A. HANCE.

SPRING-BOLTS OR CATCHES FOR SLIDING DOORS, &c.

No. 186,341. Patented Jan. 16, 1877.

Fig. 1.

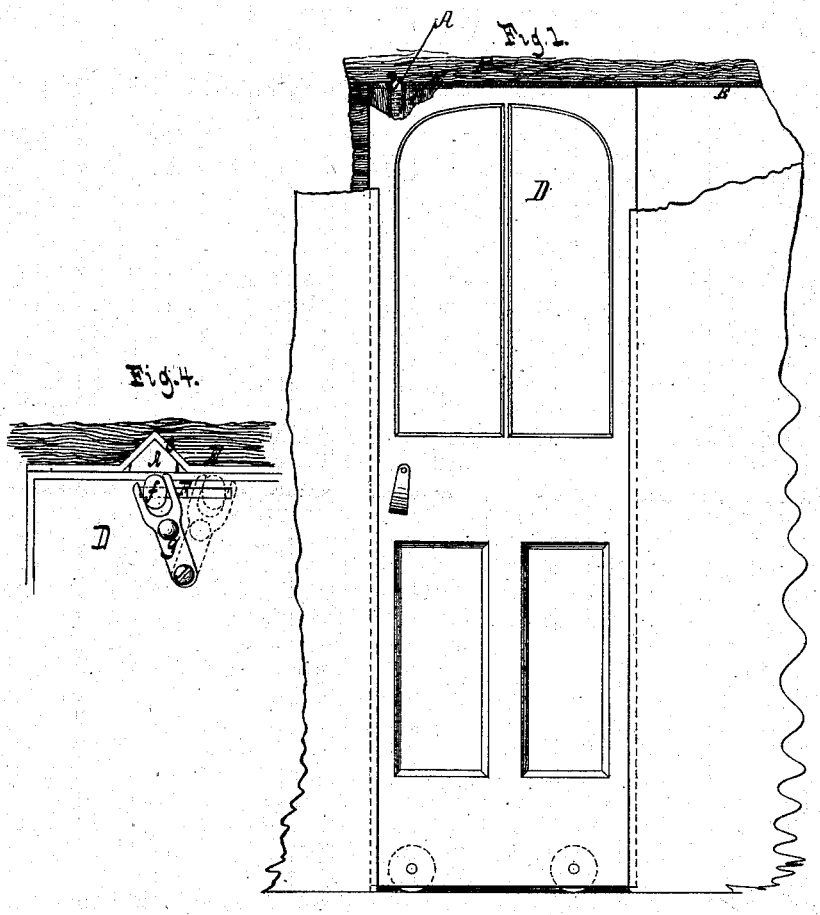


Fig. 4.

Fig. 2.

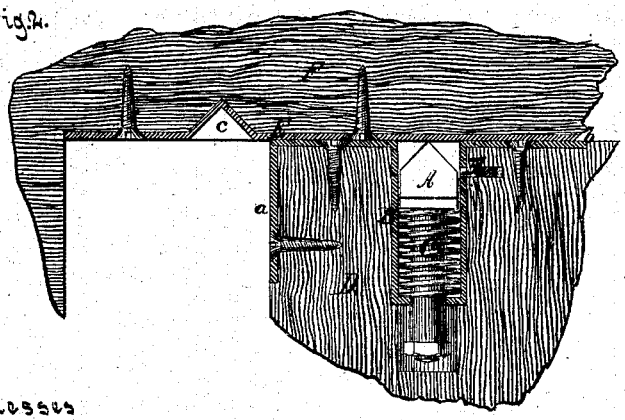
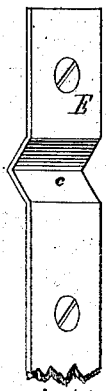


Fig. 3.



Witnesses

Otto Stupeland

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UNITED STATES PATENT OFFICE.

ARCHIBALD HANCE, OF NEW YORK, N. Y.

IMPROVEMENT IN SPRING BOLTS OR CATCHES FOR SLIDING DOORS, &c.

Specification forming part of Letters Patent No. **186,341**, dated January 16, 1877; application filed December 26, 1876.

To all whom it may concern:

Be it known that I, ARCHIBALD HANCE, of the city, county, and State of New York, have invented a new and Improved Spring Bolt or Catch for Sliding Doors and Windows, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 is a sectional face view of a door provided with my improved catch, the door being shut. Fig. 2 is a similar view of the same on a larger scale than the previous figure, the door being partially open. Fig. 3 is a perspective view of the catch-rail which forms part of my device. Fig. 4 is an inside view of the door when locked.

Similar letters indicate corresponding parts.

This invention consists in the combination of a spring bolt or catch with a case, which forms a guide for the head, and also for the shank, of said bolt or catch, and with a catch-rail, the head of the spring bolt or catch being inclined and the catch rail being provided with a V-shaped recess, so that when the door is open the head of the bolt or catch bears against the flat face of the catch-rail, and when the door is being closed said head slides on the catch-rail until it drops into the V-shaped recess, when the door is retained in position, while, at the same time, by a quick pull or moderate pressure, the door can be forced open without difficulty. With the spring bolt or catch, its casing, and the catch-rail is combined a locking device, for retaining the bolt after the same has dropped into the recess of the catch-rail, all as hereinafter more fully described and definitely claimed.

Several attempts have been made heretofore to construct similar bolts or catches for sliding windows or doors, but without entire success. One of these devices (which has some resemblance to mine) consists of a spring, a socket, and a ball, which are contained in a hole provided for their reception in the edge of a door or window, the ball being allowed to protrude a sufficient distance to enter a socket in the frame of the door or window. This device works well when the door or window fits the frame nicely; but as soon as the door or window shrinks and begins to work loosely in its frame the ball does not catch in the socket in the frame sufficiently to produce a good hold. Furthermore, the ball, as it works against the side of the frame, sometimes produces a groove, which is objectionable; and the whole device is not constructed sufficiently strong and durable to be of much practical value. In my device these disadvantages are avoided.

In the drawing, the letter A designates a spring bolt or catch, which is fitted into a casing, B, the inner end of which is provided with a hole just large enough to admit the shank of the bolt or catch, while the head of the bolt fits the casing, so that the same is securely guided, and not liable to be thrown out of its proper position. A spring, C, has a tendency to throw the bolt or catch out of the position shown in Fig. 1. The casing B is provided with flanges *a b*, by means of which it can be firmly secured to a door, D.

The bolt or catch A co-operates with a catch-rail, E, which is fastened to the frame F, in which the door slides, said catch-rail being provided with a V-shaped cavity or recess, *c*, and being made of such length that the head of the bolt or catch bears against it as the door is moved back and forth in its frame.

The head of the bolt or catch is double-inclined, and if the door is moved to its closing position, said head drops into the V-shaped recess, so as to retain the door and prevent it from opening spontaneously. By a moderate push against the door, however, the inclined face of the catch or bolt head, being forced against the inclined side of the recess *c*, causes the bolt or catch to recede against the action of its spring, and the door can be opened without difficulty. In the example shown in the drawing the head of the bolt or catch is roof-shaped, or formed with double inclines, so that it can be reversed in its socket whenever it may become desirable, or that the door or window can be moved from its locking position in either direction.

The application of my catch to a sliding window will readily suggest itself, and requires no further description.

It will be seen from this description that my bolt or catch is securely guided in the casing B, as well at its head as at its shank, so that it is not liable to work loose, and if the door

shrinks the action of my bolt or catch will not be disturbed.

If my catch is applied to a sliding door of a railroad-car, I use a catch-rail with two V-shaped recesses, at such a distance apart that the spring bolt or catch engages with one of said recesses when the door is closed, and with the other when the door is open, so as to retain the door in either position.

With the spring bolt or catch A I have combined a locking device, F, which, in the example shown in the drawing, consists of a slide moving in a slot in the door, and provided with a head, *f*, that engages with a lever, *g*, so that by means of said lever the slide can be operated. When the bolt or catch A has dropped into the recess C of the catch-rail the slide F can be moved under the shoulder of said head, and the bolt or catch A is locked. The object of this arrangement is to retain the door or window firmly and securely in locked position.

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

1. The metallic catch-rail E, formed with the V-shaped cavity or recess *c*, in combination with the metallic casing B, having the flanges *a* and *b* for securing it to the edge of a door or window, and the spring bolt or catch A, provided with the beveled head and a shank, said head fitting within said casing, which forms a guide for the headed bolt or catch and its shank, substantially as and for the purpose described.

2. The combination, with the spring bolt or catch A, casing B, and catch-rail E, of a locking device, F, for retaining the bolt or catch after the same has dropped into the V-shaped recess of the catch-plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 21st day of December, A. D. 1876.

A. HANCE. [L. S.]

Witnesses:
W. HAUFF,
ROBT. E. MILLER.