rim type. Cast or wrought. With flat strike unless otherwise specified. 1⅛ by 2 inches.

Type 1097.—Rim type. Wrought steel or bronze. With flat strike unless otherwise specified. Standard size, 1½ by 2 inches.

Type 1098.—Rim type. Cast iron or bronze. With flat strike unless otherwise specified. 1¼ by 2⅛ inches.

Type 1099.—Rim type. Cast iron or bronze. With flat strike unless otherwise specified. 1½ by 2½ inches.

Type 1100.—Rim type. Cast iron, cast bronze, or malleable iron. With flat strike unless otherwise specified. Standard large size 1¾ by 2¾inches.

Type 1101.—Rim type. Cast bronze only. With flat strike unless otherwise specified. 1 by 3 inches.

Type 1102.—Rim type. Cast bronze only. With flat strike unless otherwise specified. Latch bolt works independent of ring. 1¾ by 2 inches.

SASH OR TRANSOM PIVOTS

SURFACE AND MORTISE

[Eliminate surface type with socket. Eliminate full mortise type with short stem]

Type 1103.—Surface type. Flat plate 2¼ by 1 inch. Japanned only.

Type 1104.—Surface type. Flat plate 3 by 1½ inches. Japanned only.

Type 1105.—Surface type. Plate 2⅜ by ⅞ inch. Steel only in japanned, coppered, or unpolished plated finish.

Type 1106.—Surface type. Plate 2⅝ by ⅞ inch. Steel only in japanned, coppered, or unpolished plated finish.

Type 1107.—Surface type. Plate 3¼ by 1 inch. Steel only in japanned, coppered, or unpolished plated finish.
Type 1108.—Full mortise type. Plate 1⅞ by ¾ inch with open slot. Japanned only.
Type 1109.—Full mortise type. Plate 2¼ by ⅞ inch with open slot. Japanned only.
Type 1110.—Full mortise type. Plate 3 by 1 inch with open slot. Japanned only.
Type 1111.—Extra heavy full mortise type. Plate 2½ by 1¼ inches. Half set with slot, half set with round hole. Japanned and bronze plated and bronze metal.
Type 1112.—Extra heavy full mortise type. Plate 2¾ by 1½ inches. Half set with slot, half set with round hole. Japanned, bronze plated, and bronze metal.
Type 1113.—Extra heavy full mortise type. Plate 4 by 1¼ inches with round hole. Japanned only.

RABBETED

Type 1114.—Weather proof. For ½-inch rabbet. 1⅜, 1¾, 2, and 2¼ inch widths in cast iron and bronze.
Type 1115.—With corrugated friction washers, steel bushed, or with steel balls and springs. For ½-inch rabbet. 1⅜, 1¾, 2, and 2¼ inch widths in malleable iron and cast bronze.

DOOR FASTENERS

WITH CHAIN

Type 1116.—Wrought steel and bronze. Size 6 inches.
Type 1117.—Cast iron, japanned and plated, and cast bronze. One weight only. Size 4 and 6 inches.
Type 1118.—Heavy cast iron and bronze. Size 4 and 6 inches.

TRANSOM CHAINS

Type 1119.—Two screws to each plate. Sash chain. Steel only. 12 and 15 inch lengths.
Type 1120.—Four screws to each plate. Round corners. Sash chain. Steel and bronze. 12 and 15 inch lengths.
Type 1121.—Four screws to each plate. Square corners. Sash chain. Bronze only. 12 and 15 inch lengths.
Type 1122.—Four screws to each plate. Sash chain. Heavy type. Bronze only. 12 and 15 inch lengths.
Type 1123.—With rub plate. Triumph chain. Steel only. 15-inch length only. Single.
Type 1123A.—Same as type 1123, except for double transom.
Type 1124.—Four screws to each plate. Triumph chain. Steel only. 12, 15, and 18 inch lengths.

LINE CLEATS

Type 1125.—Cast iron galvanized and cast brass. Two screws. 1⅞ and 2½ inches.

Type 1126.—Heavy cast iron, galvanized. Four screws. 3⅜ inches.
Type 1127.—Galvanized malleable iron. Two screws. 3½, 4½, 6, and 8 inches.

DOOR CLOSERS

Type 1128.—Regular type, reversible. With or without holders. Cast iron and bronze. Seven sizes.

CASEMENT FASTENERS

Type 1129.—Loop handle. Long rim or mortise strike. Cast iron and bronze.
Type 1130.—Crescent handle. Rim or surface strike. Cast iron and bronze.
Type 1131.—T handle. Rim or surface strike. Cast iron and bronze.
Type 1132.—Lever handle. Rim, mortise, or surface strike. Cast iron and bronze.
Type 1133.—2 by 1⅛ inches. D handle. Rim, mortise, or surface strike. Cast iron and bronze.
Type 1134.—3 by 1⅜ inches. D handle. Rim, mortise, or surface strike. Cast bronze only.
Type 1135.—Drop handle. Rim or mortise strike. Not reversible. Cast iron and bronze.
Type 1136.—Lever type. Surface strike. Not reversible. Cast iron and bronze.
Type 1137.—Lever type, ring handle. Double bitted. Rim or surface strike. Cast iron and bronze.

SASH FASTENERS

Type 1138.—Crescent type. ⅞ by 2½ inches, approximately 30 pounds to the gross (boxed with screws). Cast iron and bronze.
Type 1139.—Crescent type. 1 by 2¾ inches, approximately 40 pounds to the gross (boxed with screws). Cast iron and bronze.
Type 1140.—Crescent type. 1 by 3 inches, approximately 50 pounds to the gross (boxed with screws). Cast iron and bronze.
Type 1141.—Light weight. Wrought steel and bronze.
Type 1142.—Medium weight. Wrought steel and bronze.
Type 1143.—Extension table type. ¾ by 2⅜ inches. Japanned only.
Type 1144.—Rim side type. 2¼-inch lever. Malleable iron and cast bronze.
Type 1145.—Sash bolt. 1⅛ by 1¼ inches. Cast iron and bronze.
Type 1146.—Car window lock. Polished bronze only.
Type 1147.—Sash fast and flush lift combined. 1¾ by 3 inches. Bronze only.
Type 1148.—Sash fast and hook lift combined. 1¼ to 1½ by 1⅞ inches, in cast iron and bronze.

DOOR HOLDERS

Type 1149.—With spring clip. Wall type. Cast iron and bronze.
Type 1150.—With spring clip. Floor type. Cast iron and bronze.

Type B1150.—Door holder base, approximately 6⅛ inches square, galvanized cast iron with bronze rocker arm to automatically engage cast bronze strike on door. Height 5, 6½, and 10¼ inches.
Type 1151.—About 6-inch. Wrought steel and bronze. Mounted on door. Rubber tip.
Type 1152.—4½-inch. Cast iron. Mounted on door. Rubber tip.
Type 1153.—6-inch. Cast iron and bronze. Mounted on door. Rubber tip.
Type 1154.—8-inch. Cast iron and bronze. Mounted on door. Rubber tip.
Type A1154.—Overhead garage door holder. Reversible. Wrought steel arm approximately 30 inches long. For doors up to 5 feet wide.
Type B1154.—Overhead garage door holder with cushion spring. Reversible. Wrought steel arm approximately 30 inches long. For doors up to 5 feet wide.

UMBRELLA HOLDER

Type 1155.—Cast iron and bronze.

BAGGAGE HOOK

Type 1156.—Cast iron, japanned. Two screws. 5½-inch projection.

CEILING HOOKS

Type 1157.—Cast iron and bronze. Two screws. 2⅜-inch projection.
Type 1158.—Cast bronze. Four screws. 2½-inch projection.

DISPLAY HOOK

Type 1159.—Cast iron, japanned and bronze plated. 8 and 9 inch projection.

COAT AND HAT HOOKS

Type 1160.—Wrought steel and bronze. Two screws. 3½ and 4 inch projection.
Type 1161.—Cast iron, japanned. Acorn tips. Two screws. 3 and 3¼ inch projection.
Type 1162.—Cast iron and bronze. Upper prong bent. Two screws. 3-inch projection.
Type 1163.—Cast iron and bronze. Two screws. 3-inch projection.
Type 1164.—Cast bronze. Two screws. 3¼-inch projection.
Type 1165.—Cast bronze and iron. Two screws. 2¼-inch projection.
Type 1166.—For lavatory. Cast bronze. With dowel. One screw or bolt. 3¼-inch to 4 inch projection.
Type 1166A.—For lavatory. Cast brass or bronze, nickel plated. With rubber bumper and three screw holes. 3¾-inch projection.
Type B1166.—Size base 1⅞ by 1⅛ inch cast bronze, single hook; projection 1⅝-inch with two spanner head through bolts for marble.
Type B1166A.—Same as type B1166 except in pairs for both sides of marble stall.

Type C1166.—Cast bronze coat hooks for lavatory, base 3¼ by 1½ inches, projection 3¼ inches with rubber tip. Fastened with through bolt to lug in back.
Type 1167.—Cast iron and bronze. Four screws. 3¾-inch projection.
Type 1168.—Ornamental cast iron. Two screws. 4¼-inch projection.
Type 1169.—Three prong. Cast iron and bronze. Two screws. 2½-inch projection.
Type 1170.—Three prong. Cast iron and bronze. Two screws. 3½-inch projection.
Type 1171.—Three prong. Cast bronze. Three screws. 3¾-inch projection.

FOR HALL TREE

Type 1173.—Cast iron only. Two screws. 3½-inch projection.
Type A1173.—Cast iron only. Two screws. 3¾-inch projection.

CLOTHESLINE HOOKS

Type 1174.—Single. Cast iron, japanned and galvanized. Four screws each.
Type 1175.—Single. Cast iron, japanned and galvanized. Two screws each.
Type 1176.—Single. Cast iron, galvanized. Four screws. 3-inch projection.

FIRE-PAIL HOOK

Type 1177.—Cast iron, japanned. 7½-inch projection.

HARNESS HOOKS

Type 1179.—Single hook. Cast iron, japanned. 8 and 10 inch projection.
Type 1180.—Double hook. Cast iron, japanned. 6, 8, 10, and 12 inch projection.

SCHOOLHOUSE HOOKS

Type 1181.—Two prong. Cast iron, japanned only. Two screws, 3-inch projection.
Type 1182.—Three prong. Cast iron, japanned only. Two screws, 3-inch projection.
Type 1183.—For 1½-inch pole. Single pin on top. Cast iron.
Type 1184.—For 1½-inch pole. Double hook below. Cast iron.

STORE RACK HOOK

Type 1185.—Cast iron, japanned. Two screws. 10½-inch projection.

TOILET HOOK

Type 1186.—Single prong. Cast bronze. One type only.

TOWEL HOOKS

Type 1187.—Cast bronze. 4¼, 5¾, and 7 inch projection.

SECRET GATE LATCHES

Type A1187.—Cast bronze or cast iron. Single acting.
Type A1187A.—Cast bronze or cast iron. Double acting.

THUMB LATCHES

[Pack all thumb latches with screws]

Type 1188.—Cast iron or wrought steel, japanned and galvanized. Length of handles 5½, 6¾, 7½, and 8⅞ inches.
Type 1189.—Extra heavy. Cast iron or wrought steel, japanned and galvanized. 10-inch handle.
Type A1189.—Mortise thumb latch. Wrought steel or cast iron. Japanned or sherardized. For doors 1⅝ to 2¼ inches thick. Reversible. Backset 2¼ or 2¾ inches. Length of handle approximately 9¼ inches.
Type 1190.—Cast iron, japanned. 5½-inch handle.
Type 1191.—Ornamental cast iron, japanned. 6½-inch handle.
Type 1192.—Cast iron, japanned. 7¼-inch handle.
Type 1193.—Long heavy hasp with staple catch. 7¾-inch handle. Cast iron, japanned.
Type 1194.—With plate. Cast iron, japanned. 7¼-inch handle.
Type 1195.—With plate and machine screws. Cast iron or wrought steel, japanned and galvanized. 10 by 2½ inch plate. For doors to 2¾ inches thick.
Type 1196.—Duplex type. Cast iron or wrought steel, japanned, galvanized, and plated. 9 by 2¼ inch plate.
Type A1196.—Extra heavy duplex latch. Cast iron or wrought steel, japanned or galvanized. For doors 1¾ to 2¼ inches thick. Length of plate 10½ inches.

TRANSOM LIFTERS

[Eliminate ½-inch rods in all lengths. Eliminate copper finish except in type 1197. Pack all transom lifters with screws]

Type 1197.—¼-inch rod. 3 and 4 foot lengths. Steel only. For center or top hung sash without spring.
Type 1197A.—¼-inch rod. 3 and 4 foot lengths. Steel only. For bottom-hung sash with spring.
Type 1198.—$\frac{5}{16}$-inch rod. 3, 4, 5, and 6 foot lengths. Steel and bronze. For center or top hung sash without spring.
Type 1198A.—$\frac{5}{16}$-inch rod. 3, 4, 5, and 6 foot lengths. Steel and bronze. For bottom-hung sash with spring.
Type 1199.—⅜-inch rod. 4, 5, 6, and 8 foot lengths. Steel and bronze. For center or top hung sash without spring.
Type 1199A.—⅜-inch rod. 4, 5, 6, and 8 foot lengths. Steel and bronze. For bottom-hung sash with spring.

HOOK SASH LIFTS

Type 1200.—1¼ by 1½ inches. Ornamental cast iron.
Type 1201.—1 by 1⅝ inches. Wrought steel and bronze, beveled.
Type 1202.—1 5/16 by 1½ inches. Cast bronze.
Type 1203.—1⅜ by 1¾ inches. Plated cast iron and cast bronze.

FLUSH SASH LIFTS

Type 1204.—1 by 2⅝ inches. Wrought brass, bright, or copper dipped. With escutcheon pins.
Type 1205.—1⅛ by 2⅞ inches. Wrought bronze only. Side screw holes. Square corners.
Type 1206.—1⅝ by 3 inches. Wrought steel and bronze. Straight edge. Square corners. Side screw holes.
Type 1207.—1½ by 3 inches. Wrought steel and bronze. Bevel edge. Square corners. Side screw holes.
Type 1208.—1¾ by 3⅛ inches. Wrought steel and bronze. Bevel edge. Square corners. Deep cup. Side screw holes.
Type 1209.—1⅝ by 3 inches. Wrought steel and bronze. Round corners. Side screw holes.
Type 1210.—1 5/16 by 3⅛ inches. Cast bronze. Straight edge. Square corners. Side screw holes.
Type 1211.—1 by 2⅞ inches. Cast bronze. Straight edge. Square corners. Surface screw holes.
Type 1212.—1¾ by 3 inches. Cast bronze. Bevel edge. Square corners. Side screw holes.
Type 1213.—1¾ by 3 inches. Cast bronze. Round corners. Side screw holes.
Type 1214.—1¼ by 3⅛ inches. Cast bronze. Round corners. Side screw holes.
Type 1215.—2 by 3½ inches. Cast bronze. Round corners. Side screw holes.
Type 1216.—2 by 3½ inches. Cast bronze. Scored cup. Round corners. Surface or side screw holes.

BAR SASH LIFTS

Type 1217.—4½-inch. Wrought steel. Plain formed ends. Square corners.
Type 1218.—4-inch. Cast iron and bronze. Round corners.
Type 1219.—4½ to 5 inches. Cast iron and bronze. Round corners.
Type 1220.—5½ inches. Cast bronze only. Round corners.
Type 1221.—5 inches. Cast iron and bronze. Offset pattern. Rounded ends.
Type 1222.—4⅝ inches. Cast bronze only. Offset pattern. Square corners.
Type 1223.—6 to 6¾ inches. Extra heavy. Cast bronze only.

KICK PLATES

Type 1224.—Two thickness only. B. & S. No. 16 gauge, 0.051 inch and No. 14 gauge, 0.064 inch. Wrought brass and bronze.

LETTER-BOX PLATES

[(*a*) Eliminate "letters" from all types, wrought and cast. (*b*) Eliminate letter-box plates in wrought designs. (*c*) In cast designs furnish only plain inside plates and hoods. (*d*) Furnish letter-box plates with inside hoods only in cast bronze]

Type 1225.—Plain, bevel edge. Wrought bronze and steel. 2½ by 6¾ inches.
Type 1226.—Plain. Round or square corner. Cast iron and bronze. 2 by 7 inches.
Type 1227.—Cast bronze. One design only. 3 by 8 inches.
Type 1228.—Cast iron and bronze. One design only. 4 by 10 inches.
Type 1229.—Arabesque, cast iron. Three sizes.

SMALL PLATES, LETTERED, PUSH AND PULL

Type 1230.—Wrought bronze. One style only, to read vertical.
Type 1231.—Cast bronze. One style only, to read horizontal. Size about 2 by 4 inches.
Type A1231.—Cast bronze or cast brass name and number plates with raised border, polished, center matted with ⅞ inch raised block letters; width of plate not less than 3 inches; length according to lettering.

AWNING PULLEYS

[Eliminate double-eye awning pulleys]

Type 1232.—Single wheel. Solid eye. Japanned or galvanized. ½, ⅝, ¾, 1, 1¼, 1½, 1¾, 2, and 2½ inch.
Type 1233.—Single wheel. With screw eye. Japanned or galvanized. ½, ⅝, ¾, 1, 1¼, and 1½ inch.
Type 1234.—Double wheel. Solid eye. Japanned or galvanized. ½, ⅝, ¾, 1, 1¼, 1½, 2, and 2½ inch. Eliminate 1¾ inch.
Type 1235.—Single wheel. Swivel eye. Japanned or galvanized. ½, ⅝, ¾, 1, 1¼, 1½, and 2 inch. Eliminate 1¾ inch.
Type 1236.—Double wheel. Swivel eye. Japanned or galvanized. ½, ⅝, ¾, 1, 1¼, 1½, and 2 inch.

CEILING PULLEYS

Type 1237.—Japanned only. 1¾, 2, and 2½ inch.

CLOTHESLINE PULLEYS

[Eliminate screw type]

Type 1238.—With loop. Large opening. Galvanized only. 2-inch only.
Type 1239.—Large opening. Galvanized only. 2 and 2½ inch.
Type 1240.—With guides. Galvanized only.
Type 1241.—Swivel eye. Large opening. Galvanized only. 2½-inch only.
Type 1242.—Solid eye. Large opening. Galvanized only. 2½-inch only.
Type 1243.—Swivel eye on plate. Galvanized only. For $\frac{5}{16}$-inch rope.

DUMB-WAITER PULLEYS

Type 1244.—Japanned only. 3-inch only.

HOTHOUSE PULLEYS

Type 1245.—Single wheel. Japanned only. 1¾, 2, and 2½ inch.
Type 1246.—Double wheel. Japanned only. 2 and 2½ inch.

SASH PULLEYS

[Eliminate ribbon, shallow, square, and double-square grooves]

Type 1247.—Unpolished or polished iron wheels. Round groove for cord. Wheel sizes 1¾ and 2 inch. Plain or lacquered iron front, round ends. $\frac{7}{32}$-inch plain axle.

Type 1248.—Polished iron wheels. Round groove for cord. Wheel sizes 1¾, 2, 2¼, and 2½ inch. Plain, lacquered, plated, or wrought brass front, round ends. ¼-inch plain axle.

Type 1249.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned iron wheel with plain, lacquered, plated, or wrought bronze front. Round ends. ⅜-inch plain axle.

Type 1249A.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned iron wheel with plain, lacquered, plated, or wrought bronze front. Round ends. Roller-bearing with ¼-inch minimum diameter axle.

Type 1249B.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned iron wheel with plain lacquered, plated, or wrought bronze front. Round ends. Ball-bearing axle.

Type 1249C.—Same as type 1249 except wrought steel wheel and case.

Type 1249D.—Same as type 1249B except with wrought steel wheel and case.

Type A1249.—Round grooved wheel. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned iron wheel with plain, lacquered, plated, or wrought bronze front. Round ends. ⅜-inch plain axle with hard maple bushed bearing.

Type 1250.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned brass wheel with wrought bronze front only. ⅜-inch plain axle.

Type 1250A.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned brass wheel with wrought bronze front only. Roller-bearing with ¼-inch minimum diameter axle.

Type 1250B.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Turned brass wheel with wrought bronze front only. Ball-bearing with ¼-inch minimum diameter axle.

Type 1250C.—Combination groove for cord or chain. Wheel sizes 2, 2¼, 2½, and 3 inch. Wrought steel case and wrought bronze face plate and wheel with ball bearings.

Type A1250.—Wheel fully enclosed, 2 inches in diameter, combination groove for cord or chain. All wrought steel construction, diameter of axle pin ¼ inch minimum. Front with round ends. Guides front and rear, shall prevent chain or cord from slipping off wheel and becoming jammed.

Type A1250A.—Same as type A1250 except all wrought steel, brass, or bronze construction and 2½-inch diameter wheel.

SCREW PULLEYS

(Eliminate end screw pulleys. Eliminate double-wheel type screw pulleys. Size determined by outside diameter of wheel)

Type 1251.—Single wheel. Japanned only. ¾, 1, 1¼, 1½, 2, 2½, 3, and 4 inch.
Type 1252.—Single wheel. Incased type. Japanned only. 1½, 2, 2½, and 3 inch.
Type 1253.—Single wheel. Incased type. Japanned only. 1½ and 2 inch.
Type 1254.—Cast or wrought brass screw pulleys. ½, ⅝, ¾, and 1 inch.

SIDE PULLEYS

Type 1255.—Single wheel. Japanned only. 1, 1¼, 1½, 2, 2½, 3, 4, and 5 inch.
Type A1255.—Single wheel for sash. Japanned only. 2½ inch.
Type 1256.—Double wheel. Japanned only. 1, 1¼, 1½, and 2 inch.
Type 1257.—Brass side pulleys, ⅝-inch only.

INCASED SWIVEL PULLEYS

Type 1258.—Japanned only. 2½ and 3 inch.

UPRIGHT PULLEYS

Type 1259.—Japanned only. 1¾, 2, and 2½ inches.
Type 1260.—Brass upright pulleys. ⅝-inch only.

WAGON BRAKE PULLEYS

Type 1261.—Japanned only. 2½-inch only.

POLE HANGERS

Type 1262.—2⅜ by 1⅛ inch. Cast iron or bronze.

SASH POLE HOOKS

Type 1263.—Length 2¾ inches. Cast iron and bronze.
Type 1264.—Length 4⅛ inches. Cast iron and bronze.

SASH PULL PLATES

Type 1265.—1-inch diameter. Wrought steel and bronze.
Type 1266.—1⅛ by 2 inches. Two screw holes. Cast iron and bronze.
Type 1267.—1¼ by 2¼ inches. Four screw holes. Cast bronze only.

TRANSOM EYES

Type 1268.—Cast bronze. Three sizes.

DOOR PULLS

Type 1269.—Wrought steel and bronze. Two screw holes. 4⅞-inch handle.

Type 1270.—Cast iron and bronze. Two screw holes. 3½-inch handle.

Type 1271.—Cast iron, japanned. Straight. Two screw holes. 6-inch handle.

Type 1272.—Cast iron, japanned. Oblique. Four screw holes. 6-inch handle.

Type 1273.—Extra-heavy cast iron, japanned. Straight. Rectangular ends. Four screw holes. 6-inch handle.

Type 1274.—Cast iron, cast bronze, and wrought steel. Four screw holes, 4, 5½, 6, and 7 inch.

Type 1275.—Cast iron, rustproof, and cast bronze. With machine screws. 6 inches over all.

Type 1276.—Wrought steel and cast iron, japanned and galvanized. Six screw holes. 9½ to 10½ inch.

Type 1277.—Cast bronze and cast iron. Clover leaf ends, flat bar. Six screw holes. 5¾-inch handle.

Type 1278.—Cast bronze. Clover leaf ends, round bar. Six screw holes. 5¾-inch handle.

Type 1279.—Cast brass. Oval ends, round bar. Four screw holes. 5½-inch handle.

Type 1280.—Cast bronze. Circular ends. Six screw holes, wood screws or machine screws. 7½ inches over all.

Type 1281.—Cast bronze. Circular ends. Machine screws only. 10 inches over all.

Type 1281A.—Cast bronze or cast brass, and iron rustproof door pull with pitcher handle type grip, center to center 5¾ inches.

Type 1281B.—Cast bronze or cast brass and iron rustproof door pull with pitcher handle type grip, center to center 7½ inches.

Type 1281C.—Cast bronze or cast brass and iron rustproof door pull with pitcher handle type grip, center to center 7½ inches. Offset 1 inch from center. Right and left hand.

Type 1282.—Flush sliding door pull. Cast iron, japanned, and cast bronze. 3¾ by 2½ inches over all.

Type 1283.—Flush sliding door pull with center grip. Cast iron and cast bronze. 5 by 4 inches over all.

Type A1283.—Arm door pull, cast brass or cast bronze, base 3⅛ by 1¾ inches. Height 5½ inches. Projection 4 inches.

CHEST HANDLES

Type 1284.—Surface. Wire staples. Wrought steel, japanned. Sizes of handle, $3\frac{5}{16}$, 3⅞, 4, and 4½ inches.

Type 1285.—Surface. Wire staples. Curved back for tub. Wrought steel, japanned or galvanized. Size of handle, 3½ to 4¼ inches.

Type 1286.—Surface. For caskets. Wrought steel, japanned and plated. Not more than three sizes.

Type 1287.—Surface. Heavy with corrugated stops and tubular grips. Wrought steel, japanned or plated. Size of handle, 4½ inches.

Type 1288.—Surface. Heavy with corrugated stops. Wrought steel, japanned and plated. Size of handle, 2, 3¼, 3½, 4, and 4¾ inches.

Type 1289.—Surface. Wrought steel, japanned and plated. Size over all, 3½ inches.
Type 1290.—Surface. Cast iron, japanned. Size of handle, 3¼, 3½, and 4 inches.
Type 1291.—Surface. Cast bronze only. Size of handle, 3½ inches.
Type 1292.—Flush. Cast iron, japanned. Sizes over all, 2⅝ by 3½ and 3½ by 4⅜ inches.
Type 1293.—Flush. Cast brass. Size over all, $2\frac{5}{16}$ by 3 inches.
Type 1294.—Flush. Wrought steel, japanned. Two sizes only.

DRAWER PULLS

Type 1295.—Cup pattern. Bevel edge. Wrought steel and bronze. Sizes, 3¼ and 3⅝ inches.
Type 1296.—Cup pattern. Flat edge. Wrought steel and bronze. Size, 3¼ inches.
Type 1297.—Cup pattern. Narrow edge. Wrought steel and bronze. Sizes, 3½ and 4 inches.
Type 1298.—Cup pattern. Flat edge. Cast bronze. Make not more than two sizes.
Type 1299.—Cup pattern. Flat edge. Cast iron, japanned. Size, 3¾ inches.
Type 1300.—Cup pattern with card holder. Plain cast bronze and cast iron. Make not more than two sizes.
Type 1301.—Bar pattern. Cast iron, japanned, or wrought steel, plated. Size, 2 inches.
Type 1302.—Bar pattern. Wrought steel or wrought brass. Size, 3½ inches.
Type 1303.—Bar pattern. Four screw holes. Cast bronze only. Size over all, 3¾ inches.
Type 1304.—Bar pattern. Two screw holes. Cast iron only. Size over all, 4 inches.
Type 1305.—Bar pattern. Rounded handle, rectangular ends. Cast bronze and iron. With machine screws for fastening handles from inside. Size over all, 4 inches.
Type 1306.—Bar pattern. Rounded handle, oval ends. Cast bronze only. With machine screws for fastening handles from inside. Size over all, 4½ inches.
Type 1307.—Bar pattern. Circular ends. Cast bronze only. With machine screws for fastening handles from inside. Sizes over all, 3 and 4 inches.
Type 1308.—Bar pattern. Square edges. Cast bronze only. With machine screws for fastening handles from inside. Sizes over all, 3 and 4¼ inches.

DRAWER HANDLES

WITH DROP BAILS

Type 1309.—Flush pattern. Square corners. Cast brass or bronze. Size over all, 3⅜ inches.
Type 1310.—Surface type, plain broad bevel. Wrought bronze and steel. Size over all, 3¾ inches.

FLUSH RINGS

Type 1311.—Round plate. Wrought or cast brass. One size only.
Type 1312.—Square plate. Wrought or cast brass. Sizes, 1, 1¼, and 1½ inches.
Type 1313.—Square plate. Polished cast bronze only. Size, 2¼ by 2¼ inches.

LIFTING HANDLES

Type 1314.—Bails to swing one way and both ways. Cast brass only. Size of bails, 2½, 3, 3½, and 4 inches.
Type 1315.—Bail to swing both ways. Cast iron, japanned. Sizes over all, 4⅛ and 4⅜ inches.

TRAPDOOR HANDLES

Type 1316.—Flush. Wrought steel, japanned and galvanized. Plate sizes, 3 by 3½, 3½ by 3¾, and 3¾ and 4¼ inches.
Type 1317.—Flush. Cast iron, japanned and galvanized. Plate sizes, 2¾ by 3¾, 3¼ by 4¼ inches.

SLIDING-DOOR RAILS

Type 1318.—Wrought brass. ¾ inch wide. 3, 4, 5, 6, 8, and 10 foot lengths.
Type 1319.—Wrought steel and brass. 1⅛ inches wide. 4, 5, 6, and 8 foot lengths.
Type 1320.—Wrought brass only. $\frac{3}{16}$ and ¼ inch half round. 4, 5, and 6 foot lengths.

SASH ROLLERS

Type 1321.—Cast iron. ⅝, ¾, ⅞, 1, 1¼ inch widths.
Type 1322.—Cast brass. ⅝, ¾, and 1 inch widths.
Type 1323.—Wrought steel. ⅝, ¾, and 1 inch widths.
Type 1324.—Extra-heavy cast iron, japanned. 1, 1¼, and 1½ inch widths.

SASH SHEAVES

Type 1325.—⅜-inch face. $\frac{11}{16}$-inch steel or brass wheel. Wrought steel or brass case.
Type 1326.—Flat face cast-iron case. Iron or brass wheel. $\frac{7}{16}$-inch face. 1⅛-inch wheel.
Type 1326A.—Flat face cast-iron case. $\frac{9}{16}$-inch face and 1¼-inch iron or brass wheel.
Type 1326B.—Flat face cast-iron case. ⅝-inch face and 1½-inch iron or brass wheel.
Type 1327.—Corner type. All brass. ⅝-inch face and 1¼-inch wheel.
Type 1328.—Selvedge type. Wrought steel. ½-inch face and 1⅜-inch steel wheel.

SHUTTER SHEAVES

Type 1329.—Cast iron, japanned case. 1¾-inch iron or brass wheel.

DOOR STOPS

WALL TYPE

Type 1330.—3-inch projection. To screw. Wrought steel and bronze.
Type 1331.—2½-inch projection. To screw. Cast iron and bronze.
Type 1332.—3-inch projection. To screw. Cast iron and bronze.
Type 1333.—3-inch projection. With three wood screws. Cast bronze only.
Type 1334.—3½-inch projection. Extra heavy, with three wood screws or expansion sleeve. Cast bronze.
Type 1335.—3-inch projection, with hook. With wood screws. Cast bronze.
Type 1336.—3½-inch projection, with hook. Extra heavy, with three wood screws or expansion sleeve. Cast bronze.

FLOOR TYPE

Type 1337.—Height 1½ inches. To screw. Cast iron and bronze.
Type 1338.—Height 2¼ inches. To screw. Cast iron and bronze.
Type 1339.—Height 1¼ inches. Cylindrical with rubber button. Three wood screws. Wrought steel or bronze.
Type 1340.—Height 3 inches. Three wood screws or expansion sleeve. Cast bronze.
Type 1341.—Height 3 inches, with hook. Three wood screws or expansion sleeve. Cast bronze.

WINDOW STOP SCREWS AND WASHERS

Type 1342.—Flat washer with flat head 1¼-inch No. 8 screw. Steel and bronze.

WINDOW STOP ADJUSTERS

Type 1343.—Flat adjustable washer with round head 1¼-inch No. 8 screw. Steel and bronze.
Type 1344.—Cup type adjustable washer with round head 1-inch No. 8 screw. Steel and bronze.

HINGE HASPS

Type 1401.—Open pattern, wrought steel:

Length closed (inches)	Minimum thickness of metal (inch)
3	0.069
6	.084
8	.096

Type 1420.—Safety pattern hinge hasps. Adjustable staple, wrought steel, packed with screws.

Length closed (inches)	Minimum thickness of metal (inch)
3½	0.077
4½	.089
6	.107
7	.160

PADLOCK EYES

Type 1430.—Padlock eyes. Wrought steel. Size of plate about 2⅛ by 1⅞ inches. Size of hole about ¾ by ⅝ inch.

Type 1431.—Padlock eyes. Wrought steel. Size of plate about 2¾ by $2\frac{3}{16}$ inches. Size of hole about $\frac{15}{16}$ by ¾ inch.

BUTT HINGES (NONTEMPLATE)

CORRECT SIZES OF BUTT HINGES FOR WOOD OR STEEL DOORS AND TRANSOMS—GENERAL

Door sizes given are jamb opening dimensions.

Extra heavy butt hinges should be specified on doors where high-frequency service is expected. (See Table 1.) Extra heavy butt hinges are made in sizes 4 to 8 inches, inclusive. Whenever in Table 2, regular weight butt hinges are specified, but the door in question is of such a character as to come into the high-frequency classification, then extra heavy butt hinges of the same length and width should be substituted.

Underwriters' requirements. Two butt hinges should be used for doors measuring 5 feet or less in height. Doors of a greater height shall require one butt hinge for each 2½ feet or fraction thereof on height.

Butt-hinge sizes given refer to length of joint.

In general, it is understood that all regular butt hinges will also be available to template unless otherwise specified and these will be designated by the regular type number followed by a suffixed letter "T," but are not included in this pamphlet.

As regards butt hinges in general it is recommended:

(*a*) That all extra heavy brass or bronze ball-bearing butt hinges in 4½-inch sizes and larger, whether wrought or cast, be equipped with ball bearings between each pair of knuckles; that is, at each bearing surface.

(*b*) That all extra heavy steel ball-bearing butt hinges 4½-inch size and larger be equipped with ball bearings at each bearing surface.

(*c*) That ball-bearing wrought-steel butt-hinge types and paumelles or olive-knuckle hinges will be considered as available from certain producers also with phosphor-bronze bearings. Type numbers for antifriction butt hinges are not shown.

(*d*) That all plated friction hinges be made only polished and heavily plated.

(*e*) That button-tip butt hinges be designated by suffixing the fraction ½ to present type numbers for ball-tip butt hinges. Type numbers for button-tip butt hinges are not shown in pamphlet.

TABLE 1.—*Expected frequency of operation of doors*

[Number of operations of one leaf of door, opening and closing=1 cycle]

Type of building and door	Expected frequency		
	Daily	Yearly	
Large department store entrance	5,000	1,500,000	High frequency.
Large office building entrance	4,000	1,200,000	
Theater entrance	[1] 1,000	450,000	
Schoolhouse entrance	1,250	225,000	
Schoolhouse toilet door	1,250	225,000	
Store or bank entrance	500	150,000	
Office building toilet door	400	118,000	
Schoolhouse corridor door	80	15,000	
Office building corridor door	75	22,000	
Store toilet door	60	18,000	
Dwelling house entrance	40	15,000	
Dwelling house toilet door	25	9,000	
Dwelling house corridor door	10	3,600	
Dwelling house closet door	6	2,200	

[1] Performance.

TABLE 2.—*Rules for sizes of nontemplate butt hinges*

Doors to and including 60 inches high take 2 butt hinges; over 60 to and including 90 inches high take 3 butt hinges; and over 90 to and including 120 inches high take 4 butt hinges.

Transoms to and including 48 inches wide take 2 butt hinges; over 48 to and including 84 inches take 3 butt hinges.

Thickness (in inches)	Width of doors or height of transoms (in inches)	Height of butt hinges (in inches)
¾ and ⅞ cupboard doors	To 24	2½.
⅞ and 1⅛ screen doors	To 36	3.
1⅛ doors	To 36	3½.
1¼ and 1⅜ doors	To 32	3½.
	Over 32 to 37	4.
1 9/16, 1¾, and 1⅞ doors	To 32	4½.
	Over 32 to 37	5.
	Over 37 to 43	5 extra heavy.
	Over 43 to 50	6 extra heavy.
2, 2¼, and 2½ doors	To 37	5.
	Over 37 to 43	5 extra heavy.
	Over 43 to 50	6 extra heavy.
1¼ and 1⅜ transoms	To 20	2½.
	Over 20 to 36	3.
1½, 1 9/16, 1¾, and 1⅞ transoms	To 20	3.
	Over 20 to 36	3½.
2, 2¼, and 2½ transoms	To 20	3½.
	Over 20 to 36	4.

In giving the sizes of butt hinges the length of the joint should always be stated first.

Eliminate all fiber washered butt hinges.

PAINT CLEARANCES

All butt hinges for painting shall have inner edges of leaves cut back to provide clearance between the inner edges of leaves and the barrel as follows:

Thickness of Metal (inch)	Clearance (inch)
Less than 0.090	0.050±0.010
0.090 or greater	.090± .010

WEIGHTS AND THICKNESSES

Nominal thicknesses for all regular weight wrought bronze and wrought steel door butt hinges, are as follows:

Size	Thickness (inch)
2 by 2	0.083
2½ by 2½	.089
3 by 3	.092
3½ by 3½	.123
4 by 4	.130
4½ by 4½	.134
5 by 5	.146
6 by 6	.160

Nominal thicknesses for all extra heavy wrought bronze and wrought steel door butt hinges, are as follows:

Size	Thickness (inch)
4	0.170
4½	.180
5	.190
6	.203
8	.203

The tolerance on thickness of wrought butt hinges shall be ±0.005 inch.

Nominal weights for nontemplate cast butt hinges are as follows:

OUNCES PER PAIR WITHOUT SCREWS

Size	Cast bronze			Cast iron	
	Regular weight steel, bushed, type No. 2006	Heavy-weight steel, bushed or ball bearing, type Nos. 2007, 2003	Extra heavy-weight ball bearing, type No. 2004	Regular weight, type No. 2008	Extra heavy-weight, type No. 2009
3 by 3	13	(1)	(1)	14	20
3½ by 3½	17	20	(1)	19	27
4 by 4	23	30	42	28	38
4½ by 4½	35	40	54	37	47
5 by 5	45	54	66	49	60
6 by 4	(1)	(1)	----------	(1)	----------
6 by 6	75	82	105	(1)	99
6 by 8	(1)	(1)	----------	(1)	133
8 by 6	(1)	(1)	----------	(1)	----------
8 by 8	(1)	(1)	----------	(1)	----------
8 by 10	(1)	(1)	----------	(1)	----------

[1] This size is not regularly manufactured.

TYPES OF BUTT HINGES

BRONZE BUTT HINGES

Type 2001.—Wrought bronze metal ball-bearing butt hinges, with loose pin and ball tips, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2002.—Extra heavy-wrought bronze metal ball-bearing butt hinges with loose pin and ball tips, 4½ by 4½, 5 by 5, 6 by 4, 6 by 6, 6 by 8, 8 by 6, 8 by 8, and 8 by 10 inch.

Type 2003.—Heavy cast bronze ball-bearing butt hinges with loose pin and ball tips, 3½ by ½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2004.—Extra heavy cast bronze ball-bearing butt hinges with loose pin and ball tips, 4 by 4, 4½ by 4½, 5 by 5, 6 by 4, 6 by 6, 6 by 8, 8 by 6, 8 by 8, and 8 by 10 inch.

Type 2005.—Wrought bronze loose-pin butt hinges (steel bushed) with ball tips, 2½ by 2½, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2006.—Cast bronze loose-pin butt hinges, regular weight (steel bushed) with ball tips, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2007.—Heavy cast bronze loose-pin butt hinges (steel bushed) with ball tips, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

CAST-IRON BUTT HINGES

Type 2008.—Cast-iron butt hinges with loose pin and ball tips, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2009.—Extra heavy cast or malleable iron butt hinges with loose pin and ball tips, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

WROUGHT-STEEL BUTT HINGES

BALL BEARING

Type 2010.—Wrought steel ball-bearing butt hinges, plated, with loose pin and ball tips, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2010B.—Same as type 2010, except wrought steel polished and heavily plated; inner edges of leaves beveled.

Type 2010½P.—Same as type 2010 except with clearance and priming coat for painting and button tips.

Type 2011.—Extra heavy wrought steel ball bearing butt hinges, polished and heavily plated, with inner edges of leaves bevelled; loose pin and ball tips, 4 by 4, 4½ by 4½, 5 by 5, 6 by 6, and 8 by 8 inch.

Type 2011½P.—Same as type 2011 except with clearance and priming coat for painting and with button tips.

PLAIN BEARING

Type 2014.—Wrought steel loose-pin butt hinges with ball tips, in plain, japanned, and galvanized finishes. Square sizes in all finishes shall be packed with screws. 2 by 2, 2½ by 2, 2½ by 2½, 3 by 2½, 3 by 3, 3½ by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2014½P.—Same as type 2014 except with clearance and priming coat for painting and with button tips.

Type 2015.—Wrought steel loose-pin butt hinges with ball tips, in plated finishes. 2 by 2, 2½ by 2½, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2015A.—Same as type 2015 except wrought steel polished and plated.

Type 2015B.—Same as type 2015, except wrought steel polished and heavily plated; inner edges of leaves beveled.

LIGHT LOOSE PIN BUTT HINGES

Type 2017.—Light loose pin brass or bronze butt hinges with ball tips. 2 by 2, 2½ by 2, 2½ by 2½, and 3 by 3 inch.

Type 2018.—Light loose pin wrought-steel plated butt hinges with ball tips. 2 by 2, 2½ by 2, 2½ by 2½, and 3 by 3 inch.

Type 2018A.—Same as type 2018 except polished and plated.

Type 2018½P.—Same as type 2018 except with clearance and priming coat for painting and with button tips.

NARROW BUTT HINGES

Type 2019.—Narrow loose pin cast bronze butt hinges with ball tips. 2 by 1½, 2 by 2, 2½ by 2, 2½ by 2½, 3 by 2½, and 3 by 3 inch.

Type 2020.—Wrought steel narrow butt hinges with fast pin. In plain and galvanized finishes only. 1, 1¼, 1½, 2, 2½, 3, 3½, and 4 inch.

LIGHT NARROW BUTT HINGES

Type 2021.—Wrought brass light narrow butt hinges with loose pin and ball tips. 1½ by 1⅜, 2 by 1⅝, 2½ by 1¾, and 3 by 2 inch.

Type 2022.—Wrought-steel plated light narrow butt hinges with loose pin and ball tips. 1½ by 1⅜, 2 by 1⅝, 2½ by 1¾, and 3 by 2 inch.

Type 2022A.—Same as type 2022 except polished and plated.

Type 2022½P.—Same as type 2022 except with clearance and priming coat for painting and with button tips.

Type 2023.—Wrought steel light narrow butt hinges with fast pin, in plain steel. 1, 1¼, 1½, 2, 2½, 3, 3½, and 4 inch.

Type 2024.—Wrought steel light narrow butt hinges with fast pin, in japanned, plated, and galvanized finishes. 1, 1½, 2, 2½, and 3 inch.

Type 2025.—Wrought steel light narrow butt hinges with oval head loose pin, in plain steel. 1, 1¼, 1½, 2, 2½, 3, 3½, and 4 inch.

Type 2026.—Wrought steel light narrow butt hinges with oval head loose pin, in japanned and plated finishes. 1, 1½, 2, 2½, and 3 inch.

FAST-PIN BUTT HINGES

Type 2027.—Cast bronze, fast pin butt hinges. 1½ by 1¼, 1½ by 1½, 2 by 1½, 2 by 2, 2½ by 1¾, 2½ by 2, 2½ by 2½, 3 by 2, 3 by 2½, 3 by 3, 3½ by 3½, 4 by 3, and 4 by 4 inch.

Type 2028.—Wrought-bronze broad butt hinges with fast pin. 2½ by 2½, 3 by 3, 3½ by 3½, and 4 by 4 inch.

Type 2029.—Wrought-steel butt hinges with fast pin in plain steel, japanned, galvanized, or plated finishes. Not furnished to template in plain steel, galvanized, or japanned. 2 by 2, 2½ by 2, 2½ by 2½, 3 by 2½, 3 by 3, 3½ by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

Type 2029½P.—Same as Type 2029 except with clearance and priming coat for painting and with button tips.

LOOSE-PIN REVERSIBLE BUTT HINGES

Type 2031.—Wrought-steel butt hinges with oval head loose pins in plain steel or galvanized finish. Not furnished to template. 2 by 2, 2½, by 2, 2½ by 2½, 3 by 2½, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, 5 by 5, and 6 by 6 inch.

BUTT HINGES FOR WIDE THROW AND FOR FOLDING DOORS

Type 2040.—Wrought-steel butt hinges with five knuckles. Nonrising loose steel pin.

Size (inches)	Thickness of metal (inch)
3 by 6	0.092
3½ by 5	.123
3½ by 6	.123
4 by 6	.130
4 by 7	.130
5 by 7	.146

Type 2041.—Wrought-steel butt hinges with five knuckles. Nonrising loose steel pin. Two sets of ball bearings.

Size (inches)	Thickness of metal (inch)
3 by 6	0.092
3½ by 5	.123
3½ by 6	.123
4 by 6	.130
4 by 7	.130
5 by 7	.146

Type 2041½P.—Same as type 2041 except with clearance and priming coat for painting and button tips.

HOSPITAL-TYPE BUTT HINGES

Type 2050.—Cast bronze hospital type butt hinges with ends of of barrel rounded and nonremovable steel pin. 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2051.—Same as type 2050 except cast iron.

Type 2060.—Wrought bronze metal hospital type ball-bearing butt hinges with ends of barrel rounded and nonremovable pin. 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2061.—Wrought steel hospital type ball-bearing butt hinges polished and heavily plated, with ends of barrel rounded and nonremovable pin. Inner edges of leaves to be beveled. 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2061P.—Same as type 2061 except with clearance and priming coat for painting.

Type 2062.—Wrought steel hospital type butt hinges, plated, with ends of barrel rounded and nonremovable pin. 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2062P.—Same as type 2062 except with clearance and priming coat for painting.

LOOSE-JOINT BUTT HINGES AND PAUMELLES

Type 2070P.—Cast-iron loose joint butt hinges with clearance and priming coat for painting and no tips. 2½ by 2½, 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2071½P.—Wrought steel ball bearing loose joint butt hinges with clearance and priming coat for painting and with button tips. 3 by 3, 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 5 inch.

Type 2072½P.—Wrought steel loose joint butt hinges with clearance and priming coat for painting and with button tips. 3 by 3, 3½ by 3½, 4 by 4, and 4½ by 4½ inch.

Type 2074.—Cast malleable iron paumelles or olive knuckle butt hinges. Handed. 3, 5, and 6 inch.

Type 2075.—Cast bronze or brass ball-bearing paumelles or olive knuckle butt hinges. Handed. 3, 5, and 6 inch.

Type 2076.—Wrought bronze metal ball-bearing paumelles or olive knuckle butt hinges. Handed. 5 and 6 inch.

Type 2077.—Wrought-steel ball-bearing paumelles or olive knuckle butt hinges, polished and heavily plated. Handed. 5 and 6 inch.

Type 2077P.—Same as type 2077 except with priming coat for painting.

Type 2078.—Wrought bronze paumelles or olive knuckle butt hinges with hardened steel washer. Handed. 3 inch only.

Type 2079.—Wrought steel paumelles or olive knuckle butt hinges with hardened steel washer, polished and heavily plated. Handed. 3 inch only.

Type 2079P.—Same as type 2079 except with priming coat for painting.

HALF-SURFACE HINGES

Type 2080.—Wrought steel half surface ball-bearing hinges, plated, with loose pin and ball tips.

Butt size	Offset	Wood screws for jamb leaf	Bolts with grommet nuts for door leaf
3½	1 1/16 inch	1 inch by No. 9 flat head	2 inches by 10-24.
4	1 1/16 inch	1 inch by No. 10 flat head	2 inches by 10-24.
4½	¾ inch	1¼ inch by No. 10 flat head	2 inches by 10-24.
5	1 inch	1¼ inch by No. 12 flat head	2 inches by 12-24.

Type 2080A.—Same as type 2080 except polished and plated.

Type 2080B.—Same as type 2080 except polished and heavily plated; inner edges of leaves bevelled.

Type 2080½P.—Same as type 2080 except with clearance and priming coat for painting and with button tips.

Type 2081.—Wrought bronze metal half surface ball-bearing hinges with loose pin and ball tips.

Butt size	Offset	Wood screws for jamb leaf	Bolts with grommet nuts for door leaf
3½	1 1/16 inch	1 inch by No. 9 flat head	2 inches by 10-24.
4	1 1/16 inch	1 inch by No. 10 flat head	2 inches by 10-24.
4½	¾ inch	1¼ inch by No. 10 flat head	2 inches by 10-24.
5	1 inch	1¼ inch by No. 12 flat head	2 inches by 12-24.

Type 2083.—Cast bronze half surface, hinges, reversible, surface leaf offset 1 inch, with loose, nonrising steel pin, size 5 inch. Mortise leaf fastened with flathead wood screws; surface leaf with through bolts and nuts.

Type 2084.—Same as type 2083 except cast iron, plated.

FRICTION HINGES

Type 2110.—Extra heavy wrought-steel friction butt hinges polished and heavily plated with removable pin. Adjustable friction applied vertically. 4½ by 4½ and 5 by 5.

Type 2110½P.—Same as type 2110 except with clearance and priming coat for painting and with button tips.

Type 2111.—Extra heavy wrought-steel hospital-type friction butt hinges, polished and heavily plated with removable pin and top end of barrel rounded. Adjustable friction applied vertically. 4½ by 4½ and 5 by 5.

Type 2111P.—Same as type 2111 except with clearance and priming coat for painting.

Type 2112.—Wrought-steel friction butt hinges, polished and heavily plated, with removable pin. Adjustable friction applied laterally on the brake-band principle. 3½ by 3½, 4 by 4, 4½ by 4½, and 5 by 4½ inches.

Type 2112P.—Same as type 2112 except primed for painting.

Type 2112G.—Same as type 2112 except galvanized.

FULL-SURFACE FRICTION HINGES

Type 2120.—Wrought-steel full-surface friction hinge for lavatory doors. Polished and heavily plated with loose pin and ball tips. Outer edges of leaves bevelled. Furnished with two bevelled-edge back plates for reverse side of marble when required. Friction applied vertically. 3½ by 3 inches.

GARAGE HINGES

Type 2140.—Extra heavy wrought-steel half surface ball bearing tee hinges. Fastened with wood screws or carriage bolts.

Length of door leaf	Width of door leaf at joint	Length of joint	Width of jamb leaf
Inches	*Inches*	*Inches*	*Inches*
12	3	7	$2\frac{13}{16}$
18	3	7	$2\frac{13}{16}$
24	3	7	$2\frac{13}{16}$
36	4	8	$3\frac{5}{16}$

Type 2141.—Extra heavy wrought steel half surface ball bearing tee hinges, ornamental outline. Fastened with wood screws or carriage bolts.

Length of door leaf	Width of door leaf at joint	Length of joint	Width of jamb leaf
Inches	*Inches*	*Inches*	*Inches*
10	3	7	$2\frac{13}{16}$
18	3	7	$2\frac{13}{16}$
24	3	7	$2\frac{13}{16}$

Type 2142.—Extra heavy wrought steel half surface ball bearing tee hinges for narrow top rails. Fastened with wood screws or carriage bolts. Right and left hand.

Length of door leaf	Width of door leaf at joint	Length of joint	Width of jamb leaf
Inches	*Inches*	*Inches*	*Inches*
24	3	7	$2\frac{13}{16}$

Type 2143.—Extra heavy wrought steel full or half surface ball bearing tee hinges, with loose pin and heart-shaped ends. Fastened with wood screws or carriage bolts.

Length of door leaf	Width of door leaf at joint	Length of joint	Width of jamb leaf
Inches	*Inches*	*Inches*	*Inches*
18	$2\frac{1}{2}$	6	$2\frac{1}{4}$
24	$2\frac{1}{2}$	6	$2\frac{1}{4}$
32	$2\frac{1}{2}$	6	$2\frac{1}{4}$

Type A2143.—Extra heavy wrought-steel full surface ball-bearing or anti-friction tee hinges, fastened with wood screws, lag screws, or carriage bolts.

Length of strap	Width of strap at joint	Length of joint
Inches	*Inches*	*Inches*
12	3	7
18	3	7
24	4	8
36	4	8

Type 2144.—Extra heavy wrought steel full surface ball bearing strap hinges with ornamental outline. Fastened with wood screws or carriage bolts. Length of each leaf 10 inches. Width of joint 3 inches.

Type 2144A.—Extra heavy wrought steel full surface ball bearing strap hinges with ornamental outline. Fastened with wood screws or carriage bolts. Offset $1\frac{1}{16}$ inch. Length of each leaf 10 inches. Width of joint 3 inches.

Type 2145.—Extra heavy wrought steel strap hinge, with $1\frac{1}{16}$ or 1½ inch offset. Size closed, 10 inch.

Type 2145A.—Extra heavy wrought steel strap hinge, with 2½-inch offset. Size closed, 10 inch.

Type 2146.—Extra heavy wrought steel embossed tee hinge, half surface. Sizes closed, 8, 10, 12, 14, and 16 inch.

Type 2147.—Extra heavy wrought steel embossed tee hinge, reversible, loose pin. Sizes closed, 8 and 10 inch.

Type 2148.—Extra heavy wrought steel embossed tee hinge, full surface. Sizes closed 8, 10, 12, 14, and 16 inch.

Type 2149.—Extra heavy wrought steel throw back or half surface hinge with fast pin. Fastened with wood screws or carriage bolts. Size 4½ by 4¾ inches provides clearance for a single door. Size 4 or 4½ by 8 or 8½ inches provides clearance for two folding doors.

Type 2150.—Wrought steel full surface hinge with 1½-inch offset and with rectangular leaves. Sizes 4 by 6, 4½ by 7 or 4½ by 9 inches.

Type 2150A.—Wrought steel full surface hinge with 2½-inch offset and with rectangular leaves. Sizes 4 by 6, 4½ by 7, or 4½ by 9 inches.

Type 2151.—Wrought steel full surface fast pin butt hinge, japanned. Sizes 4 by 4, 4 by 6, 4½ by 4½, 5 by 5, 4½ by 7, and 4½ by 9 inch.

Type 2152.—Wrought steel full surface fast pin butt hinge, with 1-inch offset, japanned and plain. Sizes 4½ by 4¾, and 4½ by 7 inches. Bevelled edge.

STRAP AND TEE HINGES

NOTE.—Except where otherwise specified, strap and tee hinges shall be supplied in unfinished steel, japanned, dead black japan, sherardized dead black japan, and galvanized, or galvanized with brass pins.

Type 2201.—Light strap hinge, wrought steel, plain; sizes closed, 3, 4, 5, 6, 8, 10, and 12 inch.

Type 2202.—Heavy strap hinge, wrought steel, corrugated; sizes closed, 4, 5, 6, 8, 10, and 12 inch.

Type 2203.—Heavy strap hinge, wrought steel, plain; sizes closed, 4, 5, 6, 8, 10, 12, 14, and 16 inch.

Type 2204.—Extra heavy strap hinge, wrought steel; size closed, 10-inch.

Type 2208.—Light tee hinge, wrought steel, plain; sizes closed, 3, 4, 5, 6, 8, 10, and 12 inch.

Type 2209.—Extra heavy tee hinge, wrought steel, plain; sizes closed, 4, 5, 6, 8, 10, 12, 14, and 16 inch.

Type 2210.—Extra heavy tee hinge, wrought steel, corrugated; sizes closed, 4, 5, 6, 8, 10, and 12 inch.

SPRING HINGES FOR SCREEN DOORS

[Steel spring hinges for screen doors shall be supplied in japanned, antique copper, and dull brass only. Cast-iron hinges shall be supplied in japanned finish only]

Type 2301.—Size 3 by 3 inch. Full surface. Heavy wrought steel. Inclosed spring. Adjustable tension. Fast pin. Ball tips.

Type 2302.—Size 3 by 3 inch. Half surface. Heavy wrought steel. Inclosed spring. Adjustable tension. Fast pin. Ball tips.

Type 2303.—Size 2¾ by 2¾ inch. Full surface. Wrought steel. Inclosed spring. Fixed tension. Fast pin. Ball tips. Two bearing joints.

Type 2304.—Size 2¾ by 2¾ inch. Full surface. Wrought steel. Inclosed spring. Fixed tension. Fast pin. No tips. Two bearing joints.

Type 2305.—Size 2¾ by 2½ inch. Full surface. Wrought steel with corrugated leaves. Inclosed spring. Fixed tension. Fast pin. No tips.

Type 2306.—Size 2¾ by 2½ inch. Full surface. Wrought steel with corrugated leaves. Exposed spring. Fixed tension. Fast pin. No tips.

Type 2307.—Size 3 by 2¾ inch. Full surface. Cast iron. Hold back. Inclosed spring. Fixed tension. Fast pin.

Type 2307A.—Size 3 by 2¾ inch with ⅞ inch offset. Full surface. Cast iron. Hold back. Inclosed spring. Fixed tension. Fast pin.

Type 2308.—Size 3 by 2¾ inch. Full surface. Cast iron. Exposed spring. Fixed tension. Fast pin.

Type 2308A.—Same as type 2308, except with inclosed spring.

Type 2309.—Size about 3-inch. Cast iron. Double acting. Exposed springs. Fixed tension. Fast pins.

SPRING HINGES, BUTT TYPE

Type 2330.—Double action. For hanging strip. Adjustable tension. Ball tips. Sizes, 3, 4, 5, 6, 7, 8, 10, and 12 inch. In steel, brass, or bronze.

Type 2331.—Single action. For hanging strip. Adjustable tension. Ball tips. Sizes 3, 4, 5, 6, 7, 8, 10, and 12 inch. In steel, brass, or bronze.

Type 2332.—Double action. Applied directly to jamb. Adjustable tension. Ball tips. Sizes 3, 4, 5, 6, 7, and 8 inch. In steel, brass, or bronze.

Type 2333.—Single action. Applied directly to jamb. Adjustable tension. Ball tips. Sizes 3, 4, 5, 6, 7, and 8 inch. In steel, brass, or bronze.

SPRING HINGES, FLOOR TYPE

Type 2334.—Floor surface horizontal spring pivot. Double action. Adjustable tension. Alignment device. Holdback. Ball bearing. Two sizes. For door thicknesses 1⅛ to 1¾ inches, and 2 to 2½ inches. Exposed parts of steel, brass, or bronze.

Type 2335.—Floor surface horizontal spring pivot. Double action. Holdback. Ball bearing. For door thicknesses 1⅛ to 1¾ inches. Exposed parts of steel, brass, or bronze.

Type 2336.—Floor surface vertical spring pivot. Double action. Adjustable tension. Ball bearing. Three sizes. For door thicknesses 1⅛ to 1½, 1½ to 2, and 2 to 2¾ inches. Exposed parts of steel, brass, or bronze.

Type 2337.—Floor mortise spring pivot. Double action. Adjustable tension. Ball bearing. Four sizes. For door thicknesses ⅞ to 1½, 1⅜ to 2, 2 to 2½, 2½ to 3½ inches. Exposed parts of steel, brass, or bronze.

SPRINGLESS PIVOTS

Type 2338.—Floor mortise ball bearing pivots. Springless. Three sizes. For door thicknesses ⅞ to 1¼, 1¼ to 2¼, 2 to 4 inches. Exposed parts of cast iron, brass, or bronze.

CHECKING FLOOR HINGES

Type 2350.—Liquid-controlled type, double acting, centrally pivoted under door. Mechanism set in floor. Exposed parts bronze. Where necessary, furnish separate outer case to be built into floor. Mechanism to operate in nonfreezing, lubricating, checking fluid. Closing speed controlled by accessible needle valve. Means for adjusting door alignment. Top pivot adjustable by screw. Automatic hold open unless nonhold open is ordered. Size I for light, interior doors not over 2 feet 8 inches wide. Size II for medium-weight interior doors not over 2 feet 10 inches wide. Size III for medium-weight interior doors not over 3 feet wide.

Type 2350A.—Liquid-controlled type, double acting, centrally pivoted under door. Mechanism set in floor. Where necessary, furnish separate outer case to be built into floor. Exposed parts bronze. Mechanism to operate in nonfreezing, lubricating, checking fluid. Ball-bearing pivot for carrying weight of door. Closing speed controlled by accessible needle valve. Top pivot adjustable by screw. Nonhold open type only. Size I for extra heavy or wide interior doors. For ordinary entrance and vestibule doors not over 2 feet 10 inches wide. Size II for heavy entrance and vestibule doors over 2 feet 10 inches wide.

Type 2350B.—Same as type 2350A except for single acting doors. Size I for light interior doors not over 3 feet 0 inches wide. Size II for medium and heavy interior doors not over 3 feet 6 inches wide. For entrance and vestibule doors not over 2 feet 10 inches wide. Size III for heavy entrance and vestibule doors over 2 feet 10 inches wide.

Type 2352.—Liquid-controlled offset pivot type, single acting. Mechanism set in floor. Where necessary, furnish separate outer case to be built into floor. Exposed parts bronze. Mechanism to operate in nonfreezing, lubricating, checking fluid. Ball-bearing pivot for carrying weight of door. Closing speed controlled by accessible needle valve. Nonhold open. Size I for light interior doors not over 3 feet 0 inches wide. Size II for medium and heavy interior doors not over 3 feet 6 inches wide. For entrance and vestibule doors not over 2 feet 10 inches wide; Size III for heavy entrance and vestibule doors over 2 feet 10 inches wide.

LAVATORY DOOR SPRING HINGES

Type 2358.—4-inch single action clamp flange, spring hinge. Brass or bronze, nickel plated. One clamp flange adjustable 1/8 inch over or under nominal thickness of hanging stile. One butt flange 3 5/8 to 4 inches long. Barrel 7/8 inch minimum outside diameter. Minimum thickness of metal at flanges 0.090 inch. Self-closing unless self-opening is specified. For stile thicknesses 1, 1 1/4, 1 1/2, 1 3/4, and 2 inches.

Type A2360.—4-inch single action, clamp flange spring hinge, brass or bronze, nickel plated. Two clamp flanges 4 inches long, one or both flanges adjustable 1/8 inch over or under nominal thickness of stile. Barrel 7/8 inch minimum outside diameter. Minimum thickness of metal at flanges 0.090 inch. Self-closing unless self-opening is specified. For stile thicknesses 1, 1 1/4, 1 1/2, 1 3/4, and 2 inches.

Type 2361.—3-inch single action surface spring hinge. Brass or bronze nickel plated. For wood doors and wood partitions, or wood doors and marble or slate partitions. Self-closing unless self-opening is specified.

Type 2370.—4-inch double action clamp flange spring hinge. Brass or bronze, nickel plated. One cast metal, nonadjustable clamp flange. One butt flange. Barrel 7/8 inch minimum outside diameter. For hanging stile thicknesses 1, 1 1/4, 1 1/2, 1 3/4, and 2 inches.

Type 2380.—Surface spring pivot single or double action with clamp flanges for hanging stile. Adjustable to hold door open or closed. Brass or bronze nickel plated. For doors 7/8 to 1 3/4 inches thick.

Type 2381.—Mortise spring pivot single or double action with clamp flanges for hanging stile. Brass or bronze nickle plated. Adjustable to hold door open or closed. For doors 7/8 to 1 3/4 inches thick.

HISTORY OF THE PROJECT

The war service committee of the Builders' Hardware Manufacturers, C. B. Parsons, chairman, at the request of the War Industries Board and under the stress of war, produced in June, 1918, a general specification for builders' hardware suited to dwelling houses. This specification was the initial movement toward standardization of builders' hardware in the industry, but was unfortunately discarded December 1, 1918, along with all other pledges under the War Industries Board.

The present simplification of builders' hardware is an outgrowth of the preparation of specifications by the technical committee on builders' hardware of the Federal Specifications Board, Dr. L. J. Briggs, chairman. The contact with Builders' Hardware Manufacturers developed by this committee to secure expert advice on specifications was broadened to include standardization within the industry itself.

The manufacturers' group met for the first time November 9, 1922, with Dr. S. W. Stratton, then Director of the Bureau of Standards, presiding, and set up the Advisory Committee on Standardization of Builders' Hardware, with Capt. William A. Heizmann as

chairman and I. J. Fairchild, of the National Bureau of Standards, as secretary.

The first general conference of producers, distributors, and users was held at the Department of Commerce May 20, 1924, which resulted in the publication of Simplified Practice Recommendation No. 18, Builders' Hardware, effective January 1, 1925.

The first revision conference was held in New York City on September 14, 1926, to adopt additional recommendations of the Advisory Committee on Standardization of Builders' Hardware. These revisions, subsequently approved by the standing committee and accepted by the industry, were incorporated in Simplified Practice Recommendation No. 18, Builders' Hardware (first revision September 14, 1926), effective May 1, 1927.

Pursuant to subsequent recommendations by the advisory committee, and with the approval of the standing committee, the recommendations were expanded to cover additional groups of items such as exit bolts, exit locks and latches, garage hinges, checking floor hinges, and blind hardware, and were circulated for written acceptance as a commercial standard, since the industry felt that the scope justified the broader classification.

EFFECTIVE DATE

The effective date upon which the commercial standard is to apply to new production was determined when, as a result of circularization of the industry, adequate support was secured. Following receipt of acceptances representing a majority estimated to exceed 90 per cent of production by volume, it was announced that the standard should be considered effective June 1, 1930, for new production.

STANDING COMMITTEE

The following standing committee was continued to consider annually any comments or suggestions as to changes in the standard in order that it may be kept continuously in accord with the desires of the industry and the advance in the art:

W. A. Heizmann, Penn Hardware Co., Reading, Pa.
S. St. J. Eshleman, Southern Hardware Jobbers' Association, New Orleans, La.
C. F. Burt, Hollow Metal Manufacturers Association, New York, N. Y.
Leroy Kern, American Institute of Architects, Washington, D. C.
J. F. Hart, The Stanley Works, New Britain, Conn.
Arthur May, May Hardware Co., Washington, D. C.
H. P. Sheets, National Retail Hardware Association, Indianapolis, Ind.
R. R. Leeds, P. & F. Corbin, New Britain, Conn.
I. J. Fairchild, National Bureau of Standards, Department of Commerce.

COMMERCIAL STANDARDS SERVICE

Industry has long sensed the need for a wider application and use of specifications developed and approved by nationally recognized organizations. To assist these bodies and the producers and consumers in securing this result and as a natural outgrowth of the movement toward elimination of waste through simplified practice, the National Bureau of Standards has set up a procedure under which specifications, properly indorsed, may be printed as official

publications of the Department of Commerce and promulgated as "commercial standards." This service parallels that of simplified practice in many respects and is available only upon request.

Broadly speaking, the aim is to continue the same character of cooperative service in this field that is being rendered in simplification. The division of trade standards is not designed to act as a standardizing body, nor will it engage in the preparation of specifications. Its service is mainly promotional in character, since its chief mission is to invite attention to a standard or a specification which any branch of industry may want to promulgate on a nation-wide basis; to determine its eligibility for promulgation; to publish and broadcast it in the event the prerequisites of procedure have been met, including a satisfactory majority acceptance; to facilitate the application of the certification plan for the assurance and convenience of the purchaser; to provide means for periodic audits of adherence; and to cooperate with the Bureau of Foreign and Domestic Commerce in determining the desire of industry relative to translation and promulgation of such specifications as a basis for foreign commerce.

In general, it may be said that a simplification covers types, sizes, and varieties of a commodity which are retained by industry on the basis of demand, whereas a commercial standard establishes definite requirements as to grade, quality, or dimensional tolerances in addition to any limitation of variety desired and accepted by the industry.

ORGANIZATION AND DUTIES OF STANDING COMMITTEE

In order to carry on the aims and desires of the industry in the standardization of their product, a standing committee is appointed at the general conference. This committee consists of members from each division of the industry, namely, producers, distributors, and consumers, and thus reflects the well-balanced viewpoint of all concerned.

The members of the committee receive all suggestions regarding the commercial standard and consider its revision in the event that such action is desirable and mutually beneficial.

If the commercial standard does not warrant revision, it is reaffirmed in its existing form, but if any important changes are found desirable their adoption is recommended by the committee, whereupon the industry is again solicited for written acceptance of the standard in its revised form.

The committee is in effect a centralizing agency for criticisms and comments regarding the commercial standard and is charged with the responsibility of recommending revisions to keep the standard abreast with current industrial practice.

The proper functioning of the committee requires that, when necessary, its members be willing to attend meetings held at some central place, although in many cases it will be possible to conduct the work by correspondence.

When any deceptions in reference to the commercial standard are reported to the standing committee, it applies moral suasion or such other corrective measures as seem desirable. The Department

of Commerce has no " police power " to compel adherence; therefore, it is incumbent upon the standing committee to do all in its power to encourage all divisions of the industry to follow the provisions of the commercial standard and contribute in every way possible to its general adoption and usefulness.

CERTIFICATION PLAN

Although the industry has not had an opportunity to consider the certification plan in open conference, owing to the pressure of other business, it is believed a brief description of this plan may be helpful in the event its application to the commercial standard is desired.

The certification plan as applied by the National Bureau of Standards to commercial standards consists in the compilation and distribution of lists of manufacturers who are willing, when requested to do so, to certify to purchasers that products supplied by them comply with all the requirements and tests set forth in nationally recognized commercial standards. The plan is also applied to selected Federal specifications.

These lists are available on request to individual consumers, consumer groups, companies, and in fact to any prospective purchasers, for their guidance.

The benefits now derived from the use of specifications by large consumers are thus made immediately available to the small consumer, with incidental advantage to the larger consumers of convenience in ordering and accepting material with fewer laboratory tests, and of lowering the price by reason of broadening the field of supply. The manufacturer also benefits from the well-known economies accompanying " mass production."

The lists of manufacturers " willing-to-certify " to the quality of certain commodities are made by corresponding with, as nearly as possible, all the manufacturers of that product and listing only those who signify their willingness to certify to the purchaser, when requested to do so, that the commodities delivered actually comply with the commercial standard.

Obviously, the purchaser making use of the lists of willing-to-certify manufacturers, will select therefrom such manufacturers as are known (or assumed) by him to be reliable.

The trend toward the purchase of materials of certified quality from sources shown on such willing-to-certify lists supplies added incentive to standardization on the part of other producers, and thus the benefits of the certification plan will be felt by purchasers either directly or indirectly, whether or not they make use of the plan themselves.

YOUR COOPERATION

As a producer, distributor, or consumer of some of the commodities for which commercial standards have already been established, you are in a position to avail yourself of the benefits arising from the use of quality standards and incidentally to add impetus to this method of eliminating waste.

The first step is a declaration in favor of the standard by recording your intention to adhere, as closely as circumstances will allow, to the standards for those products which you may buy or sell.

The receipt of your signed acceptance will permit the listing of your company in new editions of the commercial standards that you accept.

You will, of course, want to examine any commercial standards before signing a formal acceptance. The National Bureau of Standards will, therefore, furnish a copy of any standard under consideration for acceptance. To facilitate this procedure, a list appears on page 64 that may be checked and mailed to the Division of Trade Standards, National Bureau of Standards, Washington, D. C. The publications may also be secured singly or in quantities at a nominal price from the Government Printing Office. Prices will be furnished upon request.

The acceptance of a commercial standard is an entirely voluntary action and applies to the production, sale, and use of stock items. It is not meant to interfere with the manufacture or sale of special sizes and types sometimes required.

Trade associations and individual companies often distribute large numbers of the printed standard for the information and guidance of their members or customers. In such cases it is possible to extend the scope and degree of adherence by urging each recipient to send in an acceptance, bearing in mind that the practical value of any standardization is measured by the observance it receives.

An acceptance form for the commercial standard herein covered is included on page 61.

ACCEPTANCE OF COMMERCIAL STANDARD

[Please Sign and Return This Sheet to Division of Trade Standards, Bureau of Standards, Washington, D. C.]

Date_____

DIVISION OF TRADE STANDARDS,
NATIONAL BUREAU OF STANDARDS,
Washington, D. C.

GENTLEMEN: We, the undersigned, do hereby accept the original draft of the Commercial Standard, as our standard practice in the {Production [1] / Distribution [1] / Use [1]} of builders' hardware (nontemplate), beginning _____ (Date), and will use our best effort in securing its general adoption.

To permit intelligent review of the effectiveness of the commercial standard every year by an accredited committee of all interests, working in cooperation with the Department of Commerce, we plan to supply all data, upon request, which may be necessary for the development of constructive revisions. It is understood that any suggested modifications will be submitted as soon as formulated, and shall not be promulgated until accepted in form similar to this recommendation.

(Cut on this line)

Signature_____

(Kindly typewrite or print the following lines)

Title _____

Company _____

Street address_____

City and State_____

We are members of the following associations or other organizations interested in the production, sale, or use of builders' hardware (nontemplate):

_____

_____

_____

[1] Please designate which group you represent by drawing lines through the other two. In the case of related interests, trade papers, colleges, etc., desiring to record their general approval, the words "in principle" should be added after the signature.

TO THE ACCEPTOR

In signing the acceptance blank, please bear the following points clearly in mind:

1. *Adherence.*—The Department of Commerce has no regulatory powers to enforce adherence to the commercial standards. Instead, this waste-elimination program is based on voluntary cooperation and self-government in industry. To make this specific standardization operate as a satisfactory example of self-government, it is highly desirable that it be kept distinct from any plan or method of governmental regulation or control. It will be successful according to the degree to which manufacturers, distributors, and purchasers adhere to its terms and conditions.

2. *The industry's responsibility.*—The department cooperates only on the request of the industry and assumes no responsibility for industrial acceptance or adherence. This program was developed by the industry on its own initiative. Its success depends wholly on the active cooperation of those concerned.

3. *The acceptor's responsibility.*—You are entering into an entirely voluntary arrangement, whereby the members of the industry—the distributors and consumers of the product, and others concerned—hope to secure the benefits inherent in commercial standardization. Those responsible for this standard realize that instances may occur in which it will be necessary to supply or purchase items not included therein. The purpose is, however, to secure wider support for nationally recognized standards covering grade, quality, and other characteristics of products. *Consumers* can make the program a success if, in their purchasing, they will make a definite and conscientious effort to *specify in terms of this commercial standard.*

4. *The department's responsibility.*—The function performed by the Department of Commerce is fourfold: First, to act as a referee to insure adequate consideration of the needs of all interests; second, to supply such assistance and advice in the development of this program as past experience with similar programs may suggest; third, to solicit and record the extent of adoption and adherence to the standard; and fourth, to add all possible prestige to this standardization movement by publication and promulgation if and when it is adopted and accepted by all elements directly concerned.

REQUEST FOR COMMERCIAL STANDARDS

Date_____

DIVISION OF TRADE STANDARDS,
NATIONAL BUREAU OF STANDARDS,
Washington, D. C.

GENTLEMEN: The undersigned wishes to examine the commercial standards checked on the reverse side of this page, with a view toward accepting them as our standard of practice in the production, distribution, or consumption of the standardized lines.

(Cut on this line)

Signed _____

(Kindly typewrite or print the following lines)

Title _____

Company _____

Street address _____

City and State _____

COMMERCIAL STANDARDS

CS. No.	Item
0–30.	The commercial standards service and its value to business.
1–28.	Clinical thermometers.
2–30.	Mop sticks (in preparation).
3–28.	Stoddard solvent.
4–29.	Staple porcelain (all clay) plumbing fixtures.
5–29.	Steel pipe nipples.
6–29.	Wrought-iron pipe nipples.
7–29.	Standard-weight malleable iron or steel screwed unions.
8–30.	Plain and thread plug and ring gage blanks.
9–29.	Builders' template hardware.
10–29.	Brass pipe nipples.
11–29.	Regain of mercerized cotton yarns.
12–29.	Domestic and industrial fuel oils.
13–30.	Dress patterns.
14–30.	Boys' blouses, button-on waists, shirts, and junior shirts (in preparation).
15–29.	Men's pajamas.
16–29.	Wallpaper.
17–30.	Diamond core drill fittings.
18–29.	Hickory golf shafts.
19–30.	Foundry patterns of wood.
20–30.	Staple vitreous china plumbing fixtures.
21–30.	Interchangeable ground-glass joints.
22–30.	Builders' hardware (non-template).
23–30.	Feldspar.
24–30.	Standard screw threads.
25–30.	Special screw threads.
26–30.	Aromatic red-cedar closet lining (in preparation).
27–30.	Plate-glass mirrors (in preparation)

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