

M. S. CRANE.
 DEVICE FOR SECURING TOGETHER GLASS PLATES FOR STORE FRONTS, &c.
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1,045,526.

Patented Nov. 26, 1912.

Fig. 1.

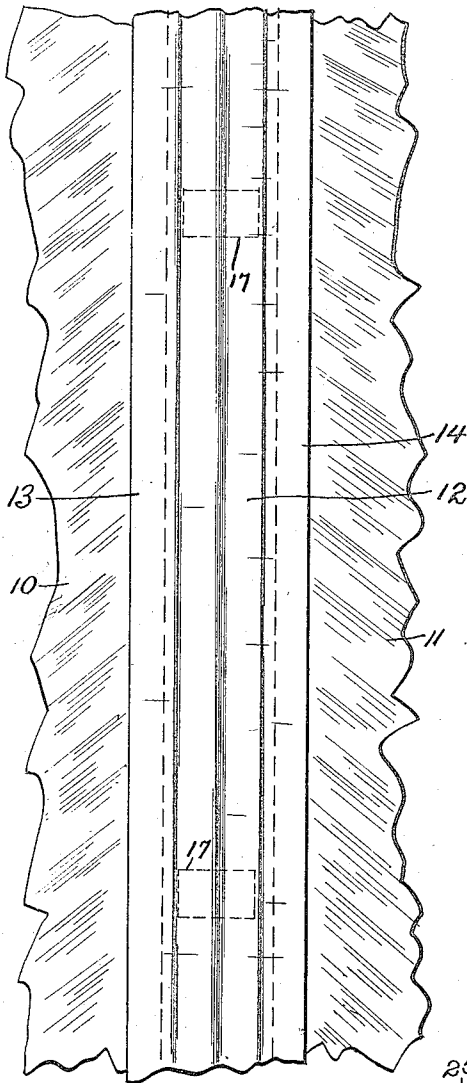


Fig. 2.

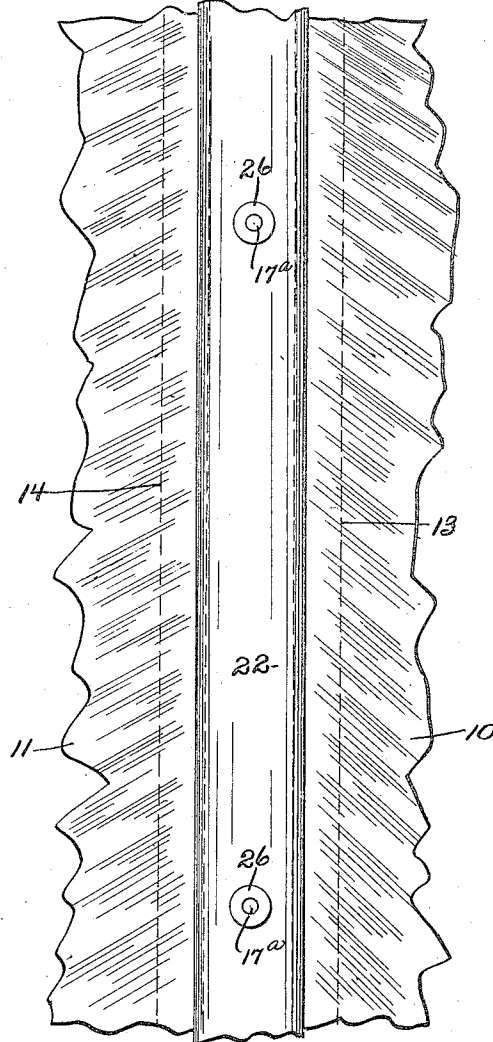
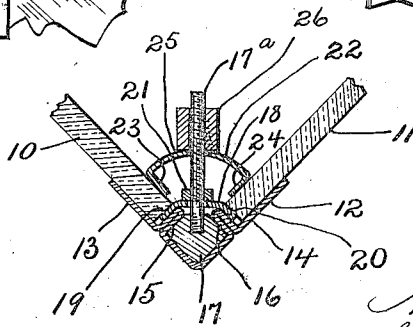


Fig. 3.



Witnesses:
 H. D. Gettins.
 B. C. Brown.

Inventor:
 Martin S. Crane
 by Lynch & Mow,
 Attorneys.

UNITED STATES PATENT OFFICE.

MARTIN S. CRANE, OF HOBOKEN, NEW JERSEY.

DEVICE FOR SECURING TOGETHER GLASS PLATES FOR STORE-FRONTS, &c.

1,045,526.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed July 9, 1909. Serial No. 506,717.

To all whom it may concern:

Be it known that I, MARTIN S. CRANE, a citizen of the United States of America, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Devices for Securing Together Glass Plates for Store-Fronts, &c.; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in devices for securing together glass plates for store fronts, show cases and the like.

One of the objects of the invention is the provision of a device of the above character which is simple in construction which will hold the plates securely in position, and which is neat and ornamental in appearance.

A further object is the provision of a securing device including an outside corner strip which will be held firmly against the two glass plates without the necessity for clamping members or clamping devices of any kind which extend through or engage the outer surface of the corner strip.

The invention may be briefly summarized as consisting in certain novel details of construction and combinations and arrangements of parts which will be described in the specification and set forth in the appended claims.

In the accompanying sheet of drawings Figure 1 is an outer or front elevation of the two glass plates held together by my improved plate securing or uniting device. Fig. 2 is an inside or rear elevation of the same. Fig. 3 is a transverse section substantially along the line 3—3 of Fig. 1.

The glass plates may be arranged at any angle to each other and with a slight modification of the securing or uniting means, they may be arranged in the same plane or in line with each other, but I have here shown them at right angles to each other.

Referring now to the figures of the drawings 10 and 11 represent respectively two glass plates which are arranged with their adjacent edges a short distance apart, the edges in this case being square or at right angles to the inner and outer surfaces of the plates. Bridging the space between the two plates and overlapping or embracing, and in this case, bearing directly against the outer

surfaces of the plates, is an outside corner strip 12 which is preferably formed of sheet metal, and is provided with two side portions 13 and 14 arranged at an angle corresponding to the angle made by the two plates, the apex of the angle, formed by said side portions, being on a line midway between the adjacent edges of the plates. Each side portion of the corner strip is provided with an integral inwardly projecting flange between the apex of the angle and the outer edge of such side portion, the two flanges extending lengthwise of the strip along and adjacent to the edges of the two plates respectively, and each flange is preferably formed by bending the metal inwardly and doubling the same upon itself so as to consist of two thicknesses of metal. The two flanges are preferably arranged at right angles to the respective side portions 13 and 14 of the corner strip so that they will be parallel to the square edges of the plates and will therefore be convergent. It may be here stated that these flanges are designed to be gripped by clamping members which are drawn inwardly by a suitable member forming a part of the clamping means so as to hold the corner strip firmly against the outer faces of the two plates.

The clamping devices, which are employed in conjunction with the outside corner strip, are arranged at intervals along the length of the strip and will now be described. Each clamping device includes a clamping member 17 which is located between the flanges 15 and 16 and is preferably in the form of a block which conforms substantially to the shape of the space in the corner of the clamping strip between said flanges, and is provided with convergent faces which are parallel to and are adapted to engage respectively the adjacent or inner faces of the flanges. Extending inwardly from the clamping member 17 between the adjacent or inner edges of the flanges, is a tension member forming a part of the clamping device, and consisting in this case, of a screw, bolt or pin 17^a preferably threaded throughout its length, the outer end of said member being screwed into a threaded socket in the block and thereby secured to said block. Other means for securing this member to the clamping member 17 may be employed, however. The outer faces of the flanges 15 and 16 are engaged by a clamping member 18 which coöperates with the clamping member

17 and consists preferably of a plate having end portions 19 and 20 which are located between the flanges and the adjacent edges of the plates and engage the same. These end portions, therefore, form seats or abutments for the edges of the plates. This clamping plate 18 has a portion intermediate the end portions 19 and 20 and this intermediate portion is provided with an opening through which the bolt or threaded pin 17^a extends. The flanges 15 and 16, which, as was stated before, are integral with the corner strip, are clamped tightly between the clamping member 17 and the clamping member 18 by means of a nut 21 on the bolt or threaded pin 17^a. It will be seen from the construction so far described that when the flanges are clamped between the members 17 and 18 by tightening the nut 21, the bolt or threaded pin 17^a is firmly united with the corner strip and when tension is placed on said member 17^a, the corner strip will be drawn against the outer surfaces of the plates without any possibility of bending or spreading said flanges 15 and 16. Each clamping device also includes an inner clamping member 22, also preferably formed of sheet metal, and having two end portions 23 and 24 which embrace and preferably bear directly upon the inner surfaces of the plates and an intermediate portion 25 having an opening through which the bolt or threaded pin 17^a loosely extends. A nut 26 is provided on the outer end of the bolt or threaded pin 17^a, and when this nut is tightened against the intermediate portion 25 of the inner clamping member 22, the latter is forced outward against the plates and the corner strip is drawn inward, thereby providing a rigid clamping device.

I do not desire to be confined to the exact details shown, but aim in my claims to cover all modifications which do not involve a departure in the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent is:—

1. In combination, a pair of glass plates and means for securing said plates together comprising an outside corner strip bridging the space between the adjacent edges of the plates and embracing the outer surfaces of said plates, said corner strip having flanges formed integral therewith which extend in over the adjacent edges of the plates, a clamping plate bridging the space between said glass plates and having its ends extending between said flanges and the edges of said glass plates, means for clamping said clamping plate against said flanges, an inside clamping member engaging the inner surfaces of said glass plates and means for drawing said inside clamping member and said outer corner strip together.

2. In combination, a pair of glass plates

arranged at an angle to each other, a corner strip bridging the space between the adjacent edges of the plates and embracing the outer surfaces of said plates, said corner strip having flanges formed integral therewith which extend in over the adjacent edges of the glass plates, a clamping plate bridging the space between said plates and having its ends extending between said flanges and the adjacent edges of said plates, means for clamping said clamping plate against said flanges, an inside clamping member engaging the inner surfaces of said glass plates, a threaded member extending inwardly from said clamping plate through said inner clamping member and a nut arranged on the inner end of said threaded member.

3. In combination, a pair of glass plates, having adjacent edges, a corner strip engaging the outer surfaces of the plates and having inwardly extending integral flanges intermediate the edges, members engaging the inner and outer surfaces of said flanges and clamped thereto, an inside clamping member embracing the inner surfaces of said plates, and means extending between said members clamped to the flanges and said inside clamping member for drawing the latter and said corner strip toward each other.

4. In combination, a pair of glass plates having adjacent edges, a corner strip engaging the outer surfaces of said plates, said corner strip having inwardly extending integral flanges intermediate the edges, a clamping member between the flanges and engaging the inner surfaces thereof, a threaded member connected to said clamping member and extending inwardly, a clamping member engaging the outer faces of said flanges, means engaging said threaded member for clamping said members against said flanges, an inside clamping member engaging the inner surfaces of the plates, and a nut on said threaded member serving to draw said corner strip and inside clamping member toward each other.

5. In combination, a pair of glass plates having adjacent edges, an outside corner strip engaging the outer surfaces of the plates, and having flanges extending inwardly between the edges of the plates, a clamping member located between said flanges and engaging the inner surfaces thereof, a threaded member extending inwardly from said clamping member, a clamping plate engaging the outer surfaces of said flanges and engaging the edges of the plates, a nut on said threaded member and engaging said clamping plate so as to cause said clamping members to grip the flanges, an inside clamping plate engaging the inner surfaces of the glass plates, and a nut on the inner end of said threaded mem-

ber and serving to draw the inside clamping plate and said corner strip toward each other.

6. In combination, a pair of glass plates 5 having adjacent edges, a corner strip formed of sheet metal bridging the space between the plates and engaging the outer surfaces of the latter, said corner strip having integral flanges extending inwardly between the 10 edges of the plates, a clamping member between the flanges and engaging the inner surfaces thereof, a threaded member extending inwardly from said clamping member, a clamping member engaging the outer sur- 15 faces of said flange and forming abutments for the edges of the two plates respectively, means for causing said clamping members to grip said flanges comprising a nut on said threaded member, an inside clamping mem- 20 ber engaging the inner surfaces of the plates and having an opening through which said threaded member extends, and means engaging said threaded member and serving to draw said corner strip and inside clamp- 25 ing member toward each other.

7. In combination, a pair of glass plates having their adjacent edges spaced a short distance apart, a corner strip bridging the space between the plates and engaging the 30 outer surfaces of the latter, said corner strip being formed of sheet metal and having a pair of flanges extending inwardly along the edges of the plates and at substantially right-angles to the surfaces thereof, a 35 clamping block intermediate said edges and engaging the inner or adjacent faces of said flanges, a threaded pin screwed into said block and extending inwardly relative to said plates, a clamping plate having end 40 portions engaging the outer surfaces of said flanges and forming seats or abutments for the edges of the glass plates, said clamping plate having an opening through which said threaded pin extends, a clamping nut on 45 said pin and tightened against said clamping plate so as to cause the latter and the clamping block to grip said flanges, an inside clamping plate engaging the inner surfaces of said plates, and a nut on the inner 50 end of said threaded pin and forced down upon said inner clamping plate so as to

draw the latter and the corner strip toward each other.

8. In a store front or analogous construction, a pair of glass plates with adjacent 55 edges, a channel-bar between the said edges, and an outer integral sheet metal member having wings bearing on the outer faces of the plates, and a central hollow bead seated in the channel and a pair of spaced continu- 60 ous flanges at the base of the bead extending inwardly toward each other, in combination with an inner sheet metal U-shaped member and having wings bearing on the 65 inner faces of the said plates, and bolts having their heads within the said hollow member and resting on the flanges at the base thereof, and their stems extending through the space between the said flanges and through the said channel and inner 70 member.

9. In a construction for connecting the adjacent edges of glass plates together, an integral outer sheet metal member having a central bead between the said edges, 75 continuous spaced flanges extending toward each other at the base of the bead, and wings at the sides of the bead to rest against the outer face of the glass plates, in combination with a second sheet metal member 80 adapted to be positioned at the opposite side of the plates from the first member.

10. In a construction for connecting the adjacent edges of glass plates together, an integral outer sheet metal member having a 85 central bead between the said edges, continuous spaced flanges extending toward each other at the base of the bead, and wings at the sides of the bead to rest against the outer face of the glass plates, in combination with means for preventing the move- 90 ment of the said flanges away from each other, and a second sheet metal member adapted to be positioned at the opposite side of the plates from the first member. 95

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

MARTIN S. CRANE.

Witnesses:

VICTOR C. LYNCH,
N. L. McDONNELL.