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J. E. PHILLIPS

DUMB WAITER LOCK

Filed March 25, 1922

Fig. 1.

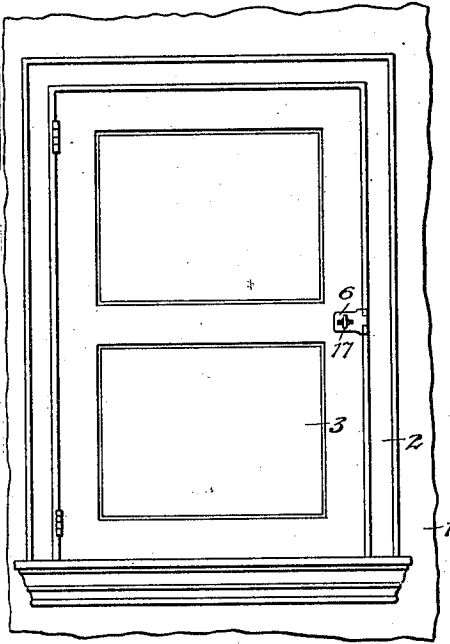


Fig. 2.

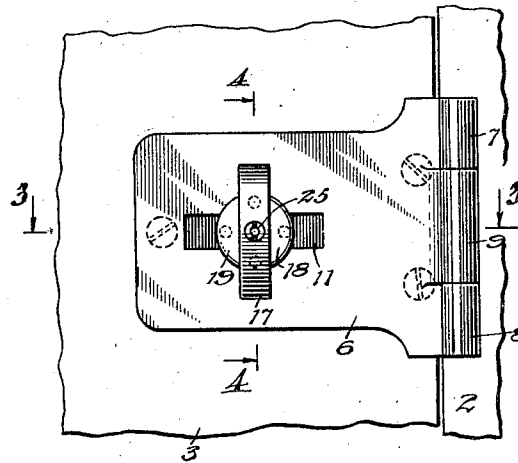


Fig. 3.

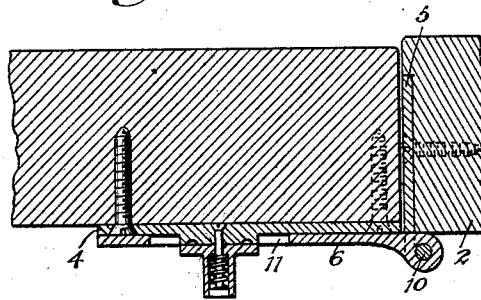


Fig. 4.

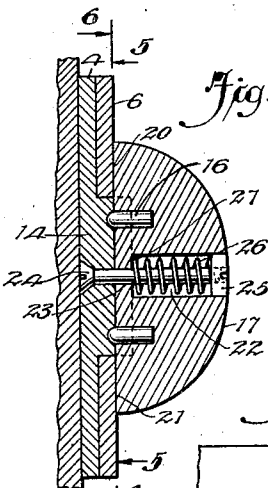


Fig. 5.

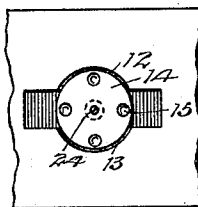
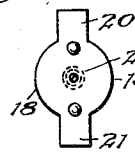


Fig. 6.



INVENTOR

James E. Phillips

BY *Mum & Co*
ATTORNEYS

WITNESSES
Frank J. Higgins
A. R. Kitchen

UNITED STATES PATENT OFFICE.

JAMES EDWIN PHILLIPS, OF NEW YORK, N. Y.

DUMB-WAITER LOCK.

Application filed March 25, 1922. Serial No. 546,806.

To all whom it may concern:

Be it known that I, JAMES E. PHILLIPS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Dumb-Waiter Lock, of which the following is a full, clear, and exact description.

This invention relates to locks and particularly to an improved lock specially adapted for the doors of dumb-waiters or doors operating in a similar manner and has for an object to provide a construction which may be easily operated from the inside but cannot be operated or forced from the outside.

Another object of the invention is to provide an extremely simple but efficient lock for a door which will take the place of an ordinary bolt and an ordinary lock at the same time.

A further object of the invention is to provide a lock having a hinged member and associated parts so arranged that at a glance anyone may observe whether or not the lock is in a locked or unlocked position.

In the accompanying drawing—

Figure 1 is a front view of part of a dumb-waiter structure showing a door and the lock embodying the invention applied thereto.

Figure 2 is an enlarged fragmentary view of the door shown in Figure 1 with the lock applied.

Figure 3 is a horizontal longitudinal sectional view through the lock and associated parts shown in Figure 2.

Figure 4 is a transverse sectional view through Figure 2 approximately on line 4—4.

Figure 5 is a fragmentary sectional view through Figure 4 on line 5—5, the same being on a reduced scale.

Figure 6 is a fragmentary sectional view through Figure 4 on line 6—6, the same being on a reduced scale.

Referring to the accompanying drawing by numerals, 1 indicates a dumb-waiter structure which is provided with a door frame 2 and a door 3 hinged in place. In large cities it is not unusual for thieves or unauthorized persons to enter apartments through the dumb-waiter and heretofore it has been more or less difficult to secure an efficient lock for the door 3 of the dumb-waiter without presenting a very expensive and complicated structure.

To overcome these difficulties, the lock

shown in the accompanying drawing has been provided which will effectively lock the door but which is extremely simple in construction and which may be readily observed so as to learn whether or not the same is in a locked or an unlocked position. As indicated in the drawing, the lock is provided with, what may be termed, a keeper plate 4 secured to the door 3 by screws or other means, with a hinged or securing plate 5 secured to the frame 2 and a locking or hinged plate 6 pivotally mounted on plate 5. In fact, plate 5 is provided with knuckles 7 and 8 and plate 6 with a central knuckle 9 so that the pintle 10 may connect all of these knuckles and provide in effect a hinged structure. The plate 6 is provided with a slot 11 which merges into arc-shaped notches 12 and 13 whereby the circular boss 14 projecting from the keeper plate 4 may project through the locking plate 6 or at least project therein to a sufficient extent to cause the face of the boss 14 to be flush with the face of the plate 6. The boss 14 is provided with a number of depressions 15, there being four depressions shown (Fig. 5) though a greater or less number may be provided. These depressions are designed to receive the end pin 16 which is rigidly secured in the knob 17. This pin yieldingly locks the knob 17 in four positions as shown in the drawing though it might lock the same in additional positions if a greater number of depressions 15 were provided.

In order that the end of pin 16 may snap into these depressions and be readily removed therefrom, the knob 17 is resiliently pressed against the boss 14 and when the parts are in the position shown in Figure 1, resiliently press against the plate 6. The knob 17 is preferably provided with arc-shaped projections 18 and 19 so that these projections with the body of the knob will cover the boss 14 continually. The knob, however, is arranged to have overlapped shoulders 20 and 21 designed to engage the plate 6 when the parts are in the position shown in Figures 2 and 4. A large bore 22 is provided in the knob 17 and also a small bore 23, said small bore accommodating the pin or threaded member 24, which pin is provided with an enlarged head 25 loosely fitting the bore 22 and acting as a shoulder for the spring 26 positioned in bore 22. This spring bears against the annular shoulder 27 as well as against the head 25 so that there is

a continuous pressure against the knob 17 to hold the same in contact with the boss 14 and resiliently hold the spring 26 in one of the sockets or depressions 15.

5 When it is desired to unlock the device, the knob is grasped and moved from the position shown in Figure 2 until it is in registry with the slot 11 whereupon the plate 6 may be swung until it forms substantially
10 an elongation of the plate 5. The door 3 may then be opened and closed as desired. When the knob 17 is turned as just described, the turning pressure and the rounded end of pin 16 will result in the handle
15 17 moving away from plate 6 and compressing spring 26 slightly. As soon as the handle is moved through an arc of ninety degrees, pin 16 will automatically snap into the next notch 15 so that the knob will be
20 held yieldingly locked in registry with the slot 11. The arrangement of the spring 26, pin 16 and associated parts is to prevent the knob 17 from accidentally shifting its position.

25 It will be noted, that by the construction set forth no one in the dumb-waiter or on the opposite side of the door 3 to that shown in the drawing could possibly move the knob 17. In addition, the construction of the
30 lock automatically prevents anyone from forcing the door either outwardly or laterally as the plates 6 acting on the boss 14 act as means for connecting the edge of the door to the frame 2.

35 What I claim is:—

1. In a lock of the character described, a keeper plate adapted to be secured to a door, said keeper plate being provided with a boss extending from one face thereof, a
40 locking plate hingedly secured to the jamb of said door, said locking plate being provided with an aperture for receiving said boss, and a slot extending therefrom, and a knob resiliently and movably mounted on
45 said boss provided with a shoulder, said knob being movable to a position in line with said slot for permitting the locking plate to be moved away from the keeper plate and movable to a position with the
50 shoulder overhanging the locking plate for locking together said locking plate and keeper plate.

2. A lock of the character described, comprising a fastener plate formed with a boss on one face, said boss having a plurality of
55 notches, a locking plate hingedly connected with a fixed support capable of movement so that it will engage flatwise said keeper plate, said locking plate having an aperture
60 through which said boss projects, and a slot extending from said aperture, a rotatable knob mounted on and resiliently acting against said boss and provided with a projection acting as a shoulder, said pro-
65 jection when in line with the slot permit-

ting said clamping plate to be moved on and off said boss and when turned to a position out of registry with the slot locking the fastener plate against movement, and rigid means carried by said knob for yieldingly
70 locking the same against movement.

3. In a lock of the character described, a locking plate having an opening therein, a keeper plate having a boss extending through said opening, said boss presenting
75 depressions, a rotatable locking member carried by said boss and adapted to be moved to a position overlapping said locking plate, said locking member being resiliently held in contact with said boss, and a pin carried
80 by said locking member for yieldingly holding the locking member in any adjusted position and engaging said depressions.

4. In a lock of the character described, a keeper plate having a boss extending there-
85 from provided with a number of depressions, a locking plate having an opening for receiving said boss, a rotatable locking member carried by said boss having a pair of shoulders adapted to be moved over said
90 locking plate for locking the locking plate against said keeper plate, and means on the locking member coacting with said depressions for resiliently causing said locking member to engage said boss.
95

5. In a lock of the character described, a keeper plate, a swinging locking plate, said keeper plate having a boss projecting from one face thereof, said boss having depressions therein, said locking plate having an
100 opening for receiving said boss and a pair of oppositely extending slots merging into said opening, a knob having a round portion fitting said boss and overhanging shoulders projecting from the round portion and formed of a size to pass through said slots
105 when turned to a given position, a pin rigidly carried by said knob to engage said notches, and means for connecting said knob with said boss, said means including a spring acting to resiliently hold the knob
110 against said boss.

6. In a lock of the character described, a keeper plate having a boss extending there-
115 from provided with a plurality of notches, a locking plate having an opening for receiving said boss, a knob mounted on said boss formed with means capable of movement over said locking plate for holding the same against the keeper plate, said boss
120 having a pin adapted to project at different times into said notches and a bore extending from the outer part to a position near said boss, a pin carried by said keeper plate extending into said bore, said pin having an enlarged head in said bore, and a spring
125 arranged in said bore acting on said head and part of the knob whereby the knob is resiliently held against said boss.

JAMES EDWIN PHILLIPS.