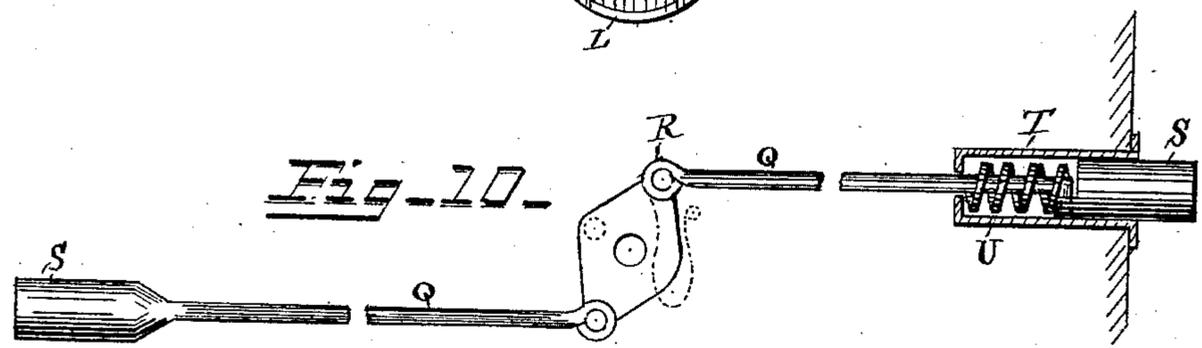
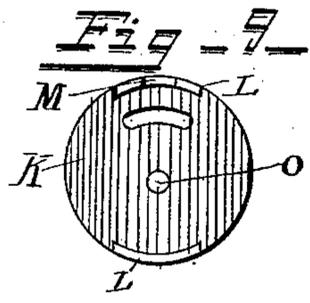
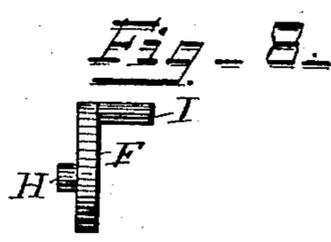
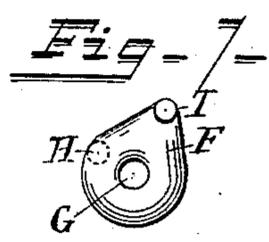
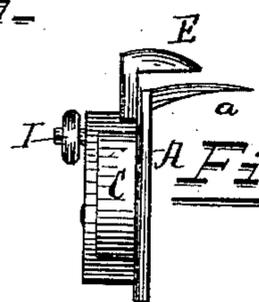
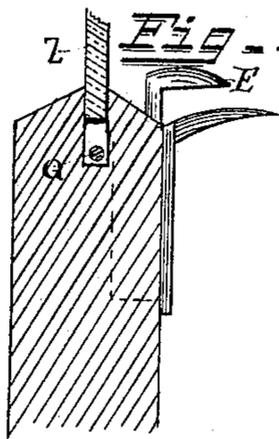
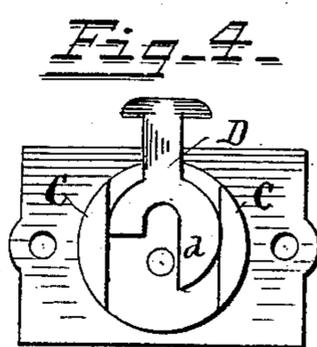
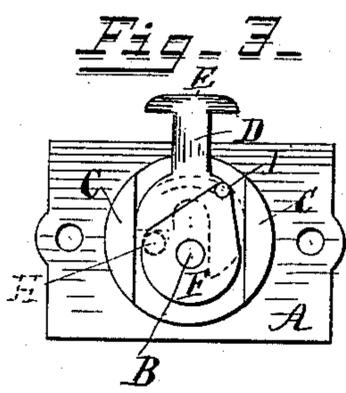
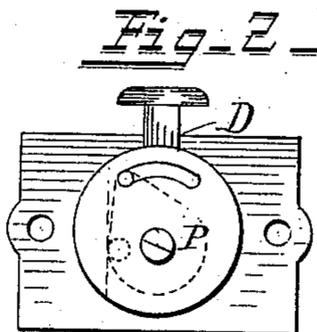
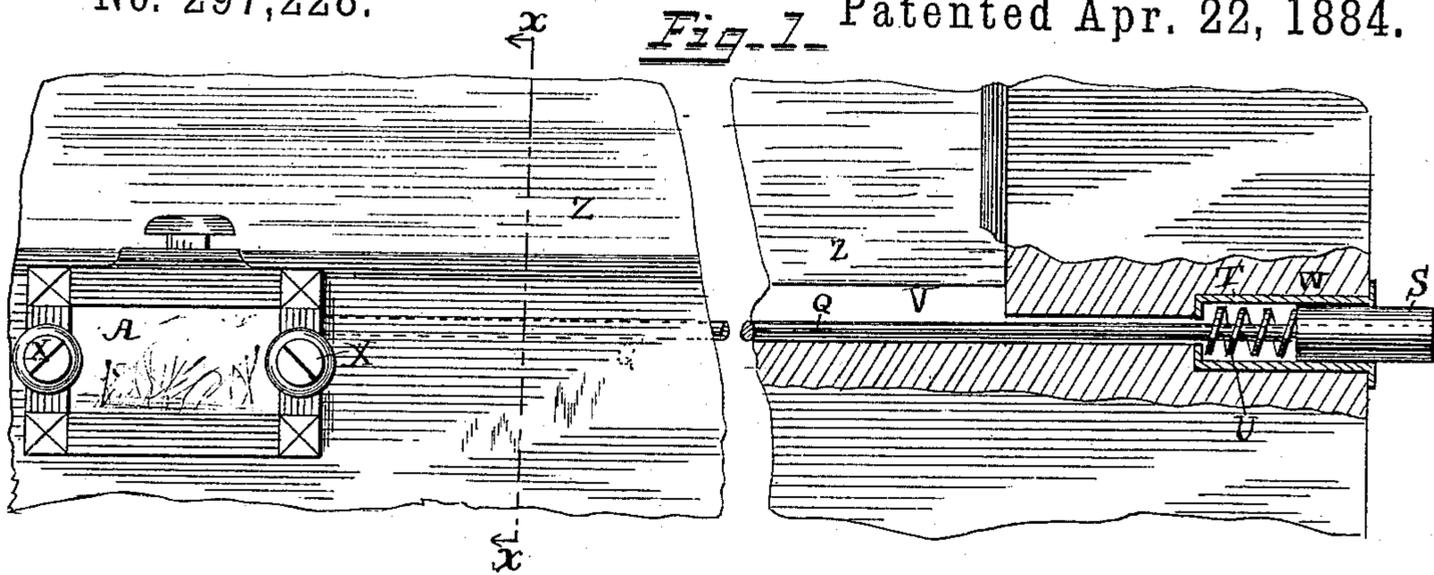


(No Model.)

F. M. CASE.
SASH FASTENER.

No. 297,228.

Patented Apr. 22, 1884.



WITNESSES:
W. J. Robertson.
E. A. Bond.

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ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANCIS M. CASE, OF DENVER, COLORADO.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 297,228, dated April 22, 1884.

Application filed January 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS M. CASE, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Window-Fastenings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of window-fastenings in which there is a lifting device combined with a slide adapted to be worked by the thumb, which slide operates a bell-crank lever to withdraw the bolt or bolts; and the invention consists in the peculiar construction and arrangement of parts hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 shows a front elevation of part of a window having my fastener attached and partly broken away. Fig. 2 shows a back elevation of the fastener detached. Fig. 3 shows a back view of the operating portion with the back plate detached. Fig. 4 shows a similar view with the back plate and bell-crank lever detached; Fig. 5, a vertical cross-section through the line *xx* on Fig. 1. Fig. 6 is a side view of the operating part of the fastening. Figs. 7, 8, and 9 are detached views of some of the parts; and Fig. 10 shows a modification when two bolts are employed with the same operating parts.

A represents the main frame or main part of the casing, which may be made of any appropriate form and of any style of ornamentation, which may be provided with a stud, B, and side pieces, C, preferably cast therewith.

D is a bifurcated slide, having one arm longer than the other, and provided with a thumb-piece, E, and adapted to slide between the side pieces, C, and is further guided by the longest arm, *d*, fitting in the space between stud B and the side C.

F is a bell-crank lever provided with a hole, G, fitting on the stud B, and having two studs, H and I, projecting in opposite directions, as shown at Fig. 7.

K is the back of the casing, provided with projecting curved flanges LL at top and bottom, the upper one having a notch, M, through which the stem of the slide D works, which

flanges fill in the spaces between the side pieces, C, so as to box in the bell-crank and lower parts of the slide.

At the upper part of the back piece is a curved slot, N, through which projects the stud I, and in its center is a countersunk hole, O, through which a screw, P, is passed into the stud B, by which means the plate is fastened to the front part of the frame. The stud may be dispensed with, if preferred, by making the screw P long enough to pass through the back piece, bell-crank, and slide and into the front piece, and I should therefore consider the screw an equivalent of the stud in this connection.

Instead of the stud B or a screw as the bearing for the bell-crank, I may form a pivot on the bell-crank, which would fit in a hole or holes cast in the front or back pieces of the casing or both, in which case the back could be fastened on by screws or pins or rivets passing into the side pieces C.

I sometimes dispense entirely with the back piece by using a screw having a head sufficiently large to keep the bell-crank lever in position, which, being in front of the slide, will also retain the latter in position. In this case, however, I extend the sides nearly around toward the top to form a bearing for the stem of the slide.

At Q is shown a wire, one end of which is connected to the stud I in any appropriate manner, but preferably by bending the end of the wire into a ring, R. The other end of the wire is attached to a bolt, S, in any convenient way, but preferably by riveting the end.

At T is shown a tube, preferably corresponding internally to the shape of the bolt, having one end nearly closed, and at this end of the bolt is a spiral spring, U, which tends to force the bolt outward.

This device may be attached to a window-sash in a variety of ways; but for car-windows, for which this device is particularly designed, I prefer to cut a deep groove, V, immediately under the glass from the center to the side stile for the wire that draws the bolt to work, then bore a hole into the sash-frame of the size of the casing, and a smaller hole running into the groove V, and then cut a

circular recess in the front of the sash of the size of the back piece, K, which may readily be done with an inch center bit. The wire Q, with the bolt and tube, is inserted through the hole W, and the stud I is put through the ring R, and the casing A secured in place by screws X X. After this is done, the glass Z may be put in place. The groove being cut but half-way, the other side, being left intact, will support the glass.

In operation the finger is put under the finger-piece *a* on the casing A, and the thumb on the thumb-piece E, and by pressing the latter the slide is caused to descend, and its short arm *d'*, pressing on the stud H, turns the bell-crank lever F, and thus withdraws the bolt, when the window can be raised or lowered, as the case may be, by raising or depressing the hand.

I do not limit myself to the arrangement shown of using a deep groove for the wire, for it is evident that a hole may be bored to receive it, especially if the operating device is arranged near one side, as I sometimes propose to use it, particularly when very heavy sashes are employed, in which case I propose to put one on each side of the sash.

I also propose in medium-sized sashes to use two bolts connected to a single operating device, as shown in Fig. 10, in which case the bell-crank is provided with a third stud diagonally opposite to the stud I, which stud will project through a second curved slot in the lower part of the back piece similar to slot N.

Instead of passing the wire entirely through the bolt, it may be screwed into the end, or it may be turned at an angle and passed through a transverse hole in the bolt. In some cases, especially when the fastening device is used at the side, I may make the bolt with an extension that will connect directly with the

stud, in which case a different form of spring may be necessary, as indicated in dotted lines in Fig. 10.

It will be observed that by the peculiar and compact arrangement of the parts all the work that is necessary to fit the operating part of the device to the window-sash is to bore a shallow recess into the face of the sash with an inch augur, to receive the round part of the casing, and that the only thing projecting from the wood-work is the ornamental face-plate and the thumb and finger pieces. This compact arrangement is owing mainly to the fulcrum or pivot B, on which the bell-crank F turns, being arranged substantially central under the slide and to the use of the forked or two-armed slide E.

What I claim as new is—

1. In a window-fastening, a bell-crank, F, working on a fulcrum, B, a two-armed slide, D, arranged immediately over the fulcrum B, and having one of its arms engaging with the bell-crank F, in combination with a bolt, also engaging with the bell crank, substantially as and for the purposes described.

2. In a window-fastening, a slide, D, having thumb-piece E, and a long and a short arm, the bell-crank F, having a stud, H, on which the short arm of the slide rests, and turning on a pivot arranged centrally under the slide, and a bolt connected to said bell-crank, in combination with a casing forming, with one of its sides and the central pivot, a guide for the slide, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 15th day of January, 1884.

FRANCIS M. CASE.

Witnesses:

JACOB A. G. BIGLER,
EDWARD H. COLLINS.