April 9, 1940. E. S. PERSSON 2,196,779

WINDOW HOLDER

Filed May 24, 1938

FIG. 1

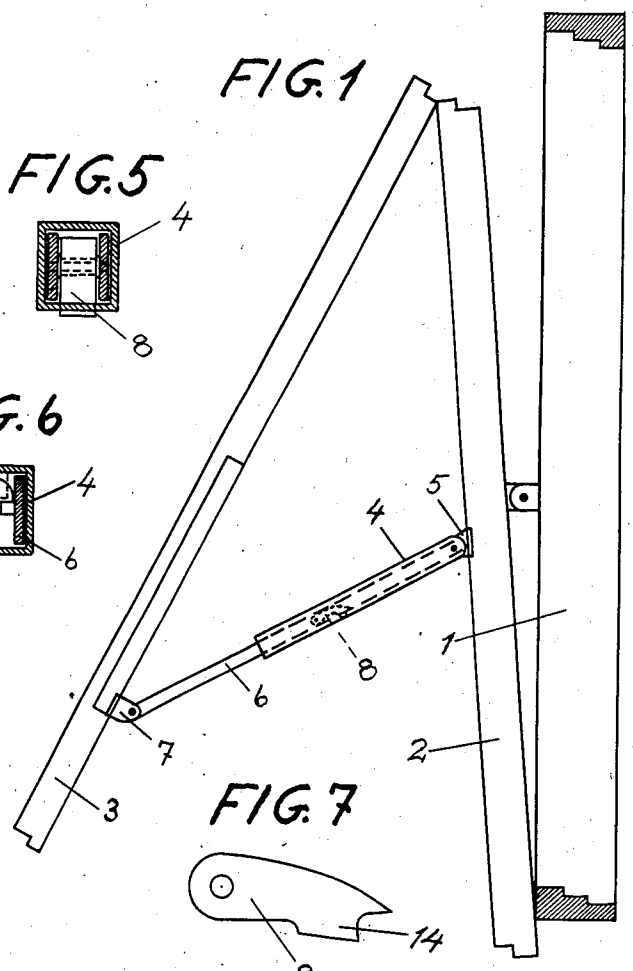


FIG. 5

FIG. 6

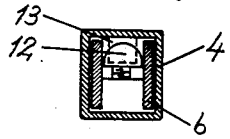


FIG. 7

FIG. 2

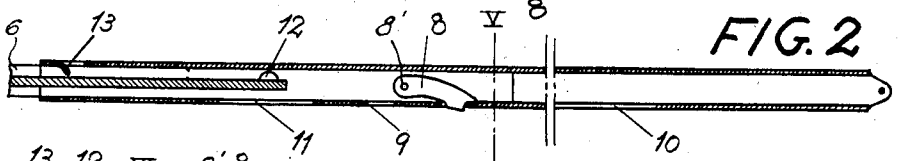


FIG. 3

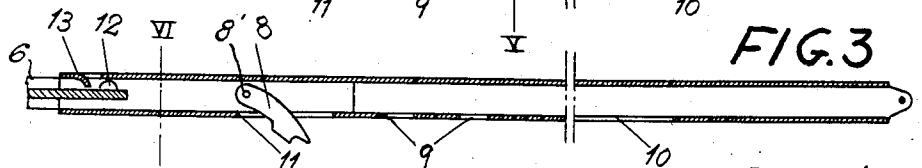
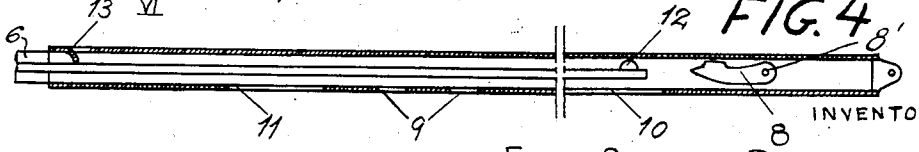


FIG. 4



INVENTOR

ERIC SIGFRID PERSSON

By Young, Emery + Thompson ATTYS.

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WINDOW HOLDER

Eric Sigfrid Persson, Malmo, Sweden

Application May 24, 1938, Serial No. 209,847
In Sweden May 28, 1937

3 Claims. (Cl. 292—267)

My present invention is concerned with improvements in or relating to holders and more particularly to holders of the type suitable for use between a window-frame and a window-sash or between the two window-sashes of a window having coupled sashes.

The object of my invention is to provide a holder of the general type specified and of a design to permit it not only to automatically occupy a locking position upon separating the two members to which it is secured, but also to be unlocked simply by a continued separation of said two members and to allow said members to be subsequently unrestrictedly moved towards each other.

Another object of the invention is to provide a holding device comprising two or more members which are relatively movable in a telescopic manner, the ends of said telescopic members being pivoted to the two above mentioned members adapted to be moved towards and away from each other as, for instance, the two sashes of a window rotatable about a horizontal axis and having coupled sashes, whereas the telescopic members are adapted to be automatically locked up in relation to each other.

According to the present invention, a holder of the type specified above comprises two or more relatively movable telescopic members, one of which is substantially tubular and provided with a number of locking openings in the wall thereof, and also provided with two or more longitudinal slots one at each side of one, or a group of, locking openings counted longitudinally of said tubular member, while the other member of the telescopic ones is movable longitudinally within said tubular member and provided, preferably adjacent its end, with a rotatably mounted catch adapted to engage said locking openings and to partially penetrate through said slots, thereby being rotated through an angle of approximately 180°.

An embodiment of the invention is shown for the purpose of illustration only, in the accompanying drawing, in which:

Fig. 1 shows, as an example, the holding means according to the present invention as applied to a window rotatable about a horizontal axis and having coupled sashes,

Fig. 2 shows, on a slightly enlarged scale, the portion of the holder to the right of Fig. 1, the holder being in an extended and locking position,

Fig. 3 shows the same portion of the holder as shown in Fig. 2, with the holder about to be shut up,

Fig. 4 shows the holder in a shut up position,

Fig. 5 shows a cross sectional view on line V—V of Fig. 2,

Fig. 6 shows a cross sectional view on line VI—VI of Fig. 3, and

Fig. 7 shows a side elevation of the locking catch.

In the drawing, 1 is a window-frame and 2 and 3 are the two sashes of a window having coupled sashes. A tube 4 is pivoted to the window-sash 2 by means of a pivot piece 5. In the tube 4 a rod 6 is displaceably mounted, the outer end of which is pivotally connected to the other window-frame 3 by means of a pivot piece 7. The rod 6 has an H-shaped cross section and, at the inner end of said rod, the web connecting the two flange members of the H-shaped rod is removed, so that said end is forked, and at this forked part it is provided with a rotatable locking catch 8, pivoted on a transverse pivot 8' between the legs of bar 6, the lug of which catch is adapted to be introduced into a number of locking openings 9 in the wall of the tube 4 so that, when the locking catch has engaged one of the openings 9 upon the holder being extended to a desired degree, the rod 6 and tube 4 can not be shut up, and thus retain the sashes 2, 3 in their separated position, as shown in Fig. 1. At each side of the locking openings 9 as counted longitudinally of the tube 4, said tube is provided with slots 10 and 11, said slots being of such a size as to permit the locking catch, when moved over one of said slots, to swing downwards through said slot and then to be rotated through an angle of 180° upon reversing the relative movement of the rod and tube. Besides, the rod 6 is provided with a projection 12 comprising a screw, as shown in Fig. 6. Said projection 12 is adapted, upon extending the holder 4, 6 to engage an abutment 13 on the tube 4 and thus to prevent the rod and tube from being completely separated from one another. The abutment 13 comprises a flap struck up into the tube 4 from the wall thereof. The locking catch 8 is provided with an abutment lug 14 for engaging the locking openings 9. The remaining portions of the locking catch are rounded in such a manner as to permit it easily to swing through the slots 10 and 11 of the tube 4.

The operation and function of the holder thus described is as follows:

Supposing that the sashes 2 and 3 have been rotated about 180° from the closed position of the window but not separated from each other, the holder being shut up and the locking catch 8 occupying the position shown in Fig. 4. When the

sash 3 is separated from the sash 2, the rod 6 is pulled to the left in Fig. 4, the locking catch 8 thereby dropping through the slot 10, from which it is retracted and at the same time rotated through an angle of about 180° during the continued movement of the rod. During the movement of extension, the locking catch 8 engages the first locking opening 9 (Fig. 2), the sash 3 then remaining in this raised position. In order to lower the sash 3 towards the sash 2, the first-mentioned sash 3 is first further slightly raised, the catch 8 thereby disengaging the first locking opening 9 and engaging the second opening 9, from where it is immediately retracted to drop through the slot 11, the stop member 12 engaging the abutment 13, so as to prevent further raising of the sash 3. When the sash 3 is then lowered towards the sash 2, the locking catch is retracted from the slot 11 and rotated about 180° from the position occupied before entering the slot 11, the back of the catch then facing downwards and sliding across the locking openings 9 without entering the same. Upon shutting up the rod 6 and the tube 4, the locking catch is again in the position shown in Fig. 4. Accordingly the movement of the holder into locking position, the releasing and shutting up thereof are carried out completely automatically by the relative swinging movements of the sashes and without any manual operation of the holder. In order to retain the sashes 2, 3 in engagement the usual coupling catches are provided.

The holder shown in the drawing is preferably adapted to be enclosed in slots, or recesses, in the sashes so as to render it concealed within said sashes, when they are in engagement with one another. Within the tube 4 a leaf spring may be mounted above one or more of the openings in the bottom wall thereof, said leaf springs acting to facilitate the introduction of the catch into said openings. The number of locking openings may be varied.

I claim:

1. A holder, particularly adapted for use in windows, comprising two members telescopically movable in relation to each other, the outer ends of said members being secured to two elements to be held spaced apart from each other, said members furthermore being adapted to be locked in relation to each other, one member being substantially of a tubular shape and provided with a locking opening and, at each side of said opening, with a slot, the other member being displaceable longitudinally within the first-mentioned member, and a rotatably mounted locking catch carried by the inner member and adapted to engage said locking opening and to pass partly through the slots as the catch is moved past said slots.

2. A holder according to claim 1 and further comprising a stop member carried by said first member, and an abutment positioned adjacent the outer end of the tubular member for engaging said stop member so as to prevent the two members from being completely separated.

3. An extensible device for holding two movable elements in spaced relation, comprising an outer member secured to one element, an inner member secured to the other element and displaceable longitudinally of the outer member, said outer member having an opening provided in a side thereof which assumes an under position when the elements are moved apart, said side of the outer member having two longitudinally spaced longitudinally extending slots therein with said opening between the same, and an elongated catch pivoted at one end about a horizontal axis to the inner member and provided with an opening engaging portion at its free end adapted to enter said opening in the under side of the outer member by gravity when the elements are moved apart, said slots being of sufficient length to enable the free end of said catch, when the members are relatively displaced and said free end is in register with a slot in advance of the pivoted end thereof, to pass through said slot by gravity and be swung about its pivot by further relative movement of said members to a position 180° from its original position.

ERIC SIG. PERSSON.