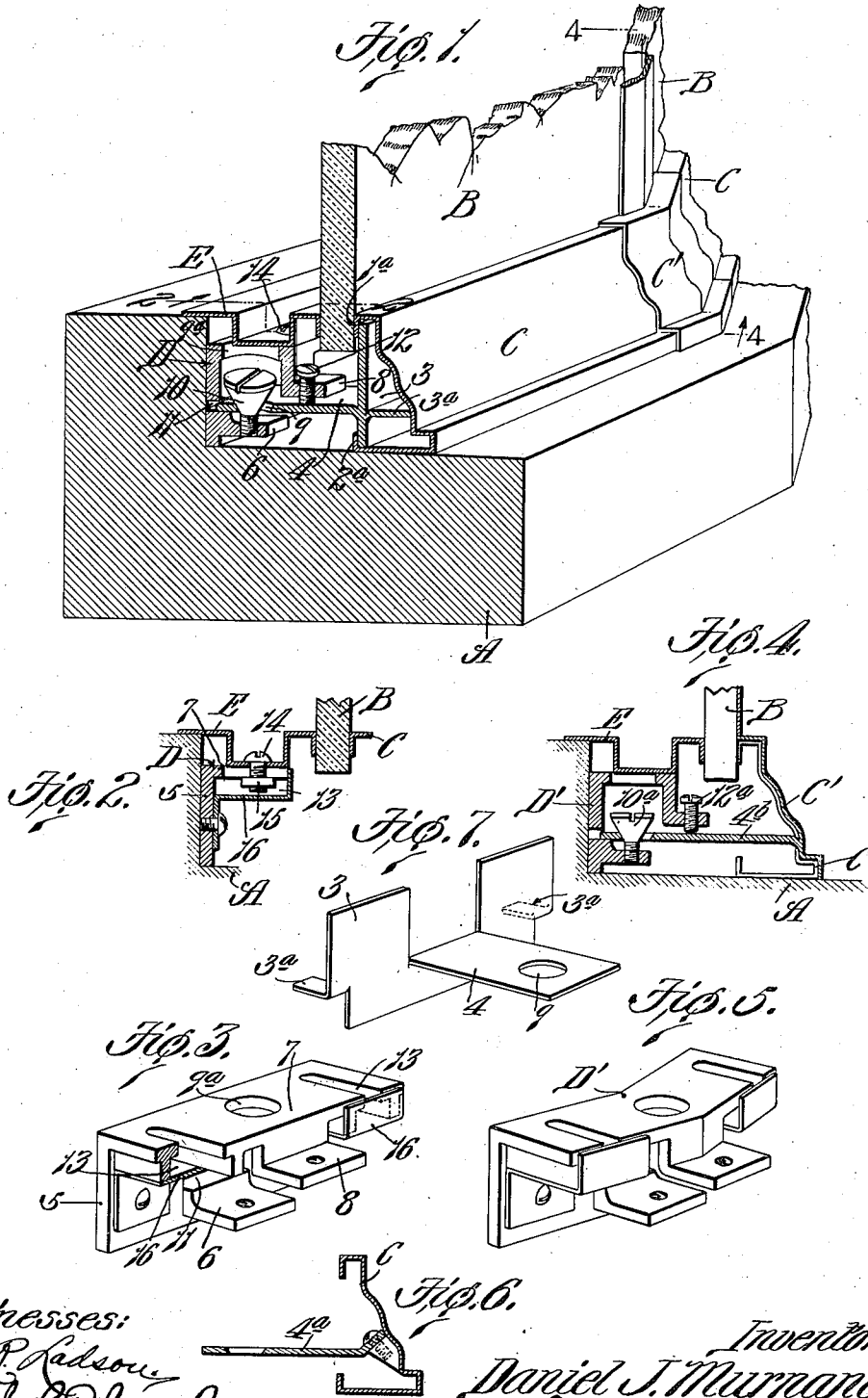


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SHOW WINDOW STRUCTURE.  
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1,008,983.

Patented Nov. 14, 1911.



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# UNITED STATES PATENT OFFICE.

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## SHOW-WINDOW STRUCTURE.

1,008,983.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed July 22, 1910. Serial No. 573,249.

*To all whom it may concern:*

Be it known that I, DANIEL J. MURNANE, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Show-Window Structures, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to store-fronts, show-windows and similar structures which comprise clamping members that bear against the outer face of a plate of glass and also against the stationary frame in which the glass is arranged for retaining the glass in position.

One object of my present invention is to provide means of novel construction for holding the outside clamping member tightly against the glass and against the stationary frame in which the glass is arranged.

Another object is to provide a glass-retaining means of novel construction that exerts an even clamping pressure on the glass and which can be set up easily and without liability of cracking or breaking the glass.

Another object is to provide a novel support for the inside clamping member which bears against the inner face of the glass, said support being so designed that the inside clamping member can be adjusted to accommodate glass of different thickness. And still another object is to provide a glass-retaining means comprising an outside clamping member, an arm projecting inwardly from said member beyond the edge of the glass, and a plurality of adjustable devices coöperating with said arm for exerting pressure on said clamping member in two different directions.

Other objects and desirable features of my invention will hereinafter be pointed out.

45 Figure 1 of the drawings is a perspective view illustrating my present invention; Fig. 2 is a vertical sectional view taken on approximately the line 2—2 of Fig. 1; Fig. 3 is a perspective view of one of the supporting members arranged on the inside of the window opening for supporting the inside clamping member and also the devices which draw the outside clamping member into operative position; Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 1 illustrating one of the caps that are ar-

50 ranged over the joints between the ends of the outside clamping members; Fig. 5 is a perspective view of the inside supporting member that carries the devices which draw said cap into engagement with the outside glass-clamping member; Fig. 6 is a detail sectional view of an outside glass-clamping member provided with an inwardly projecting arm which is adapted to be engaged by the devices that draw said member into operative position; and Fig. 7 is a perspective view of a pressed metal key.

Referring to the drawings which illustrate the preferred form of my invention, 70 A designates the sill or lower cross-piece of a stationary frame in which plates of glass B are arranged, said plates being supported by blocks or other suitable devices, not shown, such as are generally used for this purpose. Outside clamping members C are arranged in engagement with the outer face of the glass and with the stationary frame A for retaining the glass in position, and caps or covers C' are arranged over the joints formed between the ends of said outside clamping members C. The outside clamping members C may be of any preferred shape or design but I prefer to use pieces of molding provided with vertically disposed flanges 1<sup>a</sup> and 2<sup>a</sup> that project inwardly toward each other, as shown in Fig. 1, so as to form lugs or stops which coöperate with keys 3 that are arranged inside of the molding as shown in Fig. 1. 90 The caps C' can either be formed from cast metal, pressed or drawn sheet metal, or they can be formed by two pieces of molding mitered together. The keys 3 are provided with arms 4 which project inwardly beyond the glass, and means is arranged on the inside of the opening which the glass closes for coöperating with said arms to exert pressure on the outside clamping members in two different directions, namely, inwardly against the glass and downwardly against the stationary frame A. While I have herein used the terms "inwardly" and "downwardly" to indicate the direction in which the outside clamping member is moved, it will, of course, be understood that the clamping member which is arranged at the upper edge of the glass will be drawn inwardly and upwardly, and the clamping members which are arranged at the side edges of the glass will be drawn inwardly and sidewise. Therefore, I do not wish it

to be understood that my invention is limited to a structure in which the outside clamping member rests upon the sill or cross-piece of the stationary frame in which the glass is arranged.

The means which coöperates with the arms 4 on the keys 3 to draw the outside clamping member inwardly and downwardly consists of a plurality of adjustable devices coöperating with each arm and mounted in a stationary member D that is arranged on the inside of the glass adjacent the lower edge of the same. These supporting members D which are preferably formed of cast metal are spaced certain distances from each other and are securely connected to the stationary frame A. Each of said members D is provided with a vertical wall 5 through which fastening devices pass to connect it to the frame A, a lug 6 that projects forwardly from said vertical wall, a horizontally disposed flange 7 projecting forwardly from the upper edge of said vertical wall, and a lug 8 carried by said flange and arranged in alinement with the lug 6. The arm 4 on the key rests on the lug 6, and said arm is provided with an opening 9 which receives a tapered head on an adjusting device 10 that is mounted in a screw-threaded opening in the lug 6. Said tapered head is provided with a slot, as shown in Fig. 1, for receiving a screw-driver or other suitable tool for turning said device, and an opening 9<sup>a</sup> is formed in the horizontal flange of the member D in alinement with the device 10 so as to enable it to be gotten at easily. When the device 10 is screwed downwardly the tapered head thereon will bear against the wall of the opening 9 in the arm 4 on the key 3 and thus operate to draw the outside clamping member C inwardly into intimate engagement with the outside face of the glass, the vertical wall 5 of the supporting member D being provided with a slot 11 through which the inner end of the arm 4 can pass. Means separate and distinct from the device 10 is provided for exerting downward pressure on the outside clamping member C so as to force it tightly against the frame A, and in the embodiment of my invention herein shown said means consists of a screw 12 mounted in the lug 8 on the member D and adapted to be forced downwardly into engagement with the inwardly projecting arm on the key 3, the lug 8 being so arranged that the screw 12 will bear upon the arm 4 at a point intermediate the key 3 and the inner end of said arm. While I prefer to use the keys 3 for drawing the outside clamping members into operative position, I do not wish it to be understood that my invention is limited to a structure in which keys are used for, if desired, the outside clamping member could be provided with inwardly projecting arms

4<sup>a</sup>, as shown in Fig. 6, for coöperating with the devices 10 and 12 carried by the supporting members D. The caps C' which are arranged over the joints between the ends of the outside-clamping members are provided with inwardly projecting arms 4<sup>b</sup> which coöperate with devices 10<sup>a</sup> and 12<sup>a</sup> carried by stationary supporting members D', the tightening of said fastening devices operating to draw the caps inwardly and also downwardly and thus hold them tightly against the outside clamping members.

One of the advantages of a construction of the character above described is that the outside glass-clamping members exert a uniform clamping pressure on the glass and are not subjected to a direct pull when they are drawn into engagement with the glass so that there is not as great a liability of cracking or breaking the glass as there is in structures in which the clamping members are subjected to a direct pressure produced by the tightening of a bolt or screw. Another advantage of such a structure is that the outside clamping members are forced tightly against the glass and against the stationary frame in which the glass is arranged so that a tight joint is produced between said members and frame; and still another desirable feature is that the means which draws the outside clamping members into operative position and holds them in position is completely hidden from view. The inside glass-clamping member E which is arranged in engagement with the inner face of the glass rests upon the horizontally disposed flanges 7 of the stationary supporting members D, said members being so constructed that the inside clamping member E can be adjusted so as to accommodate plates of glass of different thickness. As shown in Fig. 3, the horizontal flange 7 of the member D is provided with inverted T-shaped slots 13 which receive bolts 14 that project downwardly through openings in the inside clamping member E and having nuts 15 mounted on the lower ends thereof, said nuts lying in the wide portions of the slots 13. The side walls of the wide portions of said slots prevent the nuts 15 from turning so that the inside clamping member E can be securely clamped to the supporting members D by inserting a screw-driver in the slotted heads of the bolts and turning same, the slots 13 being long enough to permit the bolts to move longitudinally thereof so as to provide for thick or thin plates of glass. If desired, the members D can be provided with cover plates 16 which extend over the bottoms and front ends of the slots 13 so as to prevent displacement of the bolts 14 and the nuts thereon.

Each of the keys 3 which are arranged inside of the outside clamping member C is preferably provided with one or more for-

wardly projecting legs 3<sup>a</sup> that bear against the inside of said member C and thus hold the key in an upright or substantially vertical position and prevent it from tilting after it has been inserted in the member C. Said legs can be connected to the key in any suitable manner or, if desired, the key can be formed from a single piece of sheet metal pressed or drawn into the proper shape, as shown in Fig. 7, the legs 3<sup>a</sup> and arm 4 being integrally connected to the body portion of the key.

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

1. In a structure of the character described, an outside clamping member, an arm arranged on the inner side of said member and projecting inwardly beyond same, means cooperating with said arm to draw said clamping member inwardly, and independent means cooperating with said arm for exerting pressure on said clamping member in a different direction.

2. In a structure of the character described, an outside clamping member, an arm arranged on the inner side of said member and projecting inwardly beyond same, and a plurality of independently adjustable devices cooperating with said arm for exerting pressure on said clamping member in two different directions.

3. In a structure of the character described, an outside glass-clamping member, an arm arranged on the inner side of said member and projecting inwardly beyond the same, means cooperating with said arm for drawing the clamping member inwardly into engagement with the glass, and independent means cooperating with said arm for moving said clamping member into intimate engagement with the stationary frame in which the glass is arranged.

4. In a structure of the character described, an outside clamping member, a part projecting inwardly from said member, and a plurality of adjustable devices cooperating with said part for exerting pressure on said clamping member in a plurality of different directions.

5. A glass-retaining means comprising an outside clamping member, an arm that projects inwardly from said member beyond the glass, and a plurality of independently adjustable devices arranged on the inside of the opening which the glass closes that cooperate with said arm to move the clamping member in two different directions.

6. A plate-retaining means, comprising a clamping member arranged in engagement with said plate, means arranged on the opposite side of said plate for drawing said member into engagement with the plate, and independent means also arranged on the opposite side of said plate for forcing said

clamping member tightly against the frame or supporting structure in which the plate is arranged.

7. In a window structure, an outside clamping member arranged on one side of the glass, a stationary member arranged on the opposite side of the glass, a part projecting from said clamping member toward said stationary member, and a plurality of independently adjustable devices carried by said stationary member and cooperating with said part for exerting pressure on said clamping member in different directions.

8. In a window structure, an outside clamping member, a stationary member arranged on the inside of the window opening, an arm projecting inwardly from said clamping member and resting on said stationary member, and a plurality of adjustable devices mounted in said stationary member and cooperating with said arm for moving said clamping member in two different directions.

9. In a structure of the character described, an outside clamping member, a member projecting inwardly from said clamping member beyond the object which the clamping member retains in position, a stationary member on which said arm bears, an adjustable device carried by said stationary member and cooperating with said arm to draw said clamping member into engagement with the object which it retains in position, and an independent adjustable device mounted in said stationary member and adapted to engage said arm so as to exert pressure on said clamping member in a different direction.

10. In a window structure, an outside clamping member, a key arranged in engagement with said member and provided with an arm that projects inwardly beyond the glass, and a plurality of independently adjustable devices cooperating with said arm for causing said key to exert pressure on said outside clamping member in two different directions.

11. In a window structure, an outside clamping member, an arm arranged on the inner side of said member and projecting inwardly beyond the glass, a stationary member arranged on the inside of the opening which the glass closes, an adjustable device carried by said member and having an inclined surface that engages said arm and thus moves the clamping member in one direction, and an independent adjustable device on said member that engages said arm and thus moves the outside clamping member in a different direction.

12. In a window structure, an outside clamping member, an arm projecting inwardly from said clamping member beyond the glass, a stationary member on which the inner end of said arm bears, said arm being

provided with an opening, an adjustable device mounted on said member and having a tapered head which passes through said opening so as to draw the outside clamping member inwardly, and an adjustable device mounted on said stationary member and adapted to be forced into engagement with said arm so as to hold the clamping member tightly against the frame or supporting structure in which the glass is arranged.

13. In a structure of the character described, outside glass-clamping members, a cap arranged over the joint between said members, an arm projecting inwardly from said cap beyond the glass which said clamping members retain in position, and a plurality of adjustable devices arranged on the inside of the opening which the glass closes and cooperating with said arm for exerting pressure on said cap in two different directions.

14. In a window structure, a stationary supporting member arranged on the inside of the glass and provided with an inverted approximately T-shaped slot, an inside glass-clamping member carried by said supporting member, and a bolt for connecting said inside clamping member and supporting member together, the nut of said bolt being arranged in the wide portion of said slot and the shank of the bolt being arranged in the narrow portion of said slot.

15. In a structure of the character described, an outside glass-clamping member, an inside glass-clamping member, a stationary support on which said inside glass-clamping member rests, a bolt for securing said inside clamping member to said supporting member, said supporting member being provided with an inverted approximately T-shaped slot for receiving said bolt, an arm projecting inwardly from said outside clamping member and resting on said stationary supporting member, and means cooperating with said arm for retaining said outside clamping member in position.

16. In a window structure, a stationary member arranged on the inside of the glass and provided with angularly-disposed portions, one of which is provided with an inverted approximately T-shaped slot, an inside clamping member resting on the slotted portion of said stationary member, a bolt arranged in said slot for retaining said inside clamping member in position, and a cover that extends over said slot and thus prevents displacement of the bolt.

17. In a window structure, an outside clamping member, an arm projecting inwardly from said clamping member, a stationary member arranged on the inside of the glass and provided with a slot for receiving the inner end of said arm, a lug arranged below said slot, an adjustable device mounted in said lug and provided with a tapered head which passes through an opening in said arm, a separate lug on said member arranged above said arm, and an adjustable device mounted in said last-named lug and adapted to be forced into engagement with said arm.

18. In a structure of the character described, a substantially hollow outside clamping member, a key arranged within said member and having portions which bear upon or engage said member at two points, an independent laterally projecting portion on said key which engages said clamping member and prevents said key from tilting or moving out of operative position with relation to said clamping member, and means for causing said key to draw said clamping member into engagement with the object which it retains in position.

19. In a structure of the character described, an approximately hollow outside clamping member provided with shoulders, a key arranged within said member in engagement with the inside faces of said shoulders and provided with a laterally projecting leg that bears against the inside surface of said member and thus prevents said key from tilting, and means for causing said key to hold said outside clamping member in operative position.

20. In a structure of the character described, an outside clamping molding provided with flanges or shoulders, a key arranged within said molding and on the inside of said flanges, a leg on one side of said key that bears against the molding and thus prevents said key from tilting, an arm projecting laterally from the other side of said key, and means cooperating with said arm for retaining the key and molding in position.

21. In a structure of the character described, a molding-retaining device consisting of a key adapted to be inserted in the molding and formed from a piece of sheet metal bent to produce a body portion having a part which projects laterally in one direction and bears against the molding and a part that projects laterally in the opposite direction and operates with a securing means.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 20 day of July 1910.

DANIEL J. MURNANE.

Witnesses:

WELLS L. CHURCH,  
GEORGE R. LADSON.