Sept. 26, 1939. I. GUSTAFSSON 2,174,441

SASH BAR

Filed March 10, 1939

Fig.1.

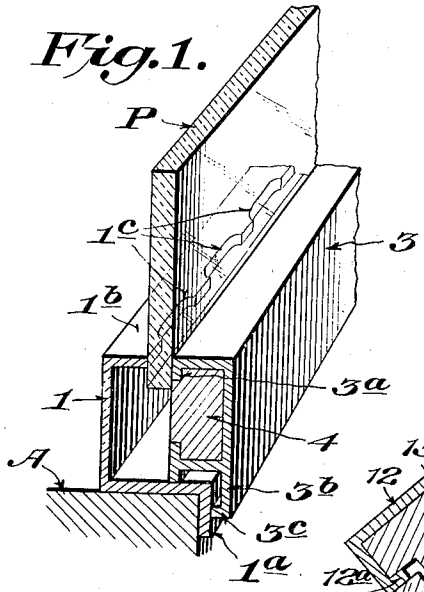


Fig.2.

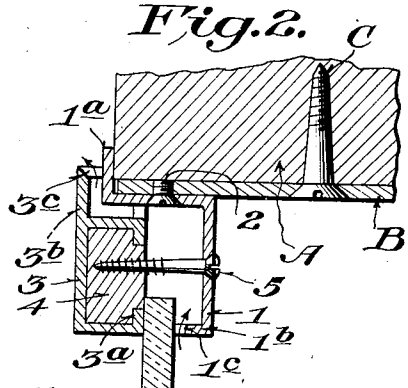


Fig.5.

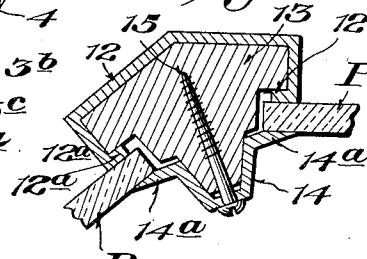
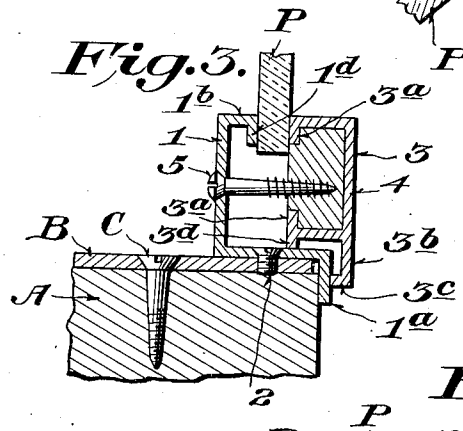


Fig.3.



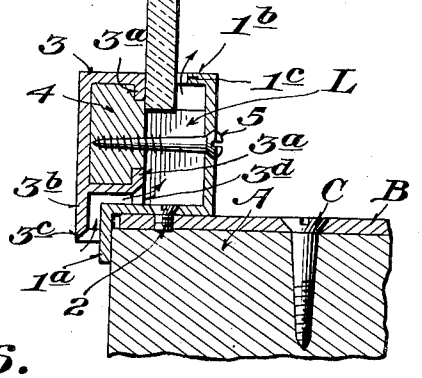


Fig.6.

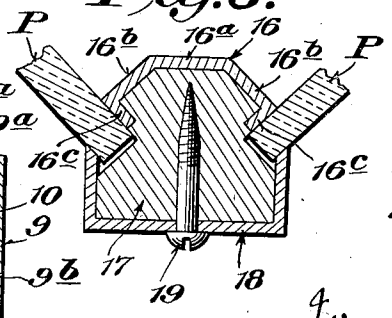


Fig.4.

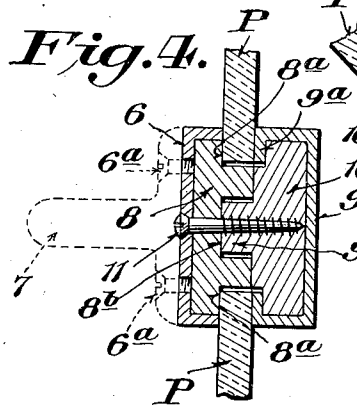
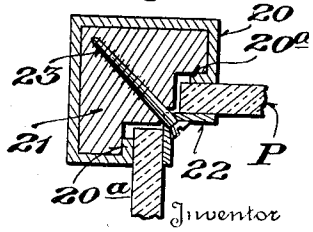


Fig.7.



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SASH BAR

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5 Claims. (Cl. 20—56.4)

This invention is a novel improvement in sash-bars particularly adapted for use in store windows or other windows of relatively large size; and the principal object thereof is to provide a sash-bar formed of two metallic members adapted to be secured together by screws inserted from the inside of the store or window, the outer metallic sash member of the bar being of hollow formation and filled with wood or other screw-retaining material so that the screws will be readily anchored therein.

A further object of the invention is to provide sash-bars for the top and bottom of the window opening, said bars having vent openings therein to permit the passage of air out of the top bar, and the passage of air and condensation through the bottom bar whereby the circulation of air over the inside of the glass pane and the drainage of moisture therefrom, will maintain the inside of the pane constantly dry.

A further object of the invention is to provide a sash-bar so constructed that it may be easily put together, and one in which the use of putty or other mastic is obviated; also a sash in which the glass pane may be readily inserted and removed from the outside of the store or window when the securing screws on the inside are removed and the outer sash members of the bars on the outside removed, the glass being free to be inserted or replaced from the outside of the store or building against the inner sash members of the bars.

Other minor objects of the invention will be hereinafter set forth.

I will explain the invention with reference to the accompanying drawing which illustrates practical embodiments thereof, to enable others to adopt and use the same; and will summarize in the claims the novel features of construction, and novel combinations of parts, for which protection is desired.

In said drawing—

Fig. 1 is a perspective sectional view looking at the sash-bar from the outside of the store or window.

Fig. 2 is a vertical section through a window opening showing my novel sash-bar holding a pane therein, and showing the vent and drainage openings.

Fig. 3 is a horizontal section through a sash-bar at the side of the opening.

Fig. 4 is a horizontal section through an intermediate vertical post in which the glass panes at opposite sides of the post are disposed in the same plane.

Fig. 5 is a section similar to Fig. 4 but showing a modification of a modified vertical post in which the glass panes at opposite sides of the post are deflected inwardly or towards the interior of the building.

Fig. 6 is a view similar to Fig. 4 showing a further modified vertical post in which the glass panes at opposite sides of the post are deflected outwardly or away from the interior of the building.

Fig. 7 is a section showing a typical outside vertical corner post in which the glass panes are disposed at right angles to each other.

The window opening A is of desired size, and if desired the faces of the opening may be provided with metal or other liners B extending entirely around the opening and secured to the walls by means of screws C or the like.

The sash-bars preferably comprise interior metallic sash members 1 of substantially L-shaped cross-section, each having one leg secured by screws 2 to the liner B of the window opening, the outer edge of said leg being provided with a flange 1*a* adapted to overlie the outer face of the wall adjacent the window opening. The edge of the other leg of the L-shaped member is provided with a relatively narrow flange 1*b* directed towards the outside of the building, said flanges 1*b* disposed along the top and the bottom of the window opening being identical in form, and having a series of scallops 1*c* (Figs. 1 and 2) in their outer edges for ventilation and drainage purposes. The corresponding sash members 1 at the sides of the window opening are similar to those above described except that the serrations 1*c* may be omitted, and the outer edges of the flanges 1*b* are preferably flanged as at 1*d* (Fig. 3) so as to abut squarely against the inside of the window pane P.

The flanges 1*b* are shorter than the opposed legs of the members 1, and cooperating with each member 1 is an outer metallic sash member 3 preferably of channel-shape and having its open face adjacent the pane P. The outer ends of the legs of the channel 3 are flanged inwardly as at 3*a* so as to retain in the channel a block of wood 4 or other screw receiving material, which block snugly fits the interior of the sash member 3 and receives the fastening screws 5 for the outer sash members. Each sash member 3 has an extension 3*b* forming a continuation of the front face of the member and overlapping the flange 1*a* of the inner sash member 1, the same being spaced therefrom; and the outer edge of flange 3*b* is turned inwardly as at 3*c* to meet the

flange 1a. In alignment with flange 3a at the side of member 3 adjacent the liner B is a flange 3d adapted to seat upon the anchored leg of the inner sash member 1, said flange 3d being of such width as to maintain the body of the outer sash member 3 spaced from the anchored leg of the inner member 1.

The members 3 along the top and bottom of the window opening are provided with openings or serrations in the flanges 3c and 3d as shown in Fig. 2 whereby air may pass upwardly as shown by the arrows (Fig. 2) from the bottom of the sash through the openings in the flange 3c, and between the inner and outer sash members 1 and 3, and through the serrations or openings of flange 3d, and then pass upwardly through the serrations 1c of the flange 1b and pass along the inside of the pane P and pass outwardly in a similar manner as shown by the arrows (Fig. 2) through the corresponding openings in the members of the upper sash-bar. At the same time, any condensation collecting on the inside of the pane P may pass downwardly through the openings or serrations in the members of the bottom sash bar and escape to the outside of the building. The air currents and drainage facilities, above explained, will maintain the inside of the pane P constantly dry. The members 3 at the side edges of the window openings are as shown in Fig. 3 similar to those at the top and bottom thereof, except that the openings through the flanges 3c and 3d may be omitted.

In mounting the pane P in the window the inner sash members 1 are first secured to the liners B around the opening by means of screws 2, and a series of spaced blocks L of lead or the like (Fig. 2) are inserted in the bosom of the lower sash member 1. The pane P is then placed so that its lower edge rests upon the spaced blocks L and its inner face abuts against the flanges 1b and 1d of the inner sash members 1. The outer sash members 3 are then placed in position against their respective members 1 so that the flanges 3d and 3c contact the anchored legs and flanges 1a of the inner sash members, and spaced series of screws 5 are inserted through openings in the members 1, the screws entering the screw-receiving blocks 4 in the outer sash members 3, thereby securely locking the parts 1—3 together from the inside of the store or window. When the pane P is to be replaced or removed, easy access is had from the exterior of the window after removal of screws 5 and the outer sash members 3, leaving the opening for the pane unobstructed from the outside of the store or window, and the pane may be readily lifted from or a new pane readily placed upon the lead blocks L resting in the bosom of the lowermost sash member 1; and as the screws 5 which retain the parts 1—3 are inserted from the inside of the window the pane cannot be removed from the outside, which is an important safe-guard feature.

Fig. 4 shows a typical vertical post which may be provided between sections of the pane P, same preferably comprising an interior member 6 of channel-shape and of width sufficient to span the opening between panes P. Within member 6 is a wooden or other screw-retaining block 8 having recesses 8a in its sides opposite the outer ends of the legs of the channel to provide space for the side edges of the panes P, the block 8 being normally of thickness substantially equal to the width of the legs of the channel plus the thickness of the pane, and said block having an axial recess 8b at its center, for the purposes hereinafter described. The outer member 9 of the post is also preferably of channel-shape, and the outer ends of the legs are flanged inwardly to abut squarely against the outer faces of the panes P, the member 9 being of same width as the member 6. Within member 9 is a wooden or other screw-retaining block 10 filling the channel and having an axial rib 9b adapted to enter the axial recess 8b of block 8. In assembling the post, the outer member 9 is placed in position bridging the gap between panes P and the inner member 6 placed in position with the recess 8b in block 8 receiving the rib 9b of the block 10. The parts are then secured together by series of screws 11 passing through the axis of the member 6, the screws entering the block 10 and being retained therein, thereby securing the parts together. When so assembled the post may be stiffened by attachment of a T-beam 7, shown in dotted lines in Fig. 4, secured by screws 6a to the member 6.

Fig. 5 shows a modified vertical post adapted to secure adjacent pane sections together where the panes diverge inwardly towards the interior of the room. The post comprises an outer member 12 similar to the member 9, above referred to, except that the same is bent along its axis to the desired angle between the panes P. Member 12 is provided with a screw-retaining block 13 secured therein by flanges 12a at its sides, the block being of substantially triangular shape and extending inwardly between the panes P towards the interior of the room. The inner sash member comprises a substantially V-shaped bar 14 having lateral flanges 14a in its outer edges adapted to contact the inner faces of the panes P. The members 12 and 14 are secured together by a series of screws 15 passing through perforations in the center of the member 14 and entering and being anchored in the block 13 carried by the outer member 12.

Fig. 6 shows a modified vertical for securing sections of the pane P together where the panes deflect outwardly away from the interior of the room. This post comprises an outer member 16 of metal having a central portion 16a and lateral portions 16b disposed substantially normal to the pane sections P, respectively, the outer edges of the lateral portions 16b being flanged inwardly as at 16c to contact with the outer faces of pane sections P. Within member 16 is a wooden or other screw receiving block 17 anchored therein by the flanges 16c, the block extending between the panes P towards the interior of the room and having its inner end of substantially rectangular cross-section. The inner member 18 is preferably channel-shaped to suit the width of the inner end of block 17, and the members 16 and 18 are secured together by a series of screws 19 passing through perforations on the axis of member 18, same entering and being anchored in the block 17.

Fig. 7 shows a typical outside corner post, same comprising an outer member 20 of general rectangular shape having one corner open, the metal adjacent the opening being flanged inwardly as at 20a and adapted to abut against the outer faces of the pane sections P which are disposed substantially at right angles to each other but spaced slightly apart. A wooden or other screw-receiving block 21 is anchored in member 20 by means of the flanges 20a. The inner member comprises an angle bar 22 having

its legs contacting the inner faces of the pane sections P; and the parts are secured together by a series of screws 23 passing through perforations in the heel of the angle bar 22 into the block 21.

The above construction provides a simple sash-bar which may be easily put together without the use of putty or other mastic, also one in which drainage and vent openings are provided in the upper and lower sash-bars to permit passage of fresh air along the inner face of the pane to maintain same constantly dry; also one in which the securing screws are all inserted from the inside of the window for safeguard purposes; and one in which the pane may be readily installed and replaced from the outside of the window when the screws and outer sash members are removed.

I claim:

1. A sash-bar, comprising an inner member and an outer member adapted to clamp a pane between them; said outer member being channel-shaped with its open face adjacent the pane, a filler within said channel; said inner member comprising a substantially L-shaped bar having one leg adapted to be anchored in a wall opening and the other leg having a flange disposed parallel with and shorter than the anchor leg and adapted to contact the pane; and securing means transfixing the inner member and anchored in said filler.

2. A sash-bar, comprising an inner member and an outer member adapted to clamp a pane between them; said outer member being channel-shaped with its open face adjacent the pane, a filler within said channel; said inner member comprising a substantially L-shaped bar having one leg adapted to be anchored in a wall opening and having a flange adapted to overlie the wall adjacent the opening, the other leg having a flange disposed parallel with and shorter than the anchor leg and adapted to contact the pane; and securing means transfixing the inner member and anchored in said filler.

3. A sash-bar, comprising an inner member and an outer member adapted to clamp a pane between them; said outer member being channel-shaped with its open face adjacent the pane, a filler within said channel; said inner member comprising a substantially L-shaped bar having one leg adapted to be anchored in a wall opening, the other leg having a pane-abutting flange disposed parallel with but shorter than the anchor leg and having vent recesses in its outer edge; and securing means transfixing the inner member and anchored in said filler.

4. A sash-bar, comprising an inner member and an outer member adapted to clamp a pane between them; said outer member being channel-shaped with its open face adjacent the pane, a filler within said channel; said inner member comprising a substantially L-shaped bar having one leg adapted to be anchored in a wall opening and having a flange adapted to overlie the wall adjacent the opening, the other leg having a pane-abutting flange disposed parallel with but shorter than the anchor leg and having vent recesses in its outer edge; and securing means transfixing the inner member and anchored in said filler.

5. A sash-bar, comprising an inner member and an outer member adapted to clamp a pane between them; said inner member comprising a substantially L-shaped bar having one leg adapted to contact against and to be anchored in a wall opening and having a flange adapted to overlie the wall adjacent the opening, the other leg having a pane-abutting flange disposed parallel with but shorter than the anchor leg and having vent recesses in its outer edge; said outer member being channel-shaped with its open face adjacent the pane, a filler within the channel; said outer member having a portion overlying and spaced from the wall flange of the anchor leg of the inner member and having vent openings for the passage of air and moisture between the members; and securing means transfixing the inner member and anchored in said filler.

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