A. H. NEWPHER.

WINDOW.

APPLICATION FILED MAR. 12, 1910.

1,067,265. Patented July 15, 1913.

Fig. 2.

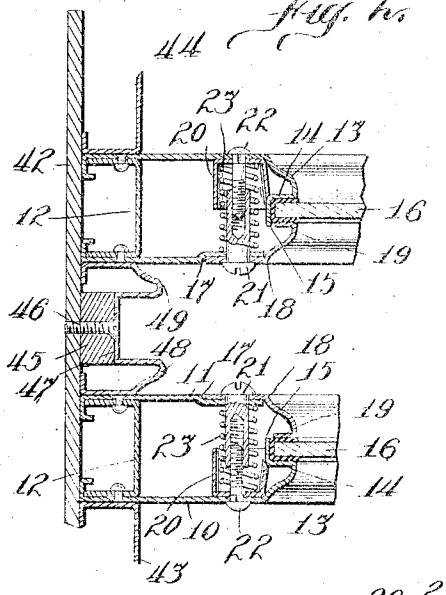


Fig. 1.

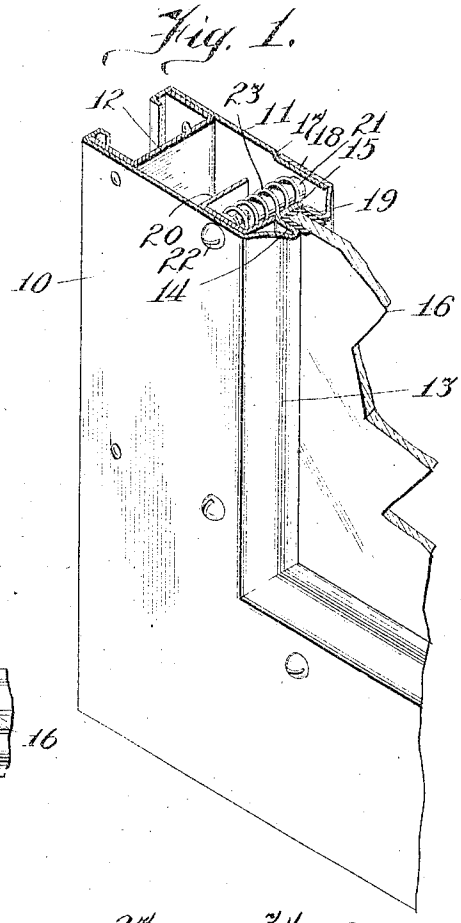


Fig. 3.

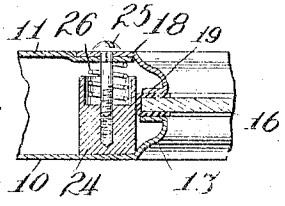


Fig. 4.

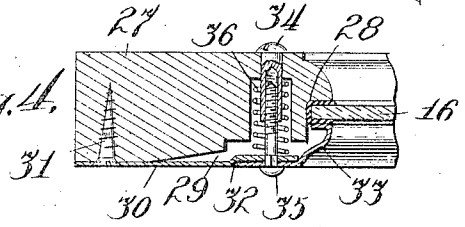
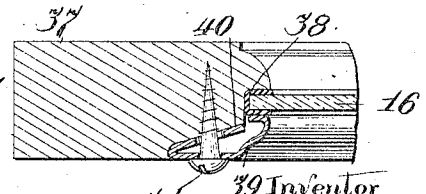


Fig. 5.



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UNITED STATES PATENT OFFICE.

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WINDOW.

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To all whom it may concern:

Be it known that I, ALFRED H. NEWPHER, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Windows, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to improvements in windows, and more particularly to windows having metal frames and sash, though some of its features are applicable to wood construction.

The objects of the invention are to provide improved means for securing the glass within the sash, and an improved sash guide.

The invention is hereinafter fully described, and is illustrated in the accompanying drawings, in which—

Figure 1 is a detail elevation of a window sash showing the preferred form of construction for securing the glass, the sash being shown partly in section; Fig. 2 is a detail plan section through a portion of a window frame and a pair of sash; Figs. 3, 4 and 5 are detail plan sections of the sash showing various modifications of the sash-retaining mechanism.

Preferably the sash is of sheet metal, being formed of inner and outer plates 10, 11, which may be united at their outer edges, as by means of a channel bar 12 fitted between them and to which they are riveted, the outer margins of the plates being folded inward to form a stile-engaging face. The inner marginal portion of one of the plates, as 10, is inclined inward toward the glass to form a suitable bead or finish 13, and then bent outward toward the edge of the sash to form a shoulder 14 against which the flat face of the glass may rest, and then again bent to form a seat 15 perpendicular to the side face of the sash for receiving the edge of the glass 16. The other side plate 11 terminates on a line with the first fold of the plate 10, its inner margin being offset inwardly, as shown at 17. A retaining plate 18 is fitted to the outer surface of the offset portion of the plate 11, its inner margin being bent or inclined inwardly toward the glass and then folded outward, as shown at 19, to form a flat face for engaging the flat surface of the glass.

A staying bar 20 is fitted within the chamber of the sash, being applied and preferably soldered to the inner face of the plate 10. This bar may, as in Figs. 1 and 2, be of sheet metal stamped or folded to channel form. One wall of the bar engages the glass seat 15 and holds the same rigid.

The plates 10 and 11 are secured together by means of telescoping screws 21, 22, which are set through the bar 20 and around which are coiled expanding springs 23. The glass having been placed against the shoulder 14 and seat 15, the retaining strip is fitted in place and the screws 21, 22, set up to draw the parts firmly against the glass. The retaining strip 18 being of sheet metal, gives slightly upon the application of screw pressure and, while securing the glass firmly in place, holds it with a yielding pressure.

In the construction illustrated in Fig. 3, there is substituted for the stay bar 20, as shown in Figs. 1 and 2, a solid bar 24 having its inner face counterbored to provide apertures for the retaining screws 25 and a housing for the springs 26.

In the construction illustrated in Fig. 4, the sash rail 27 is shown as of wood, shouldered at 28 to provide a suitable seat for the glass 16. The face of the rail, opposite the shoulder 28, is cut away, as shown at 29, and this portion is covered by a metal plate 30, secured to the wood by means of screws 31. The inner margin of the plate 30 is offset inwardly, as shown at 32, and to this offset portion is applied a retaining strip 33, folded inwardly to engage the glass 16. Telescoping screws 34, 35, are set through the rail, including the plates 30 and 33, and draw the latter snugly against the glass. The wood member 27 of the rail is counterbored to accommodate the screws and a spring 36.

In the construction illustrated in Fig. 5, the sash rail 37 is of wood and is provided with the usual seat 38 for the glass. Its face opposite this seat is cut away, and to this cut-away portion there is applied a folded retaining plate 39, one leaf 40 of the plate lying against an inclined surface of the rail 37 and its other leaf being folded inward to bear against the glass 16. The retaining plate is secured to the sash-rail by means of screws 41.

The stile of the window frame is shown at 42. To this stile are suitably secured guide-stops 43, 44, here shown as of sheet

metal. Intermediate of these stops there is fixed to the stile 42 a longitudinal bar 45, preferably of metal, this bar being secured to the stile plate by means of screws, as 46. A sheet metal plate 47 is secured to the outer face of the bar 45, being held in place by the screws 46. The marginal portions 48, 49, of this plate are folded outwardly substantially perpendicular to the body portion of the plate, and are then folded backwardly to the surface of the stile plate 42. These folded portions 48, 49, of the plate form yielding stops coöperating with the stops 43, 44, to provide runways for a pair of sash. The outstanding portions of the plate 47 afford a guide-way for a dust screen.

I claim as my invention—

1. In a window sash, in combination, a rail having a shoulder seat for a light of glass, a flexible retaining strip for holding the glass to the shoulder, telescoping screws binding the strip to the rail, and expansion springs resisting the compressive action of the screws.

2. In a window sash, in combination, a rail having side plates of flexible sheet metal, one of such plates being bent to form a shouldered seat for a light of glass, a retaining strip bearing upon the outer face of the other plate for holding the glass to the shoulder, a spring resisting the compressive action of the screws, a stay member secured to the inner face of the first-named plate and supporting the seat, and screws for advancing the retaining strip, the stay being socketed to receive the spring.

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