C. R. Fisher,

Rerersible Latch,

No. 80,539, Patented Aug. 4, 1868.

Fig. 1

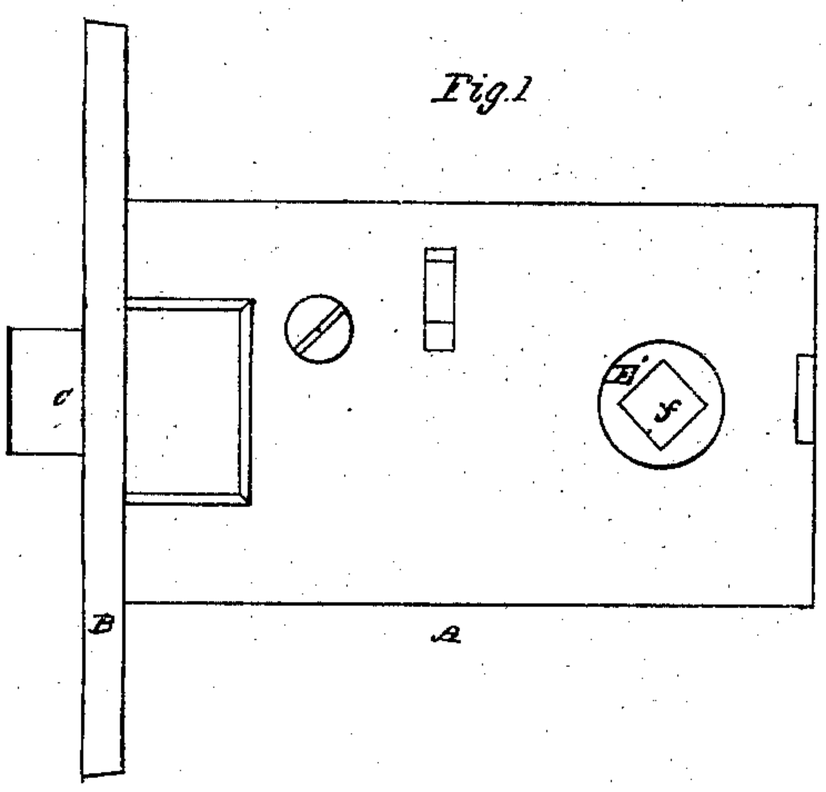

Fig. 3.

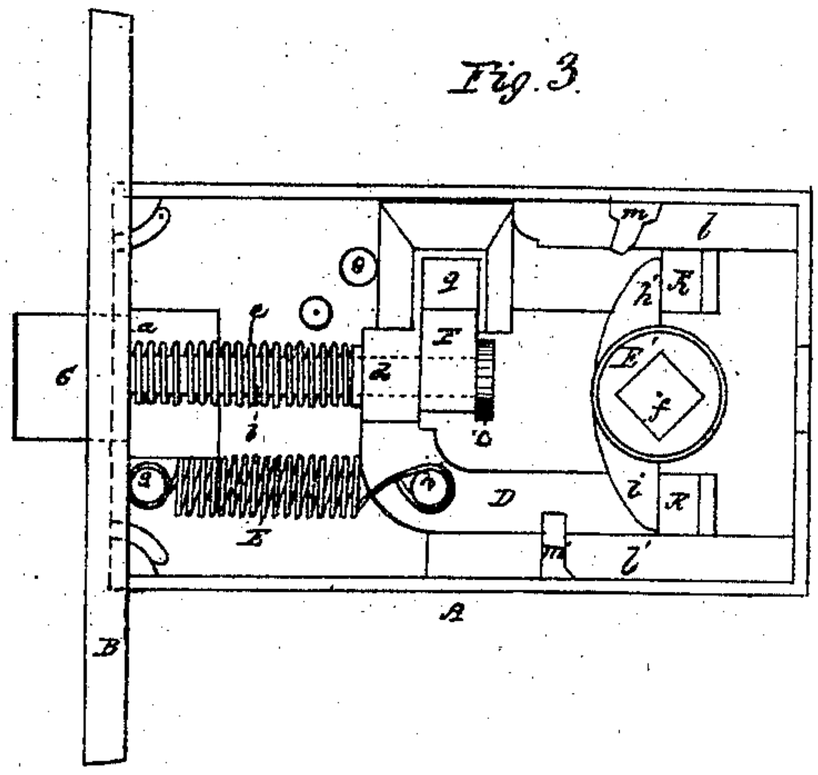

Fig. 2.

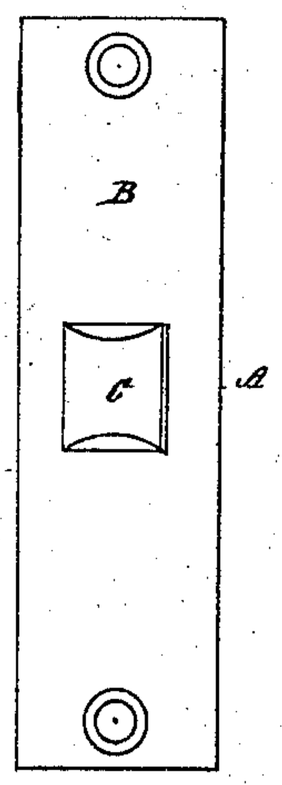

Fig. 4

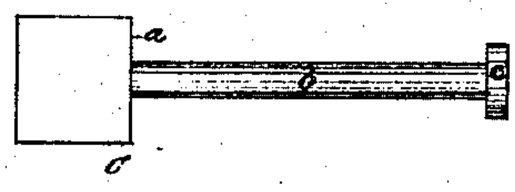

Fig. 5.

Witnesses
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CHARLES R. FISHER, OF CHELSEA, MASSACHUSETTS.

Letters Patent No. 80,539, *dated August* 4, 1868.

IMPROVEMENT IN REVERSIBLE LATCHES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, CHARLES R. FISHER, of Chelsea, in the county of Suffolk, and State of Massachusetts, have invented a new and useful "Improvement in Spring-Locks for Doors, &c.;" and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings.

Of the said drawings—

Figure 1 denotes a side view, and

Figure 2 a front end view of the lock-case.

Figure 3 is a side elevation of the lock-case with one of its plates removed, in order to exhibit the interior portion of the lock.

Figure 4 is a side view of the bolt, and

Figure 5 a side view of the furcated slider, which embraces the shank of the bolt, and serves to maintain the head of the bolt (when once adjusted) in its normal position or path of movement.

The object of my invention is to provide a simple and effective means whereby the bolt of the apparatus can be readily so adjusted as to enable the lock to be applied to either a "right" or "left"-hand door, as circumstances may require.

In the said drawings, A denotes the lock-case, which is of a rectangular shape, and constructed in the ordinary manner.

B is the front plate thereof.

C is the bolt, which is formed with a rectangular bevelled head, *a*, and a cylindrical shank, *b*, the latter terminating in an annular shoulder or button, *c*, the whole being as shown in fig. 3.

The said shank passes through a hole made through a projection, *d*, formed in a U-shaped carriage, D, and is secured to the carriage, in manner as shown in fig. 3.

Furthermore, the said shank is encompassed by a helical spring, *e*, one end of which rests against the head *a*, and the other end against the said projection *d*.

This spring *e* should be what is termed an "easy spring," that is, its coils should have an expansive force only a little greater than that required to return the bolt to its normal position after it may have been forced into its case. Were the spring a stiff or strong one, too great power would be required to close the door to which such lock was applied.

E is another coiled spring, which extends longitudinally of the case, and has one of its ends attached to a stud, *g*, projecting up from the lock-plate, and its other end affixed to a stud, *h*, extending up from the carriage D, as shown in the said fig. 3. The object of this spring is to restore the carriage to its normal position after the same has been forced backward by the key or knob-spindle.

E′ is the tumbler, which is of a cylindrical form, and extends transversely through the two walls of the lock-case. The said tumbler has a rectangular socket, *f*, made axially through it, to receive either a key or a knob-spindle shank. The said tumbler has two arms, *h′ i*, extending from it in opposite directions. The flat faces of the said arms rest against shoulders or projections, *k k*, extending up from the rear part of the carriage D, as shown in fig. 3.

The carriage D slides between parallel guides, *l l′*, and is maintained in its proper position by means of projections or ears, *m m′*. The extent of movement of the said carriage should be equal to the distance that the head of the bolt projects beyond the face of the back plate. The stud *o* limits its forward movement, and the rear part of the lock-case its backward movement.

By applying the hand of a person to the key or knob of the spindle going through the said tumbler, and revolving or turning the same a short distance in either direction, the head of the bolt may be drawn backward into the lock-case. By releasing the hand from the key or knob, the contractile force of the spring E will force the bolt forward to its original position.

In order to enable my lock to be readily adjusted, so as to fit either a right or left-hand door, I apply to

the reer end of the bolt-shank, and so as to straddle it and rest against its button, *c*, a bifurcated slider or saddle, F, which is disposed within a chamber, *q*, made in the carriage D, as shown in fig. 3. The said saddle F is so formed and applied to its inner chamber as to move freely up and down within the same, which it will readily do when relieved from the action of the spring *e*, and the lock is inverted.

Another mode in which I have contemplated constructing the slider F is to form the lower end thereof with a tenon, to enter a socket or hole made transversely through the shank of the bolt; but I do not consider this method as good as that above mentioned.

If we suppose the lock to be fixed so as to constitute what is termed a "right-hand" lock, and desire to change it to a "left-hand" lock, we have simply to press back (with the thumb or finger) the bolt flush with the face of the front plate, B. The saddle or slider F will then be relieved of the action of the spring, and by turning the case one hundred and eighty degrees, (or bottom side up,) the action of gravity will cause the saddle to slide back in its chamber, and thus become entirely disconnected from the shank of the bolt, and allow the head of the bolt to be withdrawn a short distance from the case. Next we revolve the bolt on its shank one hundred and eighty degrees; next push the head of the bolt into the case, and flush with the face of the plate B; and next turn the lock-case back into its first position. The action of gravity will again force back the saddle into the position shown in fig. 3, and we have a lock adapted to fit a "left-hand" door.

Having described my improved lock, I would remark that I do not claim broadly so constructing a lock or latch-case that the bevelled bolt or latch-head thereof can be revolved or reversed, so as to adapt the lock to be used on either a "right" or "left"-hand door, as circumstances may require, as I am aware that such is not new; but

What I claim therein as of my invention, is as follows:

1. I claim the slider or saddle F, with the reversible bolt C and its spring *e*, when combined and arranged as described, and so as to operate together as set forth.

2. I also claim the combination of the carriage D, the tumbler E′, and the retractile spring E, with the saddle F, the reversible bolt C, and its spring *e*, the whole being arranged and applied to the case A, in manner as described, and so as to operate together as set forth.

CHARLES R. FISHER.

Witnesses:
WM. JONES,
THOMAS COLE.