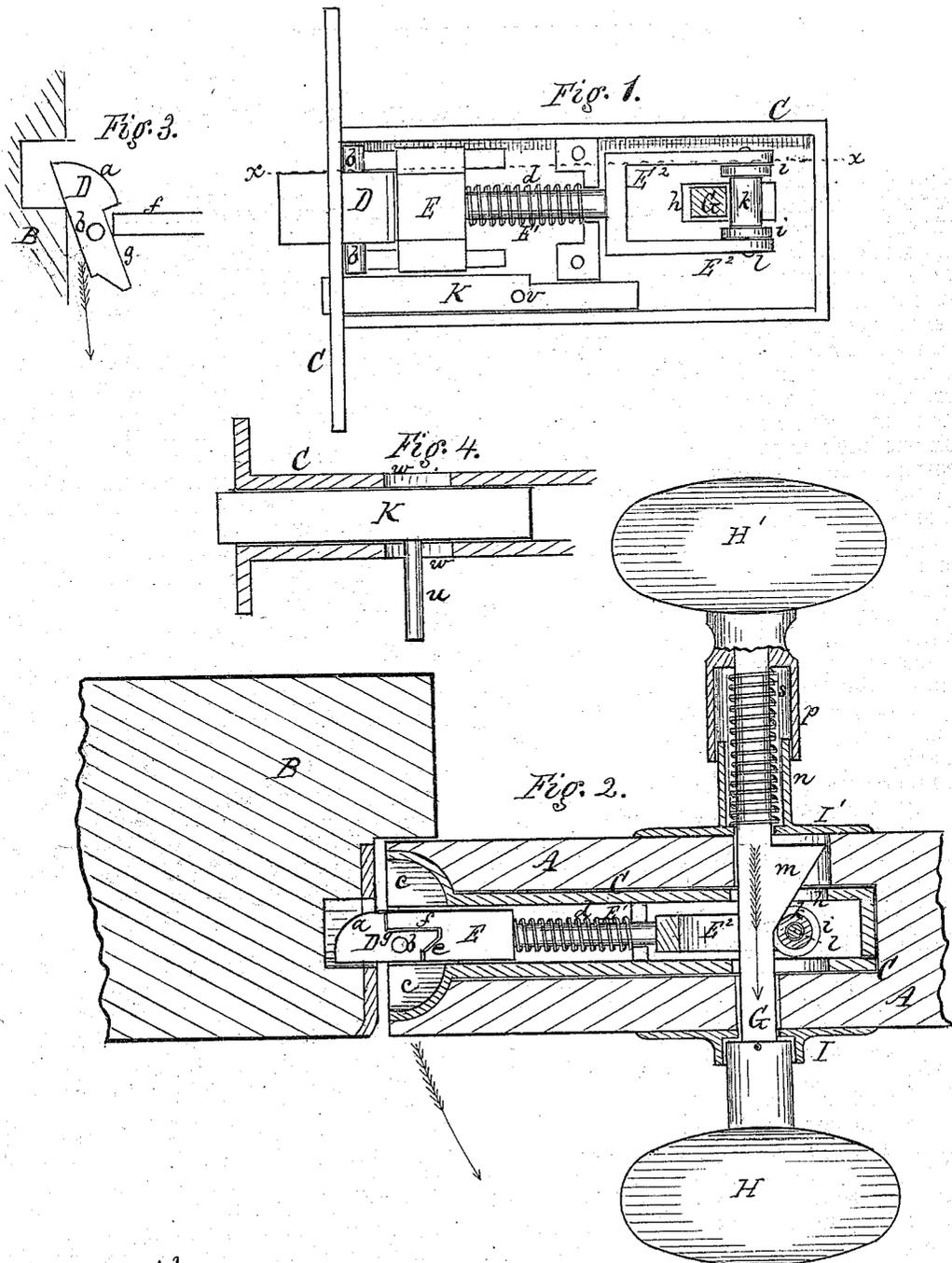


S. W. SKINNER.
Improvement in Door-Latches.

No. 126,907.

Patented May 21, 1872.



Witnesses.
Charles Baine
Fred A. Babst

Inventor.
Scott W. Skinner,
per Parker Frasier & Co.,
attys.

UNITED STATES PATENT OFFICE.

SCOTT W. SKINNER, OF LYONS, NEW YORK.

IMPROVEMENT IN DOOR-LATCHES.

Specification forming part of Letters Patent No. 126,907, dated May 21, 1872.

Specification describing a certain Improvement in Door-Latches, invented by SCOTT W. SKINNER, of Lyons, in the county of Wayne and State of New York.

This invention relates to certain improvements in door-latches; and it consists, among other things, of a turning and sliding catch with a sliding bolt-head, arranged so as to be operated by the knobs, the spindle of which is provided with a wedge-shaped wing, which rests upon a center roller, so that, in drawing upon one knob or pushing upon the other in opening the door, the said roller will be thrown back and the bolt-head released from the catch, and the same allowed to turn upon its axis and fall within a recess within the lock-case, and thus allow the door to be opened or closed.

In the drawing, Figure 1 is an elevation of my improved device, with the back plate removed to show the interior arrangement; Fig. 2, a section in line *x x*, Fig. 1; Fig. 3, a diagram, showing the position of the turning catch in opening the door; Fig. 4, a section, showing the method of operating the bolt from either side.

A represents the door, and B the jamb. C is a mortise lock-case, which fits into the edge of the door. D is the catch proper, which protrudes from the case, and is made rounding and convex on one side, as shown at *a*, so as to slide back in shutting the door. It has two journals or bearings, *b b*, on which it turns, and the lock-case has depressions or cavities *c c* on opposite sides, for it to turn into, flush with the head of the case, as will presently be described. E is a bolt-head, which is pressed up in contact with the rear of the catch by a spiral or other spring, *d*, upon its shaft, E¹. The bolt-head has a tang or arm, *f*, which sets into a corresponding socket, *g*, of the catch. When this bolt-head is pressed forward the bolt-head and the catch form one straight length; but when it is drawn back the catch is free to turn upon its axis and fold into the depressions *c* in the head of the lock-case. I prefer to make a dovetailed connection, *e*, between the bolt-head and the catch to hold them more securely together. It should be understood, however, that they are not fastened, but each has a free and independent action. E² is a yoke or clevis on the inner end of the shaft E¹, which embraces the knob-spindle G, which

passes laterally through the slots *h h* of the case. The rear cross-end of the yoke is formed of three rollers, *i i k*, turning loosely on the same axis *l*, but each independent in its action and disconnected from the others. The spindle is provided with a wedge-shaped wing, *m*, Fig. 2, which rests against the center roller *k*, so that in drawing upon one knob, H, or pushing upon the other, H', in opening the door, the said roller *k* will be thrown back, and, consequently, the bolt-head E will be released from the catch D, and the latter be allowed to fold into the sockets of the case, as before described. At the same time that the roller *k* is drawn back the other rollers *i i* will roll upon the sides of the case and obviate friction. But it will be noticed that the rollers *i i* turn reversely from the roller *k*; and hence it would not do to make them all in one, as they would neutralize each other. The knob H and its rose I on the opening side of the door is the same as the old style. That upon the opposite or pushing side, however, is necessarily different to allow the end play of the spindle. The rose I' is provided with a hollow projecting thimble, *n*, over which slides a corresponding hollow thimble, *p*, attached fast to the shank of the knob H'. The hollow space inclosed has a spiral or other spring, *s*, which rests between the center of the rose and the shank around the spindle; and the tendency of this is to throw the spindle outward, so as to keep the wedge *m* disengaged from the roller *k*, as in Fig. 1. The throw of the spindle is gauged by the striking of the parts together, so that in pressing inward the wedge cannot be thrown past the roller upon which it acts.

The operation of the parts above described is as follows: When the spindle is pushed or pulled endwise (according as the person is on one or the other side of the door) the bolt-head is first drawn back, releasing the catch; the further movement of the spindle thus causes the door to open, and the contact of the back side of the catch with its socket causes the latter to yield or turn, as indicated in Fig. 3, and fold into its recess in the lock-case. I have found from experiment that this turning of the catch is necessary to make the device operative; for, if a sliding or retreating catch alone is used, the tendency of the door to open in drawing the spindle will cause so much fric-

tion of the catch on its socket that it cannot slide. In the shutting of the door the catch simply slides back by contact in the usual way.

I combine with this catch arrangement a sliding bolt, K, Figs. 1 and 4, which simply shoots into a socket of the jamb to hold the door fast. This bolt fills the cross-area of the case, and is provided with two screw-holes, *v*, opposite each other. Opposite the screw-holes slots *w w* are formed in both sides of the case, which admit of a pin, *u*, being inserted on either side to operate the bolt. By this means the bolt is made to answer a right-or-left use, or to be bolted on either side of the door indifferently.

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

1. The combination of the turning and sliding catch D, sliding bolt-head E, and wedge-

spindle G *m*, operating conjointly in the manner and for the purpose specified.

2. I also claim, in combination with the wedge-spindle G *m*, the hollow sleeves *n p*, and the reacting spring *s*, arranged and operating as herein described.

3. I also claim the turning and sliding catch D, sliding bolt-head E, spring-shaft E¹, yoke E² with rollers *i i k*, wedge spindle G *m*, hollow sleeves *n p* with spring *s*, and sliding bolt K, arranged as a whole, and operating in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

S. W. SKINNER.

Witnesses:

R. F. OSGOOD,
ARCHIE BAINE.