

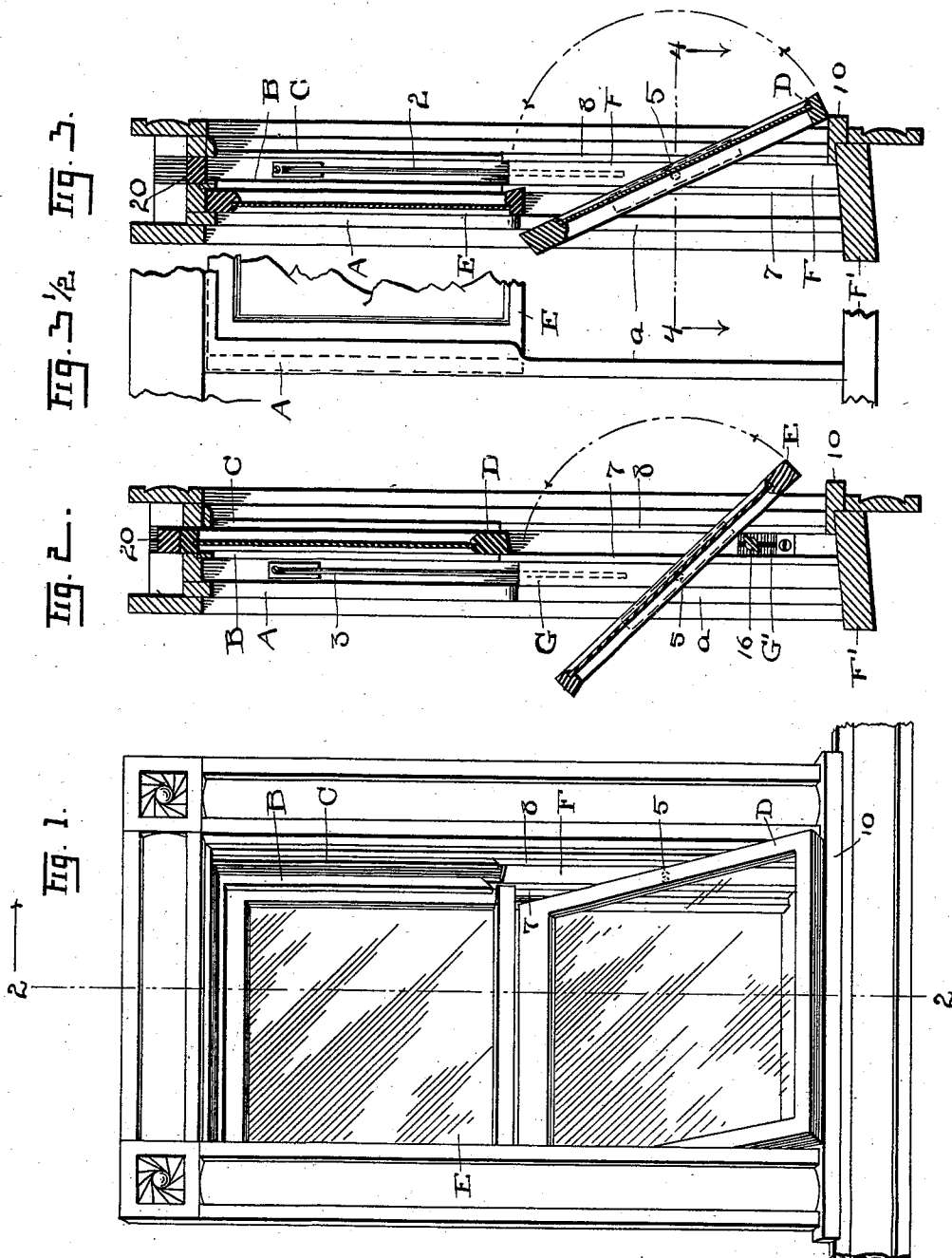
(No Model.)

3 Sheets—Sheet 1.

H. J. OLIVER.  
WINDOW CASING.

No. 531,326.

Patented Dec. 25, 1894.



ATTEST.

R. B. Moser.

Georgia Scharffer

INVENTOR.

Henry J. Oliver.

BY H. J. Fisher ATTORNEY

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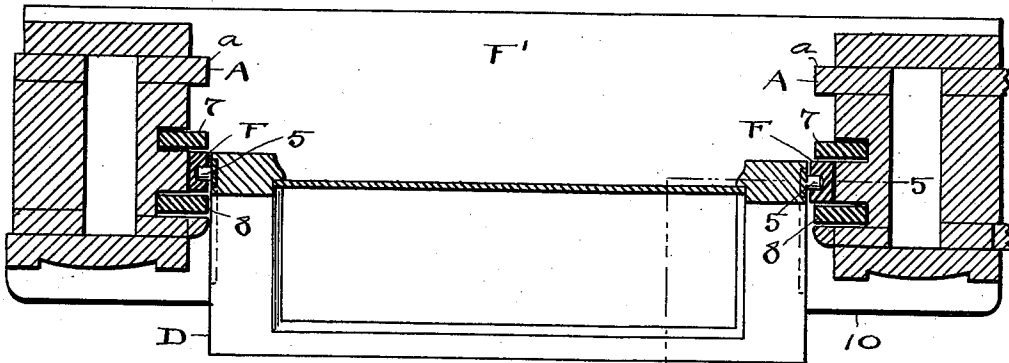


Fig. 4.

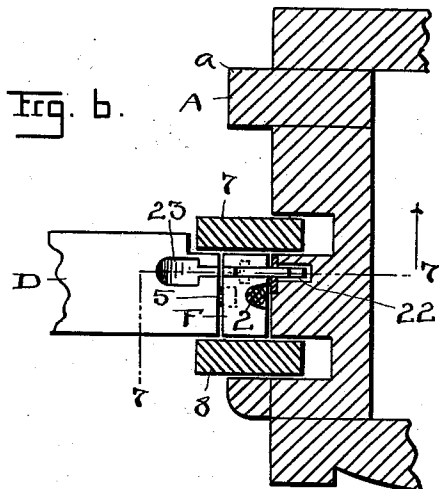


Fig. 7.

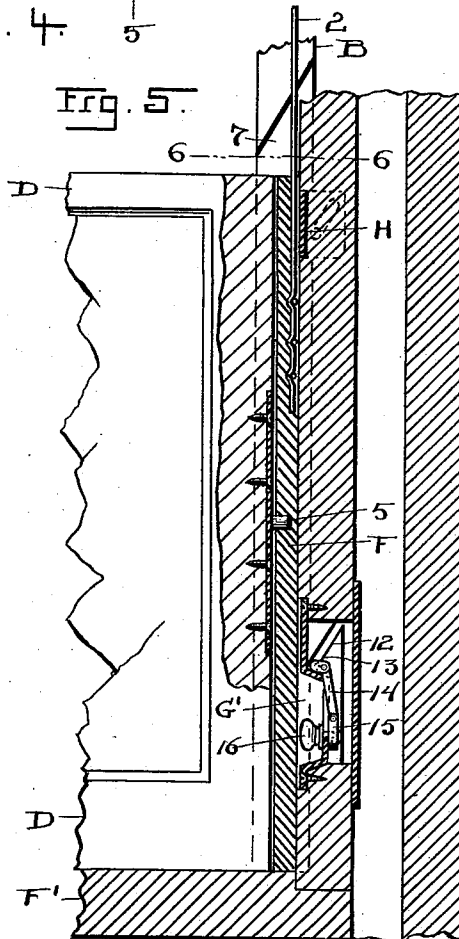
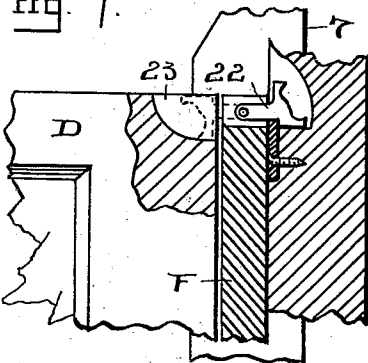


Fig. 5.

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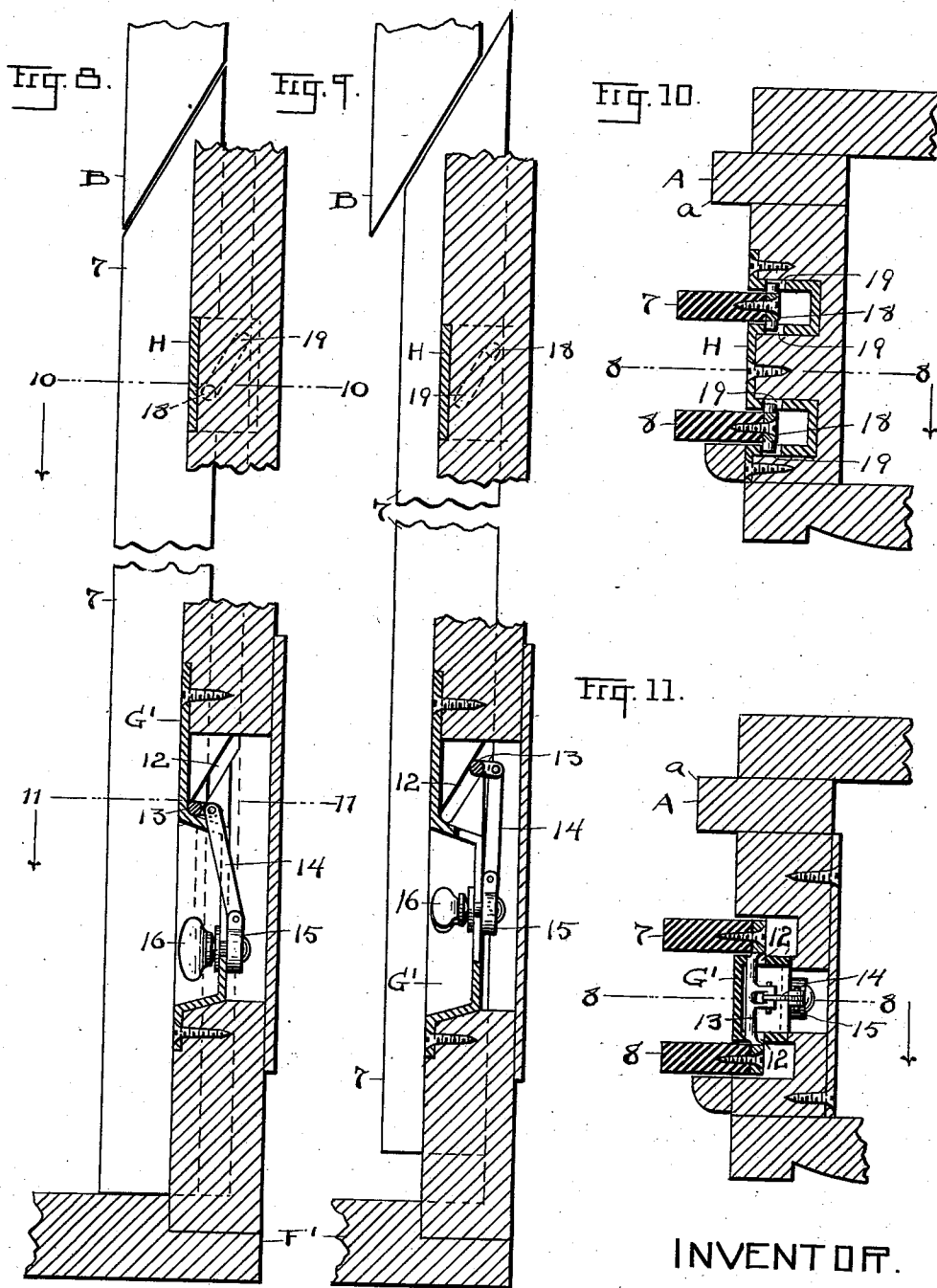
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Henry J. Oliver

# UNITED STATES PATENT OFFICE.

HENRY J. OLIVER, OF CLEVELAND, OHIO.

## WINDOW-CASING.

SPECIFICATION forming part of Letters Patent No. 531,326, dated December 25, 1894.

Application filed June 4, 1894. Serial No. 513,432. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY J. OLIVER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Window-Casings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to

which it appertains to make and use the same. My invention relates to improvements in window casings, and the invention consists in the construction and combination of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of a window showing the casing and the sashes therein and the lower sash in a slightly inclined pivoted position. Figs. 2 and 3 are vertical central sectional elevations on line 2, 2, Fig. 1, the lower sash being shown as down and inclined in Fig. 2, and the upper sash being shown as down and inclined in Fig. 3. Fig. 3½ is a view looking in from the left of Fig. 3, and showing the reduced blind stop. Fig. 4 is a cross section of the casing and sash on a line corresponding to 4, 4, Fig. 2. Fig. 5 is a vertical sectional elevation of the sash and window on a line corresponding to 5, 5, Fig. 4. Fig. 6 is a plan view on line 6, 6, Fig. 5. Fig. 7 is a vertical sectional elevation on line 7, 7, Fig. 6. Figs. 8 and 9 are vertical sectional elevations of the casing and parts on a line corresponding to 8, 8, Figs. 10 and 11, the upper parts of Figs. 8 and 9 showing the upper construction as indicated on line 8, 8, Fig. 10, and the lower parts of said figures showing the construction as indicated on line 8, 8, Fig. 11, it being understood that the mechanism shown both above and below in said figures is unitary and the parts are broken away immediately to bring them within the drawings. Fig. 10 is a cross section on a line corresponding to line 10, 10, Fig. 8, and Fig. 11 is a cross section corresponding to line 11, 11, Fig. 8.

The purpose of my invention is to afford easy and reliable means for inverting or reversing both the upper and the lower sash, one at a time, as may be desired, for washing the window glass, or for other purposes in

which it is necessary that the outside of the window sash or glass shall be reached.

The invention comprises means whereby the lower sash may be slightly raised and then inverted, and for raising the inner sash and then lowering the outer sash and inverting said outer sash in like manner, all as hereinafter more fully described. I am of course aware that in any broad sense this is not a new result, because different patents have been granted for accomplishing the same result, but I am not aware that any construction of casing and parts associated therewith has ever before been made or known which resembles this construction, or which has the advantages in operation which are characteristic of this invention.

Referring to Figs. 1, 2 and 3, we have front and vertical sectional elevations of the casing, comprising the usual construction of the different parts thereof except as modified to meet my invention. This casing has the parting or sash strips B and C built permanently into the casing in the upper half of the window, and the blind stops A run the full length of the window but are reduced in width in the lower half as hereinafter more fully described. Both of the sashes D and E are supported by means of cords —2— and —3—, respectively, and counterweights within the casing for said cords as usual in the every day construction of windows, and the upper sash is adapted to be lowered to the window sill F' as also is usual in modern windows.

My invention contemplates the reversing of either sash at will, and to effect this result both sashes are provided with pivot points or tenons —5— at their opposite center, and these pivot points take centrally into sliding pieces F and G, respectively, of the upper and lower sashes. These sliding pieces F and G have exactly the same depth and width as their sashes, and in a sense form side extensions thereof, taking the place of the sash at certain times and places between the parting strips and back and forth sliding jambs —7— and —8—. The window cords —2— for the lower sash are secured to the back of the sliding pieces F the same as they ordinarily are to the sash itself, and the said

pieces F and the lower window sash D slide up and down together when any sliding occurs. However, the pieces F are always held between the jamb strips —7— and —8— or the extensions thereof, so that in no case do they rotate, but the window sash rotates or turns on its pivots —5— on these pieces. These strips —7— and —8— stand in vertical channels built into the window casing.

10 When the sash D is in its normal place and the window is closed the jamb strips —7— and —8— project outward past the window strips F and G and overlap the edge of the sash D, as seen in Fig. 6. Now, assuming  
15 that it is desired to tilt or reverse the sash D, it is first raised slightly so as to lift it above the base-board —10— on the window sill, and then the jamb strips —7— and —8— are moved inward uniformly their entire length  
20 by means of the mechanism which is shown clearly in Figs. 8, 9, 10 and 11. To accomplish this movement I form recesses in the window casing immediately behind the side edges of the sashes and place the mechanism  
25 seen in Figs. 8 to 11 therein. Behind the lower part of the sash is the lower recess in which is placed a metallic box G', having backwardly and upwardly inclined grooves or slots —12— in its sides in which is a cross  
30 bar —13— extending through said grooves or slots and is secured at its ends rigidly to the jambs —7— and —8—. Connected with this cross piece at each side of the sash is a link —14—, pivoted at its upper end to ears or lugs  
35 centrally on said cross piece and at its lower end to a collar —15—, or its equivalent, on a finger piece —16— adapted to slide up and down and in a slot in the box G. The said box itself is set inward along its slotted face  
40 in which the finger piece —16— works up and down so as to remove said piece from all obstruction so far as the operation of the window is concerned.

At their upper ends the jamb strips —7— and  
45 —8— work in separate compartments in a box H, each of said compartments having inclined grooves —19—, as seen in dotted lines in Figs. 8 and 9, corresponding to the inclination and pitch of the grooves —12— lower down  
50 and upon the inner edges of the jambs —7— and —8— are metallic strips —18— having lateral projections to engage in said grooves or slots —19—. It will furthermore be noticed in Figs. 8 and 9 that the upper extremities of  
55 the jambs —7— and —8— are cut at an angle of about sixty degrees to the correspondingly cut lower extremities of the fixed strips B and C, which belong to the upper part of the window, so that when the said strips —7— and  
60 —8— are out and down as ordinarily when the window is closed they will sustain the relation to the other parts as seen in Fig. 8, and make a close joint, and when said strips are raised to throw them back out of the way  
65 they sustain the relation relatively shown in Fig. 9. Now, assuming that the lower sash is to be raised and tilted, I first raise said

sash so that I may reach the finger piece —16— otherwise behind it, and having taken hold of these pieces in this way I lift them  
70 from the position seen in Fig. 8 to the position seen in Fig. 9. In doing this the jamb strips —7— and —8— are carried upward somewhat and back by reason of their guides sliding back and up in the slots —12— and —19—  
75 respectively. This backward movement is intended to be just sufficient to clear the sash at its edges and enable it to be swung on its pivots without interfering with the said side strips, which really constitute the  
80 weather strips when they are out and serve the purpose of what are known as weather or parting strips the same as the usual strips do. Now, referring to Figs. 2 and 4, it will  
85 be seen that the strips —7— and —8— are thrown back and that the sash has been cleared at both sides and swung upon its pivots without any interruption whatever of any part of the casing or any other parts  
90 connected therewith. In order to do this, however, it is necessary that the blind stops A should be reduced in depth in the lower half of the window sufficiently to permit this  
95 swinging movement of the sashes to take place without striking said stops, and hence the said blind stops are reduced in depth in the proportion about as seen in Fig. 3½, leaving  
100 the lower half —a— of no greater depth than the depth of the sliding pieces F and G upon which the sashes are pivoted.

When it is desired to bring the upper sash down and reverse its position, it is necessary again to first raise the lower sash and by the mechanism described move the jambs —7— and —8— inward; but in order that the said  
105 outer sash may be reversed notwithstanding that this has been done it is necessary also to carry the inner sash higher than the window casing ordinarily permits, and I have made provision for this movement as seen in Figs.  
110 2 and 3, by providing a sliding piece —20— which lies across the top of the inner sash space, as seen in Fig. 2, and is adapted to be raised by said sash a sufficient distance, as  
115 seen in Fig. 3, to give clearance below for the outer sash. I may, in fact, simply leave an opening for the inner sash to rise in instead of filling the said space with the piece —20—, but I prefer to use this piece because it closes  
120 this space in the window when the inner sash is down and avoids a disagreeable opening at this point.

In order that the lower sash and sliding pieces F to which it is attached shall rise together when the sash is raised and lowered  
125 and the sash not be wholly dependent upon its pivot points —5— to give it bearing, I have provided a pivoted catch or dog —22—, shown clearly in Figs. 6 and 7, and adapted to swing  
130 over into a recess —23— in the sash and engage the same with the sliding supporting piece F as clearly shown.

It will be noticed that throughout this construction care has been exercised not to im-

pair the window insofar as usual close fitting of the parts is concerned so as to exclude air or dust and the like and to make it noiseless so far as rattling is concerned. This construction enables as compact a window to be made as formerly when the weather strips and other parts were not adjustable as herein, while it affords the convenience and advantage of bringing both of the sashes into position to be inverted and handled practically the same as if it were possible to turn the window bodily inside out.

Having thus described my invention, what I claim is—

1. The construction described, consisting in the casing having recesses and metallic boxes in said recesses provided with inclined slots, jamb strips in channels in the said casing and guide projections on said strips en-

gaged in said slots, and means to raise said strips, substantially as set forth.

2. The window casing having metallic boxes with inclined slots set in the lower half of the window and movable parting strips having projections engaging in said slots, and fixed parting strips for the sashes in the upper half of the window, in combination with the sashes and the sliding side pieces in which the sashes are pivoted, whereby either sash can be brought to the bottom of the window and reversed, substantially as set forth.

Witness my hand to the foregoing specification this 21st day of May, 1894.

HENRY J. OLIVER.

Witnesses:

H. T. FISHER,  
GEORGIA SCHAEFFER.