M. S. CRANE.

DEVICE FOR SECURING TOGETHER GLASS PLATES.

APPLICATION FILED JULY 6, 1909.

1,043,904. Patented Nov. 12, 1912.

Fig. 1.

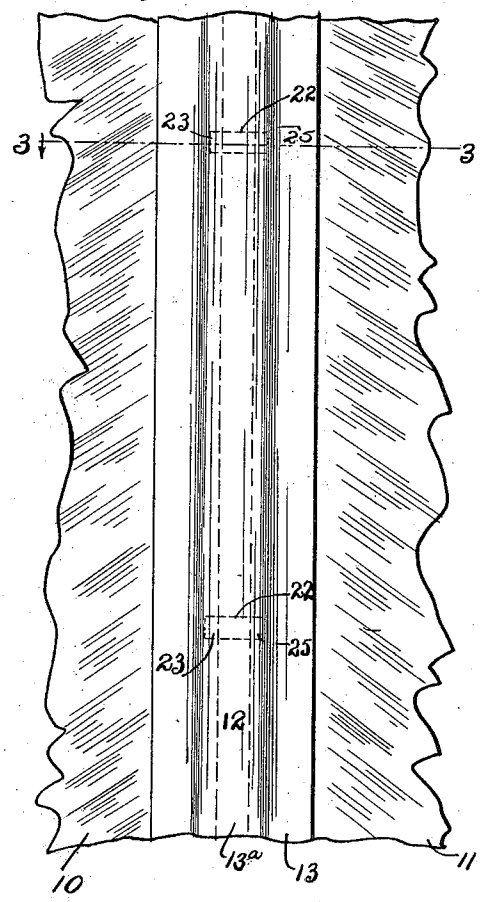


Fig. 2.

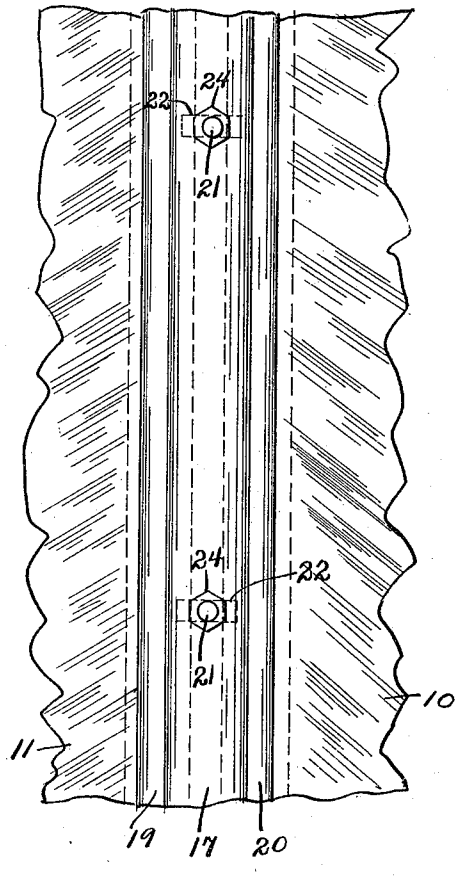
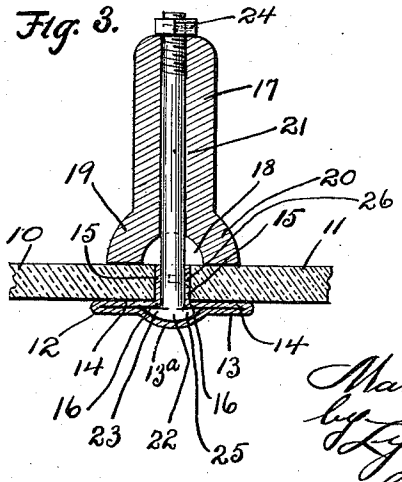


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

MARTIN S. CRANE, OF HOBOKEN, NEW JERSEY.

DEVICE FOR SECURING TOGETHER GLASS PLATES.

1,043,904. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed July 6, 1909. Serial No. 506,052.

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; 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 devices for securing together glass plates for store fronts, show-cases and the like, and particularly to devices for securing together glass plates arranged in the same plane or in line with each other.

One of the objects of the invention is the provision of a device of the above character which can be easily and cheaply made, easily assembled, which will hold the glass plates firmly in position, and which is neat and ornamental in appearance.

A further object is the provision of a securing device including an outside clamping or uniting strip which is formed of sheet metal and can be held firmly against the surfaces of the two plates without necessitating the use of clamping or securing members which extend through or otherwise engage the outer surface of said uniting 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 claim.

In the accompanying sheet of drawings Figure 1 is a front or outside elevation of portions of two glass plates united and secured together by my improved securing device. Fig. 2 is an inside or rear elevation of the same. Fig. 3 is a transverse section substantially along the line 3—3, Fig. 1, looking in the direction indicated by the arrow.

Referring now to the figures of the drawings, 10 and 11 represent respectively two glass plates which are in the same plane and have adjacent square edges spaced a short distance apart. Extending lengthwise of the plates or lengthwise of the adjacent edges thereof is an outside clamping or uniting strip 12 which is formed of sheet metal and provided with an outer portion 13 which bridges the space between the plates, portions 14 extending inwardly toward each other along the outer surfaces of the two plates and engaging the plates, said portions being formed by doubling each side of the strip upon itself, and inwardly extending flanges 15 formed by bending the edges of the strip at right-angles to the portions 14. These flanges, which are parallel to each other, extend inwardly between the adjacent edges of the plates and engage the latter so as to form seats or abutments for the plates. It is to be noted that the inwardly extending flanges and the portions 14 which engage the outer surfaces of the two plates respectively, form angular shoulders 16 which serve a purpose to be referred to presently. The middle of the outer portion 13 of the strip is bowed or bulged outwardly as shown at 13^a, so as to form a space for the heads of clamping bolts to be referred to later.

Extending along the inside of the plates lengthwise of the edges thereof is an inside clamping bar or strip 17 which is preferably formed of wood, and at its inner edge is provided with a longitudinal groove 18 which forms two flanges 19 and 20 which engage the inner surfaces of the two plates respectively.

The outside uniting strip 12 and inside clamping member 17 are drawn together or toward each other so as to hold the glass plates firmly in position by means of a plurality of bolts 21 which are arranged at intervals and have shanks which extend through transverse openings in the inside clamping member 17 and between the inwardly extending flanges 15 of the outside uniting strip 12. Each of these bolts is provided with a head 22 having two opposite flat parallel faces substantially flush with the shank and two oppositely extending projections 23 and 25. The head of the bolt can be inserted between the flanges when the bolt is turned so that the flat faces are parallel to the flanges, and when the bolt is inserted the full distance with the head in the outwardly bowed or bulged portion 13^a of the strip, the bolt will be given a quarter turn so that the projecting portions 23 and 25 of the head will engage the shoulders 16. As shown in Fig. 3 the outer face of the head of each bolt is curved or rounded so as to conform to the inner space formed by the bowed portion 13^a of the strip. The inner

ends of the bolts extend a short distance beyond the clamping member and are provided with nuts 24, which when tightened against the edge of the clamping member 17, draw the latter and the outside uniting strip 12 toward each other so as to hold the plates firmly in position. The bolts are inserted in place between the flanges of the uniting strip before the latter is applied to the glass plates, and to prevent the bolts turning after they have been placed in the proper position with the projecting portions of the heads engaging the shoulders, a pin or screw 26 is preferably inserted transversely through one of the flanges and into the shank of each bolt.

What I claim is:—

In combination, a pair of glass plates arranged in the same plane with their adjacent edges spaced a short distance apart, an outside clamping member extending lengthwise of said edges and consisting of a single strip comprising an outer portion which bridges the space between the plates and laps over on the outside of the plates, inner portions formed integral with the outer portion and extending inwardly toward each other between the outer portion and the outer surfaces of the plates and flanges formed at the inner ends of said inner portions by bending the ends thereof at substantially right angles to said portions, said flanges being parallel and arranged to engage the edges of said plates, an inside clamping member engaging the inner surfaces of the plates, a plurality of bolts extending through said inside clamping member and between said flanges, each of said bolts having a head adapted to engage the inner portions of the outer clamping member, nuts arranged on the inner ends of said bolts adapted to engage the inner clamping member and screws extending through the flanges on the outer clamping member and engaging said bolts.

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

MARTIN S. CRANE.

Witnesses:
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