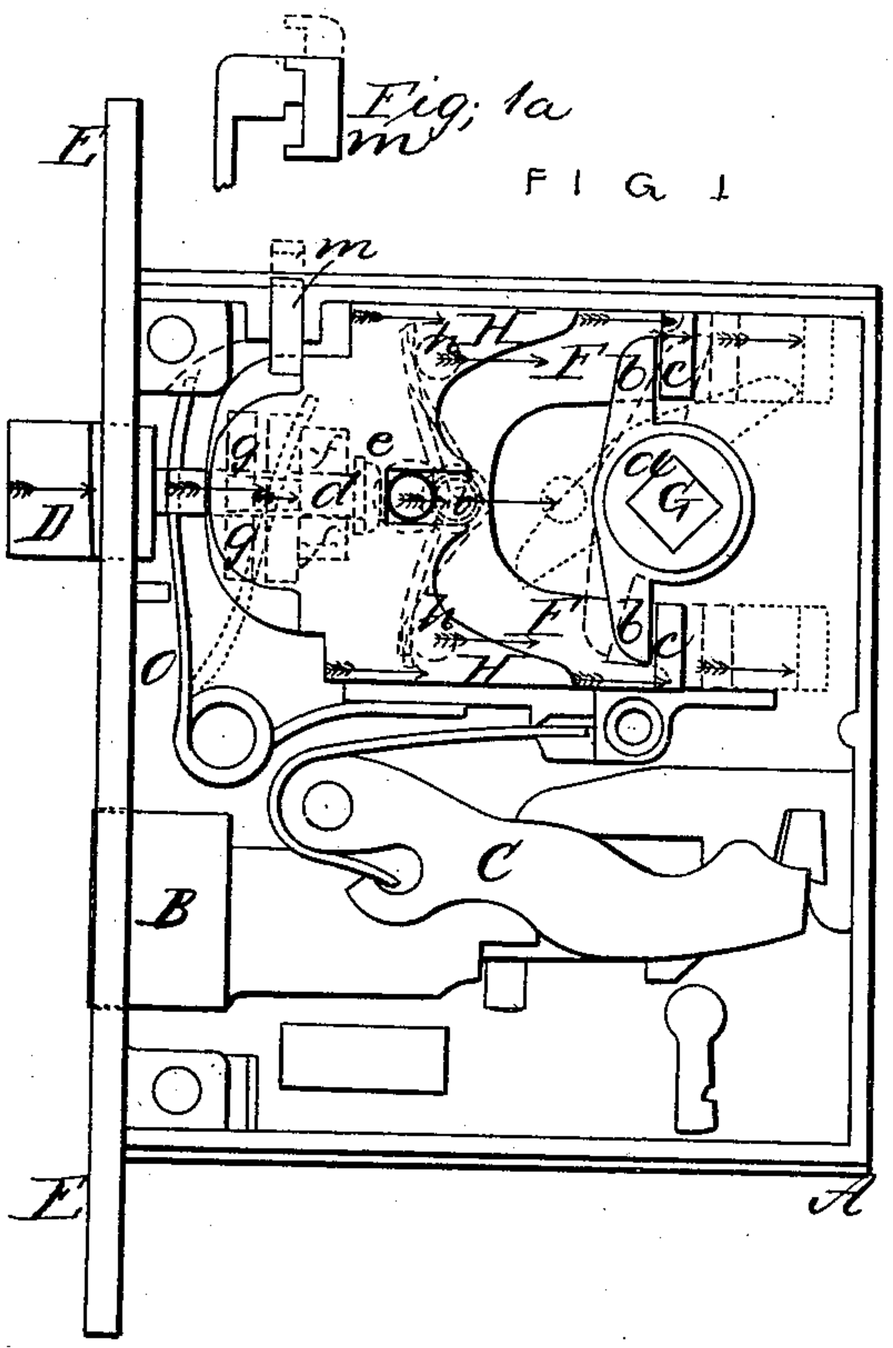
A. Aston.

Reversible Latch.

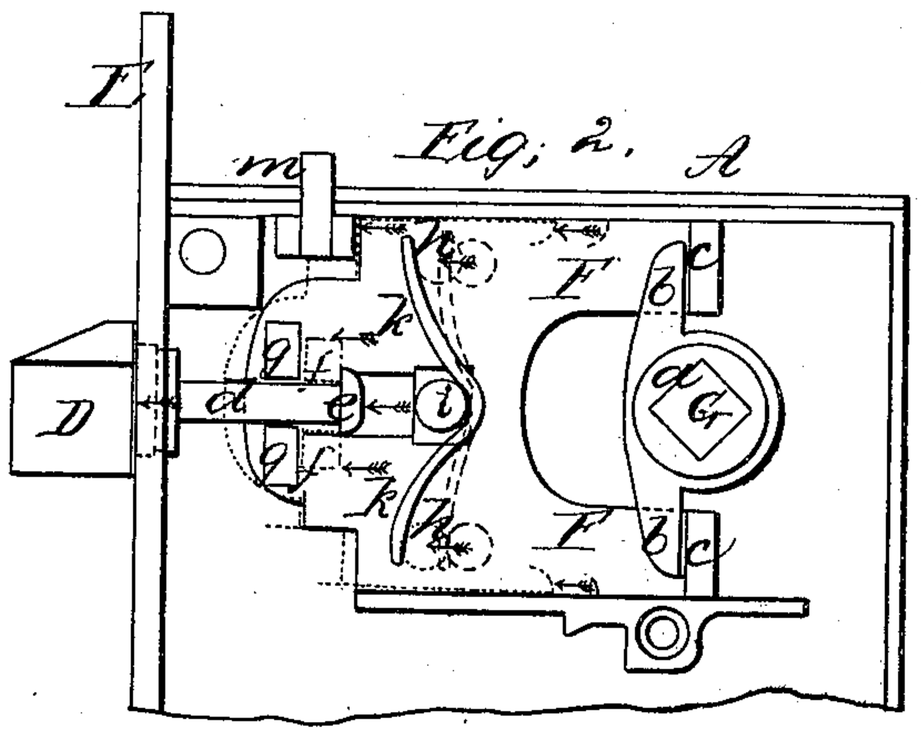
No. 88,261. Patented Mar. 30, 1869.

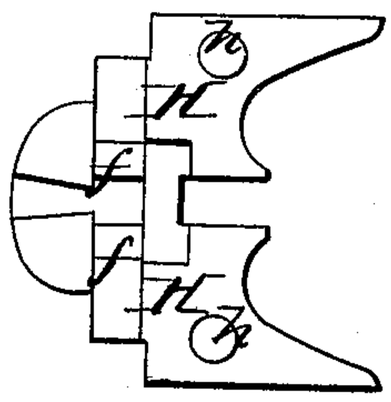
Fig; 1a

FIG 1



Fig; 2. A





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UNITED STATES PATENT OFFICE.

ALONZO ASTON, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN REVERSIBLE KNOB-LATCHES.

Specification forming part of Letters Patent No. **88,261**, dated March 30, 1869.

To all whom it may concern:

Be it known that I, ALONZO ASTON, of New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Door-Locks; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a view of the interior of the lock when the top plate of the case is removed. Fig. 2 is a view of the latch and its mechanism, with the exception of the sliding plate H, Fig. 3, which is removed from Fig. 2 in order to show the parts beneath the same. Fig. 3 is a sliding plate, forming a part of the latch mechanism, a view of the under side of the same being shown.

My improvement relates to that class of door-locks in which the latch is made reversible, so that the lock can be used indifferently upon a right or a left hand door. Locks of this general character have become quite common, and various modes of construction have been resorted to, to enable the latch, upon the removal of the knob-spindle, to be drawn beyond the face-plate, so that it, and the shank connecting the same by a swivel-joint with the ordinary plate, worked by the hub or tumbler, can be turned, and the latch be thereby reversed in position.

In the accompanying drawings, A represents the case of an ordinary mortise-lock; B, the bolt, with its set of tumblers C connected therewith; and D, the spring-latch, projecting beyond the face-plate E.

As is well understood, the spring-latch D is drawn backward in common locks, so that the door upon which the lock is placed can be opened by means of a hub, *a*, furnished with wings *b b*, in combination with a sliding plate, F, with which such latch is connected, the hub having a square hole, G, through its axis for the passage of the knob-spindle, and which hub, when rocked by the turning of the door-knob in either direction, will force the plate F backward, by reason of the fact that one or the other of the wings *b* (depending upon the direction in which the knob-spindle is turned) will come in contact with the one or the other of the stud-pins or projections *c c* on the sliding plate.

The spring O operates to project the latch beyond the face-plate of the case in the usual way.

In my invention, which contemplates a means for reversing the position of the latch, as above described, to enable the lock to be used indifferently upon doors opening to the right or to the left, I do not attach the latch directly to the sliding plate F, as in common locks not capable of being reversed, but connect it with a supplemental plate, H, Figs. 1 and 3, which plate is capable of receiving a forward movement independent of the underlying plate F, whose backward movement is effected by the knob-spindle and hub *a*, as above explained; but I so combine this supplemental plate H with the underlying plate F that when the plate F is drawn backward by the turning of the hub *a* the supplemental plate H and the latch D, connected therewith, will be drawn backward also.

As will be seen upon an inspection of the drawings, the shank-rod *d* of the latch D, Fig. 2, is furnished with a button-head, *e*, or equivalent washer, and that the shank is of sufficient length to allow the straddle-yoke *f* on the under face of the plate H (seen at Fig. 3) to be accommodated, and also to allow of the forward movement of such plate H for a short distance—say, one-eighth of an inch, or thereabout—before the front face of such straddle-yoke will bring up against the projecting lugs *g* upon the plate F.

The under side of the supplemental riding plate H is furnished with two stud-pins, *h*, which also serve as legs to support the plate.

Upon the upper surface of the plate F is a stud-pin, *i*, and a spring, *k*, is held thereby, as shown.

Let it be supposed, now, that the supplemental riding plate H is superimposed upon the plate F, as shown at Fig. 1. The arms of the double-armed spring *k* should bear against the front sides of the stud-pins *h*, and by their tension keep the neck of the straddle-yoke *f* hard against the button-head *e* of the shank-rod *d*, thereby giving the utmost amount of clearance which the construction of the parts

will admit of between the front face of the straddle-yoke and the rear face of the lug *g* on the plate F.

It is quite evident that if, with the parts so arranged, a force be applied to the latch to pull it forward, it will be practicable to draw out such latch against the tension of the spring *k* for a distance just equal to the extent of the clearance above mentioned. This capacity of extension will obviously allow the head of the latch to be drawn beyond the face-plate *e*, when no obstacle will exist to prevent the turning of the latch and its shank-rod *d*, so as to enable the latch-face to be reversed in position.

When the plate F is operated by the knob-spindle in the usual way, the supplemental plate H and the latch connected therewith will be moved backward with it, all three parts moving in that direction as one.

In order to prevent the latch from being pulled forward after the lock has been attached to the door, a sliding bolt, *m*, is set into the case at the top edge, and which, unless drawn out, will project inward so far as to present an obstacle in the way of pulling forward the plate H. If it is desired to shift the position of the latch, it is only necessary (the lock being supposed to be disconnected from the door) to hold the case in such position that the bolt *m* will drop outward, as shown at Fig. 2, when the latch can be pulled forward clear of the face-plate, as already understood.

The advantages sought by me, and effectually gained by my invention, rest in the simplicity of the parts composing my latch, and the economy with which they can be manufactured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the latch D and the ordinary devices for operating the same, the supplemental riding plate H, arranged to connect the latch with its operating mechanism, substantially as described, for the purposes specified.

2. In combination with the supplemental riding plate H, a sliding stop, *m*, arranged to operate in the manner substantially as described, for the purposes specified.

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