April 28, 1936. C. W. CARVETTE 2,038,827

SAFETY CHECK FOR WINDOW SASHES

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Fig. 1.

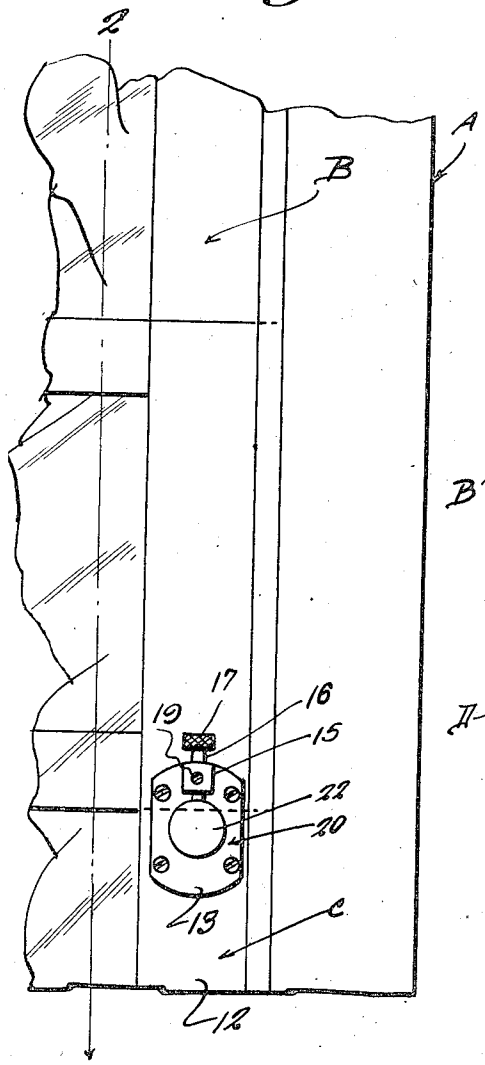


Fig. 2.

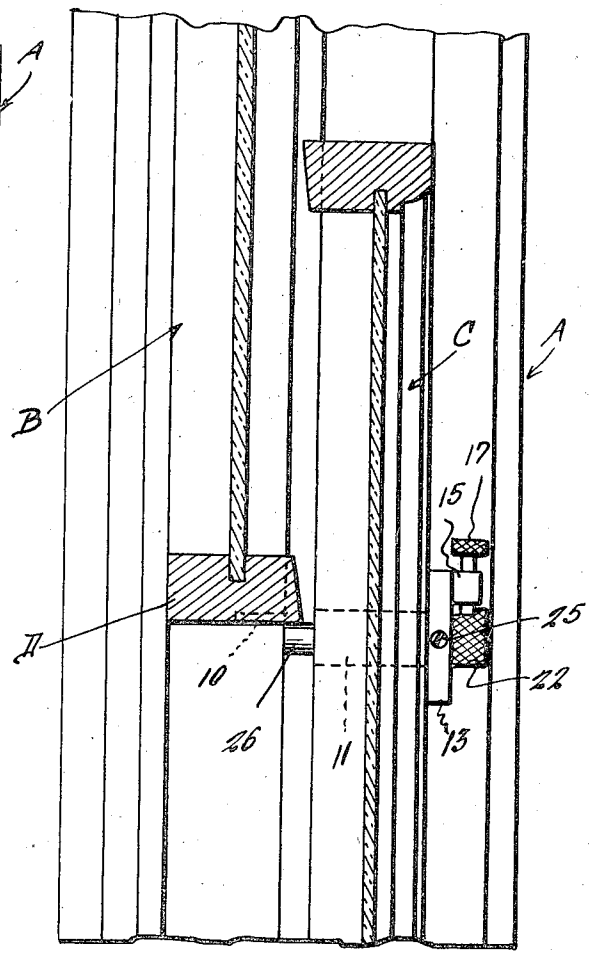
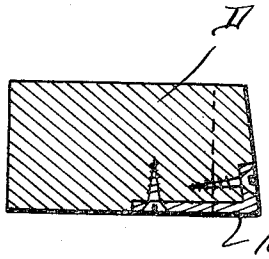


Fig. 8.



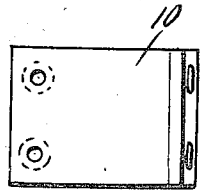


Fig. 9.

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SAFETY CHECK FOR WINDOW SASHES

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Fig. 3.

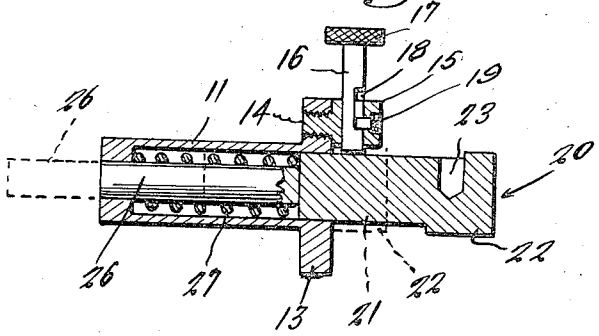


Fig. 4

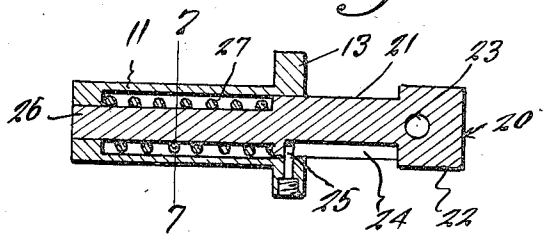


Fig. 5.

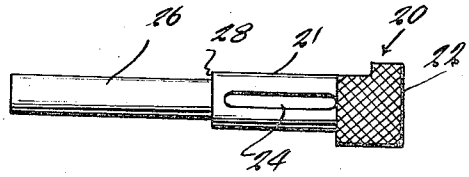


Fig. 6

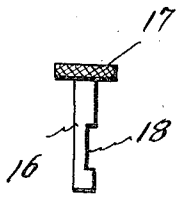
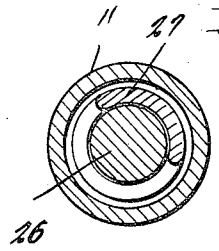


Fig. 7.



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UNITED STATES PATENT OFFICE

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SAFETY CHECK FOR WINDOW SASHES

Charles W. Carvette, Greenwich, Conn.

Application June 22, 1935, Serial No. 27,961

2 Claims. (Cl. 292—179)

This invention relates to the broad class of building and construction hardware and has more specific reference to a safety appliance in the nature of an attachment for a conventional sliding window sash, the attachment being expressly constructed to function as a check or stop device so as to limit the upward sliding movement of the lower sash and the downward sliding movement of the upper sash.

The invention may be accredited as possessing the requisite structure to serve as a reliable safety appliance susceptible of being brought into play at the discretion of the user, whereby to allow the lower sash to be raised for ventilation purposes but to at the same time prevent it from being pushed up sufficiently far to permit an intruder to enter through the space between the sill and the bottom of the sash.

Reviewed from a different standpoint the invention may be defined as a simple and economical attachment for a lower sliding sash wherein the attachment may be utilized as needs require to limit the downward sliding movement of the upper sash when the companion lower sash is closed down tight so as to provide for adequate top ventilation while at the same time forestalling entry of unauthorized persons.

Considered briefly as a unit, the preferred embodiment of the invention comprises a flanged receptacle or bushing constructed to accommodate an automatic spring released plunger, said plunger constituting the projectable check or stop pin, and means being provided for positively holding said pin projected when it is purposely adjusted to function as a safety or precautionary sash retaining means.

The specific or detailed assembly constituting the accepted type of the invention will be discovered in the succeeding detailed description and the companion illustrative drawings.

In the drawings wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a fragmentary portion of a window frame with complemental upper and lower sliding sashes, the lower sash being provided with the safety appliance presently to be explained in detail.

Figure 2 is a vertical sectional view taken approximately on the plane of the line 2—2 of Figure 1 observing the structure at right angles to Figure 1.

Figure 3 is a view of the invention per se showing the plunger in its normal position in full lines and in its projected retention position in dotted lines.

Figure 4 is a horizontal or longitudinal sectional view through Figure 3 showing additional details.

Figure 5 is an elevational view of the rectilinear reciprocatory plunger unit.

Figure 6 is a detail view of the manually controlled latch or fastener.

Figure 7 is a cross section, slightly enlarged, on the plane of the line 7—7 of Figure 4.

Figure 8 is a cross section through the lower rail of the upper sash illustrating the metallic wear plate or cleat.

Figure 9 is a view of the cleat alone.

In Figures 1 and 2 the window frame is denoted by the letter A, the upper sash is indicated at B and the lower sash at C. For a purpose to be hereinafter described the lower double edged rail D of the sash B is provided with a mortise into which an L-shaped wear plate or cleat 10 is fitted. This part 10 is merely a collateral feature which is recommended for use in connection with the check device now to be described.

Referring now to Figure 3, it will be observed that the flanged receptacle is in fact a cylinder 11 of appropriate proportion which is designed to be fitted into a bore provided in the intermediate portion of one of the vertical rails 12 of the lower sash as shown for example in Figures 1 and 2. The flange is indicated at 13 and is of appropriate shape and drilled to accommodate fastening screws to facilitate its application and maintenance as also shown in Figure 1. At a predetermined point the flange is formed with a screw threaded tap to accommodate the screw threaded attaching shank 14 of a vertically bored fitting 15. This fitting serves as an adapter or carrier for a gravity drop latch. Specifically the latch comprises a cylindrical stem 16 vertically workable in a guide passage in the fitting and provided with a finger grip or knob 17. The stem 16 is provided with a guide notch 18 to accommodate a complemental guide pin 19 carried by the fitting. This is merely a convenient assembling arrangement. The idea is to provide the flange with a knob-equipped gravity drop pin which functions as a retaining latch for the rectilinear or reciprocatory plunger unit 20. As shown in Figure 5, this unit comprises a spindle portion 21 which is mounted for reciprocation in the cylinder or bushing 11. At its outer end it is provided with an enlarged knurled head 22 having a keeper socket 23 properly arranged to allow the latch pin 16 to drop into it when it is in registry therewith as

indicated in dotted lines in Figure 3. A longitudinal groove **24** is formed in this spindle portion and constitutes a keyway to receive the projecting end of the removable key or stud **25** also carried by the attaching flange **13**. This stud extends into the keyway as shown in Figure 4 and prevents rotation of the plunger in the cylinder so as to properly match the keeper socket **23** with the latch pin **16**. The left hand end portion **26** of the plunger is cylindrical and slidable through a guide aperture in the corresponding end of the cylinder, being surrounded by a coiled expansion spring **27** confined in said cylinder. The spring bears at one end against the shoulder **28** and at its opposite end against the annular apertured end portion of the cylinder **11**. This is an expedient of practical value in that the spring expands to normally retract the pin **26**. The pin when projected functions as the safety check or stop means. It might also be said that the aforementioned detent or stud **26** cooperates with the keyway **25** in limiting the expansive action of the spring so as to maintain the plunger properly assembled in the cylinder.

In operation and use the vertical sash rail **12** is bored to permit cylinder **11** to be mounted therein and to be attached in place through the instrumentality of the attaching flange **13**. The length of the cylinder is such as to adapt it to the width of the rail **12** in which it is mounted. Normally, the parts are as seen in Figure 3 under which circumstances no locking or retention effect is developed. When it is desired to bring the safety check into play the operator simply forces the plunger from the full line position shown in Figure 3 to the dotted line position there shown which projects the pin **26** into the path of movement of the sash rail D. The pin **26** is held in this position through the instrumentality of the latch **16** dropping into the keeper socket **23**. With the pin thus projected the upward opening movement of the sash D is limited because the pin **26** comes into contact with the wear plate **10** assuming, of course, that the wear plate **10** has been properly positioned. By the same token, when the sash C is closed and the sash B is dropped down the rail D comes into contact with the pin **26** and limits the downward sliding movement of said sash B.

Novelty is predicated upon the adoption and use of the simple economical flanged receptacle or cylinder **11** designed to accommodate the automatically retracted safety plunger **20**, wherein said plunger is of the type shown in Figure 5, and especially provided with a keeper socket **23** to accommodate the automatically dropping latch pin **16**. Explicit novelty resides in the multiple function of the attaching flange **13** in that it serves not only to fasten the device on the sash but serves as a mounting for the detachable key or detent **25** as well as a means to adequately support the fitting **15** which in turn provides a novel adapter for the catch or latch **16**. It is believed to be practicable and feasible to make these parts separate and detachable so that they may be replaced and also properly adjusted when slight inconsistencies occur at the time of manufacture and assembly. Then, too, this arrangement permits the major part to be made of properly tempered case hardened steel, particularly suitable for safety check of this type.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having thus described the invention, what is claimed as new is:

1. As a new article of manufacture, a component part of an assemblage of the class described comprising a cylinder formed at one end with a flange, said flange being provided with a removable detent pin, being further provided with a screw threaded opening, an adapter fitting having a screw threaded shank threaded into said opening, said adapter fitting having a guide passage, a cylindrical latch pin slidable in said passage and provided on its accessible end with an operating knob, together with readily accessible retaining means on said adapter fitting to retain the latch pin against accidental displacement.

2. In a safety check sash retention device of the class described, a cylinder formed at one end with an attaching flange, an adapter element adjustably mounted on said flange and projecting at right angles therefrom, said adapter element having a vertical guide passage, a cylindrical latch pin slidable in said guide passage and being provided on its upper accessible end with an operating knob, readily accessible retaining means on said adapter to retain the latch pin against accidental displacement, a reciprocal plunger having a cylindrical spindle portion at one end terminating in a finger gripping knob and being provided at its opposite end with a reduced cylindrical sash retention and check pin, the cylindrical spindle portion engaging and maintaining the latch pin in raised unlatching position when the plunger is in retracted position, a spring mounted on the check pin and bearing against the shoulder formed thereby and the cylinder end, means associated with said flange and plunger to limit the sliding movement of the plunger in opposite directions and to prevent turning thereof in the cylinder, said spindle being provided within the vicinity of said knob with a radial socket constituting a keeper seat for the latch pin.

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