

G. C. HESTER.
 CORNER AND DIVISION BAR:
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1,307,973.

Patented June 24, 1919.

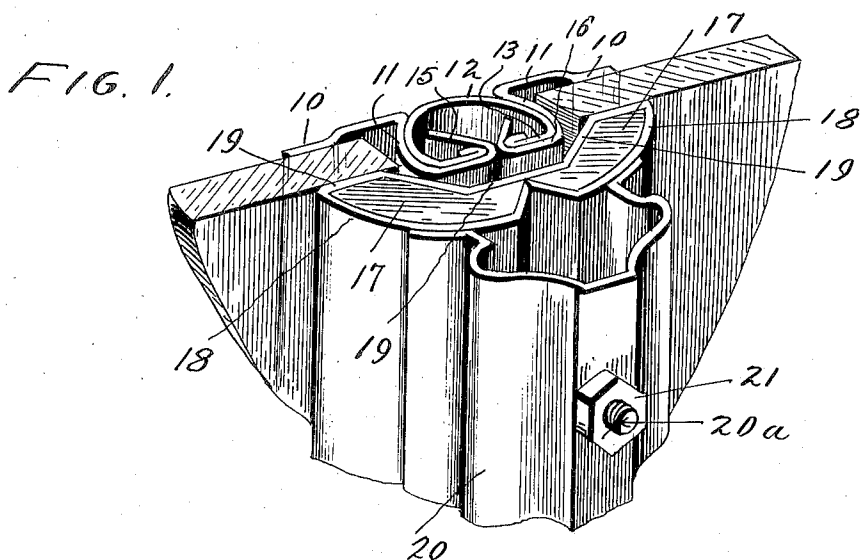


FIG. 2

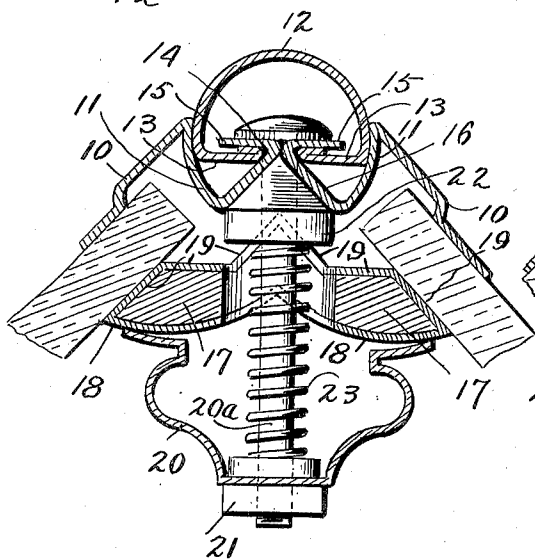
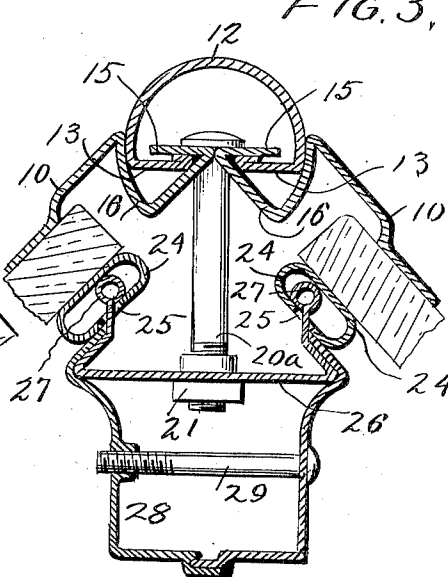


FIG. 3,



George C. Hester Inventor
 By Chas. Williamson Attorney

UNITED STATES PATENT OFFICE.

GEORGE C. HESTER, OF CHICAGO, ILLINOIS.

CORNER AND DIVISION BAR.

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To all whom it may concern:

Be it known that I, GEORGE C. HESTER, a citizen of the United States, and resident of Chicago, in the county of Cook, and in the State of Illinois, have invented a certain new and useful Improvement in Corner and Division Bars, and do hereby declare that the following is a full, clear, and exact description thereof.

10 In the now well-known plate glass store front construction, what are known in the trade as corner and division bars are employed at the vertical corners and other
15 division points in the front between adjoining plates of glass, to secure them in position thereat. The angles of the plates of glass that form the corners, greatly vary, and while attempts have been made to provide a corner bar construction that
20 would be adaptable to various angles, yet, as far as I know to the contrary, the attempt has never succeeded in a commercial way, but the present practice is to provide a different corner bar for each angle.
25 This requires a great assortment of corner bar angles, and even then difficulties arise because of failure of a particular corner bar and the glass plate as installed, to accurately agree, through error or carelessness of workman. Such lack of agreement results in failure of proper support being given the glass, and danger of breaking it by forcing an agreement. The object of my invention is to provide a bar construction which will have
35 such flexibility or scope of adjustment that the same bar will suit any angle required, and, if desired, even to the extent of an angle of 180 degrees, so that a great variety of corner bars and separate division bars, as such,
40 are not necessary, but the one construction will serve all purposes and efficiently and with entire practicability meet all requirements. Other objects and advantages of my invention will be understood by those skilled
45 in the art when the various embodiments of such invention shown in the drawings, are more fully explained in the following specification, of which said drawings form a part.

In the accompanying drawings—

50 Figure 1 is a perspective view of a bar embodying my invention;

Fig. 2 is a horizontal section showing the position of the parts when the plates of glass are at an angle;

Fig. 3 is a similar view of a different embodiment of my invention.

My bar, briefly described, comprises as the necessities of the case require, glass-engaging members in the form of duplicate pairs of vertical rails, between which, and the adjacent edges of adjoining plates of glass, clamping bolts or screws are passed, by which the rails of a pair, situated, respectively, on opposite sides of the same plate of glass are caused to exert the desired clamping pressure thereon. These rails are made of sheet metal, such as copper, of sufficient thickness to enable great lengths thereof readily to be bent or shaped into the desired form in cross section.

In the form of my invention shown in Figs. 1, 2 and 3, the corresponding outer glass-engaging members of the two pairs of rails comprise an essentially flat glass-engaging strip 10, which at its inner edge is provided with an arc-shape socket 11 by which a rocking, or pivotal connection is provided with a substantially semi-tubular bar 12. The bar 12 has two flat inwardly projecting flanges 13 which are slightly separated to provide a slot 14 for the passage into the bar 12 of the flat, or straight extremity 15 of each plate 10, said extremity extending at an angle to a flat, straight portion 16, which reaches to and connects with the arc-shape portion 11. As is well shown in Figs. 1 and 2, the pivotal connection thus provided between the opposite glass-engaging plates 10 and the intermediate bar 12, enables adjustment from a position where the two plates of glass are in alignment, as in Fig. 1, to such a sharp angle as is shown in Fig. 2, which is a right angle.

The glass-engaging rails of the two pairs which are on the inner side of the glass consist each of a single member and are of sheet copper, preferably upon a wooden core 17, and on the side toward the glass the core 17 and its sheet metal covering 18, has a succession of plane faces 19 running in a zig zag direction (there being three such faces, as shown). Each inner rail is curved convexly outward and each convex surface is engaged by one of the extremities of a substantially-U-shaped sheet metal clamping post 20 so that with one or more bolts 20^a extending from within the hollow bar 12 and having its head bearing against the plate flanges 15 inward through the usual spaces between the plates of glass and between the inner glass-engaging clamp and through the post 20 and having a nut 21 on the projecting threaded end of the bolt, it will be seen that at all

times, regardless of the position of the plates of glass within the limits of adjustment of the pairs of glass clamps, the latter will be firmly and securely held in contact with and support the glass on the inner and outer sides thereof. The two cores 17 are divided on a plane coincident with a vertical plane passing through the longitudinal axis of the clamping bolts 20^a, and the copper covering 18 is continuous over the joint between said cores, or the point where they come together on the side toward the glass, but it is discontinuous or divided on the opposite, or inner side of said core so that the sheet metal thus constitutes a hinged connection on which the two inner glass clamps may rock to enable the clamps to conform to the requirements of the case as imposed by the relative angular position of the two plates of glass. As the adjustment once made is permanent, it will be seen that there is no necessity for such bending of the sheet metal which might tend to weaken it.

Preferably I use a block 22 with a beveled, or pointed extremity that will enter between the cores 17 occupying the position shown in Fig. 2 where it bears against the flat portion 16 of the clamps 10, when the plates of glass, as indicated in Fig. 2 are in a position at an angle to each other. Said block may be slidably mounted on the clamping bolt 20^a and a coil spring 23 provided which normally presses the block outward, that is to say, the coil spring is an expansive spring.

In the form of my invention shown in Fig. 3, the construction is the same as that shown in Figs. 1 and 2, in regard to the pivotal connection between the outer glass-engaging plates. Each inner glass-engaging device, however, is in the form of a flattened tube 24 having in its outer side a slot 25 through which passes one of the legs of the U-shape clamping post 26, a rocking or pivotal connection being thus provided between each leg, and one of the inner glass-engaging bars, or plates 25 so that a good, wide bearing is had upon the glass no matter at what angle it stands. The portion of the leg within the flattened tube is enlarged as by the provision of a bead 27, and the pressure of the clamp is applied through that enlargement to the inside of the flattened tube, and thence through the plate of glass.

As shown in Fig. 3, a stiffening, or reinforcing post 28, is employed that engages the clamping bar post 26 on opposite sides. Said stiffening, or reinforcing post 28 is formed in similar halves for its convenient application and removal, and these halves are connected by a screw 29.

Having thus described my invention what I claim is—

1. A glass-clamping device comprising two pairs of glass-engaging members that respectively engage outer and inner sides of the plates of glass, a combined hinging and clamping bar which pivotally connects the outer glass-engaging members, and pressure-producing means connected with said bar and acting on the inner glass-clamping members, said bar being tubular and curved externally, and the outer members having correspondingly curved surfaces in contact with the curved exterior of said bar and said tubular bar having on its inner side a slot between opposing flanges and said outer members having extremities that pass through said slot and are situated within the bar.

2. A glass-clamping device comprising two pairs of glass-engaging members that respectively engage outer and inner sides of the plates of glass, a combined hinging and clamping bar which pivotally connects the outer glass-engaging members, and pressure producing means connected with said bar and acting on the inner glass-clamping members, said bar being tubular and having on its inner side a slot between opposing flanges, and said outer members having extremities that pass through said slot and are situated within the bar.

3. A glass-clamping device comprising two pairs of glass-engaging members that respectively engage inner and outer sides of two pairs of plates of glass, the outer members being hinged together and the inner members being hinged together, and the inner members consisting each of a core and a sheet metal covering that forms a hinge connection at the point where the two cores come together.

4. A glass-clamping device having glass-engaging members that consist of two cores, and a sheet metal covering for the cores, said covering forming a hinge connection between the two cores.

5. A glass-clamping device comprising two pairs of glass-engaging members that respectively engage outer and inner sides of plates of glass, a pivotal connection between each pair of members, means for causing said members to press against the opposite sides of the glass, and a spring pressed block adapted to engage adjacent surfaces of a pair of members.

In testimony that I claim the foregoing I have hereunto set my hand.

GEORGE C. HESTER.