C. E. STROM AND C. SWANSON.

SAFETY WINDOW CATCH.

APPLICATION FILED DEC. 16, 1918.

1,313,840.

Patented Aug. 19, 1919.

Fig. 1

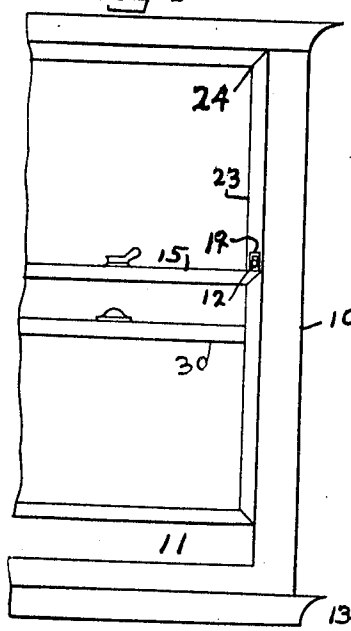


Fig. 2

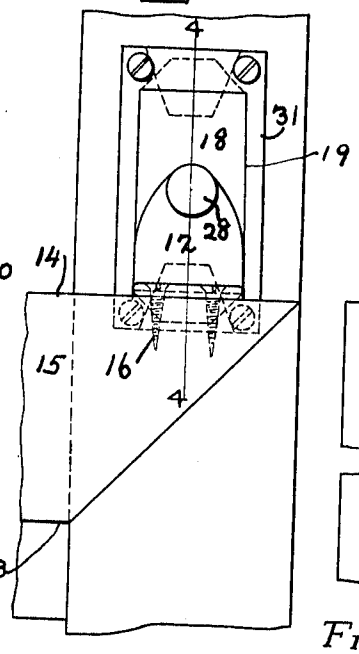


Fig. 3

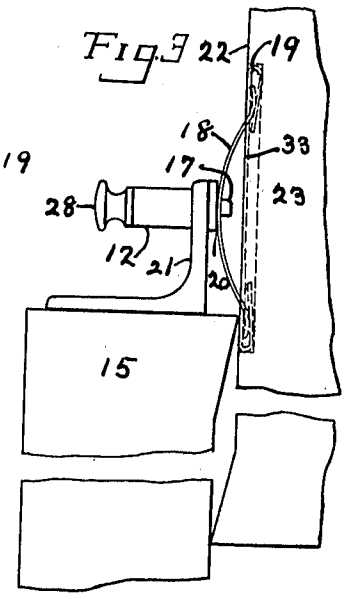


Fig. 4

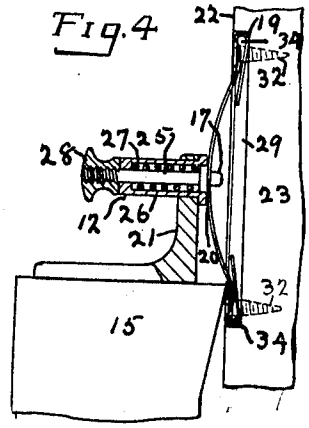


Fig. 5

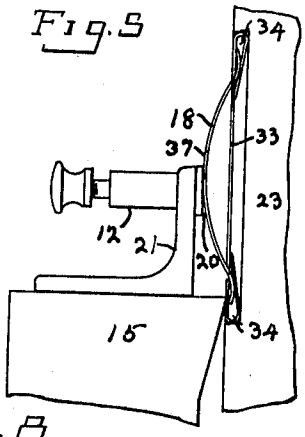


Fig. 6

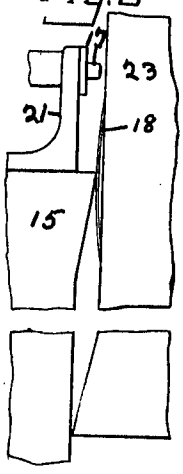


Fig. 7

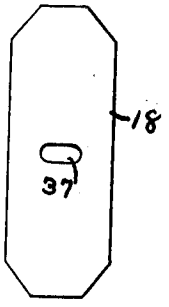
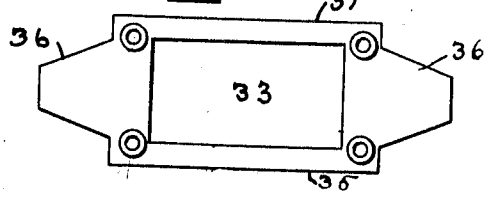


Fig. 8



Inventors

Carl Edwin Strom and

Carl Swanson,

By Louis M. Schmidt

Atty.

UNITED STATES PATENT OFFICE.

CARL EDWIN STROM AND CARL SWANSON, OF NEW BRITAIN, CONNECTICUT.

SAFETY WINDOW-CATCH.

1,313,840. Specification of Letters Patent. Patented Aug. 19, 1919.

Application filed December 16, 1918. Serial No. 267,005.

To all whom it may concern:

Be it known that we, CARL EDWIN STROM, and CARL SWANSON, citizens of Sweden, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Safety Window-Catches, of which the following is a specification.

Our invention relates to improvements in safety window catches, and the object of our improvement is simplicity and economy in construction and convenience and efficiency in use.

In the accompanying drawing:—

Figure 1 is a rear elevation of a window frame or casing and a pair of sashes operatively supported therein and provides a safety window catch according to our invention.

Fig. 2 is a rear elevation on an enlarged scale of the safety window catch shown in Fig. 1 and the adjacent parts.

Fig. 3 is a side elevation of the same.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2.

Fig. 5 is a view part in section and part in side elevation with the members of the safety window catch in a different position from that shown in Fig. 4, being in a position intermediate the final locking position and the position of total disengagement.

Fig. 6 is a side elevation showing the members of the safety window catch totally disengaged, and with the two sashes overlapping appreciably more than in the safety locking position.

Fig. 7 is a plan view of the blank for the spring keeper that forms part of the keeper member of the safety window catch.

Fig. 8 is a plan view of the blank for the frame or housing for the spring keeper shown in Fig. 7.

Our improved safety window catch is applied to a pair of window sashes mounted for operation in the usual manner in a window casing or frame 10 and comprises two coöperating members that serve to automatically limit the amount of the relative sliding movement of the two sashes in accordance with a pre-determined amount by interengaging one with the other, and when so interengaged serve to lock the said two sashes together, substantially as a unit.

When so locked, the two sashes may be positioned relatively to the frame 10 so that the open space between the double sash unit and the frame may be all at the lower end of the sash unit, as shown at 11 in Fig. 1, or may be at the top, or may be sub-divided, with part at the top and part at the bottom, and in any ratio or degree of movement desired.

The member 12 that is mounted on the lower and inner sash 13 is positioned on the upper edge portion or upper face 14 of the upper cross bar or horizontal bar 15 of the said lower and inner sash 13, being held in position by screws 16, and has at the upper end portion a nose 17 for engaging with the spring keeper 18 that is part of the upper sash member 19.

The parts are constructed and arranged so that the nose 17 is positioned an appreciable distance above the sash bar 15, and projects rearwardly horizontally from the rear face 20 of the body structure 21 of the lower sash member 12, and the tip end of the said nose 17, at the rear is separated from the plane opposed rear face 22 of the particular side bar 23 of the upper sash 24 on which the upper sash member 19 is mounted by a short clearance space.

As shown in Fig. 1 the safety window catch is positioned at the right side, the upper sash member 19 being mounted on the right hand side bar 23 of the upper and outer sash 24 and the lower sash member 12 being positioned in line therewith.

In the preferred form of construction the lower sash member 12 is in the form of a spring plunger catch device, the nose 17 constituting the rear end portion of a horizontal sliding bolt 25 that is operatively housed in a barrel 26 at the upper end of the body structure 21 and that is normally projected rearwardly by a spring 27. A nut 28 on the front end of the bolt 25 limits the rearward movement of the bolt 25 and serves as a handle for pulling the bolt 25 forwardly so as to draw the nose 17 away from the holding or locking position.

The upper sash member 19 is set into a mortise 29 in the side bar 23 and is positioned above the lower cross bar 30 of the upper sash 24 a suitable distance so that when the two members 12 and 19 are locked together a sufficient opening of the window space will be provided for effective ventilation and at the same time the open space will be sufficiently small to prevent children from falling out and to prevent the entrance therethrough of unauthorized individuals.

The said upper sash member 19 comprises a frame or housing 31 that fits into the mortise 29 with the inner face flush with the inner face 22 of the side bar 23, and is held in place by screws 32 at the corners, the body portion having a vertically elongated, rectangular opening 33 through which the spring keeper 18 projects, and the upper and lower end portions being provided at the rear with recesses 34 for the ends of the said spring keeper 18.

As shown, the housing 31 is formed from a blank of sheet metal of the form shown in Fig. 8, the body portion 35 being of rectangular form and provided with the opening 33, and at the upper and lower ends there are integral ears or lugs 36 that are of suitable form and length to be bent rearwardly so as to form the housing recesses 34.

The spring keeper 18 is formed from a blank of spring sheet material of substantially rectangular form, of suitable width to be an operative fit between the side walls of the opening 33, and of such length as to substantially fit between the two end walls of the housing recesses 34 when in flattened position, and in the final form for use is curved or bowed, as shown, so that the body portion projects normally an appreciable distance forwardly, through the opening 33, suitably to engage with the nose 17 by means of the keeper opening 37 at the middle.

When the spring plunger form of catch is used, such as has been described, the spring keeper 18 would be disengaged from the nose 17 by retracting the bolt 25. In case the nose 17 were part of a non-movable structure such disengagement would be effected by pressing the spring keeper 18 away from the nose, which method of disengagement may also be employed in the case of the use of the spring plunger.

In engaging the parts in the ordinary manner, by moving the sashes relatively one to the other the nose 17 slides over the face of the spring keeper 18 until the nose 17 registers with the keeper opening 37, and in such movement it is immaterial whether the nose 17 is pushed away from the normal position or the spring keeper 18 is flattened momentarily.

In certain positions of the sashes, with the members 12 and 19 disengaged, the spring keeper 18 would be opposed to the upper bar 15 of the lower sash 13 so as to contact therewith and would be depressed within the frame or housing 31, so that there is no appreciable interference with the free operation of the sashes when the locking members 12 and 19 are out of the engaging positions.

We claim as our invention:—

1. In combination with a pair of window sashes, a safety catch comprising a stop member that is mounted on the lower sash and has a nose directed outwardly toward the upper sash and a keeper member that is mounted on the said upper sash, the said keeper member having a spring keeper made of flat spring material that is provided with an opening for receiving the said nose, and having a frame for the said keeper, the said frame having a pair of sockets in spaced relation for housing the ends of the said keeper, and the said keeper having the said ends housed in the said sockets and having the body portion intermediate the said ends of bowed form, normally projecting over the path of the said nose and operative to yield in bringing the said nose into registration with the said opening.

2. In a combination as described in claim 1, and the said stop member being in the form of a spring plunger having a sliding bolt, and the said nose being the end portion of the said bolt.

3. In a safety window catch device, a keeper member for coöperating with a stop nose, the said keeper member being composed of a spring keeper and a frame therefor, the said frame comprising a generally rectangular plate-like structure having a longitudinal opening of appreciable length extending along the middle portion and having on the rear face a pair of housing recesses that are positioned adjacent and outward from the ends of the said opening, and the said spring keeper being formed of flat spring material, of bowed form, having the ends housed in the said recesses, and having the body portion projected forwardly through the said opening, and the said body portion having an opening for receiving the said nose.

4. In a safety window catch device, a spring keeper for coöperating with a stop nose, the said keeper being formed of flat spring material, of bowed form, and having an opening at the middle for the said nose, and a housing for the said keeper comprising a guide slot for the body portion of the said keeper and a pair of housing recesses for the ends thereof.

5. In combination with a pair of window sashes, a stop nose secured to the lower sash and a keeper device mounted on the upper sash and having a part that is provided with an opening for receiving the said nose, and the said part being in the form of a spring of elongated form of flat spring material, bowed in the direction of the length and of symmetrical form, and having the said opening at the middle, and the said part being mounted by means of sockets for loosely receiving the ends thereof, whereby resistance to separation of the nose and keeper device involves compression of the portion of the said part that is between the nose and the particular socket corresponding to the direction of pressure of the nose.

6. In combination, an upper and a lower sash, a window catch member having a stop nose mounted on the said lower sash, a second window catch member having a keeper for coöperating with the said nose mounted on the said upper sash, the said first mentioned window catch member being positioned on the said lower sash so as to provide clearance between the end of the said nose that is opposed to the said upper sash and the sash structure of the said upper sash, the said second window catch member being constructed and arranged so that the said keeper normally overhangs the travel path of the structure of the said lower sash, and the said keeper being constructed of resilient material, suitably to yield responsive to contacting with the said structure of the lower sash.

CARL EDWIN STROM.
CARL SWANSON.

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