No. 675,311. Patented May 28, 1901.

A. M. WHIPPLE.

MEANS FOR SECURING WINDOW GLASS IN PLACE WITHIN SASHES.

(Application filed Sept. 11, 1900.)

(No Model.)

Fig. 1.

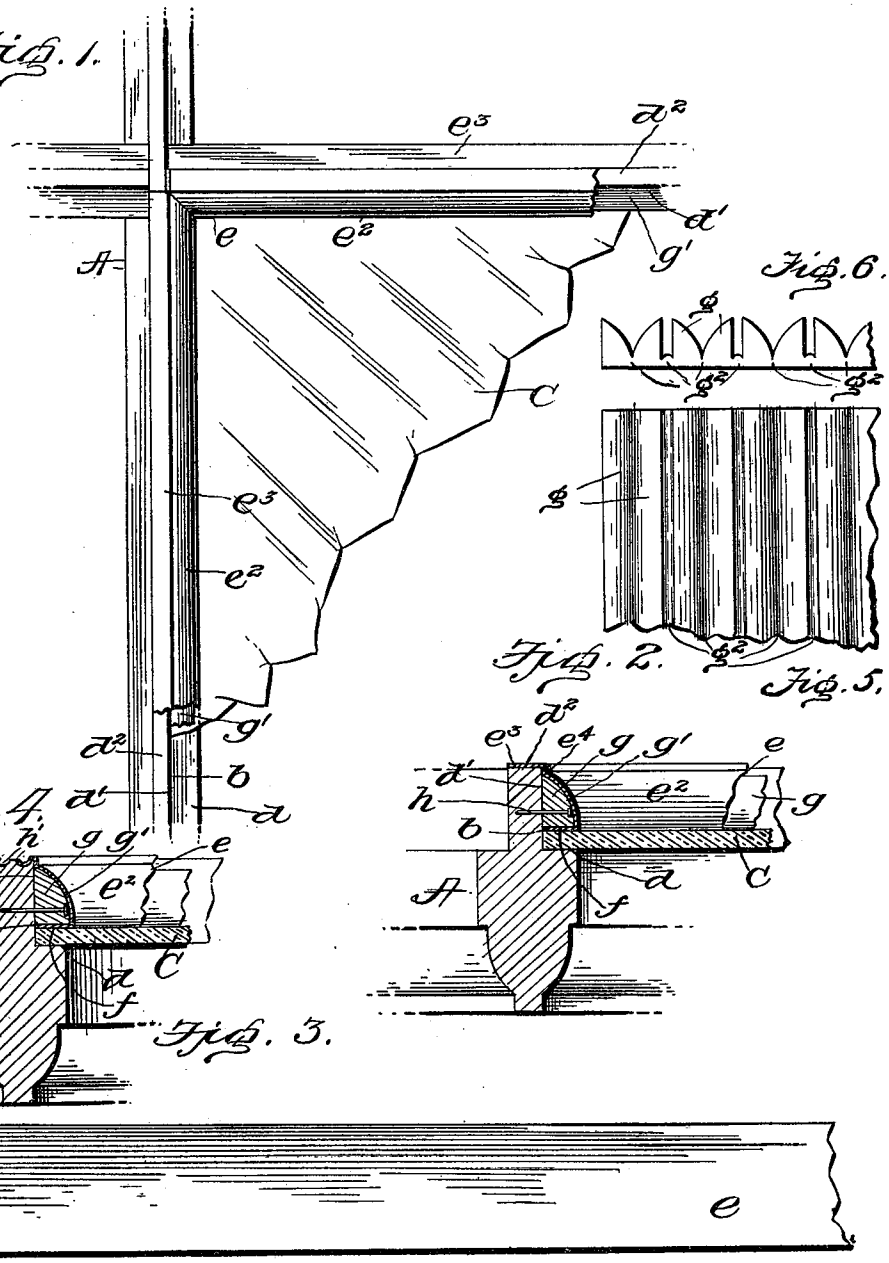


Fig. 4.

Fig. 3.

Fig. 6.

Fig. 2.

Fig. 5.

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UNITED STATES PATENT OFFICE.

ARCHIBALD M. WHIPPLE, OF NORTH ADAMS, MASSACHUSETTS.

MEANS FOR SECURING WINDOW-GLASS IN PLACE WITHIN SASHES.

SPECIFICATION forming part of Letters Patent No. 675,311, dated May 28, 1901.

Application filed September 11, 1900. Serial No. 29,726. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD M. WHIPPLE, a citizen of the United States, residing at North Adams, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Means for Securing Window-Glass in Place Within a Sash; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in means for securing window-glass in place within a sash, and has for its object to obviate the objectionable practice of employing putty and metallic fastening-strips and other fastenings which are liable to crumble or break, which are unsightly in use, and which exert undue pressure upon the glass, and to provide a simple, durable, and effective construction of fastening for securely holding the glass pane against displacement and at the same time hermetically sealing the joints against ingress of air and water, concealing all irregularities of surface and fastening devices, and protecting the glass from fracture.

With this and other minor objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a face view of a section of a window-sash embodying my invention. Fig. 2 is a transverse section through one of the stiles of the sash and fastening means on an enlarged scale. Fig. 3 is a plan view of the sealing strip or ribbon. Fig. 4 is a view similar to Fig. 2, showing a slight modification. Fig. 5 is a face view of the multiple molding-strip. Fig. 6 is an end view thereof.

Similar letters of reference designate corresponding parts throughout the several views.

A represents the sash, provided with the usual rabbet *b*, in which the glass pane C is seated and in which it has hitherto been generally secured by putty. It is a well-known fact that this common mode of setting glass in sashes is a slow operation and requires a skilled workman. After the putty has been properly applied it requires some time to harden, and in hardening it becomes so thoroughly set or cemented to the wood of the sash that it renders it very difficult to remove it thereafter in case a new glass has to be replaced for a broken glass, and in removing it the sash is frequently cut into and weakened and its appearance marred. As a substitute for putty metallic fastening strips or beads have been employed, but have been found objectionable for the reason that they do not conform to the surface of the glass, and hence do not form a hermetically-sealed joint, and also for the reason that in order to properly clamp the pane considerable pressure is frequently found necessary, under which the glass is liable to crack or break. To seal the joint and prevent rattling of the pane, the use of other materials in connection with the strip, such as rubber or felt, has been found advisable; but these only partially remedy the difficulty and not only increase the expense of setting a pane, but also form an undesirably thick joint. Furthermore, the metallic strips cannot be neatly joined and the brads or other fastening devices used in connection therewith are exposed and the appearance of the fastenings marred. My invention contemplates the provision of a fastening which avoids all these objections and is simple in construction, easily applied, and adapted to give a neat and ornamental finish to the sash.

In carrying my invention into practice I place the glass C to be secured in position to bear against the shoulders *d* of the recesses *b* in the usual way and then by means of a brush coat the inner surface of the glass around its edge with shellac or some other suitable adhesive material for a distance of three-sixteenths of an inch, more or less, from the edge. A flexible or pliable sealing strip or ribbon *e*, of tinfoil or equivalent material having sufficient flexibility to conform to the irregularities of surface of the glass, is next laid with one of its edges on the adhesive material along the edge of the glass and secured thereto by pressing it down gently on the glass by means of the fingers or a cloth or brush, so that it will be caused to firmly adhere and will conform to the surface of the glass and form an absolutely water and air tight joint. This ribbon is preferably put up in rolls and may be pre-

viously painted in oil-colors or otherwise colored to match the color of the sash and avoid the difficult process of drawing the sash with color to suit the building. One edge of the flexible sealing-strip having thus been secured to the glass, the upper or outer surface of said edge, which forms a base fold f, is then coated with an adhesive and a wooden molding-strip g laid thereon and pressed firmly against the strip and fastened to the sash by nails or brads h passing into the shoulders d' of the recesses b. These strips g are preferably in practice put up in the shape of a multiple strip composed of a series of strips which may be easily separated by cutting through the material on the divisional lines g^2 and g^3 when it is desired to detach a strip from the others for use, each strip being of a length corresponding to the length or width of a pane of glass of a given size. I employ wood strips in preference to metal strips, because they are more easily secured in position and fitted to form closer joints and, moreover, possess a certain amount of elasticity, with sufficient rigidity to allow the glass pane to have slight vibratory play under pressure without loosening the fastening connections, whereby liability of fracture of the pane is reduced to the minimum. The wooden strips are adapted also to more closely follow or conform to irregularities in the surface of the glass, so as to render a heavy clamping pressure on the glass unnecessary. The nails or brads h are provided at suitable intervals, and their heads are preferably countersunk in the wooden strips. Instead of wood I may make the molding strips of braided cord, papier-mâché, or any other suitable material possessing the requisite amount of flexibility and rigidity.

The base of the molding-strip g seats upon the fold f of the pliable sealing strip or ribbon e and is of less width than the shoulder d, while the strip is of less depth than the shoulder d'. After the molding-strip has been applied in the manner stated the curved or rounded face g' of said strip and the outer surface d^2 of the sash are coated with adhesive material and the body portion e^2 and free end of fold e^3 of the pliable sealing-ribbon turned over thereupon and pressed down, so as to firmly adhere thereto and form a smooth surface, the said body portion e^2 resting upon the curved surface of the molding-strip and the fold e^3 upon the outer face or edge d^2 of the stile or munnion of the sash. The object of making the molding of less width than the shoulder d and less depth than the shoulder d' is to make provision for the folding of the sealing-strip and at the same time to form a crevice at the outer end of the shoulder d', in which the sealing-strip may sink or become indented, as shown at e^4, in order to more effectually close the joint at that point and prevent the ingress of air or water between said shoulder and inner face of the molding-strip. When the sealing-strip is thus applied, it forms a smooth metallic waterproof surface, which effectually hermetically seals the joints and at the same time covers and protects the outer surface of the molding-strip and nails or brads and excludes moisture, so as to prevent warping of the molding and rusting of the brads. By this means a neat and tasty fastening is provided, which holds the glass pane securely without the necessity of springing it and which is adapted to form a yielding cushion against which the glass may vibrate to a slight extent to reduce the liability of breakage thereof. As stated, the sealing-strip may be colored to correspond to the color of the sash or building, and it keeps the surface of the glass clean, as there is no putty to wash off. The fastening is further advantageous in that it may be easily repaired or renewed without weakening the sash, as the clearage is perfect, and the sash may be washed or otherwise cleansed without liability of loosening or detaching any of the parts of the fastening. Furthermore, the sealing-strip when made of tin-foil forms a practically plated surface, which is bright and attractive and conduces to the entrance of light. It also makes possible invisible lapping at the corners and gives additional security where the wood strips meet.

In Fig. 4 I have shown a slight modification in which the face of the sash is indented all around to form grooves h', adapted to receive and protect the edges of the sealing-strips. The groove also makes a sure guide for the knife when trimming and places the outer edge of the sealing-strip beyond the friction of the cleaning-brush.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. In a fastener for the glass panes of sashes, the combination, with a sash having the usual rabbet, and a glass pane placed therein, of a molding-strip, and a pliable sealing and protecting strip or ribbon interposed between and united to the glass and molding-strip and hermetically sealing the joint between them, and also covering the outer surface of the molding-strip and stile or munnion of the sash and closing the joint between them, substantially as set forth.

2. In a fastener for the glass panes of sashes, the combination, with a sash having the usual rabbet, and a glass pane placed therein, of a molding-strip, and a sealing and protective strip of tin-foil cemented to the glass and molding-strip and hermetically sealing the joint between them, and folded over upon and cemented to the outer surface of the molding-strip and stile or munnion of the sash to protect and seal the joint between them, substantially as set forth.

3. In a fastener for the glass panes of sashes, the combination, with a sash having the usual rabbet, and a glass pane placed therein, of a wooden molding-strip, nails or brads securing

said strip to the sash, and a waterproof sealing and protecting strip interposed between and secured to the glass and molding-strip to hermetically seal the joint between them, and folded over upon the outer surfaces of the molding-strip and stile or munnion of the sash and secured thereto, substantially as set forth.

4. In a fastener for the glass panes of sashes, the combination with a sash having the usual rabbet, and a glass pane placed therein, of a molding-strip of less width than the base-shoulder of the rabbet and less depth than the side shoulder thereof, and a sealing and protective strip interposed between and secured to the sash and base of the molding-strip, and thence folded over upon the outer surface of the molding-strip and stile or munnion of the sash and indented to fit into the crevice between the inner side of the molding-strip and side shoulder of the rabbet to seal the joint between them, substantially as set forth.

5. In a fastener for the glass panes of sashes, a strip of wood or its equivalent possessing sufficient rigidity to hold the glass and nails, with metallic connections running the entire length of sufficient pliability to follow the minute irregularities of glass and sash, and hermetically sealed with the aid of an adhesive, uniting glass, strip and sash together in one continuous whole, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARCHIBALD M. WHIPPLE.

Witnesses:
O. C. ALDERMAN,
WALLACE KEARN.