G. B. KOHLER.

METALLIC SASH.

APPLICATION FILED SEPT. 21, 1915.

Patented May 29, 1917.

1,228,327.

Fig. 2.

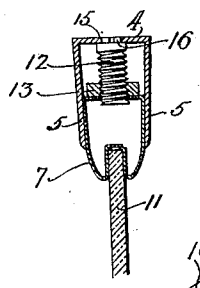


Fig. 4.

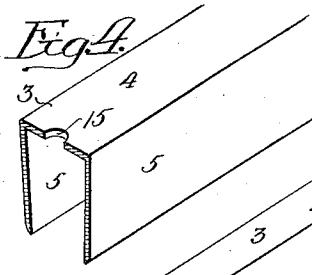


Fig. 6.

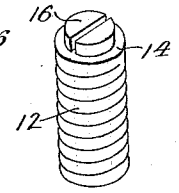


Fig. 7.

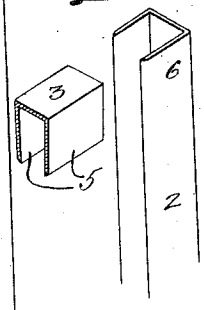


Fig. 1.

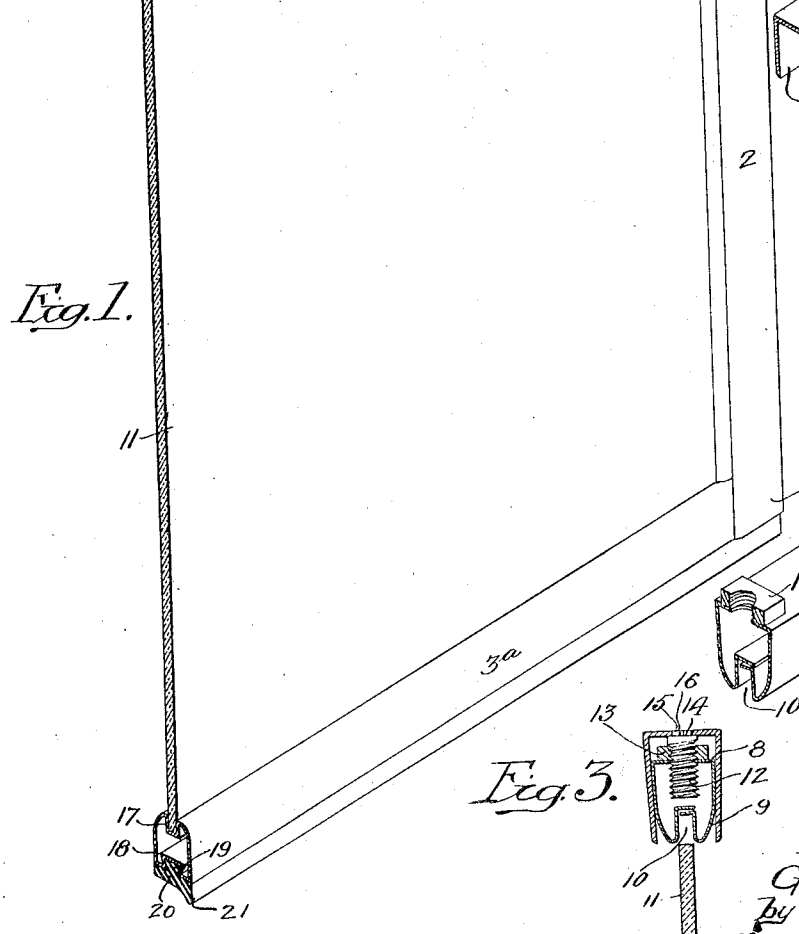


Fig. 5.

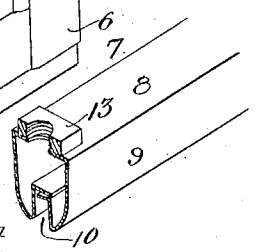


Fig. 3.

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George B. Kohler,
by his Attorneys.
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE B. KOHLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE J. G. BRILL COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

METALLIC SASH.

1,228,327. Specification of Letters Patent. Patented May 29, 1917.

Application filed September 21, 1915. Serial No. 51,844.

To all whom it may concern:

Be it known that I, GEORGE B. KOHLER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Metallic Sashes, of which the following is a specification.

My invention relates to certain improvements in a metallic sash in which the sheet of glass is held.

One object of the invention is to construct the sash so that the glass can be inserted or removed quickly and easily.

A further object of the invention is to construct the sash so that the use of putty, felt, or rubber is avoided.

The invention is particularly adapted for use in connection with the sash used on railway passenger cars, but it will be understood that it can be used in the construction of window sashes in general without departing from the essential features of the invention.

In the accompanying drawings:—

Figure 1, is a sectional perspective view illustrating my improved window sash and showing the glass in position;

Fig. 2, is a sectional view of the upper portion of the sash showing the glass locked in position;

Fig. 3, is a view similar to Fig. 2, with a part of the sash withdrawn so as to release the glass;

Fig. 4, is a detached sectional view of a portion of the sash frame;

Fig. 5, is a sectional perspective view of a portion of the clamping bar;

Fig. 6, is a perspective view of one of the adjusting screws used in connection with my improved sash; and

Fig. 7, is a detached perspective view, showing one of the corners of the sash.

Referring to the drawings, 1 is the sash having side bars 2 and upper and lower cross bars 3 and 3^a, respectively. The cross bars 3 and side bars 2 are made as clearly shown in Fig. 4, and have a body portion 4 and deep flanges 5 and, when the frame is assembled, the ends of the cross bars 3 and 3^a are slightly reduced, Figs. 1 and 7, so as to extend into the ends 6 of the side bars. The parts are secured by sweating or brazing. In some instances the top and bottom rails may be flared and the side bars may extend into the flared ends, if found desirable in manufacturing.

7 is the clamping bar, which is made as illustrated in Fig. 5 and consists of a body portion 8 and curved, inturned flanges 9, the ends of which overlap as illustrated in Fig. 5, and form a groove 10 for the edges of the glass sheet 11. These edges are not secured together, but there is sufficient spring in the metal to allow the flanges of the clamping bar to bind yieldingly upon the glass, so that the use of putty, felt or rubber at this point is dispensed with.

In order to adjust the clamping bar to and from the glass, I provide a series of adjusting screws 12, which are made as shown in Fig. 6, and which are adapted to nuts 13 secured to the body portion 8 of the clamping bar 7, as clearly shown in Fig. 5. Each screw has a shoulder 14 bearing against the inner side of the body portion 4 of the bars 2 and 3 forming the frame 1, and the body portion is perforated, as at 15, and a reduced portion 16 of the screw projects into the perforation but is flush with the outer surface of the frame. This reduced portion is slotted, or otherwise formed, for the reception of a screw driver, or other instrument, by which it can be turned from the outside.

As it is only necessary, in order to remove the glass, to have three sides of the sash adjustable, I preferably dispense with the clamping bar 7 and shape the cross bar 3^a to form a groove 17 for the edge of the glass, and I form an undercut groove 18 in the body of the bar 3^a to receive the tongue 19 of the rubber strip 20, which has a narrow extended flange 21 at one edge of the sash, which will yield when the sash is brought down upon the sill. This rubber strip forms a cushion for the sash and at the same time makes an air tight and rain proof joint between the sash and the sill.

It will be understood that the top bar or either side bar may be formed of a fixed member instead of the bottom bar, but I prefer to shape the bottom bar in this manner as the side bars and top bar can be more readily manipulated than the bottom bar.

In applying a sheet of glass to the sash, all that is necessary is to turn the screws in the upper cross bar 3 and side bars 2, so

that the clamping bars will assume the position indicated in Fig. 3. There is no spring required and these bars are merely pushed back into this position. The side flanges of the frame are closer together at their extremities than at the base so that these bars have a tendency to pinch the locking bar and to hold it rigidly. When the glass is in position, the screws are turned so as to project the clamping bars and as they are projected they close in upon the glass, the edges of which enter the grooves 10 in the clamping bars and come in contact with the overlapping edges and, on continuing the movement of the screws, the inturned portions of the flanges yieldingly press upon the sides of the sheet of glass, holding it in position.

I claim:—

1. The combination in a window sash, of a hollow metallic frame, a clamping bar mounted in said frame, and means for moving the clamping bar forward to engage the glass, said clamping bar being made of metal and having yielding flanges bent to form a recess for the reception of the edge of the glass, the edges of said flanges being disconnected and overlapping and arranged to bear on the edge of the glass so that when the clamping bar has moved forward it will press upon the edge of the glass and on continuing the movement it will yieldingly bind upon the side surfaces of said glass holding the glass firmly to the sash.

2. The combination in a window sash, of a hollow metallic frame, a clamping bar mounted in said frame, said clamping bar being made of sheet metal and having yielding flanges bent to form a recess for the edge of the glass, the edges of said flanges being disconnected and overlapping and arranged to bear on the edge of the glass so that when the clamping bar is moved forward it will press upon the edge of the glass and upon continuing the movement it will yieldingly bind upon the side surfaces of said glass and thereby hold the sheet firmly in the sash, nuts secured to the back of the hollow frame, and a screw adapted to each nut and bearing against the interior wall of the hollow frame, said screw having a reduced portion extending into an opening in the sash so that the screw can be turned on the outside to adjust the clamping bar to the glass.

GEORGE B. KOHLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."