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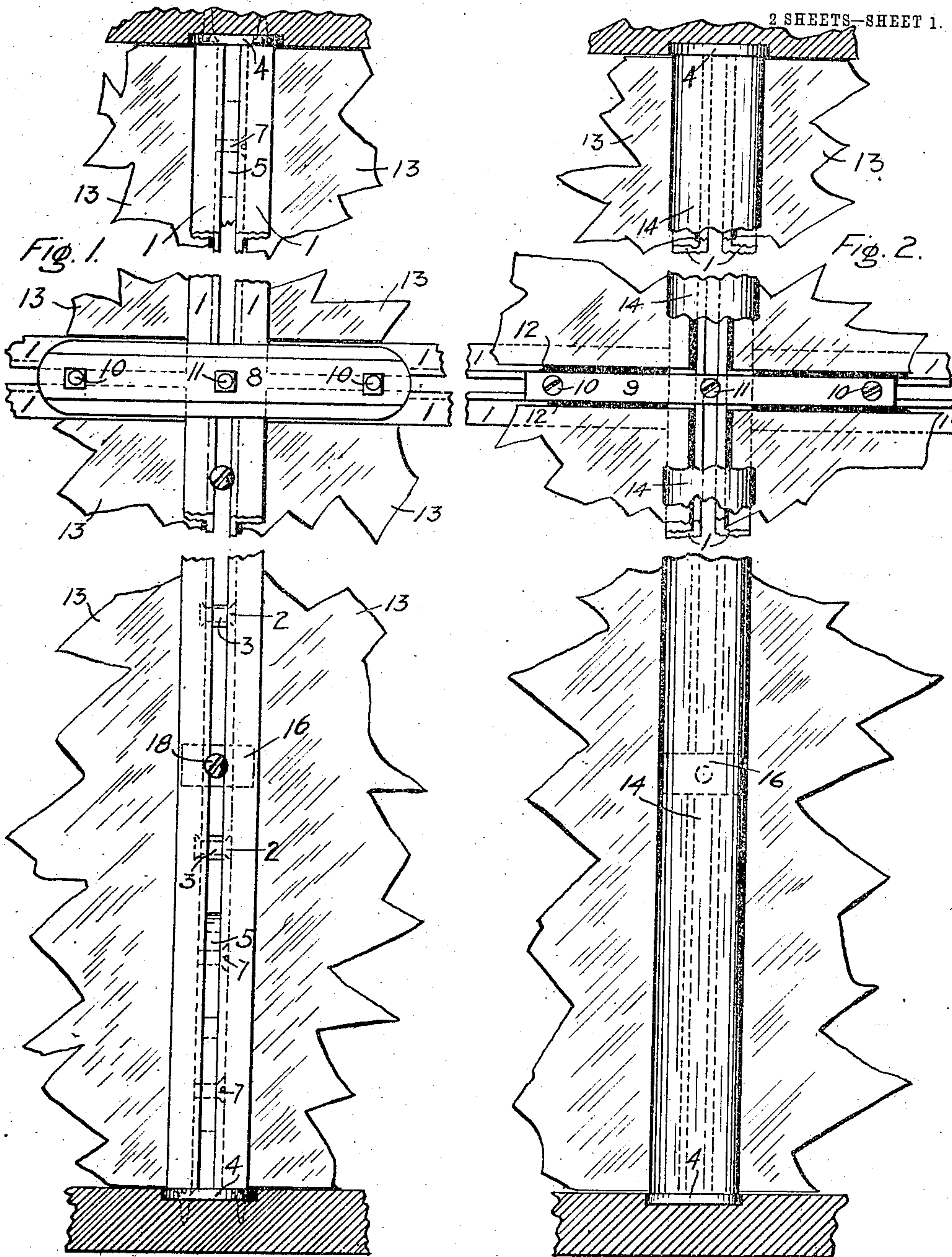
PATENTED MAY 8, 1906.

J. P. COMSTOCK.

SASH BAR.

APPLICATION FILED AUG. 25, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

*M. A. Van House*  
*Paul V. Tindle*

INVENTOR

*James P. Comstock*  
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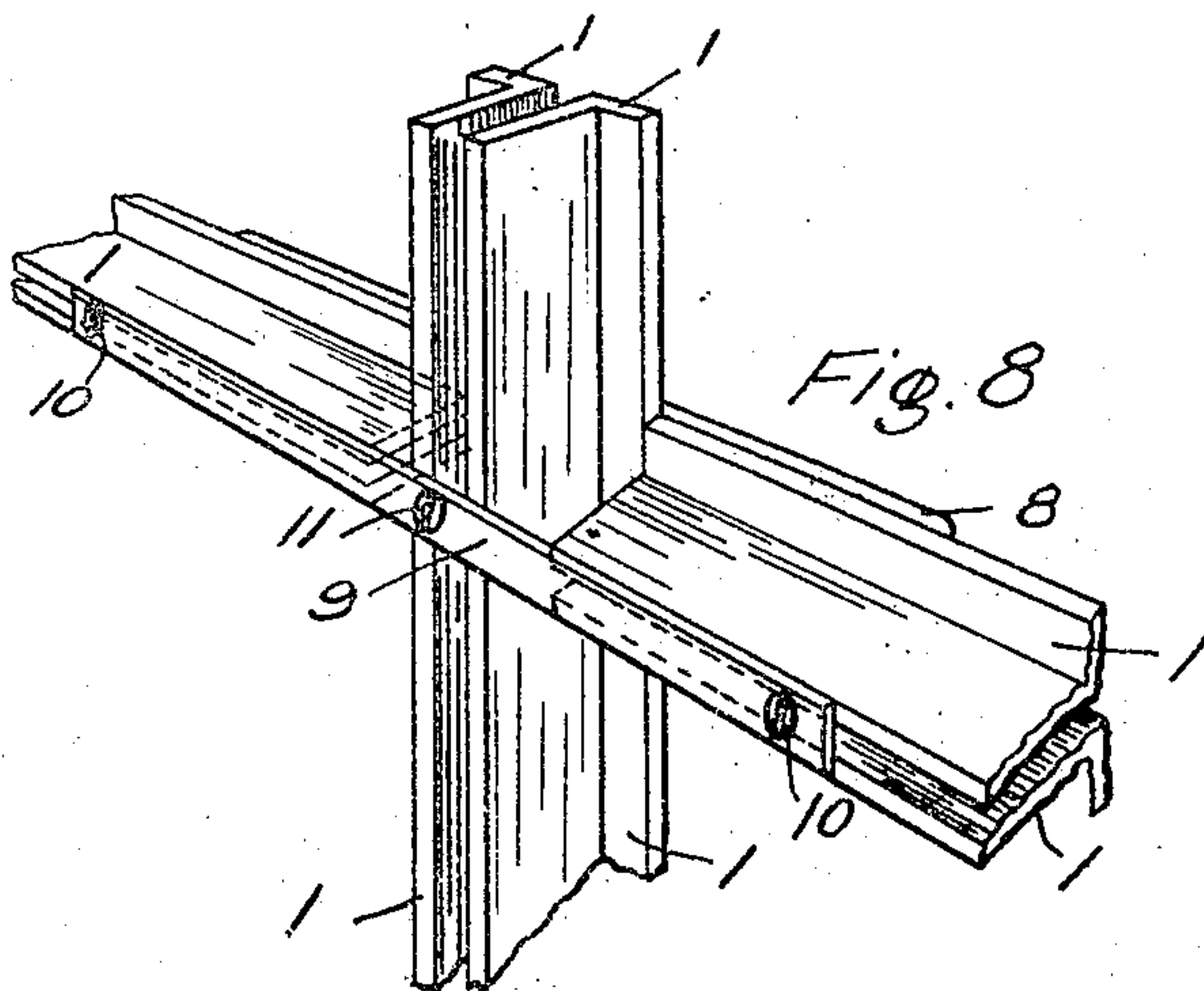
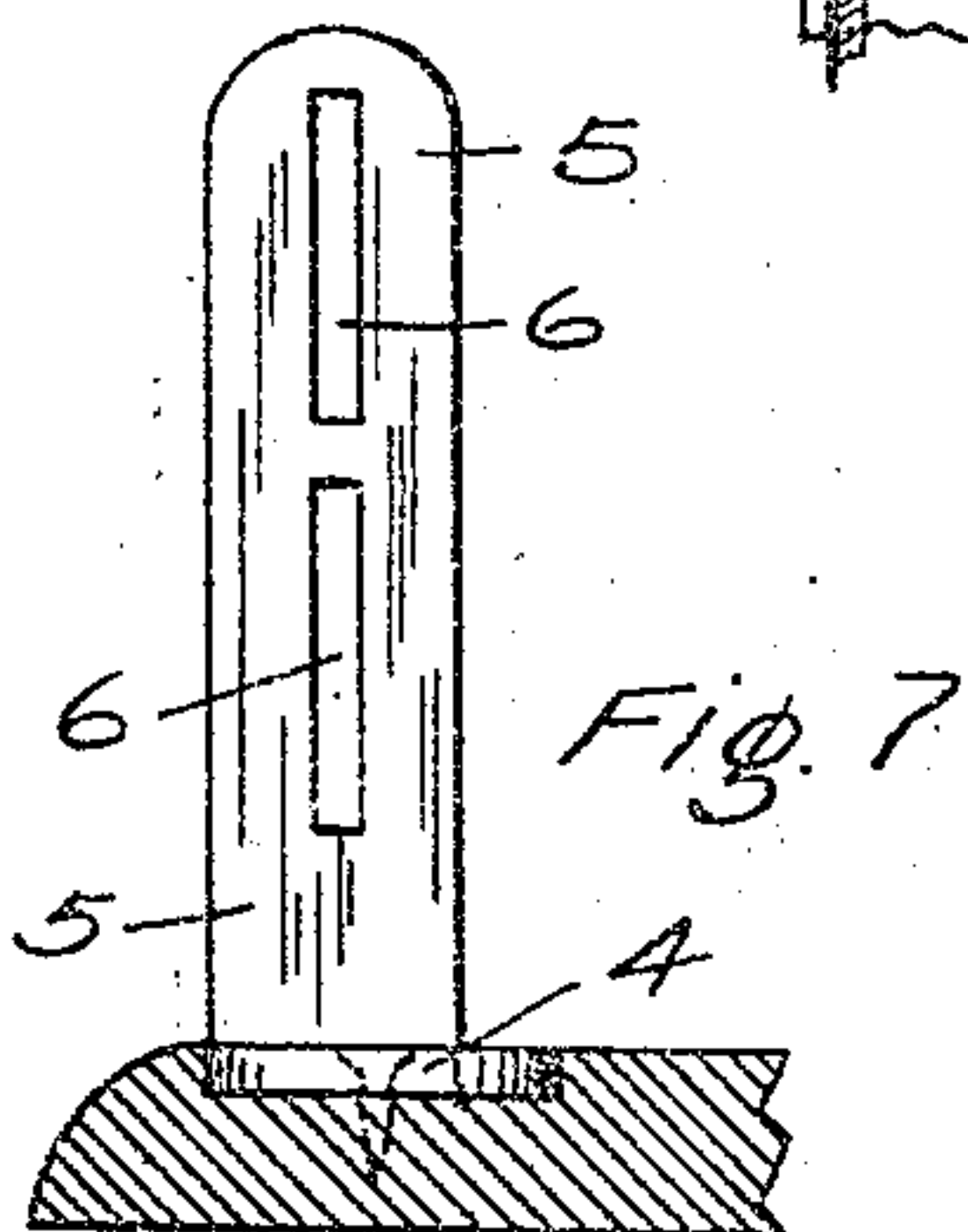
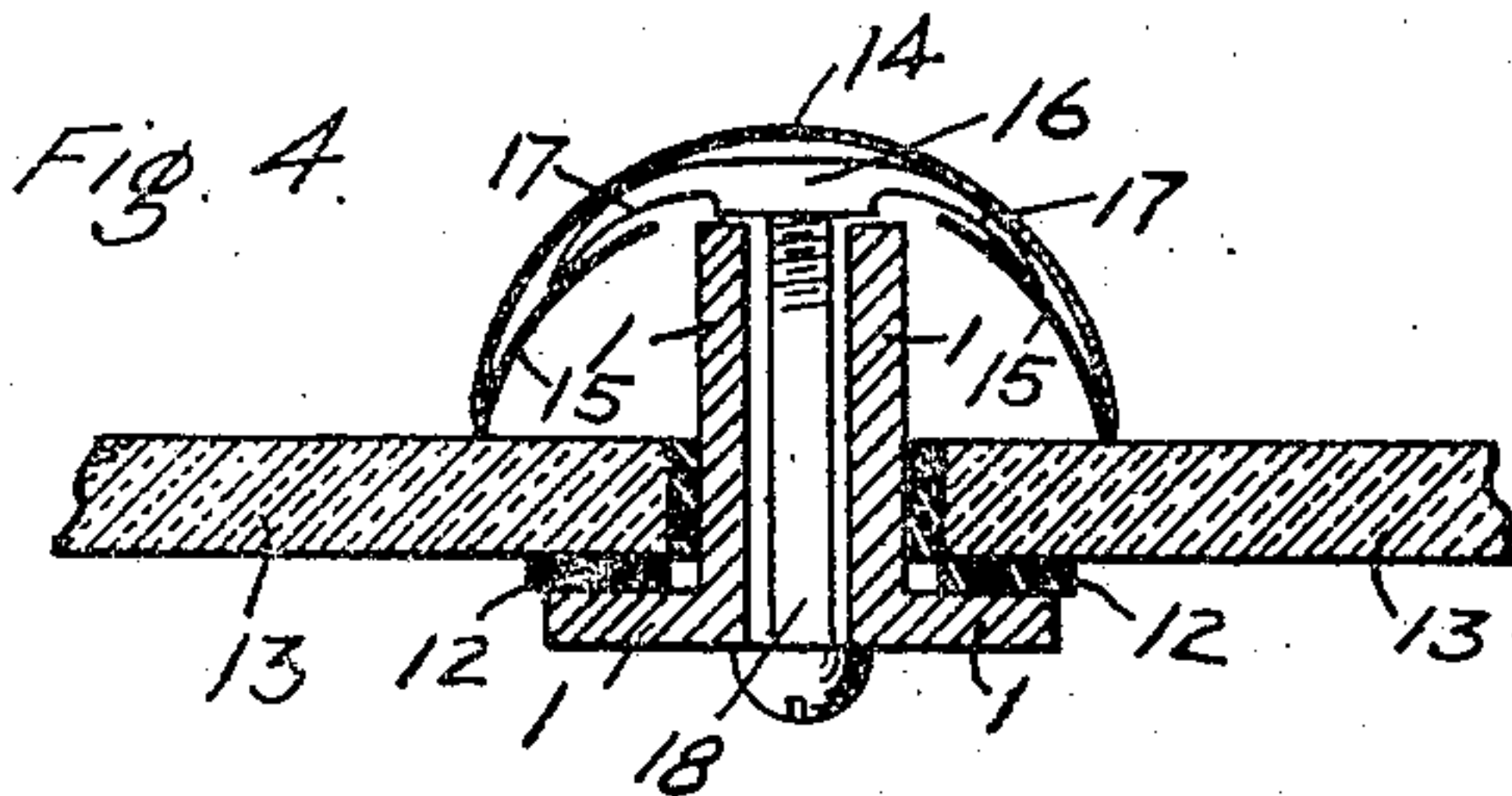
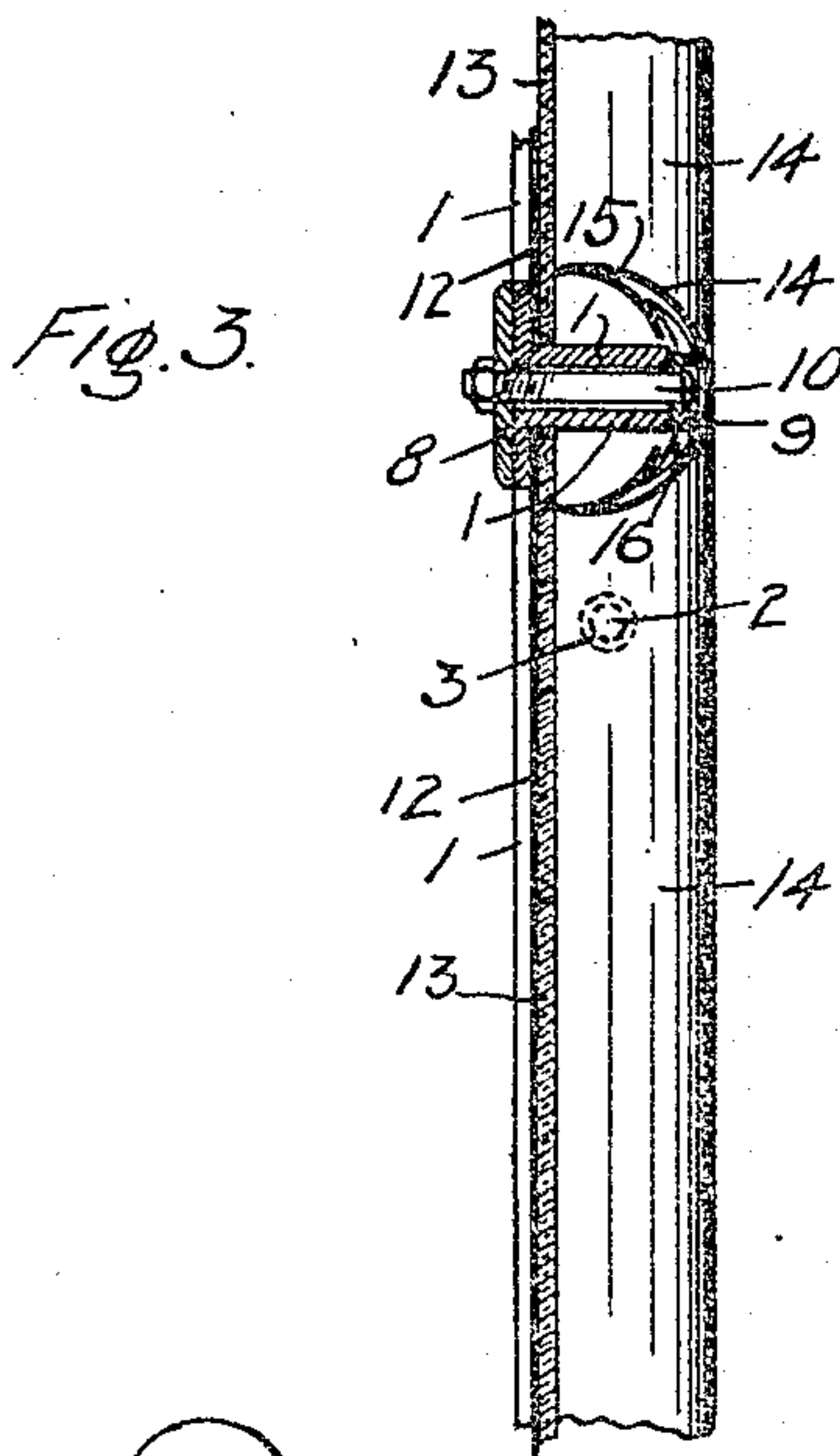
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# UNITED STATES PATENT OFFICE.

JAMES P. COMSTOCK, OF TACOMA, WASHINGTON.

## SASH-BAR.

No. 819,854.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed August 25, 1905. Serial No. 275,786.

*To all whom it may concern:*

Be it known that I, JAMES P. COMSTOCK, a citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Sash-Bars, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in sash-bars and transom-bars, and has for its objects, first, to improve the devices for securing the sash-bar to the top and bottom of a frame; second, to improve the devices for  
15 securing the transom-bar to the sash-bar; third, to improve the devices for fastening the glass in the window; fourth, to improve the devices for securing the nickel or other ornamental outside cover to the bar. I attain these objects by the devices illustrated  
20 in the accompanying drawings, in which—

Figure 1 is a view of my sash-bar and transom-bar from the inside of the window; and Fig. 2 is a similar view from the outside thereof, the nickel of the transom-bar being removed to more clearly show the connecting means between the bars. Fig. 3 is a side view of a sash-bar and a section of the transom-bar near the joint between the bars. Fig.  
30 4 is a full-size cross-section of the sash-bar or transom-bar. Figs. 5 and 6 are respectively plan and end views of the clip or nut by which the nickel is secured to the bar. Fig. 7 is a side view showing the device for securing the  
35 sash-bar to the window-frame, and Fig. 8 is a perspective view of the joint between the sash-bar and the transom-bar.

Similar numerals of reference refer to similar parts throughout the several views.

40 The main part of my sash-bar and transom-bar is formed of two angle-irons 1, placed back toward back and separated from each other by a small space. These irons 1 are secured together at intervals by suitable rivets  
45 2, which also pass through the separators 3, thus keeping them rigidly parallel and making a very strong and stiff bar. This bar is cut the length between the window-frames and is secured in place therein in the following convenient manner: Referring to Figs.  
50 1, 2, and 7, it will be noted that the device for fastening the bar in place consists of a round base 4, adapted to be sunk into the window-frames at the top and bottom, being  
55 secured thereto by countersunk screws. From this base 4 the web 5 extends at right angles,

being of such transverse dimensions as to fit between the backs of the two separated irons 1. The web 5 has two long slots 6 extending up it and in such position as to be in line with  
60 the rivets 2 above described. When a length of bar is cut, two screw-holes are drilled and tapped through each end. These holes are made in line with the rivets 2 and are spaced so as to come anywhere within the slots 6  
65 when the web 5 is fitted between the irons 1. It is not necessary to measure these holes at all accurately; but they must be in the same vertical line with the slots 6, and I have for convenience selected the line of the rivets 2  
70 as the line on which they should be made. The holes in the irons 1 are countersunk on one side, and the screws 7 securely fasten the bar to the web, and thus to the window-frame. This device is a great convenience in  
75 constructing or assembling a window, for the bases 4 may be screwed into their proper places with greater ease than the long sash-bar can be handled. Then the bar is very readily slipped into its proper place whenever  
80 the builder is ready and is easily secured to the webs 5.

The transom-bar is formed in exactly the same measure as the sash-bar and is secured to the sash-bar at the crossing-points by the  
85 following described device. The angle-irons 1 of the transom-bar are preferably cut so as to reach only as far as the edge of the leg of the angle-irons 1 of the sash-bar. In practice there will always be a pair of transom-  
90 bars meeting the sash-bar in the same horizontal line. My device secures these two transom-bars together and to the sash-bar and consists of the plate 8 on the inner side of the window, the plate 9 on the outer side  
95 thereof, and the bolts 10, clamping these plates together and to the transom-bars, and the bolt 11, also clamping them together and to the sash-bar. The plate 8, Fig. 1, is as wide as sash-bars or transom-bars measured  
100 across the flats of the two angle-legs and is long enough to extend several inches along each of the transom-bars, its center being in the center line of the sash-bar. The plate 9, Fig. 2, is of the same length, but is only as  
105 wide as the sash-bars measured across the edges of the two backs. The bolts 10, having screw-heads countersunk into the plate 9 and having nuts engaging their inner ends against the plate 8, are placed near each end of the  
110 plates 8 and 9, while the similar bolt 11 is placed in the center of the plates. The tran-



som-bars are thus secured to the sash-bar by placing the plates 8 and 9 on their proper sides of the sash-bar, passing the bolt 11 through their central holes and between the irons 1 of the sash-bar at approximately the proper height, then adjusting their vertical position accurately and tightening the nut on the bolt 11, thus clamping the plates to the sash-bar, then placing the end of each transom-bar between the plates 8 and 9 (which extend horizontally) and passing the bolts 10 through the outer holes and between the angle-irons 1 of the transom-bars, the ends of the transom-bars preferably touching the edges of the angle-legs, then tightening the nuts on the bolts 10, thus clamping the transom-bars between the plates 8 and 9, which are themselves clamped to the sash-bar.

Strips of rubber, wood fiber, or other suitable material 12 are cemented or otherwise secured to the inner sides of the angle-irons 1 of the sash-bars and the transom-bars and are adapted to prevent the breaking or chipping of the glass through the direct contact of its edges with the angle-irons 1 of the bars when being set up or when the parts vibrate from any cause whatever.

The glass 13 is set into the window from the outside, resting against the lining 12 on the inner side of the angle-leg and being held in place therein by the following described keeper.

The keeper for holding the glass 13 in place also acts as the ornamental outside finish to the window and consists of the metal strip 14 bent so that its outer surface is curved and having its edges 15 bent inward. The cross-section of this strip 14 is plainly shown in Figs. 3 and 4. The clamping-heads 16 are shaped to conform somewhat with the shape of the strips 14 and adapted to be placed on the inner side thereof with their extended arms or wings 17 engaging between the main piece 14 and the inturned edges 15. These heads 16 are placed at intervals in the length of the strip 14 and are clamped to the sash-bar or transom-bar by the screws 18, which pass from the inside of the window between the angle-irons 1 and screw into the clamping-heads 16. The screws 18 are illustrated as having heads large enough to engage the angle-irons 1, though in some cases it will be found to answer the same purpose if ordinary washers are placed under the screw-heads to engage the angle-irons.

It is evident that clamping-heads may be slid to any position in the bars except at the points where the rivets 2 and near the ends where the cast webs 5 are. The clamping-heads 16 draw the metal strip 14 toward the bar and clamp the glass 13 between the metal strip and the lining 12. The metal strip for the transom-bar is of exactly the same form as that for the sash-bar.

In Fig. 3 it will be noted that the plate 9

does not interfere with the metal strip 14 in any way, but that the strip passes freely over the plate. Thus the joint of the strips 14 where the sash-bar and transom-bar cross is made very neat, the transom-bar strip being coped around the sash-bar strip. Since the strip 14 is held to the bars by means of the screws 18, which pass from the inner side of the bar to the clamping-heads 16 under the strip 14, it is evident that no screw-head or bolt-head whatever shows from the outside, and in this way the looks of the window are considerably enhanced. It will be further readily seen that the operation of inserting or removing the glass from the window is very simple, since all that need be done is the turning the screws 18.

What I claim as my invention is—

1. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, and means for securing said metal strip to said bar.

2. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, and clips engaging the inner side of said metallic strip and having screws securing said clips to said bar.

3. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, a metallic strip curved to form an ornamental exterior covering for said bar, the sides of said metallic strip being inwardly folded, and clips engaging between the curved portion and the inwardly-folded sides of said metallic strip and having screws securing said clips to said bar.

4. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, and end castings adapted to be independently secured to the window-frame and having extensions engaging between said angle-irons and being secured thereto.

5. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, and independent castings secured to the ends thereof between said angle-irons and having lateral flanges adapted to be screwed to the window-frame.

6. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, independent castings secured to the ends of the bar between the angle-irons thereof and having lateral flanges adapted to be screwed to the window-frame, a metallic strip curved to form an ornamental exterior



covering for said bar, the sides of said metallic strip being inwardly folded, and clips engaging between the curved portion and the inwardly-folded sides of said metallic strip and having screws securing said clip to said bar.

7. In a sash-bar, the combination of a pair of parallel angle-irons placed back toward back and securely fastened together through separators, and a clamp-strip adapted to press the panes of glass against the legs of said angle-irons and being formed to extend parallel with said angle-irons and on each side thereof, and screw-controlled clamping-heads engaging said clamp-strip and said angle-irons to draw said clamp-strip against the glass.

8. A transom-bar fastening, consisting of inner and outer metal plates clamped to the sash-bar at right angles thereto and engaging the transom-bars between their ends.

9. A window-frame consisting of sash-bars each formed of a pair of parallel angle-irons

placed back toward back and securely fastened together and secured at their ends to the building, similarly-constructed transom-bars extending between the sash-bars, and clamping-plates clamped to the sash-bars and clamping the transom-bars.

10. In a sash-bar, the combination with a pair of angle-irons placed back toward back and securely fastened together through separators and forming a stiff support with their backs between the panes of glass and lateral supports for the glass with their legs; of a keeper adjustably secured to said angle-irons and clamping the glass between it and legs thereof.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES P. COMSTOCK.

Witnesses:

M. H. COREY,

M. A. VAN HOUSE.