

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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[Issued, October 1, 1925]

**UNITED STATES GOVERNMENT MASTER SPECIFICATION
FOR BUILDERS HARDWARE**

(Except for Marine Use or for Hollow Metal Doors)

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 336

This specification was officially promulgated by the Federal Specifications Board on October 1, 1925, for the use of the departments and independent establishments of the Government in the purchase of builders hardware.

[The latest date on which the technical and inspection requirements of this specification shall become mandatory for all departments and independent establishments of the Government, is January 2, 1926. They may be put into effect, however, at any earlier date, after promulgation]

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I. TYPES, GRADES, AND CLASSES

1. These specifications cover such types, grades, and classes of builders hardware as are enumerated under "Detail requirements" and do not include hardware for marine use or for hollow metal doors.

II. MATERIAL AND WORKMANSHIP

1. QUALITY AND FIT

All hardware in each grade shall be free from all defects affecting the appearance and serviceability. All working or moving parts shall be well fitted and smooth working without unnecessary play.

2. FINISH

(a) Exposed finished parts shall have such of the standard finishes enumerated under paragraphs VII, 4 (a) and (b) as are specified.

(b) Bronze shall be polished with a bright finish, No. US9, when no other finish is specified.

(c) Plated work shall be heavily plated and buffed and of finish US9 for bronze and US14 for nickel when no other finishes are specified.

(d) When unfinished iron or steel is specified, galvanized, sherardized, japanned, coppered, or unfinished iron or steel may be furnished. Iron and steel shall be free from rust. Where wrought steel is specified, it is understood to include wrought iron.

3. WHITE BRONZE

When white bronze, finish US25, is specified, it shall conform to the following composition:

Metal	Per cent
Copper.....	54 to 58, inclusive.
Nickel.....	11 to 20, inclusive.
Zinc.....	20 maximum.
Lead.....	12 maximum.
Tin.....	2½ maximum.
Impurities, including iron.....	1.

4. LACQUER

All natural color or plated finish hardware unless otherwise specified shall have a coating of transparent lacquer.

III. GENERAL REQUIREMENTS

1. DIMENSIONS

Dimensions given herein are to be considered approximate. Sizes of locks refer to dimensions of case where not otherwise stated.

2. FASTENINGS

(a) Hardware hereinafter specified shall be furnished with all necessary screws, bolts, etc., for proper application, which shall be of suitable size and type, and shall harmonize with the hardware as to material and finish.

(b) Screw sizes where given are the minimum acceptable and shall be considered standard. Longer lengths or other special fastenings may sometimes be required.

3. LOCK FRONTS AND STRIKES

(a) All locks shall have a flat front unless otherwise specified. When beveled fronts are specified, the bevel shall be $\frac{1}{8}$ inch in 2 inches. When rabbeted fronts are specified, the depth of rabbet shall be $\frac{1}{2}$ inch.

(b) Armored fronts will be accepted in lieu of solid fronts on locks.

(c) All strikes shall be plain unless otherwise specified.

4. COUNTERSUNK SCREW HOLES

The countersunk part of screw holes in butts must form a good seat for the screw heads, with no sharp edges at back.

5. JAPAN COATING

Japan coating where specified shall cling tenaciously to the work and be dry and elastic. The surface shall be black and not subject to cracking, scratching, or flaking. The coating is considered to be dry when the pressure that can be exerted between the thumb and forefinger does not leave a mark which remains noticeable after the spot is lightly polished. The above test is to be made at room temperature (about 20° C.) (68° F.).

6. NICKEL PLATING

The average thickness of nickel on articles subject to abrasion, such as toilet-door latches, coat hooks, etc., shall be not less than 0.0002 inch; and on articles not subject to abrasion, such as escutcheons, roses, hinges, etc., shall be not less than 0.0001 inch. A tolerance of 10 per cent shall be permitted from these values to allow for uncertainties in measurement. These thicknesses are equivalent, respectively, to 0.144 and 0.072 ounce per square foot and require, at a current density of 5 amperes per square foot, plating about one hour and one-half hour, respectively.

7. ZINC COATINGS

(a) Zinc coatings on iron or steel (galvanized or sherardized). The word "galvanized" where used in the detail specifications is intended to include the application of zinc by hot dipping, sherardizing, or zinc plating (electro galvanizing), provided that hot dipping and sherardizing shall not be applied on such alloy or heat-treated steels as will be injuriously affected at the temperatures employed. For such steels the zinc-plating process shall be used.

(b) Samples shall show no iron rust after 72 hours continuous exposure at room temperature to the spray of 20 per cent salt (sodium chloride) solution.

8. ILLUSTRATIONS

Illustrations in the specifications show only the type of the various devices. However, a construction other than that illustrated shall constitute a full commercial equivalent of the one shown in order to be acceptable. Illustrations precede the descriptions in every instance.

IV. DETAIL REQUIREMENTS

For detail requirements see pages 10 to 43, inclusive.

V. METHOD OF INSPECTION AND TESTS

1. NICKEL PLATING

(a) The area of the piece should be measured as closely as possible. It is then cleaned by immersion in an alkaline solution, rinsed, and hung in a solution containing about 10 per cent by volume of C. P. concentrated hydrochloric acid. The article is connected as the anode, and a strip of lead is made the cathode. A current is applied at 4 to 6 volts until all the nickel is dissolved, usually in from one to two minutes. The resultant solution is diluted to a measured volume (for example, 250 cc), and a definite portion (for example, 10 cc), is used for the determination of the nickel content by the dimethylglyoxime method.

(b) If the area has been measured in square centimeters, the results can best be calculated to grams per 100 square centimeters, or to thickness in millimeters, which may then be converted to ordinary units.

$$\frac{\text{Weight of nickel (g)}}{\text{Area of sample (cm}^2\text{)}} \times 100 = \text{grams per 100 cm}^2 \text{ (g/dm}^2\text{)}$$

$$\text{g/dm}^2 \times 1.15 = \text{thickness in millimeters}$$

$$\text{Thickness (mm)} \times 0.039 = \text{thickness in inches}$$

$$\text{g/dm}^2 \times 0.328 = \text{ounces per square foot.}$$

2. ZINC COATINGS

(a) The salt-spray test should be conducted in a nonmetallic box or vessel provided with an inclined cover so as to prevent dripping of condensed liquid upon the specimens. A box constructed of Alberene stone, glass, stoneware, or wood coated with bituminous paint, may be used. The 20 per cent salt solution should be prepared by dissolving 1 pound of table salt (sodium chloride) in 2 quarts of water. The spray should be produced by an air injector which will yield a very fine mist. An air pressure of 6 to 10 pounds per square inch is usually required. The compressed air should first be passed through water in order to remove dust or grease and to saturate it with water vapor and thereby avoid evaporation of the salt solution. A glass baffle plate should be so placed as to prevent the spray from blowing directly on the specimens. The articles to be tested should each be suspended or supported from glass rods in as nearly a vertical position as possible and should not be in contact with metal. They should be removed and washed off at 24-hour intervals or at the end of the specified period of test and examined for the appearance of red or yellow iron rust, the presence of which marks the conclusion of the test.

(b) *Thickness.*—In order to successfully withstand the salt-spray test, there will probably be required by whatever process of galvanizing employed an average amount of zinc of approximately 0.60 ounce per square foot, which corresponds to an average thickness of 0.001 inch. The average thickness of the coating as produced by any of these processes shall not exceed 0.002 inch on accurately dimensioned parts—for example, screw threads, etc.—but may be of greater thickness on other parts. The average thickness may be determined by the antimony chloride stripping method, as given below, upon an accurately measured area.

(c) *Method of determining thickness.*—The solution is prepared by adding 100 cc concentrated hydrochloric acid (specific gravity 1.20) to 5 cc of a solution made by dissolving 20 g of antimony trioxide in 1,000 cc of concentrated hydrochloric acid. A sufficient number of specimens should be used in each test to have an area not less than 25 square centimeters (4 square inches). The specimens are weighed carefully and then dipped in sufficient of the above solution to completely cover them. The samples are kept in the solution for one minute, or longer if necessary, to remove all of coating. They are then washed and scrubbed in running water to remove the deposited antimony. They are then dried and reweighed. The loss in weight represents the weight of the zinc coating, which is calculated directly to grams per square decimeter or to ounces per

square foot (g/dm^2 by 0.328). On irregular shaped parts the zinc may be expressed in grams per piece.

(*d*) For further details of test consult Bureau of Standards Circular No. 80.

VI. PACKING AND MARKING

1. All locks shall bear the trade-mark or name of the manufacturer.
2. All hardware shall be carefully packed and marked.

VII. ADDITIONAL INFORMATION

1. CORRECT SIZES OF BUTTS FOR DOORS AND TRANSOMS

(Nontemplate Butts)

GENERAL

(*a*) *Door sizes* given are jamb opening dimensions.

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

(*c*) *Underwriters requirements*.—Two butts should be used for doors measuring 5 feet or less in height. Doors of a greater height shall require one butt for each $2\frac{1}{2}$ feet or fraction thereof in height.

(*d*) *Butt sizes* given refer to length of joint.

(*e*) *Wrought bronze doors* weigh about 50 per cent more than steel doors and require heavier butts.

TABLE 1

[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
Large office building entrance.....	4,000	1,200,000
Theater entrance.....	11,000	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 Per performance.

TABLE 2
DOOR (WOOD)

Thickness in inches	Width in inches	Size of butts
$\frac{3}{4}$ and $\frac{7}{8}$ cupboard.....	To 24.....	2½.
$\frac{1}{2}$ and $1\frac{1}{8}$ screen.....	To 36.....	3.
$1\frac{1}{8}$	To 36.....	3½.
$1\frac{1}{4}$ and $1\frac{3}{8}$	To 32.....	3½.
$1\frac{1}{4}$ and $1\frac{3}{8}$	Over 32 to 37.....	4.
$1\frac{3}{8}$, $1\frac{1}{4}$, and $1\frac{1}{2}$	To 32.....	4½.
$1\frac{3}{8}$, $1\frac{1}{4}$, and $1\frac{1}{2}$	Over 32 to 37.....	5.
$1\frac{3}{8}$, $1\frac{1}{4}$, and $1\frac{1}{2}$	Over 37 to 43.....	5 extra heavy.
$1\frac{3}{8}$, $1\frac{1}{4}$, and $1\frac{1}{2}$	Over 43 to 50.....	6 extra heavy.
2, $2\frac{1}{4}$, and $2\frac{1}{2}$	To 37.....	5.
2, $2\frac{1}{4}$, and $2\frac{1}{2}$	Over 37 to 43.....	5 extra heavy.
2, $2\frac{1}{4}$, and $2\frac{1}{2}$	Over 43 to 50.....	6 extra heavy.

TRANSOM (WOOD)

Thickness in inches	Height in inches	Size of butts
$1\frac{1}{4}$ and $1\frac{3}{8}$	To 20.....	2½.
$1\frac{1}{4}$ and $1\frac{3}{8}$	Over 20 to 36.....	3.
$1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, and $1\frac{7}{8}$	To 20.....	3.
$1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, and $1\frac{7}{8}$	Over 20 to 36.....	3½.
2, $2\frac{1}{4}$, and $2\frac{1}{2}$	To 20.....	3½.
2, $2\frac{1}{4}$, and $2\frac{1}{2}$	Over 20 to 36.....	4.

NOTE.—Transoms up to 4 feet wide take 2 butts; over 4 to 7 feet wide, 3 butts.

2. RULES FOR HANDS OF LOCKS AND CASEMENT SASH

LOCKS

(a) The hand of a lock 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. For other doors the outside is usually the “push” or jamb 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

(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.

3. DIMENSIONS

Where more than one dimension is given for items of builders' hardware, the vertical dimension is listed first.

4. FINISHES

(a) Where practicable, finishes should be confined to bronze, solid or plated; nickel plated; galvanized; or japanned.

(b) Where finishes other than those given above are required, selection should be confined to the following standards adopted by the manufacturers as listed in Simplified Practice Recommendation No. 18:

TABLE 3

U. S. number	General description	Metal applied to—	Samples selected as standard	Restrictions
US1B....	Bright japanned.....	-----	-----	-----
US1D....	Dead black japanned.....	-----	-----	-----
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 hard- ware to match to be finish US4.
US6....	Sanded brass, oxidized, and relieved.	.....do.....	Sargent RD.....	-----
US7....	Sanded brass, oxidized, and relieved, raised ornamentation pol- ished.	.....do.....	Russwin O9B, edges not pol- ished.	Limited to ornamental designs. Polishing confined to raised ornamentation, edges not polished.
US8....	Antique copper.....	.....do.....	Chantrell 24.....	Sample to show color only; mottling to be optional.
US9....	Bright bronze.....	Iron, steel, wrought bronze, cast bronze.	Yale BZ10.....	Wrought designs lim- ited to 2—round cor- ner and broad bevel.
US10....	Dull bronze.....	.....do.....	Corbin DB.....	-----
US11....	Dull bronze, oxidized, and relieved.	.....do.....	Sargent O6P.....	Limited to ornamental designs. Plain hard- ware to match to be finish US10.
US12....	Sanded bronze, oxidized, and relieved.	.....do.....	Penn BZS7L.....	-----
US13....	Sanded bronze, oxidized, and relieved, raised ornamentation pol- ished.	.....do.....	Penn BZS9.....	Limited to ornamental designs. Polishing confined to raised ornamentation, edges not polished.
US14....	Nickel plated.....	Iron, steel, wrought brass, cast brass.	Russwin 4.....	-----
US15....	Nickel plated, dull.....	.....do.....	Lockwood 90.....	Also applicable to or- namental designs as Lockwood 91 or Sar- gent L5N.
US16....	Nickel plated, sanded.....	.....do.....	Yale NX10.....	-----
US17....	Nickel plated, sanded, raised ornamentation polished.	.....do.....	Penn NS25.....	Limited to ornamental designs. Polishing confined to raised or- namentation, edges not polished.
US18....	"Rustproof" black.....	Wrought steel, cast iron.	Yale FX80.....	Wrought designs lim- ited to 2—round corner and broad bevel.
US19....	Sanded, dull black.....	Iron, steel, wrought brass, cast brass.	Yale BX80 (Bze.) Yale FX90 (Steel.)	-----
US20....	Statuary bronze.....	Wrought bronze, cast bronze.	Penn PBZ4.....	Wrought designs lim- ited to 2—round corner, and broad bevel. Limited on iron and steel to butts.
US21....	Statuary bronze, sanded.....	.....do.....	Penn BZS4L.....	Do.
US22....	Verde antique.....	Cast bronze.....	Yale BX67.....	-----
US23....	Silver plated, dull, ox- idized and relieved.	Cast brass, cast bronze.	Lockwood 72.....	-----
US24....	Gold plated, dull.....	.....do.....	Corbin DG with texture similar to Lockwood 72.	-----
US25....	White bronze.....	Cast white bronze.....	Sargent EM.....	-----

5. TYPE NUMBERS

Type numbers correspond, where the items are comparable, to those given in Department of Commerce Simplified Practice Recommendation No. 18, Builders' Hardware.

VIII. GENERAL SPECIFICATIONS

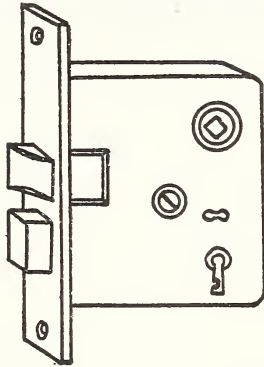
There are no general specifications applicable to this specification.

50657°—25†—2

DETAIL REQUIREMENTS

(Continued from p. 4)

DOOR LOCKS INSIDE DOOR LOCKS Inexpensive Grade



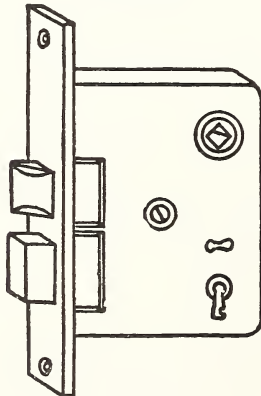
Type 4.— $3\frac{1}{2}$ to $3\frac{3}{4}$ inches by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{1}{2}$ inches. Front $5\frac{1}{2}$ by 1 inch. Single extension easy spring; single compression spring, bar type; or double compression spring. Lock shall have one lever tumbler giving 24 changes. Cast bronze front and bolts. Bronze strike. One nickel plated solid steel key.

Operation.—Latch bolt by knob from either side; dead bolt by key from either side. Reversible.

Medium Grade

Type 4A.—Same as type 4, except three tumblers.

Best Grade

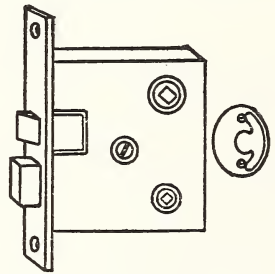


Type 7.—4 to $4\frac{1}{4}$ inches by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset

$2\frac{3}{4}$ inches. Front $6\frac{1}{8}$ by 1 inch. Double compression easy spring. Lock shall have three lever tumblers giving 54 changes. Cast bronze front and bolts. Brass hub. Bronze strike. One nickel plated solid steel key.

Operation.—Latch bolt by knob from either side; dead bolt by key from either side. Reversible.

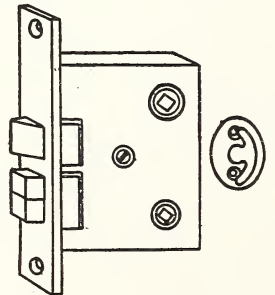
BATHROOM DOOR LOCKS



Type 17A.— $3\frac{1}{2}$ to $3\frac{3}{4}$ inches by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{1}{2}$ inches. Front $5\frac{1}{2}$ by 1 inch. Double compression easy spring. One bronze turn knob. Bronze front, bolts, and strike. One emergency key.

Operation.—Latch bolt by knob from either side; dead bolt by turn knob from inside or emergency key from outside. Reversible.

COMMUNICATING DOOR LOCKS

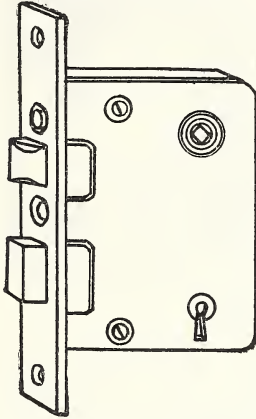


Type 20.— $4\frac{1}{4}$ to $4\frac{1}{2}$ inches by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Front $6\frac{1}{8}$ by 1 inch. Double compression easy spring. Split bolt. Two bronze turn knobs. Cast

bronze front and bolts. Bronze strike. Brass hub.

Operation.—Latch bolt by knob from either side; split dead bolt by turn knob from either side, each locking against the other. Reversible.

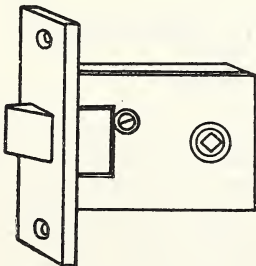
FRONT DOOR LOCKS



Type 22A.— $4\frac{3}{4}$ to 5 inches by $3\frac{5}{8}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{1}{2}$ or $2\frac{3}{4}$ inches. Front 7 by 1 inch. Lock shall have three lever tumblers giving 24 changes. Bronze front, bolts and strike. Two nickel plated solid steel keys.

Operation.—Latch bolt by knob from either side; outer knob set by stop in face; dead bolt by key from either side; latch bolt by key from outside when outer knob is stopped. Latch and dead bolts shall be operated by the same key through same keyhole. Reversible.

MORTISE KNOB LATCHES

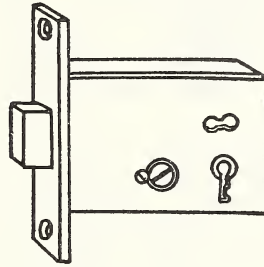


Type 28.— $2\frac{1}{2}$ by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{3}{4}$

inches. Front $4\frac{1}{2}$ by 1 inch. Double spring type. Cast bronze front and bolt. Brass hub. Bronze strike.

Operation.—Latch bolt by knob from either side. Reversible.

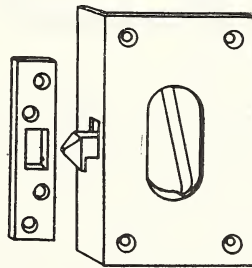
MORTISE DEAD LOCKS



Type 38A.— $2\frac{1}{8}$ by $3\frac{1}{2}$ by $\frac{5}{8}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Front 4 by 1 inch. Lock shall have three tumblers giving 54 changes. Cast bronze front and bolt. Bronze strike. One nickel plated solid steel key.

Operation.—Dead bolt by key from either side. Reversible.

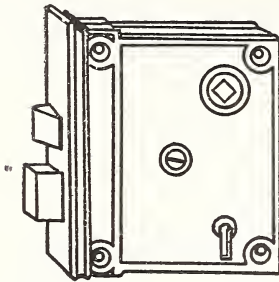
ELEVATOR DOOR LOCK



Type 47.—5 by $2\frac{7}{8}$ inches cast bronze case. Backset $1\frac{1}{4}$ inches. Front $\frac{7}{8}$ inch wide. Escutcheon for key $1\frac{1}{4}$ by 1 inch. All cast bronze. One nickel plated solid steel key.

Operation.—Latch bolt by finger pull from elevator side and by key only from outside. All locks in one project shall be operated by the same key unless otherwise specified. Reversible.

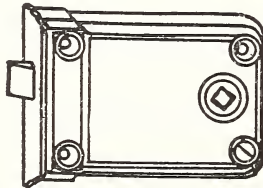
UPRIGHT RIM KNOB LOCKS



Type 59.—4 by $3\frac{1}{4}$ by $\frac{3}{4}$ inch japanned iron case. Rim strike. Backset $2\frac{1}{2}$ inches. Lock shall have one tumbler. Two iron bolts, with stop. One nickel plated solid steel key. Screws for lock and keeper shall be not less than $1\frac{3}{4}$ inches long.

Operation.—Latch bolt by knob from either side; dead bolt by key from either side. Reversible.

RIM KNOB LATCHES



Type 80.— $2\frac{5}{8}$ by $3\frac{3}{4}$ by $\frac{5}{8}$ inch japanned iron case. Rim strike. Backset $2\frac{3}{4}$ inches. Single iron latch. One nickel plated solid steel key.

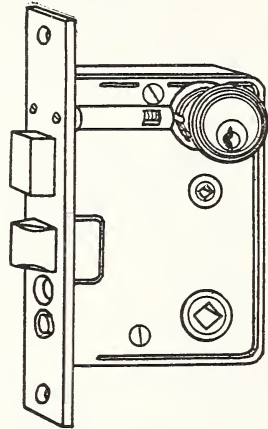
Operation.—Latch bolt by knob from either side. Reversible.

CYLINDER FRONT DOOR LOCKS

Type 88.—5 to 6 inches by $3\frac{3}{4}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front 8 by $1\frac{1}{4}$ inches. Lock shall have one bronze cylinder, with five pin tumblers, giving practically unlimited changes. Bronze front, bolts and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from either side; outer knob set by

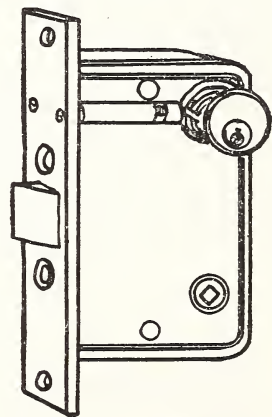
stop in face; when outer knob is stopped, latch bolt by key from outside; dead bolt by key from outside



and turn knob from inside. Reversible.

Type 88B.—Same as type 88, except beveled front. Not reversible.

CYLINDER VESTIBULE OR OFFICE DOOR LOCKS

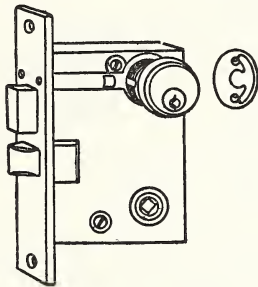


Type 91.—5 to 6 inches by $3\frac{3}{4}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front $7\frac{1}{4}$ by $1\frac{1}{8}$ inches. Lock shall have one bronze cylinder with five pin tumblers, giving practically unlimited changes. Bronze front, latch bolt and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from either side; outer knob set by stop in face; when outer knob is stopped latch bolt by key from outside. Reversible.

Type 91B.—Same as type 91, except with two bronze cylinders and straight spindle. When knobs are stopped latch bolt shall be operated only by key from either side. Reversible.

CYLINDER OFFICE LOCKS



Type 93.—5 to 6 inches by $3\frac{3}{4}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front 8 by $1\frac{1}{4}$ inches. Lock shall have one bronze cylinder with five pin tumblers giving practically unlimited changes. Bronze front, bolts and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from either side; dead bolt by key from outside and turn knob from inside. Reversible.

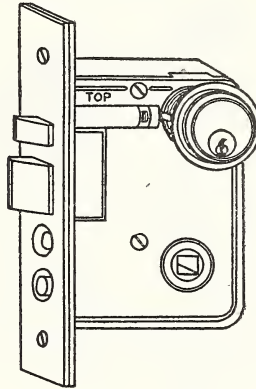
Type 93A.—Same as type 93, but with rabbeted front.

Type 94.—Same as type 93, but with two cylinders and no turn knob.

CYLINDER OFFICE OR FRONT DOOR LOCKS

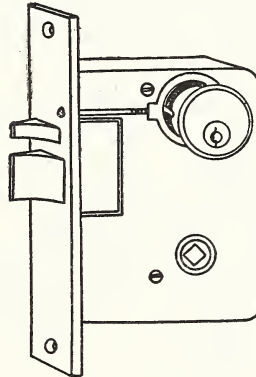
Type 97.—5 to 6 inches by $3\frac{7}{8}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front $7\frac{1}{4}$ inches by $1\frac{1}{4}$ inches. Lock shall have one bronze cylinder with five pin tumblers giving practically unlimited changes; auxiliary latch bolt and stop works. Bronze front, bolts and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from either side; by key from outside when outer knob is stopped. When door is closed auxiliary bolt shall



deadlock the latch bolt. Not reversible.

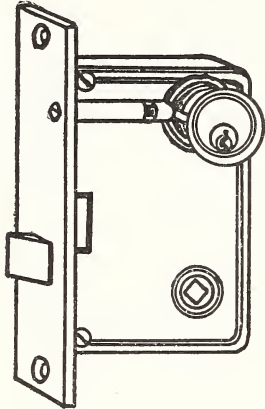
CYLINDER SCHOOLHOUSE LOCKS



Type 105.—5 to $5\frac{1}{2}$ inches by $3\frac{7}{8}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front $7\frac{1}{4}$ by $1\frac{1}{4}$ inches. Lock shall have auxiliary latch bolt and two bronze cylinders with five pin tumblers each giving practically unlimited changes. Bronze front, bolts and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from either side; stop works controlled by inside cylinder; latch bolt by key from

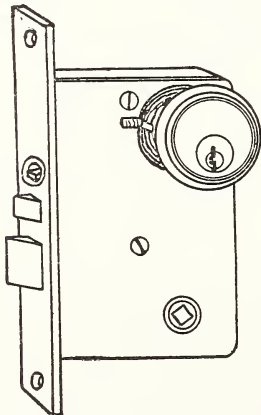
outside when outer knob is stopped; when door is closed auxiliary bolt shall automatically dead lock the latch bolt. Not required to be reversible.



Type 106.—Same as type 105, except without auxiliary latch bolt. Reversible.

Type 106A.—Same as type 105, except one cylinder only and no stop works or auxiliary bolt. Outside knob always rigid. Reversible.

CYLINDER MORTISE NIGHT LATCHES

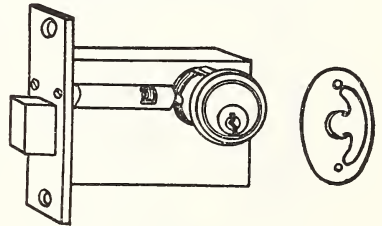


Type 111.— $3\frac{1}{2}$ by $3\frac{5}{8}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front 5 by $1\frac{1}{8}$ inches. Latch shall have one bronze cylinder with five pin tumblers giving practi-

cally unlimited changes. Bronze front, bolts, hub and strike. Three nickel brass keys.

Operation.—Latch bolt by knob from inside and key from outside, when door is closed auxiliary bolt shall automatically dead lock the latch bolt. Bolt may be held back by stop in front. Not reversible.

CYLINDER MORTISE DEAD LOCKS



Type 114.— $2\frac{1}{2}$ by $3\frac{5}{8}$ by $\frac{3}{4}$ inch japanned iron case. Backset $2\frac{3}{4}$ inches. Solid front $4\frac{1}{8}$ by $1\frac{1}{8}$ inches. Lock shall have one bronze cylinder with five pin tumblers giving practically unlimited changes. Bronze front, bolt, strike and turn knob. Three nickel brass keys.

Operation.—Bolt by key from one side and turn knob from the other. Reversible.

Type 115.—Same as type 114, except with two bronze cylinders and no turn knob.

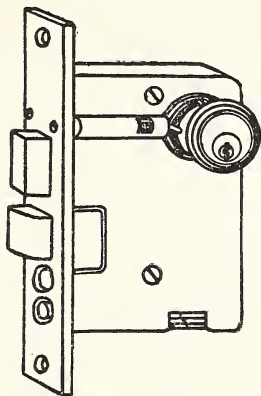
Type 116.— $4\frac{1}{2}$ by $3\frac{3}{4}$ by $\frac{3}{4}$ inch japanned iron case. Backset, $2\frac{3}{4}$ inches. Solid front $6\frac{7}{8}$ by $1\frac{1}{4}$ inches. Lock shall have one bronze cylinder with five pin tumblers giving practically unlimited changes. Bronze front, bolt, strike and turn knob. Three nickel brass keys.

Operation.—Bolt by key from one side and turn knob from the other.

Special backsets.—When so specified this lock shall be furnished in one of the following backsets, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, or $3\frac{1}{2}$ inches. Reversible.

Type 117.—Same as type 116 except with two bronze cylinders and no turn knob.

ENTRANCE DOOR LOCKS



Type 126.—5 by 3¾ by ¾ inch japanned iron case. Backset 2¾ inches. Solid front 7½ by 1¼ inches. Lock shall have one bronze cylinder with five pin tumblers giving practically unlimited changes. Bronze front, bolts and strike. Three nickel brass keys.

Operation.—Latch bolt by thumb piece (handle) from either side, except when outside thumb piece is set by stops in face of lock. Dead bolt by turn knob on inside; both dead and latch bolts by key from outside. Reversible.

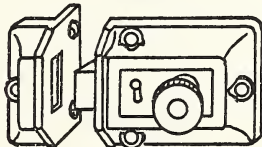
Type 126B.—Same as type 126, except with beveled front.

Type 127B.—Same as type 126, except with two bronze cylinders and no stop works.

Type 127C.—Same as type 127B, except rabbeted front.

RIM NIGHT LATCHES

Tubular

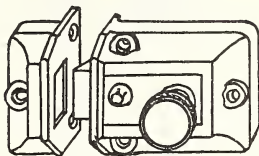


Type 129.—2½ by 3 inches, japanned iron case. Backset 2 inches. Latch shall have 12 changes. Bronze turn knob and slide stop. Bronze plated

bolt and knob. Two polished steel flat keys.

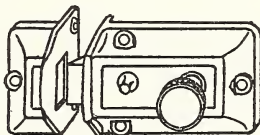
Operation.—Latch by key from outside and by turn knob from inside. Slide stop. Reversible.

Standard Cylinder



Type 134.—2½ by 3 inches, japanned iron case. Backset 1⅝ or 2 inches. Latch shall have one standard bronze cylinder with five pin tumblers providing practically unlimited changes. Screws for latch and strike shall be at least 1¼ inches long. Bronze bolt, knob, and slide stop. Three nickel brass keys.

Operation.—Latch by key from outside and by turn knob from inside. Slide stop. Reversible.



Type 136.—2½ by 3½ inches, japanned iron case. Backset 2⅓ inches. Latch shall have one standard bronze cylinder with five pin tumblers and practically unlimited changes. Bronze bolt, knob, and slide stop. Three nickel brass keys.

Operation.—Latch by key from outside and by turn knob from inside. Slide stop. Reversible.

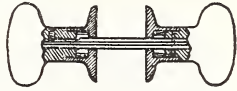
Type 137.—Same as type 136, except all bronze.

DOOR KNOBS, METAL

For Exterior Doors

Type 210.—Seamless cast bronze, buffed, natural color, for bracket-bear-

ing type shank. Each pair of knobs complete with $\frac{5}{16}$ -inch solid or swivel wrought steel spindle to fit and properly operate the lock for which required. Outside knob shall be secured



END VIEW SPHEROID TYPE

to spindle with pin. Inside knob shall be secured with clamp or set screw. Shanks shall have machine finished bearings. Spheroid type, size $2\frac{1}{4}$ inches diameter.



END VIEW ELLIPSOID TYPE

Type 210A.—Same as type 210, except ellipsoid type, $2\frac{1}{4}$ inches minimum diameter on major axis.

Type 210B.—Same as type 210, except wrought bronze. Machine finished bearings not required.

For Interior Doors

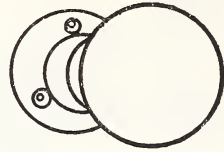
Type 211.—Same as type 210, except with threaded spindle.

Type 211A.—Same as type 210, except ellipsoid type, $2\frac{1}{4}$ inches minimum diameter on major axis, and with threaded spindle.

Type 211B.—Same as type 210 except seamless wrought bronze with threaded spindle. Machine finished bearings not required.

Type 212.—Seamless steel, plated; complete with $\frac{5}{16}$ -inch solid wrought steel spindle per pair of knobs. Knobs secured with side knob screws. Spheroid type, size $2\frac{1}{4}$ inches diameter.

DOOR KNOBS, POTTERY



Type 220.—White porcelain with cast bronze shanks; buffed, natural color; complete with $\frac{5}{16}$ -inch wrought steel threaded spindle per pair of knobs. Shanks machine finished for bracket bearings. Knobs secured with set screw. Size $2\frac{1}{4}$ inches diameter.

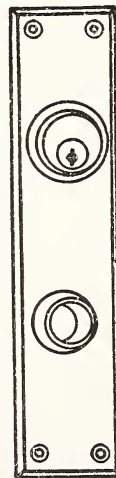
Type 220A.—Same as type 220, except jet knob.

Type 221.—White porcelain with iron shank, plated; complete with $\frac{5}{16}$ -inch solid wrought steel spindle per pair of knobs. Knobs secured with side knob screws. Size $2\frac{1}{4}$ inches diameter.

Type 221A.—Same as type 221, except jet knobs.

ESCUTCHEONS

For Mortise Cylinder Locks



Type 300.—Wrought bronze, natural color, with square corners and medium beveled edges; drilled to suit cylinder, and shall have bracket bearing type

thimble to suit knob shanks. Thimbles shall be reinforced at back with washers to bear against door. Approximate sizes, 7 by 2¼ and 10 by 2¾ inches. Minimum thickness of wrought plates, 0.028 and 0.035 inch, respectively.

Type 300A.—Same as type 300, except cast bronze and thimbles with machine finished bearings.

For Mortise Bit Key Locks



Type 301.—Wrought bronze, natural color with square corners and medium beveled edges; cut to suit key; shall have bracket-bearing type thimble to suit knob shanks. Thimble shall be reinforced at back with washers to bear against door. Approximate sizes, 7 by 2¼ and 10 by 2¾ inches. Minimum thickness of wrought plates, 0.028 and 0.035 inch, respectively.

Type 301A.—Same as type 301, except cast bronze, and thimbles with machine finished bearings.

Type 301B.—Same as type 301, except steel plated. Bracket bearing type thimble not required.

Type 302.—Wrought bronze, natural color with square corners and medium beveled edges; complete with bracket-bearing thimble to suit knob shanks

and 1⅜-¹/₈-inch turn knob. Thimbles shall be reinforced at back with washers to bear against door. Approx-

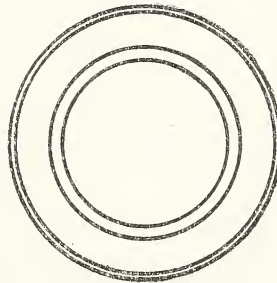


imate sizes, 7 by 2¼ and 10 by 2¾ inches. Minimum thickness of wrought plates, 0.028 and 0.035 inch, respectively.

Type 302A.—Same as type 302, except cast bronze, and thimbles with machine finished bearings.

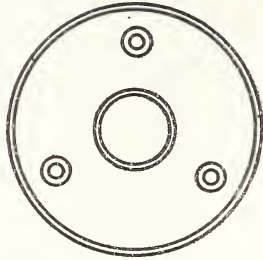
Type 302B.—Same as type 302, except steel plated. Bracket bearing type thimble not required.

CYLINDER RINGS



Type 320.—Wrought or cast bronze, buffed, natural color. Diameter as required to fit cylinder.

ROSES

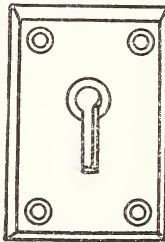


Type 330.—Wrought bronze buffed, natural color, with bracket bearing type thimble to suit knob shanks. Size, 2-inch diameter.

Type 330A.—Same as type 330, except cast bronze and thimbles with machine finished bearings.

Type 331.—Steel, plated. Thimble to suit knob shanks. Size, 2-inch diameter.

KEY PLATES



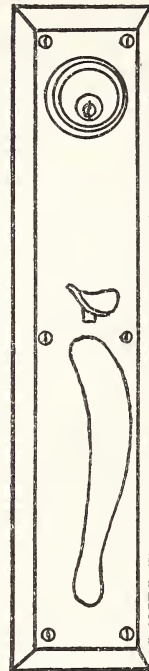
Type 350.—Wrought bronze, buffed, natural color, with square corners, beveled edges, and two screw holes. Size $1\frac{3}{4}$ by $1\frac{1}{8}$ inches. Minimum thickness of plate 0.025 inch.

Type 350A.—Same as type 350, except cast bronze, and four screw holes.

Type 350B.—Same as type 350, except steel, plated.

ENTRANCE DOOR HANDLES

Type 400.—Wrought bronze plates with square corners and beveled edges, cut for cylinder or turn knob. Handles about 5-inch grip with thumb piece for operating latch bolt. Plates 14 by 3 inches. Minimum thickness of plate, 0.040 inch. Connections for handles



shall have bosses on back to bear against door.

ENTRANCE DOOR HANDLES

Sectional Trim



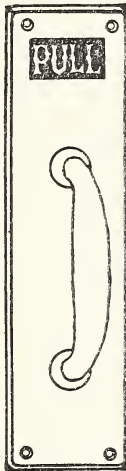
Type 420.—Cast bronze plates with square corners and beveled edges.

Cylinder collar $2\frac{1}{4}$ by $2\frac{1}{4}$ inches.
Grip about $5\frac{3}{4}$ inches. Plates to suit.

Dummy Trim

Type 430.—Dummy trim shall be furnished only when specified. Thimbles shall be required for knobs and turns. Dummy trim shall match the escutcheons specified for the lock for which dummy trim is required. Spindles shall extend through door and have plates to hold knob rigid.

DOOR PULLS ON PLATE



Type 450.—Cast bronze with square corners and beveled edges. Size approximately 16 by $3\frac{1}{2}$ inches. Pull handles shall be approximately 6 inches center to center, $\frac{3}{4}$ -inch diameter at center of grip; and shall be secured with through bolts. Shall be drilled for cylinder outlets where same occur.

PUSH PLATES

Type 460.—Cast bronze with square corners and medium beveled edges. Size approximately 16 by $3\frac{1}{2}$ inches. Shall be drilled for cylinder outlets where same occur.



Type 461.—Cast bronze with square corners and medium beveled edges.



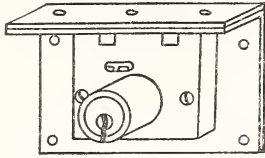
Sizes 12 by $3\frac{1}{2}$ inches and 16 by $3\frac{1}{2}$ inches.

Type 461A.—Same as type 461, except wrought bronze. Minimum thickness of plate 0.040 inch.

Type 462.—Wrought bronze with rounded corners and edges. Size 10 by $2\frac{3}{4}$ inches. Minimum thickness of plate 0.035 inch.

CABINET LOCKS

CHEST LOCKS

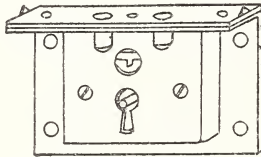


Type 501.—Brass. Square selvedge; solid square box, screwed; three secure levers; double link; cylinder with two flat steel keys. Size $1\frac{5}{16}$ by 2 inches. Drop $\frac{7}{8}$ inch. Made for $\frac{3}{4}$ -inch wood. Minimum thickness of plate 0.040 inch.

Type 501A.—Brass. Square selvedge; solid square box, screwed; four secure levers; double link; cylinder with two flat steel keys. Size $2\frac{1}{4}$ by $3\frac{1}{2}$ inches. Drop $1\frac{1}{4}$ inches. Made for 1-inch wood. Minimum thickness of plate 0.040 inch.

Type 501A1.—Same as type 501A, except for $1\frac{1}{4}$ -inch wood.

Type 501A2.—Same as type 501A, except for $1\frac{1}{2}$ -inch wood.



Type 520.—Steel. Square selvedge; solid square box, screwed; double link; two secure levers; one barrel key. Size $1\frac{1}{8}$ by $1\frac{1}{2}$ inches. Drop $\frac{11}{16}$ inch. Minimum thickness of plate 0.040 inch.

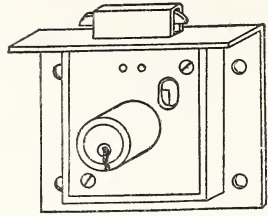
Type 520A.—Same as type 520, except size $1\frac{11}{16}$ by $2\frac{1}{2}$ inches, with $\frac{15}{16}$ -inch drop.

CUPBOARD LOCKS

For cupboard, use drawer-lock cut for cupboard. See type 655.

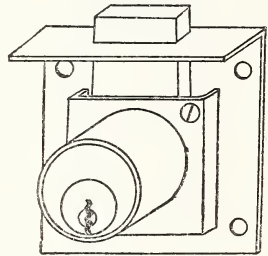
DESK LOCKS

Type 601.—All brass. Square selvedge; solid square box, screwed; three



secure levers; double-hooked bolt; strike; cylinder with two flat steel keys. Size $1\frac{3}{8}$ by 2 inches. Drop $\frac{7}{8}$ inch. Minimum thickness of plate 0.040 inch.

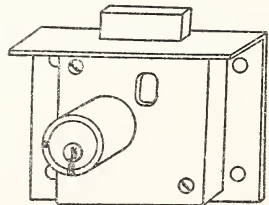
DRAWER LOCKS



Type 650.—Brass. Pin tumbler; square selvedge; dead bolt; three keys. Drop 1 inch. Made for $\frac{7}{8}$ -inch wood. Size $1\frac{3}{4}$ by 2 inches. Cylinder $\frac{7}{8}$ -inch diameter. Minimum thickness of plate 0.045 inch.

Type 650A.—Same as type 650, except size $1\frac{7}{8}$ by $2\frac{1}{4}$ inches with $1\frac{1}{8}$ -inch diameter cylinder.

Type 650B.—Same as type 650A, except with spring bolt.



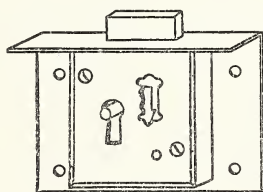
Type 655.—Brass. Cut for drawer or cupboard. Square selvedge; solid square box, screwed; broad heavy bolt;

three secure levers; cylinder with two flat steel keys; made for $\frac{7}{8}$ -inch wood. Size $1\frac{3}{4}$ by $2\frac{1}{4}$ inches. Drop $\frac{7}{8}$ inch. Minimum thickness of plate 0.040 inch.

Type 655A.—Same as type 655, except steel.

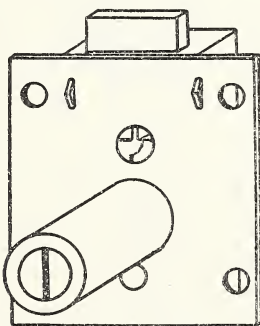
Type 656.—Brass. Square selvedge; two secure levers; cylinder with two flat steel keys. Made for $\frac{7}{8}$ -inch wood. Size $1\frac{9}{16}$ by $1\frac{3}{4}$ inches. Drop $\frac{3}{4}$ inch. Minimum thickness of plate 0.040 inch.

Type 656A.—Same as type 656, except steel.



Type 680.—Steel, with brass bolt. Square selvedge; solid square box, screwed; broad heavy bolt; two secure levers; one barrel key. Size $1\frac{9}{16}$ by $2\frac{1}{2}$ inches. Drop $\frac{5}{8}$ inch. Minimum thickness of plate 0.040 inch.

Type 680A.—Same as type 680, except steel. Size $1\frac{3}{4}$ by $2\frac{1}{2}$ inches. Drop $\frac{7}{8}$ inch. Minimum thickness of plate 0.040 inch.



Type 690.—Brass. Surface; two secure levers; strike; cylinder with two flat steel keys. Size $1\frac{7}{8}$ by $1\frac{5}{8}$ inches. Drop $1\frac{1}{2}$ inches. Minimum thickness

of plate 0.040 inch. Made for $\frac{3}{4}$ -inch wood.

Type 690A.—Same as type 690, except for $\frac{7}{8}$ -inch wood.

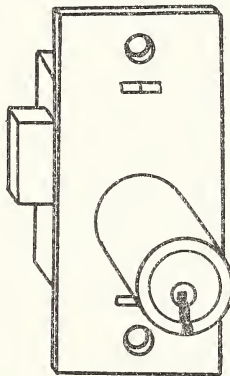
Type 690A1.—Same as type 690, except for $1\frac{1}{2}$ -inch wood.

Type 690B.—Same as type 690, except steel.

Type 690B1.—Same as type 690, except steel for $\frac{7}{8}$ -inch wood.

Type 690B2.—Same as type 690, except steel for $1\frac{1}{2}$ -inch wood.

WARDROBE LOCKS



Type 701.—Brass. Solid square box; two secure levers; bolt shall shoot right and left; cylinder with two flat steel keys. Size $1\frac{7}{8}$ by $\frac{7}{8}$ inches. Made for $\frac{7}{8}$ -inch wood. Minimum thickness of plate 0.040 inch.

Type 701A.—Same as type 701 except steel with brass bolt.

Type 701B.—Same as type 701, except size $2\frac{3}{4}$ by $1\frac{1}{4}$ inches. Made for $\frac{7}{8}$ -inch wood.

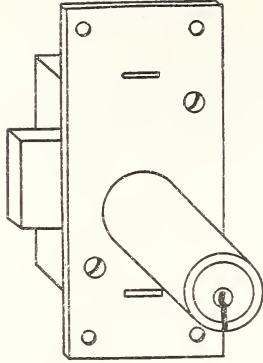
Type 701B1.—Same as type 701B, except for 1-inch wood.

Type 701B2.—Same as type 701B, except for $1\frac{1}{2}$ -inch wood.

Type 701C.—Same as type 701, except steel with brass bolt. Size $2\frac{3}{4}$ by $1\frac{1}{4}$ inches. Made for $\frac{7}{8}$ -inch wood.

Type 701C1.—Same as type 701C, except for 1-inch wood.

Type 701C2.—Same as type 701C, except for $1\frac{1}{2}$ -inch wood.



Type 702.—Brass. Solid square box, screwed; two secure levers; bolt shall shoot right and left; cylinder with two flat steel keys. Size 3 by $1\frac{5}{8}$ inches. Made for $\frac{7}{8}$ -inch wood. Minimum thickness of plate 0.040 inch.

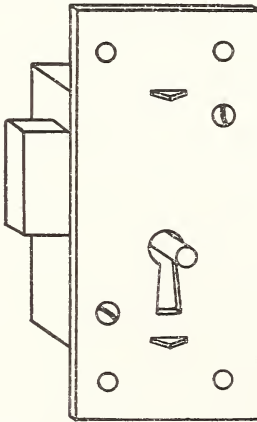
Type 702A.—Same as type 702 except for 1-inch wood.

Type 702A1.—Same as type 702, except for $1\frac{1}{8}$ -inch wood.

Type 702B.—Same as type 702, except steel with brass bolt. Made for $\frac{7}{8}$ -inch wood.

Type 702B1.—Same as type 702B, except for 1-inch wood.

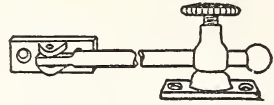
Type 702B2.—Same as type 702B, except for $1\frac{1}{8}$ -inch wood.



Type 730.—Brass. Solid square box screwed; two secure levers; bolt shall shoot right and left; one barrel key. Size $2\frac{3}{4}$ by $1\frac{1}{4}$ inches. Minimum thickness of plate 0.040 inch.

Type 730A.—Same as type 730, except steel with brass bolt.

SHELF AND MISCELLANEOUS HARDWARE CASEMENT ADJUSTERS



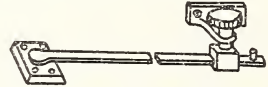
Type 1002.—For outswinging casements. Bronze. $\frac{3}{8}$ inch diameter round bar; swivel standard. Thumb screw grip with broad knurled rim for finger hold. Lengths 10 and 12 inches.

Type 1002A.—Same as type 1002, except cast iron or steel, plated.

Type 1002B.—Same as type 1002, except cast iron or steel, galvanized.

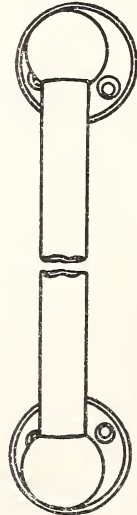
Type 1006.—For inswinging casements. Bronze. $\frac{3}{8}$ inch diameter round bar. Thumb screw grip with broad knurled rim for finger hold. Lengths 10 and 12 inches.

Type 1006A.—Same as type 1006, except cast iron or steel, plated.



Type 1008.—For inswinging casements. Cast bronze. Rectangular bar $\frac{5}{16}$ by $\frac{1}{2}$ inch. Thumb screw grip with broad knurled rim for finger hold. Lengths 10 and 12 inches.

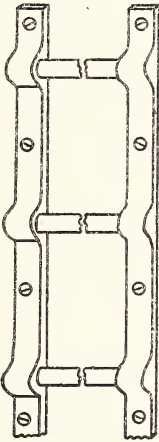
PUSH BARS



Type 1009.—Cast bronze bases approximately 2 inches diameter.

Wrought bronze tubing 1 inch diameter and $\frac{3}{8}$ inch thick, or tubing may be $\frac{1}{8}$ inch thick tightly shrunk over a steel core. Projection $2\frac{3}{4}$ inches. Clearance $1\frac{3}{8}$ inches. Lengths 24, 30, or 36 inches.

Type A1009.—Cast bronze brackets $\frac{3}{4}$ inch wide for surface of stiles. Solid wrought bronze bars $\frac{1}{2}$ inch diameter, 3 inches on centers; projection 1 inch, clearance $\frac{1}{2}$ inch. Length of bracket 6 inches with two bars. Length of bars as required.



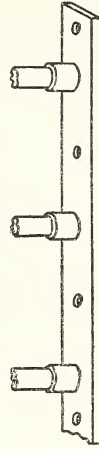
Type A1009A.—Same as type A1009, except with length of bracket 9 inches and 3 bars. Length of bars as required.

Type A1009B.—Same as type A1009, except with length of bracket 12 inches and 4 bars. Length of bars as required.

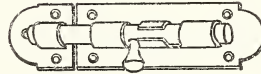
Type B1009.—Cast bronze brackets 1 inch wide for inside edges of stiles. Solid wrought bronze bars $\frac{1}{2}$ inch diameter, 3 inches on centers. Length of bracket 6 inches with two bars. Length of bars as required.

Type B1009A.—Same as type B1009, except with length of bracket 9 inches and 3 bars. Length of bars as required.

Type B1009B.—Same as type B1009, except with length of bracket 12 inches and 4 bars. Length of bars as required.



BARREL BOLTS



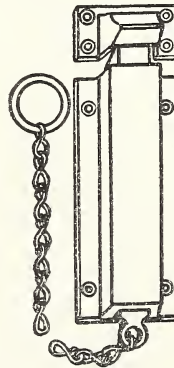
Type 1019.—Heavy wrought steel, plated. Length of bolt, 3, 4, and 5 inches. Minimum thickness of plate, 0.051 inch.

Type 1019A.—Heavy wrought steel, galvanized. Length of bolt, 3, 4, 5, and 6 inches. Minimum thickness of plate, 0.051 inch.

Type 1019B.—Same as type 1019A, except japanned.

Type 1020.—Cast bronze polished. Length of bolt, 3, 4, and 5 inches.

CHAIN BOLTS



Type 1022.—Wrought steel, plated. Round or square case. Length of bolt, 3, 6, and 8 inches. Minimum

thickness of plate, 0.040, 0.064, and 0.064 inch, respectively. (For use with type 1049 or 1050.)

Type 1022A.—Same as type 1022, except galvanized.

Type 1022B.—Same as type 1022, except japanned.

Type 1025.—Cast bronze, polished. Length of bolt, 3, 6, and 8 inches.

Type 1025A.—Cast iron, plated. Length of bolt, 3, 6, and 8 inches.

Type 1025B.—Same as type 1025A, except galvanized. Length of bolt, 3, 6, and 8 inches.

Type 1025C.—Same as type 1025A, except japanned. Length of bolt, 3, 6, and 8 inches.



CREMONA BOLTS

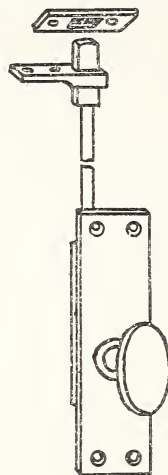
Type 1027.—All bronze with wrought bronze rod $\frac{1}{2}$ inch wide. Half oval or half round rods, with guides for every 2 feet of rod. Constructed so as not to deface paint in operating. Oval knob or lever handle, right or left hand as specified. Quarter or half turn shall operate. Operation from inside only. Minimum size of knob $2\frac{1}{4}$ by $1\frac{3}{8}$ inches for French doors; and $1\frac{3}{4}$ by $1\frac{1}{8}$ inches for casement windows.

Type 1027A.—Same as type 1027, except with steel rod, and iron or steel cases and guides, unfinished. Bronze knob or handle.

Type 1027B.—Same as type 1027, except with steel rod, and iron or steel cases and guides, plated.

Type 1028.—Same as type 1027, except with $\frac{5}{8}$ -inch wrought bronze rod and bronze cases and guides.

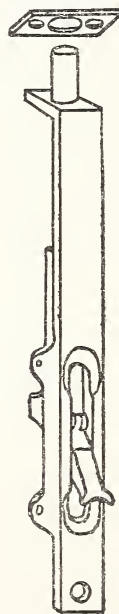
EXTENSION FLUSH BOLTS



Type 1041.—Turn knob type for surface with oval turn knob. Cast bronze. Plate, $5\frac{5}{8}$ by $1\frac{1}{2}$ inches. Bolt head, $\frac{1}{2}$ inch. Length of rods 9, 12, 18, and 24 inches.

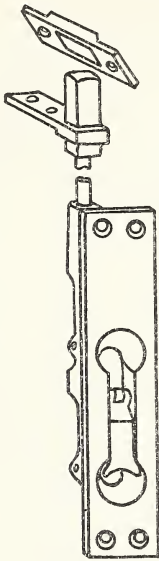
Type 1041A.—Same as type 1041, except iron or steel, plated.

LEVER FLUSH BOLTS



Type 1043.—Cast bronze. Plate, 6 by $\frac{5}{8}$ inch. Bolt head not less than $\frac{1}{4}$ inch diameter.

EXTENSION-LEVER FLUSH BOLTS



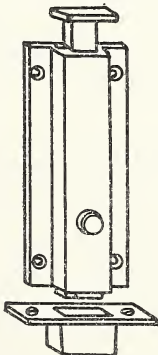
Type 1044.—Cast bronze. Plate, 6 by $\frac{5}{8}$ inch. Bolt head, $\frac{3}{8}$ inch. Length of rods, 12, 18, and 24 inches.

Type A1044.—Same as type 1044, except cast iron, plated.

Type 1044B.—Cast bronze. Plate $6\frac{3}{4}$ by $1\frac{1}{4}$ inches. Bolt head, $\frac{1}{2}$ inch. Length of rods 9, 12, 18, and 24 inches.

Type B1044B.—Same as type 1044B, except cast iron, plated.

FOOT BOLTS



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

Type 1047A.—Cast iron, plated. With trip. Sizes 4, 6, and 8 inches.

Type 1047B.—Same as type 1047A, except galvanized. Sizes 4, 6, and 8 inches.

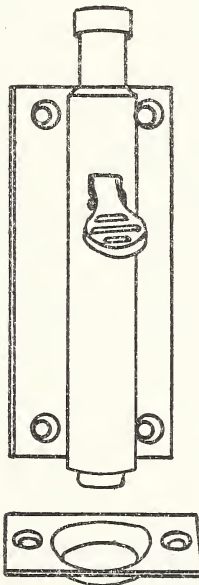
Type 1047C.—Same as type 1047A, except japanned. Sizes 4, 6, and 8 inches.

Type 1049.—Wrought steel, plated. With trip. Round or square case. Size, 3, 6, and 8 inches. Minimum thickness of plate, 0.040, 0.064, and 0.064 inch.

(For use with type 1022).

Type 1049A.—Same as type 1049, except galvanized. Sizes 3, 6, and 8 inches.

Type 1049B.—Same as type 1049, except japanned. Sizes 3, 6, and 8 inches.

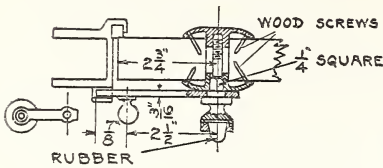


Type 1050.—Wrought steel positive action foot bolts. Plated. Sizes 6 and 8 inches. (For use with type 1022).

Type 1050A.—Same as type 1050, except galvanized. Sizes 6 and 8 inches.

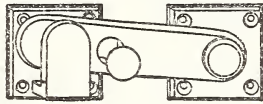
Type 1050B.—Same as type 1050, except japanned. Sizes 6 and 8 inches.

LAVATORY DOOR BOLTS



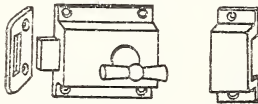
Type A1051.—Bronze, nickel plated. Rubber stop on strike and rubber tip on knob. For 1 1/8-inch door and stile only. Strike secured with through bolts and cap nuts.

Type A1051A.—Same as type A1051, except white bronze.



Type B1051.—Cast bronze, nickel plated. Reversible. Length of bar about 5 inches. Size of base about 2 by 2 inches.

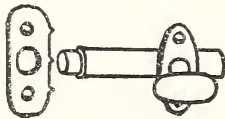
Type B1051A.—Same as type B1051, except white bronze.



Type C1051.—Cast bronze, nickel plated. T handle, without indicator. Rim or mortise strike. Size about 2 1/2 by 2 3/8 inches.

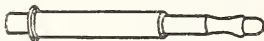
Type C1051A.—Same as type C1051, except white bronze.

MORTISE BOLTS



Type 1053A.—Wrought steel bolt. Approximate diameter of case 9/16 inch. Bronze turn, plate and strike. Backset 1 5/8 inches.

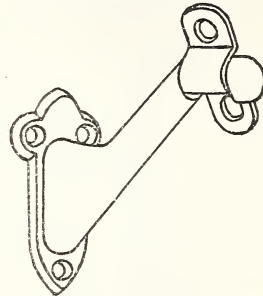
WINDOW SPRING BOLTS



Type A1060.—Tinned or galvanized malleable iron or steel bolt. Tinned or

galvanized wrought steel case. Brass spring. For sash 7/8 to 1 1/8 inches wide.

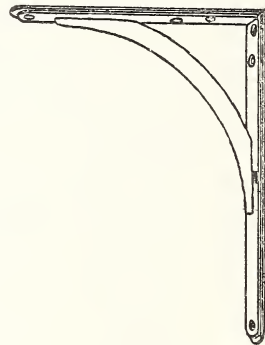
HAND RAIL BRACKETS



Type 1064.—Cast bronze, polished. Adjustable. Projection 2 3/4 inches from base to center of rail.

Type 1064A.—Same as type 1064, except cast iron, plated.

SHELF BRACKETS



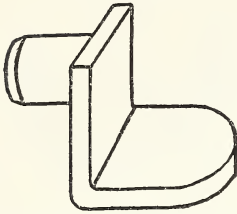
Type 1068.—Wrought steel, plated, with corrugated braces and embossed plates.

Sizes in inches	Shelf plate screws	Wall plate screws	Minimum thickness of plate
4 by 5.....	3/4" by #7	1 1/4" by #7	<i>Inch</i> 0.064
6 by 8.....	3/4" by #7	1 1/4" by #7	.064
8 by 10.....	3/4" by #8	1 1/4" by #8	.072
10 by 12.....	3/4" by #9	1 1/4" by #9	.081
12 by 14.....	3/4" by #10	1 1/4" by #10	.081
16 by 18.....	1" by #10	1 1/2" by #10	.102

Type 1068A.—Same as type 1068, except galvanized.

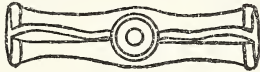
Type 1068B.—Same as type 1068, except japanned.

SHELF RESTS



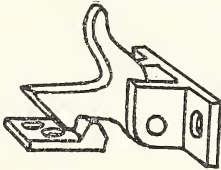
Type A1068.—Cast iron, coppered. Milled pin, $\frac{3}{8}$ inch diameter.

DOOR BUTTONS



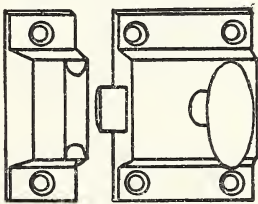
Type 1069.—Cast iron or wrought steel, galvanized. Without plates. Lengths $1\frac{1}{2}$ and 2 inches. With screws.

ELBOW CATCHES



Type 1079.—Cast iron, plated. Size $\frac{5}{8}$ by $1\frac{1}{4}$ inches.
Type 1080.—Unpolished brass. Size $\frac{5}{8}$ by $1\frac{1}{4}$ inches.

CUPBOARD TURNS



Type 1082.—Cast bronze. Oval knob. Size, without strike, $1\frac{7}{8}$ by $1\frac{3}{8}$ inches.

Type 1082A.—Same as type 1082, except nickel plated.

Type 1082B.—Same as type 1082, except wrought bronze. Minimum thickness of case 0.040 inch.

Type 1082C.—Same as type 1082, except cast iron or wrought steel, plated. Minimum thickness of case 0.040 inch.

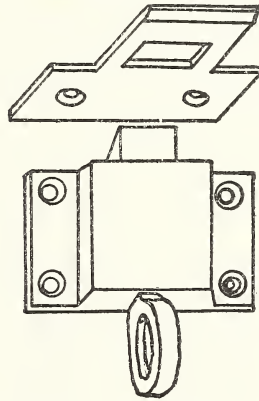
Type 1083.—Cast bronze. Oval knob. Size, without strike, $2\frac{1}{4}$ by $1\frac{1}{2}$ inches.

Type 1083A.—Same as type 1083, except nickel plated.

Type 1083B.—Same as type 1083, except wrought bronze. Minimum thickness of case 0.040 inch.

Type 1083C.—Same as type 1083, except cast iron or wrought steel, plated. Minimum thickness of case 0.040 inch.

TRANSOM CATCHES



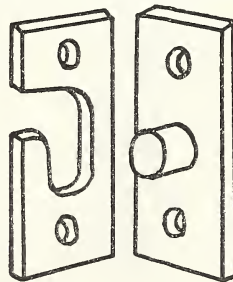
Type 1097.—Rim type. Wrought bronze. Size $1\frac{1}{2}$ by 2 inches. With flat strike unless otherwise specified. Minimum thickness of case 0.057 inch.

Type 1097A.—Same as type 1097, except wrought steel, plated.

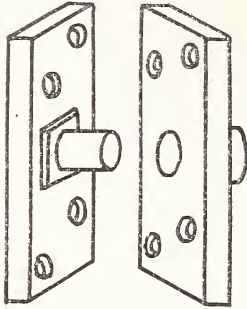
Type 1100.—Rim type. Cast bronze. Size $1\frac{3}{4}$ by $2\frac{3}{4}$ inches. With flat strike unless otherwise specified.

Type 1100A.—Same as type 1100, except iron, plated.

SASH OR TRANSOM PIVOTS

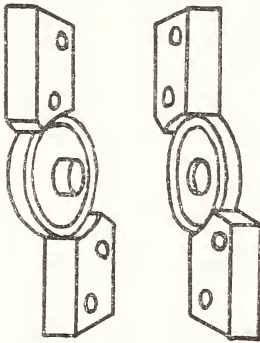


Type 1109.—Full mortise type.* Cast iron, japanned. Plate $2\frac{1}{4}$ by $\frac{7}{8}$ inch, with open slot; $\frac{3}{8}$ -inch pin.



Type 1113.—Extra heavy full mortise type for vertical pivots. Cast iron, japanned. Plate 4 by $1\frac{1}{4}$ inches about $\frac{3}{8}$ inch thick with round hole; $\frac{1}{2}$ -inch pin.

Rabbeted



Type 1114.—With interlocking weatherproof grooves. For $\frac{1}{2}$ -inch rabbet. Cast bronze. Sizes, $3\frac{7}{8}$ by $1\frac{3}{8}$, $3\frac{7}{8}$ by $1\frac{3}{4}$, 4 or $4\frac{1}{2}$ by $2\frac{1}{4}$ inches. For sash thickness, $1\frac{3}{8}$, $1\frac{3}{4}$, and $2\frac{1}{4}$ inches.

Type 1114A.—Same as type 1114, except cast iron, plated.



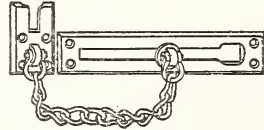
Type 1115.—Friction type, with corrugated friction washers. For $\frac{1}{2}$

inch rabbet. Cast bronze, steel bushed. Sizes, $3\frac{3}{4}$ by $1\frac{3}{8}$, $3\frac{3}{4}$ by $1\frac{3}{4}$, and $3\frac{3}{4}$ by $2\frac{1}{4}$ inches. For sash thickness, $1\frac{3}{8}$, $1\frac{3}{4}$, and $2\frac{1}{4}$ inches.

Type 1115A.—Same as type 1115, except malleable iron, plated.

Type 1115B.—Same as type 1115A, except unfinished.

DOOR FASTENERS, WITH CHAIN



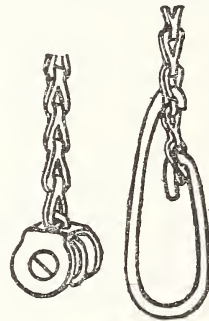
Type 1116.—Wrought bronze. Length of plates about 6 inches.

Type 1116A.—Wrought steel, plated. Length of plates about 6 inches.

Type 1118.—Cast bronze. Length of plates about 6 inches.

Type 1118A.—Cast iron, plated. Length of plates about 6 inches.

SASH CHAIN FASTENINGS



Type A1118.—Steel sockets for securing chain to sash.

Type A1118A.—Wire hooks for securing chain to weights.

SASH CORD IRONS



Type B1118.—Cast iron, about $\frac{5}{8}$ inch long with flat head screw.

TRANSOM CHAINS

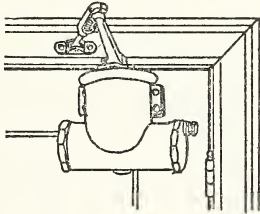


Type 1120A.—Steel, plated. Four screws to each plate. Sash chain. Lengths 12 and 15 inches.

Type 1120B.—Same as type 1120A, except galvanized.

Type 1122.—Heavy type, bronze. Four screws to each plate. Sash chain. Lengths 12 and 15 inches.

DOOR CLOSERS



Type 1128.—Overhead type, single acting, combined spring and liquid check. Springs shall have adjustable tension. Checking regulation accessible and close. Shall close the door positively and quietly. The liquid shall conform to the following requirements: Viscosity, Saybolt Universal, 60 to 70 seconds at 100° F.; pour point, minus 40° F. or lower; acidity not over 0.10 mg KOH per gram of oil. Brackets shall be furnished when specified. Springs, spindles and cranks of forged steel. Cams, arms, and brackets of forged steel or malleable iron. Cases, cast bronze, unpolished. Fastenings for sizes O, I, II, III, and IV shall be screws; for sizes V and VI, through bolts with washers and cap nuts.

Size O for screen doors.

Size I for very light interior doors.

Size II for light interior doors not over 3 feet wide.

Size III for medium interior doors not over 2½ feet wide.

Size IV for heavy inside or ordinary outside doors not over 3 feet wide.

Size V for heavy outside doors, or doors operating against strong drafts.

Size VI for extra heavy outside doors, or doors operating against very strong drafts.

Note for information of purchaser: The following table indicates corresponding size designations of the various manufacturers.

Sizes	0	I	II	III	IV	V	VI
Corbin.....	01	1	2	3	4	5	6
Norton.....		A	B	C	D	E	F
Richards-Wilcox.....		1	2	3	4	5	6
Rixson.....			A	B	C	D	E
Russwin.....	7	A	B	C	D	E	F
Sargent.....	520	321	322	323	324	325	326
Yale.....	570	71	72	73	74	75	76

Type 1128A.—Same as type 1128, except with cast iron cases, painted or enameled bronze color.

Type 1128B.—Same as type 1128, except with cast iron cases, bronzed.

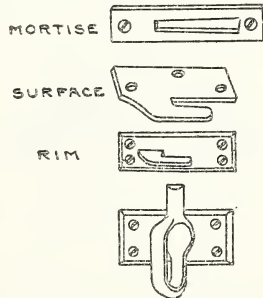
CASEMENT FASTENERS

Type 1131.—T handle. With rim strike. Cast bronze. Size 1½ by 1½ inches.

Type 1131A.—Same as type 1131, except cast iron, plated.

Type 1131B.—T handle. With surface strike. Cast bronze. Size 1½ by 1½ inches.

Type 1131C.—Same as type 1131B, except cast iron, plated.

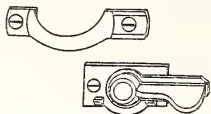


Type 1134.—D handle. With rim strike. Cast bronze. Size 3 by 1½ inches.

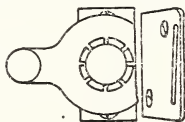
Type 1134A.—Same as type 1134, except with mortise strike.

Type 1134B.—Same as type 1134, except with surface strike.

CELLAR WINDOW FASTENERS



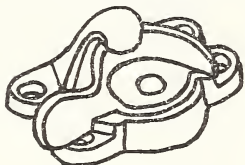
Type A1137.—Cast iron, galvanized. Size about $1\frac{1}{8}$ by $2\frac{1}{2}$ inches.



Type B1137.—Wrought steel, galvanized. Cam action and cam release with spring washer. Plates about $1\frac{5}{8}$ inches long. Universal strike.

Type B1137A.—Same as type B1137, except japanned.

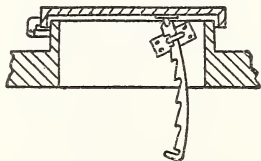
SASH FASTENERS



Type 1139.—Crescent type. Cast bronze. Moving part shall have cam action. For double hung sash. Size of case about 1 by $2\frac{3}{4}$ inches, approximately 40 pounds to the gross (boxed with screws.)

Type 1139A.—Same as type 1139, except cast iron, plated.

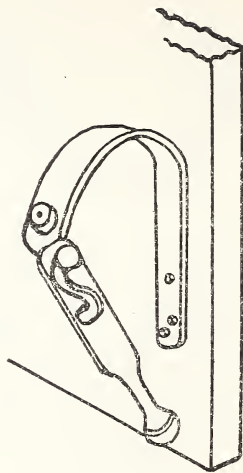
SCUTTLE FASTENERS



Type A1148.—Wrought iron, galvanized. Size $\frac{3}{16}$ by $1\frac{1}{2}$ by 30 inches.

DOOR HOLDERS

Type A1150.—Flexible spring type. Steel, plated, with rubber tipped foot. Minimum thickness of metal 0.125 inch. Shall offer no resistance to opening of door; shall automatically hold door open at any point; shall automatically

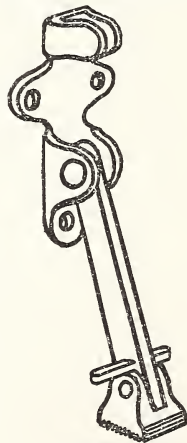


A1150

release when door is pulled, without scraping or marring floor. Holding foot attached so as to be thrown out of action when desired.

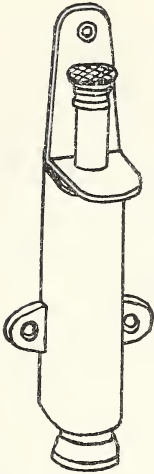
Type 1151.—Plunger type. Wrought bronze with rubber tip. Releasing lip shall be plainly evident. Size about 6 inches.

Type 1151A.—Same as type 1151, except wrought steel, plated.



A1151

Type A1151.—Pivoted type. Wrought bronze. Minimum thickness of leg 0.188 inch. Rubber tip. Clip to permit throwing holder out of action. Size 6 inches, measured over all.



1153

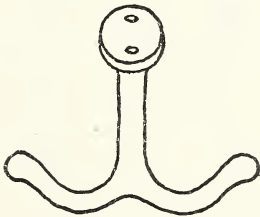
Type 1153.—Plunger type. Cast bronze, with rubber tip. Releasing lip shall be plainly evident. Size 6 inches.

Type 1153A.—Same as type 1153, except cast iron, plated.

Type 1154.—Plunger type. Cast bronze, with rubber tip. Releasing lip shall be plainly evident. Size 8 inches.

Type 1154A.—Same as type 1154, except cast iron, plated.

CEILING HOOKS

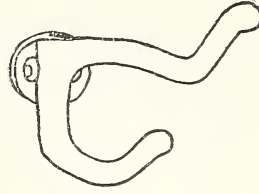


Type 1157.—Cast bronze. Two screws. Projection $2\frac{3}{8}$ inches.

Type 1157A.—Same as type 1157, except cast iron, plated.

Type A1157.—Steel wire with protective coating. Screw point. Projection $2\frac{3}{8}$ inches.

COAT AND HAT HOOKS



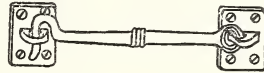
Type 1162.—Cast bronze. Upper prong bent. Two screws. Projection 3 inches.

Type 1162A.—Same as type 1162, except cast bronze, nickel plated.

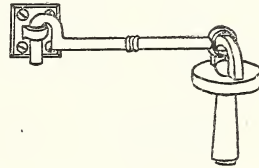
Type 1162B.—Same as type 1162, except cast iron, plated.

Type A1162.—Steel wire with protective coating. Screw point. Projection 3 inches.

DOOR HOOKS

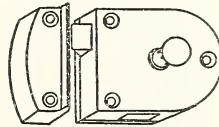


Type A1176.—Cast bronze. Length 4 inches.



Type A1176A.—Cast bronze. With expansion bolt. Lengths 4 and 6 inches.

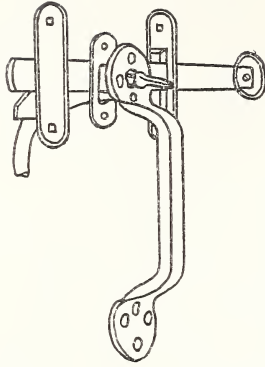
SECRET GATE LATCHES



Type A1187.—Cast bronze. Single acting. Size 2 by $2\frac{3}{8}$ inches.

THUMB LATCHES

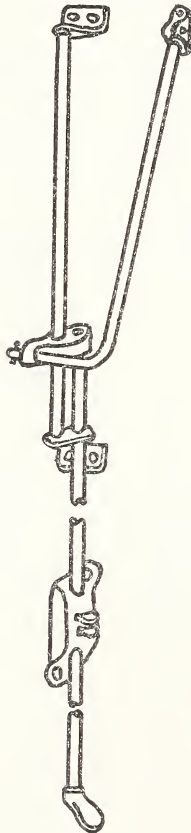
Type 1189.—Extra heavy. Wrought steel, galvanized. For doors $1\frac{3}{4}$ to



2½ inches thick. Latch bar 12 inches long. Handle 10 inches.

Type 1189A.—Same as type 1189, except wrought steel, japanned.

TRANSOM LIFTERS



Type 1198.—Bronze. 5/16-inch rod. 3, 4, 5, and 6 foot lengths. Auto-

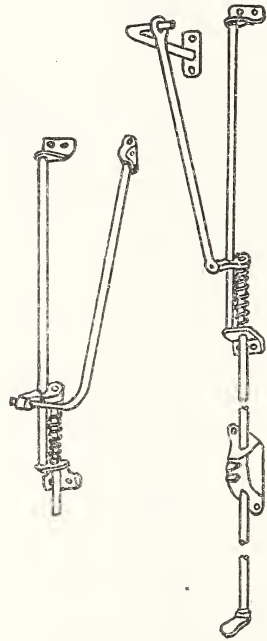
matic grip without safety cushion springs. For center or top hung sash.

Type 1198A.—Same as type 1198, except with safety cushion spring for bottom hung sash.

Type 1198B.—Steel, plated. 5/16-inch rod. 3, 4, 5, and 6 foot lengths. Automatic grip without safety cushion springs. For center or top hung sash.

Type 1198C.—Same as type 1198B, except with safety cushion spring for bottom hung sash.

Type 1199.—Bronze. 3/8-inch rod. 4, 5, 6, and 8 foot lengths. Automatic grip without safety cushion springs. For center or top hung sash.

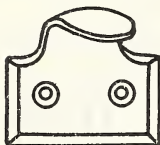


Type 1199A.—Same as type 1199, except with safety cushion spring for bottom hung sash.

Type 1199B.—Steel, plated. 3/8-inch rod. 4, 5, 6, and 8 foot lengths. Automatic grip without safety cushion springs. For center or top hung sash.

Type 1199C.—Same as type 1199B, except with safety cushion spring for bottom hung sash.

HOOK SASH LIFTS



Type 1201.—Wrought bronze. Beveled edge. Size 1 by $1\frac{1}{2}$ inches. Minimum thickness of metal 0.057 inch.

Type 1201A.—Wrought steel plated. Beveled edge. Size 1 by $1\frac{1}{2}$ inches. Minimum thickness of metal 0.057 inch.

Type 1202.—Cast bronze. Beveled edge. Size $1\frac{5}{16}$ by $1\frac{1}{2}$ inches.

FLUSH SASH LIFTS



Type 1208.—Wrought bronze. Beveled edge. Square corners. Deep cup with side screw holes. Size $1\frac{3}{4}$ by $3\frac{1}{8}$ inches.

Type 1208A.—Same as type 1208, except wrought steel, plated.

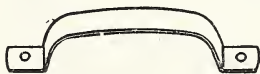
Type 1212.—Cast bronze. Beveled edge. Square corners. Side screw holes. Size $1\frac{3}{4}$ by 3 inches.

BAR SASH LIFTS



Type 1219.—Cast bronze. $1\frac{3}{8}$ by $4\frac{1}{2}$ to 5 inches. Round corners. Minimum weight 3 ounces each.

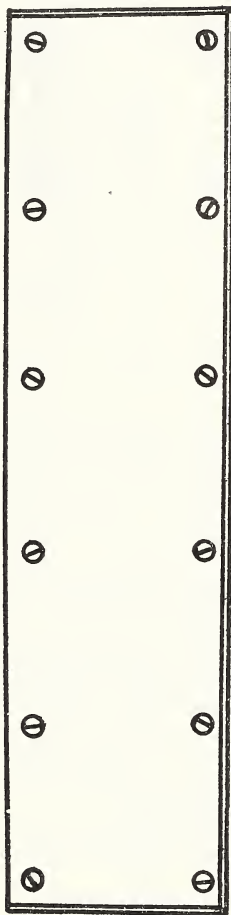
SCREEN LIFTS



Type A1223.—Wrought brass. Length $3\frac{1}{2}$ inches.

Type A1223A.—Steel, japanned. Length $3\frac{1}{2}$ inches.

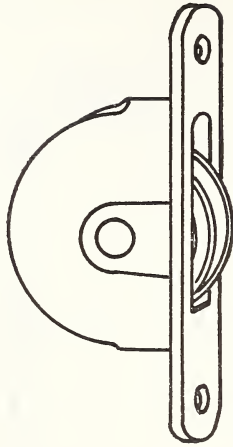
KICK PLATES



Type 1224.—Wrought bronze. Square corners, beveled edges. Plates 0.064 inch thick. Sizes as required.

SASH PULLEYS

Type 1248.—Polished iron wheels with round groove for cord. Plain iron or steel face. Wrought steel or cast iron case, round ends. $\frac{1}{4}$ inch



plain axle. Wheel sizes 2, $2\frac{1}{4}$, and $2\frac{1}{2}$ inches.

Type 1249.—Turned iron wheel, with combination groove for cord or chain. Polished and plated iron face. Cast iron case, with round ends. $\frac{3}{8}$ -inch plain steel axle. Wheel sizes 2, $2\frac{1}{4}$, $2\frac{1}{2}$, and 3 inches.

Type 1249A.—Same as type 1249, except roller-bearing axle, with rollers machined true.

Type 1250A.—Turned brass wheel, steel bushed with combination groove for cord and chain. Wrought bronze front. Cast iron case with round ends. Roller-bearing steel axle with rollers machined true. Wheel sizes 2, $2\frac{1}{4}$, $2\frac{1}{2}$, and 3 inches.

Type 1250B.—Same as type 1250A, except ball-bearing axle.

POLE HANGERS



Type 1262.—Bronze. $2\frac{3}{8}$ by $1\frac{1}{8}$ inches.

Type 1262A.—Cast iron, plated. $2\frac{3}{8}$ by $1\frac{1}{8}$ inches.

SASH POLE HOOKS



Type 1264.—Cast bronze. Length, $4\frac{1}{8}$ inches. Diameter, $1\frac{1}{8}$ inches.

Type 1264A.—Cast iron, plated. Length, $4\frac{1}{8}$ inches. Diameter, $1\frac{1}{8}$ inches.

TRANSOM EYES

Type 1268.—Cast bronze. Size 1 by $1\frac{3}{8}$ inches or $1\frac{1}{4}$ by $1\frac{1}{4}$ inches.

DOOR PULLS



Type 1269.—Wrought bronze. Two screw holes. $3\frac{1}{2}$ or $4\frac{1}{8}$ inch handle.

Type 1269A.—Steel, plated. Two screw holes. $3\frac{1}{2}$ or $4\frac{1}{8}$ inch handle.

Type 1269B.—Steel, japanned. Two screw holes. $3\frac{1}{2}$ or $4\frac{1}{8}$ inch handle.



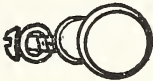
Type 1274.—Cast bronze. Four screw holes. 6 inches long.

Type 1274A.—Same as type 1274, except cast iron or wrought steel plated.

Type 1274B.—Same as type 1274, except cast iron or wrought steel, galvanized.

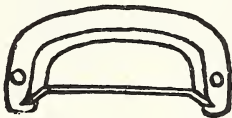
Type 1274C.—Same as type 1274, except cast iron or wrought steel, japanned.

KNOB PULLS

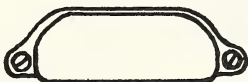


Type A1283.—Cast bronze. Not less than 1 inch diameter. With machine screw.

DRAWER PULLS

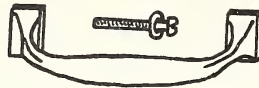


Type 1296.—Cup pattern. Flat edge. Steel, plated. Size, $3\frac{1}{4}$ inches.



Type 1297.—Cup pattern. Narrow edge. Wrought bronze. Size, $3\frac{1}{2}$ inches.

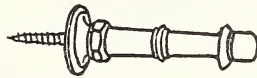
Type 1305.—Bar pattern. Rounded handle, rectangular ends. Cast bronze.



With machine screws for fastening handles from inside. Size overall, 4 inches.

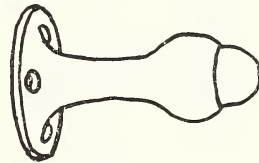
DOOR STOPS

Wall Type

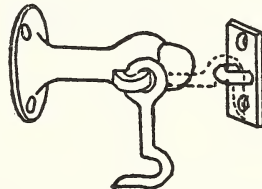


Type 1332.—Cast bronze, with rubber tip. 3-inch projection. To screw. Diameter of base about 1 inch.

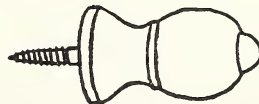
Type 1332A.—Same as type 1332, except cast iron, plated.



Type 1334.—Cast bronze, with rubber tip. $3\frac{1}{2}$ -inch projection. Diameter of base about $2\frac{1}{4}$ inches. Regular fastenings, three wood screws. When specified, with expansion sleeves for attaching to marble or stone work.



Type 1336.—Same as type 1334, except with hook and keeper.



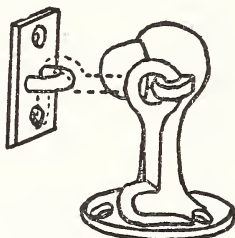
Type A1336.—Birch or maple with rubber tip and screw point. Projection about $2\frac{1}{2}$ inches.

DOOR STOPS

Floor Type



Type 1340.—Cast bronze, with rubber tip. Height about 3 inches. Diameter of base about $2\frac{1}{2}$ inches. Regular fastenings, three wood screws. When specified, with expansion sleeves for attaching to marble or stone work.



Type 1341.—Same as type 1340, except with hook and keeper.

HINGE HASPS

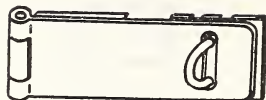


Type 1401.—Open pattern. Unfinished steel.

Length closed (in inches)	Size of screws	Minimum thickness of metal
3.....	$\frac{3}{4}$ " by #6.	<i>Inch</i> 0.072
6.....	1" by #9.	.091
8.....	1" by #10.	.102

Type 1401A.—Same as type 1401, except galvanized steel.

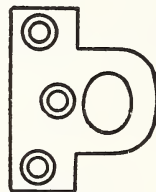
Type 1420.—Safety pattern. Unfinished steel. Adjustable staple. Staple shall be rigidly secured to plate.



Length closed (in inches)	Size of screws	Minimum thickness of metal
3.....	$\frac{3}{4}$ " by #7.	<i>Inch</i> 0.072
6.....	1" by #9.	.091
7.....	$1\frac{1}{4}$ " by #11	.128

Type 1420A.—Same as type 1420, except galvanized steel.

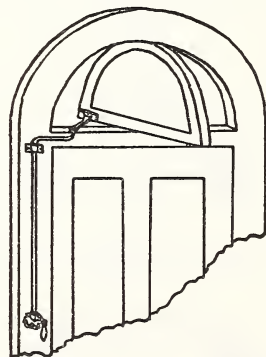
PADLOCK EYES



Type 1430.—Galvanized steel. Size of plate about $2\frac{1}{8}$ by $1\frac{7}{8}$ inches. Size of hole about $\frac{3}{4}$ by $\frac{5}{8}$ inch.

SASH OPERATORS

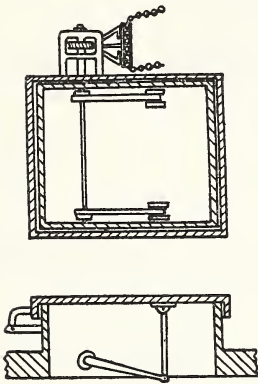
(For vertically pivoted sash)



Type 1501.—Bronze. Vertical rotating rod with arm and connection to sash. Jointed handle with locking mechanism. Rods $\frac{3}{8}$ inch diameter; lengths 3, 4, 5, and 6 feet.

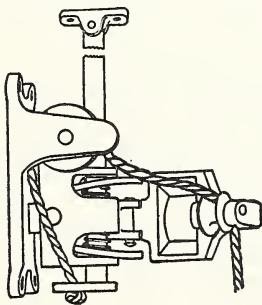
Type 1501A.—Same as type 1501, except steel, plated.

SCUTTLE OPERATORS



Type 1510.—For heavy scuttles. Worm gear operated by sprocket wheel and endless chain. Rocker shaft $\frac{3}{4}$ -inch iron pipe. Arms and connections to scuttle of cast or wrought iron of lengths to open scuttle 60° . Gears and arms secured to shafts with set screws. Shaft bearings and brackets of cast iron. Length of shaft and chains as specified. Bearings, machine finished and provided with oil holes. Worms and gears smoothly finished and close fitting. Fastening to scuttle wood screws. Fastening to curb, through bolts. Finish, painted.

SKYLIGHT OPERATORS



Type 1520.—Lifting rod operated by single cord, self-locking. Cord No. 10 braided cotton sash cord. Rods, steel, copperplated. If single rod, minimum diameter shall be $\frac{1}{2}$ inch; if two rods, minimum diameter shall be $\frac{3}{8}$ inch. Lift 18 inches.

TRANSOM OPERATORS

Type 1530.—For heavy sash, over $3\frac{1}{2}$ feet wide, horizontally hinged or pivoted. Operator shall connect to each side of transom with brass screw and traveling nut to control movement. The transmission shall consist of solid rod and miter gears. The operation shall be by hand crank through inclosed pair of miter gears. The mechanism shall provide smooth and even operation of transom and be self-locking at all points. Steel rods $\frac{1}{2}$ inch diameter for transoms up to 5 by 4 feet not heavier than 100 pounds. Cast-iron brackets, plated.

Type 1530A.—Same as type 1530, except with $\frac{5}{8}$ -inch diameter steel rods for larger or heavier transoms, but not heavier than 175 pounds.

HOOKS AND EYES



Type 1601.—Brass wire hooks with screw eyes. Lengths, 2, 3, 4, and 6 inches.

Type 1601A.—Same as type 1601, except steel wire, brass plated.

Type 1601B.—Same as type 1601, except steel wire, galvanized.

Type 1601C.—Same as type 1601, except unfinished steel wire.

SASH WEIGHTS



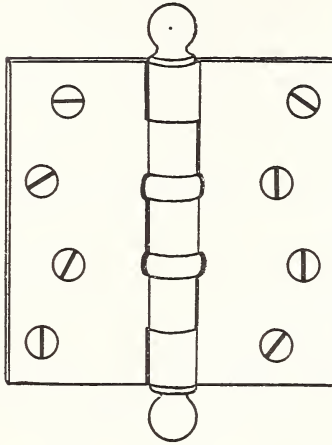
Type 1701.—Cast iron, round, reasonably smooth, free from fins, with well-formed eyes. Weights as required.

Type 1701A.—Same as type 1701, except square.

Type 1701B.—Same as type 1701, except cast lead, round.

Type 1701C.—Same as type 1701, except cast lead, square.

BUTTS
BRONZE BUTTS



4 x 4 SIZE

Type 2001.—Wrought bronze. Five knuckles. Ball bearing. Hardened-steel ball races. Hardened and polished steel balls. Ball bearings shall be well packed with grease. Retaining jackets shall bear on one side only. Ball bearing washers of visible type shall be attached to one leaf of butt. Inner edges of leaves shall be beveled. Nonrising, loose, steel pin with ball tips. Butts for exterior doors opening out shall be so arranged that the pins can not be removed when the doors are closed.

Size in inches	Required thickness of metal ± 0.005 inch
4 by 4.....	Inch 0.130
4½ by 4½.....	.134
5 by 5.....	.146
6 by 6.....	.160

Type 2002.—Same as type 2001, except extra-heavy wrought bronze.

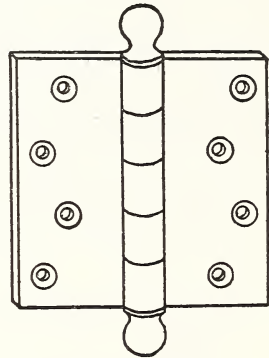
Size in inches	Required thickness of metal ± 0.005 inch	Number of ball-bearing washers
	Inch	
5 by 5.....	0.190	2
6 by 6.....	.203	4
8 by 6.....	.203	4

Type 2003.—Same as type 2001, except cast bronze.

Size in inches	Minimum weight per pair not including screws	
	Pounds	Ounces
4 by 4.....	1	14
4½ by 4½.....	2	8
5 by 5.....	3	6
6 by 6.....	5	2

Type 2004.—Same as type 2001, except extra heavy cast bronze.

Size in inches	Minimum weight per pair not including screws		Number of ball-bearing washers
	Pounds	Ounces	
5 by 5.....	4	2	2
6 by 6.....	6	9	4
8 by 6.....	8	8	4



4 x 4 SIZE

Type 2005.—Wrought bronze. Steel bushed and self-lubricating. Five knuckles. Inner edges of leaves shall be beveled. Nonrising, loose, steel pin with ball tips. Butts for exterior doors opening out shall be so arranged that the pins can not be removed when the doors are closed.

Size in inches	Required thickness of metal ± 0.005 inch
	Inch
3½ by 3½.....	0.123
4 by 4.....	.130
4½ by 4½.....	.134

Type 2006.—Same as type 2005, except cast bronze.

Size in inches	Minimum weight per pair not including screws	
	Pounds	Ounces
3½ by 3½-----	1	4
4 by 4-----	1	14
4½ by 4½-----	2	6

CAST IRON BUTTS

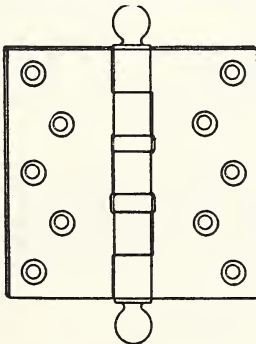
Type 2008.—Cast iron, polished and plated. Five knuckles. Inner edges of leaves shall be beveled. Nonrising, loose, steel pin with ball tips. Butts for exterior doors opening out shall be so arranged that the pins can not be removed when the doors are closed.

Size in inches	Minimum weight per pair not including screws	
	Pounds	Ounces
3½ by 3½-----	1	2
4 by 4-----	1	10
4½ by 4½-----	2	2

Type 2009.—Same as type 2008, except extra heavy.

Size in inches	Minimum weight per pair not including screws	
	Pounds	Ounces
5 by 5-----	3	7
6 by 6-----	5	10

WROUGHT STEEL BUTTS



5 x 5 SIZE

Type 2010.—Wrought steel, plated. Five knuckles. Ball bearing. Hardened steel ball races. Hardened and polished steel balls. Ball bearings

shall be well packed with grease. Retaining jackets shall bear on one side only. Ball bearing washers of visible type shall be attached to one leaf of butt. Nonrising, loose, steel pin with ball tips. Butts for exterior doors opening out shall be so arranged that the pins can not be removed when the doors are closed.

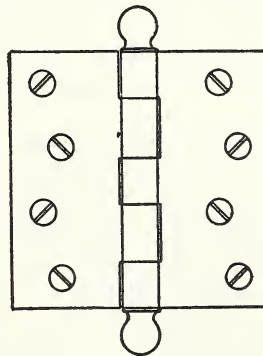
Size in inches	Required thickness of metal ±0.005 inch
4 by 4-----	Inch 0.130
4½ by 4½-----	.134
5 by 5-----	.146
6 by 6-----	.160

Type 2010A.—Same as type 2010, except wrought steel polished and plated.

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

Type 2011.—Same as type 2010, except extra heavy wrought steel, polished and heavily plated, with inner edges of leaves beveled.

Size in inches	Required thickness of metal ±0.005 inch	Number of ball-bearing washers
4½ by 4½-----	0.180	2
5 by 5-----	.190	2
6 by 6-----	.203	4
8 by 8-----	.203	4



4 x 4 SIZE

Type 2014.—Wrought steel, unfinished. Five knuckles. Nonrising, loose, steel pin with ball tips.

Size in inches	Required thickness of metal ± 0.005 inch
	<i>Inch</i>
2½ by 2½.....	0.089
3 by 3.....	.092
3½ by 3½.....	.123
4 by 4.....	.130
4½ by 4½.....	.134
5 by 5.....	.146
6 by 6.....	.160

Type 2014A.—Same as type 2014, except wrought steel, galvanized.

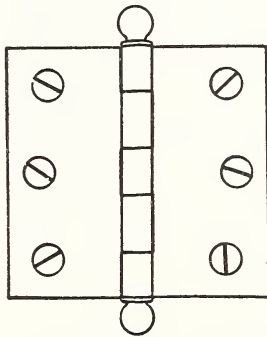
Type 2015.—Same as type 2014, except wrought steel, plated.

Type 2015A.—Same as type 2014, except wrought steel, polished and plated.

Type 2015B.—Same as type 2014, except wrought steel, polished and heavily plated. Inner edges of leaves shall be beveled.

LIGHT LOOSE PIN BUTTS

For Cupboards



3 x 3 SIZE

Type 2017.—Cast bronze. Five knuckles, steel pin, ball tips. Sizes, 2½ by 2½, and 3 by 3 inches. Minimum weight per pair not including screws, 7 and 12 ounces, respectively.

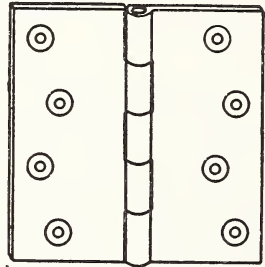
Type 2017A.—Wrought bronze. Five knuckles, steel pin, ball tips. Sizes, 2½ by 2½, and 3 by 3 inches. Minimum weight per pair not including screws, 4 and 6 ounces, respectively.

Type 2018.—Wrought steel, plated. Five knuckles, steel pin, ball tips. Sizes, 2½ by 2½, and 3 by 3 inches.

Minimum weight per pair not including screws, 4 and 6 ounces, respectively.

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

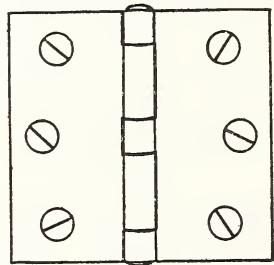
FAST PIN BUTTS



Type 2027.—Cast bronze. Five knuckles, steel pin, no tips. Inner edges of leaves shall be beveled.

Size in inches	Minimum weight per pair not including screws	
	Pounds	Ounces
2½ by 2½.....		7
3 by 3.....		11
3½ by 3½.....	1	2
4 by 4.....	1	11

BROAD BUTTS



3 x 3 SIZE

Type 2028.—Wrought bronze. Five knuckles, steel pin, no tips. Inner edges of leaves shall be beveled.

Size in inches	Required thickness of metal ± 0.005 inch
	<i>Inch</i>
2½ by 2½.....	0.089
3 by 3.....	.092
3½ by 3½.....	.123
4 by 4.....	.130

Type 2029.—Same as type 2028, except wrought steel, unfinished.

Type 2030A.—Same as type 2028, except wrought steel, galvanized.

Type 2030B.—Same as type 2028, except wrought steel, plated.

Type 2030C.—Same as type 2028, except wrought steel, polished and plated.

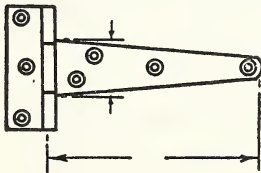
STRAP HINGES



Type 2203.—Wrought steel, galvanized; with brass pins.

Length closed, in inches	Width of strap at joint	Minimum thickness of metal
	<i>Inches</i>	<i>Inch</i>
4.....	1 ³ / ₈	.080
6.....	2 ¹ / ₂	.118
8.....	2 ⁵ / ₈	.135
10.....	3 ³ / ₈	.146
12.....	4	.158
16.....	4 ⁵ / ₈	.160

**T HINGES
Regular**



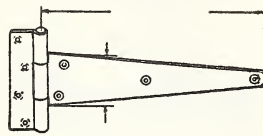
Type 2208.—Wrought steel, galvanized; with brass pins.

Length closed, in inches	Width of strap at joint	Minimum thickness of metal
	<i>Inches</i>	<i>Inch</i>
4.....	1 ¹ / ₈	.072
6.....	1 ³ / ₈	.087

Type 2209.—Same as type 2208, except extra heavy.

Length closed, in inches	Width of strap at joint	Minimum thickness of metal
	<i>Inches</i>	<i>Inch</i>
8.....	2 ⁵ / ₈	.135
10.....	3	.140
12.....	4	.160
16.....	4 ¹ / ₂	.160

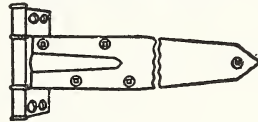
Reversed Pad



Type 2212.—Wrought steel, galvanized; with brass pins.

Length closed, in inches	Width of strap at joint	Minimum thickness of metal
	<i>Inches</i>	<i>Inch</i>
8.....	3	.135
10.....	3 ¹ / ₂	.140
12.....	3 ³ / ₈	.160
16.....	3 ⁷ / ₈	.160

Extra Heavy Ball Bearing

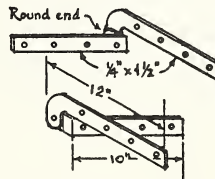


Type 2220.—Wrought steel, galvanized. Reversed pad. Balls of hardened and polished tool steel. Hardened steel ball races. Fastened with wood screws, lag screws, or through bolts as ordered.

Length of strap, in inches	Width of strap at joint	Length of joint
	<i>Inches</i>	<i>Inches</i>
12.....	3	7
18.....	3	7
24.....	3	7
36.....	4	8

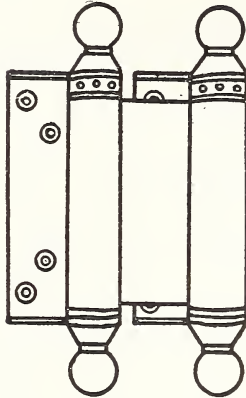
Type 2220A.—Same as type 2220, except wrought steel, galvanized and japanned.

SCUTTLE HINGES



Type 2240.—Wrought iron, unfinished. Dimensions as shown. Right and left hand in pairs.

SPRING HINGES
Butt Type



Type 2330.—Wrought bronze. Double acting. For hanging strip. Covered, adjustable tension, coil springs. Antifriction washers, or ball bearings. Ball tips.

Size, length of flange	Minimum thickness of flange	Minimum diameter of barrel
	<i>Inch</i>	<i>Inches</i>
3.....	0.078	0.875
4.....	.081	.875
5.....	.091	1.00
6.....	.102	1.094
7.....	.114	1.219
8.....	.128	1.375
10.....	.144	1.50
12.....	.162	1.75

Length of flange in inches	Door, thickness	Door, maximum width
	<i>Inches</i>	<i>Ft. In.</i>
3.....	$\frac{3}{4}$ to 1	2 2
4.....	$\frac{7}{8}$ to $1\frac{1}{4}$	2 4
5.....	$1\frac{1}{8}$ to $1\frac{1}{2}$	2 6
6.....	$1\frac{1}{4}$ to $1\frac{3}{4}$	2 8
7.....	$1\frac{3}{8}$ to 2	2 9
8.....	$1\frac{1}{2}$ to $2\frac{1}{4}$	2 10
10.....	$1\frac{3}{4}$ to $2\frac{1}{2}$	3 0
12.....	$2\frac{1}{4}$ to 3	3 2

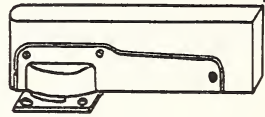
Type 2330A.—Same as type 2330, except wrought steel, plated.

Type 2331.—Same as type 2330, except single acting. Wrought bronze.

Type 2331A.—Same as type 2330, except single acting, wrought steel, plated.

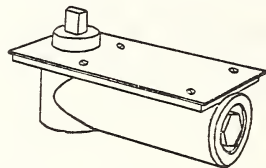
FLOOR SURFACE SPRING HINGE

Horizontal Type



Type 2334.—Double acting. Parts exposed to view, bronze. Hinges applied to top and bottom edges of door, with cover plates to hide mechanism. Weight of door carried on hardened steel balls and raceways protected from water and dirt. Thrust lug shall abut two hardened steel rollers, one on each side of center bearing, and shall have roller bearing guide to take side thrust. Door alignment adjustable. Automatic holdback when door is opened past 90°. Spring adjustment not desired. Sizes (thickness of door) $1\frac{3}{8}$ and $1\frac{3}{4}$ inches.

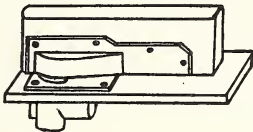
CHECKING FLOOR HINGES



Type 2350.—Double acting. Parts exposed to view of bronze. Mechanism contained in dust and waterproof case, set in floor. Except for wood floor, case shall be secured into a cast iron box built into floor. Weight of door carried on hardened steel balls and raceways protected from water and dirt. Checking mechanism capable of close regulation, and readily accessible. Parts subject to wear shall be made of tool

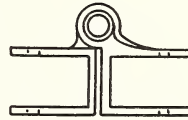
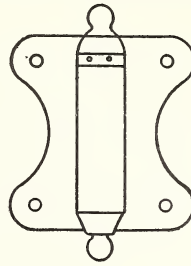
steel with suitable means of lubrication. Sizes of case, about

Length in inches	Width	Depth
9	Inches 4	Inches 3
11 $\frac{3}{4}$	5 $\frac{1}{4}$	3 $\frac{3}{4}$



Type 2351.—Double acting. Parts exposed to view of bronze. Checking mechanism contained in dust and water-proof case set in floor. Spring mechanism set in lower edge of door, with cover plates on both sides. Weight of door carried on hardened steel balls and raceways protected from water and dirt. Door alignment adjustable. Checking mechanism capable of close regulation. Spring adjustment not desired. Automatic holdback when door is opened past 90°. Sizes (thickness of door) 1 $\frac{3}{8}$ and 1 $\frac{3}{4}$ inches.

LAVATORY DOOR SPRING HINGES



Type 2360.—Brass or bronze, nickel plated. Single acting; self-opening, unless self-closing is specified. Covered, adjustable tension, coiled springs. Box flanges for 1 $\frac{1}{4}$ -inch stiles, adjustable for 1 $\frac{1}{8}$ to 1 $\frac{3}{8}$ inches. Size 4 inches (length of flange.) Minimum thickness of metal at flanges, 0.090 inch. Fastenings through bolts with rounded hexagonal heads and cap nuts.

Type 2360A.—Same as type 2360, except white bronze.

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