

1,029,381.

Patented June 11, 1912

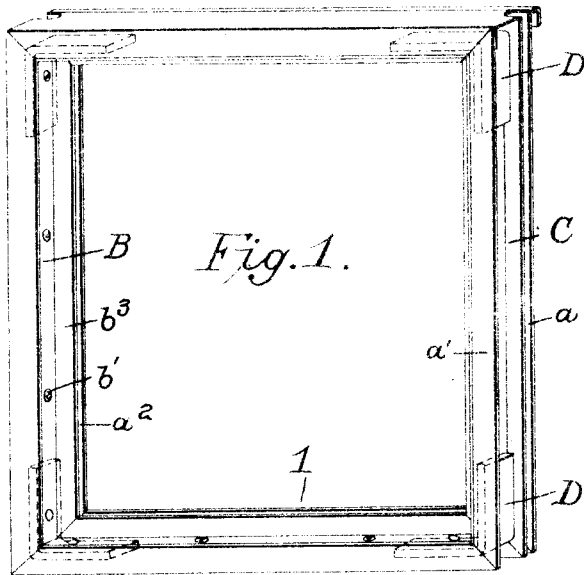


Fig. 7.

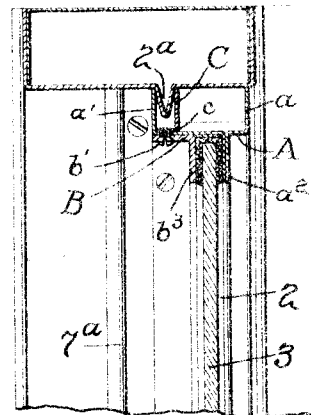


Fig. 2.

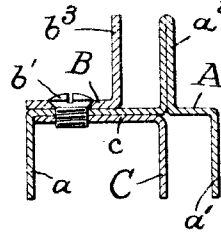


Fig. 4.

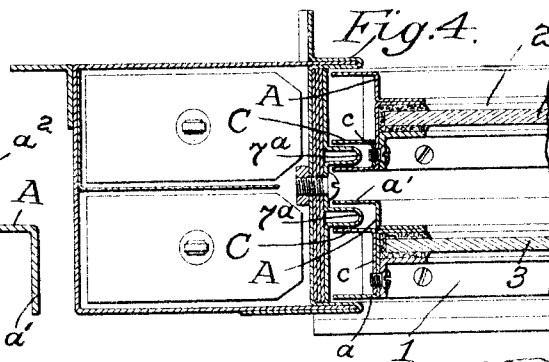


Fig. 3.

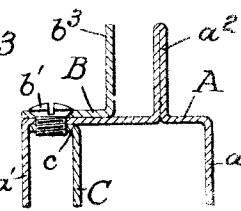


Fig. 6.

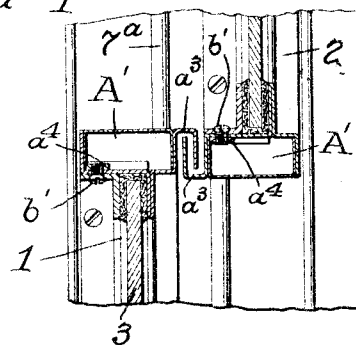
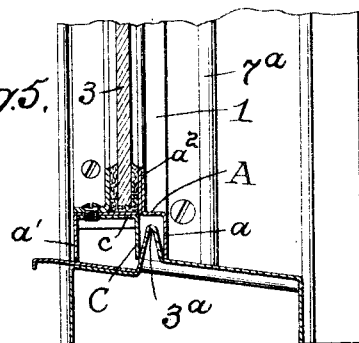


Fig. 5.



Attest:

Edw. L. Tolson.
H. M. Barrett

Inventor:

Edmund H. Lunken,
by *Alfred Middleton Donaldson* of *Alfred*
Attys.

UNITED STATES PATENT OFFICE.

EDMUND H. LUNKEN, OF CINCINNATI, OHIO, ASSIGNOR TO THE LUNKENHEIMER COMPANY, OF CINCINNATI, OHIO, A CORPORATION.

WINDOW-SASH.

1,029,381.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed February 20, 1912. Serial No. 678,914.

To all whom it may concern:

Be it known that I, EDMUND H. LUNKEN, a citizen of the United States, residing at Cincinnati, Ohio, have invented certain new and useful Improvements in Window-Sashes, of which the following is a specification.

My present invention relates to improvements in sashes for use in fireproof window construction, and is intended primarily for use in a window frame such as disclosed in an application for Letters Patent of the United States filed by me on the 20th day of February, 1912, Serial No. 678,913.

The objects of the invention are to provide an extremely simple and strong sash frame, capable of being economically produced and in which one standard construction of sash rail can be used for either upper or lower sashes, as by the novel arrangement of an angle strip the guide grooves are formed on either side of the sash rail, and at the same time giving additional thickness of metal in the proper place for screwing on the glass retaining strip.

With these and other objects in view, the invention includes the novel features of construction and arrangement and combination of parts hereinafter described and particularly defined by the appended claims.

In the accompanying drawings illustrating the invention: Figure 1 is a perspective view of a lower sash; Fig. 2 is a cross section through the side rail of a lower sash; Fig. 3 is a similar view of an upper sash. Figs. 2 and 3 being on a larger scale; Fig. 4 is a horizontal section through one side of the window frame disclosed in my aforesaid application, with portions of the upper and lower sashes shown in place and in section; Fig. 5 is a transverse vertical section through the bottom rail of the lower sash and the window sill; Fig. 6 is a transverse vertical section through the meeting rails; and Fig. 7 is a transverse vertical section through the top rail of the upper sash and top of the window frame.

Referring by reference characters to this drawing, the lower sash is indicated at 1 and the upper at 2 and each of these comprises channel shaped bars or rails A having parallel side flanges a and a' and an intermediate oppositely extending integral flange a'' formed by folding the metal upon

itself thus making this latter flange of double thickness of metal.

The glass pane is indicated at 3 and this is clamped at its edges between the flanges a'' and the flanges 3^b of the angle bars B which are removably secured to the bars A by screws b' .

In order to provide channels of the proper width for the sash guiding ribs 7^a of the cover plates of the frame, other angle irons C are provided which have their flanges c corresponding to the desired channel. The flanges c thus serve as a guide in positioning the angle bars, being placed with their edges against the flanges a or a' according to whether the sash is a lower or an upper one. The flange or web c further serves the purpose of affording additional metal for the engagement of the threads of the screws b' . The frame bars are mitered at the corners, as indicated in Fig. 1, the joints being preferably welded and reinforced by angle pieces D fitting in the large channels of the bars and riveted or welded in place. The angle irons C for the top rail of the upper sash and the bottom rail of the lower sash form channels which are adapted to engage the ribs 2^a and 3^a on the top cross member and sill of the window frame.

In order to provide a simple form of weatherproof joint for the meeting rails, I provide the bars A' constituting the meeting rails, with projected doubled back portions a'' reversely positioned and interlocking with each other, as shown in Fig. 6. As the inner angle iron is not used in connection with the meeting rails; I provide strips a' for affording additional metal to be engaged by the screws b' .

Having thus described my invention what I claim is:

1. A metallic window sash having side bars of pressed sheet metal of channel form, each of said side bars having a folded portion forming an integral glass retaining flange projecting away from the channel, an angle bar removably secured to each of said channel bars, and having a glass retaining flange or portion parallel with said first named glass retaining flange, and an angle bar of pressed sheet metal within the channel of each side bar having a flange parallel with the walls of the channel, and fastening means securing the inner and outer an-

gle bars to the cross web of the channel bar, substantially as described.

2. A metallic window sash having side bars of pressed sheet metal of channel form, each of said side bars having a folded portion forming an integral glass retaining flange projecting away from the channel, an angle bar removably secured to each of said channel bars, and having a glass retaining flange or portion parallel with said first named glass retaining flange, and an angle bar of pressed sheet metal within the channel of each side bar having a flange parallel with the walls of the channel, and a portion at right angles thereto removably secured to the cross web of the channel bar and having its edge bearing against one of the side walls of the channel, and fastening

means securing the inner and outer angle bars to the cross web of the channel bar, substantially as described.

3. A metallic window sash comprising channel bars of pressed sheet metal having side flanges with mitered abutting ends, intermediate flanges unequally spaced between said side flanges and forming wide and narrow channels, and corner irons resting in the larger channels and suitably secured to the channel bars.

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

EDMUND H. LUNKEN.

Witnesses:

O. H. ROUSSEAU,
NELLIE B. LUNKEN