

C. R. HEIZMANN & W. E. DEIBERT.
REVERSIBLE LATCH.

Patented July 29, 1884.

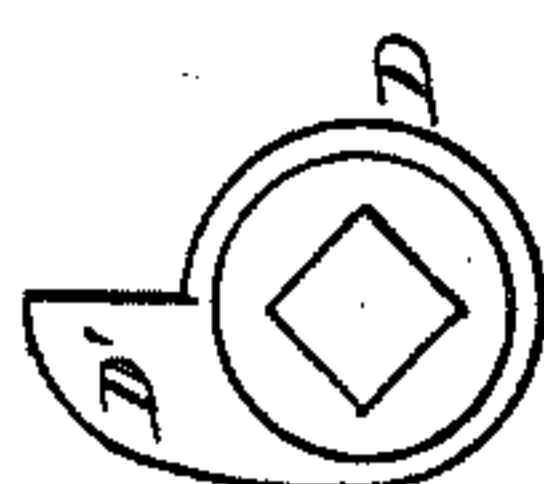
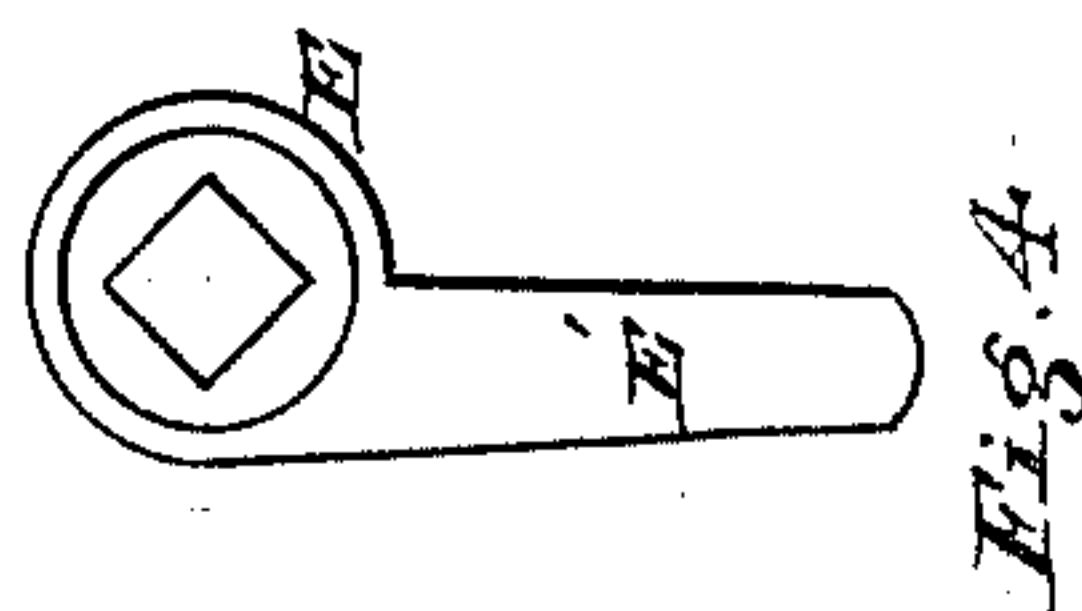
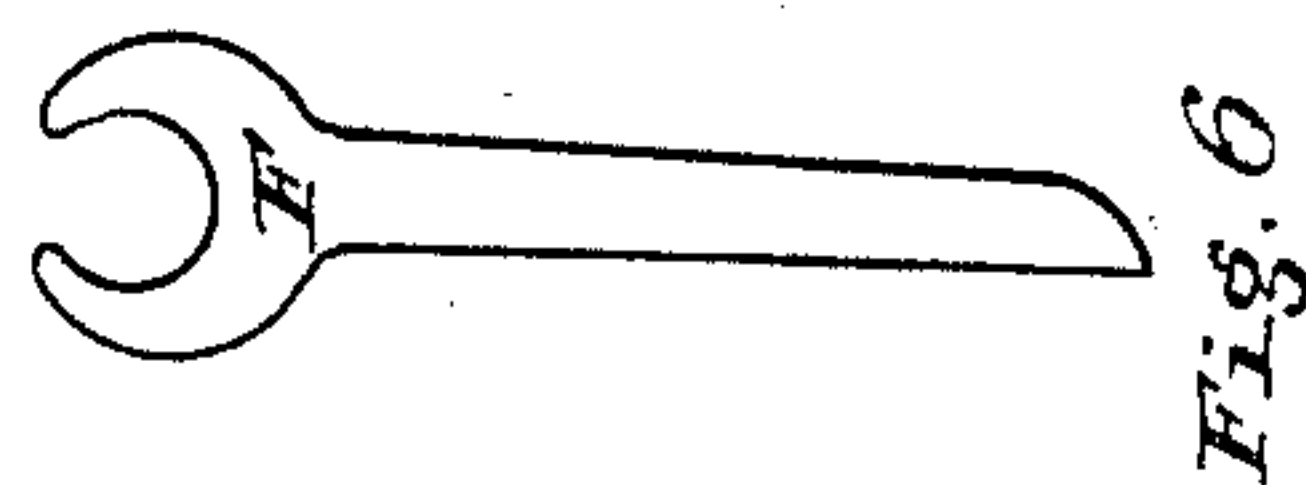
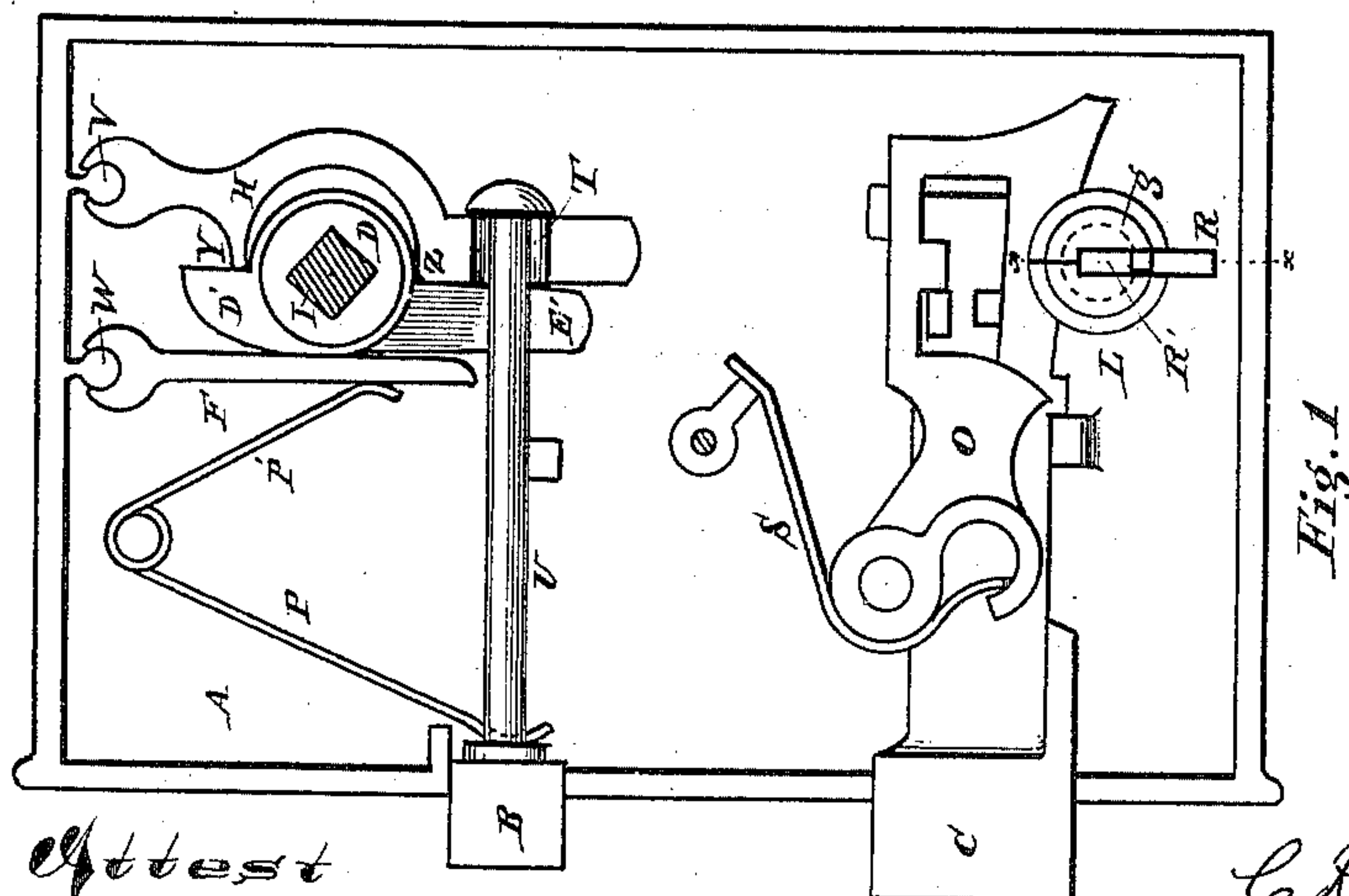
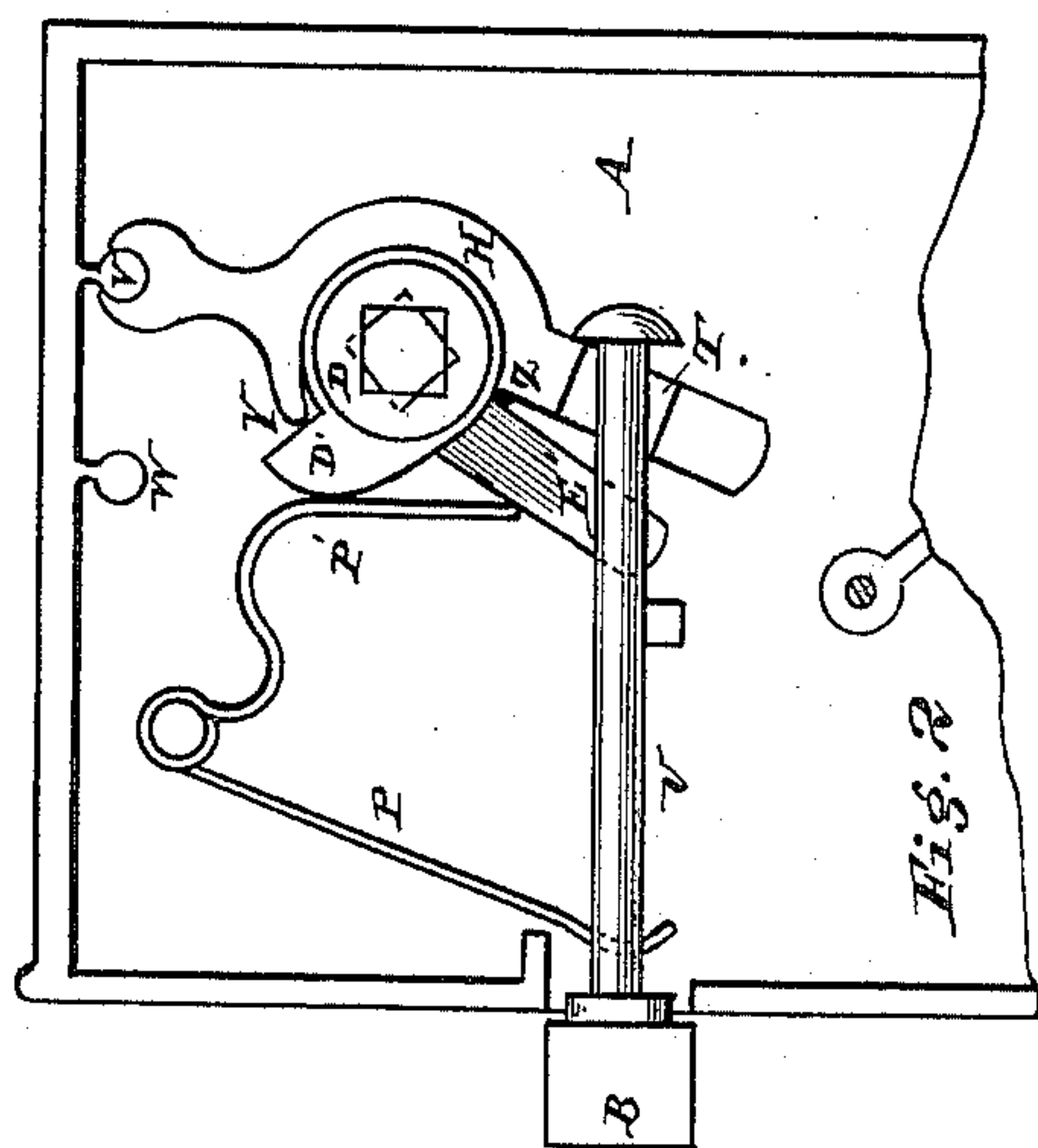
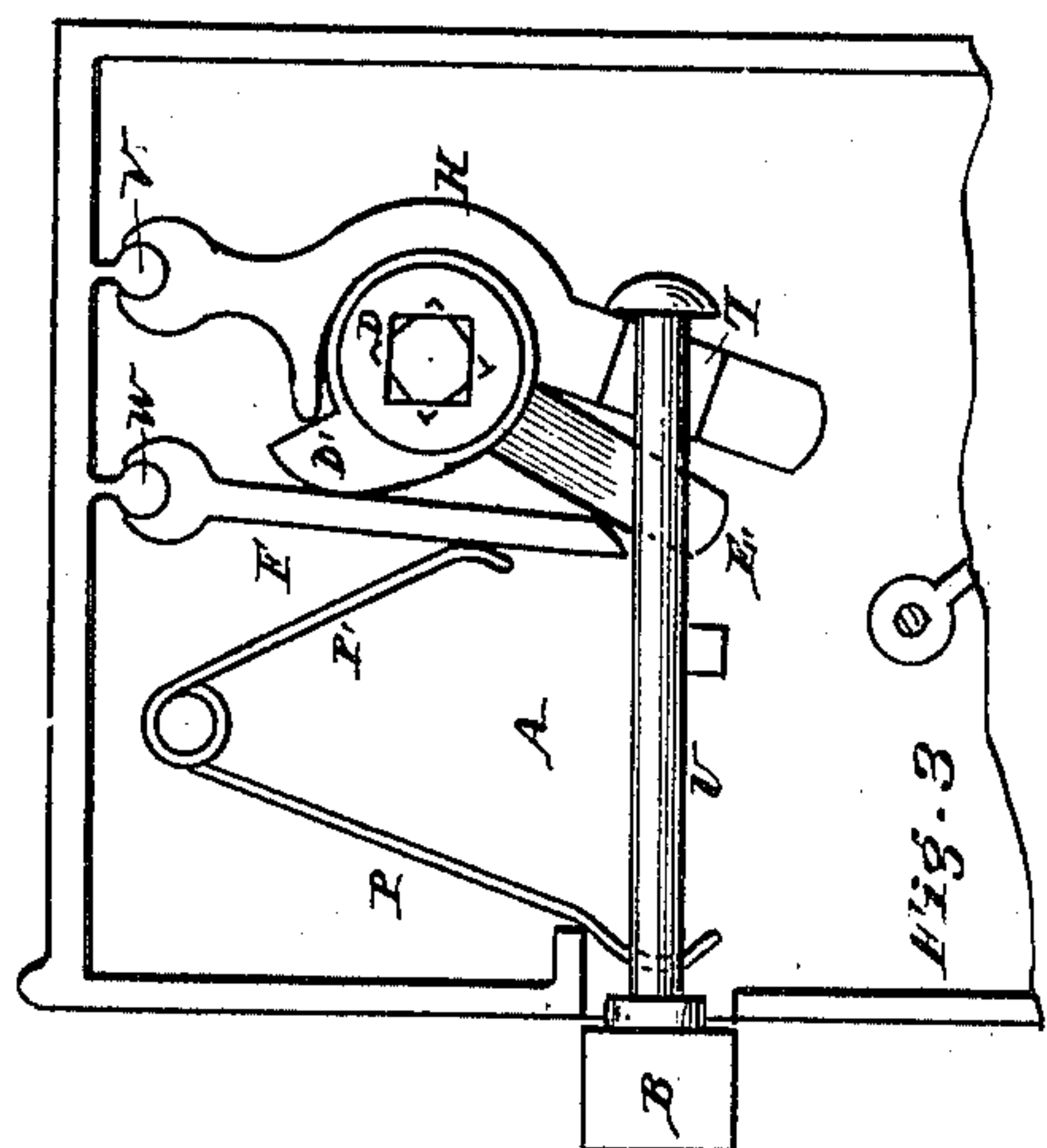


Fig. 6

Fig. 4

Fig. 5

Fig. 1

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UNITED STATES PATENT OFFICE.

C. RAYMOND HEIZMANN AND WILLIAM E. DEIBERT, OF READING, PA.,
ASSIGNORS TO THE PENN HARDWARE COMPANY, OF SAME PLACE.

REVERSIBLE LATCH.

SPECIFICATION forming part of Letters Patent No. 302,657, dated July 29, 1884.

Application filed October 28, 1882. (Model.)

To all whom it may concern:

Be it known that we, C. RAYMOND HEIZMANN and WILLIAM E. DEIBERT, of Reading, Pennsylvania, have invented certain Improvements in Reversible Knob-Latch Locks, of which the following is a specification.

The object of our invention is to so construct that class of locks generally used on doors, that the latch of said locks can be reversed without taking the lock apart, so as to convert it at will into a right or left hand lock, and when the latch is so reversed and is again released both it and the hub, as well as the other parts of the latch mechanism, will be thrown back surely and smoothly into the positions they held before the said reversing of the latch, thereby allowing the latch-spindle to be inserted without difficulty.

It further consists in so constructing and arranging the spring and the parts operating in connection with it and the latch that only about one-half of the force of the spring is applied to the lock itself, so that when the door on which the latch is fastened is swung shut and the latch strikes the nosing on the door-frame it is forced back gently and easily, allowing the door to shut without jarring; and these objects we attain in the manner which we will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of a lock with the face-plate removed, showing the position of the parts with the spindle I in the hub D E. Figs. 2 and 3 are views of a portion of the same with the spindle I removed and the latch drawn out ready to be reversed. Fig. 4 is the lower part, E, of the spindle-hub D E; and Fig. 5 is the upper half, D, of the spindle-hub D E; and Fig. 6 is a view of the lever F, as shown in Fig. 3.

A is the casing of the lock, in the lower portions of which, Fig. 1, are arranged the parts for operating the locking-bolt C. In the upper portions of the casing A is the latch-bolt B, Figs. 1, 2, and 3, the spindle *u* of which is held in the slot T in the lower end of the lever H, the upper end of which (lever H) is held and swings on the stud V. The lever H embraces the spindle-hub D E, which is made in two parts—the upper part, D, and

the under part, E, made with a socket and flange fitted to work into each other, the part D having an arm, D', and the part E an arm, E'.

The lever F is held by and swings loosely on its stud W, Fig. 3. It is pressed by the spring P against the arms D' E' of the hub D E.

When the latch B is pulled forward, it draws its spindle *u* and the lever H forward also. The lever H, in moving forward, presses against the arms D' and E' at the points Y Z, pushing them forward, and they in turn push against the lever F, moving it forward also. The latch B and the arms D' and E' now assuming substantially the position as shown in Fig. 3, the latch may be drawn forward and reversed, whereupon, upon releasing the latch B, the portion P' of the spring P, pressing against the lever F, will force it and the arms D' and E' back against the lever H, and they are all pressed back into the positions they occupy in Fig. 1. The lever H, in making this movement, draws back the latch B also into its former position, as shown in Fig. 1. Since the force of the part P' of the spring P must be exerted at the same time on the two arms D' and E', this is done through the medium of the lever F much more satisfactorily than if the end of the said part of the spring P lay directly up against said arms; and as, in order to allow the spindle I to be readily inserted into the hub D E, the sides of the square opening in the hub part D must be on a line with the sides in the square opening of the hub part E, this is surely effected by the pressure of the straight side of the lever F against the arms D' E' until their sides nearest the lever F are moved so as to be on a line with said side of lever F, as in Fig. 1, when they can move no farther. It will be seen that when these sides are on a line with each other, then the sides of the square openings of the parts of the hub D and E will also be on a line with each other, and the spindle I can be inserted without difficulty. All the other parts will be found to be back into the positions they occupy in Fig. 1. After the spindle I is inserted in the hub D E, its two parts, D and E, and their arms D' E' will be held rigidly by the said spindle, and the latch B cannot therefore be drawn forward as long

as the spindle I is inserted in said hub. The latch B can now be drawn back by the turning of the spindle. When this is done and the spindle then released, both the end P' of the spring P and its other end operate to throw the latch B and the hub D E back into their former positions, as in Fig. 1, the part P' of the spring P pressing, through the medium of the lever F, against the arm D' or E', while the other part of the spring P presses against the latch B, so that the entire force of the spring P is exerted in throwing the hub D E and the latch B back into the positions they occupy in Fig. 1; but should the lock be fastened to a door and the door swung shut, so that the latch strikes the nosing on the door-frame,

then it will be seen that only the force of the end of the spring which rests against the latch B itself is brought into play, forming what is known as an "easy spring-latch."

We claim as our invention—

The combination, in a reversible latch-lock, of the divided hub D E, its arms D' E', the lever F, and the spring P, as set forth, and for the purpose specified.

In testimony of which invention we hereunto set our hands.

C. RAYMOND HEIZMANN.
WILLIAM E. DEIBERT.

Witnesses:

H. A. ZIEBER,
B. Y. SHEARER.