Aug. 18, 1925. 1,550,430

A. H. DAVIS

SASH OR STORE FRONT CONSTRUCTION

Filed Jan. 26, 1924

Fig. 1.

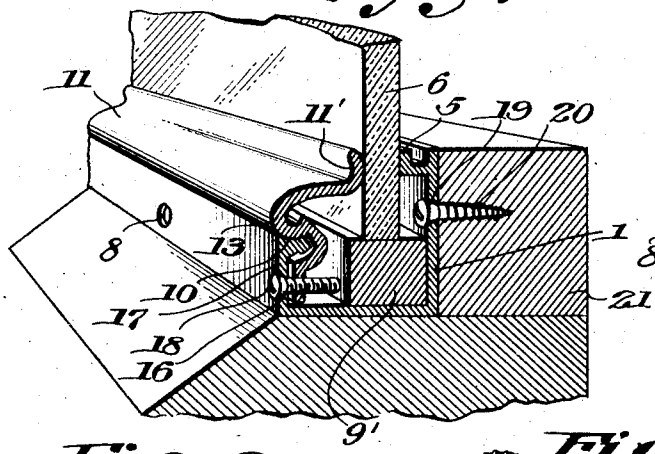


Fig. 2.

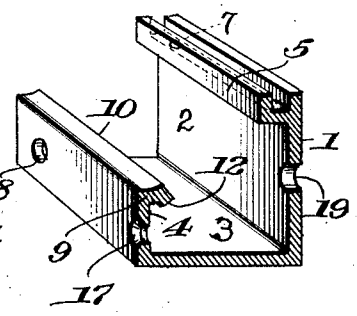


Fig. 3

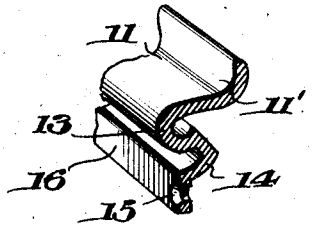


Fig. 4.

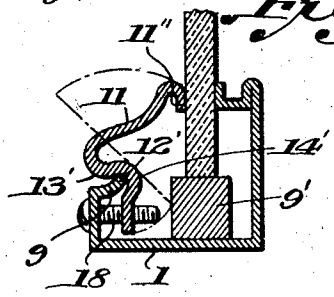


Fig. 6.

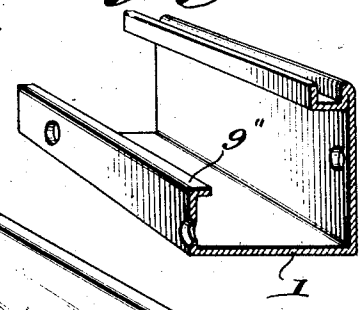
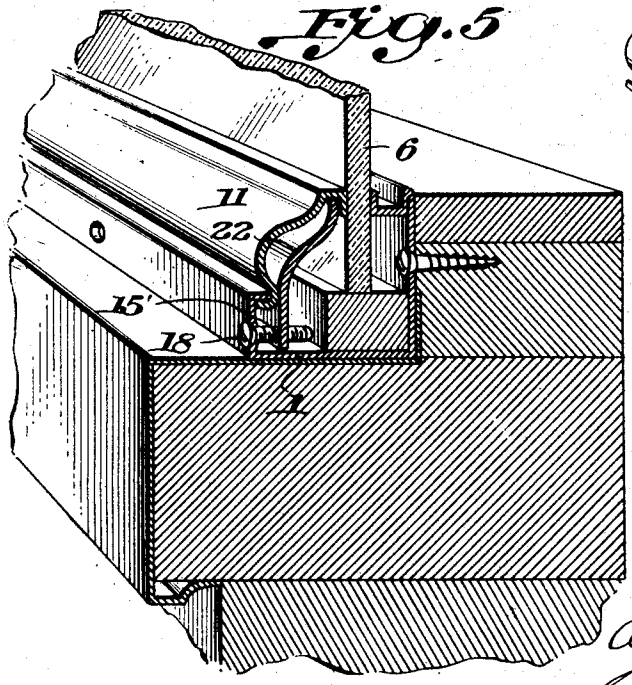


Fig. 5



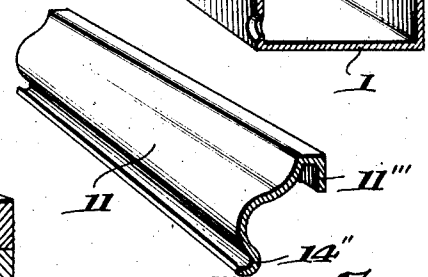


Fig. 7

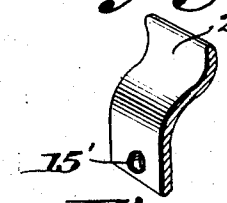


Fig. 8

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By E. M. Hamilton his Atty.

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UNITED STATES PATENT OFFICE.

ARCHIBALD H. DAVIS, OF LINCOLN, NEBRASKA.

SASH OR STORE-FRONT CONSTRUCTION.

Application filed January 26, 1924. Serial No. 688,855.

To all whom it may concern:

Be it known that I, ARCHIBALD H. DAVIS, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Sash or Store-Front Constructions, of which the following is a specification.

This invention relates to sash or store front construction.

The object of the invention is to provide an improved sash or store front construction which will be strong, durable, and self-contained, so that it may be used by itself without requiring the use of other reinforcing materials, such as stops, sills, and jambs of wood or, possibly metal, thus minimizing expense otherwise involved for material and installation when used in store front construction.

Another object is to provide an improved sash construction adapted to be directly applied to the pane of glass without requiring its attachment to other materials or frame pieces when thus used so that the construction alone will serve its purpose as a sash for windows.

A further object is the provision of an improved sash or store front construction utilizing a novel fulcrum principle or joint between the sections thereof by which the pane or plate of glass may be readily set in one section and, thereafter, the other section applied and, by the use of tensioning means and by a fulcrum action, the movable section made to bear against the pane or glass and the two sections to securely hold the pane or plate glass with a firm, and yet more or less resilient, grip.

The utilization of the improved joint or fulcrum arrangement in my invention enables an adjustable leverage action to be obtained without dependence on extra members or frame pieces and adapts the sections to glass of any thickness and to the variable thicknesses at different points in the same piece of glass. Furthermore, the utilization of the improved fulcrum joint between the sections and the tensioning means therefor enables the desired clamping action or leverage to be obtained by setting and adjustment only on the outside of the sash or store front which, frequently, is the only accessible side.

I am aware that it has been proposed to provide a swinging section in sash and store front constructions but so far as I know I am the first to provide a sash or store front construction having sections which are jointed or fulcrumed together according to the principle of my invention and adapted to be assembled and tensioned from the outside.

It is my purpose to construct the sections of the sash or store front of relatively heavy sheet metal, preferably extruded brass or bronze, but they may be of cold-rolled or drawn metal. Metal of the requisite gage while having a suitable stiffness or rigidity and not being liable to bend out of shape or dent easily in transportation or when being handled, nevertheless will have sufficient resiliency to adjust itself to the fulcruming action and to the pane or plate of glass so that the latter will be rigidly held but without the necessity of employing special cushioning means.

Other objects and purposes of the invention will appear more fully from the following description. It is to be understood that the invention is susceptible of modification and while I have described certain particular embodiments thereof and have shown them in the accompanying drawings, it is possible to embody the principle of the invention in other forms.

In the accompanying drawings:

Figure 1 is a detail perspective, partly in section, showing an embodiment of the invention adapted for store front construction.

Fig. 2 is a detail perspective, broken away and in section, showing one of the sections of the construction.

Fig. 3 is a similar view of the outer or fulcrumed section.

Fig. 4 is a detail cross section showing a modification.

Fig. 5 is a view like Fig. 1 showing a modification employing a clip plate.

Fig. 6 is a view like Fig. 2 of the inner section of the form of Fig. 5.

Fig. 7 is a view like Fig. 6 of the outer section of the construction of Fig. 5; and

Fig. 8 is a detail sectional view of the clip plate of the construction of Fig. 5.

It will be understood that all forms of the invention hereinafter described and which are shown in the drawings may be used merely as sash for windows without resort to other pieces, or, these constructions

may be attached to framing, sills, etc., for utilization as store front constructions, as shown in Figs. 1 and 5.

Referring first to the construction shown in Figs. 1, 2, 3, the inner or pane seating section 1 is of metal of suitable gage for the requisite rigidity as distinguished from thin gage stock which has heretofore been commonly used. This metal may be extruded brass or bronze, or cold-rolled, or drawn. It is not the purpose of the invention to provide metal which will easily yield, as does thin stock such as heretofore commonly used, because thin stock has the characteristic of yielding at undesirable points as well as at desirable points. The gage of metal employed is such as to afford continuous pressure on the glass instead of merely at screw or bolt points, as is the case with light metal and which results in breakage.

The section 1 is of open, box, or trough-like form, provided with a flat back 2, flat base 3, and short front 4. The back 2 has a trough-like upper part whose inner wall 5 is flat and adapted to provide a suitably high and properly firm abutment for the pane of glass 6 so that the latter may be held against the abutment by considerable pressure in the manner hereinafter set forth. The channeled upper end of the back 2 is provided with holes 7 at suitable points to provide for ventilation and drainage and the front 4 has similar holes 8 for the same purpose.

Any suitable support or cushion 9′ is provided inside of the section 1 for the glass 6 to rest against, or upon, as is common in sash and store front constructions.

The upper part of the front wall 4 is provided with an inwardly projecting flange 9 whose upper surface is grooved or channeled as shown at 10, such channel extending the full length of the flange 9 and, in cross sectional shape, being preferably struck in the arc of a circle to afford the requisite bearing or fulcrum pivotally mounted clamping section 11. The flange 9 has an extension 12 pointing downwardly and inwardly in relation to the section 1.

The upper part of the section 11 is of compound curve shape in cross section, its upper part 11′ being adapted to bear against the pane or glass 6 and by reason of the curvature at 12, there is no tendency to chip or crack the pane 6 even though the pressure exerted by the section 11 on the pane is very considerable. Furthermore, the curvature at 11′ enables the section 11 to be adjusted tightly against the pane 6, in the manner hereinafter set forth, with a more or less wedging action, without injury to the pane.

The section 11 is rounded throughout its length as shown at 13, this part being cross sectionally of substantially the same curvature as the seat or fulcrum 10, in which it rests and on which it is adapted to turn or fulcrum with a knuckle-like action. The section 11 has a bent part 14 throughout its length which is substantially U-shape in cross section, being adapted to receive the flange 9 when the sections are assembled. The part 12 of the flange 9 fits the U-shaped part 14 in such manner that the section 11 is guided in its movement when it is being adjusted and is kept on its seat 10. Furthermore, the provision of the parts 12 and 13 enables the section 11 to be readily inserted in the section 1, after the pane 6 has been seated on the cushion 9′ and then to be connected up and adjusted in a manner which will now appear.

The section 11 is provided with screw holes 15 at different points of its depending part 16.

The front 4 of the section 1 has openings 17 which are countersunk.

Screws 18 having rounded under surfaces on their heads, pass loosely through the holes 17 and are engaged with the screw threaded holes 15.

The outer part of each screw threaded opening 15 is flared so that the rounded tip of the screw 18 can readily center in the opening and easily catch the screw threads.

After the pane or glass 6 has been set on the cushion 9′, the section 11 is dropped inside of section 1 and caught on the flange 9 which enters the channel 14; thus the section 11 is easily seated on the seat 10. Due to the fact that the screws 18 can be moved about in the holes 17 and because of the flared construction of the screw threaded holes 15, the tips of the screws readily engage the screw threads of holes 15. Then, by turning the screws 18, the depending part 16 is drawn toward the front 4 and the part 11′ is drawn firmly against the pane 6; meanwhile, the rounded part 13 of the section 11 slides or rocks or fulcrums on the channeled part 10 but the section 11 cannot become unseated because the flange 12 is received in, and guided by, the channeled part 14. Thus, the section 11 is drawn with considerable tension against the pane 6 and the latter is clamped between said section and the wall 5 of the section 1.

It is to be understood that the construction described may be used as a sash for a window, or as a store front construction, the latter being illustrated. Holes 19 are provided at any suitable points in either the rear wall or the bottom of the section 1 to receive screws 20 for fastening the molding to the ordinary wood stop 21 of the store front. Such holes and screws are necessary when used as a sash in store front construction.

In Fig. 4 the manner of fulcruming the

section 11 is modified. The section 1 is a flange 9 provided with a turned end 12′ which is received in a channeled part 14′ of the section 11. The rounded part 13′ of the section 11 is adapted to bear against the top of flange 9. Screws 18 are provided. The upper part of the section 11, where it is adapted to bear on the pane 6 is rounded and bent downwardly at 11″ instead of upwardly and outwardly.

That embodiment of the invention disclosed in Figs. 5 to 8, inclusive, employs section 1 and section 11, also screws 18, but the manner in which the section 11 is fulcrumed is modified and a clip plate 22 is employed.

The section 11 is provided with a flange 11‴ which bears on the pane 6 and, at its lower end, it has a channeled part 14″ which engages the flange 9″ of section 1, the joint thus provided constituting a fulcrum by which the section 11 is enabled to be rocked on section 1.

The clip plate 22 has screw threaded, countersunk openings 15′ to receive the screws 18. Said clip plate bears against the channeled part 14″ and holds it in engagement with the flange 9″. The upper end of the clip plate 22 is engaged with the flange 11‴. It will be observed that by tightening the screws 18, the clip plate is forced against the flange 11‴ and drawn against the channeled part 14″.

In each of the forms of the invention described and illustrated, the section 11 is fulcrumed on the section 1 and screw means is employed to adjust the section 11 on its fulcrum, beside which there is an interlocked relationship existing between the sections 1 and 11 so that the section 11 cannot work off of its fulcrum.

I claim:

1. In a sash or store front construction, the combination with a pane-receiving section having a front part provided with an inwardly projecting flange, of a pane-clamping section having a rebent part which receives the said flange and is fulcrumed thereon, guided thereby, and interlocked therewith, and means for adjusting said clamping section on its fulcrum to tension it against the pane.

2. In a sash or store front construction, the combination with a pane-receiving section having a front part provided with an inwardly projecting flange whose upper surface is provided with a rounded groove or channel, of a pane-clamping section having a rounded part seated on the said grooved surface of the pane-receiving section in a knuckle-like fulcrumed manner, and means for adjusting said clamping section to tension it against the pane.

3. In a sash or store front construction, the combination with a pane-receiving section having a front part, of a clamping section having a knuckle-joint engagement with said front part, means cooperating with the said front part to prevent disengagement of said knuckle joint, and means for rocking said clamping section on said knuckle joint as a fulcrum to tension said section against the pane.

4. In a sash or store front construction, the combination with a pane-receiving section having a front part provided with an inwardly projecting flange whose upper surface is grooved or channeled, of a pane-clamping section having a rounded part seated on the upper grooved surface of the pane-receiving section, and also provided with a part which underlies the flange aforesaid, whereby the clamping section is both fulcrumed on, and interlocked with, the front part of the pane-receiving section, and adjusting screws passing through the front part and engaged with the clamping section which serve to tension it against the pane.

In testimony whereof I affix my signature.

ARCHIBALD H. DAVIS.