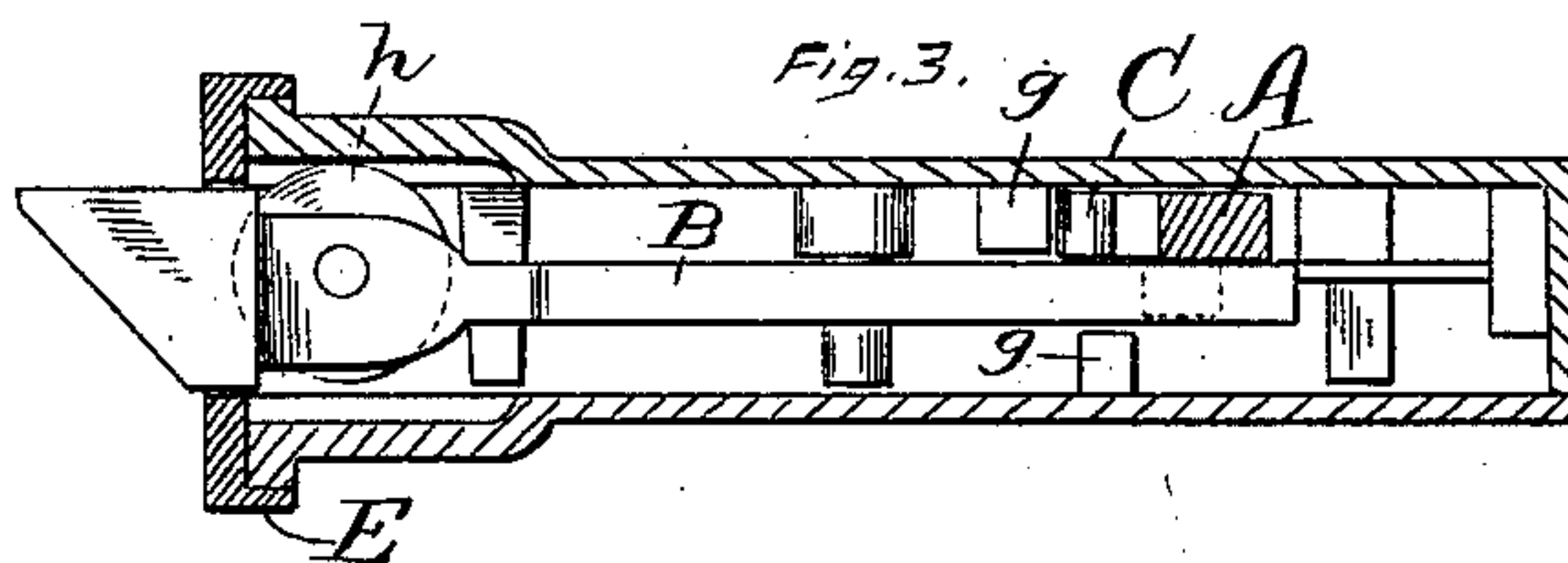
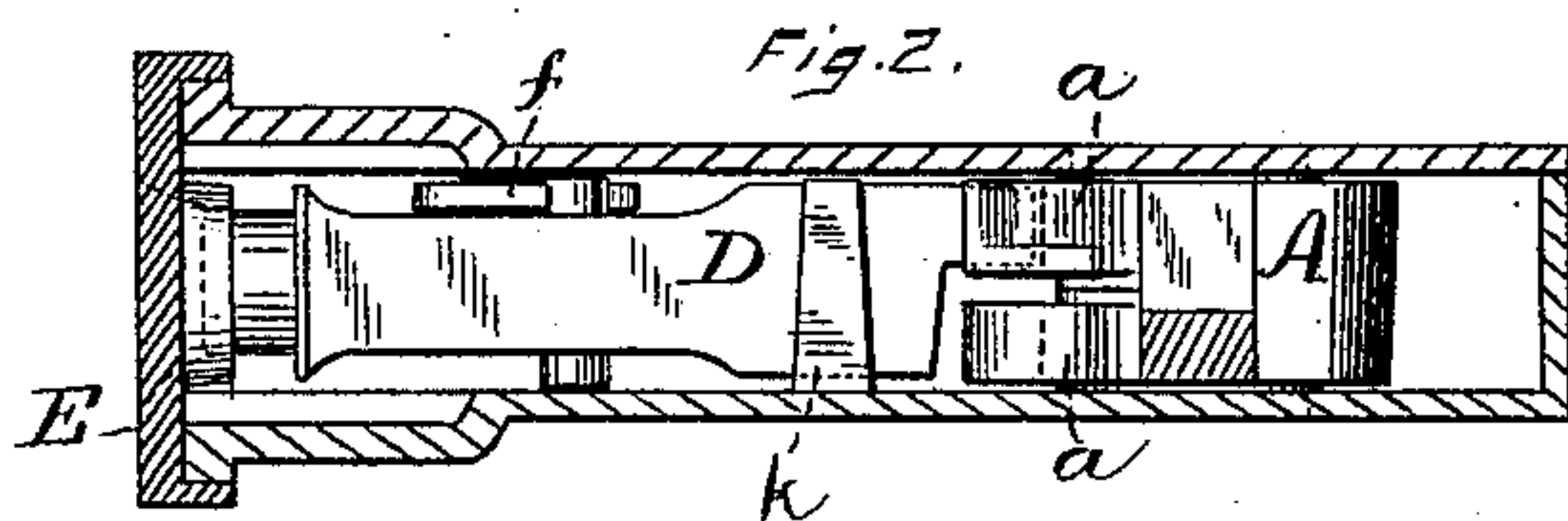
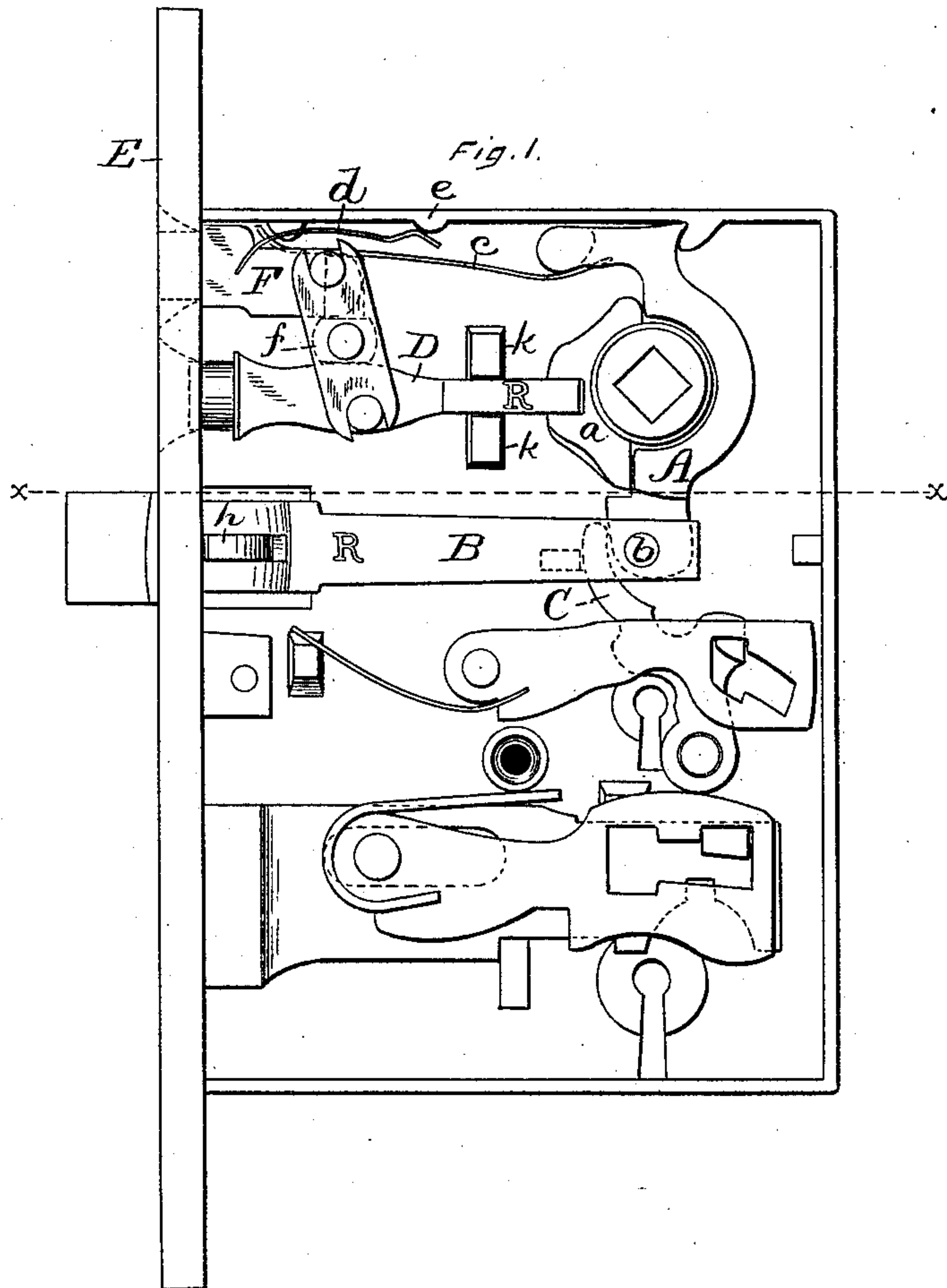


(No Model.)

J. R. FORSTER.
REVERSIBLE LATCH.

No. 428,771.

Patented May 27, 1890.



Witnesses.
John Edwards Jr.
J. H. Camp.

Inventor.
John R. Forster.
By James Shepards.

Atty

UNITED STATES PATENT OFFICE.

JOHN R. FORSTER, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE
RUSSELL & ERWIN MANUFACTURING COMPANY, OF SAME PLACE.

REVERSIBLE LATCH.

SPECIFICATION forming part of Letters Patent No. 428,771, dated May 27, 1890.

Application filed March 17, 1886. Serial No. 195,508. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. FORSTER, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Reversible Latches, of which the following is a specification.

My invention relates to improvements in reversible latches; and the objects of my improvement are to make the stop and latch both reversible, so that the stop may act on either part of the divided hub, and also to make a cheap anti-friction device for a reversible latch.

In the accompanying drawings, Figure 1 is a front elevation of my latch with the cap-plate removed. Fig. 2 is a sectional view of said latch on line *x x* of Fig. 1, looking upward; and Fig. 3 is a like view of the same on said line, looking down, those parts which belong to the lock proper being omitted.

The hub is divided into two parts *a a*, for use with a divided spindle, and works against the angle-lever A, to which the inner end of the latch B is attached by means of the stud *b*. A spring *c* acts on the short arm of the angle-lever A, with a tendency to hold said lever against the hub.

C designates the swinging bolt or lever, which is operated by the night-key, and the upper end of which engages the lower end of the lever A, all substantially as in prior locks.

I form in the front edge of both parts *a a* of the hub a notch for engagement with the inner end of the stop D. The engaging end of this stop is a narrow portion which is at one side of the case, as shown in Fig. 2, so that it can engage in the notch in only one part of the hub at a time. The outer end of this stop lies in a countersunk hole in the face-plate E, so that it may be pushed inward from the outside. A short slide F has its outer end in a like hole in the face-plate and carries a spring *d*, the free end of which acts against a swell *e* on the case, so as to hold said slide in place. A cross-lever *f*, slotted at each end, is pivoted to a stud on the case at a point between the slide F and stop D. A stud on each of said parts F and D engages

the slotted ends of the cross-lever *f*, as shown in Fig. 1. Like studs are on the opposite side of the stop D for engaging the slotted ends of the cross-lever when the latch is reversed. When the stop is engaged with the hub, as shown, it may be disengaged therefrom by pushing in the short slide F. The latch is then free to be operated by the knob from either side of the door. When desired to lock that part of the spindle and its knob which is on the outside of the door, the stop can be pushed inward by pressing on its outer end, and thereby forcing its inner end into engagement with the notch in one part of the hub. This movement of the stop acts through the cross-lever to throw the short slide outward into the position shown. The latch is represented as adjusted for a right-hand door, which fact is indicated by the letter R stamped on the stop D and on the latch B. This latch moves with the end of the angle-lever A at its inner end, and is supported against working too far toward the front or rear by projections *g g* on the case. (See Fig. 3.) Its front end works through a mortise in the face-plate E, and just inside the case a roller *h* is pivoted in the latch a little to one side of the middle, so that the edge of the roller projects from that side of the latch which is opposite the bevel at the end, so that said roller may bear upon the bearing-surface of the case, as shown in Fig. 3, and prevent the straight side of the latch from bearing on the side of the mortise in the face-plate. This removes considerable friction, the outer end of the latch being carried by the roller when said latch is forced inward under pressure against its beveled end.

In order to reverse the latch, it is only necessary to remove the cap, as shown in Fig. 1. Then lift the inner end of the latch B from the stud *b*, draw the latch out of the mortise in the face-plate, turn it over and put it back in place, with the letter R out of sight. The reverse side of the latch is marked with the letter L. The cross-lever *f* is then removed, and the stop D is lifted from between its guiding-lugs *k k* and turned over, so as to engage the other part of the hub. The reverse side of the stop (the side opposite the side

marked R) is marked with the letter L. The cross-lever and cap are replaced and the latch is ready for a left-hand door. The two sides of the case or bearing surfaces opposite the roller *h* are alike, so that the roller acts in the manner before described, only it bears upon the reverse side of the case.

The letters R and L, which are stamped on opposite sides of the stop and latch, are not essential, as their proper position for a right or left hand latch can be determined by inspection; but said marks are a great convenience in reversing the parts.

By my invention I produce a very simple and convenient reversible latch, while the roller in the latch forms a very simple and inexpensive anti-friction device, which enables the latch to be reversed as readily as if no anti-friction device were present.

I am aware that prior latches for front doors have been provided with a sliding stop, with its outer end in the face-plate of the latch, a short slide having its outer end also in the face-plate, a cross-lever pivoted to the case and connecting said slide and stop, and a friction-spring to hold the parts in position at either end of their stroke, the same being used in connection with a two-part hub, one part only of which was provided with a notch for engaging the end of the stop; also, that a prior patent shows and describes a latch consisting of this same old stop mechanism and a two-part hub, with a notch for the stop in only one part of the hub, but with the notched lug or flange of the hub made thicker than in the prior construction, so that the sliding stop would engage said notch no matter on which side of the latch-case the notched part of the hub was placed.

I am also aware that a prior patent shows a latch-bolt having three friction-rollers pivoted therein, with their edges projecting equally upon opposite sides of the latch, one of which rollers formed the projecting end of the latch-bolt for engagement with the keeper; also, that another prior patent shows a reversible latch-bolt having two cam-plates pivoted thereto a little back of its beveled end, with one edge of said cam-plates projecting from one side of the latch-bolt.

I claim as my invention—

1. The combination of the two-part hub, each part having a notch for engagement with the inner end of the stop, the lever operated by said hub, the reversible latch operated by said lever, and the reversible stop adapted to be turned over for engagement with the notch in either part of the hub, substantially as described, and for the purpose specified.

2. The combination of the case having bearing-surfaces for the latch-roller on opposite sides, the lever A, acted upon by the hub, and the latch B, adapted to be attached to the lower end of said lever when facing either way, and having the ordinary beveled outer end and the roller *h*, pivoted to said latch a little to one side of the middle, so that the edge of said roller projects from that side of the latch which is opposite the bevel at the end, and is thereby adapted to bear upon the bearing-surface at either side of the case, substantially as described, and for the purpose specified.

JOHN R. FORSTER.

Witnesses:

THOS. S. BISHOP,
M. S. WIARD.