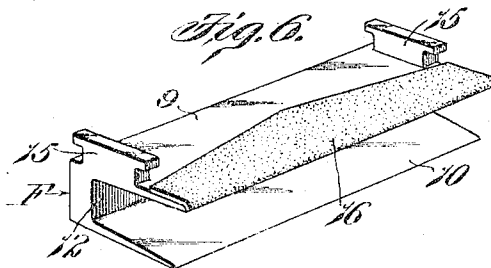
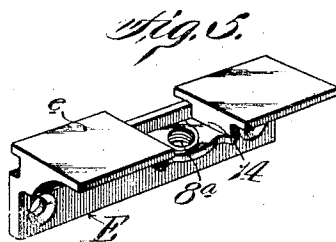
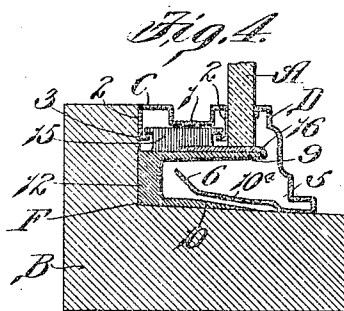
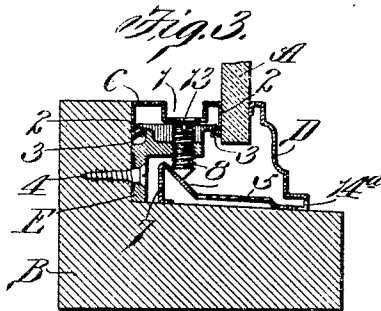
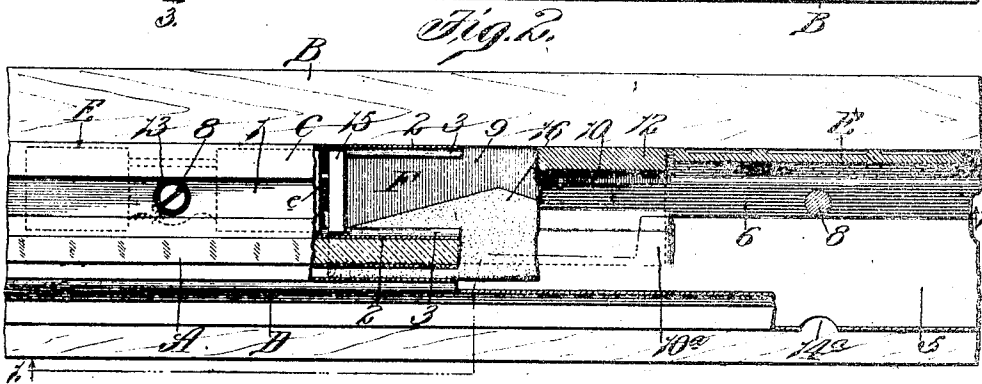
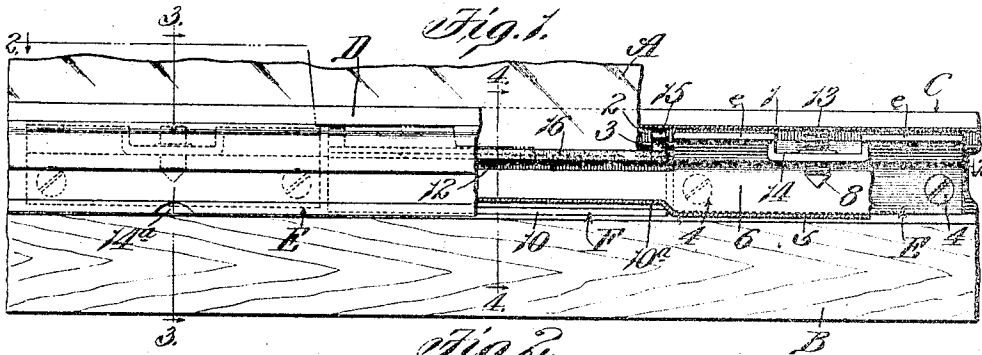


D. J. MURNANE.
WINDOW STRUCTURE.
APPLICATION FILED DEC. 18, 1911.

1,050,161.

Patented Jan. 14, 1913.



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UNITED STATES PATENT OFFICE.

DANIEL J. MURNANE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO ZOURI MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

WINDOW STRUCTURE.

1,050,161

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed December 18, 1911. Serial No. 666,504.

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 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.

This invention relates to store-fronts, show-windows and similar structures in which a plate of glass is retained in position by coöperating inside and outside clamping members that are carried by the frame in which the glass is arranged.

One object of my invention is to provide a structure of the character referred to that comprises supporting devices for the glass which are so designed that an outside clamping member provided with a continuous inwardly projecting attaching flange may be used.

Another object is to provide a structure of the character referred to in which the devices that support the lower edge of the glass are retained in position by the inside clamping member and the devices which support and carry said inside clamping member.

Another object is to provide a structure of the character referred to in which the inside clamping member, the devices which support the lower edge of the glass, and the devices that secure the inside clamping member to the stationary frame are combined as a single unit that can be installed quickly and without the necessity of fastening each glass-supporting device to the frame. And still another object is to provide an inexpensive glass-retaining means for window structures that presents a neat and ornamental appearance, and which is so designed that the water which collects on the inner side of the window will be conducted away and discharged through drain openings in the clamping member that bears against the outer face of the glass.

Figure 1 is a front elevational view partly in vertical section of a window structure embodying my invention; Fig. 2 is a top plan view partly in horizontal section of said window structure; Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1; Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 1; Fig. 5 is a

perspective view of one of the devices that support the inside clamping member and connect it to the frame in which the glass is arranged; and Fig. 6 is a perspective view of one of the devices on which the lower edge of the glass rests.

Referring to the drawings which illustrate the preferred form of my invention, A designates a plate of glass arranged in a stationary frame B, and retained in position by means of an inside clamping member C and an outside clamping member D, the inside and outside clamping members being preferably formed from sheet metal. The inside clamping member has a gutter 1, and said member is provided at its front and rear edges with depending legs 2 which have horizontally disposed flanges 3 that project inwardly toward each other, as shown in Figs. 3 and 4. Said inside clamping member is supported by a plurality of members E that are detachably connected to the stationary frame B by means of screws 4 or other suitable fastening devices, each of said members E having a head *e* that is interlocked with the depending legs and flanges on the under side of the inside clamping member C. The outside clamping member D is provided at its lower edge with a continuous inwardly projecting flange 5 which has an upwardly inclined portion 6 and a supporting leg 7 adjacent the rear edge of same. Adjustable devices 8, such, for example, as screws, are mounted in screw-threaded openings 8^a in the members E for engaging the upwardly inclined portion 6 on the inwardly projecting flange of the outside clamping member D so as to retain said outside clamping member in position. When said fastening devices 8 are screwed downwardly the lower ends of same bear upon the inclined surface or cam surface 6 on the inwardly projecting flange 5 of the outside clamping member and thus draw said clamping member inwardly into engagement with the glass and also force it downwardly into engagement with the lower sill or cross-piece of the stationary frame B on which said outside clamping member rests, the supporting leg 7 on the inner end of said flange preventing the flange from deflecting downwardly when the fastening devices 8 are forced into engagement with the inclined surface 6 on the flange.

The glass A is supported by a plurality of devices F arranged at suitable points between the members E which carry the inside clamping member. Said glass-supporting devices F are preferably formed from metal, and each device comprises two horizontally disposed portions 9 and 10 spaced away from each other, as shown in Fig. 6, and integrally connected at their rear edges to a vertically disposed web 12, thus forming a substantially U-shaped member whose legs or flanges are disposed horizontally. The portion 10 of the member F rests upon the lower sill or cross-piece of the stationary frame B, as shown in Fig. 4, and the lower edge of the glass A rests upon the top portion 9 of said member F. By forming the glass-supporting members F in this manner I am able to use an outside clamping member D provided with a continuous or unbroken inwardly projecting flange 5 which lies underneath the portions 9 of the members F on which the lower edge of the glass rests. Consequently, I obtain a stiffer or more rigid outside clamping member, and I also obtain an outside clamping member which has a continuous gutter that receives the water which drains out of the gutter 1 in the inside clamping member C, said gutter 1 being provided with drain openings 13, as shown in Fig. 2, preferably arranged in alinement with the adjustable retaining devices 8, and the heads of the members E being provided with depressed portions 14, as shown in Fig. 5, so as to permit the water to escape from the gutter 1 and flow downwardly onto the inwardly projecting flange 5 of the outside clamping member that also acts as a gutter. Drain openings 14^a are formed at suitable points in the outside clamping member D, preferably adjacent the lower edge of same, as shown in Figs. 1, 2 and 3, so as to permit the water to escape which collects on the inwardly projecting flange 5 of said outside clamping member.

To overcome the necessity of securing each glass-supporting member F to the stationary frame B so as to retain said members in adjusted position, I have provided the members F with substantially T-shaped heads 15, as shown in Figs. 4 and 6, that interlock with the depending legs and flanges 2 and 3 on the under side of the inside clamping member C. The glass-supporting members F and the members E which carry the inside clamping members C, are slipped endwise into said member, and when the structure is being installed the members E and F are arranged in proper position on the frame B and the screws 4 are thereafter inserted so as to connect the members E to the frame, thereby locking the inside clamping member C in position and also locking the glass-supporting members F in position.

The top portions 9 of the members F are preferably provided with pads 16 of any suitable material on which the lower edge of the glass rests, and the inwardly projecting flange 5 of the outside clamping member is distorted or bent upwardly slightly at suitable points, as shown at 10^a in Figs. 1 and 2, so as to form a clearance for the lower portions 10 of the members F that rest upon the lower sill or cross-piece of the stationary frame B, thus not destroying the continuity of the inwardly projecting flange 5 onto which the water drains from the gutter in the inside clamping member C. If desired, the supporting leg 7 on the rear edge of the flange 5 can be cut out or notched adjacent the distorted portions 10^a of said flange so that said leg will not bear upon the base portions 10 of the glass-supporting members F. While I prefer to provide the members F with heads 15 that are interlocked with the inside glass-clamping member, I do not wish it to be understood that my broad idea is limited to such a construction for if desired, the members F could be connected directly to the stationary frame B by means of fastening devices.

From the foregoing it will be seen that the inside clamping member, the members E which support same, and the members F on which the lower edge of the glass rests, form a single unit that can be assembled by the manufacturer and shipped to the place where they are to be installed, thus greatly simplifying the work of setting up the structure and overcoming the necessity of using separate fastening devices for securing the glass-supporting members and the inside clamping member to the stationary frame.

Another advantage of such a structure is that the outside clamping member has a continuous or unbroken inwardly projecting flange which greatly strengthens said member and acts as a continuous gutter that conducts off the water which drains out of the gutter in the inside clamping member. The simplicity of the various elements of the structure permits the structure to be manufactured and installed at a low cost; and still another desirable feature of such a structure is that it presents a very neat and ornamental appearance as no exposed fastening devices are used for retaining the inside and outside clamping members in position.

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

1. In a window structure, a stationary frame, an outside clamping member provided with a continuous inwardly projecting flange, said flange having a continuous inclined portion at the end thereof, means cooperating with said inclined portion to retain said member in position, glass-sup-

porting members supported by said frame and having portions that lie under the flange on said member, and independent portions on said glass-supporting members that lap over said flange so as to support the lower edge of the glass.

2. In a window structure, an outside clamping member provided with a continuous inwardly projecting flange, the inner end of said flange being inclined, means cooperating with said inclined end to retain said member in position, and a substantially U-shaped glass-supporting member arranged in a horizontal position so that said flange will lie between the horizontal legs thereof.

3. In a structure of the character described, a stationary frame, a plate of glass arranged in said frame, an outside clamping member arranged in engagement with the outer surface of the glass, a continuous flange projecting inwardly from said member under the edge of the glass, means arranged on the inside of the glass and cooperating with means on said flange for holding said outside clamping member in position, and means carried by said stationary frame and lapping over said flange for supporting the lower edge of the glass.

4. In a structure of the character described, a stationary frame, a plate of glass arranged in said frame, an outside glass-clamping member provided with a continuous inwardly projecting flange, said flange having an inclined inner end, means cooperating with said inclined inner end to hold said member in position, and members on said frame constructed to receive said flange and provided with portions that lap over the flange and support the lower edge of the glass.

5. In a structure of the character described, an inside glass-clamping member, independently adjustable supporting devices for said member secured to the stationary frame of the window and having portions that interlock with said member, and supporting devices for the glass provided with portions that interlock with said inside clamping member.

6. In a window structure, an inside glass-clamping member, separate supporting devices for said member having portions that interlock with said member and which permit said devices to be adjusted longitudinally of said member, an outside glass-clamping member provided with an inwardly projecting flange, and means carried by said supporting devices that cooperate with means on said flange for holding said member in position.

7. In a window structure, an inside glass-clamping member provided with flanges, and adjustable supporting devices for said member and for the glass having portions that lap over the flanges on said member, the devices which support said member being adapted to be connected to the stationary frame of the window.

8. In a window structure, an outside glass-clamping member provided with a continuous inwardly projecting flange that has an upwardly inclined surface, a supporting leg at the inner edge of said flange, adjustable devices that cooperate with said inclined surface to draw said outside clamping member inwardly toward the glass and also force it into engagement with the stationary frame of the window, and devices lapping over said continuous flange for supporting the lower edge of the glass.

9. In a window structure, an outside glass-clamping member provided with a continuous inwardly projecting flange that has an upwardly inclined surface, an inside glass-clamping member, adjustable devices that cooperate with the inclined surface on the flange of the outside clamping member to draw same inwardly toward the glass and also force it into engagement with the stationary frame of the window, and glass-supporting devices retained in position by said inside clamping member and provided with portions that lap over the flange on the outside glass-clamping member.

10. In a window structure, a stationary frame, a plate of glass arranged in said frame, approximately U-shaped metallic members arranged horizontally on the lower sill or cross-piece of said stationary frame and provided with pads on which the lower edge of the glass rests, an outside glass-clamping member provided with a continuous inwardly projecting flange that lies between the horizontal legs of said glass-supporting members, and adjustable devices cooperating with said flange to hold said outside glass-clamping member in position.

11. In a window structure, an inside glass-clamping member provided with horizontally disposed flanges, glass-supporting members arranged beneath said clamping member and provided with projections that interlock with said flanges.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this thirteenth day of December 1911.

DANIEL J. MURNANE.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.