

(No Model.)

W. H. WOODARD.
WEATHER STRIP FOR WINDOWS.

No. 496,333.

Patented Apr. 25, 1893.

Fig I-

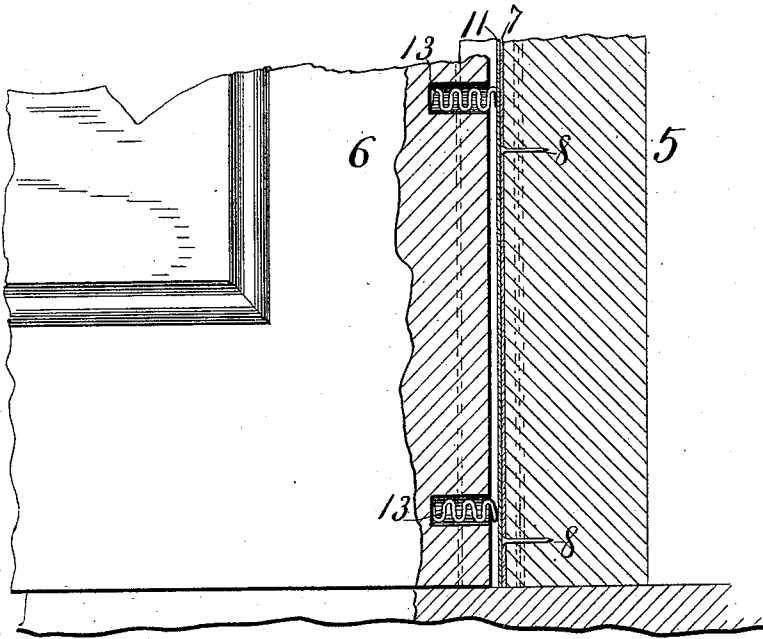
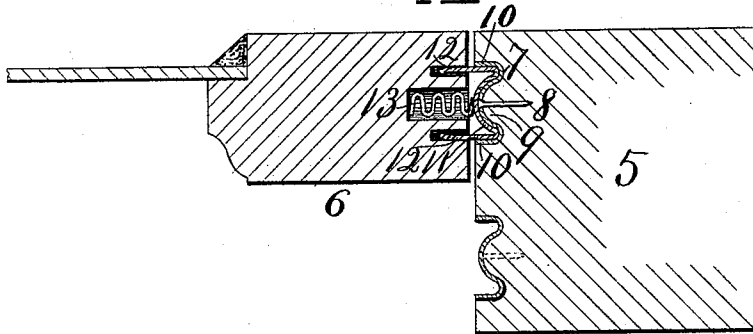


Fig II-



WITNESSES,
D. E. Stevens.
M. C. Kilgus.

INVENTOR.
William H. Woodard.
by H. K. Stevens, ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM H. WOODARD, OF MARINETTE, WISCONSIN, ASSIGNOR OF ONE-HALF
TO WILLIAM A. ANDREW AND ROLAND H. GITCHEL, OF SAME PLACE.

WEATHER-STRIP FOR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 496,333, dated April 25, 1893.

Application filed December 5, 1892. Serial No. 454,165. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WOODARD, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented certain new and useful Improvements in Weather-Strips for Windows; and I do hereby 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.

This invention relates to that class of devices which are inserted in the working joints of windows to prevent the passage of cold air and dust when the wood work becomes loose from shrinkage, and its object is to produce a self-adjusting weather strip that will be effectual and durable.

To this end my invention consists in the construction and combination of parts forming a "weather strip for windows" hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I, is a vertical section in the plane of the window of a portion of sash and frame, and Fig. II, is a horizontal section of the same.

5 represents the side frame of the window, and 6 one of the side portions of the sash adapted to slide up and down against the frame in opening and closing the window.

7 represents an **M**-shaped bead fitted into a groove in the edge of the frame 5, and made fast by means of nails 8 driven through the central portions of the bead into a rib 9, which is left projecting from the bottom of the groove in the frame. Before the bead is put into the groove its side wings 10 spread a little farther apart than the width of the groove and when nails are driven at 8 they draw the bead into place so as to forcibly compress the wings 10 a little toward the center. Thus the wings 10 press so closely against the frame as to exclude air and dust even though the sash should shrink after long service.

11 is a shoe made of sheet metal **M**-shaped to fit within the outer curvature of the bead, and provided with wings 12 long enough to project about three-eighths of an inch side-wise from the frame. A separate groove is made in the sash 6 to receive each wing of the shoe and let it play freely out and in.

13 represents a series of springs located at intervals along in the edge of the sash beneath the center of the shoe 11, to hold the same forcibly projected against the bead 7, and its wings 12 are shaped to spread outward so as to bear against the outer walls of the grooves in the sash, and the wings are turned inward at their edges to slide like sled-runners when the shoe plays out of and into the sash. This bead and the shoe fitting it serve as a slide way to the sash, the bead moving up and down with the sash and sliding upon the stationary shoe. The shoe, made self-adjusting by means of its springs 13, bears always with a fixed force against the bead and the force of the springs may be made just sufficient to support the sash by causing friction between the bead and shoe, and yet the sash will never stick and stumble in sliding as it will when wood slides against wood.

No matter how free the sash may be from the side frame this self-adjusting weather strip between sash and frame will always keep out wind and dust, and prevent the sash from rattling, so that after it shrinks the sash will fit as closely to its slideway as when new. By this means the usual parting strip between sashes, and the outside, and inside guiding strips may be dispensed with, at a considerable saving both in material and labor in the construction of window frames.

Some advantage might be obtained by the use of this spring shoe even if the bead were dispensed with, and it is evident that the shoe might be fixed in the frame and the bead in the sash without departing from my invention.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination in weather strips for windows, of an **M**-shaped shoe located between two members, the sash and the frame, with its wings fitted in one member to slide out and in, but not to slide therein endwise, and with its body portion extending into the other member as a slideway therefor; and springs located beneath the shoe to press it outward, substantially as described.

2. The combination in weather strips for windows, of an **M**-shaped bead fixed in one

of two members, the sash or the frame, an **M**-shaped shoe with its body fitting with sliding contact the outer curve of the said shoe, and with its wings entering grooves in the other
5 of the two said members to slide out and in freely but not to slide lengthwise therein, and springs acting to push the shoe against the bead, substantially as described.

3. The combination in weather strips for
10 windows of a frame; a sash fitted to slide freely therein, an **M**-shaped groove in one of the

said parts, and a shoe fitted freely in the other part and projecting to engage the said groove; the shoe being **M**-shaped with the wings or legs of the **M** turned in at their ends, sub- 15
stantially as described.

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

WILLIAM H. WOODARD.

Witnesses:

GEO. W. THORNE,
LONI TYLER.