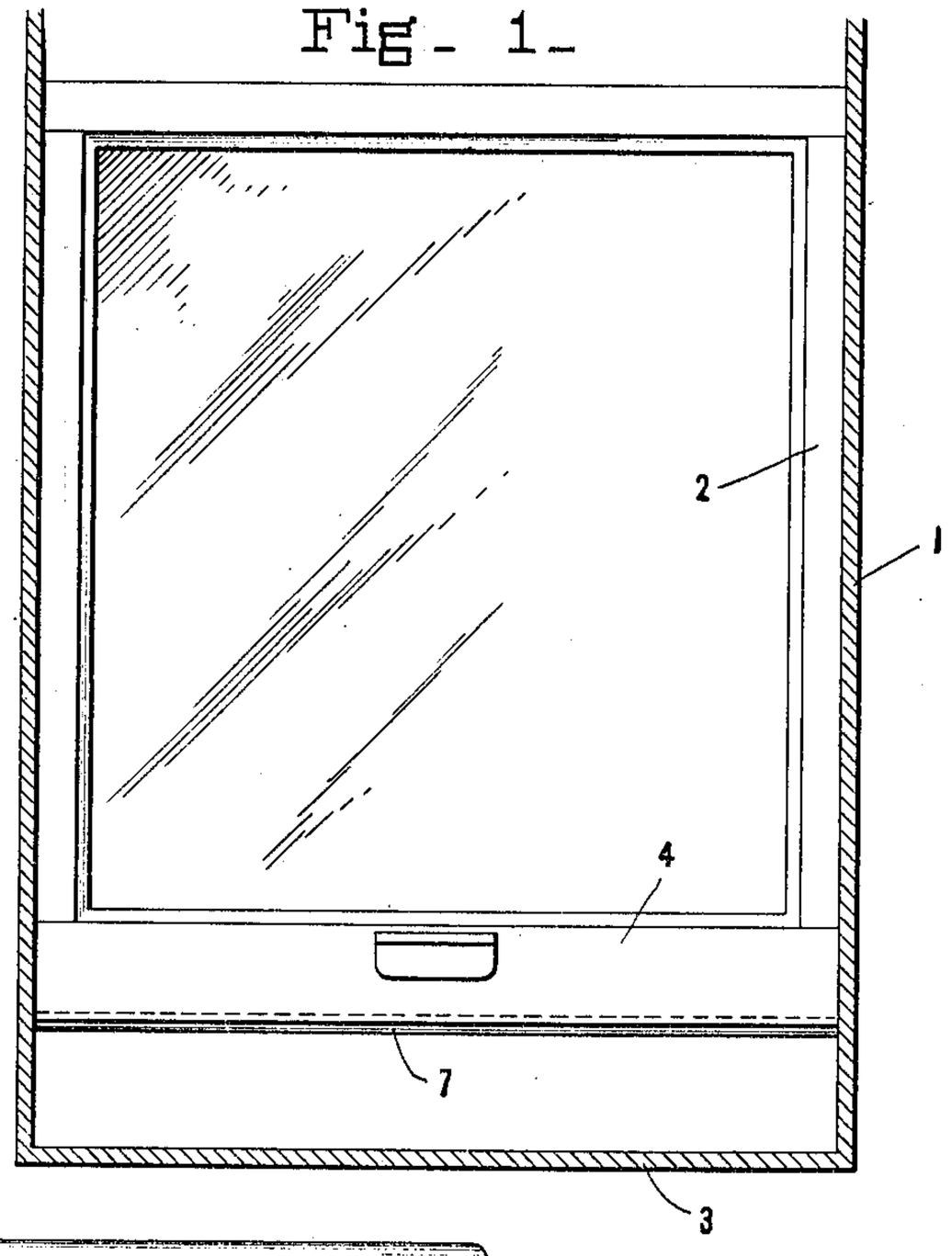
No. 871,216. PATENTED NOV. 19, 1907.

E. M. ERB.

WINDOW CONSTRUCTION.

APPLICATION FILED SEPT. 17, 1906.

Fig. 1.



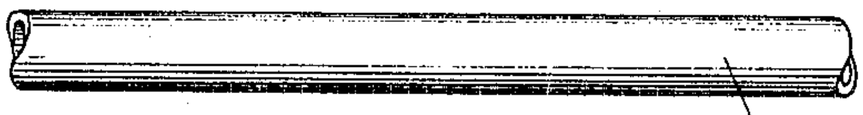


Fig. 4.

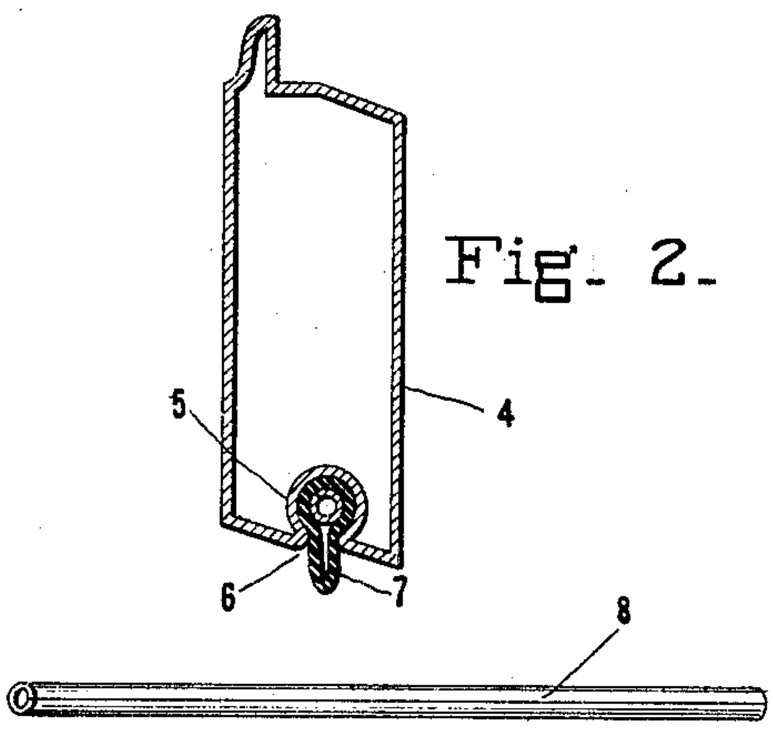


Fig. 2.

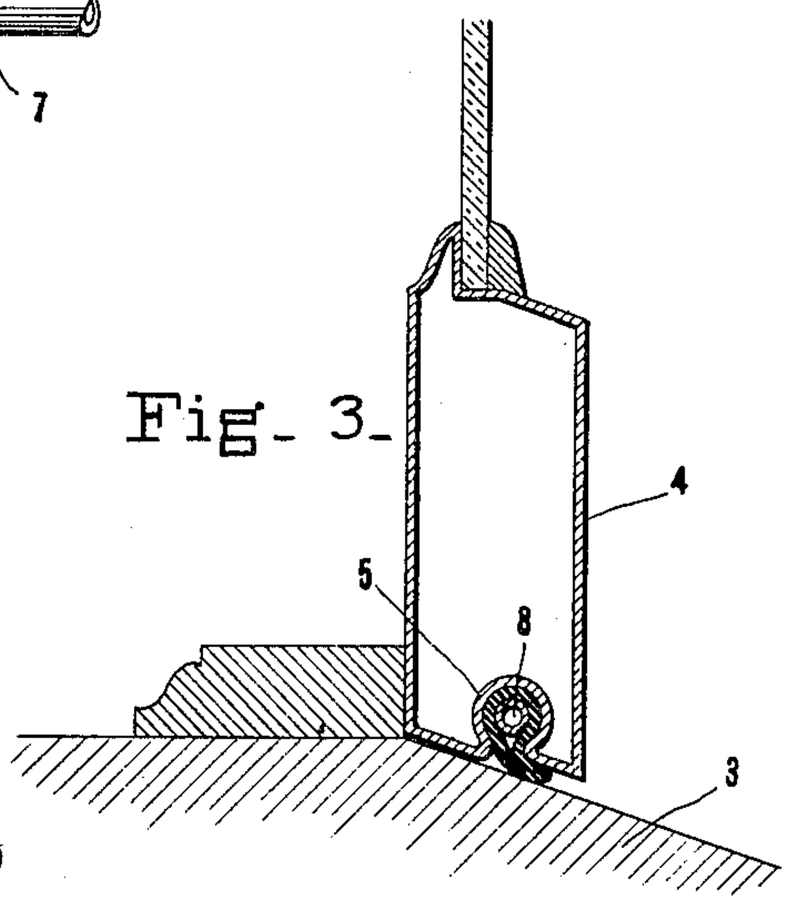


Fig. 3.

Fig. 5.

WITNESSES

J. Clyde Ripley.

R. H. Martin.

INVENTOR

E. M. Erb

BY

Duell, Warfield & Duell

ATTORNEYS

UNITED STATES PATENT OFFICE.

EDMUND M. ERB, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO ROBERT M. DIXON, OF EAST ORANGE, NEW JERSEY.

WINDOW CONSTRUCTION.

No. 871,216. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed September 17, 1906. Serial No. 334,973.

To all whom it may concern:

Be it known that I, EDMUND M. ERB, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Window Construction, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates broadly to means for effecting a tight closure between relatively movable parts, but more particularly it concerns closures for sliding window sashes and the like.

One of the objects of the invention is to provide simple and efficient means for affixing weather strips upon their supporting members.

Another object is to provide a construction such that the weather strips employed for effecting a closure between a sliding sash and a window sill may be easily and conveniently removed when worn sufficiently to necessitate their replacement by new strips.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereindescribed and the scope of the application of which will be indicated in the following claim.

In the accompanying drawing, wherein is illustrated one of the various possible embodiments of my invention, Figure 1 is a view in plan showing my invention as applied to a sliding sash of the type employed in railway cars; Fig. 2 is a vertical sectional view taken through the bottom sill of the sash; Fig. 3 is a similar view, but showing the window sill and the bottom rail of the sash in engagement as when the window is closed; Fig. 4 is a view in elevation of one of the hollow members which constitute the weather strips; Fig. 5 is a similar view of a device employed to retain the weather strips in the sashes.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Before entering upon a description of the structural features constituting this embodiment of my invention, it may here be noted that weather strips, owing to their somewhat fragile nature, soon wear out and must be replaced by new ones. In prior constructions this operation has been attended with difficulties, and much time has been wasted on account of the manner of their attachment to their supporting parts. I have therefore found it desirable to provide fastening devices for the strips of such construction as will permit of their easy and convenient removal in the event of their becoming disarranged or worn, and it should be apparent from the following description that other valuable results are obtained by my invention.

Referring now to the drawing, 1 indicates a portion of a frame within which the sash 2 is mounted to slide. The sill of the frame against which the sash abuts when in a closed condition is shown at 3, said sill being preferably inclined outwardly and downwardly as shown. In this embodiment of my invention I have shown the weather strip applied to metallic sash frames, the lower rail 4 of one of which is hollow as shown in Figs. 2 and 3. Located in the lower surface of rail 4 is a longitudinally extending recess 5 having a contracted mouth as at 6. This recess in this type of sash is preferably formed by depressing the sheet metal; but it will be understood, of course, that it will be otherwise formed according to the material of which the sash is constructed, as in wooden sashes, when a portion of the material will be cut away to provide a similar recess.

Located within recess 5 is a tube 7 of flexible material, herein shown as being composed of rubber, said tube protruding from said recess when seated therein as shown in Figs. 2 and 3. The part of said tube which protrudes from said recess constitutes the weather strip which, when in engagement of the sill as shown in Fig. 3, effects a tight closure and prevents the entry of dust, dirt or other foreign matter and the seeping of water upward, underneath the sill and between the sash and the bottom stop. It will be noted that the portions of the abutting part of the bottom rail which merge into the walls of recess 5 are in different planes, the outer portion being raised slightly to provide a space between said portion and the sill for the accommodation of the protruding part of the weather strip when the sash is in engagement with the sill as in Fig. 3.

Lying within the portion of tube 7 within

recess 5 is a hollow split tube 8 of resilient material which serves as a means for holding the portion of the outer surface of the rubber tube within the recess in engagement with the walls of the same, thus retaining it in position therein. Tube 8 is of such size as will permit the same to be entered laterally into the recess through the mouth thereof after it has been inserted in tube 7, which operation may be readily accomplished by resting the tube upon the mouth of said recess and applying pressure to the same until tube 8 enters the recess, carrying with it a portion of the rubber tube by which the same is surrounded. The same result may be accomplished by inserting the rubber tube laterally through the mouth of recess 5 and then thrusting the metallic tube endwise therein.

When it is desired to replace a worn strip by a new one, the flexible tube may be withdrawn from the recess in the rail by pulling the same laterally, or the retaining means may be forced out endwise through the opening, whereupon the said tube may be readily removed therefrom.

It will accordingly be seen that I have provided a construction characterized by simplicity and efficiency, and one that is well adapted to attain all the objects above enumerated and others not mentioned herein, inasmuch as I deem my invention capable of employment in many other relations.

While I have shown my invention as applied to the bottom rail of a sliding sash, I wish it to be distinctly understood that I do not intend to be limited to its employment in such relation, as it may be equally well utilized upon other portions of the sash, upon different stationary parts of the window frame, or, in fact, in any location where it is desired to effect a tight closure between relatively movable parts. The offsetting of the abutting walls of the rail provides a space for the reception of the weather strip, and the engagement of the surface of the rubber tube between the walls of the recess prevents water from seeping around the same and then passing upward by means of capillary attraction between the rail and the bottom stop.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein-described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

In closures for windows or like structures, in combination, a stationary member, a movable member, a circular recess having a contracted mouth provided in one of said members, a hollow flexible member located within said recess and extending without the same, and a split tube of resilient material lying within the portion of said flexible member within said recess and adapted to retain the same in tight engagement with the wall of said recess.

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

EDMUND M. ERB.

Witnesses:
C. H. WILSON,
H. M. SEAMANS.