(Model.)

E. H. FROST.

Spring Latch.

No. 243,541. Patented June 28, 1881.

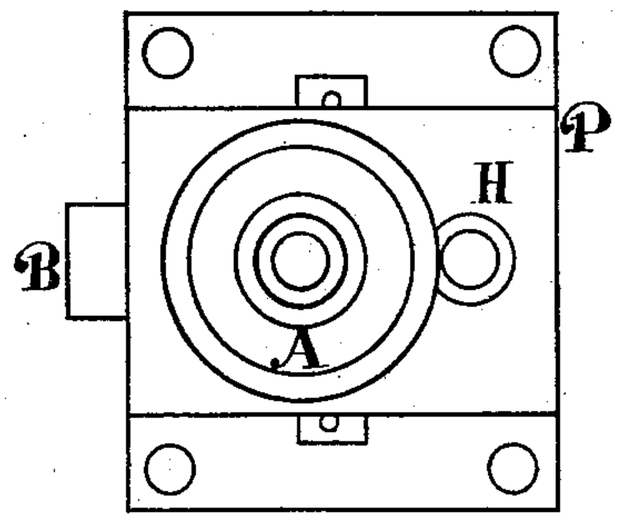

FIG. 1.

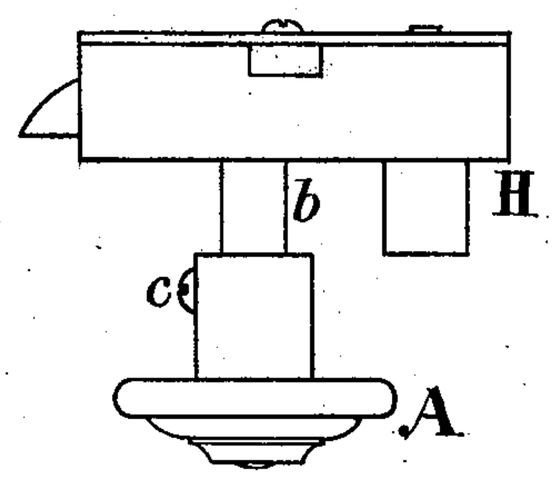

FIG. 2.

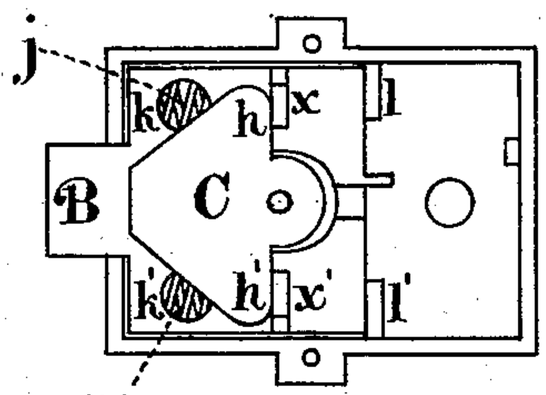

FIG. 3.

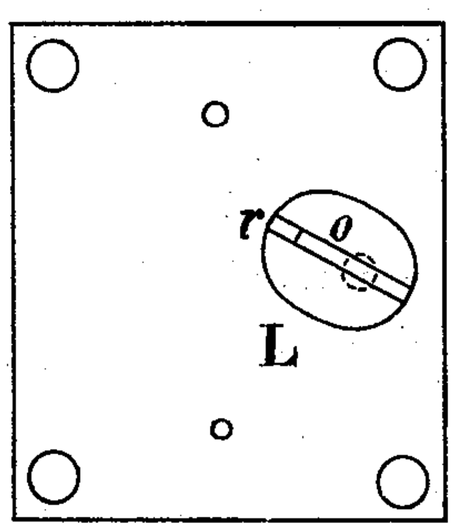

FIG. 4.

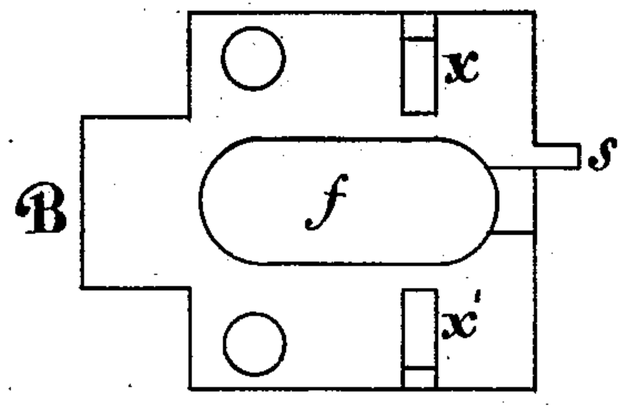

FIG. 5.

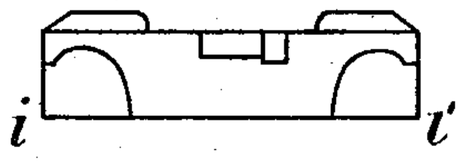

FIG. 6.

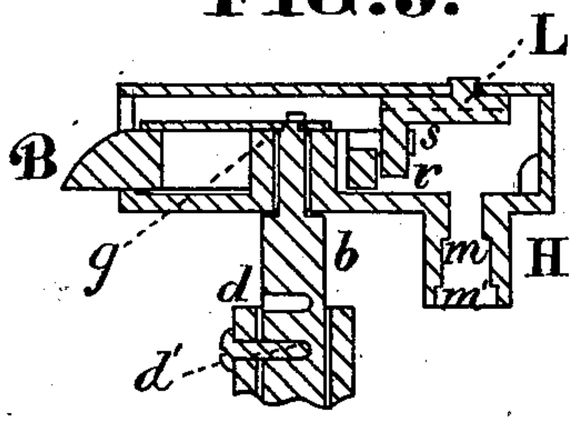

FIG. 7.

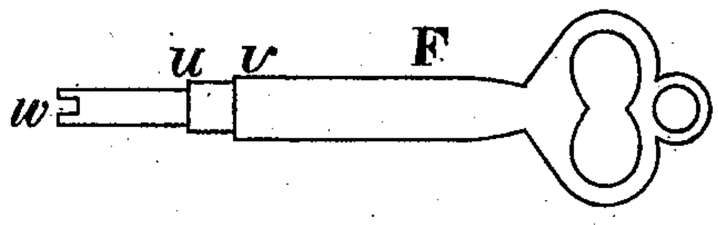

FIG. 8.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWIN H. FROST, OF DOVER, NEW HAMPSHIRE.

SPRING-LATCH.

SPECIFICATION forming part of Letters Patent No. 243,541, dated June 28, 1881.

Application filed April 14, 1881. (Model.)

To all whom it may concern:

Be it known that I, EDWIN H. FROST, of Dover, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in a Spring-Catch and Lock; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in spring-catches and locks for doors and drawers; and the object of my improvement is to combine a spring-catch, a lock, and a knob, as herein described, and pointed out in the claim.

I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view, showing the knob and key-post. Fig. 2 is a side view. Fig. 3 is a plan of the inner working parts of my invention. Fig. 4 is a plan of the inner side of the cover. Fig. 5 is an elevation of the catch. Fig. 6 is an end view of the catch. Fig. 7 is a vertical section of my invention, save that the knob is broken off. Fig. 8 is a view of the key.

Similar letters refer to similar parts throughout the several views.

The operative parts of my improvement are inclosed in an ordinary metal case, P. This case is designed to be attached upon the inner side of a door or drawer where a spring-catch is desired and a knob is wanted upon only the outer side. This case is fitted in the ordinary way upon a door or drawer by being let into the wood until it is flush with the surface. The key-post and the knob-spindle are brought through the door or drawer.

In the drawings, A is the knob. This knob is held upon the spindle *b* by a screw, *c*. In the spindle *b* are tapped several holes for this screw *c*, which holes are shown in Fig. 7, and marked *d d'*. These holes *d d'* are to enable the knobs to be fitted to doors or drawers where the wood is of different thicknesses. The shoulder of the knob is brought down to the surface of the wood and the screw turned into whichever one of the holes is reached.

B is the spring-catch. This spring-catch B is made of the same width as the inside of the metal case P and a little more than one-half of the length of the same. Through the middle of the spring-catch B, from one face to the other, is an elliptical opening, *f*, extending lengthwise the catch. Through this opening *f* extends a hollow post, *g*, from the metal case of my lock. The knob-spindle *b* runs through this hollow post *g* and extends a little beyond it. Upon this projecting end of the knob-spindle *b* is rigidly attached a triangular-shaped cam, C. When the spring-catch B is thrown forward two projections, *x x'*, upon the spring-catch touch upon the points or arms *h h'* of this cam C.

Upon turning the knob A either way one of the points or arms *h h'* of the cam C will be made to bear upon one of the projections *x x'* of the spring-catch B and throw the catch back. This cam C is made in a triangular form, that in the act of turning either way the knob shall be arrested at the point where the catch shall be freed from the striker on the door-jamb. The cam C accomplishes this by means of its side being brought into contact with the wall of the case of the lock when the knob is turned.

Upon the inner face of the spring-catch B, along its edges, are two grooves, *i i'*, which inclose each a wire coil-spring, *j j'*. These springs *j j'* are shown at *k k'* in the spring-catch B in Fig. 3. These springs bear against projections *l l'* in the case of the lock, which are shown in Fig. 3, and upon the spring-catch at the other ends of the grooves *i i'*. These grooves do not extend the entire length of the spring-catch. A shoulder is left at the ends of the catch opposite the projections *l l'* for these springs to bear on. These springs *j j'* throw the catch B forward into place when the knob is released in turning, or when the door or drawer is shut.

The openings *k k'* in the catch B into the grooves *i i'* are for the purpose of repairing the springs in case of need. Through these openings old springs can be drawn out and new ones inserted without disarranging other parts of my device.

The locking device is described as follows:

H is a key-post extending from the lock through to the outer side of whatever the lock is attached to. This key-post is hollow, with

shoulders *m m'* on its inner side, to which correspond similar shoulders upon the key. These shoulders can be varied at will in their position within the key-post, together with corresponding changes upon the key to render one key incapable of fitting more than one lock.

Upon the inside of the lock-case, opposite the opening through the key-post H, is placed a table, L, set upon a pivot, on which it turns freely. This table L may be made in the form illustrated in the drawings—that is, elliptical. Across it is made a step, *o*. This step *o* is of a height and width—say an eighth of an inch—sufficient for the key, as hereinafter described, to engage upon it and turn the locking device. At one end of the table L projects at a right angle to its surface a post, *r*. This table L is made of the proper length, and the post *r* is set the proper distance from the pivot on which the table turns, so that when it is desired to lock my device the post *r* may, by turning the table L, be brought behind the spring-catch B, as illustrated in Fig. 7. There is a small projection, *s*, on the end of the spring-catch, against which the post *r*, in locking, will be stopped from going past the proper point at which to bear against the spring-catch. In unlocking it will be necessary only to turn the table L back again opposite to the turn by which my lock is fastened. A turn of one-quarter of a circle is all that is needed for either locking or unlocking.

The key F is shown in Fig. 8. The shoulders *u v* are fitted to correspond with those spoken of in the key-post. A slot, *w*, is made at the end of the key to fit upon the step *o* upon the table L.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The combination, in a spring-catch and locking device, of a door-knob, A, catch B, with its two projections, *x x'*, two grooves, *i i'*, two openings, *k k'*, and projection *s*, triangular cam C, two wire coil-springs, *j j'*, lock-case P, two projections, *l l'*, and hollow post *g* upon the lock-case P, the key-post H, with its shoulders *m m'*, the table L, with its step *o* and post *r*, and the key F, all constructed as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWIN H. FROST.

Witnesses:
CHARLES S. MCLANE,
WILLIAM F. NASON.