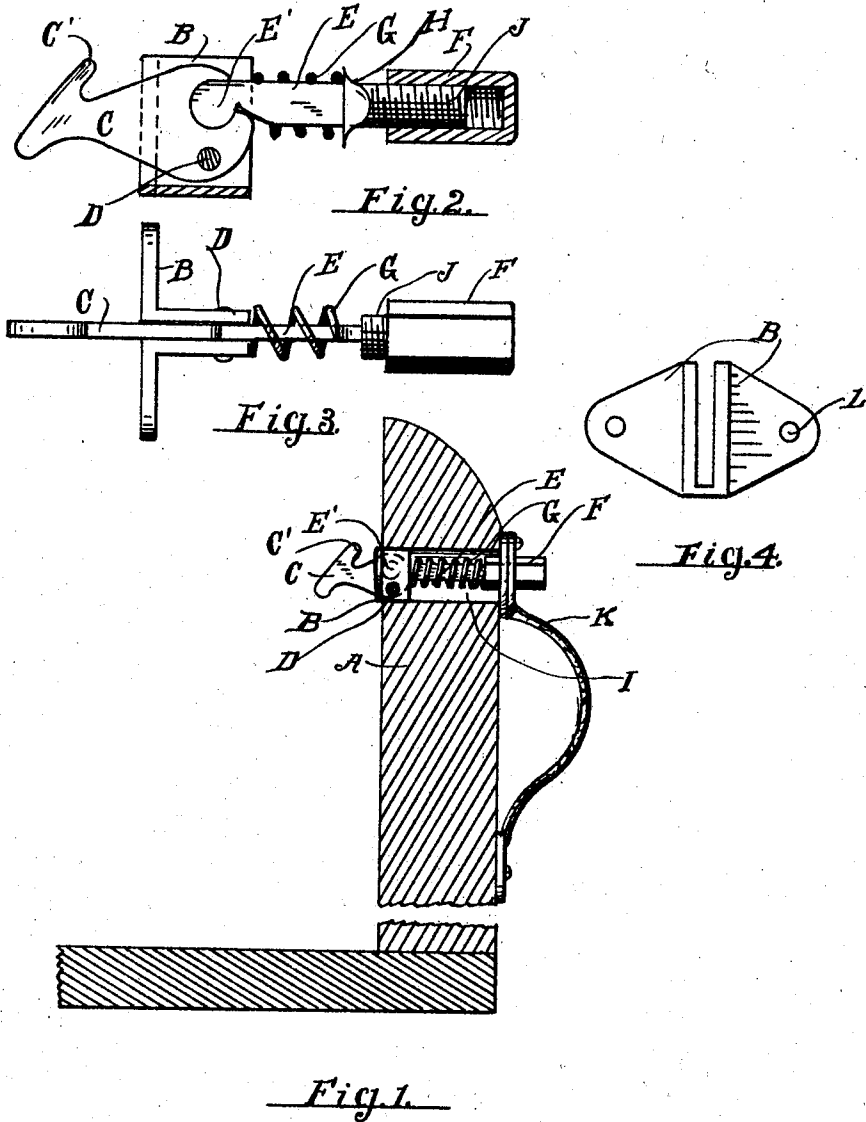


No. 824,027.

PATENTED JUNE 19, 1906.

M. S. KEELER.  
SPRING LATCH.  
APPLICATION FILED MAY 22, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

MINER S. KEELER, OF GRAND RAPIDS, MICHIGAN.

## SPRING-LATCH.

No. 824,027.

Specification of Letters Patent.

Patented June 19, 1906.

Application filed May 22, 1905. Serial No. 261,624.

*To all whom it may concern:*

Be it known that I, MINER S. KEELER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Spring-Latches, of which the following is a specification.

My invention relates to that class of latches which automatically catch when the door to which they are attached is closed and which are released by an inward pressure rather than by a lifting or pulling motion. Its object is to simplify and cheapen the construction of such a latch. This object is accomplished by the construction shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the latch in position in a door or drawer with the wood of the drawer shown in cross-section. Fig. 2 is a cross-section of the latch on a longitudinal vertical plane. Fig. 3 is a top plan view of the latch complete. Fig. 4 is a detail showing the guide and casing for a portion of the latch.

In the drawings, A represents the door or drawer to which the latch is to be attached. Through the wood of this drawer an ordinary round hole is bored of suitable size, and in this hole the removable latch is inserted.

B is a plate, which viewed from the inside of the door when it has been placed in position is of the form shown in Fig. 4. It is of a shape such as to extend out beyond the round hole bored for a latch, and it is permanently attached to the wood by screws inserted through the holes L or in any other suitable way. It also has right-angled wings extending back into the bored hole after it is attached to the wood. These inwardly-extending wings are shown in side elevation in Fig. 2 and in top plan in Fig. 3, and they form guides or ways for the movable parts of the latch in their operation and also serve, in connection with the inserted pivot D, as a frame for the latch, permitting the rocking motion of the same upon this pivot and holding the two parts of the latch from lateral displacement with reference to each other.

The catch itself is indicated by the letter C, and it has a projecting point C' designed to engage with any suitable retainer attached to the other portion of the article and in a proper position. In the form shown in the drawings this retainer would depend from above or extend out from the side and above the catch. The catch is so shaped that when

the door is closed the catch will come in contact with the retainer and will gradually yield until the retainer passes the point C', when this point will spring into locking engagement with the retainer. In its inward portion and suitably located with reference to the pivot D this catch, which itself is in the form of a flat thin plate, has a suitable recess substantially circular in form, but open at the exterior.

E is a push-pin, which in its inner portion is preferably in the form of a flat plate and at its extreme inner portion has a projection substantially circular in form (indicated by the letter E') and adapted to be received in and to engage with the corresponding recess in the rear portion of the catch-plate. This push-pin on its outer portion is expanded into larger form, preferably cylindrical, (shown in the drawings by H,) and carries upon its exterior surface the screw-thread J.

F is a cap adapted to fit over the exterior portion of this push-pin and having its interior surface screw-threaded to engage with the screw-thread J. The exterior surface of this cap is hexagonal or of other non-circular form.

G is a spring, which may be of any suitable form, bearing at one end against the frame or guide B and at the other end bearing against a shoulder or otherwise engaging with the push-pin H and operating continually to force the push-pin outwardly, and thereby hold the point C' in engagement or in position to engage with the retainer.

I represents the hole bored in the wood, as above described.

K is a handle, of any suitable form, carrying at one end a plate or casing which has an opening of the same shape as the push-pin cap and which, therefore, will permit this push-pin cap to move longitudinally in said opening, but will not permit a movement of rotation.

It is evident that the screw-thread connection between the push-pin and its cap permits the latter to be adjusted within considerable limits, so as to accommodate the same catch to different thicknesses of wood. It is also apparent that no general shell or inclosing case is required; but the assembled latch contains the essential parts in the simplest possible form and can be inserted in and will operate in a hole bored by any ordinary means. The inwardly-projecting wings of the plate B serve as guides for the inner end

of the catch, and the handle-plate serves as a guide for the outer end of the catch or push-pin, thus maintaining the parts in proper alinement with reference to each other.

In the use of this device the parts are assembled as shown in Figs. 1 and 2. A hole being bored in the wood, the latch is inserted from the inside and the plate B is firmly attached to the wood. The push-pin cap F is then adjusted, by means of its screw-threaded connection, with the push-pin until this cap projects the desired distance beyond the face of the wood. The handle, with its casing-plate, is then slipped over the push-pin cap and attached to the wood in the usual manner. It is then impossible to remove this push-pin cap, since it cannot be rotated.

It will be observed that the guide-plate hereinbefore described is secured at the inner part of the opening in the support and provided with parallel wings extending longitudinally with respect to said opening to receive a flat catch having a head at its outer extremity located between the wings and eccentrically fulcrumed at its lower portion to the wings, the upper forward portion of the head having a socket and the rear extremity provided with a hook device, all of which co-operates with and is positively actuated by the push-pin provided with a head at its rear end loosely and directly engaging the said socket and also having adjustable means at its outer extremity and exteriorly accessible. The guide-wings serve to hold the flat catch in positive position and the eccentric position of the fulcrum for the catch engaging the wings insures a reliable operation of said catch and renders the latter quickly responsive to the actuation of the push-pin.

Having thus described my invention, what

I claim to have invented, and desire to secure by Letters Patent, is—

The combination with a support having an opening therethrough, of a guide-plate secured at the inner part of said opening and provided with parallel vertically-disposed wings extending longitudinally with respect to said opening, a flat catch having a head at its outer extremity located between the wings and eccentrically fulcrumed at its lower portion, the rear extremity of the catch being in the form of a hook with an upwardly-projecting catch-terminal, the upper forward portion of the head having a circular socket therein located directly over the pivotal means for the said head, a push-pin having a circular head at its rear end loosely and directly engaging the said socket, the said push-pin having its outer extremity screw-threaded and provided with an intermediate shoulder, a spring surrounding the push-pin between the shoulder and the adjacent outer edges of the wings and operating to normally force the said pin outwardly, a tubular cap adjustably applied to the outer screw-threaded extremity of the push-pin, the outer surface of the cap having a polygonal contour, and a handle attached to the support and carrying a plate with an opening therein having a contour corresponding to that of the cap and through which the latter has movement, the plate forming part of the handle being held at the upper extremity of the latter.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MINER S. KEELER.

Witnesses:

MARY S. TOOKER,  
CHAS. M. WILSON.