

S.H. Wheeler's Impd. Latch and Lock.

117023

PATENTED JUL 11 1871

Fig. 2.

Fig. 1.

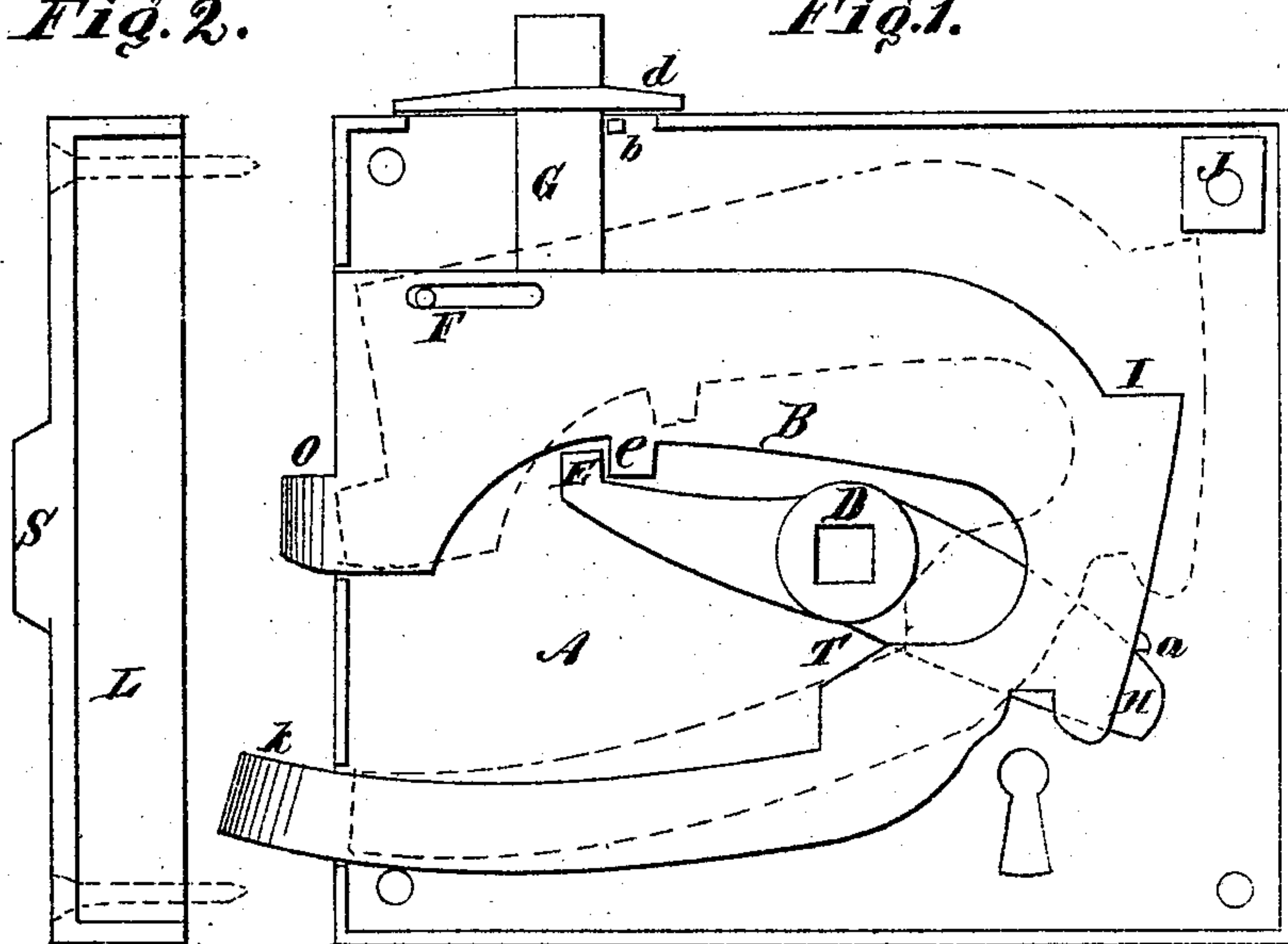


Fig. 3.

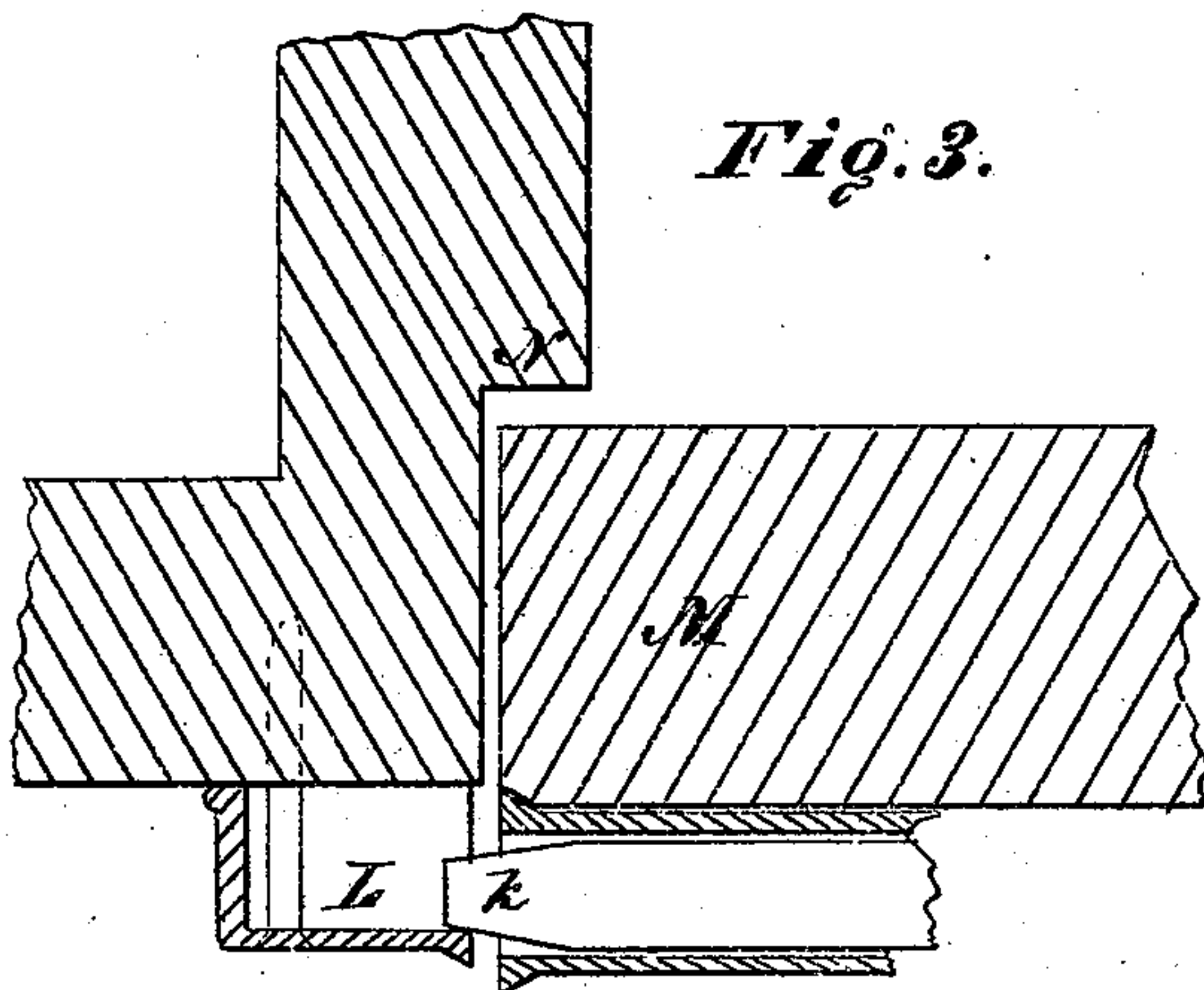
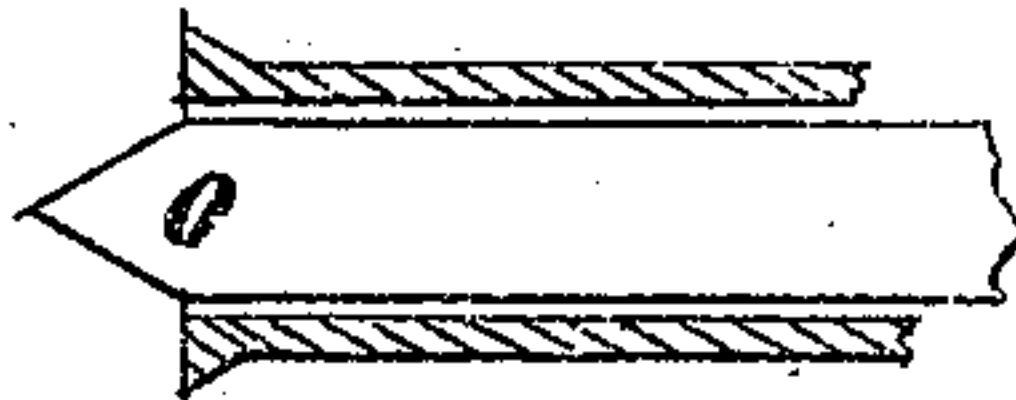


Fig. 4.



Witnesses.

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SHEPHERD H. WHEELER, OF DOWAGIAC, MICHIGAN.

IMPROVEMENT IN COMBINED KNOB-LATCHES AND LOCKS.

Specification forming part of Letters Patent No. 117,023, dated July 11, 1871.

To all whom it may concern:

Be it known that I, SHEPHERD H. WHEELER, of Dowagiac, in the county of Cass and State of Michigan, have invented certain Improvements in Knob-Latches and Locks, of which the following is a specification:

My invention is similar in its nature to that for which I obtained Letters Patent dated 4th of April, 1871, and No. 113,377, for improvements in combined locks and latches, and on which this is designed to be an improvement.

In the accompanying drawing making a part of this specification, Figure 1 is a side view of a device embodying my invention, having the knobs and one side of the case removed. Fig. 2 shows that edge of the keeper that is used next to the lock. Fig. 3 is a transverse section of the door and door-frame and a top view of a section of the latch-bolt. Fig. 4 is a sectional view of a double-beveled auxiliary latch-bolt.

The letters of reference marked on the annexed drawing refer to similar letters in the specification, in which—

A represents the case. This case is made Janus-faced, and of any well-known suitable form. B represents a U-shaped bolt. This bolt must have sufficient weight to insure prompt action without the aid of springs. The larger arm of this bolt is pivoted to the case A near the upper front corner. This arrangement causes the other arm of the said bolt to swing out of the case by virtue of its own gravity, and is prevented from passing too far out by dropping onto the hub or cam D.

The above-described arrangement does not vary materially from that for which I obtained Letters Patent referred to above.

In my present invention I employ a collar, *d*, on the stem G. This collar serves as a cover to the opening in the case A, in which the stem G works. Said stem is attached to the bolt B, and projects through the case sufficiently to be grasped by the fingers for the purpose of moving the bolt B without the agency of the key. When the bolt is locked a pin may be inserted in the opening *b* in the case A, and behind the collar *d*, thus preventing the door from being opened by a person on the outside with a key that fitted the lock. I also make the elongated opening or slot F straight instead of circular. This allows the U-shaped bolt to slide without being raised up;

and to hold this bolt in position, whether locked or unlocked, I provide it with a projection, *e*. This projection engages with the hook E on one arm of the cam or hub D; the other arm H on said hub serves the purpose of withdrawing the latch from its keeper when the knob is turned in one direction, by coming in contact with the shoulder *a* on the side of the U-shaped bolt, and also serves the purpose of a tumbler, to be actuated by the key, to disengage the hook E, thus allowing the bolt B to be moved by the key in locking or unlocking the door; but when it is desirable to bolt or unlock the door without a key this can be done by turning the knob enough to disengage said hook and moving the bolt B by means of the stem G when the operator is on the inside of the room. I also provide a shoulder, as seen at I, on the bolt B. This shoulder abuts against an elastic stop, *j*, in the upper rear corner of the case A, when the latch is thrown back, as shown in dotted lines in Fig. 1. The object of the beveled shoulder, as seen at T, is to prevent the U-shaped bolt from sliding forward when the rear end is elevated on the arm H of the cam D. The lower arm of the U-shaped bolt I form wedge-shaped at the point by making a flat bevel on the front side; and if the latch is a blunt one I bevel both sides slightly, as seen at *k* in Fig. 3. These bevels should be as steep as may be, and not render the door liable to open from any amount of pressure on the outside that would be likely to occur in the ordinary use of doors. The great advantage of this bevel will be seen in the fact that, in the act of closing the door, the latch *k* will commence to enter the keeper L before the door M arrives at the stop N, as clearly shown in Fig. 3, thus preventing the door from rebounding, however violently it may be shut; and should the door be moved so gently as not to quite reach the stops by its own force, the tendency of this latch will be to wedge the door back against the stops, if it has entered the keeper, however slightly it may be; and I think it advisable to bend the recess in the keeper in which the latch works on its front side to correspond with the bevel on the latch, but this is not absolutely necessary. O represents an auxiliary latch-bolt, which may be attached directly or indirectly to the latch. The office of this bolt is to throw the latch back so that it may enter the keeper without bringing the latch *k* in contact

with the exterior of its keeper. The bolt *o* is provided with a steep bevel on opposite sides, so that it may be used in a Janus-faced case for a right or left-hand door without changing any parts. To obtain the best results this bolt should be so connected with the latch *k* that a large movement of said latch will be produced from a less movement of the bolt *o*, substantially as shown in Fig. 1. In connection with the auxiliary bolt *o* I use the keeper *L*, having a perpendicular projecting strike, *S*. This strike must project forward of the face of the keeper sufficiently to strike the bolt *o* and throw back the latch before said latch reaches its keeper, and this strike must not extend the entire length of the keeper, but must be so located as to engage with the bolt *o*, whether used for a right or

left-hand door, without regard as to which end of the keeper is uppermost.

Having thus fully described my invention in such exact terms as I can give, I claim—

In a gravitating combined lock and knob-latch, having U-shaped bolt *B*, case *A*, cam or hub *D*, stem *G*, shoulder *a*, and any suitable knob-handles, the use of the collar *d*, opening *b*, elongated mortise *F*, projection *e*, hook *E*, tumbler *H*, shoulders *I* and *T*, stop *J*, beveled latch *k*, keeper *L*, having the projection *s*, and auxiliary bolt *o*, substantially as and for the purposes set forth.

SHEPHERD H. WHEELER.

Witnesses:

CHAS. E. BAILEY,
MARTIN J. ANDERSON.