G. W. SUMMERS.

HOLLOW METAL WINDOW.

APPLICATION FILED AUG. 30, 1920.

1,431,849. Patented Oct. 10, 1922.

2 SHEETS—SHEET 1.

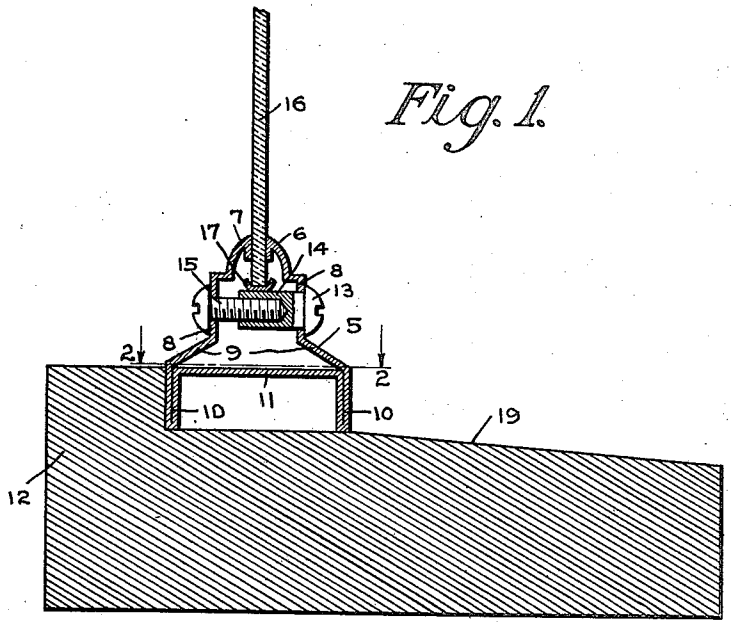


Fig. 1.

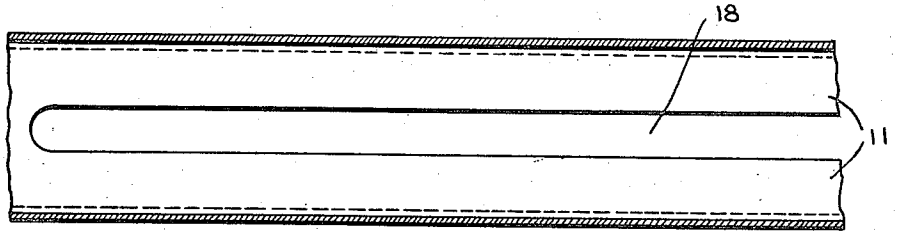


Fig. 2.

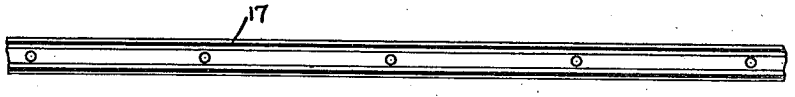


Fig. 3.

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2 SHEETS—SHEET 2.

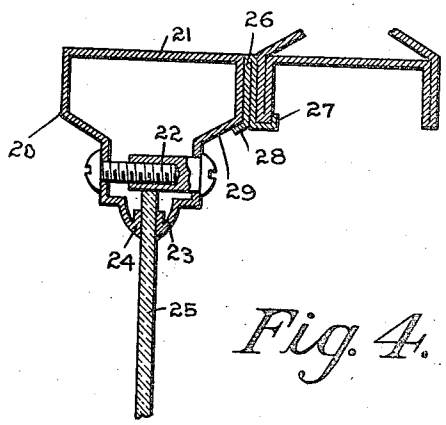
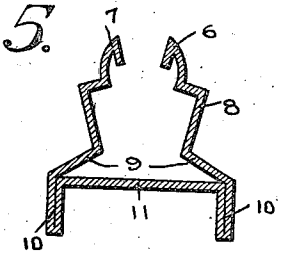


Fig. 4.

Fig. 5.



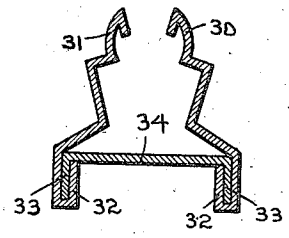


Fig. 6.

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Patented Oct. 10, 1922. 1,431,849

UNITED STATES PATENT OFFICE.

GEORGE W. SUMMERS, OF DENVER, COLORADO.

HOLLOW METAL WINDOW.

Application filed August 30, 1920. Serial No. 406,838.

To all whom it may concern:

Be it known that I, GEORGE W. SUMMERS, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented a new and useful Hollow Metal Window, of which the following is a specification.

This invention relates to sash construction, and more particularly to metallic sash construction for stationary or movable windows, and it is an object of the invention to provide a device of this character wherein the glass may be rigidly connected with the frame in a manner to insure against breaking the glass.

A further object of the invention is to provide a metallic sash provided with means for permitting water or moisture to pass therefrom.

A still further object of the invention is to provide a supporting means adapted to contact with the entire lower edge of the glass, thereby supporting the entire weight of the glass and distributing the strain directed to the supporting element by the weight of the glass, throughout the length of the supporting element.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:—

Figure 1 illustrates a fragmental sectional view of a window sash constructed in accordance with the present invention, showing the glass as applied.

Figure 2 illustrates a fragmental detail view of the bottom portion of the sash.

Figure 3 illustrates a detail view of the glass supporting trough.

Figure 4 illustrates a fragmental sectional view of the upper portion of the sash.

Figure 5 illustrates a detail view, in section, of the lower portion of a sash; and

Figure 6 illustrates a sectional detail view of a modified form of a sash.

Referring to the drawings in detail, the reference character 5 designates the lower portion of the sash, which is formed of suitable sheet metal, bent to provide opposed clamping jaws 6 and 7, which are connected by relatively straight portions 8, to the angular portions 9, which terminate in vertical portions 10, the intermediate portion of the metal sill being formed into a relatively straight section indicated at 11, which is spaced from the sill 12 as indicated more clearly by Figure 1 of the drawings.

The opposed relatively straight portions 8 of the sash, are apertured throughout the length thereof, the apertures being disposed in spaced relation with each other and designed to accommodate the connecting screws 13, which are of particular constructions, the socket portions 14 thereof extending to points adjacent the opposite relatively straight portions 8, the same being internally threaded to accommodate the screw members 15.

It will therefore be seen that by rotating the members 13 and 15 in a predetermined direction, the jaws 6 and 7 will be moved into clamping engagement with the glass 16 to secure the same in position.

In order that the weight of the glass 16 will be distributed equally throughout the length of the sash member, a trough member indicated at 17, is provided, the trough being of a size to embrace the lower edge of the glass 16 throughout the length thereof, and as shown, this supporting trough rests on the socket members of the securing screws 13 and is formed with openings 13′ to permit moisture which might enter the sash structure, to pass outwardly therethrough.

The relatively straight portion 11, is provided with a central slot indicated at 18, which slot permits the window glass to be inserted in the frame, and while I have shown and described this slot as formed in the lower portion of the sash, it is to be understood that this slot may be formed at any suitable point on the sash, to permit the glass to be easily positioned.

As illustrated by Figure 4 of the drawings, the upper portion of the sash, indicated at 20 is substantially the same as the lower portion of the sash, as heretofore described, except that the extreme upper edge of the upper portion is substantially straight as indicated at 21, there being provided however securing screws 22 by means of which the opposed jaws 23 and 24 are brought into engagement with the glass 25, the supporting trough being omitted in this construction, since the weight of the glass

is carried by the lower portion of the sash.

Figure 4 also illustrates an angle bar indicated at 26 which includes a strip of sheet metal bent upon itself to provide the bracket member 27 adapted to embrace the lower edge of the lower portion of the adjacent upper sash, the opposite end of the angle bar being inclined as at 28 to contact with the inclined wall 29 of the upper portion of the sash, thereby providing an air-tight connection between the adjacent portions of the upper and lower sashes.

While I have shown the upper and lower sections of a sash, it is to be understood that the side sections of the sash, which are not shown are identical in construction with that of the upper and lower sections of the sash.

In the modified form of the invention as illustrated by Figure 6 of the drawings, the side members of the sash include jaws 30 and 31, the side members being independent of each other, the lower portions thereof extending upwardly as at 32 and disposed in spaced relation with the body portions and side members to provide clearances for the right angle flanges 33 formed on the plate 34. From the foregoing it is obvious that by this construction the plate 34 is rigidly connected to the side members of the lower sash, and that when the jaws 30 and 31 are moved into cooperative relation with each other, a wedging action between the side members and the flanges 33 to more securely unite the same, is set up.

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

In a metallic sash construction, a lower section including opposed side members, bolts extending through the side members, jaws formed at the upper edge of the side members and adapted to be moved into clamping relation with each other by the bolts, an elongated trough supported on the bolts and adapted to accommodate one edge of a window pane, and said sash member having openings to permit moisture to pass therefrom.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. SUMMERS.

Witnesses:
ELBA J. CAMPEN,
WILLARD J. KARCHER.