Aug. 11, 1931. F. W. KUCKLINSKY 1,818,406

TRANSOM OR WINDOW CONTROL MEANS

Filed Oct. 31, 1929 2 Sheets-Sheet 1

Fig. 2

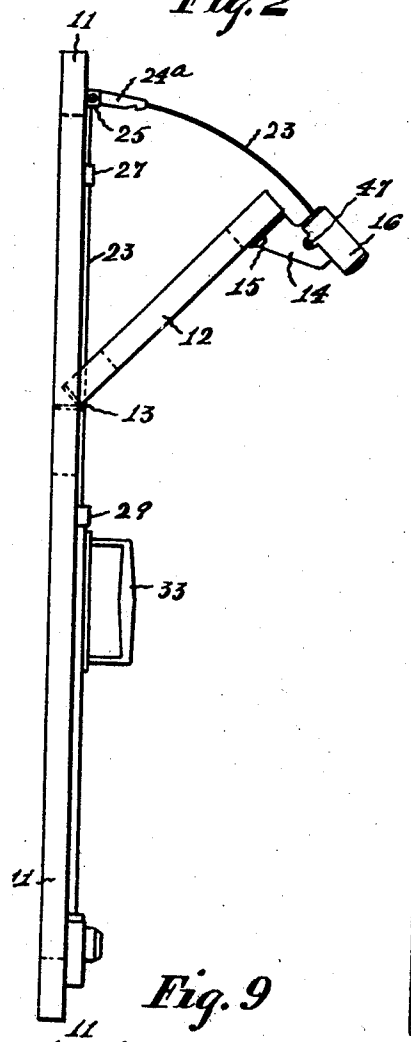



Fig. 1

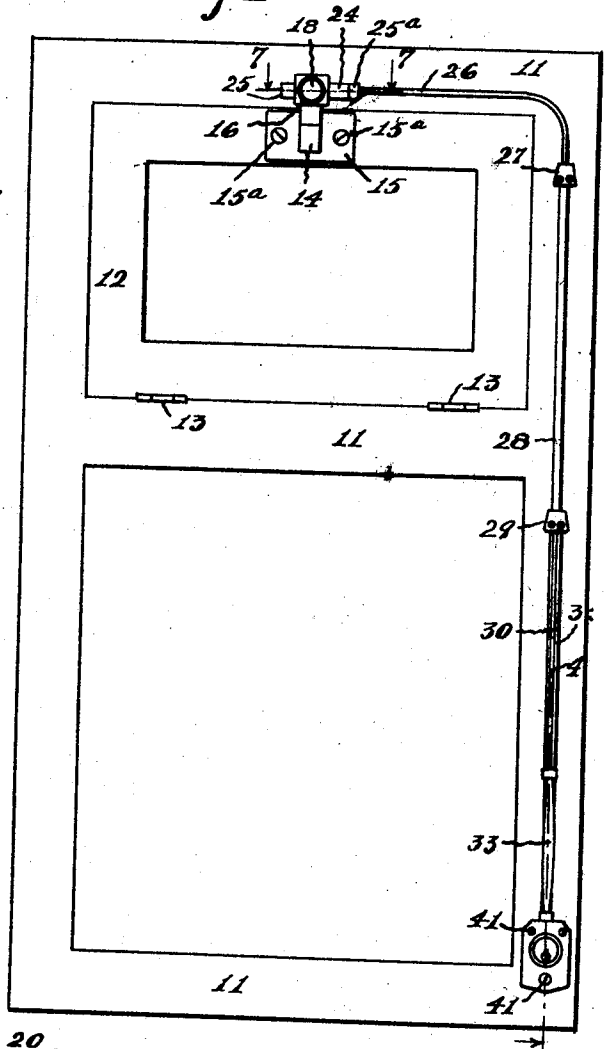



Fig. 9

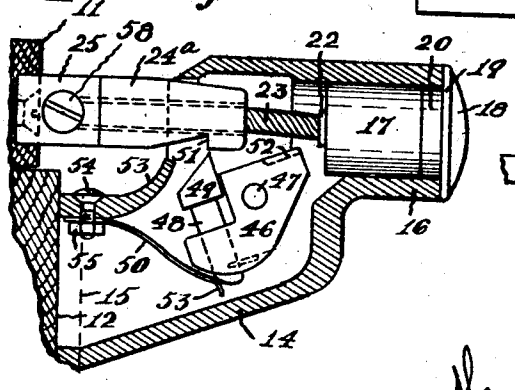
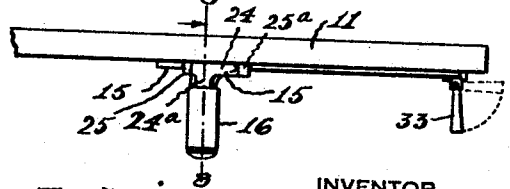



Fig. 3




INVENTOR
Frederick W. Kucklinsky,
BY
Harold D. Penney, ATTORNEY

Aug. 11, 1931. F. W. KUCKLINSKY 1,818,406

TRANSOM OR WINDOW CONTROL MEANS

Filed Oct. 31, 1929 2 Sheets-Sheet 2

Fig. 10

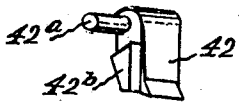



Fig. 4

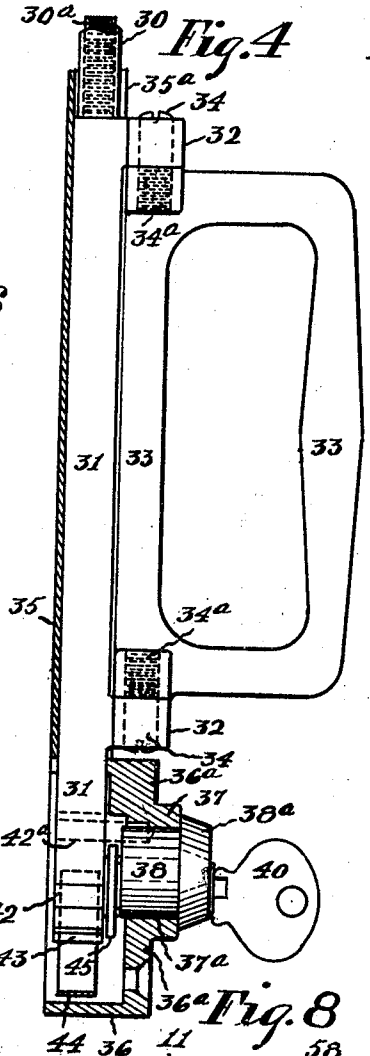



Fig. 5

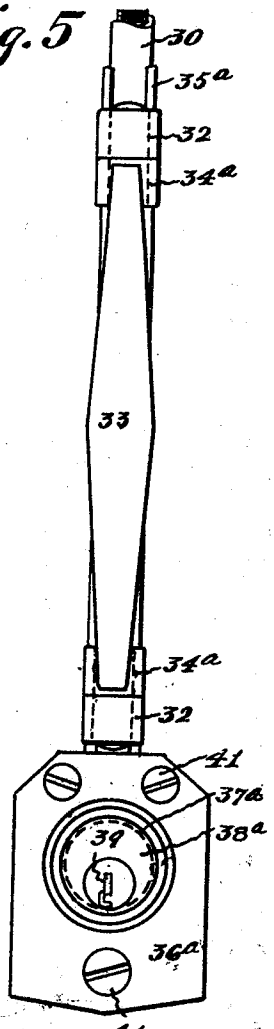



Fig. 6

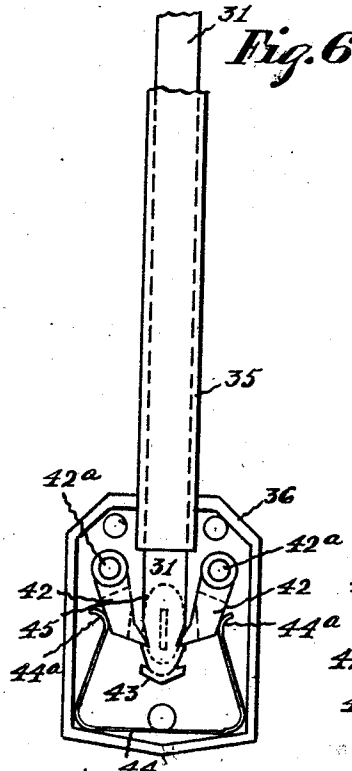



Fig. 8

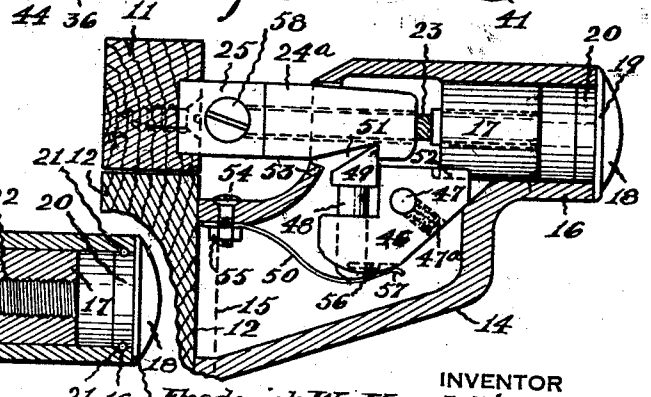
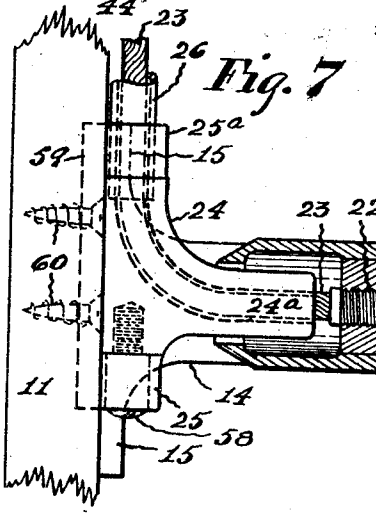



Fig. 7




INVENTOR

Frederick W. Kucklinsky,

BY

Harold D. Penney, ATTORNEY

Patented Aug. 11, 1931 1,818,406

# UNITED STATES PATENT OFFICE

FREDERICK W. KUCKLINSKY, OF MONTCLAIR, NEW JERSEY

## TRANSOM OR WINDOW CONTROL MEANS

Application filed October 31, 1929. Serial No. 403,875.

This invention relates to a transom controlling mechanism, and it consists in the novel features, which are hereinafter described.

One of the objects of my invention consists in providing a perfected mechanism for opening and closing a transom.

Another object of my invention is to provide a means on said mechanism for preventing the surreptitious opening of a transom from the outside of the room.

A further object of my invention is to provide a means on said mechanism for locking the same, to prevent the unauthorized opening of a transom from within.

A still other object of my invention is to enable one to open or close a transom by a single motion of the hand, preferably in a straight line, and to have said transom then stay open when opened or stay closed when closed.

Another object of my invention is to have said transom controlling mechanism effective, simple, durable and comparatively inexpensive.

I attain these objects by the mechanism, one form of which is illustrated in the accompanying drawings, or by any mechanical equivalent or obvious modification of the same.

In the drawings,

Fig. 1 is a front elevation from within a room of a window frame, a transom thereon and my transom operating mechanism as partly enclosed.

Fig. 2 is a side elevation of the parts shown in Fig. 1 looking from left to right in Fig. 1;

Fig. 3 is a plan view of the parts shown in Fig. 1 looking down thereupon;

Fig. 4 is a fragmentary vertical section on the line 4—4 of Fig. 1, drawn to a larger scale than Figs. 1, 2 and 3, showing the lower part of the mechanism at the handle, and omitting the window frame.

Fig. 5 is a front elevation of the parts shown in Fig. 4, drawn to a larger scale than Figs. 1, 2 and 3, and also omitting the window frame;

Fig. 6 is a rear elevation of the parts shown in Fig. 4;

Fig. 7 is a horizontal section of parts of my transom controlling mechanism on the line 7—7 of Fig. 1, drawn to a larger scale than Fig. 1.

Fig. 8 is a vertical section on the line 8—8 of Fig. 3, showing the transom end of the mechanism in its locked position;

Fig. 9 is a vertical sectional view similar to Fig. 8 but showing the transom end of the mechanism in its open position.

Fig. 10 is a detail view in perspective of one of a pair of pawls shown in Fig. 6, which is hereinafter described.

Like reference characters refer to like parts throughout the several views:

11 designates a window frame and 12 a transom thereon, which is hinged thereto as at 13.

A housing 14 is shown as secured by means of flanges 15 thereon and suitable fastenings 15ª to the upper end of said transom 12, and enclosed therein is part of the upper end of my transom controlling mechanism.

The housing 14 terminates, at the end thereof which is remote from said transom 12, in an inner cylinder 16, which is shown as square on the outside thereof and encloses a piston-like member 17; said cylinder 16 is shown in Figs. 8 and 9 as closed by a head or cap 18, which has thereon a rim 19 and an inner annular flange 20, which fits into said cylinder 16 and is shown as kept in position therein by a pair of pins 21, shown in Fig. 7, which may be driven thereinto from the outside of said cylinder 16.

The piston 17 has connected thereto centrally thereof a threaded plug 22, which has secured thereto one end of a cable 23, which passes through an oscillating guide 24. Said guide 24 is pivoted on said frame 11, and has thereon a transverse branch 24ª which is substantially horizontally disposed. Said cable 23 makes a turn of a quarter of a revolution in its passage through said guide 24—24ª and extends through one of a pair of bearings 25—25ª on said housing 14, as shown in Fig. 7, into a tubular guide 26. Said guide 26 is shown in Fig. 1 as extending horizontally along the top of the window frame 11 to the end thereof, where it is turned through a

quarter of a revolution to a vertical position and is joined to a socket 27, which is secured to one side of said window frame 11.

The cable 23 then extends through a vertical tubular guide 28, which is secured at its upper end to said socket 27, extends downwardly and is joined at the lower end thereof to a socket 29, which is also secured to said window frame 11. The cable 23 is then joined to the upper end of a vertically disposed tubular member 30, which slidably fits in said guide 28 and is secured at the lower end thereof to a boss 30[a] at the upper end of a handle supporting bar 31, which has thereon a pair of lugs 32, to which a handle 33 is pivotally connected by means of a pair of pins 34, which are each threaded at one end thereof as at 34[a] and secured to said handle 33, which has therein tapped openings to receive therein the ends 34[a] of said pins 34, as shown in Fig. 4.

The bearings 25—25[a] for supporting said guide 24—24[a] are preferably made integral with a bracket 59, which is secured by means of screws 60 to said frame 11; and the pivotal connection of said bearing 25 to one end of said guide 24 is shown in Fig. 7 as consisting of a pin 58, which is threadedly secured to said guide 24 at said end of the latter and swivelled in a bored opening in said bearing 25; the pivotal connection to the other end of said guide 24 is formed by extending one end of said tubular guide 26 to swivel in bored openings formed in the other of said bearings 25[a] and in the adjacent other end of said guide 24, as shown in Fig. 7.

The handle supporting bar 31 with the lower end of said tubular member 30 are slidably received in a guide 35, which is open at the front thereof, as at 35[a], and is joined at the upper end thereof to said socket 29.

The lower end of said guide 35—35[a] is secured to a housing 36, which encloses a locking mechanism for the lower end of said bar 31, which extends below said handle 33 and the lower of said lugs 32 into said housing 36.

The housing 36 has thereon a front wall 36[a] with a boss 37 thereon, which is bored as at 37[a] to receive therein the cylindrical end of a key-socket 38, which is capped at the front thereof as at 38[a] and has therein a suitable key-notch or hole 39 for a key 40 to fit therein, wherewith to turn said socket 38 with relation to said bored boss 37.

The housing 36 may be secured to said frame 11 by means of screws 41, and it has pivotally connected thereto as at 42[a] a pair of spring pressed pawls 42, as shown in Fig. 6; the pawls 42 may have said pins 42[a] driven thereinto, as shown in Fig. 10; the pawls 42 engage a double ratchet 43 at the lower end of said bar 31, whereby the latter with the parts connected thereto, as hereinbefore described, are held fast under the influence of a spring 44, which has the middle part thereof engaged in said housing 36 and the ends 44[a] thereof in contact with the ends of said pawls 42, as shown in Fig. 6, thereby locking my transom controlling mechanism in position against manipulation from the inside of the room.

To release the mechanism by means of said key 40 I provide a cam 45, which may be integral with or connected to said key socket 38 at the rear thereof, to be turned therewith by means of said key 40 from the position shown in Fig. 6 to a position at right angles thereto, thereby turning said pawls 42 on their pivots 42[a] against the resistance of the ends 44[a] of said spring 44 out of engagement with said ratchet 43, thereby releasing said bar 31, which may then be moved upwardly by means of said handle 33, thereby raising said tubular member 30 and raising said cable 23, which is thereby slid in said guides 28 and 26, and forces the upper end of said cable 23 through said oscillating guide 24, and branch 24[a] thereof, thereby moving said piston 17 towards the flange 20 of said head or cap 18—19, then forcing the cylinder 16 with the housing 14 and the transom 12 to turn on the hinges 13 of said transom into the position shown in Fig. 2 or to a similar position with the transom forming a variable angle with the frame 11; the friction of the moving parts on their sundry guides holds the transom in the requisite position for allowing the necessary or desired extent of opening of said transom 12.

To close the transom the handle 33 is moved downwardly, thereby moving said bar 31 downwardly with the ratchet 43 into engagement with said pawls 42 on both sides thereof, to be retained in this position by the ends 44[a] of said spring 44 pressing on said pawls 42 until released by said key 40 as hereinbefore described.

The handle 33 is pivoted on said lugs 32, to permit said handle to be turned on said pivots 34 into a position substantially parallel to the frame 11, if desired, thereby to allow a window shade to be drawn down over said transom 12, when the latter is closed, and over said handle 33.

Each of the pawls 42 is shown in Fig. 10 as having thereon a boss 42[b], which is positioned in the plane of said cam 45 and in contact with the same, whereby said pawls 42 are actuated by said cam 45.

To prevent the surreptitious opening of the transom 12 from the outside of the room I provide on said frame 11 and said housing 14 an automatic locking mechanism, which consists of an oscillating pawl carrier 46, which is pivotally connected to said housing 14 by means of a pin 47, which is kept in place by a plug 47[a] in a tapped hole in said carrier 46; a pin-pawl 48, having thereon a bevelled pawl-head 49, is slidably connected to said

carrier 46 and is pressed by a spring 50 into engagement with a ratchet 51 on the underside of the transverse branch 24ª of said guide 24—24ª on said frame 11 when said transom is being closed, thereby locking the same at its upper end.

Rotation of said carrier 46 is then prevented by the underside of said piston 17, which is engaged in a depression 52 at the upper right hand end of said carrier 46.

The bevel on said pawl head 49 enables the same to pass over said ratchet 51 endwise thereof when said transom is being closed.

Said spring 50 is shown in Figs. 8 and 9 as secured to the upper wall 53 of said housing 14 by means of a bolt 54 and a nut 55. A groove 56 is provided in the underside of said carrier 46 opposite the acting end 57 of said spring 50, to allow said end 57 freedom in its action on said pin 48.

In the position of the above described parts, as shown in Fig. 8, the transom 12 cannot be opened by forcing or pushing the same from the outside of the room, which is at the left hand side in the drawings.

The above locking device, however, does not prevent the opening of the transom from within the room by moving said cable 23 by means of said handle 33 upward through said guides 28 and 26 and forward through said guide 24 and branch 24ª. The piston 17 is first moved by said cable 23 towards the right in Figs. 8 and 9 until it is brought into contact with said flange 20 on said cylinder head or cap 18—19, whereby the lower left hand end of said piston is removed from said depression 52 on said carrier 46, thereby allowing said carrier 46 to be turned on said pin 47 as a pivot in a counter clockwise direction by the continued pressure of said cable 23 on said piston 17 and by the reaction of said ratchet 51 on said head 49 against the resistance of said spring end 57 until said head 49 is removed from said ratchet 51 by the continued rotation of said carrier 46, which coincides with the turning of said transom 12 on the hinge 13 by the above motion of said cable 23.

When the transom 12 is closed by moving the cable 23 by means of said handle 33 in the opposite direction, the spring end 57 forces said pawl pin 48 and said carrier 46 to change their positions from the ones shown in Fig. 9 to the ones shown in Fig. 8, and said cable 23 pulls said piston 17 also from the position shown in Fig. 9 to the one shown in Fig. 8, thereby locking the transom against efforts to open it from the outside of the room.

Thus, it will be noted, that I have provided a transom control means, in which the manual operating means may be located remotely from the operated transom, and which upon the termination of the closing movement positively and automatically locks or latches the transom against unauthorized opening or forcing, and upon the commencement of the opening operation, first automatically unlocks the lock latch and then opens the transom. Also means are provided for key locking the lock-latch thereby to double lock the transon from either inside or outside opening, or tampering. In this manner, a transom may be controlled against unauthorized operation.

Many changes may be made in the details of my above described transom controlling mechanism without departing from the main scope of my invention and parts of my invention may be used without other parts.

I do not, therefore, restrict myself to the details as shown in the drawings, but I intend to include also all mechanical equivalents and obvious modifications of the same within the scope of my invention.

I claim as my invention, and desire to secure by Letters Patent:

1. In a transom controlling mechanism a frame, a pivotal connection for said transom on said frame, a flexible member, terminating at one end thereof at a part on said transom, a handle, connected to said member at the other end thereof and a support for said handle, pivotally connected thereto and slidably connected to said frame, whereby the end of said member at said transom may be moved by the motion of said support with said handle, thereby causing said member to turn said transom on its pivot, and the pivotal connection of said handle to said support allowing said handle to be normally placed in a plane substantially parallel to said frame for the purpose as specified.

2. In a transom controlling mechanism a frame, a pivotal connection for said transom on said frame, a flexible member, terminating at one end thereof in a part on said transom, a handle, connected to said member at the other end thereof, a means for guiding said flexible member, said means including an oscillating guide member, pivotally connected to said frame and having thereon a transverse branch, for directing the end of said flexible member at said transom into a plane transversely to said frame and transom, whereby the end of said flexible member at said transom may be moved by the motion of said handle in a way to turn said transom on its pivot, thereby controlling the position of said transom, and the oscillation of said guide member allowing said transverse branch thereof to be in line with the end of said flexible member at said transom through all the positions of said transom, thereby effectively guiding said flexible member.

3. In a transom controlling mechanism a frame, a pivotal connection for said transom on said frame, a flexible member, terminating at one end thereof at a part on said transom, a handle, connected to said member

at the other end thereof, whereby the end of said member at said transom may be moved by the motion of said handle, thereby causing said member to turn said transom on its pivot, a ratchet, carried by a part on said frame, a pawl carrier, pivotally mounted on said transom, a pawl on said carrier, for automatically engaging said ratchet when said transom is being closed, thereby preventing the opening of said transom from the outside of the room, a means on said transom for bringing said pawl into engagement with said ratchet, a sliding member on said transom, connected to the end of said flexible member, which terminates at said transom, and in engagement with said carrier, when said transom is being closed, to prevent the rotation of said carrier on said transom, said sliding member being slid by said flexible member, when the latter is moved to open the transom, out of engagement with said carrier, whereupon the latter is rotated by the reaction of said ratchet against said pawl out of engagement therewith, thereby allowing said transom to be opened by said flexible member.

4. In a transom controlling mechanism a frame, a pivotal connection for said transom on said frame, a flexible member, terminating at one end thereof at a part on said transom, a handle, connected to said member at the other end thereof, whereby the end of said member at said transom may be moved by the motion of said handle, thereby causing said member to turn said transom on its pivot, a ratchet, carried by a part on said frame, a pawl carrier, pivotally mounted on said transom, a pawl pin, slidably connected to said carrier, a bevelled pawl head on said pin, a resilient means on said transom, for bringing said pin with said head thereon into engagement with said ratchet when said transom is being closed, the bevel on said head allowing the same to pass over said ratchet, endwise thereof, a sliding member on said transom, connected to the end of said flexible member, which terminates at said transom, and in engagement with said carrier when said transom is being closed, to prevent the rotation of said carrier on said transom, thereby preventing the opening of said transom from the outside of the room, said sliding member being slid by said flexible member, when the latter is moved to open the transom, out of engagement with said carrier, whereupon the latter is rotated by the reaction of said ratchet against said head out of engagement therewith, thereby allowing said transom to be opened by said flexible member.

5. In a transom controlling mechanism a frame, a pivotal connection for said transom on said frame, a flexible member, terminating at one end thereof at a part on said transom, a means for guiding said member, said means including an oscillating guide, pivotally connected to said frame, a transverse branch on said guide, for directing the end of said member to said transom into a plane transversely to said frame and transom, a handle, connected to said member at the other end thereof, whereby the end of said member at said transom may be moved by the motion of said handle, thereby causing said member to turn said transom on its pivot, a ratchet on said guide, a housing on said transom, a pawl carrier, pivotally connected to said housing interiorly thereof, a pawl pin, slidably connected to said carrier, a bevelled pawl head on said pin, a spring in said housing for bringing said pin with said head thereon into engagement with said ratchet when said transom is being closed, the bevel on said head allowing the same to pass over said ratchet, endwise thereof, a sliding member in said housing, connected to the end of said flexible member, which terminates at said transom, and in engagement with said carrier, when said transom is being closed, to prevent the rotation of said carrier on said transom, thereby preventing the opening of said transom from the outside of the room, said sliding member being slid by said flexible member, when the latter is moved to open the transom, out of engagement with said carrier, whereupon the latter is rotated by the reaction of said ratchet against the said head out of engagement therewith, thereby allowing said transom to be opened by said flexible member.

Signed at New York, in the county of New York and State of New York, this 23rd day of October, A. D. 1929.

FREDERICK W. KUCKLINSKY.