(No Model.)

J. Y. BASSELL.

WEATHER STRIP.

No. 330,769. Patented Nov. 17, 1885.

Fig. 1

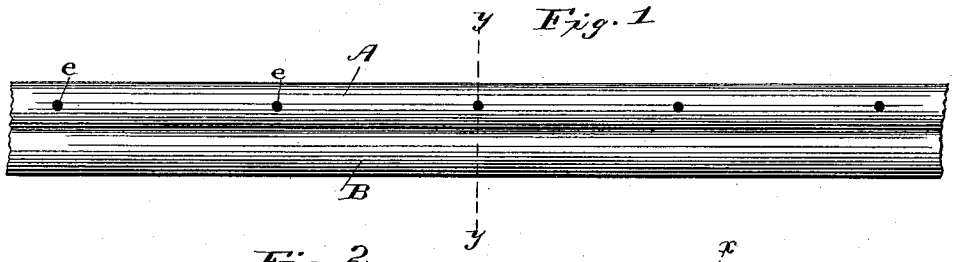


Fig. 2.

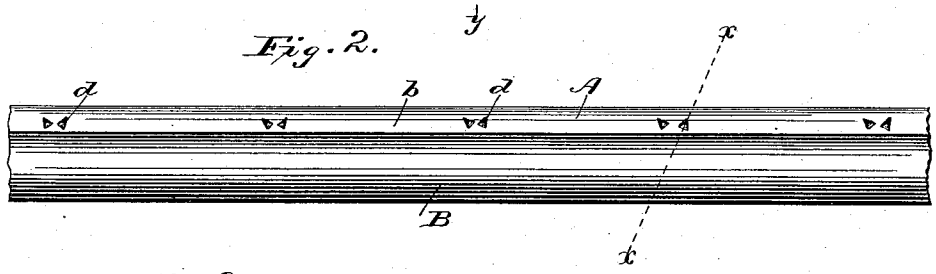


Fig. 3.

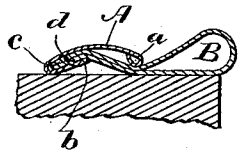


Fig. 4.

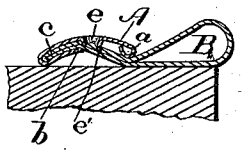


Fig. 5.

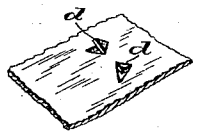


Fig. 6.

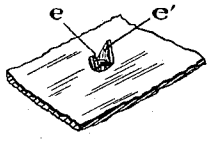


Fig. 7.

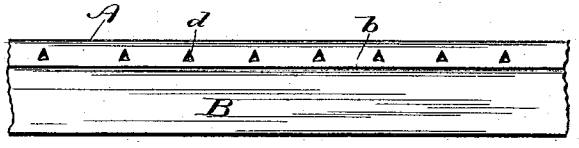


Fig. 8.

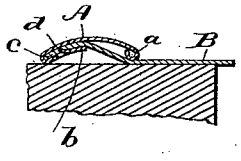


Fig. 9.



Fig. 10.



Witnesses.
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UNITED STATES PATENT OFFICE.

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WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 330,769, dated November 17, 1885.

Application filed October 6, 1885. Serial No. 179,142. (No model.)

To all whom it may concern:

Be it known that I, JOHN Y. BASSELL, of Leesburg, in the county of Loudoun and State of Virginia, have invented certain new and useful Improvements in Weather-Strips; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to that class of weather-strips which are composed of a strip of rubber and a strip of metal united together; and it has for its object to further improve upon the construction of the weather-strip for which an application for a patent was made by me on the 3d day of September, 1885, Serial No. 176,114, in respect, first, to economy in the quantity both of metal and rubber employed, and secondly, to the means for uniting the rubber and metal together.

I will first describe my improvements at length, and then point them out particularly in the claims at the end of this specification.

Referring to the accompanying drawings, Figure 1 is a top plan view of a weather-strip constructed in accordance with my invention; Fig. 2, a bottom plan view of the same; Fig. 3, a sectional view on the line *x x*, Fig. 2; Fig. 4, a similar view on the line *y y*, Fig. 1. Fig. 5 is an enlarged detail view showing the form of the prongs made in the operation of punching the underlapped portion of the metal; Fig. 6, a similar view of the form of prong made in punching the perforation in the body of the metal through which a securing nail or tack passes. Fig. 7 is a bottom plan view of a modified form of the invention in which but one instead of two perforations is punched in the underlapped portion of the metal; and Fig. 8 is a sectional view of still another modification in which the rubber consists of a plain flat sheet or strip, instead of a folded strip, as shown in the other figures. Figs. 9 and 10 are views of punches such as may be used to strike up the prongs from the metal.

Similar letters of reference in the several figures indicate the same parts.

The letter A indicates the metal portion, and B the rubber, of my improved strip. The metal at its inner edge is turned back on itself slightly, as shown at *a*, so as to form a round, smooth, and even edge for bearing down upon the rubber, while at its outer edge it is turned under back on itself for a greater distance, as shown at *b*, so as to hold the edge or edges *c*, as the case may be, of the rubber, as shown in Figs. 2, 3, and 4. Although in this turning in the lapped portion *b* of the metal upon the rubber the latter is tightly squeezed or compressed, the union of the two parts is not ordinarily sufficiently positive to prevent the separation of the rubber from the metal in rough usage in handling to which the strip is subjected before its application to a door or window. I therefore, by means of a suitable punch, strike up from the under side of the lapped portion *b* a series of prongs, *d*, (shown clearly in Figs. 5 and 3,) which strike through the ply or plies of rubber and by their inclination prevent the rubber being separated from the metal, in fact increasing their hold more tightly as the pull upon the rubber is made stronger. To further strengthen the connection, I also preferably form the perforations *e*, which are made in the metal for the passage of the securing nails or tacks, by means of a punch or punches so fashioned as to leave a prong or burr projection from the inside of the metal, (such as shown at *e'* in Fig. 6,) which prongs or burrs likewise strike through the ply or plies of rubber, as shown in Fig. 4. The prongs *d* will alone suffice to hold the rubber, and, if desired, the perforations *e* in the body of the metal will be formed without any prong or burr. So, too, when the prongs *e'* and the prongs *d* are both used, they may be located at any desired points along the strips without special reference to each other, the prongs *d* being formed either in pairs, as shown in Fig. 2, or single, as shown in Fig. 7; but the construction which I prefer is that shown in Figs. 1, 2, 3, 4, in which each prong *e'* from an opening *e* is caused to project through the rubber between a pair of prongs, *d*, as by such an arrangement the rubber is so held and compressed as to render it absolutely impossible to pull it apart from the metal without tearing it. It will be noticed that the body of the

metal is substantially concave or convex in cross-section, and that therefore, when the strip is applied to a window or door and secured in place by fastening nails or tacks passed through the openings *e*, the inner rounded edge, *a*, of the metal will press down and hold tightly and evenly the rubber and make so close a joint as to prevent the possibility of any air passing in under the strip.

My present invention, as compared with the one shown in my prior application referred to, (and which was itself economical, as compared with other strips previously made,) saves largely both in rubber and in metal, and is equally as effectual, if not more so, as a protection.

Any suitable devices may be employed for making the perforations in and striking up the prongs from the metal, and the operation may be performed either by hand or machinery. A punch formed as shown in Fig. 9 will produce the prongs *d*, and one formed as shown in Fig. 10 will serve to make the perforation *e* and strike up the prong *e'*. I do not, however, desire to be limited to the use of these instrumentalities, nor particularly to the special form of prongs shown.

I claim as my invention—

1. In a weather-strip, the combination of a single or double thickness of sheet-rubber with a metal body having the turned-up portion B, between which and the body of the metal the rubber is clamped, the said turned-up portion being provided with prongs struck up from its surface after the rubber has been clamped, so as to cause the prongs to penetrate the rubber and prevent it from being withdrawn, substantially as described.

2. In a weather-strip, the combination, with one or more thicknesses of sheet-rubber, of the metal body formed substantially concave in cross section and having the turned-in and rounded inner edge, *a*, and the turned-in outer portion, *b*, between which and the body of the metal the thickness or thicknesses of rubber are clamped, said portion *b* being provided with prongs struck up from the metal and caused to penetrate the rubber and prevent its withdrawal, substantially as described.

3. In a weather-strip, the metal body having the prongs on its turned-in outer portion, *b*, and having also the prongs formed at the openings for the passage of the securing-nails, substantially as described.

4. The combination, with the rubber, of the metal body having the turned-in portion *b*, provided with the securing-prongs arranged in pairs, and having also prongs formed at the openings through which the securing-nails pass, the said last-named prongs co-operating each with a pair of the first-mentioned prongs, substantially as described.

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Witnesses:

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JULIUS SOLGER.