Sept. 11, 1928. 1,684,134

C. LE MESURIER

STORM WINDOW FASTENER

Filed March 7, 1927 2 Sheets-Sheet 1

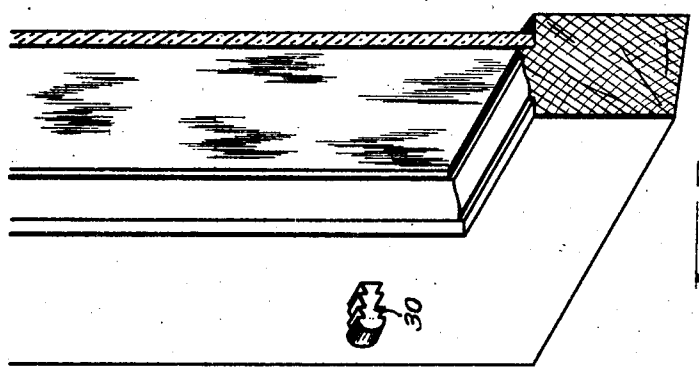


Fig. 2.

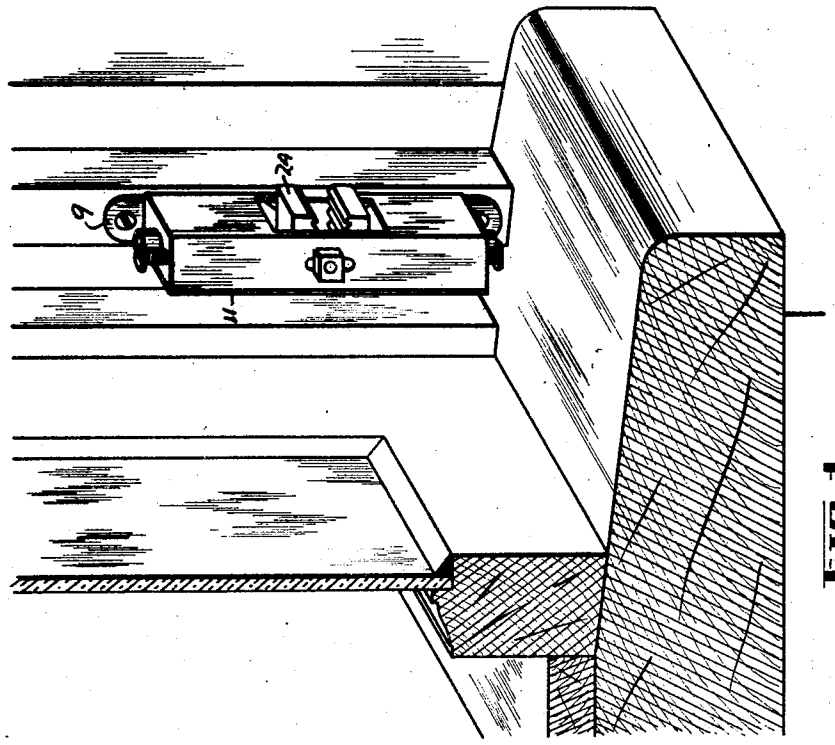


Fig. 1.

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Filed March 7, 1927 2 Sheets-Sheet 2

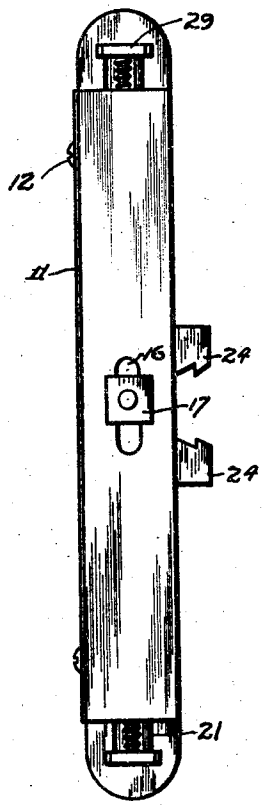


Fig. 3

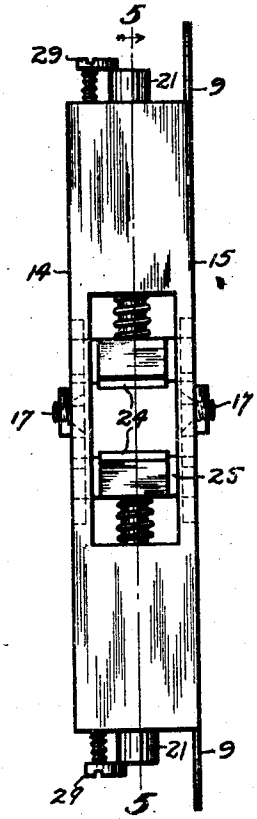


Fig. 4

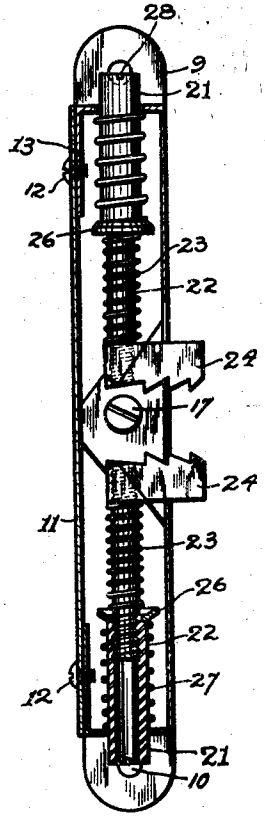


Fig. 5

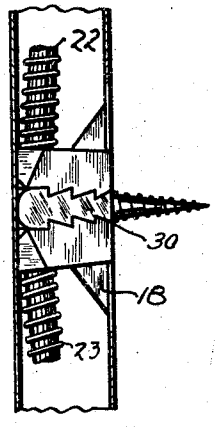


Fig. 6

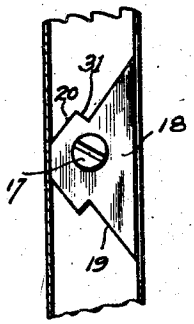


Fig. 7

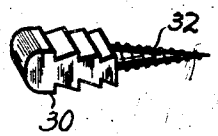


Fig. 8

INVENTOR

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Patented Sept. 11, 1928. 1,684,134

UNITED STATES PATENT OFFICE.

CHARLES LE MESURIER, OF CAMPBELLTON, NEW BRUNSWICK, CANADA.

STORM-WINDOW FASTENER.

Application filed March 7, 1927. Serial No. 173,370.

My invention relates to storm window fasteners, and has for its object the provision of a device enabling the mounting of storm windows from outside the building.

The object of my invention is to contrive a fastener wherewith no tool is required to either mount or dismount a window.

In the accompanying drawings, forming part of this specification—

Figure 1 is a perspective view of a fastener as applied to the window frame;

Figure 2 is a perspective view of a portion of a storm window with a tongue attached;

Figure 3 is a side view of a fastener;

Figure 4 is a face view thereof;

Figure 5 is a sectional view through line 5—5, Figure 4;

Figure 6 is a sectional view of a portion of a fastener showing the tongue as engaged by the jaws of the fastener;

Figure 7 illustrates the shape of one of the guiding members for the gripping jaws; and

Figure 8 illustrates the construction of the tongue to be fastened to the storm sash.

The fastener comprises a casing of rectangular form, which may be made of one piece metal pressed to shape. One side of the casing extends past the ends thereof and these extensions 9 are provided with perforations 10 to enable the mounting of the fastener upon the side of a window frame. The back 11 of the casing is made removable and is preferably fastened thereto by means of screws 12, the ends of the frame projecting inwards sufficiently to provide threaded perforations 13 into which the screws 12 engage. A pair of guiding members 18 are mounted inside the sides 14 and 16; and to adjust them longitudinally in the casing, slots 16 are provided on both sides of the casing into which project rivets or bolts 17 which are fastened to the guiding members and retained by means of nuts to allow the adjustment of the members in the slots. The guiding members are shaped so as to direct the gripping jaws to open or close as the tongue 30 enters in or is taken out therefrom. They are shaped with an inclined base 19 and a raised incline top portion 20, as well as a stop portion 31. Both ends of the casing are perforated to receive threaded tubes 21. Threaded rods 22 engage these tubes and springs 23 are mounted on the rods 22. The rods carry at their inner ends jaws 24 having inner serrated faces. These jaws are provided on each side with integral angular side lugs 25 intended to travel on the guiding members 18.

In order to regulate the tension of the springs 23, washers or discs 26 are mounted back of the springs between the ends thereof and the threaded tubes 21. Over the threaded tubes 21 spiral springs 27 are mounted. These springs are retained at one end by the washers 26 and at the other end by resting against the ends of the casing. The threaded tubes are provided at their outer ends with slots 28 to enable the turning of the same by means of a screw-driver. It will be noticed that the springs 23 and 27 are of different diameter and that the guiding members have three different angles, on which the side lugs of the gripping jaws travel. The object of the springs is to press the jaws against the guiding member with an equal tension irrespective of their position thereon. In order to obtain this result, the spring 23 is counterbalanced by spring 27 and compensates for the lengthening or shortening of the rod 22. This is done in the following manner: If the threaded tube 21 is unscrewed, the spring 23 will be extended and spring 27 will be under a greater tension. If the tension on the spring 27 becomes too high, the washer 26 will move on rod 22 towards the gripping jaws to counterbalance the springs, irrespective of the length of the rod.

It will be understood, of course, that the threaded tubes 21 travels to and fro in the ends of the casing and that when the jaws engage the tongue 30, they are at their innermost position. In order to retain the same in this position, screws 29 are threaded in the ends of the casing adjacent the threaded tubes. One side of the head of the screws is taken off so that when turned against the tube it will not prevent the same from reciprocating; whilst if the head portion is turned on the end, they are locked in position.

The number of fasteners used varies according to the size of the storm window and may comprise one, two or three pairs. They are mounted, as shown in Figure 1, on opposite sides of the window frame and the storm sash is provided with serrated tongues 30 having integral screws 32 to fasten the same to the sash. These tongues are positioned on the sash so that when the sash is

mounted in position, they will enter the gripping jaws 24, thus holding the storm sash in position.

In referring to Figure 5, it will be noticed that the jaws are separated and held thus by the portion 31 of the guiding member 18. Any pressure applied on the gripping jaws 24 by the storm window will cause the jaws to be depressed, when they will be free from the retaining portion 31 and will slide against the portion 20 of the guiding member 18, thus allowing the closing of the jaws against the tongue 30.

In order to remove the storm window, all that is necessary is to pry the same outwardly, when the gripping jaws will slide against the portion 20 until it reaches the portion 31 of guiding member 18 and thus remain in separated position and free the tongue 30.

The form of my fastener is one that in actual use has given satisfactory results, but it should be understood that changes may be made without departing from the spirit of my invention as covered by the following claims:

1. In a fastener of the class described, a casing, jaws mounted centrally of said casing and slidable therein, guiding means to direct the jaws in either opened or closed position, and pressure means back of said jaws to maintain them under tension.

2. In a fastener of the class described, a frame of rectangular form, an opening in one side of said frame, slots on the opposite sides thereof, guiding means adjustably mounted in said frame traveling in said slots, jaws mounted in said opening and provided with projections to travel on said guiding means, rods fastened to said jaws, springs mounted on said rods to maintain the same pressed against said guiding means, and means to adjust the tension of said springs.

3. In a fastener of the class described, a frame, an opening in one side of said frame, a pair of jaws mounted in said opening, a pair of guiding members one on each side of said jaws adjustably mounted in said frame, rods fastened to said jaws extending back of the same into the casing, a threaded tube mounted on said rods, tension springs mounted between the jaws and the threaded tube, a tension spring mounted over the threaded tube between the casing and the inner end of said tube, perforations in said casing to allow the threaded tube to travel therein, and means on the tube to adjust the springs according to the tension required.

4. In a fastener of the class described, a frame, an opening in one side thereof, a pair of jaws travelling in said opening, extensions on both sides of said jaws, guiding members adjustably mounted one on each side of said opening, positioned so that the extensions of the jaws will engage the same, tension means back of said jaws, and means to adjust the tension of said tension means.

5. In a fastener of the class described, a casing of rectangular form, an opening on one side of said casing, a pair of jaws mounted in said opening, extension rods integral with said jaws, perforations at both ends of said casing to allow the extension rods to move longitudinally and vertically therein, springs mounted between said jaws and the inner end of said casing, and means to counterbalance the tension of said springs according to the position of said rods.

6. In a fastener of the class described, a casing of rectangular form, an opening on one side thereof, a pair of jaws mounted in said opening and extending inside the casing, capable of moving horizontally or vertically, a pair of guiding members mounted one on each side of said jaws, projections on said jaws to travel against the face of said guiding members, serrations on the inner face of said jaws, a tongue, serrations on said tongue corresponding to the serrations on the gripping jaws, and means on said tongue to fasten the same to a storm sash.

In testimony of the foregoing, I have hereto affixed my signature, this 22nd day of November, 1926, at Campbellton in the county of Restigouche and Province of New Brunswick, Canada.

CHARLES LE MESURIER.