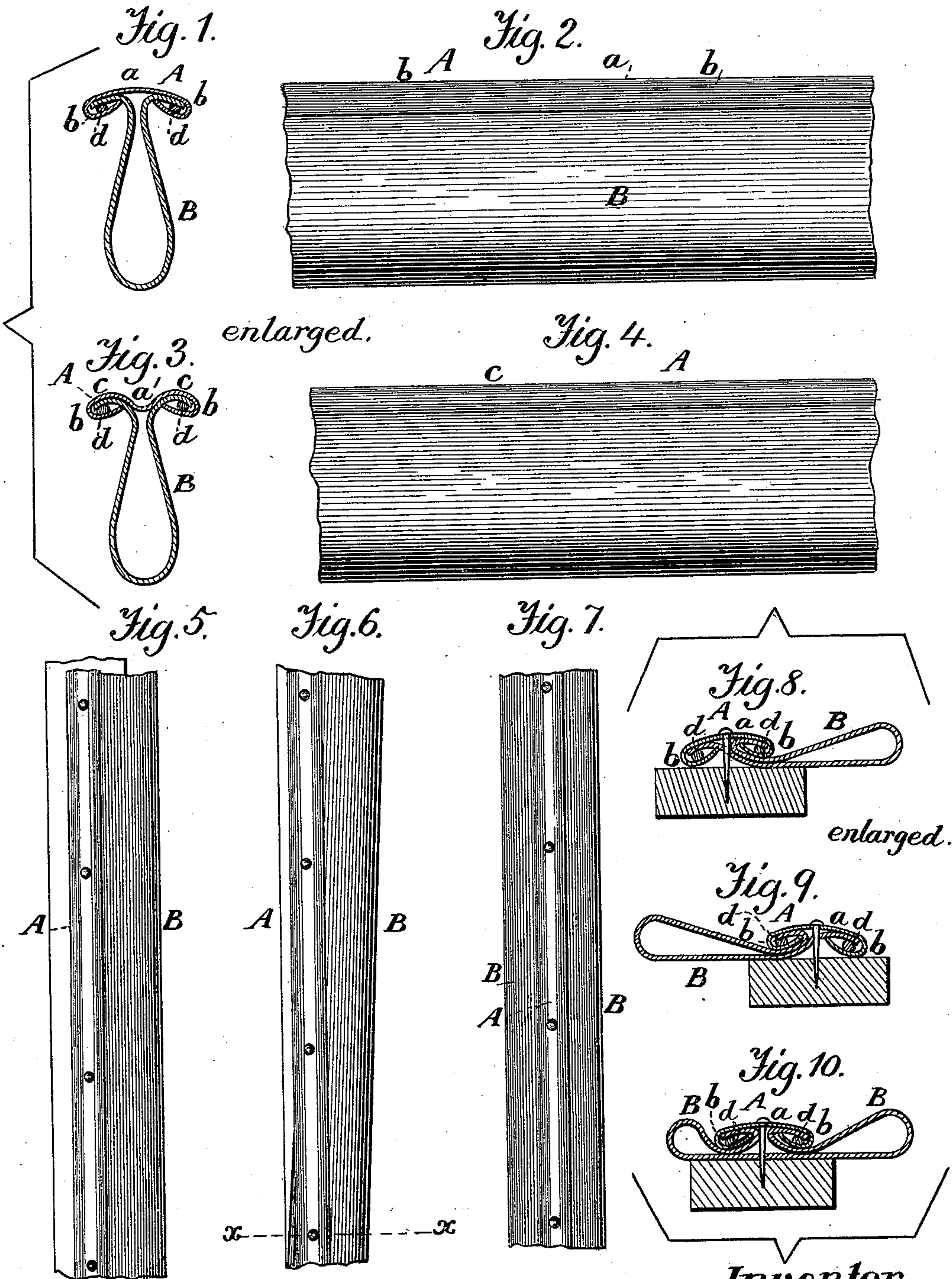


(No Model.)

J. H. HUMMEL.  
WEATHER STRIP.

No. 426,936.

Patented Apr. 29, 1890.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JAMES H. HUMMEL, OF MOUNT VERNON, NEW YORK.

## WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 426,936, dated April 29, 1890.

Application filed June 10, 1889. Serial No. 313,671. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. HUMMEL, of Mount Vernon, in the county of Westchester and State of New York, have invented certain  
5 new and useful Improvements in Weather-Strips, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

10 My invention relates to that class of weather-strips in which a loop of rubber or other flexible material is attached to a metallic base.

In the accompanying drawings, Figure 1 is an end view of my improved weather-strip.  
15 Fig. 2 is a side view of Fig. 1. Fig. 3 is an end view of a modification. Fig. 4 is a side view of Fig. 3. Figs. 5, 6, and 7 are face views of my weather-strip applied in different ways. Figs. 8 and 9 are sectional views. Fig. 10 is  
20 a cross-section of Fig. 6 at  $x x$ .

Similar letters of reference indicate similar parts in the respective figures.

A is a metallic base, which, as shown in Fig. 1, is formed with a central arch at  $a$  and  
25 bent around and under at its sides, as seen at  $b$ . B is a rubber or flexible body formed into a loop, as shown, its outer edges being bent outward and into the side bends of the metallic base A, which are closely pressed upon  
30 the flexible body. Under each outer edge of the flexible body is placed a filler  $d$ . The filler  $d$  may be of cord and sewed or otherwise attached to the edge of the flexible body, or it may be a wire, in which case it is not  
35 attached. The filler, therefore, is interposed between the metallic and flexible bodies, and when the two parts are compressed together greatly assists in effecting a tight and close joint between them. Apart from this it gives  
40 a greater thickness and increased rigidity to the edge of the weather-strip. Thus formed, the metallic base A and flexible loop B are firmly clamped together; and it is seen the construction is such that in handling the de-  
45 vice there is no danger of the detachment of the metallic and flexible parts of the strip, which would not be the case were the edges of the metallic base bent and simply flattened over the edges of the flexible body. The use  
50 of the filler also greatly aids in preventing the detachment of the parts.

In practice I have found that the special

conformation given to the edges of the metallic base is necessary to secure a perfect attachment between the base and the flexible  
55 body, and that the union is considerably strengthened by the use of the filler.

Another important advantage pertaining to my weather-strip is that its construction admits of its reversibility. Thus in Figs. 5  
60 and 8 the strip is shown arranged as a right-handed strip, whereas in Fig. 9 it is shown left-handed.

The attachment of the strip to the door, window, or other point is made by driving  
65 tacks through the central portion of the metallic base, as shown in Figs. 5, 6, 7, 8, 9, and 10.

In Fig. 6 the strip is shown arranged to exclude dust or air from the door or window in which the crevice is wider above than below.  
70 This is done, as will be seen, by gathering in a greater portion of the rubber or flexible material below than above.

In Fig. 5 the outer flexible body stands parallel to the metallic base, and in Fig. 7 an  
75 equal portion of the flexible body is on each side of the base. The metallic base A is formed by suitable rollers or tools into the concavo-convex form shown, by which form the said base is given greater rigidity than if  
80 it were flat or of other form. It is seen that by giving the base the form shown the tacking of it to the object to which it is to be secured has a tendency to draw its edges to said object, whereas if the base were flat the  
85 tendency would be to raise said edges, which would be highly objectionable. Further than this, the bending over and under of the edges of the base upon the flexible body has the effect of forcing said edges into the flexible  
90 body, thus securing a perfect hold of said edges upon the body, whereas if the edges of the base were simply bent in a flat manner upon the body the edges of the base would perform no function in grasping the material.  
95 The filler  $d$ , whether of cord or wire, is of great importance, effecting a close and permanent attachment between the edges of the metallic base and the flexible body, and is specially adapted for use in connection with  
100 the arched form of the metallic base, for when the tack is driven the tendency of the arch or arches to flatten might have the effect of disturbing the joint between the metallic and



flexible parts; but it is found that by the interposition of the filler this tendency is completely avoided.

5 In Figs. 3 and 4 a modification of the shape of the metallic base is shown. Here the same formation is given to the base so far as relates to the edges thereof; but the central portion of the base at the arch *a* of Fig. 1 is indented or depressed, as shown at *a'*. Thus instead  
10 of having but one arch, as seen in Fig. 1, for imparting rigidity to the strip, there are in Figs. 3 and 4 two smaller arches *c c*, by the use of which it is found the strength of the base is even more increased.

15 From the foregoing it will be seen that my invention supplies a weather-strip which combines in itself great rigidity and is adapted to be handled without danger of detachment of the flexible body from the base. Further,  
20 it will be seen that this strip is adapted to be reversed and used in a variety of other ways hereinbefore pointed out.

I make no claim herein to a weather-strip constructed in accordance herewith but having the filler *d* omitted, as that is described 25 and claimed in my application for Letters Patent filed of even date herewith, Serial No. 313,670.

Having described my invention, I claim—

As a weather-strip, an elastic body having 30 the form of a loop with its edges turned or bent outward in opposite directions and a filler at or under each of its edges, combined with an arched metallic base having its edges turned or bent inward and clamped under and 35 upon the outwardly-turned parts of the elastic body and the fillers, substantially as specified.

In testimony whereof I have hereunto set my hand and seal.

JAS. H. HUMMEL. [L. S.]

Witnesses:

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