Jan. 9, 1945. A. H. SOULE 2,366,815

AWNING TYPE WINDOW CONSTRUCTION

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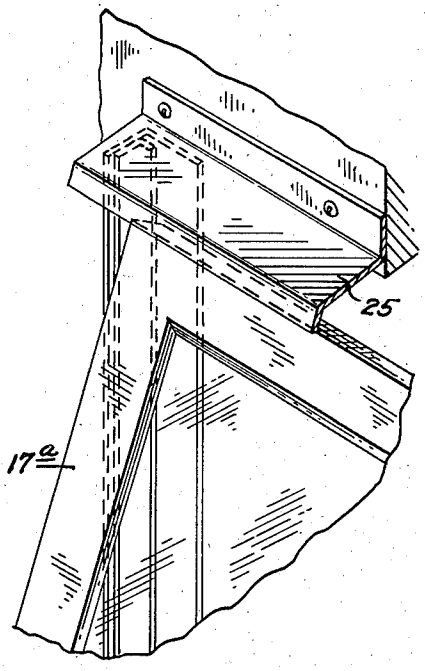


Fig. 1.

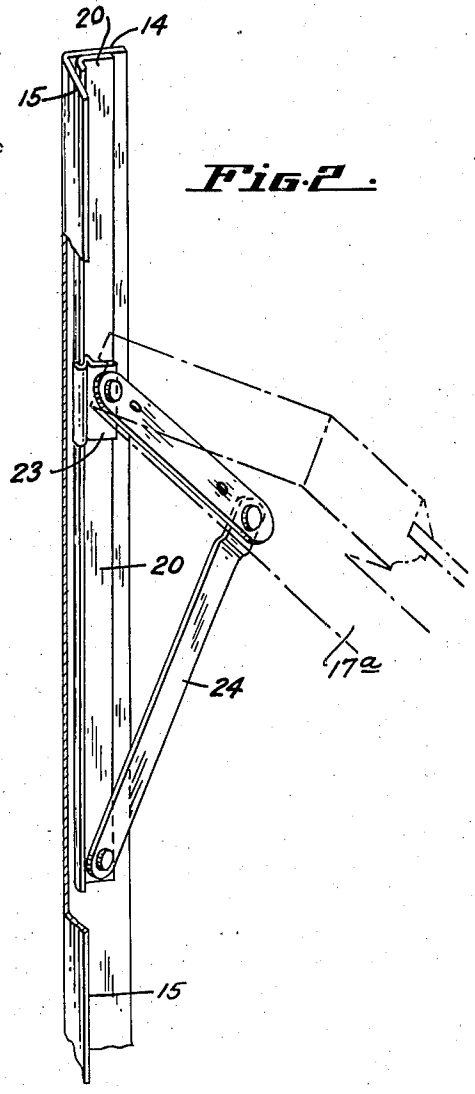
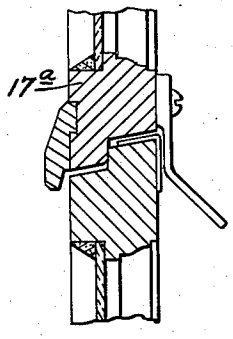


Fig. 2.

Fig. 7.



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Fig. 3.

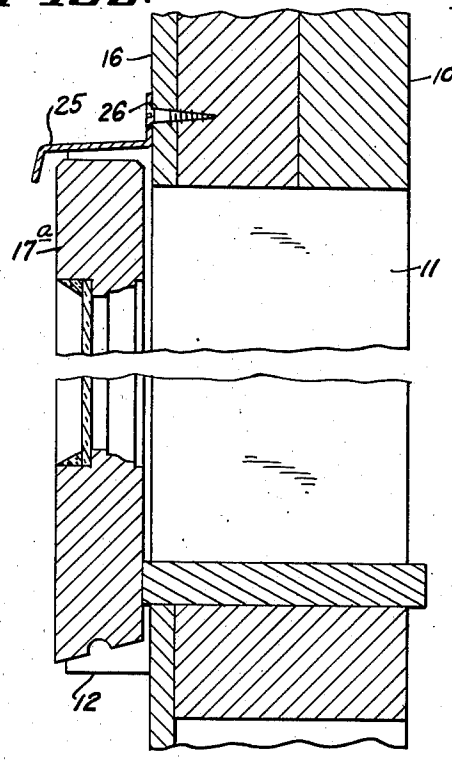


Fig. 5.

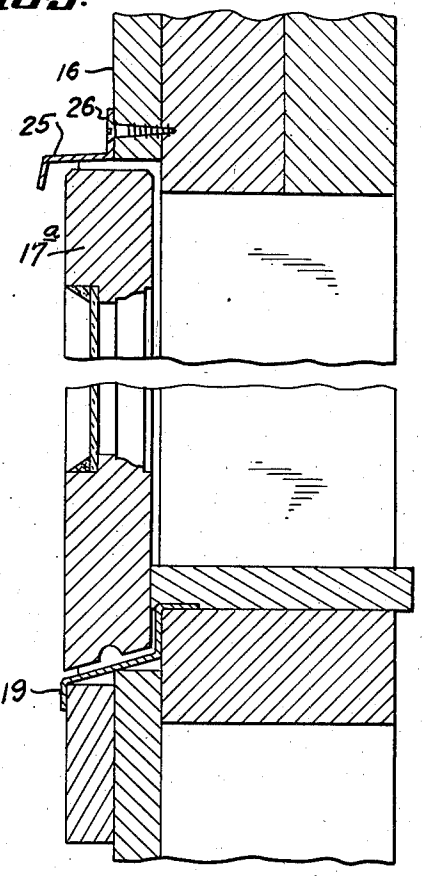


Fig. 4.

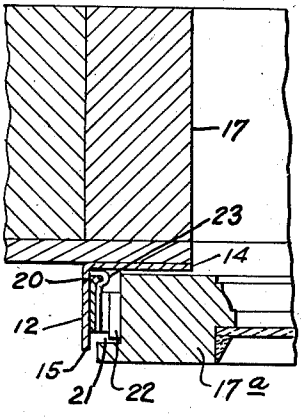
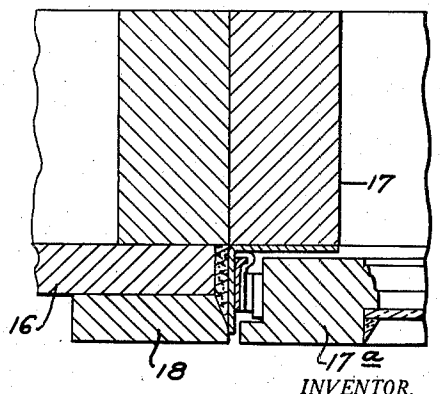


Fig. 6.



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AWNING TYPE WINDOW CONSTRUCTION

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Application February 9, 1942, Serial No. 430,017

2 Claims. (Cl. 20—42)

This invention relates to windows for buildings and particularly pertains to a window construction of the awning type.

It is the principal object of my present invention to provide an improved simple and economical window construction which eliminates the use of window frames, casings, stops and trim by being applicable for surface installation to the exterior wall of a building covering the rough window opening completely, the sash of which window is easily operable for ventilation control.

It is another object of the present invention to provide a window construction of the character referred to which can be inexpensively manufactured and expeditiously installed at an extremely low cost.

In practicing my invention I provide a window construction which includes a pair of vertical side bars to be fixed on the exterior surface of a building wall at each side of a window opening therein. The sash fits between these bars and is operatively connected therewith by mechanism enabling awning type operation of the sash. A lateral hood member is provided to overlie the upper ends of the sash and side bars and is likewise secured to the exterior surface of the wall. The mounting of the sash in the side bars is such that the inner faces of the sash rails are disposed to abut the exterior surface of the building about the marginal perimeter of the window opening when the sash is in closed position.

The invention is exemplified in the following description and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a fragmentary perspective view partly in section illustrating a window constructed in accordance with my present invention as applied to a building wall.

Fig. 2 is a perspective view showing the operative connection between the sash and the side bars.

Fig. 3 is a fragmentary view in vertical section through a building wall showing one manner of applying my window to a building wall.

Fig. 4 is a transverse sectional view taken on line IV—IV of Fig. 3.

Fig. 5 is a fragmentary view in vertical section through a building wall showing a second application of my window construction.

Fig. 6 is a transverse sectional view taken on line VI—VI of Fig. 5.

Fig. 7 is a fragmentary view in section showing the construction of the meeting rails when the window is to include multiple sashes.

Referring more particularly to the accompanying drawings, 10 indicates a building wall through which is formed a window opening 11. This opening need not be fitted with a window frame, window casing, stops or trim, as my new construction eliminates these elements.

My new window construction includes a pair of side bars 12 to be positioned one at each side of the opening. The side bars 12 are of angle cross-section with one toe 14 thereof extending inwardly toward the opening and lying flush against the exterior surface of the wall 10 and being secured thereto by screws or other suitable fastening means. The other toe 15 thereof projects outwardly of the exterior surface of the wall, as illustrated.

In the construction shown in Figs. 3 and 4 the toes 14 of the side bars 12 abut against the exterior surface of the sheathing 16 of the wall 10, while in the construction shown in Fig. 5, the sheathing 16 stops short of the perimeter of the opening and the toes 14 of the side bars 12 abut against the wall framing 17 surrounding the window opening 11. This provides for calking or the like between the sheathing and the toes 15 of the side bars. In this construction I may prefer to use a trim strip 18 at the exterior sides of the side bars 12, as illustrated most clearly in Fig. 6. When the window is mounted as illustrated in Figs. 5 and 6, I may prefer to use a sill plate 19 as illustrated in Fig. 5 for weathering purposes.

The toe 15 of each side bar 12 is fitted with a vertical track or guide member 20 which is secured on the inner face thereof as illustrated most clearly in Figs. 2, 4 and 6. This guide or track 20 may be welded to the toe 15 or secured thereto in any other suitable fashion.

Fixed to each side of the sash 17*a* at the upper end thereof and in a rabbet 21 is a plate 22, the upper end of which is pivotally connected to a shoe 23 slidably mounted on the track 20 for vertical reciprocation. This forms a pivotal and sliding connection between the upper end of the sash and the side bars 12. Pivotally connected at one end to the lower ends of the plates 22 are links 24, the other ends of which are pivotally connected to the track or guide 20 as illustrated. This mounting of the sash is such that when the lower end thereof is moved outwardly, the upper end thereof moves downwardly along the track 20 so that projected or awning type operation of the sash is accomplished.

A hood member 25 is arranged horizontally over the upper end of the sash and the side bars 12, as illustrated in Figs. 1, 3 and 5. This hood member 25 is likewise of an angle construction having a toe 26 to abut against the exterior of the sheathing 16 so that it may be fastened thereto as illustrated. This accomplishes proper weathering. If preferred, the outer edge of the hood member 25 may be downturned to increase its effectiveness.

If desired, two or more sash may be provided for each window opening as in the conventional awning type window construction by simply adding additional tracks 20 along the side bars 12 at proper points. The meeting rails of the sashes may be constructed as illustrated in Fig. 7, which is more or less conventional in awning type windows.

In practice, to install the improved window construction herein disclosed, it is only necessary to fasten the side bars 12 to the exterior surface of the wall at the sides of the window opening as illustrated, and then to apply the hood member 25 to the exterior surface of the wall as described; then by connecting the sash to the side bars 12 by means of the operating mechanism, the window is installed and ready for use. The simple installation places the rails of the sash in proper relationship to the exterior surfaces of the wall surrounding the perimeter of the window opening for proper closure. It is obvious that this construction eliminates the hitherto conventional window frame, casing, stops and trim.

There are a great many advantages flowing from my improved construction. One is that by eliminating the window frame and its accompanying elements, considerable saving in cost results. Secondly, the case and expeditiousness of installation results in considerable labor saving, both in fabrication and installation. The sash do not require fitting because the surface installation disclosed allows adjustment for discrepancies of fabrication. Also variance in the window opening dimensions does not at all affect installation nor require fitting of the sash.

In actual practice I have found an overall saving, both in manufacture and installation, of at least thirty-three and one-third per cent over the conventional type windows of the same opening area.

I also desire to point out that by the present construction a maximum light area is provided for the window opening and that proper ventilation control is effected by the awning type of operation.

While I have shown the preferred form of my invention, it is to be understood that various changes may be made in its construction by those skilled in the art without departing from the spirit of the invention as defined in the appended claims.

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

1. A window construction comprising a pair of side bars of angle cross-sectional shape, the toes of which being uniform in width throughout the length thereof, said bars being arranged one on each side of a window opening and secured to the exterior surface of the wall in which said opening is formed with one toe thereof abutting the exterior surface of said wall and with the other toe spaced from the marginal edge of said opening, said bars being of a length slightly greater than the height of said window opening and being in register therewith, a sash of a width greater than the width of said opening and positioned at the exterior thereof with one face substantially against the exterior face of said wall and with the side rails of the sash closely adjacent to the out-turned toes of said side bars, a guide member fixed to the inner surface of the out-turned toe of each side bar, a shoe slidably mounted on each guide member for vertical reciprocation thereon, a pivotal connection between said shoe and the upper end of the adjacent side rail of the sash, a link between the out-turned toe of each side bar and the adjacent side rail of the sash and pivotally connected at one end to the sash at a point intermediate the ends thereof and at the other end to the adjacent side bar.

2. As an article of manufacture a window fixture for awning type windows comprising a side bar of angle cross-sectional shape, the toes of which are 90° apart and of uniform width throughout the length thereof, the said bar being of a length slightly greater than the height of a window opening in connection with which it is to be used, a guide member secured to the inner surface of one of the toes of said side bar, a shoe slidably mounted on said guide member for vertical reciprocation thereon, a sash plate pivoted at one end to said shoe, a link pivoted at one end to the same toe of the side bar as that to which said guide member is affixed for swinging movement in a plane parallel to that of the plate, and a pivotal connection between the other ends of the plate and link.

ARTHUR H. SOULE.