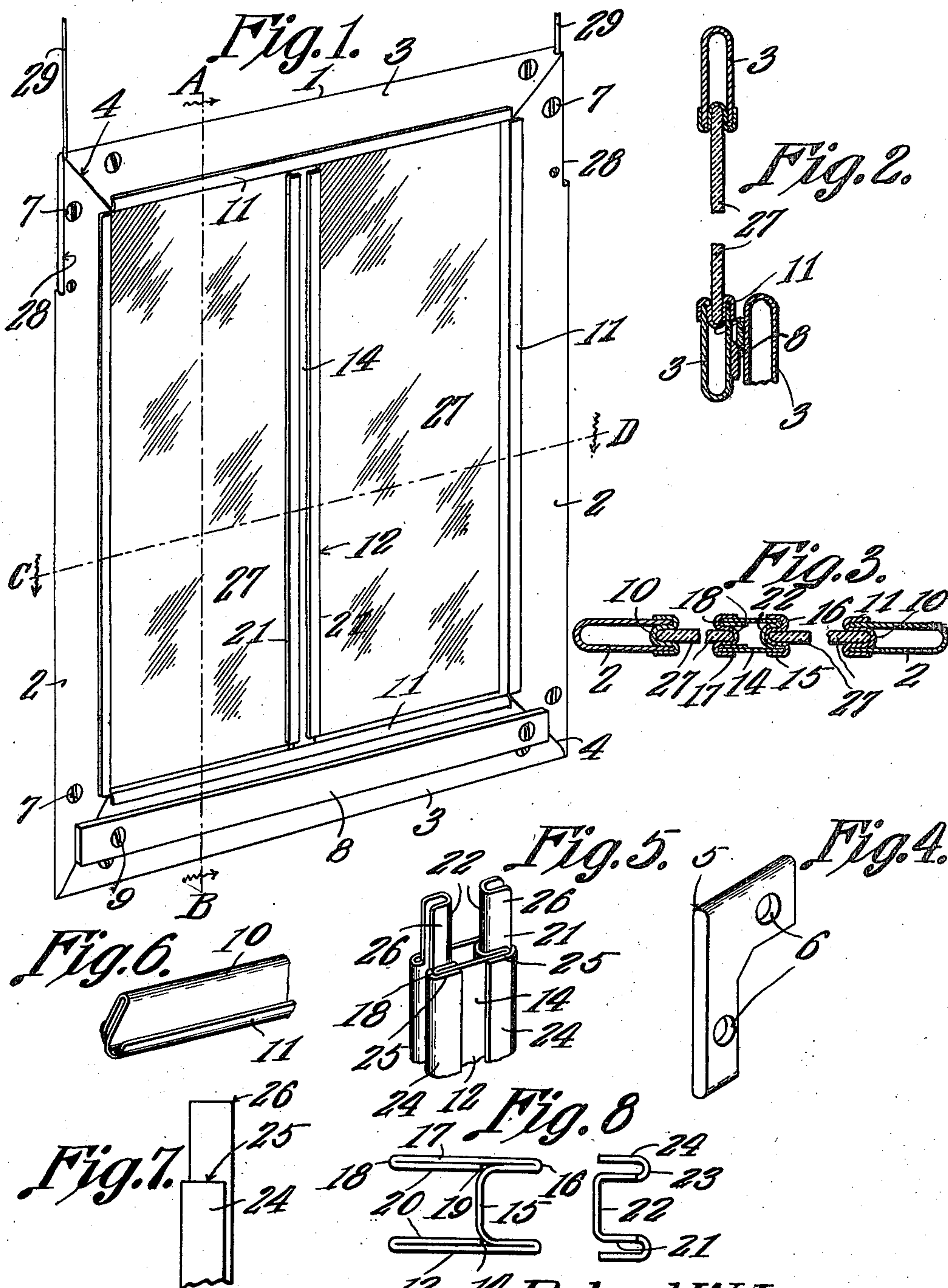


R. W. IVEY.
WINDOW SASH.
APPLICATION FILED FEB. 7, 1911.

997,677.

Patented July 11, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT W. IVEY, OF NEW LONDON, NORTH CAROLINA.

WINDOW-SASH.

997,677.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed February 7, 1911. Serial No. 607,193.

To all whom it may concern:

Be it known that I, ROBERT W. IVEY, a citizen of the United States, residing at New London, in the county of Stanly and State of North Carolina, have invented a new and useful Window-Sash, of which the following is a specification.

It is the object of this invention to provide a metallic sash, so constructed that the same may expand and contract, without breaking the glass which is assembled with the sash.

A further object of the invention is to provide a frame of novel and improved form, to provide novel means for assembling the constituent elements of the frame, to provide novel means for holding the glass within the frame, and to provide a mid rail of novel and improved form, coöperating with the sash proper to retain the glass therein.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 shows the invention in perspective; Fig. 2 is a vertical section on the line A—B of Fig. 1; Fig. 3 is a horizontal section on the line C—D of Fig. 1; Fig. 4 is a detail perspective of one of the angle members whereby the frame elements are terminally united; Fig. 5 is a detail perspective of one end of the mid rail of the sash; Fig. 6 is a detail perspective, showing one end of one of the socket elements which are assembled with the frame members; Fig. 7 is a side elevation of one of the supplemental strips which enter into the construction of the mid rail of the sash; and Fig. 8 is a top plan of the mid rail of the sash, one of the duplicated parts thereof being omitted.

In carrying out the invention, there is provided a frame, denoted generally by the numeral 1. This frame 1 consists of stiles 2, and cross rails 3, the stiles and the cross rails, in cross section, being of arched, or of U-shaped form. The meeting ends of the stiles 2 and of the cross rails 3 are mitered, as shown at 4. The stiles 2 and the cross rails

3 are held together by angle members 5, the arms of which are inserted into the ends of the stiles 2 and the cross rails 3, there being in the arms of the angle members 5, as Fig. 4 will clearly show, openings 6, adapted to receive screws 7 or other retaining elements adapted to a like end, these retaining elements being engaged with the stiles 2 and with the cross rails 3. To the lower end of the sash, constructed as above described, a stop 8 is secured, by means of screws 9 or other securing elements, the stop 8 being attached immediately to the lower cross rail 3, so as to abut with a similar stop upon the lower sash, as Fig. 2 will clearly show.

The invention further includes a plurality of arched socket elements 10, which are inserted into the open sides of the stiles 2 and of the cross rails 3, the socket elements 10 being back bent upon themselves, to form flanges 11, adapted to overlie the outer faces of the stiles 2 and of the cross rails 3.

The invention further includes a mid rail, denoted generally by the numeral 12. This mid rail, referring particularly to Fig. 8, consists of a body 14 and supplemental strips 21. The body 14 comprises a U shaped part 15, bent sharply upon itself, as shown at 16, to form flanges 17, protruding beyond the arched or U shaped part 15 of the body. These flanges 17 are back bent upon themselves, as shown at 18, the ends of the flanges being engaged, as shown at 19, with the U shaped portion 15 of the body 14.

The supplemental strips 21 which coöperate with the body 14 of the mid rail 12, consist of an arched body 22, bent upon itself as shown at 23, to form flanges 24. One of the supplemental strips 21 is shown in Fig. 8. The bends 16 of the body 14 are engaged in the bends 23 of one supplemental strip, the arched body 22 of this supplemental strip, fitting within the arched portion 15 of the body 14. In the case of the other supplemental strip, its bends 23 receive the bends 18 of the body 14, the arched body 22 of the last named supplemental strip, fitting between the supplemental flanges 20 of the body 14. The supplemental strips 21 are cut away, in their flanges 24, as denoted by the numeral 25, so that the ends 26 of the arched bodies 22 of the supplemental strips may be engaged within the socket elements 10, as will be understood readily.

The plates of glass which are denoted by the numeral 27, are received within the

arched socket elements 10, and within the arched bodies 22 of the supplemental strips 21 of the mid rail 12. It will therefore be seen that since the socket elements 10 are free to slide within the stiles 2 and within the cross rails 3, and by reason of the further fact that the supplemental strips 21 of the mid rail 12 are free to slide within the body 14 of the mid rail, any expansion and contraction of the frame, will be ineffective to crack the panes of glass 27. Along their sides, and adjacent their upper ends, the stiles 2 of the frame may be cut away, as denoted by the numeral 28, to receive the sash cord 29.

The window frame herein disclosed, is so constructed that it may be assembled and knocked down without difficulty, and furthermore, when the device is in use, the panes of glass will be securely retained within the frame, without, however, being broken through the expansion and contraction of the frame.

Having thus described the invention, what is claimed is:—

1. As an article of manufacture, a mid rail for a sash, consisting of an arched body having flanges extended beyond the body;

a supplemental strip fitting within the arched body and having flanges to inclose the body; and a similar supplemental strip fitting within the flanges of the body, said strip having flanges to inclose the flanges of the body.

2. In a device of the class described, a frame comprising arched members having their open sides disposed toward the center of the frame; arched socket elements engaged in the open sides of the members; a mid-rail consisting of an arched body having flanges extending beyond the body, a supplemental strip fitting within the arched body and having flanges to inclose the body, and a supplemental strip fitting within the flanges of the body, said strip having flanges to inclose the flanges of the body; the flanges of the supplemental strips being cut away, adjacent the ends of the strips, and the ends of said strips being inserted into the socket elements.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT W. IVEY.

Witnesses:

W. L. COLLAMER.

F. B. OCHSENREITER.