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G. A. BISCHOFF.

FASTENER FOR METALLIC SASH BARS.

APPLICATION FILED JAN. 14, 1907.

Fig. 1

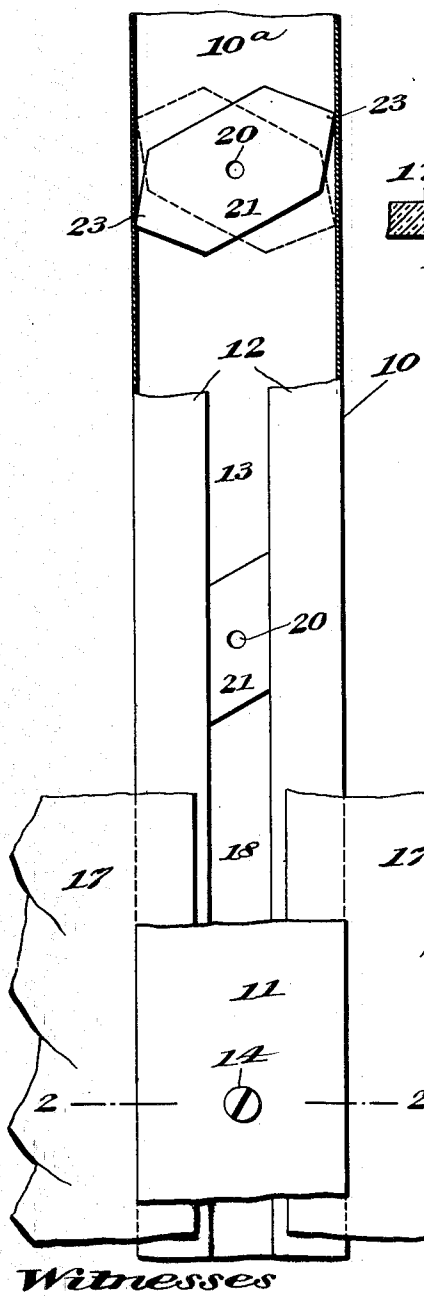


Fig. 2

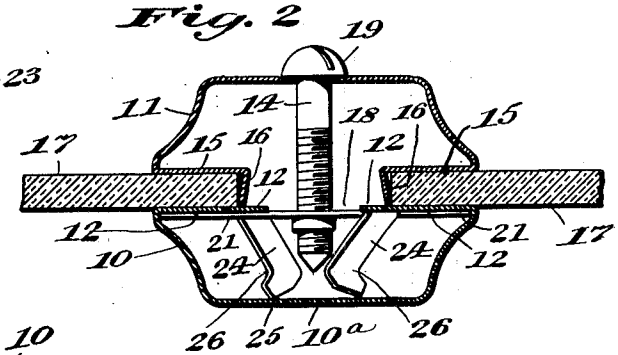


Fig. 3

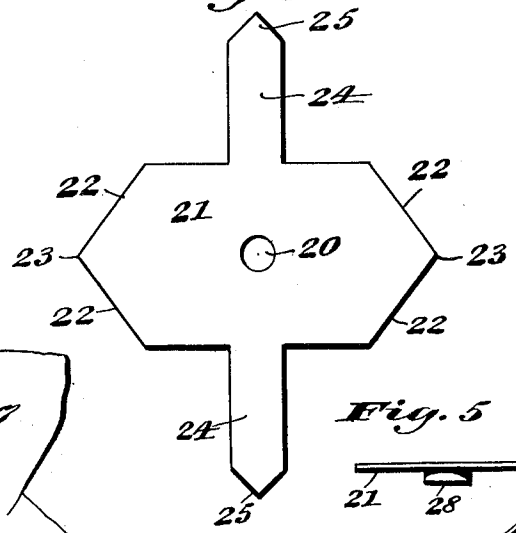


Fig. 5

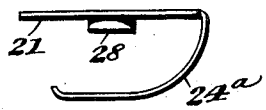
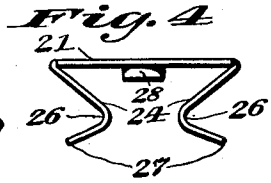


Fig. 4



Witnesses

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FASTENER FOR METALLIC SASH-BARS.

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Application filed January 14, 1907. Serial No. 352,178.

To all whom it may concern:

Be it known that I, GUSTAVUS A. BISCHOFF, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fasteners for Metallic Sash-Bars, of which the following is a specification.

This invention relates to improvements in a fastener or device to be used for securing together, or rather one on the other, the pieces comprising the sash bars of metallic sashes for windows so that the panes of glass may be held between said pieces, and while it is more especially intended for use in connection with the sash bars made of galvanized iron, yet it is applicable for use in other kinds of metallic sash bars; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the parts thereof, as will be hereinafter more fully set forth and specifically claimed.

As is well known to those skilled in the art to which my invention pertains, the sash bars of galvanized iron sashes, which support the glass between the sides of the sash frame, consist of an inner and outer piece, both of which are hollow and provided on their adjacent surfaces when in position for use with longitudinally extending slots. One of these pieces of the bar, usually the outer one, has secured, at intervals, to its slotted portion a series of plates, each of which is formed with a screw-threaded opening to receive screw-bolts extended through suitable openings in the other portion of the sash bar. The aforesaid plates have heretofore been secured to the piece of the bar on which they are located so as to extend across the slot therein, and by means of solder or rivets, which requires much time and labor, and, besides, a great deal of care in order to properly locate the openings in said plates between the sides of the slot in the piece of the sash bar to which they are secured. Furthermore, these plates have squared or rectangular ends which, when in position, rest against the side walls of the piece of the sash bar on which they are located, and it has been the custom, in fact the necessity, to insert them at one of the ends of the sash bar piece before said bar piece is placed in position on the sash, for as the ends of said plates are squared or rectangular, it is obvious that they could not be turned to a transverse position with respect to the sash bar piece after being first inserted longitudinally through the slot therein. A still further difficulty in using said plates has been that great accuracy of their adjustment before being secured to the bar piece was required, so that their openings would be located in the proper places to register with the openings in the other sash bar piece through which the screw-bolts extend.

The main object of my invention is to avoid or overcome the above-named objections in the old style, or way heretofore practiced, by providing a fastener for securing the pieces of the sash bar one on the other, which shall be simple and inexpensive in construction, strong, durable and effective in operation, and so made as to be readily located in operative position on one of the pieces of the sash bar after said bar has been fixed in place on the sash, and in such a manner as to obviate the necessity of fixing the plate portion of the fastener to the sash bar piece on which it is located by means of solder, or otherwise.

Another object is to so construct the fastener that the plate portion thereof will be, in a manner, self-adjusting in the sash bar piece in which it is located, so that the opening in said plate for the screw-bolt may be brought into register with an opening in the sash bar piece in which said bolt is located.

A further object is to so construct the plate portion of the fastener that it will firmly engage the sides of the sash bar piece in which it is located when the screw-bolt is turned in either direction, thus restricting the movement of and preventing the plate turning therewith, and, besides, causing the opening in the plate for said bolt to be automatically located equidistantly between the adjacent edges of the slot of the sash bar piece.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains, to make and use the same, I will now proceed to describe it, referring to the accompanying drawing, in which—

Figure 1 is a view partly in section and partly in elevation of portions of the pieces of a metallic sash bar, showing them secured one on the other by means of a fastener embodying my invention, and illustrating portions of the panes of glass held in position

between said pieces. Fig. 2 is a plan sectional view taken on line 2—2 of Fig. 1, showing the fastener as embodied in one form of the invention in operative position on the sash bar. Fig. 3 is a view of the plate portion of the fastener, illustrating it in its blank form. Fig. 4 is an end view of the plate portion of the fastener, showing a modification in the construction of its supporting means; and Fig. 5 is a similar view, showing another modification in the means for supporting the plate.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawing.

The sash bar, which may be made of any suitable size, form and material, but preferably of galvanized iron and of the shape in cross-section shown in Fig. 2 of the drawing, consists of two pieces secured one on the other, as shown in the lower portion of Fig. 1 and in Fig. 2 of the drawing, and for the sake of convenience I will term one of the pieces, which is designated by the reference numeral 10, as the outer piece, and the other, which is designated by the reference numeral 11, as the inner piece, or "mucton" by which term said inner piece is known in the trade. As shown in Figs. 1 and 2, the outer piece 10 is provided on each of its side walls with inwardly extending flanges 12, the free edges of which are spaced apart to produce a slot 13, through which the screw-bolts 14 may pass to engage the holding-plates therefor, and that the side walls of the mucton or inner piece of the sash bar is formed or provided with inwardly extending flanges 15, each of which has at its free portion an outturned part or flange 16 to rest against the surface of the flanges 12 on the outer piece of the sash bar adjacent to the inner piece thereof, the parts 16 being bent substantially at right angles to the flanges 15 and serving to hold said flanges in parallelism with and at a sufficient distance from the flanges 12 to receive the panes of glass 17 and putty used for securing them in place, when desired. It will be observed by reference to Fig. 2 that the inner portion of the flanges 15, as well as the parts 16, are spaced apart, thus forming a longitudinal slot 18 throughout the length of the mucton 11 or inner piece, through which the bolts 14 pass, which bolts are extended through suitable apertures provided in the face or front wall of the mucton 11 or inner piece, as is clearly shown in Figs. 1 and 2 of the drawing.

The above description and the illustrations of the sash bar, shown in Figs. 1 and 2, are of the ordinary and well known construction, and it is apparent that the form or shape of the parts comprising the sash bar may be varied in numerous ways without in any manner affecting my invention, which pertains to the means for fastening one of the sash bar pieces on the other, and consists of a bolt and a holding-plate for engagement therewith having means to support it until and after it is in engagement with the bolt, the other part of the fastener. The bolt 14, as shown in Fig. 2, is preferably formed with a head 19 on one of its ends and is screw-threaded, as shown, to engage a screw-threaded opening 20 in the holding-plate 21, which is preferably made of metal and of substantially the form as shown in Figs. 2 and 3 of the drawing—that is to say—said plate has each of its ends formed with two equilateral sides 22 of a triangle, the apexes 23 of which sides are opposed diametrically with respect to the opening 20 in the holding-plate. The holding-plate 21 is formed or provided at about the middle of each of its sides with a support or leg 24, the free end of each of which is preferably tapered or formed angular as at 25, so as to reduce the friction incident to the contact of said legs or supports with the face or wall of the outer sash bar piece 10, against which they will rest when the holding-plate is positioned in said piece. These legs are preferably bent towards each other from the side edges of the plate 21, and then slightly bowed as at 26, as shown in Fig. 2, so as to afford a slight yielding or spring-like effect, but this formation thereof is not essential, nor is the pointing of the ends of the legs as shown at 25 in Figs. 2 and 3, a material feature thereof, for they may be made so as to present straight edges at their free ends, as shown at 27 in Fig. 4 of the drawing.

In some instances, I may dispense with one of the legs or supports and use one leg 24^a therefor, as shown in Fig. 5, which may be located on one of the side edges of the plate, or otherwise, and bent with respect to the same, so as to hold the plate against the inner surface of the flanges 12 when the plate is placed in position in the outer piece 10 of the sash bar. The plate 21 may be provided with a thickened portion 28 around the opening 20, in which thickened portion screw-threads may be formed to engage the bolt.

From the foregoing and by reference to the drawing it will be clearly seen and readily understood that by providing the plate 21 with any of the supporting means shown in the drawing and above described, said supports being of metal, which is more or less flexible, may be bent so as to be interposed between the plate 21 and the face or wall 10^a of the outer sash bar piece, and that the plate may be inserted in one end of the sash bar piece 10 and slid therein to about the proper position, the angular ends 23 of the plate contacting with the inner surfaces of the walls of the piece 10, as is clearly shown by continuous lines in Fig. 1 of the drawing. When a number of these plates 21 have been disposed in about their proper positions, the

panes of glass 17 may be positioned with their adjacent edges spaced apart, as shown, when the mucton or inner piece 11 of the sash bar may be applied on the inner surfaces of the panes 17, so that the portions 16 of its flanges 15 will rest against the flanges 12 of the outer piece of the sash bar, when by passing the bolts 14 through the openings in the piece 11 therefor, the inner ends of the bolts may be inserted into the openings 20 of the plates 21, when said plates may be moved to their correct positions and the bolts tightened so as to securely hold the pieces 10 and 11 of the sash bar together and in position on the panes of glass. In the operation of screwing up or tightening the bolts, it is apparent that the pointed or angled ends 23 of the plates 21 will strike the side walls of the piece 10 of the sash bar and prevent said plates turning with the bolts. When it is desired to remove the bolts and they are turned in the opposite directions, it is apparent that the plates may turn therewith until they assume the positions indicated by dotted lines in Fig. 1, when further movement thereof will be prevented. As the opening 20 in each of the plates is located midway between the angled ends 23 and on a line therewith, it is apparent that when said ends are in contact with the walls of the piece 10, the opening 20 will occupy a position midway between the sides of the slot 13 and in alinement with the openings in the piece 11 for the bolts, thus making it an easy matter to insert the bolts into the openings 30, when the plates may be slightly moved to their proper positions.

If it is desired to insert the plates 21 after the piece 10 of the sash bar has been secured in place on the sash, this can be done by bending the supports for the plate sufficiently, so that it may be passed longitudinally through the slot 13 of the bar 10, when the plate may be turned to the position shown by continuous lines in Fig. 1, and the supports therefor bent outwardly so as to support the plate against the flanges 12 of said sash bar piece.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters-Patent, is—

1. A fastener for metallic sash bars consisting of an apertured plate having its ends angled to form apexes on a line with said aperture and provided with means projected beyond one of its surfaces to support it, and a screw-bolt in screw engagement with the aperture of said plate.

2. A fastener for metallic sash bars consisting of an apertured plate having yielding means projected beyond one of its surfaces to support it, and a bolt adapted to engage the plate in said aperture.

3. A fastener for metallic sash bars consisting of an apertured plate having its ends angled to form apexes on a line with said aperture and provided with yielding supports projected beyond one of its surfaces to support it, and a bolt in screw engagement with the aperture of the plate.

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