W. SCHMIDT.

METALLIC WINDOW SASH CONSTRUCTION.

APPLICATION FILED JULY 25, 1910.

988,900.

Patented Apr. 4, 1911.

Fig. 1.

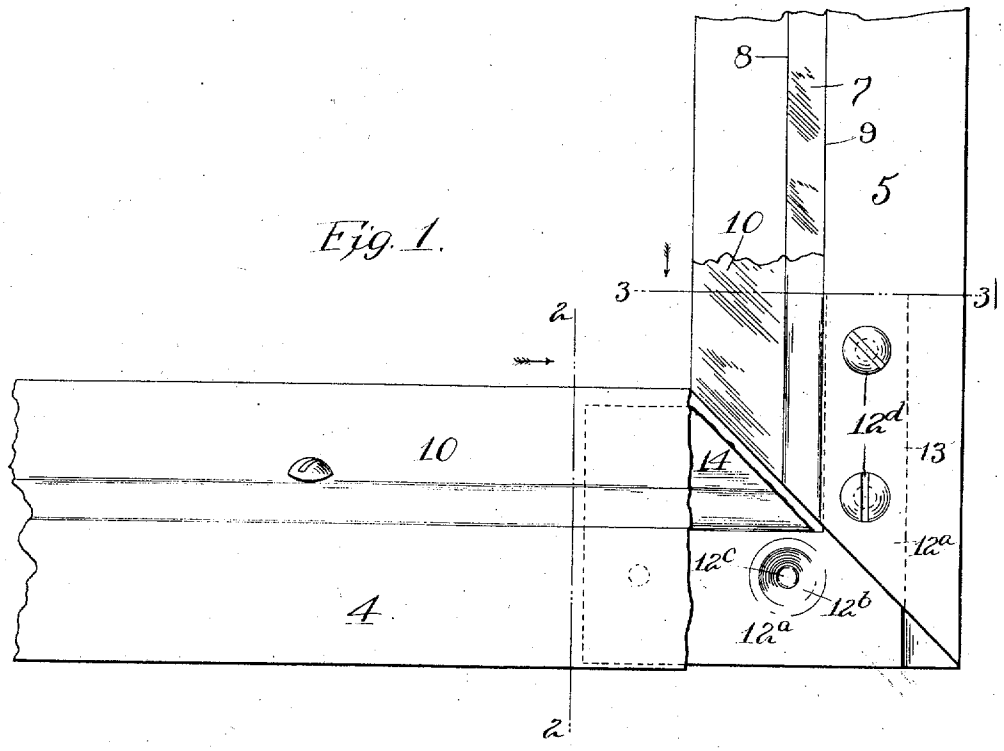


Fig. 2.

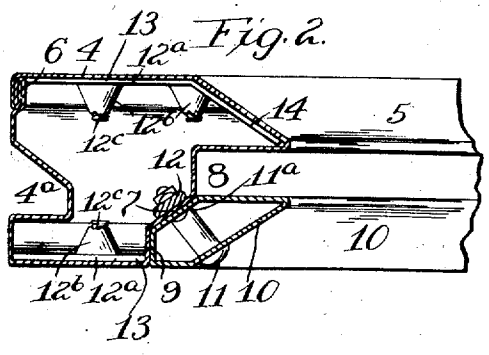
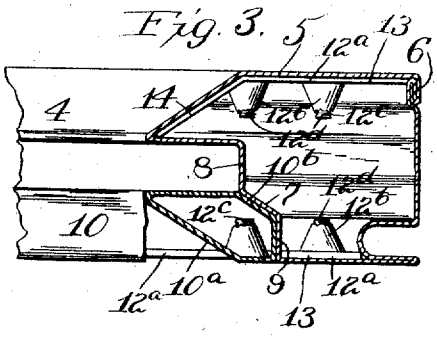


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM SCHMIDT, OF CINCINNATI, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE LUNKENHEIMER COMPANY, A CORPORATION OF OHIO.

METALLIC WINDOW-SASH CONSTRUCTION.

988,900. Specification of Letters Patent. Patented Apr. 4, 1911.

Application filed July 25, 1910. Serial No. 573,807.

To all whom it may concern:

Be it known that I, WILLIAM SCHMIDT, citizen of the United States, residing at Cincinnati, Ohio, have invented certain new and useful Improvements in Metallic Window-Sash Constructions, of which the following is a specification.

My present invention relates to improvements in metallic window construction, and has for its object to simplify the sash construction while increasing the strength and durability thereof, and the invention comprises the novel features of construction hereinafter described and particularly pointed out in the appended claims.

A sash constructed in accordance with my invention is illustrated in the accompanying drawings, in which:

Figure 1 is a front view of a sufficient portion of a sash to illustrate the invention, parts being broken away; Fig. 2 is a sectional view on line 2—2, and Fig. 3 is a section on line 3—3.

In this drawing, the numeral 4 designates the lower rail or bar of the sash, and 5 one of the side bars or rails. These are formed each of a single piece of sheet metal bent into the shape shown, and with the edges folded or interlocked, as shown at 6. They are of identical shape in cross section except on their outer faces where they are shaped to conform to the portion of the frame with which they coact, the bottom rail 4 having a groove 4^a adapted to coact with a suitably shaped sill member to produce a weather-proof joint, and the side rail 5 having a groove or channel adapted to coact with the guiding rib of the side of the window frame for guiding the sash in its vertical movement.

In order that the glass may be readily, firmly and yet removably held in place, each sash bar is provided with an inclined portion 7 extending from the seat 8 for the edge of the glass to a transverse shoulder 9, and against this portion 7 and shoulder 9 rests a hollow removable securing strip 10 which has opposite parallel walls 10^a and 10^b. The strip 10 is secured in place by set screws 11 which pass through the hollow securing strip 10 and the portion 7 and engaging a bar 12 having suitable threaded openings for the screws and riveted to the inner face of the said inclined portion 7.

In order to enable the screws to be screwed in tightly to hold the securing strip firmly in place without danger of crushing or distorting the securing strip, the body of each screw is made larger than the threaded portion which provides a shoulder 11^a for bearing against the inner inclined wall of the securing strip when the screw is screwed home.

In order to afford a strong and durable but simple and economical corner joint, I provide angle bars 13 which have plane portions 12^a extending at right angles to each other and provided with inwardly struck conical portions 12^b forming counter sinks, the apices of these being provided with threaded openings 12^c to be engaged by the securing screws 12^d. The metal surrounding the openings in the frame members through which the screws pass is swaged or pressed into these counter sink portions, thus causing the angle irons and frame members to interlock, and securing a holding effect beyond that afforded by the screws, while, at the same time, the heads of the screws are countersunk and flush with the face of the sash bar. The drawing in of the metal of the angle bars also provides a greater length of threaded surface to be engaged by the threaded portions of the screws.

The angle bars upon the side of the sash which is provided with the permanent flange are provided with angularly extending integral wings 14 which bear against the inner faces of inclined portions of said permanent flanges, as shown.

It will be noticed that the sheet metal angle plates or bars fit very snugly against the inside walls of the sash bars, being of such width that their edges fit into the corners of the bars and hold them firmly and rigidly in place independent of the screws, so that even should the screws slightly loosen, the parts are all held firmly in position as long as the window is in place.

I claim as my invention:

1. In combination a pair of abutting sash bars, an angle bracket located within the same and having inwardly struck conical portions with the apices provided with threaded openings, said bars having correspondingly shaped inwardly struck portions, and screws having their heads seated in said inwardly struck portions and engaging said threaded apices, substantially as described.

2. In a sheet metal sash, the combination

with the two hollow meeting sash bars thereof, of a pair of sheet metal brackets of angular cross section located within said hollow bars, with their side faces and edges conforming and fitting closely to the inside walls of the said sash bars, and having inwardly struck conical portions with the apices thereof provided with threaded openings, said bars having correspondingly struck portions resting in the recesses of the angle bars and screws having their heads seated in said inwardly struck portions of the sash bars and engaging said threaded apices, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

WILLIAM SCHMIDT.

Witnesses:

HERB. R. WUNDER,

LANE THOMPSON.