May 9, 1933. C. L. SHAFFER 1,908,270

WINDOW SASH CONSTRUCTION

Filed Dec. 12, 1930

Fig. 1.

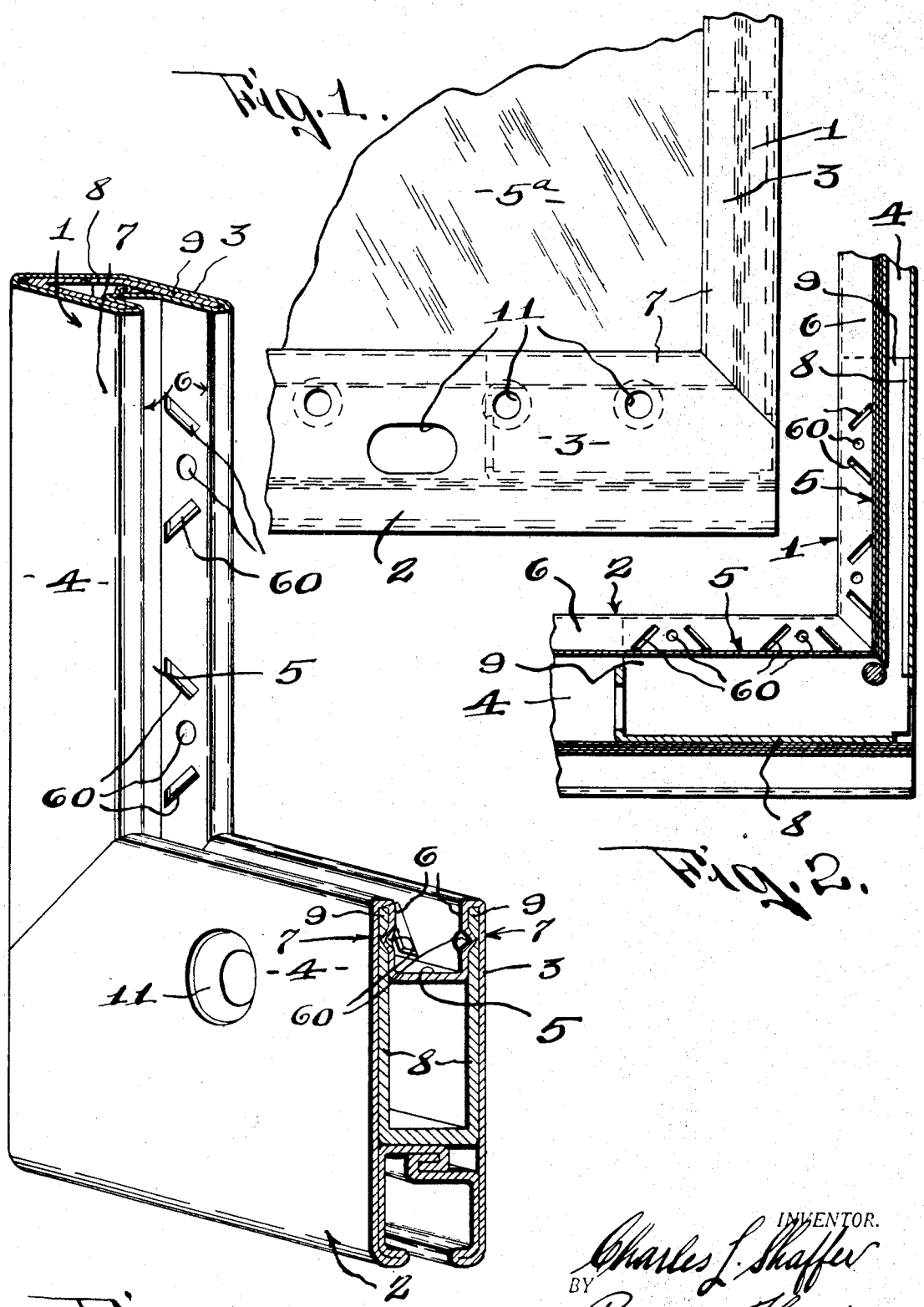

Fig. 2.

Fig. 3.

INVENTOR.
Charles L. Shaffer
BY
Bodell & Thompson
ATTORNEYS.

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UNITED STATES PATENT OFFICE

CHARLES L. SHAFFER, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE O. M. EDWARDS COMPANY, INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK

WINDOW SASH CONSTRUCTION

Application filed December 12, 1930. Serial No. 501,902.

This invention relates to sheet metal sashes, and has for its object, a particularly simple, efficient and economical means or construction for firmly securing a reinforcing insert, as a corner iron, in the hollow sash member, without the use of solder and rivets and other separable fastening means exposed on the outside of the sash.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing, in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation of a sash embodying this invention.

Figure 2 is a vertical, sectional view through the sash on the plane of the sash.

Figure 3 is an enlarged isometric view of a corner portion of the sash looking into the reentrant groove of one of the stiles.

This invention is particularly applicable to window sashes and the like, which are made up of light sheet metal and reinforced at intervals, usually at their corners by inserts.

1 designates one sash member, as the stile, and 2 another, as the bottom rail, these meeting to form a corner.

Each member 1 and 2 is bent up of sheet metal to have opposing side walls 3, 4, and a reentrant groove 5 for receiving the margin of the glass pane 5^a, the side walls 6 of the groove being spaced apart from the margin 7 of the opposing walls 3, 4.

8 designates the insert or corner iron, which is also usually formed up of sheet metal in any suitable manner, so that it is U shaped, or provided with a pair of marginal flanges 9 for extending into the spaces on opposite sides of the walls of the groove 5, that is, between the walls 6 and margins 7.

Means are provided for interlocking the flange 9 with one of the walls with which it is interposed, and as here illustrated, it is interlocked with the wall 6 of the groove. This interlock is provided by compressing the wall 6 and margin 7 together onto the interposed flange 9, and forming the wall 6 with projections, and the flange 9 with complemental depressions, the formation of the projections and depressions being a punch press operation. The projections and depressions are designated 60.

As the interlocking means is provided between the wall of the groove and the flange, the outer faces of the sash members are left smooth and unbroken by fastening means, or holes for fastening means. One of the flanges 9 only may be thus secured in position, the other may be omitted, or left unsecured by interlocking means. Although usually, the use of an insert at the corner is sufficient, it is obvious that the insert may be used at any other point in the hollow sash members and secured in position in the same way, or by the same means. The bottom rail 2 is provided with means for securing a suitable buffer strip thereto. The bottom rail is shown as formed with holes 11 for the securement of a sash holder to the sash.

Heretofore, these inserts or corner irons have been riveted in position, or soldered. The rivets, or other fastening members were exposed on the outer faces of the sash, and the soldering required heating and resulted in discoloring and warping of the sash members. In my sash member. no heating or soldering is required, and the indentating operation is a simple and economical one, and the fastening means provided thereby is not visible on the outside of the sash.

What I claim is:

1. In a sash construction, the combination of hollow sash members which meet and form a corner, said members being formed with side walls and glass receiving re-entrant grooves at their inner edges between the inner margins of the side walls and with a space between one of the side walls of each groove and the inner face of the margin of the opposing wall of the sash member, a reinforcing insert in the hollow sash member having a flange extending into said space, and means for securing the wall of the re-entrant groove to said flange, said means being concealed within the re-entrant groove.

2. In a sash construction, the combination of hollow sash members which meet and form

a corner, said members being formed with side walls and glass receiving re-entrant grooves at their inner edges between the inner margins of the side walls and with a space between one of the side walls of each groove and the inner face of the margin of the opposing wall of the sash member, a reinforcing insert in the hollow sash member having a flange extending into said space, and means for securing the wall of the re-entrant groove to said flange, said means comprising projections provided on one of said parts secured together and complemental indentations in the other.

3. In a sash construction, the combination of hollow sash members which meet and form a corner, said members being formed with side walls and glass receiving re-entrant grooves at their inner edges between the inner margins of the side walls and with a space between one of the side walls of each groove and the inner face of the margin of the opposing wall of the sash member, a reinforcing insert in the hollow sash member having a flange extending into said space, said insert being wedged between one of the walls of the re-entrant groove and the opposing side wall of the sash member, and means for securing said flange in position comprising complemental projections and indentations provided on the flange and one of the walls between which it is wedged.

4. In combination with a hollow metallic sash having therein a reinforcing channel member, the side walls of which extend substantially to the top of a pane-receiving groove formed in the sash, and means within said groove to secure the side walls thereof to the said side walls of the channel to form a structure preventing movement of said channel member with respect to the sash.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 4th day of December, 1930.

CHARLES L. SHAFFER.