

Nov. 19, 1957

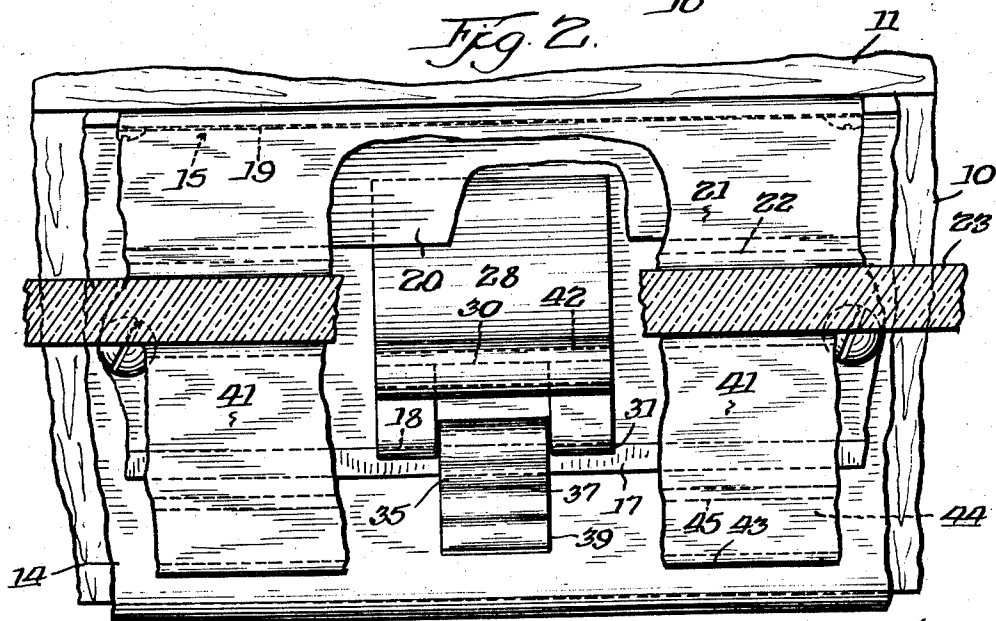
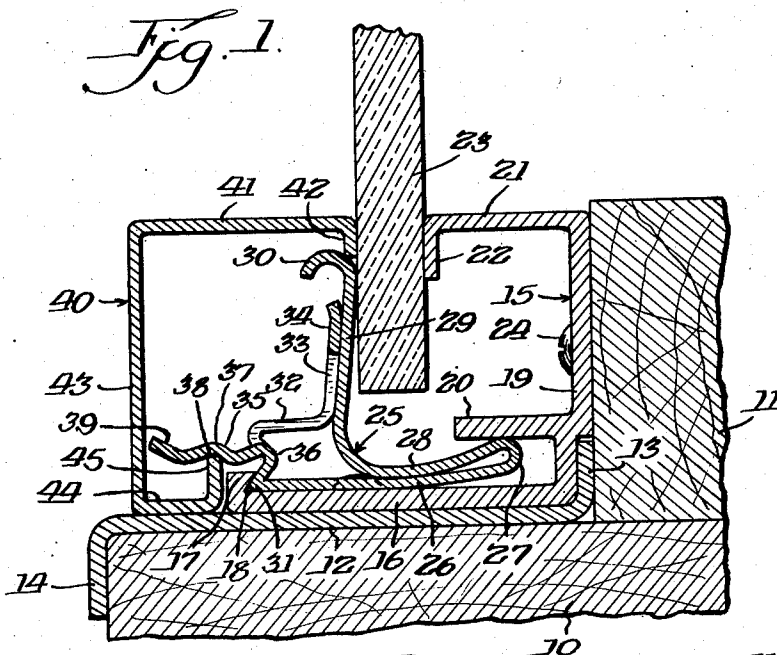
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2,813,313

STORE FRONT CONSTRUCTION

Filed Nov. 8, 1955

2 Sheets-Sheet 1



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*Fig. 3.*

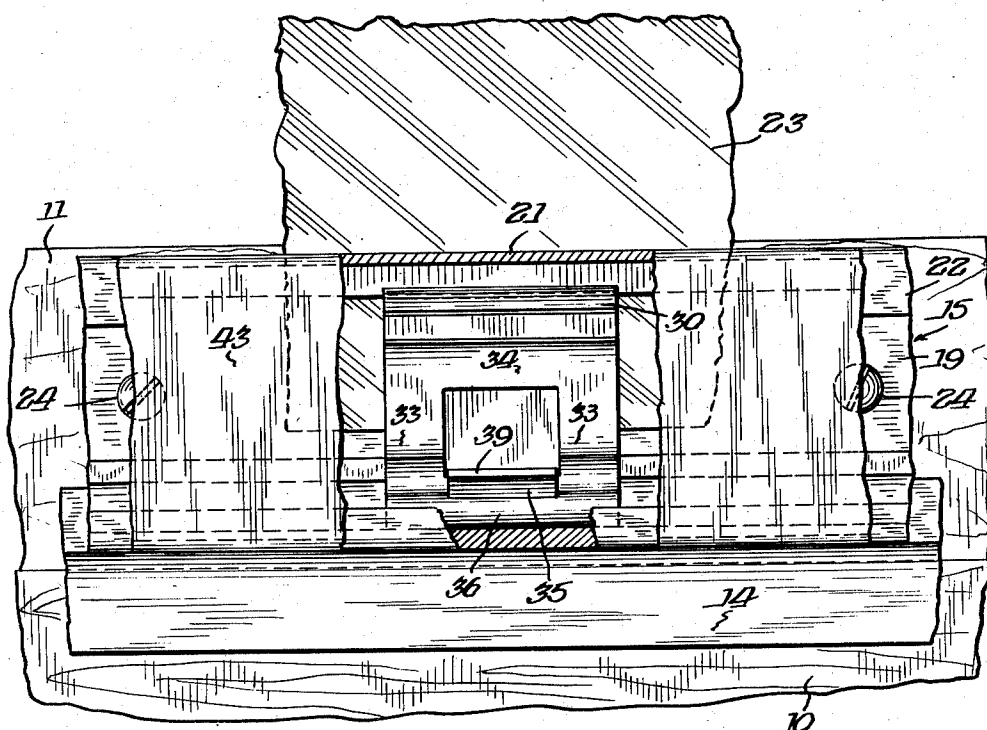
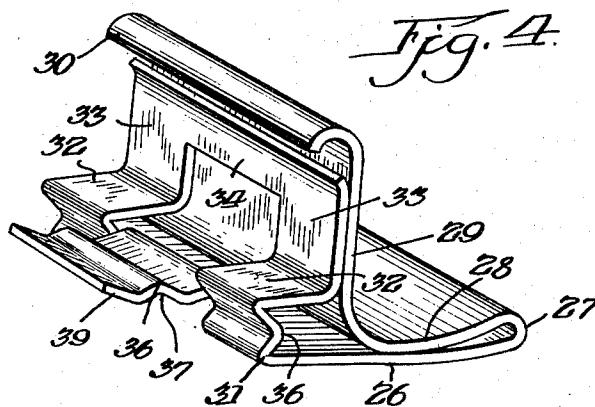


*Fig. 4.*



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2,813,313

## STORE FRONT CONSTRUCTION

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6 Claims. (Cl. 20—56.4)

My invention relates to a sash construction for building fronts and has particular reference to a sash construction in which the glass pane may be mounted from the outside of the building without the necessity of workmen going to the inner part of the building, and in which the glass pane is mounted between inner and outer sash members and held in engagement with the inner sash member by a plurality of spaced spring clips which hold the glass pane firmly in position and yet provides an elastic mounting so that the glass pane is slightly movable to compensate for wind pressure, contraction, expansion, and the like.

Another object of my invention is the provision of a sash mounting in which the glass pane can be easily placed into position without the use of screw clamps or the like which, if the installation is too tight, is apt to break the glass or fracture it, resulting in the necessity of putting in a new pane of glass and which, because of the size of the glass panes used in building front construction, are very expensive and costly to replace if one of them is broken in service.

Another and further object of my invention is the provision of a sash construction for building fronts in which the glass can be very easily and quickly installed into a sash frame previously attached to the window jamb without the necessity of using tools or the like in the setting of the glass, which is not only easily and quickly placed in position but remains firmly in position over a long period of time.

Another and further object of my invention is the provision of a sash construction which is substantially weather and moisture-proof so that water, either from condensation on one side of the pane or rain or snow on the other, does not leak into the sash construction, causing rusting, damage, etc. to the mounting members or the like.

These and other objects of my invention will be more fully and better understood by reference to the accompanying drawings and in which—

Fig. 1 is a cross-sectional view of a sash and supporting building construction therefor.

Fig. 2 is a plan view of the sash construction shown in Fig. 1.

Fig. 3 is a front view of the sash construction shown in Fig. 1, partly in section and partly in elevation, while

Fig. 4 is a perspective view of the spring clip which is used in connection with the mounting of the glass pane in the sash members.

Referring now specifically to the drawings and in which like reference characters refer to like parts throughout, a window sill 10 is shown having a window jamb 11 in the usual position therewith forming a part of the window frame, a cap plate 12 is provided which covers the sill 10 and has oppositely disposed flanges 13 and 14 along each of its edges—the flange 13 extending alongside and against the jamb for a partial distance away from the sill 10, while the flange 14 overlaps the outer part of the sill 10 to protect it from rain, water, or the like when placed in service in a building front construction.

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The jamb 11 may be omitted as the sash is effectively supported by other means and also the wood sill 10 may be omitted and the sash mounted upon a masonry constructed building such as brick, concrete, cinder block or the like. An inner sash member designated as a whole as 15 is provided which has a base portion 16 fitted upon the cap 12 and has a flange 17 along one marginal edge, with an undercut channel 18 therein and with the base portion substantially spanning the entire space across the sash mounting, and a side wall 19 which is offset at its lower side to permit the flange 13 to be fitted behind a portion of the side wall 19 and against the jamb 11 forming a portion of the window frame. A rib 20 is provided which extends away from the side wall 19, while a sash-engaging wall 21 is provided with an inwardly turned flange 22 thereon which engages against one side of a glass pane 23 when it is mounted within the sash.

The side wall 19 is secured to the jamb by means of a plurality of screws 24, 24 inserted through the side wall 19 and into the jamb 11 to hold the inner sash member 15 in position in the window frame, while other screws may be inserted through the base 16 and cap 12 to hold these members to the wooden sill 10. Spring clips designated as a whole as 25 are provided, each of said clips consisting of thin flat spring sections of metal folded intermediate their ends onto themselves into two leg portions, the lower leg portion providing a base 26 for the spring clip which is positioned upon the bottom portion 16 of the sash member 15, which base portion 26 is arcuate in shape, with its convex side resting upon the bottom portion 16 of the sash member 15. The leg portion 28 is folded over the base portion 26 of the lower leg portion, with the looped end 27 of the two leg portions being frictionally positioned against the under side of the rib 20 when the clip 25 is placed under tension in the inner sash member 15.

A pane-engaging extension 29 of the upper leg portion of the clip is provided which extends substantially at a 6° angle to the base portion 28 and to the glass 23 away from the edge of the glass pane so the edge of the glass is not fractured and terminates in an end 30 curved outward away from the glass pane 23, with a space between the pane 23 and the curved end 30, for purposes hereinafter described. The bottom portion 26 of the lower leg portion of the clip 25 is bent along one edge into a W-shaped form, with one side of the W-shaped portion forming a sharp angle portion 31 which is fitted into the channel 18 formed in the undercut edge of the flange 17. The outer leg of the opposite side of the W-shaped portion is extended into a horizontal portion 32, 32 and thence bent upward into a portion 33, 33 which extends alongside the pane-engaging portion 29 in face-to-face relation therewith, with this connecting web 34 forming reinforcing members for the pane-engaging member 29. A tongue 35 is struck out from the middle apex of the W-shaped portion of the outer leg from the horizontal portions 32 and the portions 33, which tongue portion 35 extends outward from the inside apex 36 of the W-shaped section, and has a corrugated portion 37 therein providing a channel 38 on one side thereof and having an angularly disposed end portion 39, for purposes hereinafter described. The clip 25 is so shaped that when it is placed in the position shown in Fig. 1 it is under tension, with the glass pane portion 29 supported by the reinforcing portions 33, 33 and 34 which engage against the outer face of the glass pane 23—this tension being provided by the spread of the clip 25 between its anchored end 27 under the rib 20 and its point of engagement with the glass 23.

An outer sash member designated as a whole as 40 is

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provided having a top wall 41 with a flange 42 thereon which engages against the outer face of the glass pane 23, with an outer wall 43 extending down to a base portion 44 which rests upon the cap plate 12—the base portion 44 having a flange 45 thereon, the edge of which is fitted into the channel 38 formed on the under side of the corrugated portion 37 of the tongue portion 35, which also is under tension, so that it is deflected slightly when the outer sash member 40 is placed in position, with the outer sash member being held in position by engaging in the space behind the curved end 30 of the sash-engaging portion of the clip 25 and the pane 23. In this manner the outer member 38 can be removed and replaced from the outside of the store front structure and can be placed in position by placing the base 44 of the outer sash 40 on the cap plate 12 and moving the outer sash 40 in a horizontal direction toward the glass pane 23, and deflecting the top wall 41 of the outer sash 40 sufficiently to permit the flange 42 to pass over the end 30 of the pane engaging leg 29. The outer sash 40 is thereby anchored in position against the glass pane 23 and is held in position by the tension in the top wall 41 as hereinabove described, against any normal displacement, but which can easily be removed by workmen using the proper tools in a reverse operation, if so desired.

In the installation of the device the inner sash member 15, which will vary in length and dimension, of course, depending upon the size of the window and the size of the enclosure to be covered by the glass pane, and the glass pane are set into position and supported upon the usual blocks (not shown) and after the glass pane 23 is set in position the clips 25 can be inserted by placing the leg portions 26 and 28 under the edge of the glass pane 23, with the folded end 27 under the rib 20 and pushing the clips 25 into the position shown in Fig. 1 of the drawings. As many clips as may be desired may be placed in position and as they are flexed and pushed into position the angle 31 slips into the channel 18 and when placed into position there is enough tension developed between the point 28 and the rib 20 so that the clips are not easily displaced. When this operation is accomplished, the setting of a glass pane is substantially accomplished and it can be left for any length of time and the outer section 40 thereafter applied, which completes the operation and installation of the sash structure to a building front.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit or scope of the invention.

What is claimed is:

1. Window sash construction comprising in combination, an inner sash member having a base portion with a flange along its marginal edge, a side wall and a glass pane-engaging portion and having a rib on the said side wall extending outward from the said side wall, a spring clip having a base portion seated on the base portion of the said sash member folded upon itself, with its folded end positioned under the rib on the side wall and turned away from its base portion to form a pane-engaging portion, the said base having an angular portion at its side opposite the folded end portion in engagement with the flange along the marginal edge of the base portion of the inner sash member, with a portion extending away from said angular portion into engagement with the pane-engaging portion and having a tongue extending outward from the angular portion, the tongue having a channel therein on one of its sides and an outer sash member having flanges on each of its sides, one of said flanges being fitted into the channel in the tongue and the other flange being fitted over the space between the pane engaging portion of the clip and the pane.

2. Window sash construction comprising in combination, an inner sash member having a base portion with a

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flange thereon having a channel therein, and having a side wall and a glass pane engaging portion, the side wall having an outwardly extending rib thereon, a spring clip folded upon itself into two leg portions serving as bases for the said clip, the folded end being positioned against one side of the said rib, one leg portion being bent at right angles to its base portion to form a pane-engaging portion having a curved end, the other leg portion being bent at a right angle to its base and formed into a W-shaped section, one angle of the W-shaped portion extending into the channel formed in the flange of the base portion of the inner sash member, the outer leg of the W-shaped portion being extended and turned to form a reinforcing member for the sash-engaging portion extending from the other leg of the clip, a tongue struck out of the second leg portion and extending outward from the apex of the W-shaped portion having a channel in the under side thereof and a sash-engaging outer member having flanges on each of its edges, one of said flanges fitted into the space between the glass pane and the glass pane-engaging portion of the clip and the edge of the other channel section being fitted in the channel in the said tongue.

3. Window sash construction comprising in combination, an inner sash member having a base portion extending under the glass pane beyond the plane of the said glass pane with a flange thereon having a channel therein, and having a side wall and a glass pane engaging portion, the side wall having an outwardly extending rib thereon, a spring clip folded upon itself into two leg portions anchored in the inner sash member, one leg portion being bent and angularly extended to form a glass pane-engaging portion having a curved free end, the other leg portion having an angular portion thereon forming a part of said anchor connection with the free end bent into reinforcing position against the glass pane-engaging portion and having a struck-out tongue extending outward therefrom and an outer sash member having flanges thereon, one flange being in engagement with the said tongue and the other flange extending over the curved end whereby the outer sash member is held in position in the window sash combination.

4. Window sash construction comprising in combination, an inner sash member having a base portion with a flange thereon having a channel therein, and having a side wall and a glass pane engaging portion, the side wall having an outwardly extending rib thereon, a spring clip folded upon itself into two leg portions, the folded end being positioned under the rib on the inner sash member, one leg portion being bent into an angularly disposed glass pane-engaging portion having a curved free end, the other leg portion having an angularly bent portion extending into the channel formed in the base of the inner sash member and turned inward and upward into face-to-face engagement with the pane-engaging portion to form a reinforcement therefor and having a corrugated tongue struck out of the said second leg portion and extending outward therefrom and an outer sash member having flanges along each of its edges, one of said flanges being in engagement with the said tongue and the other in engagement with the curved free end of the glass pane-engaging portion whereby the sash member may be removed from the combination.

5. A spring holding glass pane clip folded intermediate its ends into base portions and two leg portions depending from the base portions, one of said leg portions being folded at right angles to the base portion into a pane-engaging portion, the other leg being angularly folded into a W-shaped web portion, one corner of which portion is adapted to rest in a channel formed in a sash member and into a web portion connected with said angularly folded portion extending parallel with the base portion and having a reinforcing portion extending at an angle from the said web portion and into engagement with one side of the pane-engaging leg, the web and said reinforcing portion having a tongue formed thereon extending away from the said web, the said tongue having a sash-receiving channel in the under side thereof.

6. A spring holding glass pane clip folded intermediate its ends into base portions and two leg portions depending from the base portions, one of said leg portions being folded at right angles to the base portion into a pane-engaging portion, the other leg being angularly folded to rest in a channel formed in a sash member and into a web portion connected with said angularly folded portion extending parallel with the base portion and having a reinforcing portion extending at an angle from the said web portion and into a side to side engagement with the pane-engaging leg, the web and said reinforcing portion having

a tongue formed thereon extending away from the said web, the said tongue having a sash-receiving channel in the under side thereof and having an angularly turned end portion forming a guide for the sash into the sash-receiving channel.

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