R. F. NICHOLS.

STORM STRIP FOR CASEMENT WINDOWS.

APPLICATION FILED JULY 14, 1914. RENEWED JUNE 2, 1915.

1,191,091.

Patented July 11, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

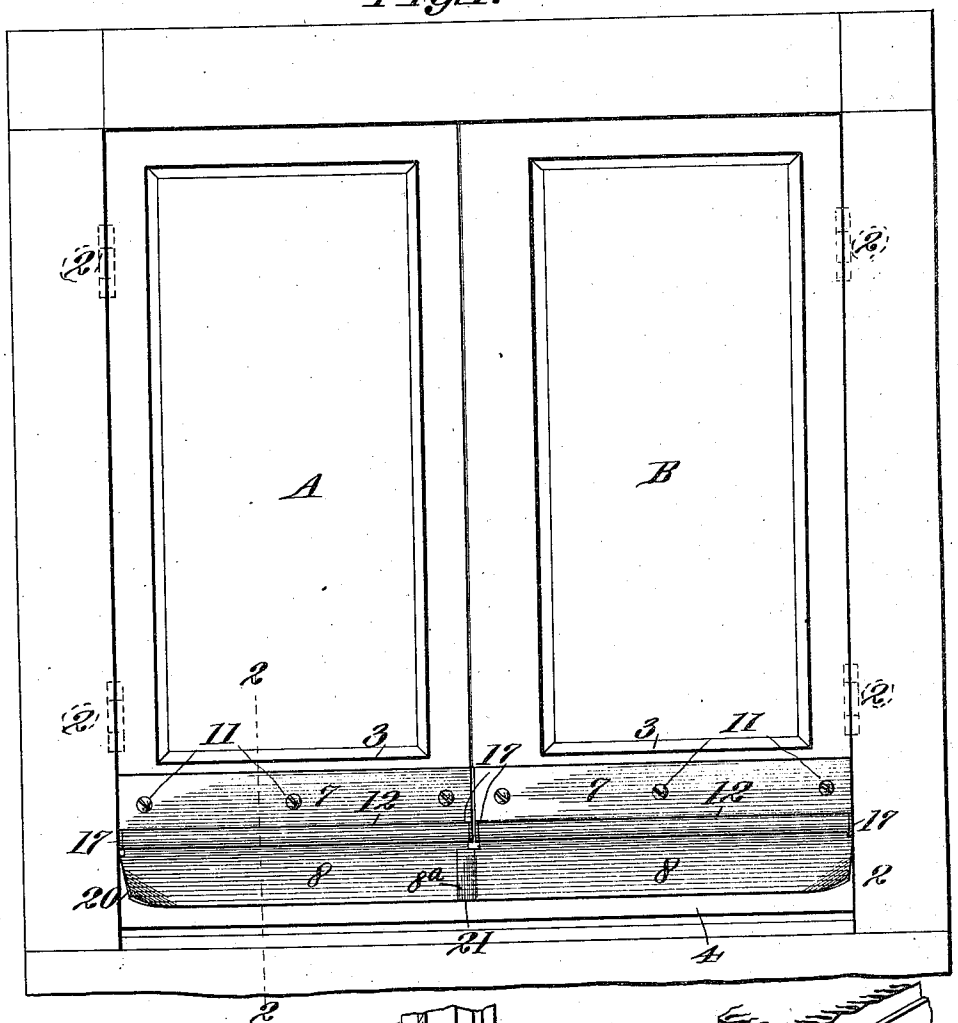
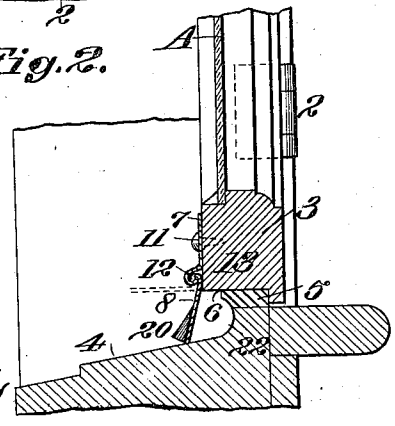


Fig. 2.



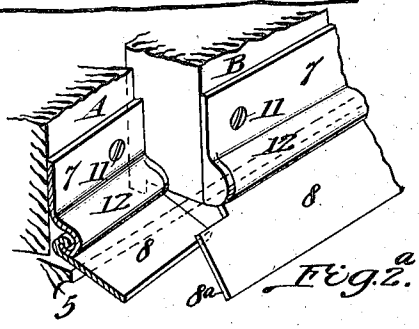


Fig. 2a.

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Fig. 3.

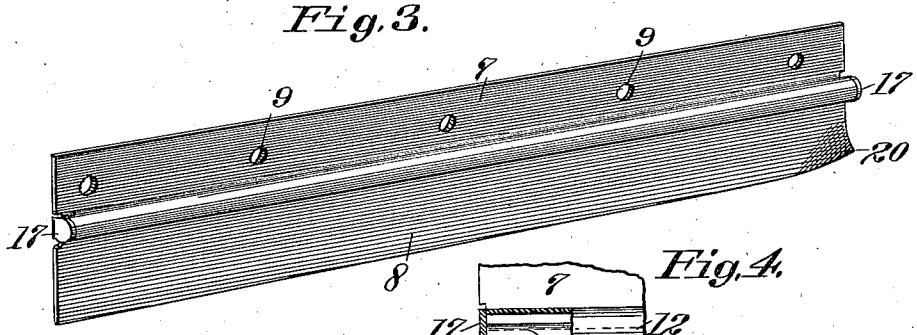


Fig. 4.

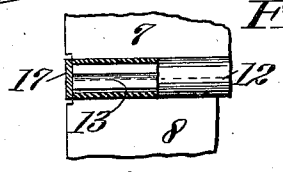


Fig. 5.

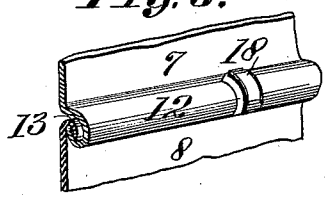


Fig. 6.

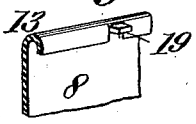


Fig. 7.

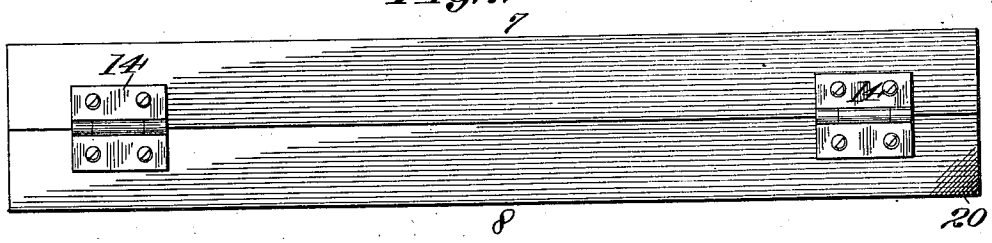
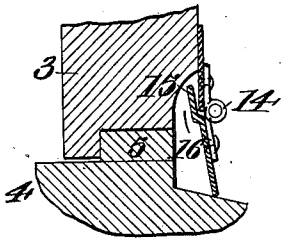


Fig. 8.



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STORM-STRIP FOR CASEMENT-WINDOWS.

1,191,091. Specification of Letters Patent. Patented July 11, 1916.

Application filed July 14, 1914, Serial No. 850,907. Renewed June 2, 1915. Serial No. 31,789.

To all whom it may concern:

Be it known that I, ROBERT F. NICHOLS, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Storm-Strips for Casement-Windows, of which the following is a specification.

This invention relates to storm strips for casement windows, and the like.

The object of the present invention is to provide simple, cheaply manufactured, easily applied storm strips which are so constructed that they can be applied to any size windows and in a position where they will effectively stop a driving rain from entering between the lower edges of the window sashes and the sill stops.

Another object of the invention is to provide storm strips which will automatically rise or fall, with relation to the sill stops, as the windows are opened or closed and which will in no way interfere with the opening or closing of the windows.

Another object is to provide means for locking the pivoted sections of the strips against lengthwise movement.

Further objects will hereinafter appear.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a front elevation of a double hung casement window, showing the application of the storm strips. Fig. 2 is a cross section on line 2—2, Fig. 1. Fig. 2ª is a detail perspective view of the strips at the meeting edges of the windows. Fig. 3 is a detail perspective view of the strips. Fig. 4 is a partial longitudinal section of same. Fig. 5 shows a slight modification of the locking means for preventing longitudinal movement of one strip with relation to the other. Fig. 6 is a detail view of the lower half of said locking means. Fig. 7 shows a modified form of construction of the storm strips. Fig. 8 is a cross section of the sash and sill, showing the application of the modified form of strip shown in Fig. 7.

A and B indicate the windows of a double hung casement window which are carried by hinges 2 in the usual manner and adapted to swing inwardly, with relation to the room, when opened.

3 indicates the lower rails of the windows, 4 the sill and 5 the sill stop.

Casement windows of usual construction, such as here shown, are generally liable to leak, when subjected to wind driven rain, and the leakage generally takes place between the lower rails of the sash and the sill stop, as indicated at 6. This defect has, however, been overcome in the present instance by the following appliances:

Referring to Figs. 1, 2 and 3, 7 and 8 are pairs of hingedly connected strips of galvanized iron, or the like, the upper strips of which are perforated, as at 9, and adapted to be secured to the lower rails 3 of the windows by means of screws 11. The hinge connection between the two strips is preferably formed by bending a hook-like bead 12, on the lower edge of the upper strip, and a similar bead on the upper edge of the lower strip which is adapted to hook into bead 12, as indicated at 13. A simple leak-proof form of hinge is thus formed which will allow strip 8 to raise or lower with relation to the sill stop without interfering with the opening or closing of the window.

In Figs. 7 and 8 a slight modification has been shown in which the strips are connected by ordinary hinges 14, an upturned bead 15 being formed on the lower strip to prevent leakage between the strips. A channel 16, on the lower edge of the sash, permits free movement of the strip.

To prevent longitudinal movement of one strip with relation to the other the following means have been provided: In the construction shown in Figs. 1, 2 and 3 a pair of fingers or projections 17 have been provided. These are turned inwardly, as shown in Fig. 3, when the parts are assembled, and will effectively prevent longitudinal movement of one strip with the other. A modification is shown in Figs. 5 and 6, in which the upper bead 12 is pressed out to form a channel 18 into which a tongue or projection 19 on the lower bead is adapted to project. This will also effectively prevent longitudinal movement of one strip with relation to the other and is in some ways preferable to the construction shown in Fig. 3, as either or both ends may be cut off to fit different sized windows.

Referring to Figs. 1, 2 and 3, it will be seen that the outer ends of the lower hinged strips 8 are slightly turned up on the cor-

ners, as indicated at 20. This upturning of the corners permits the window to be swung inwardly and outwardly without any obstruction or interference by the strips 8. The upturned corners 20 will act as cams when engaging with the sill or stop and will, therefore, raise up or drop over same as the window is opened or closed.

In order to form a tight joint between the meeting edges of the strips I have shown the end of the swinging strip 8 of the right-hand door in Fig. 1 extended so that it overlaps the one on the left door, and when the doors are successively closed in the order named, the swinging plate 8 of the left-hand door will strike the extension 8^a of the right door, lifting and sliding beneath it so as to fit and form a tight joint.

Storm strips constructed in the manner shown are simple in construction and may be quickly applied by anyone to any size or width of windows. By using the locking means shown in Figs. 5 and 6 it is possible to cut one or both ends of the strip to fit any width window. The outer corners may be turned up, as indicated at 20, to any suitable degree and will thus be operable in any window and at any position.

The hinge connection formed between the strips, shown in Figs. 3 and 7, is weatherproof and may be quickly connected. In some instances to further provide against leakage it is desirable to form a groove 22 below the stop 5. This forms a pocket for any water that may enter between the storm strip and the stop and will thus prevent it from working up between the stop and the lower sash.

The materials and finish of the several parts of the device are such as the experience and judgment of the manufacturer may dictate.

I wish it understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claim and that I do not wish to limit myself to the specific design and construction here shown.

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

A storm strip for casement windows and the like consisting of a lower and an upper metal strip, the upper side of the lower strip having an inverted U-shaped bend, the free edge of said bend having a pair of spaced slits the material between which slits is bent outwardly to form a tongue, the lower edge of the upper strip being bent in the form of a J to provide a socket to receive said bend, said socket being formed with a lateral pressed-out part to form a channel for receiving said tongue.

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

ROBERT FLEETWOOD NICHOLS.

Witnesses:
JOHN H. HERRING,
W. W. HEALEY.