No. 833,198. PATENTED OCT. 16, 1906.

C. J. CALEY & H. G. VOIGHT.

LOCK AND LATCH MECHANISM.

APPLICATION FILED SEPT. 7, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

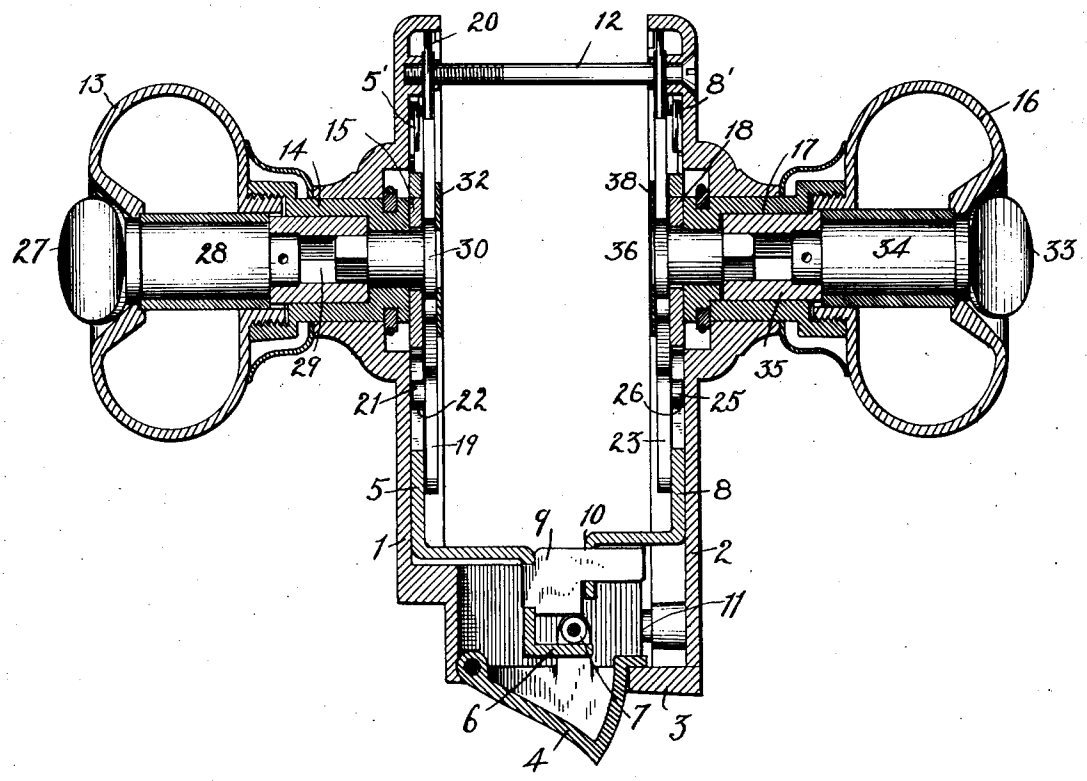
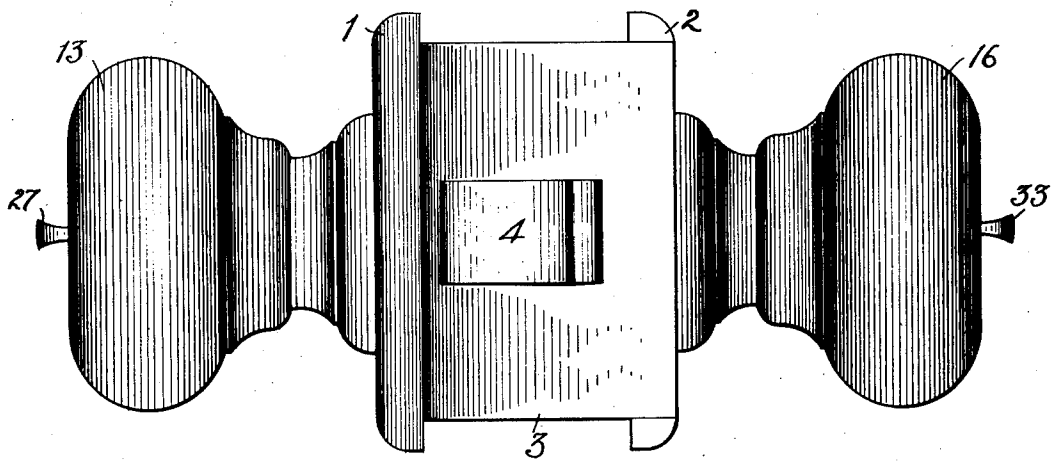


Fig. 2.



Witnesses
G. V. Rasmussen
R. F. Allyn

Inventors
CHARLES J. CALEY
HENRY G. VOIGHT
By their Attorneys
Bartlett Brownell & Mitchell

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Fig. 3.

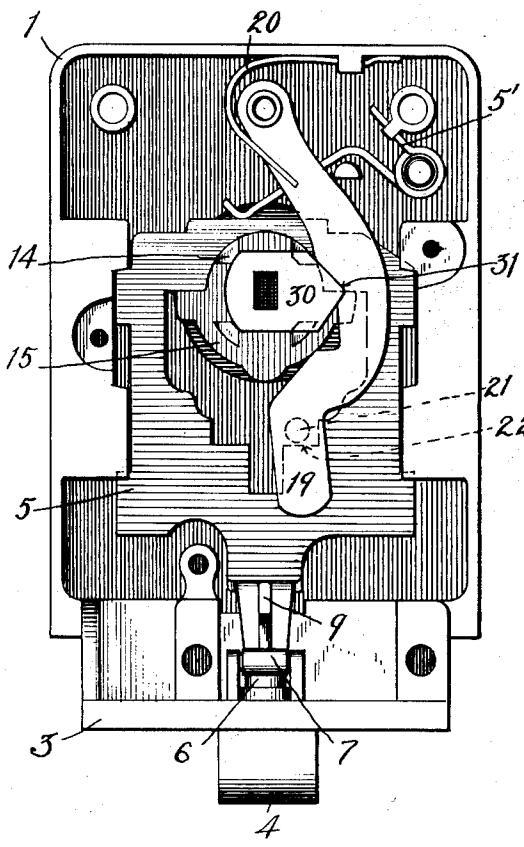


Fig. 4.

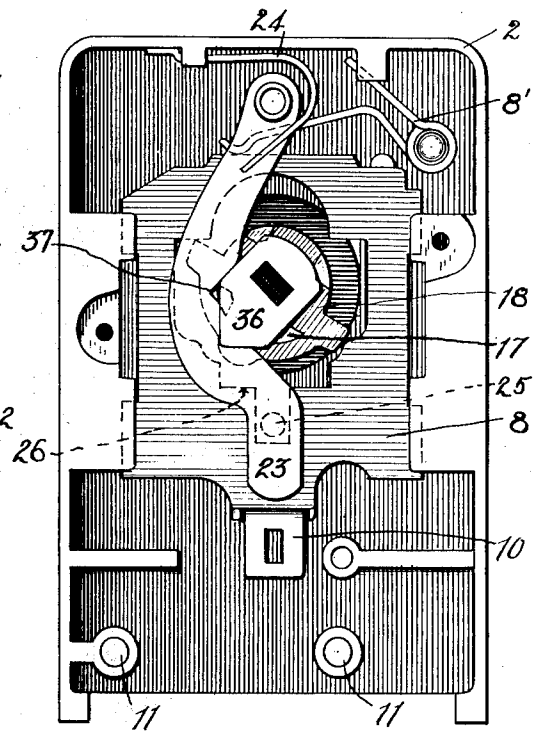


Fig. 5.

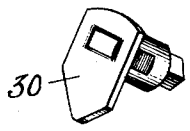


Fig. 6.

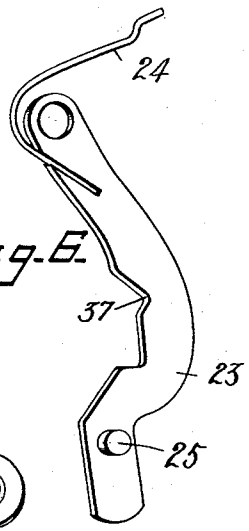
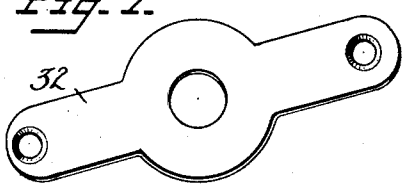


Fig. 7.



Witnesses
G. V. Rasmussen
Robt. S. Allyn

Inventors
CHARLES J. CALEY
HENRY G. VOIGHT
By their Attorneys
Bartlett Brownell & Mitchell

UNITED STATES PATENT OFFICE.

CHARLES J. CALEY AND HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNORS TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK AND LATCH MECHANISM.

No. 833,198. Specification of Letters Patent. Patented Oct. 16, 1906.

Application filed September 7, 1905. Serial No. 277,292.

To all whom it may concern:

Be it known that we, CHARLES J. CALEY and HENRY G. VOIGHT, citizens of the United States, residing at New Britain, Hartford county, State of Connecticut, have invented certain new and useful Improvements in Lock and Latch Mechanism, of which the following is a full, clear, and exact description.

Our invention relates to lock and latch mechanism, and particularly for communicating doors.

The object of the invention is to provide a mechanism which may be employed on doors of different thicknesses and which may be set from either side by a thumb-turn so as to prevent its being operated from the other side.

The invention consists in improvements the principles of which are illustrated in the accompanying two sheets of drawings. Briefly, the mechanism may be said to comprise two plates adapted to the opposite sides of a door, a latch-bolt carried by one plate, operating-slides carried by each plate and provided with telescopic connections with one another, knobs carried by each plate for operating the corresponding slides, and thumb-turn-controlled dogs carried by the knobs for blocking the slides.

Figure 1 is a horizontal section of a mechanism embodying the improvements of our invention. Fig. 2 is a front view of the mechanism. Fig. 3 is a view of one side plate with the latch-bolt, operating-slides, and dogging mechanism. Fig. 4 is a view of the other side plate with latch-slide and dogging mechanism. Fig. 5 is a perspective view of the dog-operating tumbler. Fig. 6 is a perspective view of one of the dogs. Fig. 7 is a perspective view of a retaining-plate.

1 and 2 represent the side plates adapted to the opposite sides of a door.

3 is an end plate carried by one side plate and having an opening for the latch-bolt 4.

5 is a latch-slide carried by the plate 1, having extensions 6 engaging with the roller 7, carried by the latch-bolt 4. 8 is the other latch-slide, telescopically connected to the projecting member 9 by means of the perforated extension 10. 5′ and 8′ are the springs for the latch-slides. The roller 7 being located between the extension 6 and projection 9, carried by the latch-slide 5, causes the latch-bolt 4 to move in and out as the slides are moved in and out. The slides by this connection are dependent upon one another, but may be adjusted with the side plates to doors of different thickness without interfering with the action of the mechanism.

11 11 are posts carried by the plate 2 and adapted to sockets in the plate 1 for properly alining the plates relatively to one another.

12 is a screw passing freely through the plate 2 and taking into a tapped socket in the plate 1 for securing the rear ends of the plates together.

Either one of the side plates may be independently secured to the door, as is customary in this type of lock.

13 is a knob having a shank 14 connected to the roll-back 15 for operating the slide 5. 16 is a knob having a shank 17 and roll-back 18 for operating the slide 8. By this mechanism the latch-bolt may be retracted by either knob.

19 is a swinging dog held in its normal position under pressure of the spring 20 and having a projection 21, adapted to stand back of the shoulder 22 on the slide 5, as shown in Fig. 3. In this position the latch-slide 5 is prevented from being retracted. Similarly the dog 23, carried by the plate 2, is pressed by the spring 24, so that its projection 25 may normally be out of the way of the shoulder 26 on the slide 8.

27 is a thumb-turn having a hub 28, mounted in the knob 13 and pinned to the shank 29 within the knob-shank 14.

30 is a cam-like member rotatable with the shank 29 and thumb-turn 27. When in the position shown in Fig. 3, this cam 30 engages in a recess or notch 31 in the dog 19 and holds the dog, so that the projection 21 prevents the retraction of the slide 5. When the thumb-turn 27 is turned from this position, the dog 19 is released and the stop 21 brought from behind the shoulder 22, so that the slide 5 is free to be retracted.

32 is a retaining-plate carried by the side plate 1 for holding the dog 19 and cam 30 in position when the mechanism is removed from the door.

33 is the thumb-turn, having a hub 34, mounted in the knob 16 and connected to the auxiliary sleeve 35 within the knob-sleeve 17.

36 is a cam-like member rotatable with the sleeve 35 and thumb-turn 33, adapted to operate the dog 23 to block the slide 8 when desired.

It will be noted in this construction that when the door is closed and either slide is dogged it will be impossible to force the latch-bolt 4 back, since it is positively connected to each slide. If the dog 23 is set by the thumb-turn 33, blocking the slide 8, the lock cannot be forced by inserting a knife-blade or similar instrument from the opposite side of the door.

What we claim is—

1. In a lock and latch mechanism, the combination of side plates, an end plate carried by one side plate, a bolt adapted to be protruded therethrough, a slide carried by each side plate and connected to said bolt, a knob carried by each side plate, a roll-back for each knob coacting with the corresponding slide, a pivoted spring-pressed dog carried by each side plate, and an operating-cam centered in each knob-shank for moving said dog.

2. In a lock and latch mechanism, the combination of side plates adjustable to and from each other, a latch-bolt, independently-rotatable knobs carried by said side plates, independently-rotatable thumb-turns carried by said knobs, operative means of connection between said knobs and said latch-bolt, and means for dogging the operation of either knob by the operation of the thumb-turn in the opposite knob part of said dogging means holding said thumb-turns stationary while the knobs are operated.

3. In a lock and latch mechanism, the combination of side plates adjustable to and from each other, a latch-bolt carried by one of said side plates, independently-rotatable knobs carried by said side plates, dependently-movable slides carried by said plates for operating said bolt thumb-turns rotatable in said knobs, and mechanism operated thereby for independently dogging said slides.

4. In a lock and latch mechanism, side plates adjustable to and from each other, a latch-bolt, knobs carried by said side plates, means of connection between said knobs and said latch-bolt, thumb-turns having hubs mounted in said knobs independent of each other and dogging mechanism for said latch-bolt independently controllable from said thumb-turns said knobs being normally movable independently of said thumb-turns.

5. In a lock and latch mechanism, the combination of side plates adapted to the opposite sides of a door and adjustable to and from each other, a latch-bolt, a slide carried by each side plate and connected to said bolt, means for retracting said slides, a pivoted spring-pressed dog carried by each side plate, a cam carried by each side plate and adapted to move the corresponding dog, and independently-operable thumb-turns for operating said cams.

6. In a lock and latch mechanism, a pair of recessed side plates adapted to the opposite sides of a door and adjustable to and from each other, an end plate secured to one of said side plates, a bolt adapted to protrude through said end plate, two slides connected to said bolt, a dog for each slide, each slide and its corresponding dog being mounted entirely within one of the side plates, a knob carried by each side plate and having a roll-back within the side plate connected to its slide, and a rotatable member carried by each knob and having a cam within its side plate coöperating with its corresponding dog.

7. In a lock and latch mechanism, side plates adjustable to doors of different thicknesses, a latch-bolt, a slide carried by each side plate, a knob carried by each side plate, a roll-back for each knob coöperating with its corresponding slide, a cam centered in each knob roll-back, and dogging devices adapted to be set by said cams.

8. In a lock and latch mechanism, a side plate, a bolt, a slide carried by the side plate and connected to said bolt, a knob carried by said side plate, a roll-back operable by said knob and adapted to retract said slide and bolt, a dog having a projection adapted to prevent the retraction of said bolt, a thumb-turn mounted in said knob, a cam having a hub centered within the knob roll-back said cam and hub being removable together from said roll-back and operable by said thumb-turn for operating said dog.

9. In a lock and latch mechanism, a side plate, an end plate carried thereby, a latch-bolt adapted to protrude through said end plate, a slide carried by said side plate and connected to said bolt, a knob carried by said side plate, a roll-back operable by said knob and engaging said slide, a thumb-turn mounted in said knob, and a cam centered in the knob roll-back and connected to said thumb-turn, a pivoted spring-pressed arm having a projection adapted to dog said slide, said arm adapted to be operated by said thumb-turn cam.

10. In a lock and latch mechanism, a latch-bolt, two knobs, a thumb-turn mounted in each knob said knobs being normally movable independently of said thumb-turns, operative means of connection between said knobs and said bolt, and independently-operable dogging devices adapted to be operated by said thumb-turns.

11. In a lock and latch mechanism, the combination of plates adapted to opposite sides of a door, a latch-bolt, knobs carried by each side plate, operative means of connection between said knobs and said latch-bolt, two independent manually-operable thumb-turns, said knobs being normally movable independently of said thumb-turns and means

operable independently by said thumb-turns for dogging the operation of both knobs.

12. In a lock and latch mechanism, a side plate, a bolt, a slide mounted in said side plate and connected to said bolt, a knob having a shank carried by said side plate, a roll-back connected to said shank for operating said slide, a dog mounted in said side plate for preventing the retraction of said bolt, a sleeve mounted in said shank, a cam adapted to operate said dog and having a hub connected to said sleeve and rotatable therewith, and a rotatable operating member carried by said knob having a hub connected to said sleeve.

13. In a lock and latch mechanism, a pair of side plates adapted to the opposite sides of doors of different thicknesses, an end plate carried by one side plate, a bolt adapted to protrude therethrough, a latch-slide mounted in each side plate, one of said slides having an extension engaging said bolt and a projection, and the other slide having a perforated portion telescopically connected to said projection, knobs carried by said side plates, and a roll-back for each knob coacting with the corresponding slides.

14. In a lock and latch mechanism, a side plate, an end plate, a bolt adapted to protrude therethrough, a slide mounted in the side plate and connected to said bolt, a knob carried by said side plate, a roll-back therefor for retracting said slide and bolt, a spring-pressed dog for said slide having a notch, and a cam normally held stationary by said dog but adapted to be rotated to set said dog and engage in said notch.

CHAS. J. CALEY.
HENRY G. VOIGHT.

Witnesses:
M. S. WIARD,
C. E. RUSSELL.