

(No Model.)

J. B. SARGENT.
CYLINDER LOCK.

No. 445,085.

Patented Jan. 20, 1891.

Fig. 1

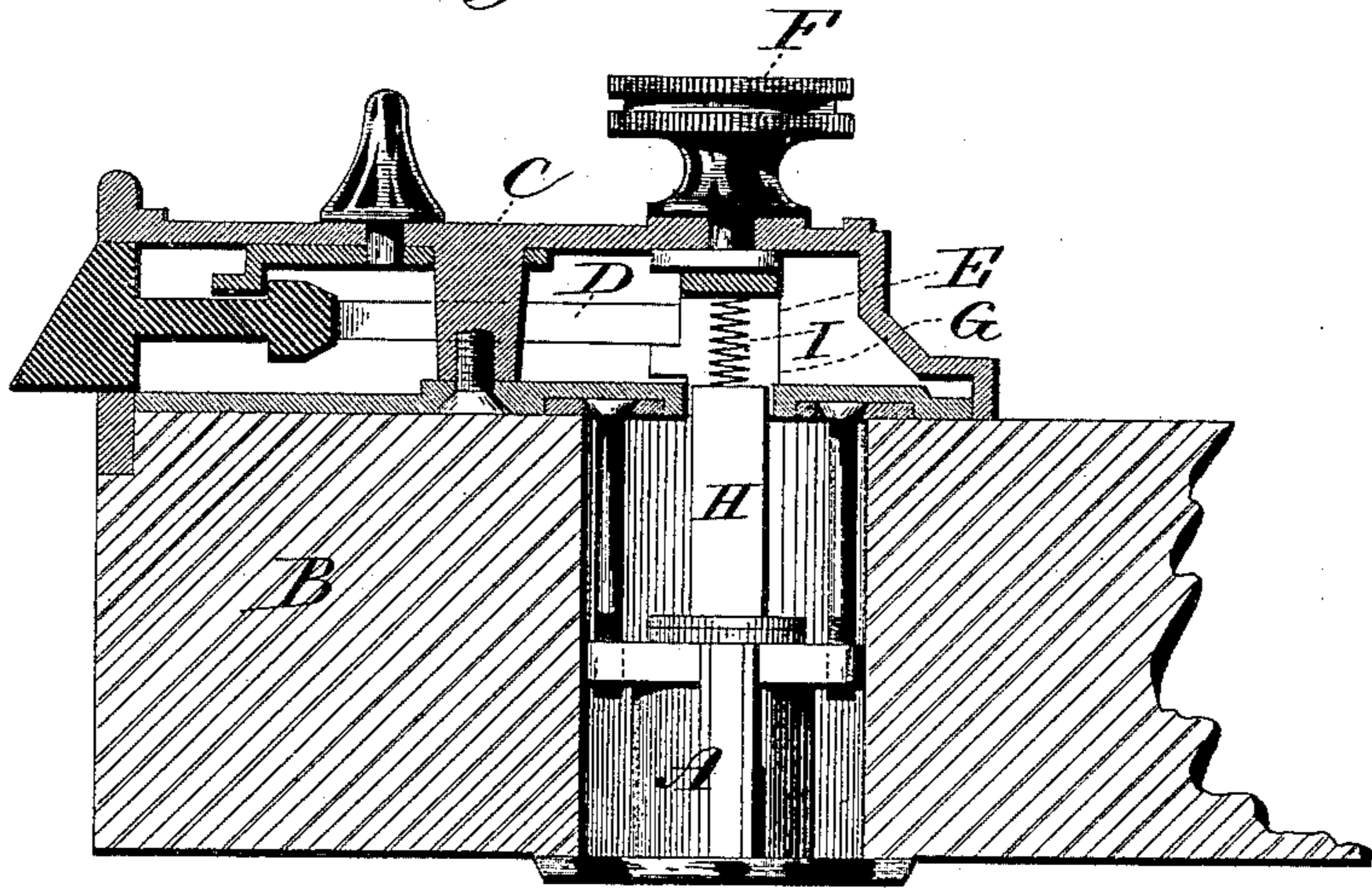


Fig. 2

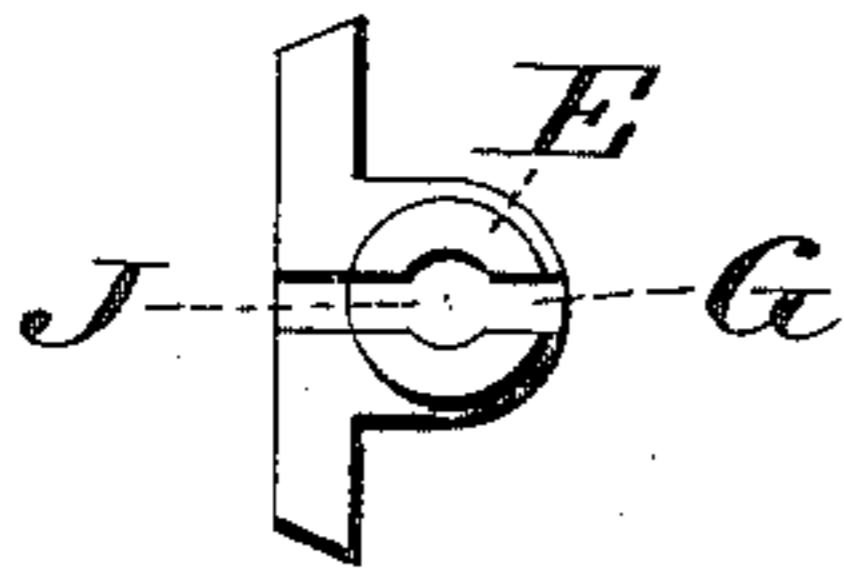


Fig. 3

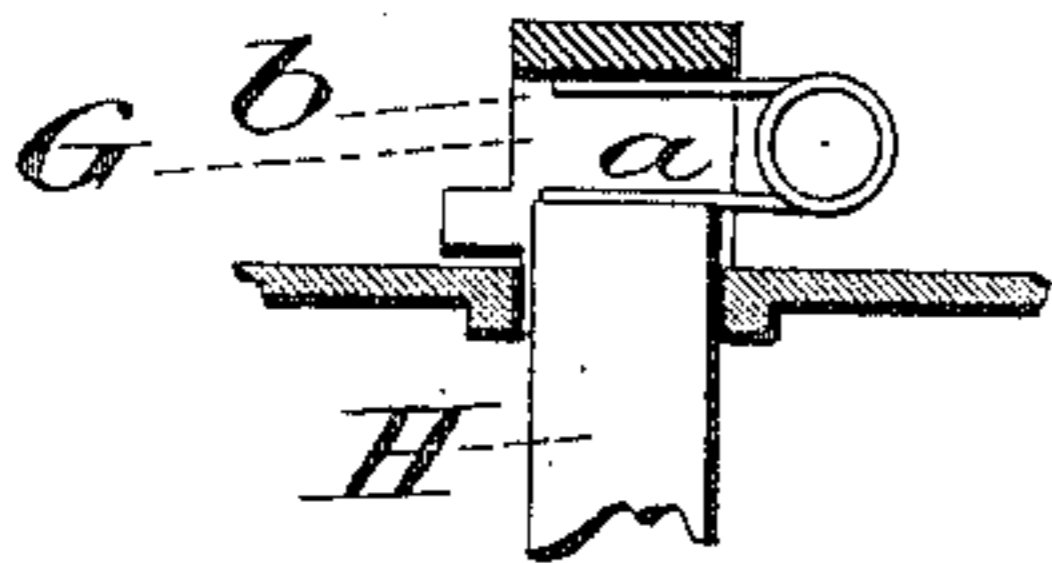
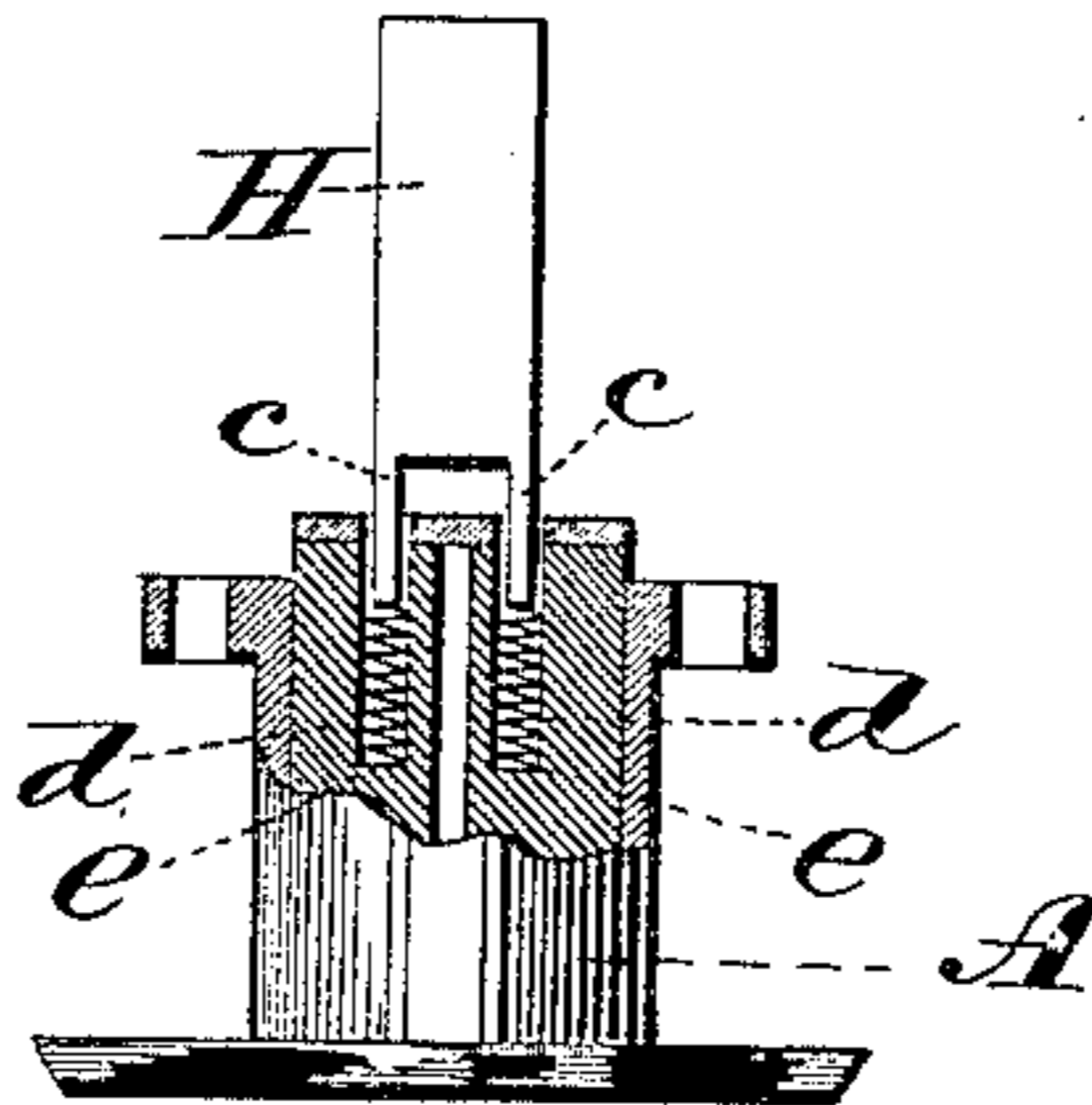


Fig. 4



Witnesses
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By *Atty.*
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UNITED STATES PATENT OFFICE.

JOSEPH B. SARGENT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & COMPANY, OF SAME PLACE.

CYLINDER-LOCK.

SPECIFICATION forming part of Letters Patent No. 445,085, dated January 20, 1891.

Application filed November 3, 1890. Serial No. 370,187. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. SARGENT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Cylinder-Locks; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the
10 same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal section of the lock as applied to a door and showing the improved connection between the cylinder and
15 the hub of the lock; Fig. 2, an inner end view of the hub detached; Figs. 3 and 4, sections illustrating modifications in the arrangement of the spring for the connecting-bar.

This invention relates to an improvement
20 in that class of locks and latches in which the key mechanism is arranged in a cylinder independent of the case of the lock or latch mechanism, and is made fast in one side of the door with a connection from the cylinder
25 to the hub of the lock or latch, so that as the key-cylinder is revolved the hub will be rotated accordingly to withdraw the bolt. As the thickness of doors to which such locks are to be applied varies, some provision is
30 necessary in the connection between the cylinder and the hub to adapt the connection to such varying thicknesses of door. In some cases the connection is made of maximum length and adapted to be broken off to ac-
35 commodate varying thicknesses. In other cases the connection is made fast to the cylinder and slides longitudinally in the hub. The breaking of the connection, as in the first-mentioned device, is objectionable, and
40 it is also objectionable in many cases that the connection be made fast to the cylinder.

The object of my invention is to adapt a standard length of connection to various
45 thickness of doors without making such connection a permanent part of the latch, or in any way disturbing or changing the said connection to adapt it for such varying thicknesses; and the invention consists in constructing the hub with a diametrical slot
50 adapted to receive the end of the connecting-bar, the said connecting-bar entering a cor-

responding slot in the cylinder of the lock and so as to be rotated therewith, combined with a longitudinally-acting spring arranged in the slot of the hub, and so as to bear
55 against that end of the connecting-bar and yieldingly press it toward the cylinder, so as to maintain its connection therewith, the said spring yielding so that the connecting-bar may pass into the slot in the hub to a greater
60 or less distance, according to the thickness of the door, and as more fully hereinafter described.

A represents the lock-cylinder applied to a door B, the cylinder being any of the usual
65 constructions.

C represents the lock-case, D the tail of the lock-bolt, and E the hub, all of common and well-known construction, except as to the
70 construction of the hub, as hereinafter described. The hub is provided upon its outer end with a suitable knob F, by which it may be rotated, when desirable, to draw the latch-bolt, also as in the usual construction.

The hub E, as seen in Fig. 2, is constructed
75 with a diametrical slot G, into the end of which the connecting-bar H, between the cylinder and the hub, may pass, the connecting bar being a flat bar of metal, one end introduced into a slot in the end of the cylinder
80 in the usual manner, and the other end extending into the said diametrical slot E of the hub, and so that as the key rotates the mechanism of the cylinder the connecting-bar H will receive a corresponding rotation,
85 and that rotation will be communicated to the hub E, so as to draw the bolt as usual in this class of locks or latches. In the hub a spring I is arranged to bear longitudinally against
90 the end of the connecting-bar H, tending to force the said connecting-bar from the hub, and so that when the end of the said connecting-bar is introduced into the hub it will compress the spring to some extent. The spring
95 is preferably a spiral spring, and the hub is constructed with a central longitudinal cavity J, as seen in Fig. 2, adapted to receive the said spring.

The length of the connecting-bar H is the maximum length required for connection be-
100 tween the cylinder and the hub, and the depth of the slot G is such as to permit the

connecting-bar H to enter the hub to an extent to reduce it to substantially the minimum thickness of door to which the lock is adapted.

5 In applying the latch the cylinder is preferably first applied to the door, and when in position the connecting-bar H is inserted into the cylinder and the latch applied, the other end of the bar set into the slot in the hub
10 against the spring, the latch is brought to its position against the door, and in so doing the spring will be compressed according to the projection of that end of the connecting-bar H beyond the surface of the door, and the
15 spring will serve to prevent the possibility of the escape of the bar from the cylinder. By this construction in applying the lock or latch to the door no care or attention is necessary to be exercised by the workman in making
20 the connection between the cylinder and the latch further than to simply introduce the connecting-bar, the spring automatically making the adjustment which adapts the bar to the thickness of the door to which the latch
25 is applied.

While I prefer to employ the spiral spring and apply it in the hub of the latch, as I have described, the spring may be other than a spiral spring, as seen in Fig. 3, in which the
30 spring is represented as of a torsional character, one arm *a* of which rests upon the end of the bolt in the slot G of the hub, the other arm *b* being secured to the hub, or the springs may be applied in the cylinder, as seen in
35 Fig. 4, the connecting-bar H being bifurcated at that end to form two legs *c c* and the cylinder constructed with two corresponding longitudinal cavities *d d*, into which spiral springs *e e* are introduced to bear against the

ends of the said legs. In this case the power of the spring forces the connecting-bar into engagement with the hub and yields to the varying thicknesses of door.

I claim—

1. In a cylinder-lock substantially such as described and in which the cylinder is detached from the lock-case, the hub by which the bolt is operated constructed with a diametrical slot, a connecting-bar one end of which is adapted to be loosely engaged with the cylinder and the other to enter the said diametrical slot of said hub, with a spring adapted to yieldingly bear longitudinally upon said connecting-bar, substantially as described. 55

2. The combination of a lock-case carrying the bolt, a rotating hub E, arranged in the case, adapted to operate upon said bolt, the said hub constructed with a diametrical slot G opening from its inner end, and also constructed with a longitudinal spring-cavity J, a spring I, arranged in said cavity, a key-cylinder detached from said lock-case and adapted to be applied upon the side of the door opposite the lock-case, a connecting-bar H, one end of which is adapted to be loosely engaged with said cylinder and the other end adapted to enter the said diametrical slot of the hub and bear upon said spring, substantially as described. 70

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH B. SARGENT.

Witnesses:

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CHAS. L. BALDWIN.