

March 24, 1931.

F. J. PLYM

1,797,925

STORE FRONT CONSTRUCTION

Filed May 31, 1929

3 Sheets-Sheet 1

Fig. 1.

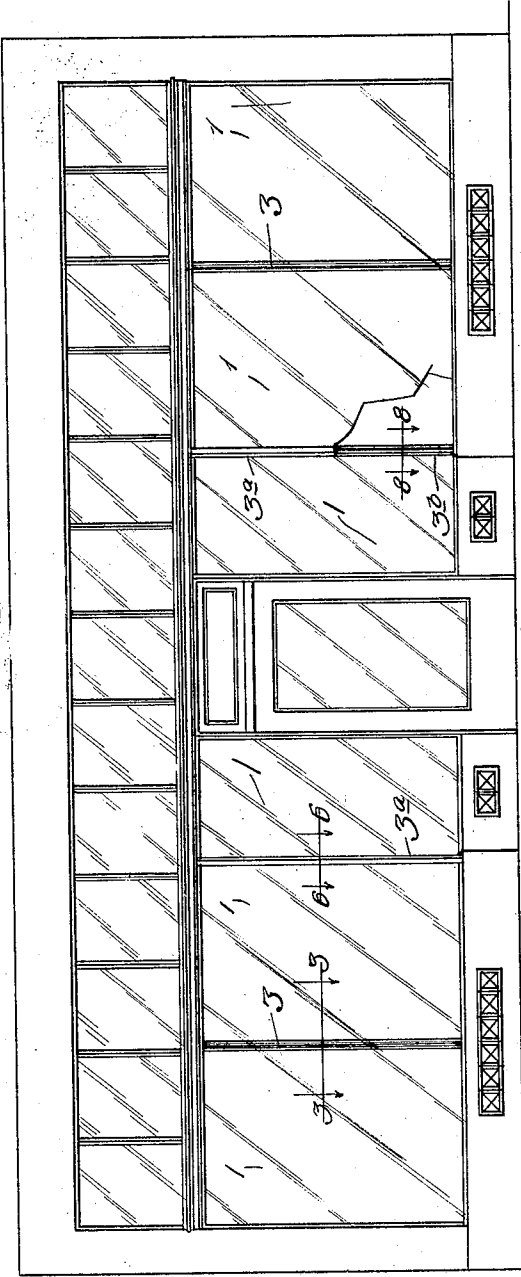
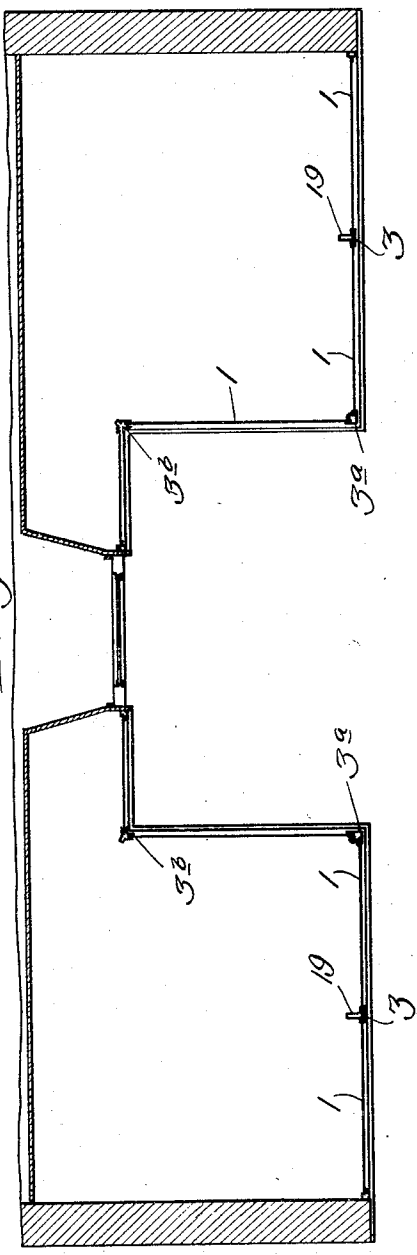


Fig. 2.



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Fig. 3.

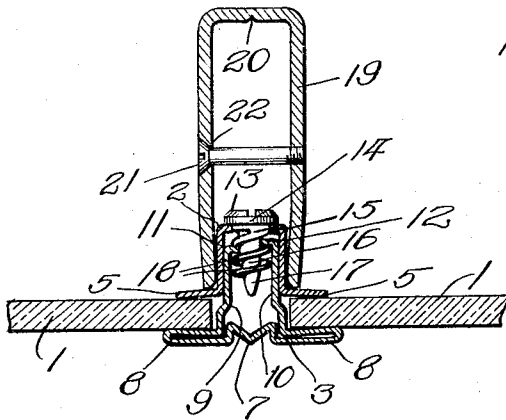


Fig. 4.

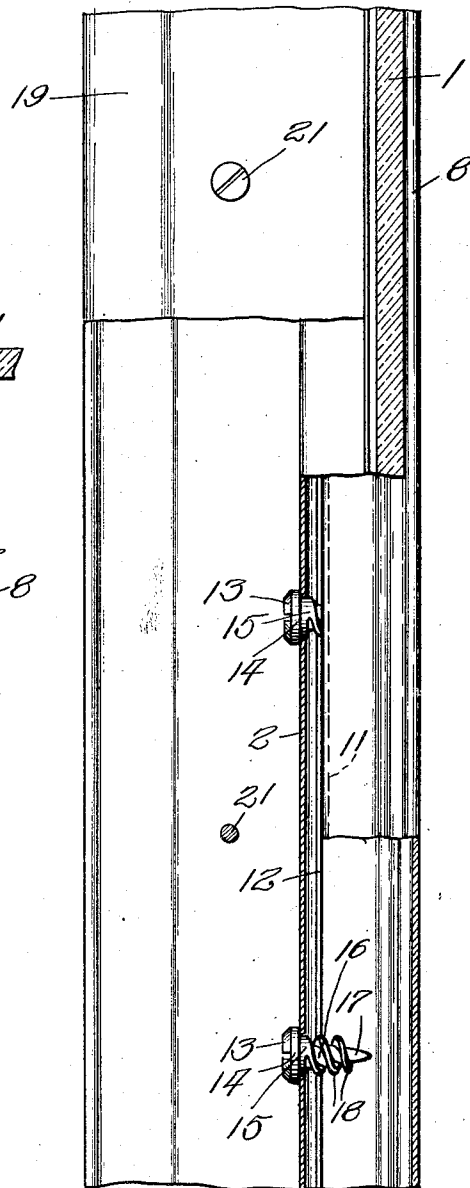
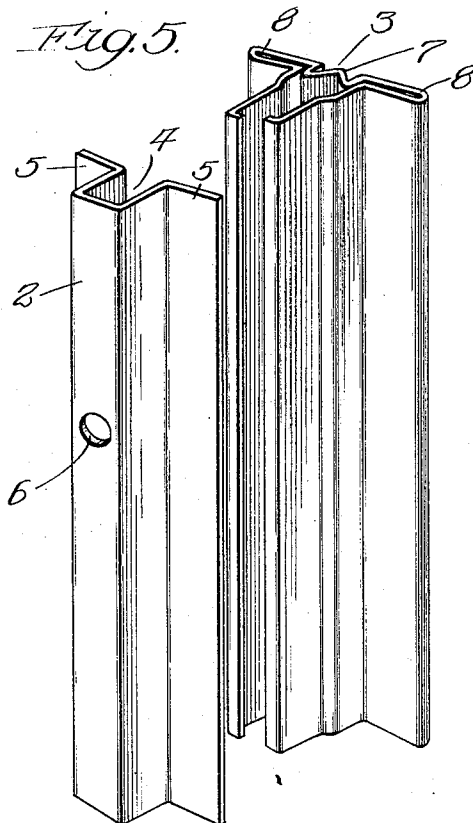


Fig. 5.



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Fig. 6.

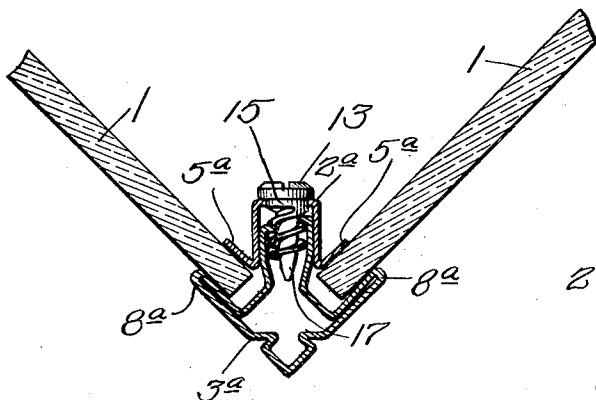


Fig. 7.

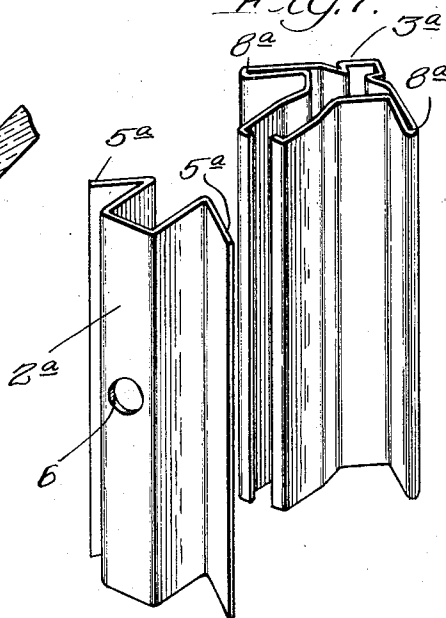


Fig. 8.

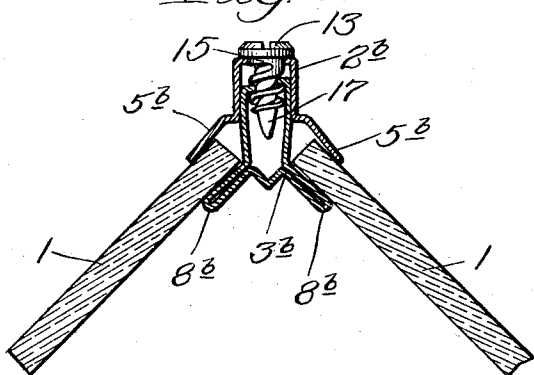
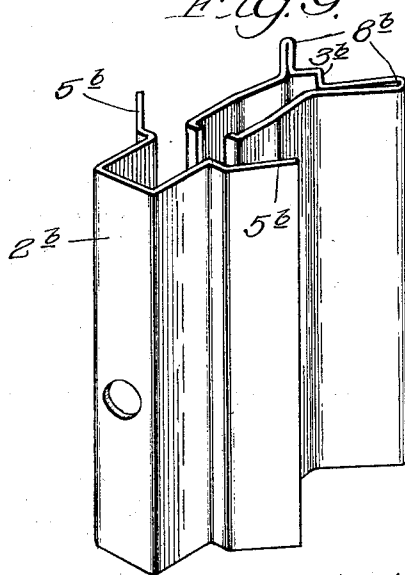


Fig. 9.



Invention
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UNITED STATES PATENT OFFICE

FRANCIS J. PLYM, OF NILES, MICHIGAN, ASSIGNOR TO THE KAWNEER COMPANY, OF
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STORE-FRONT CONSTRUCTION

Application filed May 31, 1929. Serial No. 387,180.

This invention relates to store front constructions, and more particularly of retaining means for accommodating a plurality of panes of glass, such retaining means comprising division bars, corner bars, and reverse bars.

Among the objects of my invention are to provide a novel construction of bar adapted to accommodate and retain a plurality of panes of glass, the edges of the glass being held between resilient flanges on the inner and outer retaining members.

A further object is to provide a novel construction of glass setting or retaining members, which construction eliminates the necessity of matching screw holes, thus eliminating considerable time and energy in the setting of the construction, the inner and outer plates or members being readily adjustable and easily shifted.

A still further object of the invention is to provide a novel attaching means for attaching and adjusting the inner and outer members, such means comprising a helical screw or grooved member provided with a slotted head, a shoulder seating in openings in the inner member, spaced threads for intercepting therebetween ribs on the outer retaining member, and a tip or projecting point providing a directing or guiding means for the screw or grooved member, such tip or projecting point being adapted to ride over the ribs and direct the screw threads into engagement with the ribs. The entire adjustment of this member is from the inside of the store front construction.

Another object of the invention is to provide a retaining means for a plurality of panes of glass, such retaining means being adapted to intercept adjacent panes, whether they be set at an angle, or in direct alignment.

Still another object of the invention is to provide a novel construction of stiffener adapted to seat on the inner retaining member. This stiffener is adapted to prevent the spreading of the sides of the inner member, and also cover and protect the attaching means.

Other objects are to provide a construction

of maximum simplicity, efficiency, economy, and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear, and are inherently possessed thereby.

My invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while I have shown therein a preferred embodiment, I desire it to be understood that the same is susceptible of modification and change, without departing from the spirit of my invention.

In the drawings:

Fig. 1 is a view in front elevation of an entire store front provided with the novel construction of glass retaining means.

Fig. 2 is a view in horizontal cross section taken through the entire store front.

Fig. 3 is a view in horizontal cross section taken on the line 3—3 of Fig. 1, this construction disclosing the form the retaining members may assume for engaging adjacent panes of glass which are in direct alignment.

Fig. 4 is a fragmentary view in side elevation of the construction disclosed in Fig. 3, with parts of the stiffener, glass and retaining members broken away to more clearly disclose the inner construction and the attaching screws.

Fig. 5 is a view in perspective of the inner and outer glass retaining members.

Fig. 6 is a view in vertical cross section taken on the line 6—6 of Fig. 1, and disclosing the form of the construction, when the panes are at an angle, this construction being designated as corner bars.

Fig. 7 is a view in perspective of the construction disclosed in Fig. 6.

Fig. 8 is a view in horizontal cross section taken on the line 8—8 of Fig. 1, and disclosing a reverse bar.

Fig. 9 is a view in perspective of the inner and outer retaining members of the construction disclosed in Fig. 8.

Referring more particularly to the drawings, and with special reference to Figures 3, 4 and 5, in which I disclose my novel store front construction as applied to divi-

sion bars or for bars holding adjacent panes of glass which are in alignment, the numeral 1 refers to panes of glass which are adapted to be held yieldably, but firmly in position by means of an inner pane seating or retaining member 2 and an outer pane seating or retaining member 3. The inner retaining member is channel-shaped, and is provided with a longitudinally extending groove 4 and outwardly flaring flanges or side portions 5. Openings 6 in the channel of the inner retaining member are suitably spaced for the reception of attaching means, the construction of which will be explained more in detail later.

The outer retaining member or pane seating section comprises a sheet of metal of suitable gauge, bent to form a face plate 7, doubled-back portions or flanges 8 against which the edges of the pane of glass are seated, and inwardly extending legs 9 and 10, the inwardly extending leg or projection 9 being provided with a rib 11, while the leg or projection 10 is provided with a rib 12, these ribs being shown as suitably offset.

The means for attaching or of connecting the inner and outer retaining members for seating panes of glass therebetween, comprises helically grooved members or screws 13. These screws or members are shown as provided with a head 14, shoulder 15, shank 16 provided with a tapered tip or projecting point 17, and helical threads 18. The threads are suitably spaced apart, in order to intercept between adjacent threads, the ribs 11 and 12 of the projecting legs on the outer retaining member. The shoulder 15 of the screws or grooved members, is adapted to seat snugly within the opening 6 in the channel of the inner retaining members, while the tip 17 is adapted to engage the ribs 11 and 12 for directing the screw threads into engagement with the threads. The construction of the outer retaining member provides a longitudinally extending slot between the ribs 11 and 12, and eliminates all necessity of matching screw holes in the inner and outer retaining members. The threads 18 of the screw members are of substantially equal diameter, these threads thus contacting with the inner side walls of the legs 9 and 10, preventing collapse thereof.

In order to prevent any disengagement of, or loosening of the inner retaining member after the same has been set, I may provide stiffeners 19. These stiffener members project over the channel portion of the inner retaining member, and seat against the side portions and the flanges 5 thereof. In order to allow sufficient resiliency in the legs of the stiffener, I provide a V-shaped groove 20. Screws, bolts or other suitable means 21 are adapted to draw the opposite sides or legs of the stiffener into seating engagement, the one side of the stiffener being provided with

counter-sunk openings 22 for receiving the head of the attaching means, while the opposite side is threaded for receiving the threads of the screws, bolts or the like. The stiffeners also prevent injury or tampering with the attaching means 13 for holding the inner and outer retaining members in position.

In Figs. 6 and 7 is disclosed a construction of corner bars in which the flanges or glass contacting portions 5^a of the inner glass retaining member 2^a and the flanges or glass contacting portions 8^a of the outer retaining member, are bent inwardly or rearwardly to hold therebetween panes 1 which are set at an angle to one another.

In Figs. 8 and 9, I disclosed the novel store front construction in the form of a reverse bar. In this construction, the flanges 5^b of the inner glass retaining member 2^b, and the flanges or glass contacting portions 8^b of the outer glass retaining member 3^b are bent outwardly or forwardly for joining two plates of glass that meet on an angle reverse from the corner bar disclosed in Figs. 6 and 7. It is to be understood that the principle involved in the constructions disclosed in Figs. 6 to 9 inclusive, is the same as disclosed in Figs. 3, 4 and 5, the only difference being in the angle of the glass engaging flanges.

Although I have shown no stiffener in the construction disclosed in Figures 6 and 8, it is to be understood that such member may be attached thereto, if so desired.

The construction disclosed in the drawings provides a glass retaining means which will firmly hold the panes of glass in position, but which construction is sufficiently yieldable to allow for the expansion and contraction of the glass. The inner and outer glass retaining members hold the glass with an amount of pressure sufficient to hold the same in position when subjected to vibration or pressure from external sources, yet such setting is sufficiently resilient or yielding to prevent any cracking or splitting of the glass when it is subjected to such vibration or pressure.

While I have shown and described the invention as applied to a store front construction, it is of course, obvious that it may be utilized in various forms of construction for securing the edge or edges of glass in position.

Having thus disclosed my invention, I claim:

1. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold the edges of a pair of window panes therebetween, and a helically grooved member in one of said members and adapted to engage the other of said retaining members for drawing said retaining members into holding position.

2. In a store front construction, the com-

bination of an inner and an outer glass retaining member adapted to hold the edges of a pair of window panes therebetween, one of said members being provided with a rib, and
 5 a helically grooved member in the other of said retaining members and adapted to engage said rib for drawing said members into engagement with said panes.

3. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold the edges of a pair of window panes therebetween, one of said members being provided with a rib, and a screw member in the other of said retaining members and adapted to engage said
 10 rib for drawing said members into engagement with said panes.

4. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold the edges of a pair of window panes therebetween, one of said members being provided with a rib, and a screw provided with spaced threads in the other of said retaining members and adapted
 20 to engage said rib for drawing said members into engagement with said panes, said rib being intercepted between adjacent threads of said screw.

5. In a store front construction, the combination of an inner and an outer glass retaining member provided with glass engaging flanges for mounting adjacent panes of glass, helically grooved members positioned in spaced openings in one of said members, and a longitudinally extending rib on the
 30 other of said retaining members, said grooved members being adapted to engage said rib for drawing said rib and retaining member into position where the flanges of said retaining members contact with the edges of said glass for holding the same in position.

6. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold the edges of adjacent panes therebetween, a rib on one of said members, and means on the other of said members adapted to engage said rib for drawing said members into engagement
 45 with said panes.

7. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold an edge of adjacent panes therebetween, a pair of ribs on one of said members, and means on the
 50 other of said members adapted to engage said ribs for drawing said members into engagement with said panes.

8. In a store front construction, the combination of an inner and an outer glass retaining member adapted to hold an edge of adjacent panes therebetween, a pair of offset ribs on one of said members, and means on the other of said members adapted to engage said ribs for drawing said members into
 60 engagement with said panes.

9. In a store front construction, the combination of an inner pane seating section provided with a pair of glass engaging flanges, an outer pane seating section also provided with a pair of glass engaging flanges, a rib
 70 portion on said outer section, and means passing through said inner section and adapted to engage a portion of said outer section for drawing said sections into holding engagement with adjacent panes of glass.

10. In a store front construction, the combination of an inner pane seating section provided with a pair of glass engaging flanges, an outer pane seating section also provided with a pair of glass engaging flanges, a rib
 80 portion on said outer section, and a helically grooved member passing through said inner section and adapted to engage a portion of said outer section for drawing said sections into holding engagement with adjacent panes
 85 of glass.

11. In a store front construction, a pair of glass retaining members adapted to clamp adjacent panes of glass therebetween, one of said members being provided with a longitudinally extending slot, and means in the other of said members adapted to seat in said slot and to engage a portion of said first mentioned member for holding said glass in position.
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12. In a store front construction, a pair of glass retaining members adapted to clamp adjacent panes of glass therebetween, one of said members being provided with a longitudinally extending slot, and a helically
 100 grooved member in the other of said retaining members adapted to seat in said slot and to engage a portion of said first mentioned member for holding said glass in position.
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13. In a store front construction, the combination of a pair of glass retaining members, one of said members being provided with a longitudinally extending groove and side flanges for engagement with adjacent
 110 panes of glass, the other of said members being provided with glass engaging flanges and inwardly extending portions adapted to seat in said groove, and means on one of said members adapted to engage said inwardly
 115 extending portions for drawing said retaining members into holding engagement with said panes.

14. In a store front construction, the combination of a pair of glass retaining members, one of said members being provided with a longitudinally extending groove and side flanges for engagement with adjacent panes
 120 of glass, the other of said members being provided with glass engaging flanges and inwardly extending portions provided with a rib, said portions being adapted to seat in said groove, and means extending into said groove and adapted to engage one of said
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ribs for drawing said members into glass seating engagement.

15. In a store front construction, the combination of a pair of glass retaining members, one of said members being provided with a longitudinally extending groove and side flanges for engagement with adjacent panes of glass, the other of said members being provided with glass engaging flanges and inwardly extending portions provided with a rib, said portions being adapted to seat in said groove, and a helically grooved member adapted to engage one of said ribs for drawing said members into glass seating engagement.

16. In a store front construction, the combination of a pair of glass retaining members, one of said members being provided with a longitudinally extending groove and side flanges for engagement with adjacent panes of glass, the other of said members being provided with glass engaging flanges and inwardly extending portions provided with a rib, said portions being adapted to seat in said groove, and a screw provided with spaced threads adapted to engage said ribs for drawing said members into glass seating engagement.

17. In a store front construction, the combination of a pair of glass retaining members, one of said members being provided with a longitudinally extending groove and side flanges for engagement with adjacent panes of glass, the other of said members being provided with glass engaging flanges and inwardly extending portions provided with a rib, said portions being adapted to seat in said groove, and a screw member provided with spaced threads and a projecting point, said point being adapted to ride over the edge of said ribs and the threads being adapted to intercept said ribs for drawing said members into glass seating engagement.

18. In a store front construction, the combination of an inner and an outer glass retaining member, attaching means in said inner member for drawing said members into glass seating engagement, and a stiffener adapted to seat on said inner member and cover said attaching means.

In witness whereof, I hereunto subscribe my name to this specification.

FRANCIS J. PLYM.

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