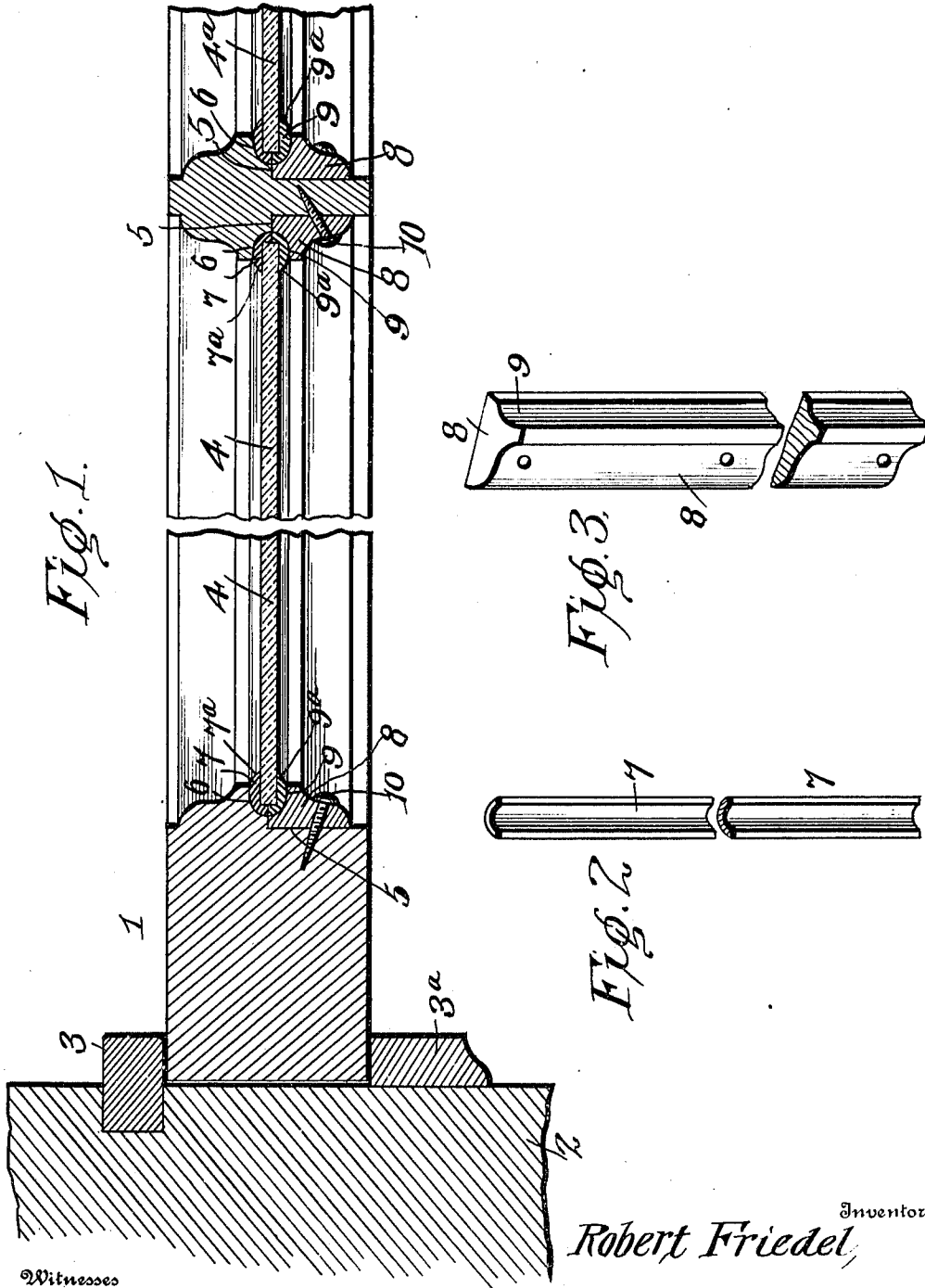


R. FRIEDEL.
PUTTYLESS WINDOW SASH.
APPLICATION FILED MAY 22, 1909.

970,438.

Patented Sept. 13, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

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PUTTYLESS WINDOW-SASH.

970,438.

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To all whom it may concern:

Be it known that I, ROBERT FRIEDEL, a subject of the Emperor of Germany, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Puttyless Window-Sashes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in puttyless window sashes and has for its object to provide simple and effective means whereby a window pane, sky-light, or other kind of glass can be securely and safely held in position.

Other objects and advantages of my invention will appear in the course of the following specification.

In the accompanying drawing: Figure 1 is a horizontal sectional view taken through a double window sash fitted with my improved window pane securing means; Fig. 2 is a front view of one of the securing means; and, Fig. 3 is a perspective view of one of the securing strips employed to hold the window pane in position.

Referring to the drawing, which illustrates the preferred form of my invention, 1 designates a double window sash of ordinary construction, which is held in position in a frame 2 by means of the usual cleats or beads 3 and 3^a. The window panes 4 and 4^a respectively are similarly held in position, so that a description of the manner in which one of them is secured in place will answer for both.

The window sash is suitably rabbeted on the inside, as at 5, and this rabbeted portion is provided on its outer edge with a beveled, or slanting, groove 6. Suitably secured in the groove 6 by means of water-proof glue is a semi-cylindrical piece of rubber tubing, 7, or other suitable material. The semi-cylindrical piece of material 7, it will be noted, is secured in position with its outer edge 7^a projecting slightly outside of the groove 6, for a purpose to be hereinafter explained.

In order to hold the window pane in position securing strips 8 are employed. These securing strips are provided on their outer edges with beveled, or slanting, grooves 9, similar to the groove 6 in the rabbeted por-

tion 5, and in these grooves are secured semi-cylindrical pieces of tubing of rubber, 7, or other suitable material by means of a water-proof glue. These pieces of tubing 7 are so secured in the grooves 9 that their outer sides project slightly beyond the outer edge of the grooves, as at 9^a. The securing strips 8 are secured in position by suitable fastening means 10.

As is clearly shown in the drawing, the grooves 6 and 9 mate, so that while the inner edges of the strips of tubing 7 carried by each groove contact, the outer edges project slightly beyond the outside of the rabbeted portion and the securing strips 8, and thus it will be seen that the window pane 4 is held firmly by the rubber tubing 7, or other suitable material, and, hence, the window pane does not contact with any hard material.

A feature of great importance in my invention is that of having the edges of the semi-cylindrical tubing 7 project beyond the outer edges of the rabbeted portion and the securing strips as at 7^a and 9^a, for as a result thereof water is effectually prevented from entering the grooves and injuring the surrounding wood work, or other material of which the sash and securing strips are made. I, preferably, form the semi-cylindrical, or curved pieces of material 7 by slitting horizontally pieces of tubing of the desired size, that is, when a heavy window is to be placed in position, it will be desirable to employ heavier strips 7, than when a small piece of glass is to be secured.

What I claim is:

In a window sash, a frame having a rabbet formed around the inner side of the opening, said rabbet having a groove extending around its angular edge adjacent to the opening, glass retaining strips adapted to be secured in the rabbeted portion of the frame and each having a groove corresponding in shape to the first mentioned groove and located in the inner angle of the respective strips, each of said grooves being curved in cross section and of the same dimensions, said strips having their edges abutting against the shoulder formed by the rabbet of the frame when assembled and the grooves in the frame and strips being arranged to form a U-shaped groove ex-

tending around the opening when the sash is assembled, sections cut lengthwise from rubber tubing cemented in the grooves of the frame, and other sections similarly
5 formed from rubber tubing cemented in the grooves of the strips, said sections conforming in dimensions to the grooves.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

ROBERT FRIEDEL.

Witnesses:

CHRISTIAN KAHL,
HENRY RENNNE.