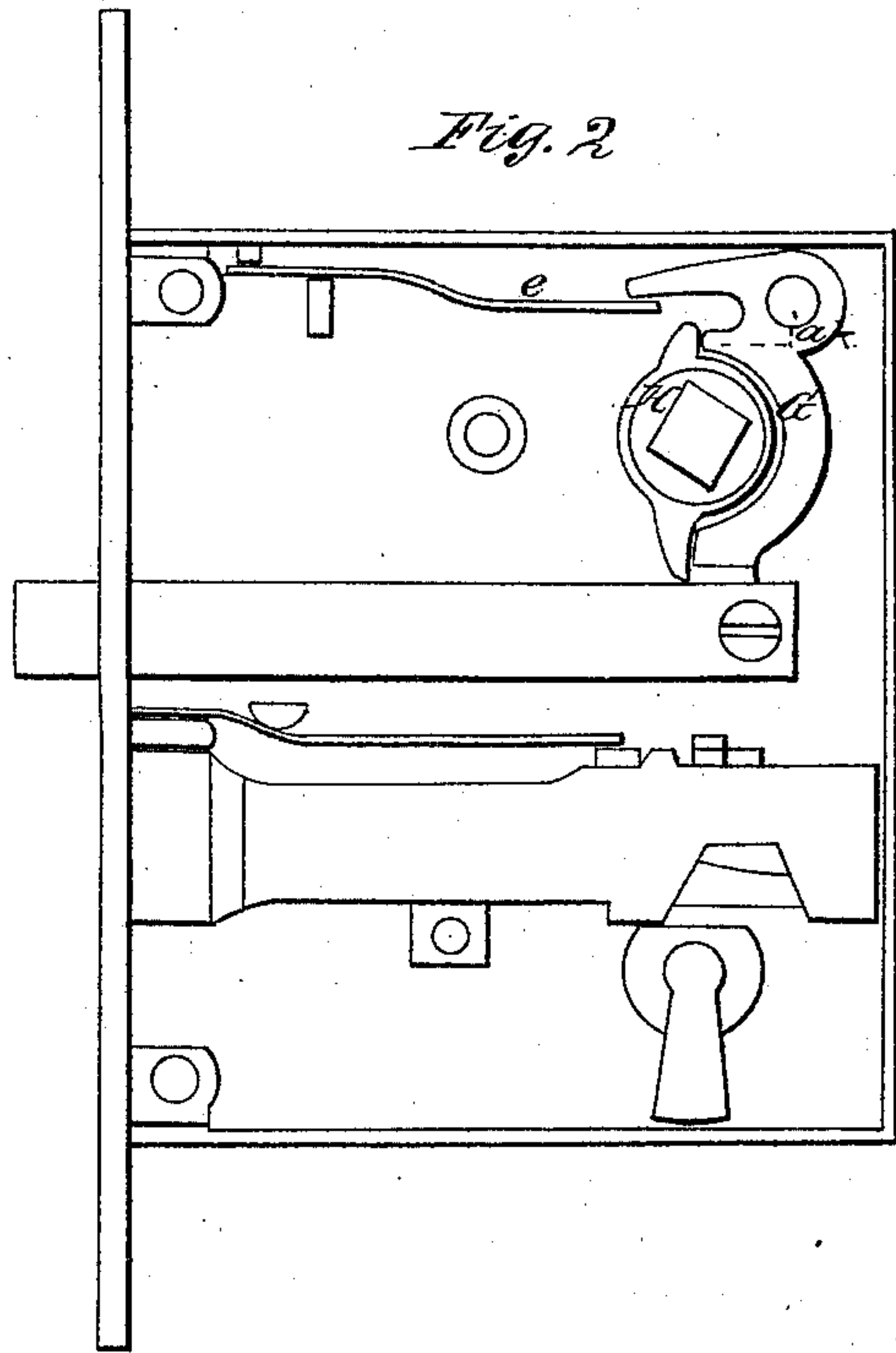
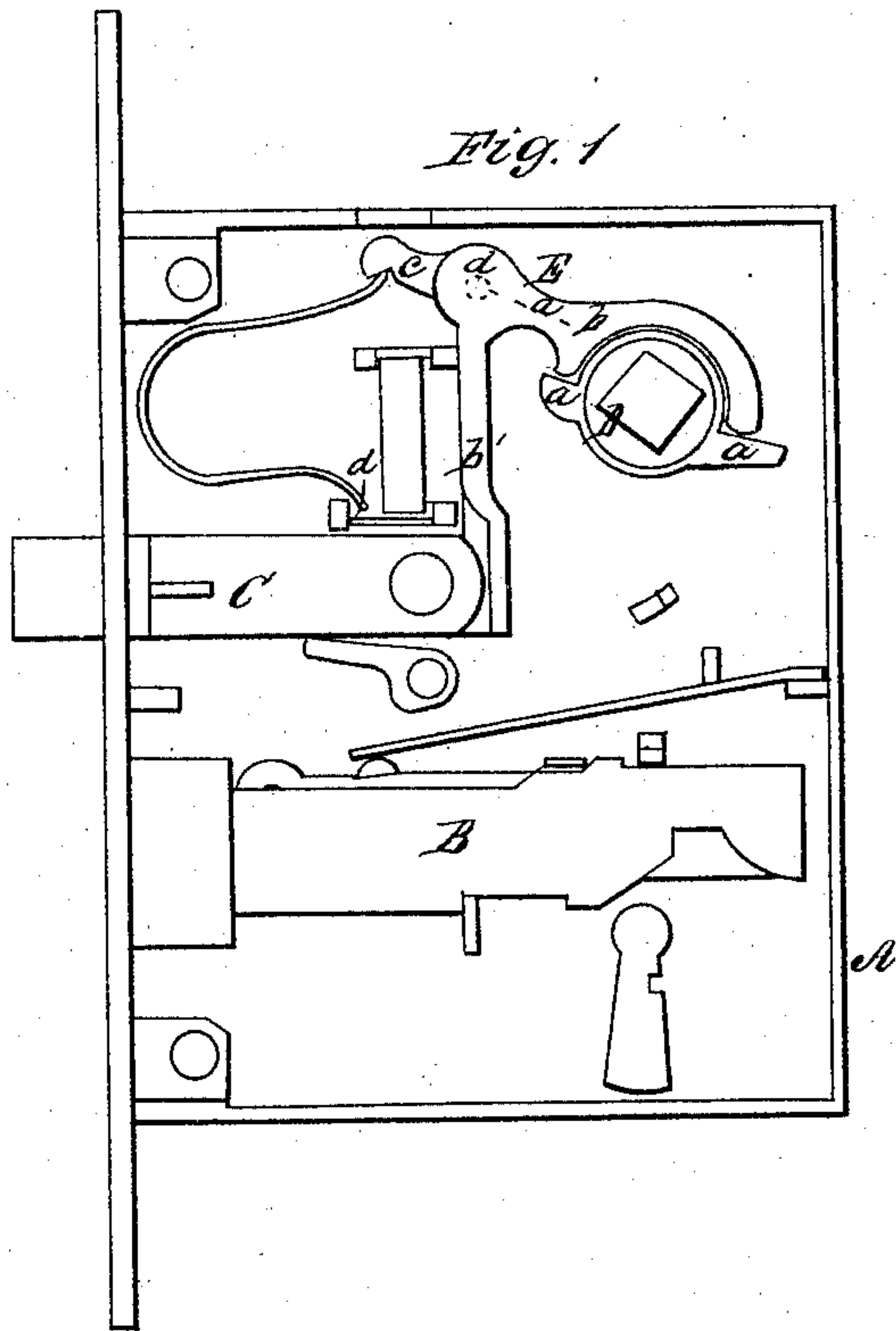


H. H. Ellwell,

Latch.

N^o 41,573.

Patented Feb. 9, 1864.



Witnesses;

John S. Douglas
Glo W. Reed

Inventor;

Harry H. Ellwell

UNITED STATES PATENT OFFICE.

HENRY H. ELWELL, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR TO
THE NORWALK LOCK COMPANY.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 41,573, dated February 9, 1864.

To all whom it may concern:

Be it known that I, HENRY H. ELWELL, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an internal view of a lock constructed according to my invention; Fig. 2, a sketch of a lock constructed in the ordinary way, in order to show the difference between it and my invention.

This invention relates to an improvement in the means employed for actuating the latch-bolt, whereby a better leverage-power is obtained than by the old plan or arrangement, and a more uniform spring allowed to be used and a very desirable lock obtained, as hereinafter fully set forth.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, Fig. 1, represents a lock-case of rectangular form; B, the lock-bolt, and C the latch-bolt. D is the hub through which the arbor of the knobs passes. This hub is provided with two projections, *a a*, as usual, and E is a lever formed with two arms, *b b'*, which are nearly at right angles with each other, and also provided with a short arm or projection, *c*, which is nearly in line with the arm *b*. The fulcrum *d* of the lever E is at the angle of the two arms *b b'*, and the arm *b* has a semicircular recess in it for the hub D to fit into. The arm *b'*, it will be seen by referring to Fig. 1, extends down between the hub D and the end plate, *e*, of the lock, and the latch-bolt C is connected to the lower end of said arm *b'*.

F is a U-shaped spring, one end of which bears against the short arm or projection *c* of the lever E, and the other end against a stump or projection, *d*, in the case A. This spring F has a tendency to keep the latch-bolt

C thrown outward from the case A as far as it is designed to extend outward, as will be seen by referring to Fig. 1.

From the above description it will be seen that a good leverage-power of the hub D on the arm *b* of the lever E is obtained, and consequently said latch-bolt may be easily operated, and by the arrangement of the lever E, as shown, a U-shaped spring may be used which has about an equal action throughout, or much more so than the ordinary flat spring *e*, as shown in Fig. 2. The ordinary lever, G, (shown in Fig. 2,) is placed between the hub H and the back edge of the lock-case, and but a short leverage-power of the hub H on the lever G is obtained. This difficulty cannot be obviated with this arrangement. The hub H cannot be placed lower down to increase the leverage-power, as that would bring the knob too close to the key of the lock, so that in grasping the knob to turn it the hand would come in contact with the key. This would be the case in small locks, which are mostly used.

These two advantages above specified constitute a great improvement in the ordinary cheap lock. A good spring is highly important. It prevents unnecessary wear and insures a perfect operation of the latch-bolt, while the increased leverage admits of the latch-bolt being readily operated or without any undue effort. The improvement at the same time is not attended with any additional expense in the manufacture.

The advantage of my improvement in the way of increased leverage is shown by the dotted lines *a'*, in Figs. 1 and 2.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The peculiarly shaped lever E, pivoted to the lock-case, as described, in combination with the hub D, spring F, and latch-bolt C.

HENRY H. ELWELL.

Witnesses:

THOS. L. J. DOUGLAS,
GEO. W. REED.