(No Model.)

E. S. WINCHESTER.

LATCH.

No. 361,247. Patented Apr. 12, 1887.

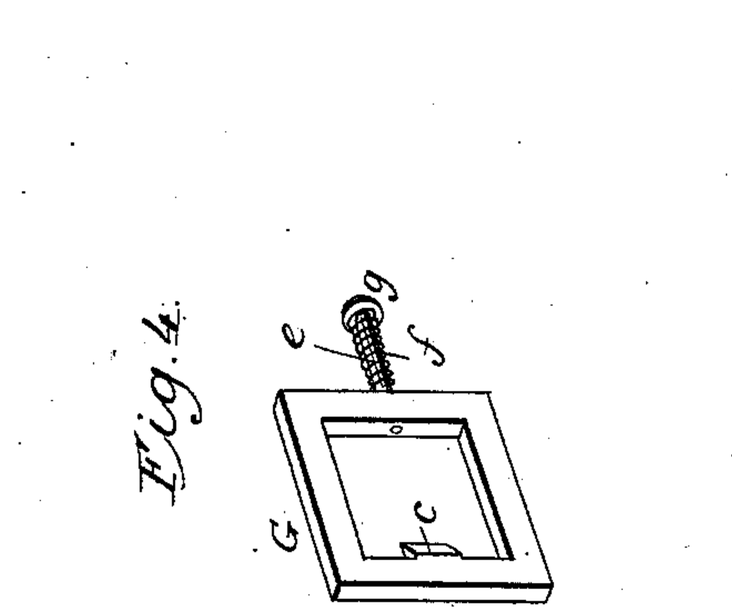

Fig. 4.

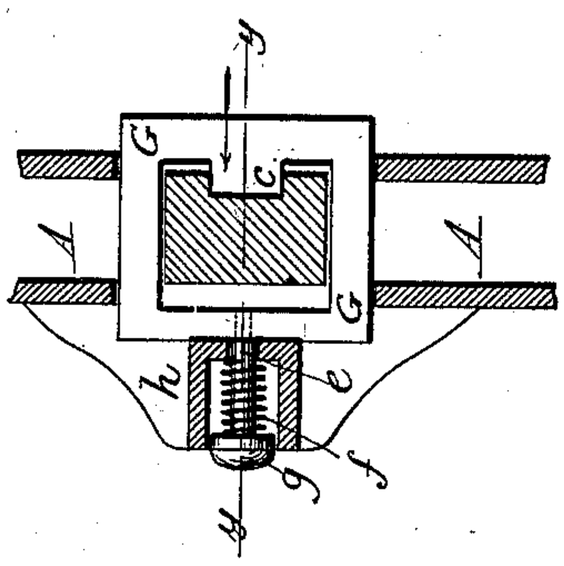

Fig. 2.
on line x-x

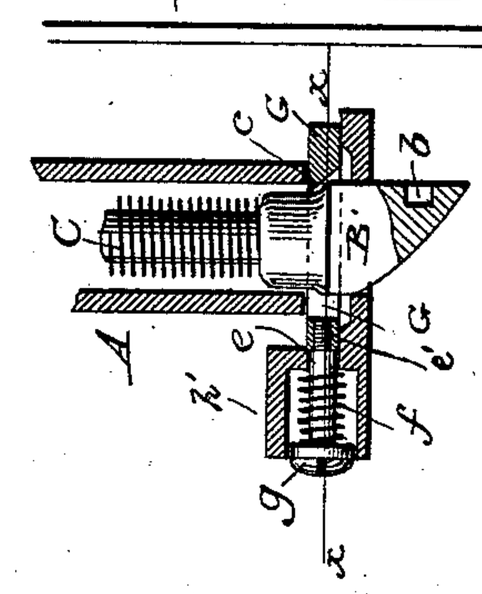

Fig. 3.
on line y-y

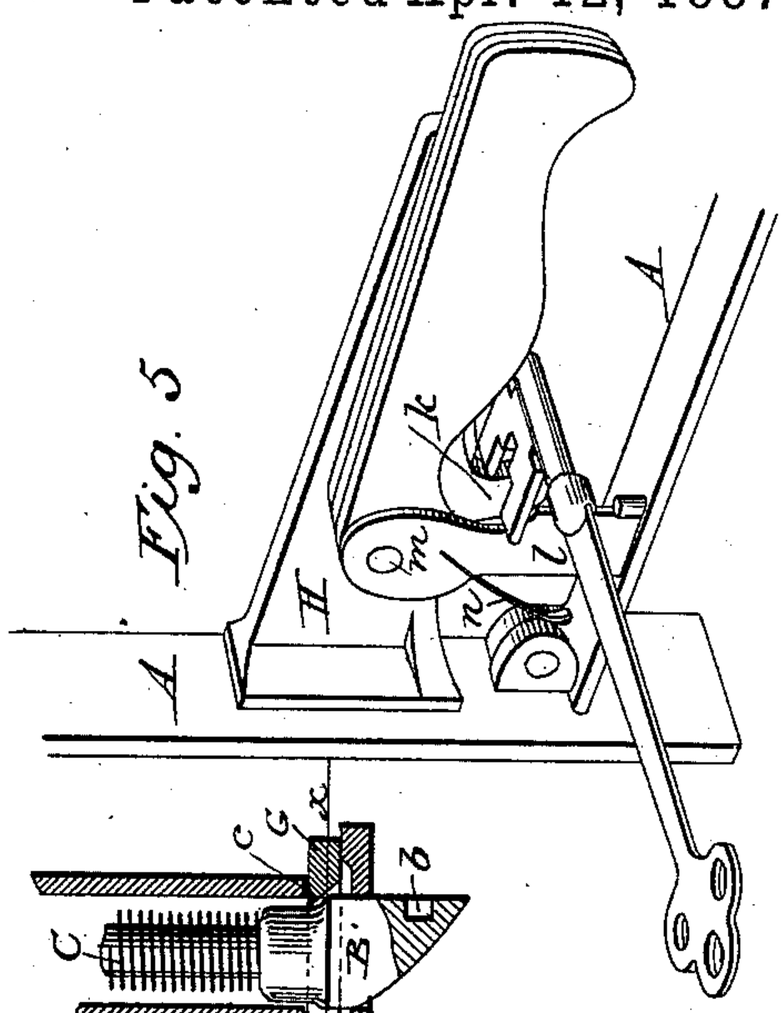

Fig. 5

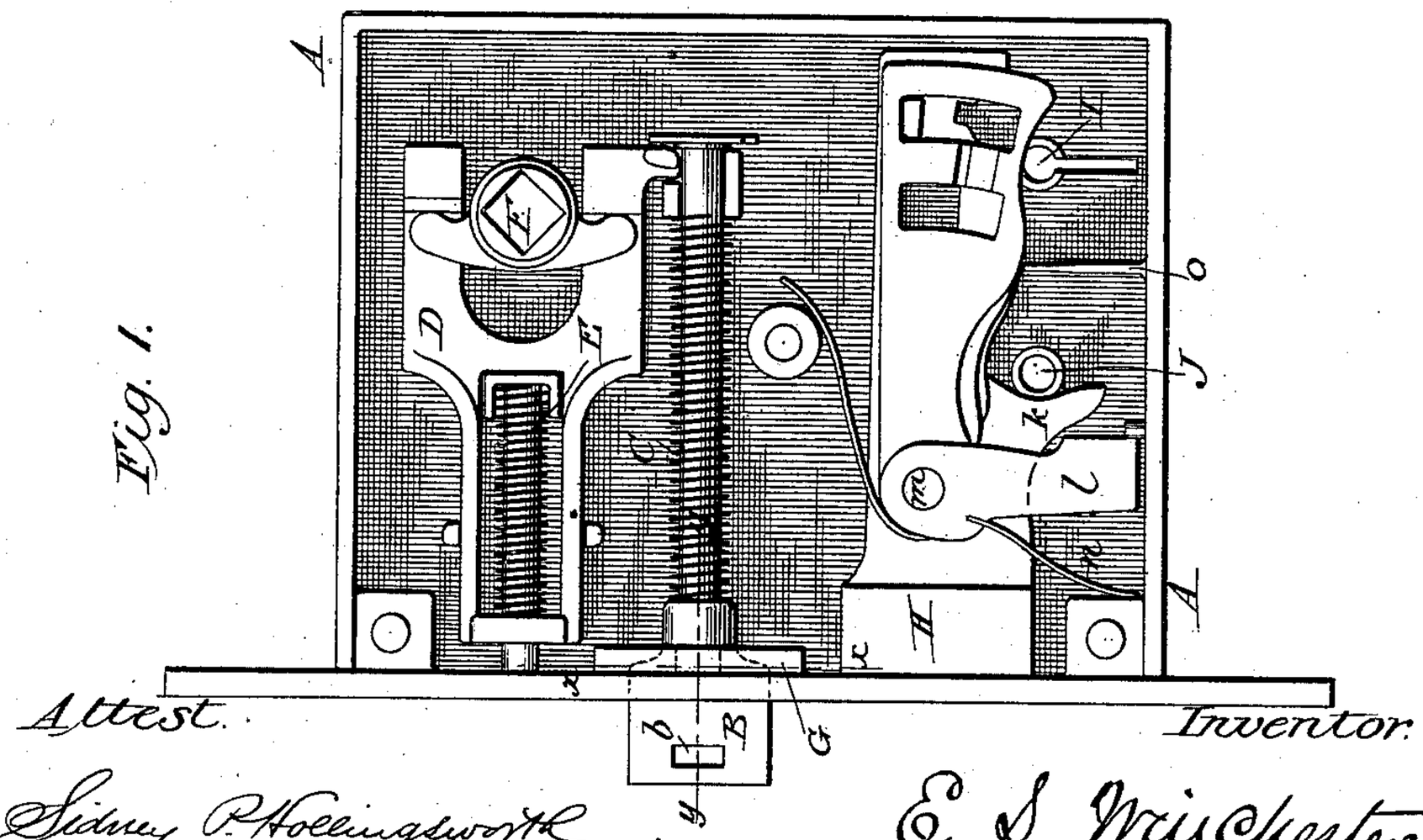

Fig. 1.

Attest.

Sidney R. Hollingsworth

Wm. L. Kennedy.

Inventor.

E. S. Winchester

By his atty.

Phil. T. Dodge.

UNITED STATES PATENT OFFICE.

EDWARD S. WINCHESTER, OF DORCHESTER, MASSACHUSETTS.

LATCH.

SPECIFICATION forming part of Letters Patent No. 361,247, dated April 12, 1887.

Application filed July 21, 1886. Serial No. 208,622. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. WINCHESTER, of Dorchester, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Latches, of which the following is a specification.

The first part of my invention relates to an improved detent mechanism by which the latch-bolt is locked automatically in its retracted position and automatically released when the door is closed, and is designed to overcome the objections incident to other devices at present in use for the same purpose.

The second feature of the invention relates to a construction under which the key is caused to act as a guard or stop to prevent the retraction of the lock-bolt.

In the accompanying drawings, Figure 1 is a face view of the latch containing my improvements, one side of the casing being removed. Figs. 2 and 3 are cross-sections of the same on the lines *x x* and *y y*. Fig. 4 is a perspective view of the detent by which the latch-bolt is held in its inner or retracted position. Fig. 5 is a perspective view showing the lock-bolt and adjacent parts with the key in position to hold said bolt.

In the drawings, A represents the latch-case; B, the horizontally-sliding latch-bolt, having a beveled forward end; C, a spiral spring applied to the spindle of the latch-bolt and tending to project the end beyond the case; D, a sliding yoke-plate, which engages a plate on the rear end of the latch-bolt for the purpose of retracting the same; E, a spring by which the yoke-plate is urged forward, and F a hub or stump through which the notched spindle passes and by which the yoke-plate is retracted.

The foregoing parts may all be constructed and arranged to operate in the ordinary manner, except as to the features which I will now describe.

In applying my improvement I provide the latch-bolt with a notch or shoulder, *b*, in its side face, and mount transversely within the front of the latch-case a sliding detent or bolt, G, such as represented in Fig. 4. This detent is extended through and guided in openings formed in the sides of the case, and is provided with a central opening, through which the end of the latch-bolt passes, and with a lip or projection, *c*, adapted to enter the notch *b* of the latch-bolt when the latter is retracted, to prevent its advance. On the opposite side from the lip *c* the detent is provided with a spindle, *e*, surrounded by a spiral spring, *f*, acting against a head or enlargement, *g*, on its outer end.

The spindle *e* and spring *f* are contained in a chamber, *h'*, formed on the inner face of a wing or flange, *h*, projecting from one side of the latch-case at the front. This chamber *h'* is of a size to receive the head *g* of the spindle, and serves to protect said spindle from being bent laterally, or otherwise injured and rendered unserviceable. The detent G is provided with a female thread to receive the threaded end *e'* of the spindle, and the head *g* of the spindle, which projects slightly beyond the case *h'*, is provided with a slot, as shown, thus permitting of the removal and replacement of the spindle and spring in case of injury or breakage, and also providing for the longitudinal adjustment of the spindle to a limited extent.

I am aware that a detent which is guided at its edges by the walls of the latch-case and encircles and directly engages the latch-bolt for the purpose of automatically locking and holding said latch when retracted is not new; but I believe myself to be the first to provide a protecting case or chamber for the operating head or stem of such detent, and the first to provide such a detent with an operating spindle or head which may be removed or adjusted at pleasure.

Passing now to the second part of my invention, attention is directed particularly to Figs. 1 and 5, in which H represents the reciprocating lock-bolt, which may be adapted for operation by a key, and provided or connected with tumblers or other fastening devices of ordinary construction.

I provide the latch-case on opposite sides with two key-holes, I and J, arranged out of line with each other, and each permitting the introduction of a key from one side only, so that a key remaining in the latch on either side is inaccessible through the key-hole on the opposite side. This feature, being known in the art, is not separately claimed.

In applying my improvement I provide the

lock-bolt at its edge with a projecting arm or shoulder, *k*, in such relation to the key-hole on the inner side of the latch that when the key is inserted, the bolt projected, and the key turned to present its edge against this shoulder *k* it will act as an abutment to prevent the retreat of the bolt. In this manner I am enabled to hold the lock-bolt with great security, and to prevent its retraction by means of instruments, or of a proper key inserted through the opposite key-hole.

For the purpose of holding the key in the described position, I propose to make use of a yielding finger or locking device of any appropriate character. I propose to use, as shown in the drawings, a plate, *l*, mounted on a fixed pivot, *m*, and urged forward by a spring, *n*. This plate has its forward edge presented in the path of the key, and notched or shouldered, as shown, so that when the end of the key is turned upward above the shoulder the key will be held in position by plate *l*, as shown in Fig. 5.

The essence of my invention resides in providing the bolt with a shoulder, against which the key may act as a stop, and in providing a spring-actuated device operating automatically to hold the key against this shoulder; and it will be manifest to the skilled mechanic that it may be variously modified in form and arrangement without changing essentially its mode of action.

As an additional means of security, I propose to provide the latch with a partition, *o*, between the two key-holes, in order to prevent instruments inserted through the outer key-hole from reaching the key or the co-operating parts on the inside of the latch.

Having thus described my invention, what I claim is—

1. In combination with the casing provided with a transverse slot and a chambered projection, *h'*, the notched latch-bolt, the detent encircling said bolt, the spiral spring seated in the projection *h'*, and the screw *g*, passing through the spring into the detent from the outside, the head of said screw being exposed, as and for the purpose described, whereby the head is adapted to serve the twofold purpose of confining the spring and of operating the detent.

2. In combination with the latch-case, the locking-bolt provided with a shoulder, K, and a spring-actuated detent operating automatically to hold the key against said shoulder, substantially as described.

In testimony whereof I hereunto set my hand, this 23d day of June, 1886, in the presence of two attesting witnesses.

EDWARD S. WINCHESTER.

Witnesses:

JOSIAH HINCKLEY,

C. O. L. DILLAWAY.