

July 3, 1945.

C. KELLIHER

2,379,528

REVERSIBLE SASH WINDOW

Filed Oct. 15, 1943

2 Sheets-Sheet 1

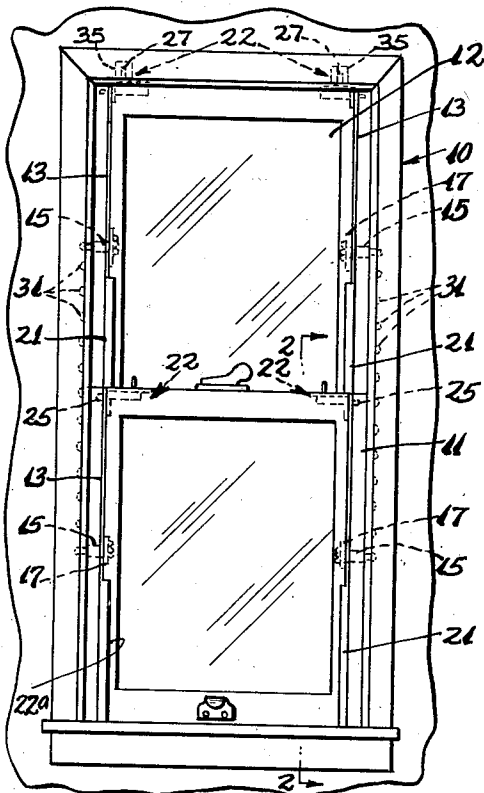


Fig. 1.

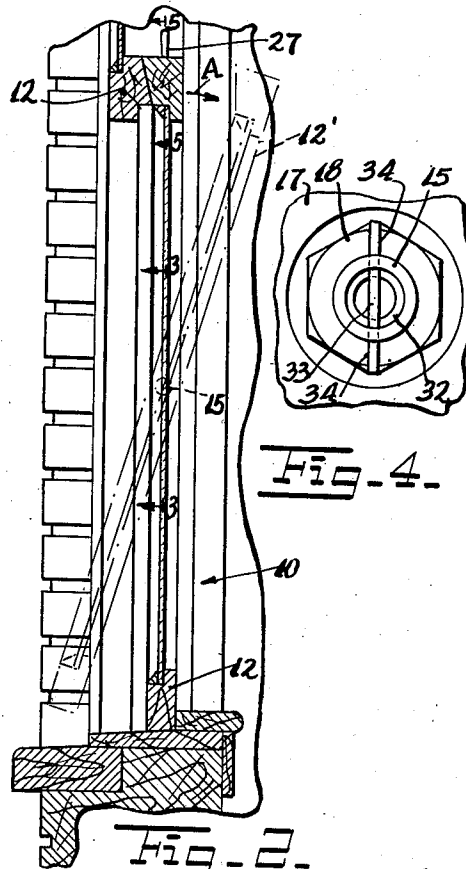


Fig. 2.

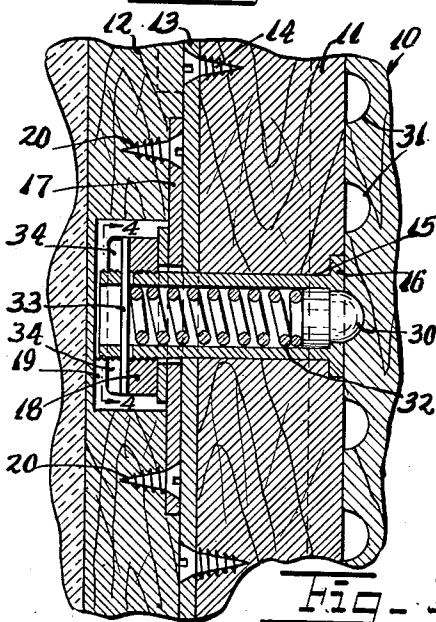


Fig. 3.

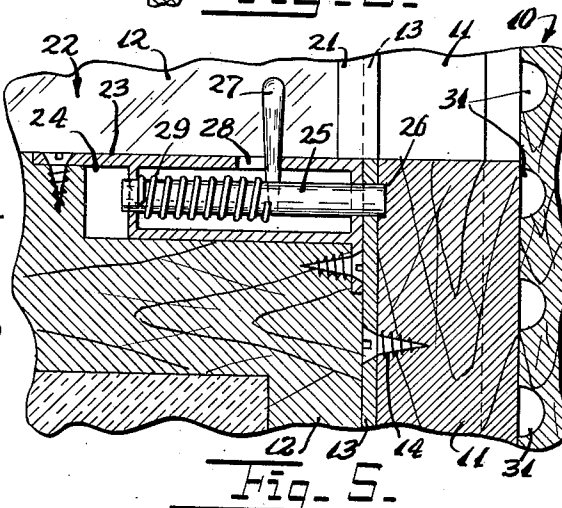


Fig. 5.

INVENTOR.
Charles Kelliher

BY

Goldman Pollock
ATTORNEY

July 3, 1945.

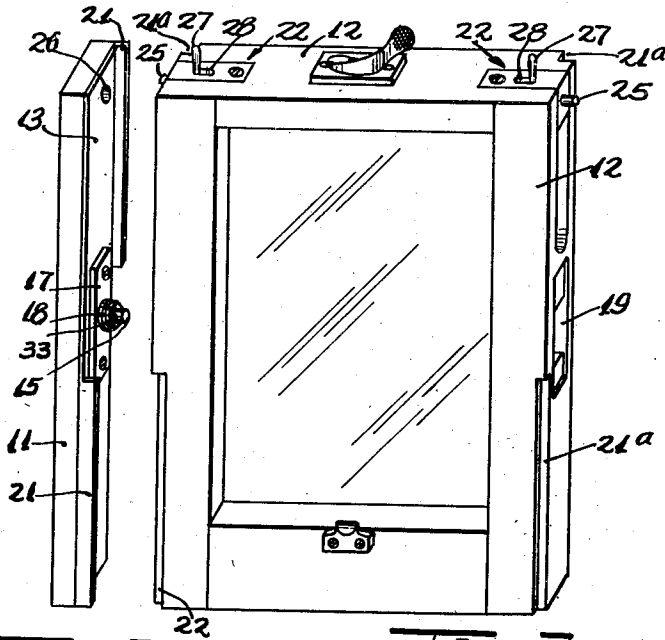
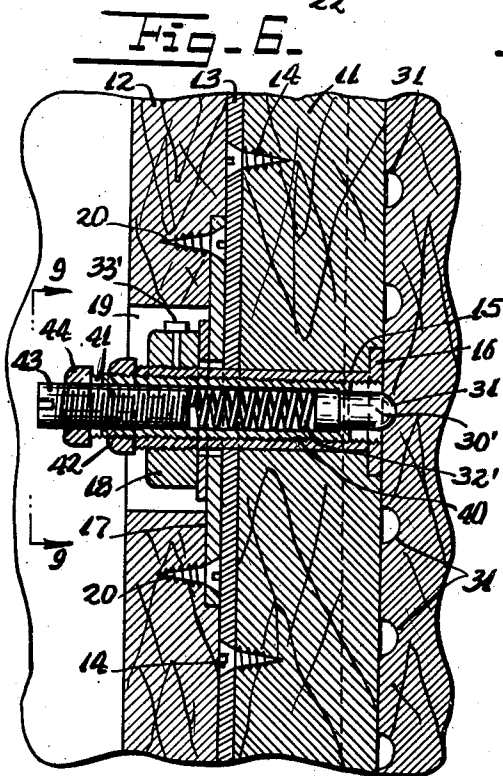
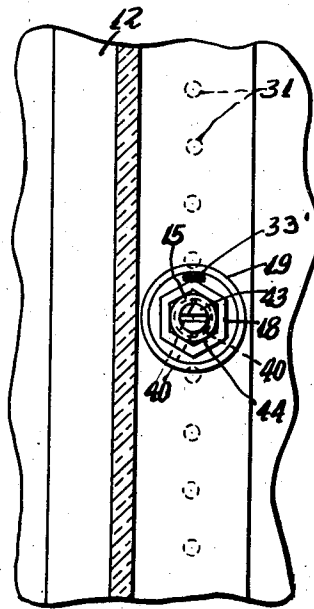
C. KELLIHER

2,379,528

REVERSIBLE SASH WINDOW

Filed Oct. 15, 1943

2 Sheets-Sheet 2



INVENTOR.
Charles Kelliher
BY
Gustav H. Kelliher
ATTORNEY

UNITED STATES PATENT OFFICE

2,379,528

REVERSIBLE SASH WINDOW

Charles Kelliher, New York, N. Y., assignor of
forty per cent to Edward R. Hosten, New York,
N. Y.

Application October 15, 1943, Serial No. 506,367

5 Claims. (Cl. 20—49)

This invention relates to new and useful improvements in a reversible sash window.

More specifically, the invention of a reversible sash window characterized by a window pivotally attached at its sides to a pair of strips which slidably engage the tracks at the sides of a window frame and arranged in a manner to permit the sash to be pivoted into a position in which its outer face will be directed inwards permitting the outer side to be easily cleaned from the inside of the building to which the window is applied.

Another object of the invention proposes the provision of catches on the window sash cooperative with the strips for locking the sash and strips together as a unit in a manner to be slid as a unit relative to the window frame when so desired.

Still another object of the invention proposes the provision of plunger catches projecting from the pivot points of the sashes and cooperative with complementary keeper openings formed in the window frame in a manner to support the window sash in various raised positions in the frame in conjunction with the conventional sash cords and weights or independently of these sash cords and weights.

Still further, the invention proposes the provision of a means for adjustably mounting the plunger catches so that they may be extended to more rigidly engage the keeper openings in a manner to securely support the window sashes in the event the plunger catches should become worn away and tend to let the window sash slip downwards.

It is a further object of this invention to form a reversible sash window which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure—

Fig. 1 is an inside elevational view of a window having reversible sashes constructed in accordance with this invention.

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged partial vertical sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a view looking in the direction of the line 4—4 of Fig. 3.

Fig. 5 is an enlarged partial vertical sectional view taken on the line 5—5 of Fig. 2.

Fig. 6 is a perspective view of one of the side strips, per se.

Fig. 7 is a perspective view of one of the window sashes, per se.

Fig. 8 is a view similar to Fig. 3 but illustrating a modification of the invention.

Fig. 9 is a vertical sectional view taken on the line 9—9 of Fig. 8.

The reversible sash window according to this invention, is arranged in combination with a conventionally constructed window frame 10 having the usual tracks at the sides thereof. A pair of side strips 11 for each of the window sashes 12, extend along the sides of the sashes and are slidably disposed in the tracks of the window frame 10. Metal weather strips 13 are disposed between the adjacent faces of the window sashes 12 and the side strips 11. These metal weather strips 13 are secured in position upon the side strips 11 by means of screws 14.

A tube 15 is extended through each side strip 11 and its respective weather strip 13. Each of the tubes 15 formed at its outer end with an external flange 16 which bears against the outer face of the side strip 11.

Sash strips 17 are pivotally mounted on the inner ends of the tubes 15. Each sash strip 17 is formed with an enlarged opening through which its respective tube extends. These sash strips 17 are rotatively maintained in position upon the tubes 15 by means of nuts 18. The sides of the window sashes 12 are formed with enlarged openings 19 into which the nuts 18 extend. The free ends of the sash strips 17 are secured to the sides of the window sashes 12 by means of screws 20. This permits the window sashes to be turned relative to the side strips 11, which are capable of only sliding vertically in the tracks of the window frame 10.

The weather strips 13 which are mounted on the side strips 11 are each provided with inwardly extending flange portions 21. As shown in Fig. 6, these flange portions 21 consist of bottom inner portions and top outer portions which seat themselves in corresponding grooves 21^a cut in the inner and outer faces of the window sashes 12. The relation of these flange portions 21 is such that it limits pivoting of the sashes to a direction in which the top of the sashes 12 move inwards as indicated by the dot and dash lines 12' in Fig. 2. This movement brings the outer face of the sash into the building permitting the

outside of the glass to be washed from the inside of the building.

Catches 22 are provided for locking the sashes 12 and the side strips 11 together as a unit to slide vertically in the tracks of the window frame 10. These catches 22 are characterized by brackets 23 mounted across cutouts 24 formed in the top corners of the sashes 12. Bolts 25 are slidably supported in the brackets 23 and cooperative with complementary keeper openings 26 cut in the weather strips 13 and the side strips 11. Handles 27 extend upwards from the bolts 25 through slots 28 formed in the brackets 23 and permit the bolts to be moved into positions in which they are disengaged from the keepers 26 so that the sashes 12 will be free to be pivoted relative to the side strips 11. Springs 29 are coaxially mounted on the bolts 25 and operate between portions of the brackets 23 and the handles 27 for urging the bolts 25 into positions in which they engage the keepers 26.

Plunger catches 30 are slidably mounted in the tubes 15 and are engageable with complementary keeper openings 31 formed in the tracks of the window frame 10 for holding the window sashes in various elevated positions in the frame in conjunction with conventional sash cords and weights or independently of such cords and weights. The plunger catches 30 are urged into their operative positions by means of springs 32. These springs operate within the tubes 15 and between the inner face of the plunger catches 30 and a pin 33 mounted across the inner end of each of the tubes 15. The pins 33 in addition have their outer ends engaging grooves 34 cut in the nuts 18 for locking these nuts in position preventing them from turning relative to the tubes 15 and preventing the nuts from gripping the sash strips 17 and locking them against turning on the tubes 15.

The upwardly extending handles 27 of the catches of the top window sash project into complementary cavities 35 cut in the top of the window frame, in the closed position of this sash as shown in Fig. 1.

The operation of this invention is as follows:

Normally the window sashes 12 will appear as shown in Fig. 1. Either of the sashes may be moved either up or down manually, and the plunger catches 30 of the moved sash will jump in and out of the keeper openings 31. When the desired elevation is reached the plunger catches 30 will seat themselves in the adjacent keeper openings 31 and the springs 32 will exert a sufficient pressure to maintain the plunger catches in position in the openings 31 and maintain the sash against falling.

If it is desired to wash the outside of the glass of the sashes, it is merely necessary to release the catches 22 by moving inwards on the handles 27 to withdraw the bolts 25 from the keeper openings 26 against the action of the springs 29. The sash may then be pivoted in the direction of the arrow A on Fig. 2 exposing the outside face of the sash on the inside of the building.

In the modification of the invention shown in Figs. 8 and 9, provision is made for adjusting the position of the plunger catches 30' with relation to the tubes 15 to compensate for wearing away of these plunger catches 30'.

In this form of the invention the plunger catches 30' are slidably disposed in auxiliary tubes 40 which are threadedly engaged through the tubes 15. The pins 33' extend to the tubes 15. The inner ends of the auxiliary tubes 40 are pro-

vided with cutouts 41 by which the auxiliary tubes 40 may be gripped by a forked turning tool for turning the auxiliary tubes 40 relative to the tubes 15 to extend and retract the plunger catches 30' relative to the keeper openings 31. A lock nut 42 threadedly engages the inner end of each of the auxiliary tubes 40. These nuts 42 are adapted to be clamped against the inner ends of the tubes 15 for locking the auxiliary tubes 40 in their adjusted positions.

The springs 32' within the auxiliary tubes 40 operate between the inner faces of the plunger catches 30' and the inner ends of the plugs 43 threadedly engaged into the inner ends of the auxiliary tubes 40. Turning of the plugs 43 relative to the auxiliary tubes 40 will adjust the tension of the springs 32'. These plugs 43 are maintained against turning by means of lock nuts 44.

In other respects this form of the invention is similar to that previously shown and like reference numerals identify like parts in each of the several views.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. In combination with a window frame, a pair of side strips slidably mounted on the sides of said frame, a tube mounted through each of said strips and having an outer flange, a window sash for said window frame, sash strips pivotally mounted on said tubes and attached to the sides of said window sash, fastening means on said tubes for holding said sash strips from coming off, weather strips mounted on said side strips and cooperative with said sash, and catches for latching said sash and said pair of side strips together as a unit, and plunger catches mounted in and projecting from said tubes and engageable with keeper openings on said window frame.

2. In combination with a window frame, a pair of side strips slidably mounted on the sides of said frame, a tube mounted through each of said strips and having an outer flange, a window sash for said window frame, sash strips pivotally mounted on said tubes and attached to the sides of said window sash, fastening means on said tubes for holding said sash strips from coming off, weather strips mounted on said side strips and cooperative with said sash, and catches for latching said sash and said pair of side strips together as a unit, and plunger catches mounted in and projecting from said tubes and engageable with keeper openings on said window frame, and springs within said tubes urging said plunger catches into operative position, cooperative with said keeper openings.

3. In combination with a window frame, a pair of side strips slidably mounted on the sides of said frame, a tube mounted through each of said strips and having an outer flange, a window sash for said window frame, sash strips pivotally mounted on said tubes and attached to the sides of said window sash, fastening means on said tubes for holding said sash strips from coming off, weather strips mounted on said side strips and cooperative with said sash, and catches for latching said sash and said pair of side strips together as a unit, and plunger catches mounted

in and projecting from said tubes and engageable with keeper openings on said window frame, and means for adjusting the extension of said plunger catches with relation to said tubes to compensate for wearing away of the plunger catches.

4. A reversible sash window having a window frame formed with vertical tracks slidably supporting a pair of spaced side strips between which a window sash is mounted, tubes mounted through said side strips and window sash turnably supporting said sash between said side strips, flanges formed on the outer ends of said tubes and engaging said side strips, nuts mounted on the inner ends of said tubes and engaging said window sash, plungers extending from the outer ends of said tubes and selectively engageable with complementary keeper openings formed in the adjacent faces of said window frame for holding said sash in various raised positions, expansion springs mounted in said tubes for urging said plungers into extended operative positions, and means for holding said springs in position in said tubes and for retaining said nuts from being tightened onto said tubes and clamping said window sash against turning.

5. A reversible sash window having a window

frame formed with vertical tracks slidably supporting a pair of spaced side strips between which a window sash is mounted, tubes mounted through said side strips and window sash turnably supporting said sash between said side strips, flanges formed on the outer ends of said tubes and engaging said side strips, nuts mounted on the inner ends of said tubes and engaging said window sash, plungers extending from the outer ends of said tubes and selectively engageable with complementary keeper openings formed in the adjacent faces of said window frame for holding said sash in various raised positions, expansion springs mounted in said tubes for urging said plungers into extended operative positions, and means for holding said springs in position in said tubes and for retaining said nuts from being tightened onto said tubes and clamping said window sash against turning, comprising pins extending across the inner ends of said tubes and against which said springs engage and having their ends extended from the sides of said tube and engaging complementary grooves formed in said nut.

CHARLES KELLIHER.