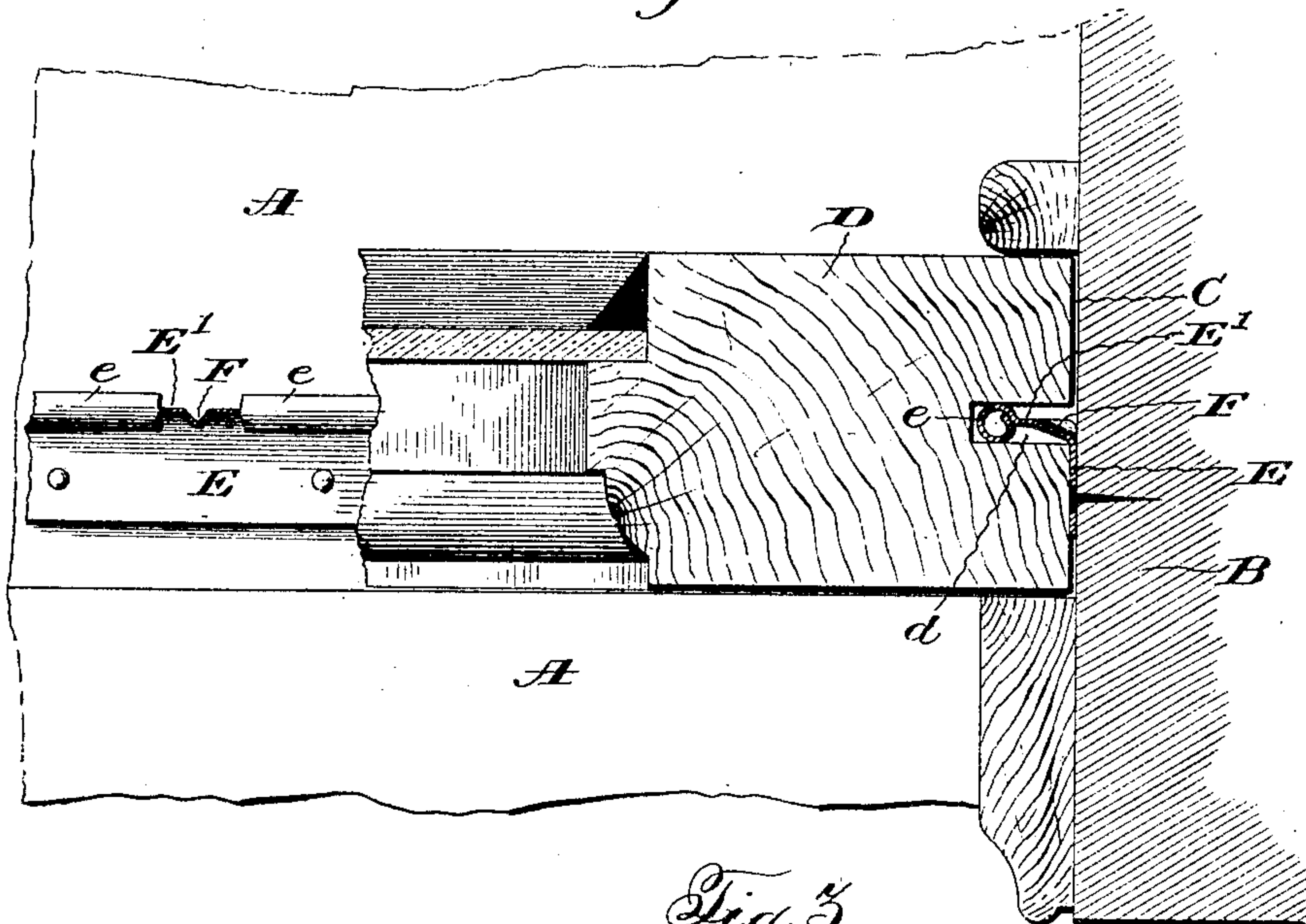


No. 871,853.

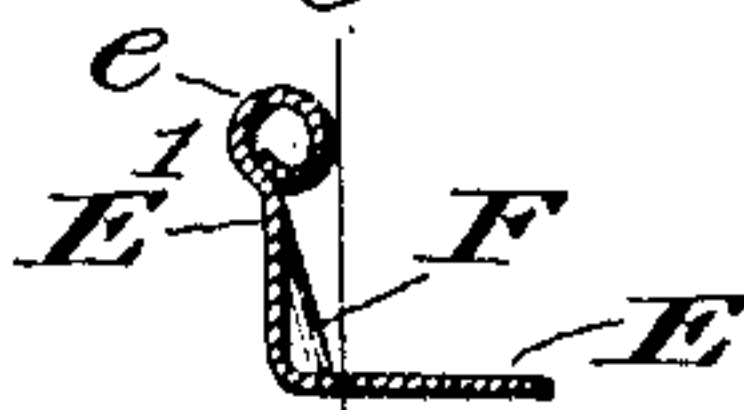
PATENTED NOV. 26, 1907.

L. S. BACON.  
METAL WEATHER STRIP.  
APPLICATION FILED MAR. 6, 1907.

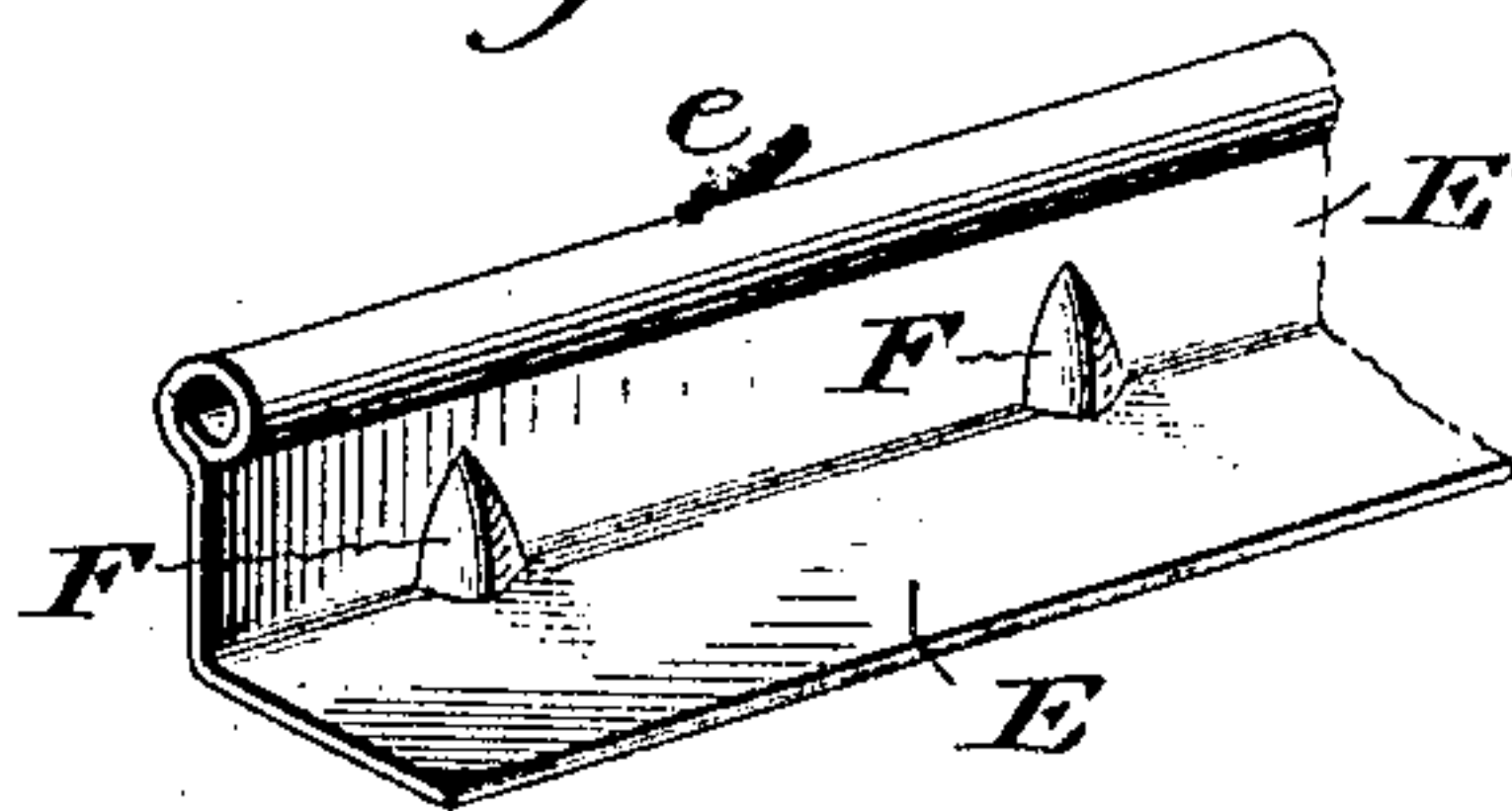
*Fig. 1.*



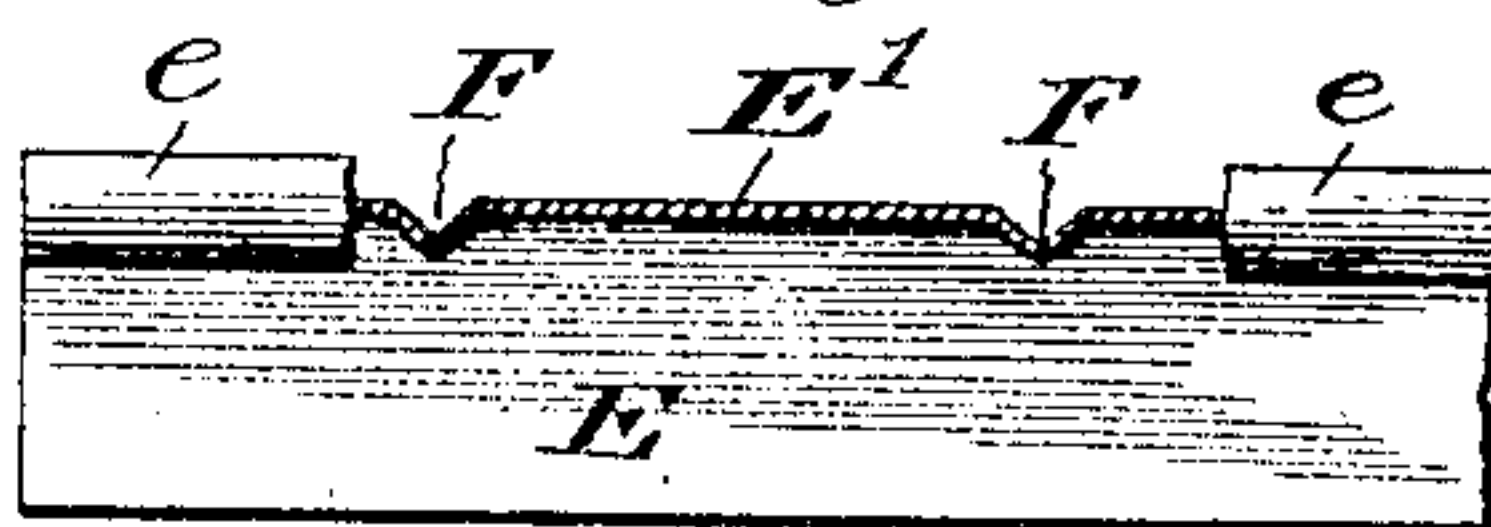
*Fig. 3.*



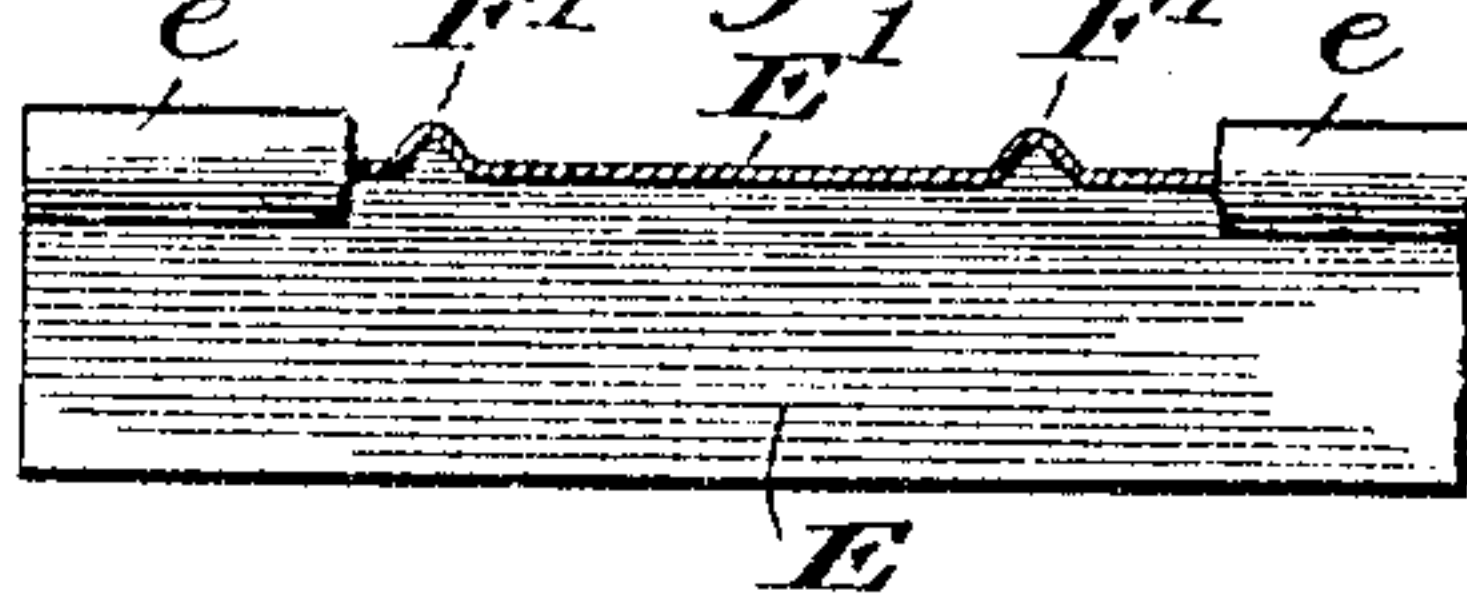
*Fig. 2.*



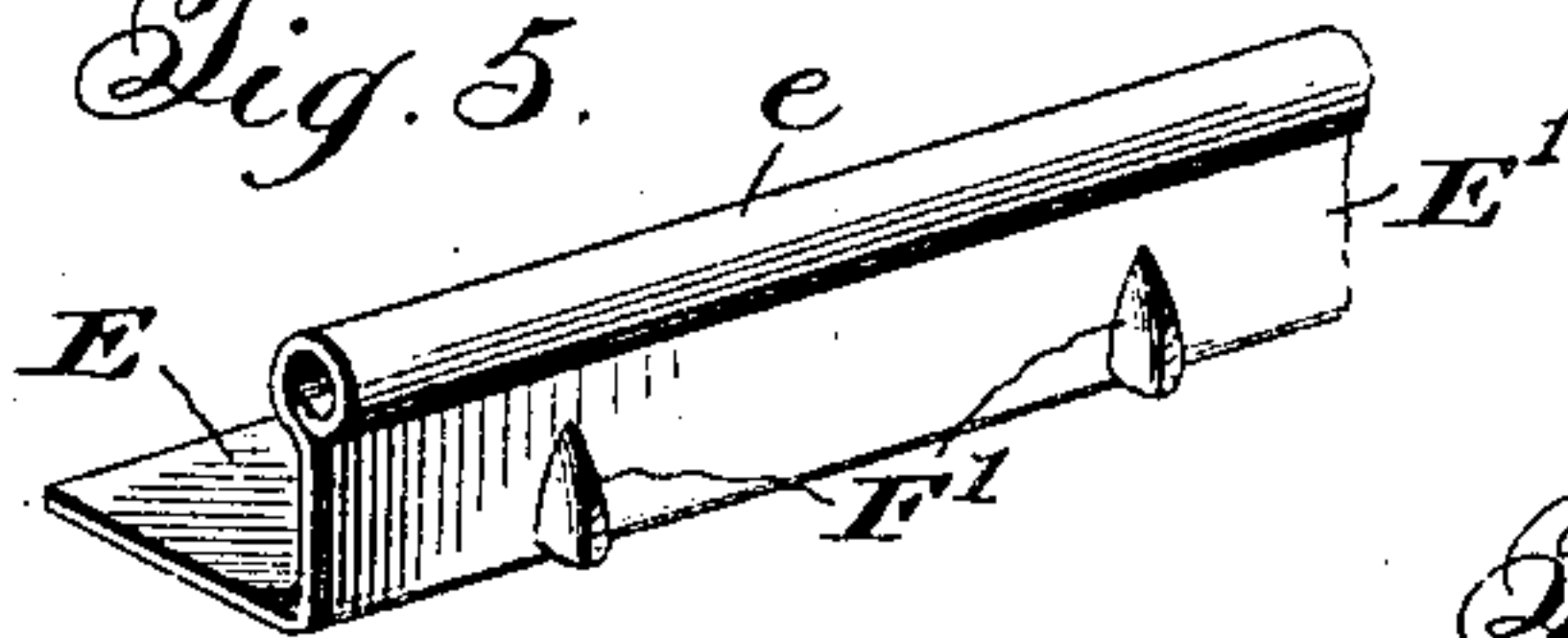
*Fig. 4.*



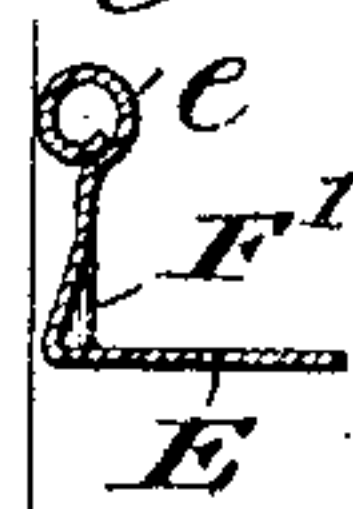
*Fig. 6.*



*Fig. 5.*



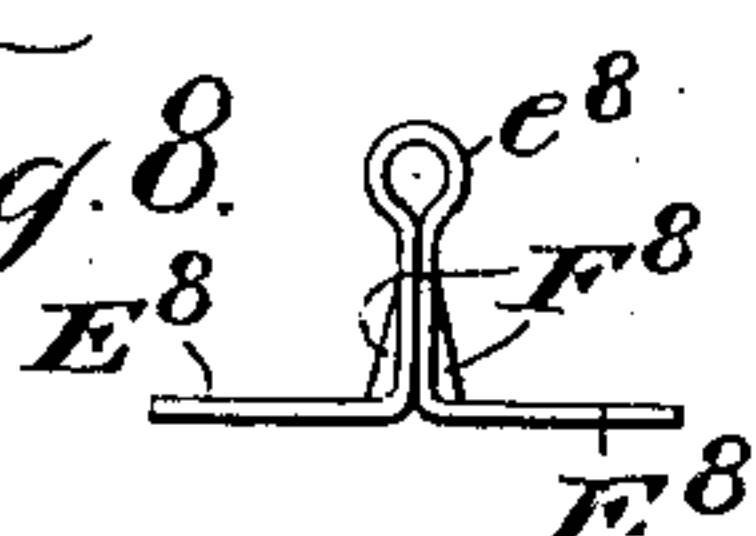
*Fig. 7.*



*Fig. 9.*



*Fig. 8.*



Witnesses:

*James Hutchinson*  
*Geo. D. Riley*

Inventor:

*L. S. Bacon*

*By Wm. H. Adams* Attorneys:



# UNITED STATES PATENT OFFICE.

LEVI SEWARD BACON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CHAMBERLIN METAL WEATHER STRIP COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN, (ORGANIZED IN 1907.)

## METAL WEATHER-STRIP.

No. 871,853.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed March 6, 1907, Serial No. 360,948.

*To all whom it may concern:*

Be it known that I, LEVI SEWARD BACON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Metal Weather - Strips, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in weather strips, and more particularly to that type or class of weather strips now known as "metal weather strips."

Heretofore metal weather strips which are constructed of relatively thin and somewhat flexible metal have been made with base or attaching parts and outwardly extending rib parts. Owing, however, to the fact that the metal is thin, it has been found in use that the ribs would become bent or deflected, the bending or deflection taking place usually at the joint or bend between the rib and the base. This has been particularly objectionable in connection with strips of this character which have been placed on window sills where they are fully exposed. The objection, however, also applies to the side strips. It is a desirable feature in the construction of metal weather strips to make the strips as thin as possible so that they can be readily applied without cutting out the frame to afford seats and so that the strips can be properly secured in place when the window frames are not exactly true.

The object of my invention is to provide a thin metal weather strip of the type above referred to which will possess the advantages of such strips and which will overcome the disadvantages.

With this in view, the invention comprehends generally the reinforcement of the strip at a point adjacent the bend between the base and the rib. While this reinforcement can be acquired in many ways I have shown in the accompanying drawing a satisfactory method but do not desire to be limited to the particular construction shown and described hereinafter.

In the drawings: Figure 1 is a horizontal sectional view of a part of a window frame and sash showing a part of the sill of the window frame with the strip applied, a portion of the strip being in section. Fig. 2 is a per-

spective view of a portion of strip embodying the preferred form of the invention. Fig. 3 is a cross section of the strip shown in Figs. 1 and 2. Fig. 4 is a sectional plan taken on a line through the base of the rib part and showing parts in elevation. Figs. 5 and 6 are views similar to Figs. 2 and 4 but of modified construction. Fig. 7 is an edge view of the construction shown in Fig. 5. Fig. 8 is an edge view of a double form of strip, and, Fig. 9 is a similar view showing the reinforcement or strengthening projections on one side of the double rib.

In the drawings, A designates the sill, B the side, and C the runway of a window frame of usual construction.

D designates the sliding sash having a groove *d* therein extending from its edge inward, the groove as is usual extending into the side edges and bottom edge of the lower sash and side edges and top edges of the upper sash.

The metal weather strip shown in Figs. 1, 2, 3 and 4 consists conveniently of a thin metal strip having an attaching or base part E and a flange or bent up rib part E', the same being conveniently arranged at right angles to the base. The outer edge of the rib is beaded as at *e* in any desirable manner. In structures of this type, the rib part can readily be bent from its angular position, the bending taking place usually at the point of union between the rib and base. To strengthen this joint or point of union, I conveniently form a series of reinforcements or braces F. These are formed by striking, bending in or indenting the metal adjoining the bend between the rib and base so as to form small braces of substantially triangular form, the material being indented from one side and bulged or projected outwardly on the opposite side, as shown in Fig. 4. The indented parts extend a distance into the base and up the side of the rib. The degree of extension, however, into the base part is less than the overhanging beaded part of the upper edge of the rib, as shown in Fig. 3 so that the brace or reinforce lies within the plane of the side edge of the rib. By this means the reinforcing means or braces do not interfere with the sealing action of the bead on the rib. Any number of these reinforcements or strengthening braces can be made



in the length of strip, but it has been found that if they are arranged about an inch apart it will be sufficient to properly strengthen the parts. In manufacturing the strip the  
5 indentations or strengthening braces can be indented or bent in during the process of rolling.

In Figs. 5, 6 and 7, a modified form is shown wherein the indentations are arranged  
10 in an order the reverse of that shown in the preceding figures. With this arrangement the braces serve as feet extending out and which will rest against the window frame. The projections or indentations are indicated  
15 at F' in these figures.

In Fig. 8 is shown the well known double type form of rib, E<sup>s</sup> designating the base flanges and e<sup>s</sup> the beaded edge of the rib. The rib in this construction is formed of metal  
20 bent upon itself and the reinforcement or strengthening braces are shown at F<sup>s</sup>, they being formed on both parts of the rib. In Fig. 9 a somewhat similar structure to that of Fig. 8 is shown, the indentations or  
25 strengthening braces being indicated at F<sup>o</sup> as applied to one side only of the doubled tongue.

By forming the strengthening braces or reinforcement of the metal of the strip, forcing the same inward by indentations entering  
30 from the angle between the two parts of the strip, the side walls of the indentations as well as the apexes thereof standing at an oblique angle to the rib and base, a very  
35 efficient strengthening brace is provided which can be easily applied, and so without puncturing the metal of the strip.

While the invention is illustrated as applied to a metal weather strip having a  
40 tongue member and a base member, I desire it understood that it is not limited in its useful application to such a construction. It is to be further understood that the strip can be employed in connection with swinging  
45 sashes of casement windows and it may possibly also be used advantageously in connection with doors.

Having thus described the invention, what

is claimed as new and desired to be secured by Letters Patent is:—

1. A weather strip consisting of a strip of thin metal having a base portion and a rib portion arranged at an angle to the base, and a series of struck up strengthening braces arranged within the angle between the rib  
55 and base.

2. A metal weather strip consisting of a thin strip of metal having a base portion, a bent out rib portion formed with an overhanging edge part and a series of braces at  
60 the angle between the base and rib, and beneath the overhanging part of the rib.

3. A metal weather strip consisting of a thin metal strip having a base portion, a rib portion, an offset portion on the rib, and  
65 a series of struck up braces extending from the base to the rib across the angle.

4. A weather strip consisting of a flat strip of suitable metal bent or doubled longitudinally to form a raised rib at right angles  
70 to the base and provided with a series of struck up strengthening braces located in the angle and extending from the base to the rib.

5. The combination with a window frame  
75 or casing and a movable sash member therein, of a metallic weather strip secured to the frame and provided with a flat base, a projecting rib extending from the base into a groove formed in the sash and having a series  
80 of indented strengthening braces extending from the base to the rib across the angle formed by the bend.

6. In combination with a frame or casing, and a movable sash, of a metallic weather  
85 strip secured to the frame and provided with a base, an outwardly projecting rib having a beaded outer edge and a series of braces located below the bead and extending across the angle between the base and rib.  
90

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

LEVI SEWARD BACON.

Witnesses:

JAS. E. HUTCHINSON,  
CARRIE A. KREY.