No. 821,353. PATENTED MAY 22, 1906.

S. W. FUNK.

TIGHT AND NOISELESS CASEMENT FOR SWINGING CLOSURES.

APPLICATION FILED AUG. 5, 1904.

Fig. 1

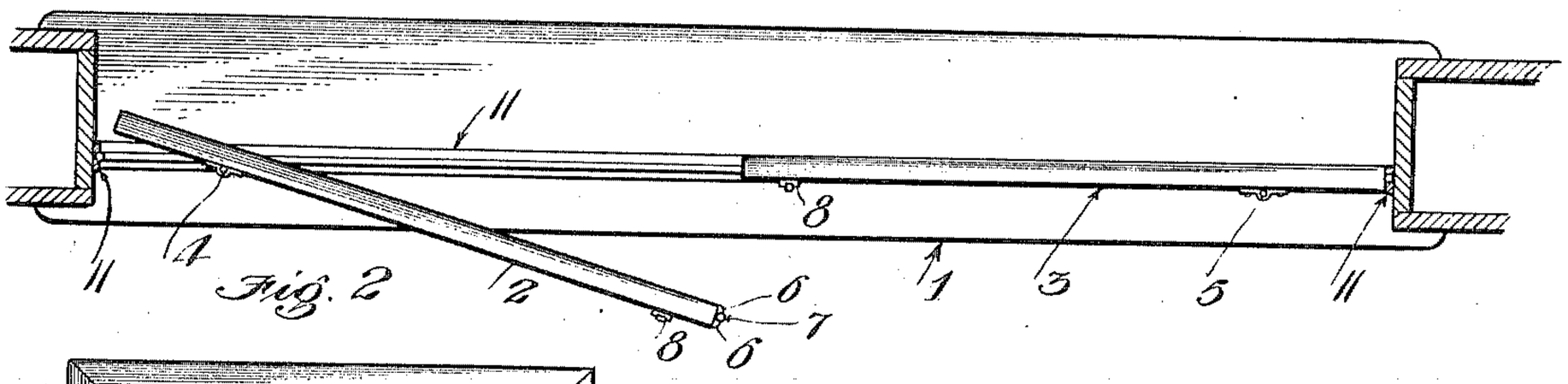


Fig. 2

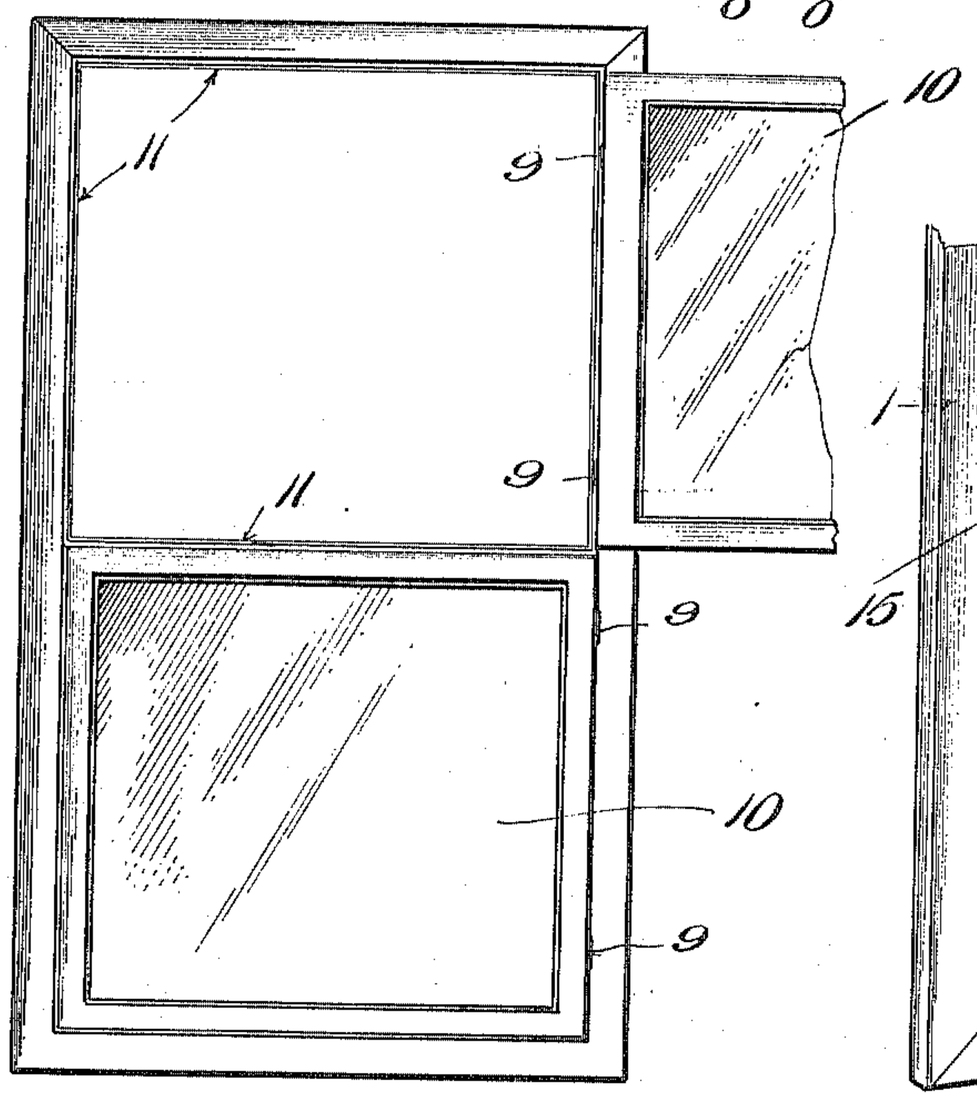


Fig. 3

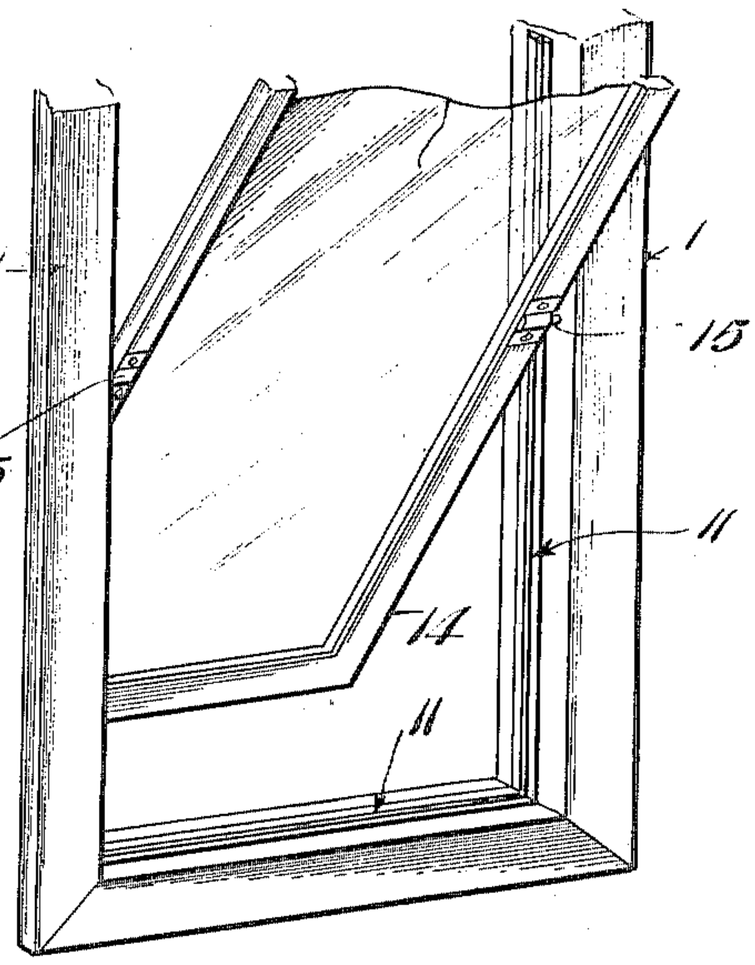


Fig. 4

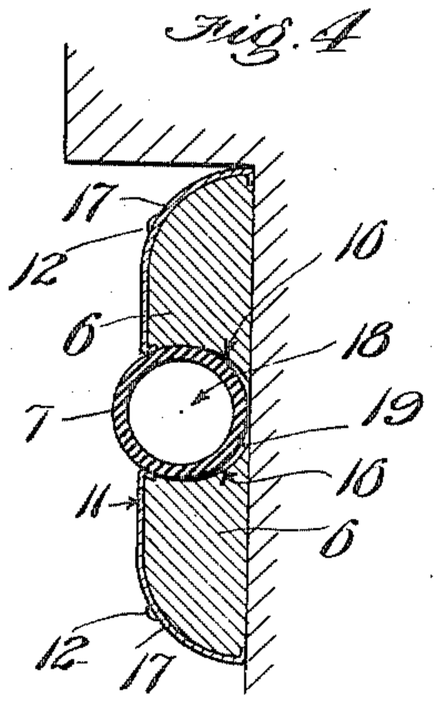


Fig. 5

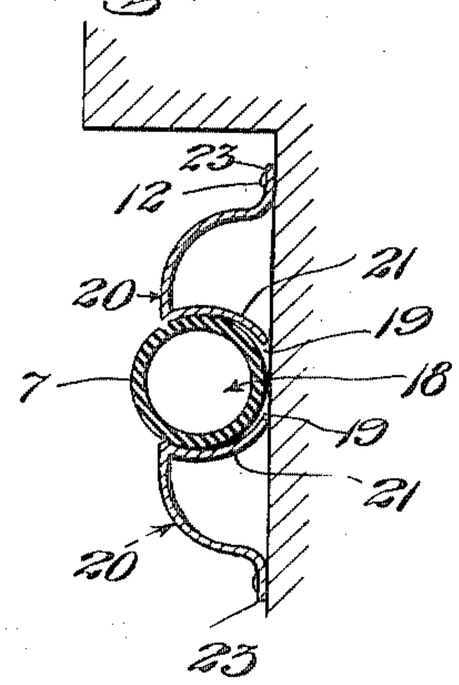
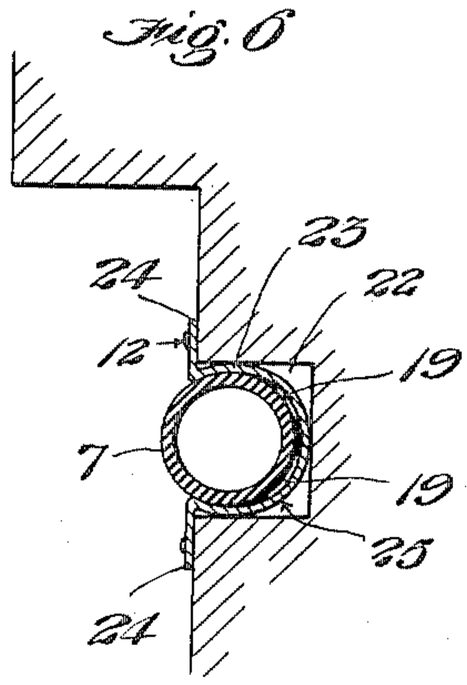


Fig. 6



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL W. FUNK, OF GLENDORA, CALIFORNIA.

TIGHT AND NOISELESS CASEMENT FOR SWINGING CLOSURES.

No. 821,353. Specification of Letters Patent. Patented May 22, 1906.

Application filed August 5, 1904. Serial No. 219,594.

To all whom it may concern:

Be it known that I, SAMUEL W. FUNK, a citizen of the United States, residing at Glendora, in the county of Los Angeles and State of California, have invented a new and useful Tight and Noiseless Casement for Swinging Closures, of which the following is a specification.

The main object of this invention is to provide means in the nature of a weather-strip and casement which will effectually and tightly close the window or other opening fitted therewith.

A further object of the invention is to provide for checking the movement of the closure, so as to hold it in any position to which it may be moved.

Another object of the invention is to avoid any noise on closing or opening the closure.

My invention is particularly applicable in connection with swinging window-sashes, and it is herein shown and described in that connection; but it will be understood that it is generally applicable to swinging closures of any kind.

The invention consists in the combination with a casing, a closure pivoted therein by pivots intermediate the width of the closure to swing into juxtaposition with the casing, and elastic weather-strip means clamped and fastened on the casing and forming an unbroken oval or tubular packing that is unbroken by the pivots and over which the closure is to swing and press upon evenly throughout.

The accompanying drawings illustrate the invention.

Figure 1 is a horizontal section of a window provided with my invention, the closures therein being mounted to turn on vertical axes intermediate of the width of the sash. Fig. 2 is an inside elevation of a window provided with my invention, the sashes being hinged along one edge to swing on a vertical axis. Fig. 3 is a perspective view from the inside of a window having my improvement and showing a sash pivoted to swing on a horizontal axis. Figs. 4, 5, and 6 show different forms of the weather-strip means.

Referring to Fig. 1, the numeral 1 indicates a window-casing, two window-sashes 2 3 being pivotally mounted in said casing on the respective pivots 4 5 intermediate the limits of width of the respective sashes, so as to turn on vertical axes. To avoid any interference of said pivots with the weather-strip means 11, hereinafter described, the pivots are arranged at one side of the respective sashes—for example, on the inner side thereof, as shown. The weather-strip means comprises clamping or supporting strips 6 6 and a packing device held between said clamping-strips and consisting, preferably, of a rubber tube 7 of sufficient diameter to tightly close the space between the edge of the sash and the adjacent portions of the casing. This tube forms a rounded packing-strip, presenting a rounded or inclined surface to the action of the window as the window closes thereon from either direction and enabling the window to ride onto the same from either side. The clamping-strips 6 6 may be fastened to the casing in any suitable manner, as by being nailed thereto by nails 12, and may be variously constructed, as hereinafter set forth. The pivots 4 5 of the respective sashes being at one side thereof will be free of interference with the weather-strip parts that extend alongside the same, these portions in the case of a window pivoted to move on a vertical axis, as in Fig. 1, being the portions at the top and bottom of the window. It will also be generally desirable in case the device is used on windows having outside screens to arrange the pivots near one edge of the sash—for example, near the outside edge, as shown—so that when the window is open, with the center part swung inwardly, the outer part will swing free of the screen. In order to seal the joint between the respective swinging windows 2 3, one of said windows may have on the edge which is presented to the other window a weather-strip means 6 7 of the kind above described, so that when the windows are closed a tight joint will be formed between them. The window-sashes 2 3 may be provided with catches 8 to fasten the sashes in closed position, as will be understood. The weather-strip means 6 7, which are shown at one edge of the sash, may be placed on any desired number of the edges thereof to engage with the parts surrounding the sash, whether said parts are on the casing or on other closures, it being immaterial to my invention whether the weather-strip is placed on the swinging closure or on a relatively fixed part arranged in juxtaposition thereto.

The window-sashes may be positioned in any suitable manner and may be arranged to swing on a horizontal or on a vertical axis, as may be desired, my improved casement

being applicable to all pivoted closures. In Fig. 2 the windows 10 are shown as hinged at the extreme edge thereof, the arrangement of the weather-strip means 6 7 around the window-casing 1 being the same as above described, forming a complete weather-proof packing for each sash between the sash and casing. In case there are two superposed sashes, as shown in Fig. 2, the weather-strip means 6 7 may be provided on one of said sashes—for example, on top of the lower sash, as indicated—to close the joint between the two sashes. The hinges (indicated at 9) should be arranged to leave the inner edge of the sash to set off a little from the casing when closed, so that it will rest squarely against the weather-strip back of same.

With a window arranged to swing on a horizontal axis, as shown in Fig. 3, where the window 14 is pivoted on horizontal pivots 15 at each side of the window-casing 1, the said pivots are preferably arranged on the inner side of the sash, so as to be free of the weather-strip means 6 7, which extend completely around the casing, so as to engage with the edges of the sash at top, bottom, and both sides when the latter is closed.

A desirable construction of the weather-strip means is shown in Fig. 4, the two strips 6 being formed of suitable material, such as wood, with a metal casing or cover 17 clenched or drawn over the edges of the strips 6 to hold the said metal casing in place thereon. The strips 6 are fastened to the window-casing 1 in such manner as to leave between their opposite faces 16 a channel or space 18 for the reception of the tube 7, and said faces 16 are formed to project at their outer parts to engage partly over the tube, so that the tube has to be squeezed somewhat in inserting it between said strips. Said tube rests directly against the window-casing 1, and the strips 6 are so formed as to be free of engagement with the rubber tube at certain parts thereof to enable the tube to be squeezed or pressed into the channel 18 to yield sufficiently to the edge of the closure. These spaces (indicated at 19) are desirably adjacent to the casing 1, so that the strips 6 7 can be formed to engage closely with the sides of the rubber tube at a distance from the casing to hold the same against lateral displacement.

In Fig. 5 the wooden strips 6 are dispensed with, metal strips 20 taking the place thereof and being formed with internal flanges 21 of such shape as to have the same function as the faces 16 of the wooden strips 6, said metal strips having flanges 23 on their outer sides for the reception of nails to fasten them to the casing 1.

In some cases, especially in connection with doors, it will not be desirable to use a projecting weather-strip device such as above described, as the narrow stop of the door-jamb does not allow room therefor, and in that case said device may be inset or countersunk into the casing, as shown in Fig. 6, wherein 22 indicates a routing or groove in the casing or door-jamb, and 23 indicates a metal strip having flanges 24 to receive nails, fastening it to the casing and inturned groove portion 25, formed on each side with faces similar to the opposing faces 16 aforesaid of the wooden strips 6 in Fig. 4 to embrace between them the rubber tube 7, which rubber tube lies against the bottom of the groove 25, is free of engagement with the surrounding parts at each side adjacent to the bottom of the groove, engages loosely at the outer part of each side with the metal strip, and projects outwardly beyond the groove to engage and form a tight joint with the closure.

What I claim is—

1. A window-casing, a sash pivoted therein by pivots at one side of the sash and an elastic weather-strip clamped and secured to the window-casing, forming a tubular packing unbroken by the pivots and extending in a plane to one side of the pivots of the sash, in position to engage with the edges of the sash when the latter is closed.

2. A window-casing, a sash pivoted therein by pivots located intermediate the limits of width of the sash and at one side of the sash, and an elastic weather-strip clamped and secured to the window-casing, forming a tubular packing unbroken by the pivots and extending in a plane to one side of the pivots of the sash, in position to engage with the edges of the sash when the latter is closed.

3. A window-casing, a sash pivoted therein by pivots located intermediate the limits of width of the sash, near one edge of the sash and at one side of the sash, and an elastic weather-strip clamped and secured to the window-casing, forming a tubular packing unbroken by the pivots and extending in a plane to one side of the pivots of the sash, in position to engage with the edges of the sash when the latter is closed.

4. A window-casing, a sash pivoted therein by pivots at one side of the sash and an elastic weather-strip clamped and secured to the window-casing, forming a rounded packing unbroken by the pivots and extending in a plane to one side of the pivots of the sash, in position to engage with the edges of the sash when the latter is closed.

In testimony whereof I have hereunto set my hand, at Los Angeles, California, this 29th day of July, 1904.

SAMUEL W. FUNK.

In presence of—
ARTHUR P. KNIGHT,
A. M. HOLLY.

Correction in Letters Patent No. 821,353.

It is hereby certified that in Letters Patent No. 821,353, granted May 22, 1906, upon the application of Samuel W. Funk, of Glendora, California, for an improvement in "Tight and Noiseless Casements for Swinging Closures," an error appears in the printed specification requiring correction, as follows: Page 2, line 80, the word "loosely" should read *closely;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 19th day of June, A. D., 1906.

[SEAL.]

F. I. ALLEN,

Commissioner of Patents.