

No. 827,335.

PATENTED JULY 31, 1906.

H. G. VOIGHT.  
LATCH MECHANISM.  
APPLICATION FILED MAR. 11, 1905.

2 SHEETS—SHEET 1.

Fig. 1

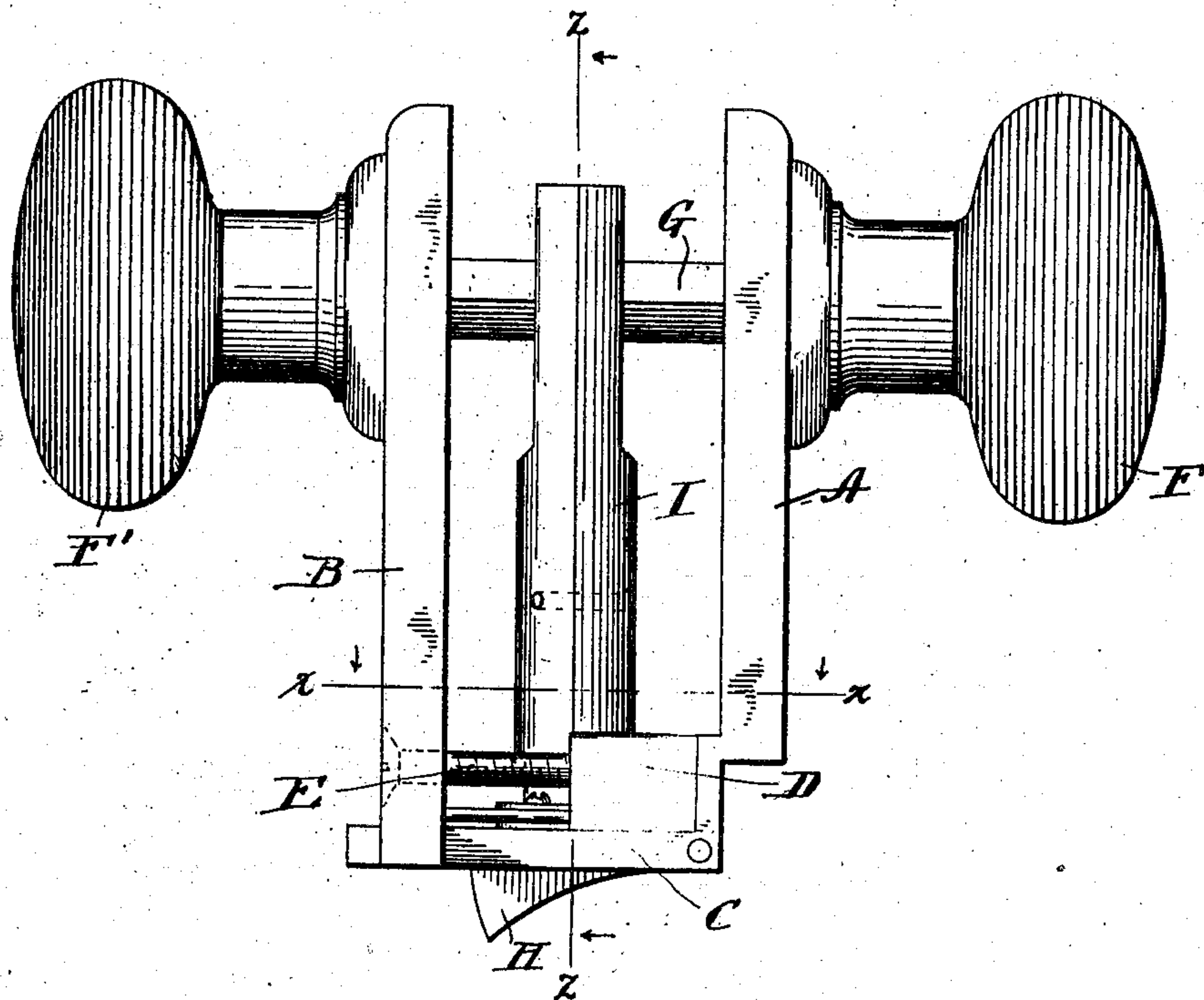
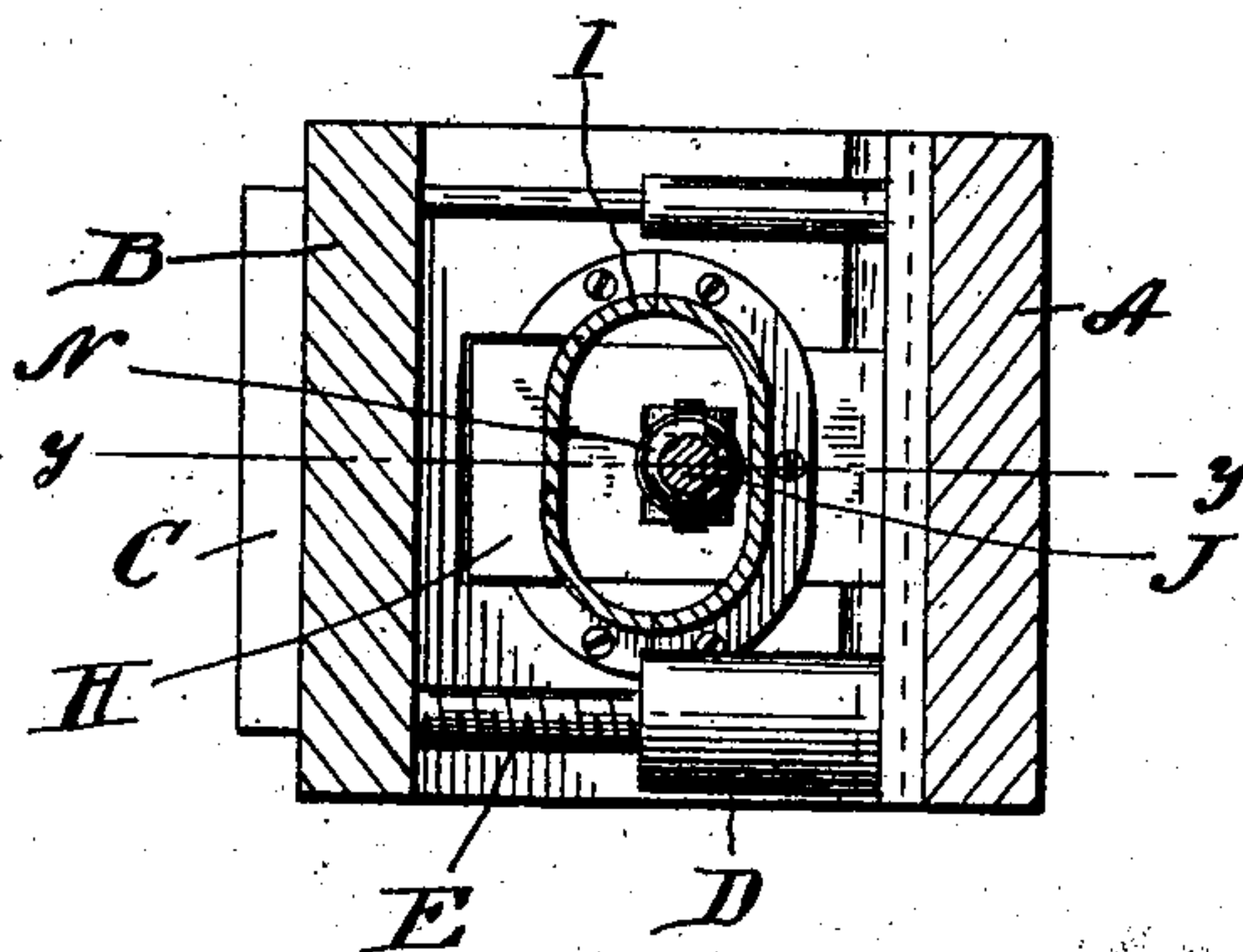


Fig. 2



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2 SHEETS—SHEET 2.

Fig. 3.

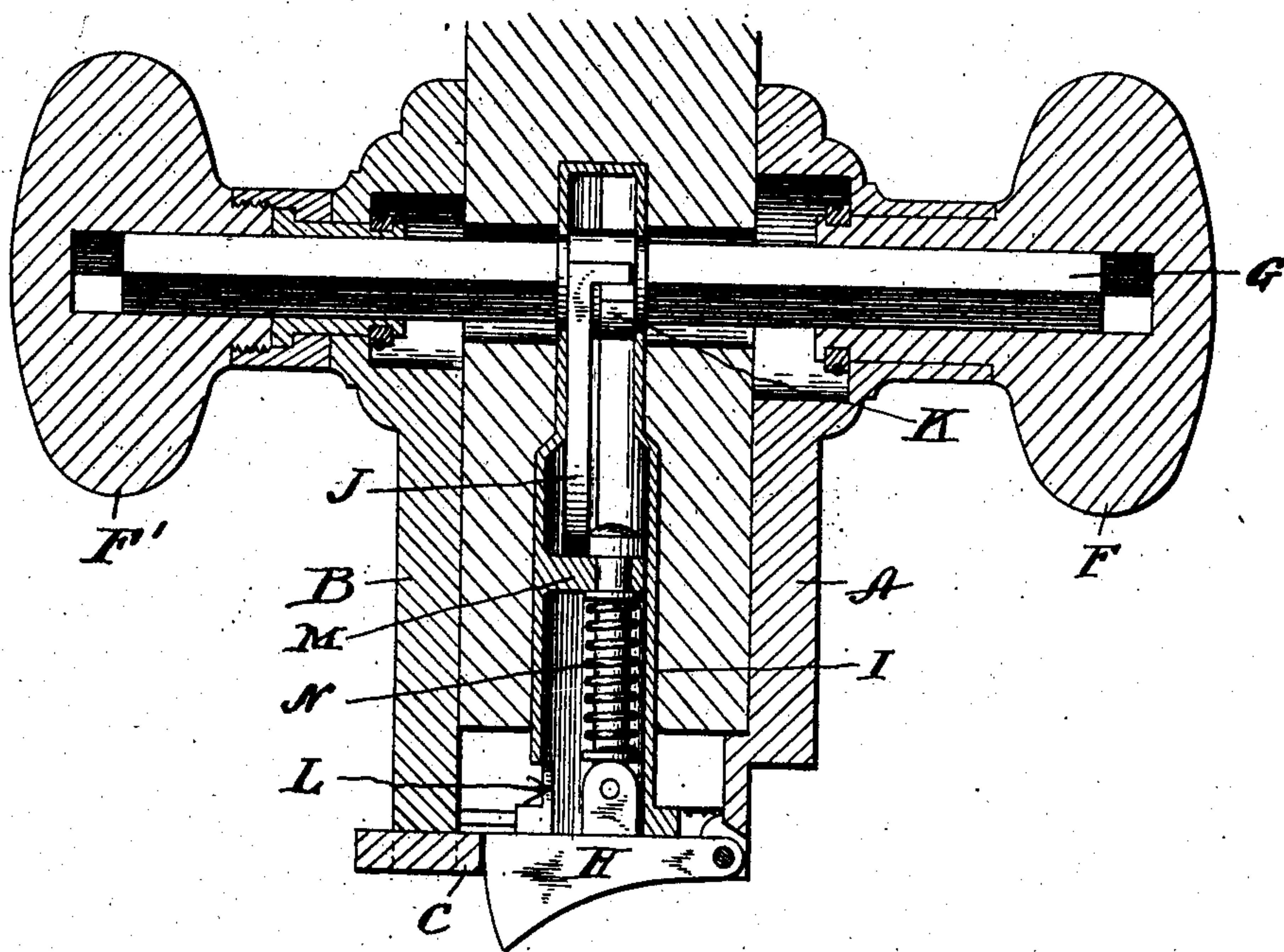
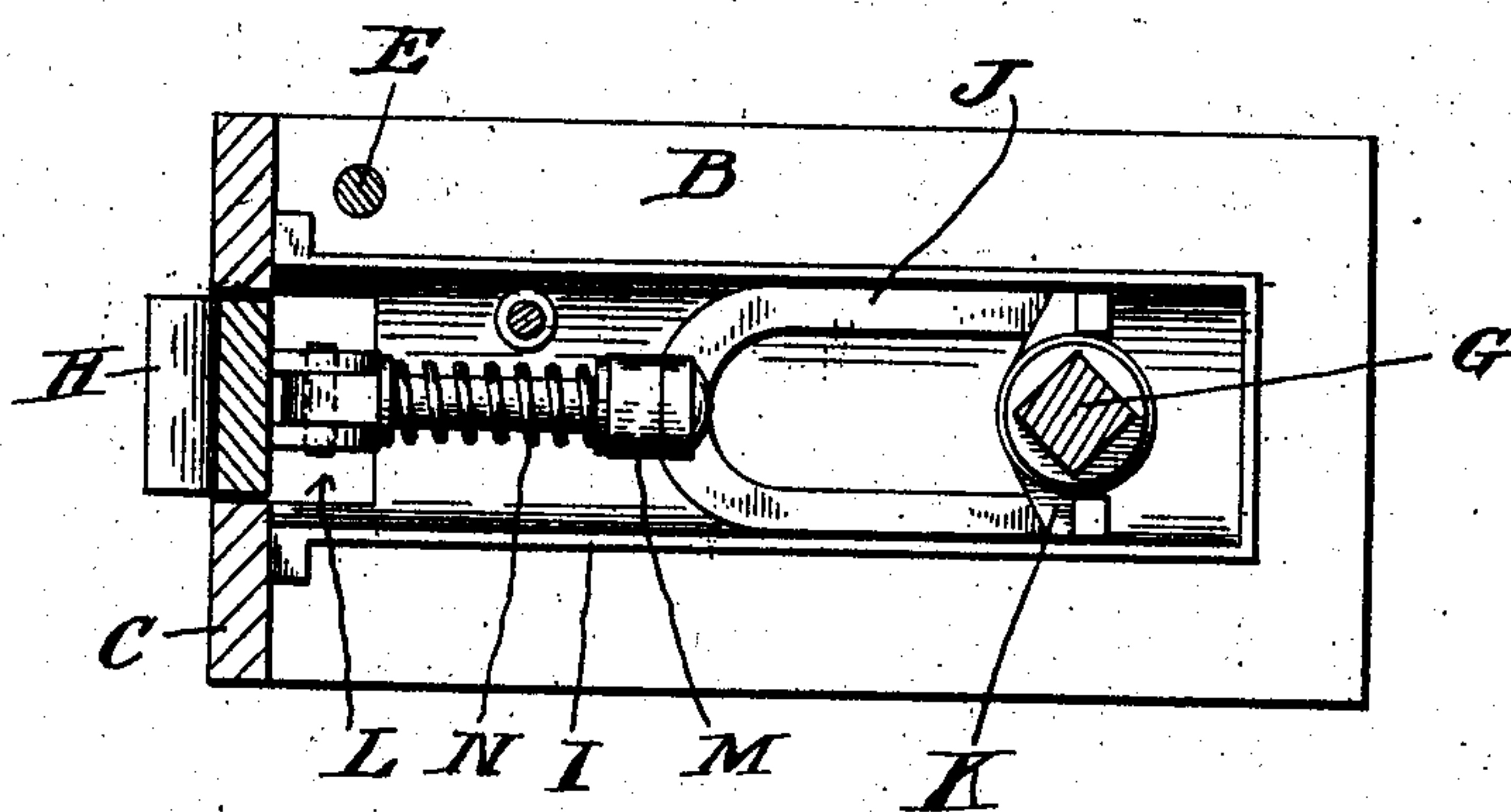


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## LATCH MECHANISM.

No. 827,335.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed March 11, 1905. Serial No. 249,516.

*To all whom it may concern:*

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Latch Mechanisms, of which the following is a full, clear, and exact description.

My invention relates to improvements in the class of locks and latches, and relates particularly to an improved latch mechanism for doors, the same being of a unique type which may be easily and quickly fitted to a door by simply boring holes therein at certain places and by forming a shallow notch in the edge of the stile instead of the more laborious method of forming the usual mortise, such as required by mechanisms of the ordinary well-known case type.

Many other advantages are attained, such as simplicity of construction and operation.

The mechanisms are of such construction that when merely assembled all of the parts are so located relatively to one another that each may be thoroughly tested for any purpose without the necessity of applying it actually to a door.

The side plates being movable to and fro relative to each other the mechanism is adjustable to doors of different thicknesses.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a section on the plane of the line X X, Fig. 1, looking in the direction of the arrows. Fig. 3 is a horizontal section of the apparatus on the line Y Y, Fig. 2. Fig. 4 is a vertical section on the line Z Z, Fig. 1.

In the particular form of the mechanism shown in the drawings, A is an escutcheon-plate for the outer side of the door.

B is an escutcheon-plate for the inner side of the door.

C is an end plate carried by the plate A.

D is a boss on the inner side of plate A and arranged to receive a screw E, passing through plate B and by which said plates may be clamped tightly in place against the sides of the door.

F F' are knobs. In the form shown F is the outer knob; F', the inner knob. The inner knob F' is preferably of the so-called "screwless" variety, in that it may be secured to its shank easily and quickly. These knobs

constitute the operating mechanism or means and are of course accessible at all times to the user.

G is a spindle.

H is a latch bolt or head.

I is a latch-slide support, preferably in the form of a case and arranged between the side plates A and B, yet spaced apart therefrom. This slide-support or case I is preferably secured rigidly to the front plate C and behind the latch H.

J is a suitable latch-slide connected to the bolt H at one end and engaging a roll-back K at the other end.

In the form shown the case I is cut away slightly to the rear of the bolt to permit said bolt to be retracted when the latch-slide is drawn back. This cut-away portion is indicated at L.

M is an abutment within the case I, between which abutment and the bolt H is located a spring N, by which the bolt will be normally pressed outwardly or projected through the face-plate C.

Each of the knobs F and F' are independently mounted on the side plates A B, respectively, and are very securely held thereby. The knobs constitute operating mechanism and are accessible one at each side of the latch mechanism. As a further means for supporting said knobs and rendering the removal or tearing away of the same most difficult I cause said knobs to be arranged in alinement, so that the spindle G, projecting through the shank of each knob, will afford a mutual reinforcement for both knobs.

When the mechanism is completed, it may be assembled, as shown in Fig. 1, and may thereafter be effectively tested without the necessity of actually applying it to a door. Such tests will reveal any failure upon the part of any particular mechanism to work smoothly, which defect may be corrected before it is actually shipped. When shipped, the parts being all assembled cannot become readily lost or broken.

In applying the mechanism to a door the carpenter has merely to form a shallow notch in the edge of the door-stile of sufficient depth to receive the boss D, the screw E, and the end plate C. This notch also affords sufficient clearance for the bolt when the latter is retracted. In addition to forming this



notch he will bore a hole in the edge of the door of a sufficient size to receive the case I, this hole being formed approximately in the center of the edge, leaving substantial walls  
 5 on each side to preserve the original strength of the door-stile. One more hole is bored transversely through the door-stile to receive the spindle G. The spindle G is then removed by first removing the knob F', which  
 10 permits the withdrawing of the spindle. The plates A and B are then adjusted to or fro to fit the door and pushed onto the door from the edge, the case I entering the cavity formed to receive it. When the mechanism  
 15 has been set back, so that the plate C is flush with the edge of the door, the screw E is tightened up, the spindle G is inserted into its opening, passed through the hub of the roll-back K and into the shank of the knob  
 20 on the opposite side plate. The detached knob F' is then attached and the mechanism is ready for use.

Of course the number of screws employed to hold the plates together and against the  
 25 sides of the door is immaterial.

The case I is preferably formed in sections, which may be secured together in any well-known manner when the parts are assembled within the same; but the form or method of  
 30 construction of the case is immaterial.

It has been my purpose herein to describe as briefly as possible the most important features and functions of this new type of mechanism, and it should therefore be understood  
 35 that I have not attempted an exhaustive description thereof. Many advantages not referred to will be apparent to a mechanic and user, and to the former will occur various modifications that may be made in the construction and mode of operation without departure from the spirit and scope of this invention.  
 40

It will be observed that by connecting the case I to the end plate and projecting it rearwardly parallel, or substantially so, to the  
 45 side plate there will always be a fixed distance between the inner edge of the outer side plate and the bolt, whereby the carpenter is greatly facilitated in applying the  
 50 striker-plate to the door-casing with reference to its point of contact with the latch.

What I claim is—

1. In a latch mechanism, the combination of two separate side plates adapted to opposite sides of a door, an end plate secured to  
 55 one of said side plates and adapted to extend across the edge of a door, means for adjusting the plates to doors of different thicknesses, a bolt and bolt-operating means and supporting means therefor rigidly carried by the end  
 60 plate and between the side plates, and an accessible operating mechanism rotatably supported by one of the side plates.

2. In a latch mechanism, the combination  
 65 of a side plate adapted to the side of a door,

an end plate rigidly secured to said side plate and adapted to extend across the edge of the door, a supporting-case for the latch mechanism rigidly supported by the end plate and separated from and in a fixed position relative to the side plate, and adapted to fit in a mortise, and accessible operating mechanism rotatably carried by said side plate.

3. In a latch mechanism, a side plate adapted to the side of a door, an end plate rigidly secured thereto and adapted to the edge of a door, a bolt, bolt-operating means, a rigid support therefor at the rear of said end plate, and spaced apart from said side plate, and an accessible operating device supported by said  
 75 side plate and arranged to connect with said bolt-operating device through said side plate.

4. In a latch mechanism, a bolt, bolt-operating means, a support therefor arranged to enter a cavity in the edge of a door, a side  
 85 plate arranged to bear against the side of a door, an actuating device carried by said side plate, and rigid means of connection between the side plate and the support for said bolt-operating means for effecting a fixed relative  
 90 alinement between said support and said side plate.

5. In a latch mechanism, two side plates adjustable relatively to each other and each having a spindle-passage, an end plate carried by one of said side plates, a latch-bolt operable through said end plate, a latch-slide arranged to cooperate with said bolt, a case or frame for supporting said latch-slide and connected to said end plate but spaced apart  
 95 from both of said side plates, a roll-back in said frame, said roll-back having a spindle-passage, the spindle-passage in said side plate registering with the spindle-passage in said roll-back, a spindle, and means for operating  
 100 said spindle.

6. In a latch mechanism a frame comprising two plates each plate having a spindle-passage and being adjustable relatively to each other, an end plate carried by one of  
 110 said plates and overlying the edge of the other, a latch-bolt and latch-slide, a case for supporting said latch-slide, said case being connected to said end plate and projecting rearwardly therefrom parallel with said side  
 115 plates, and spaced apart therefrom, a roll-back carried by said case and cooperating with said slide, the spindle-passage through both of said plates registering with said roll-back, and knobs separately mounted on said  
 120 plates so as to move therewith, and a spindle connecting said knobs with said roll-back.

7. In a latch mechanism, a side plate, an end plate carried thereby, a case rigidly carried by said end plate and extending rearwardly thereof substantially parallel with  
 125 and separated from said side plate, a latch-bolt, latch-operating means including a slide and a roll-back, said parts being mounted in said case, a spindle arranged to engage said  
 130



roll-back and accessible through said side plate and a knob carried by said side plate and connected with said spindle.

5 8. In a latch mechanism, a side plate adapted to the side of a door, an end plate carried thereby, and adapted to the edge of a door, a bolt projecting through said end plate, bolt-operating means, a support therefor, said sup-

port being connected to said end plate and substantially parallel with said side plate, 10 and means carried by said side plate for operating said bolt-operating means.

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