

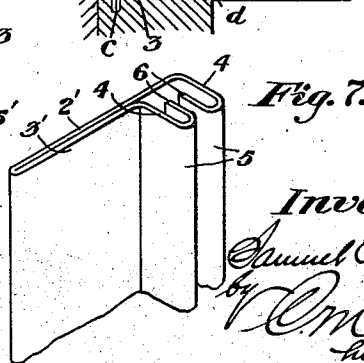
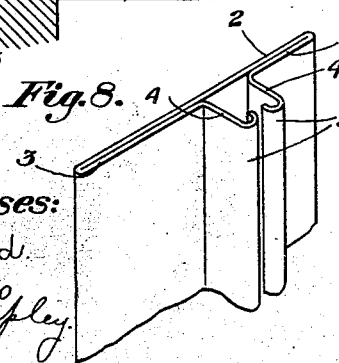
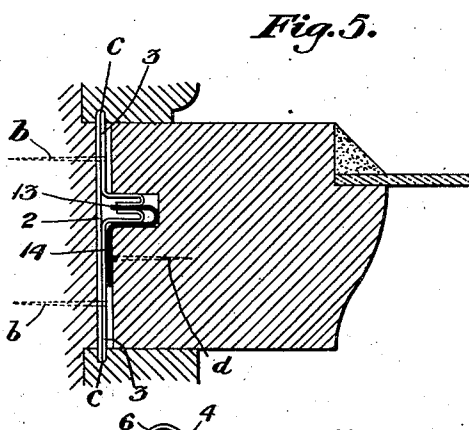
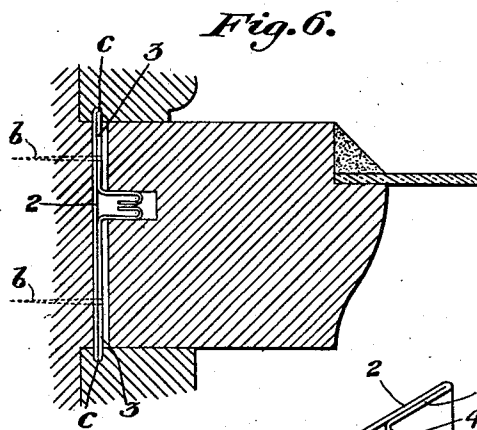
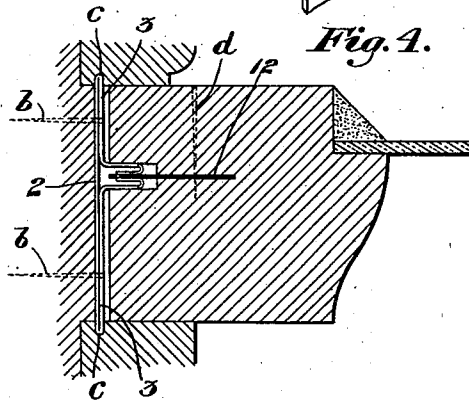
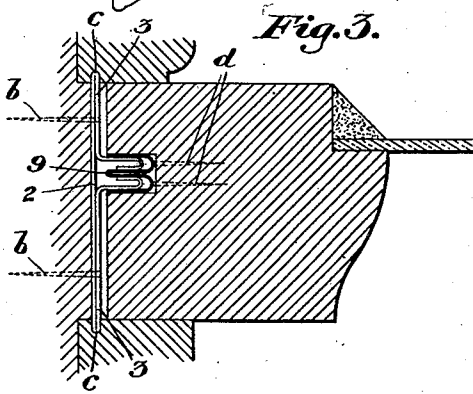
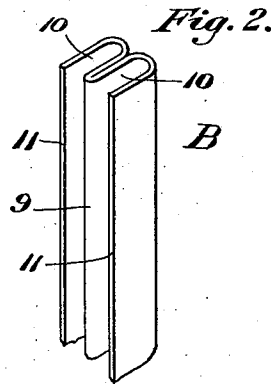
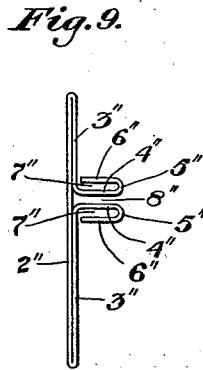
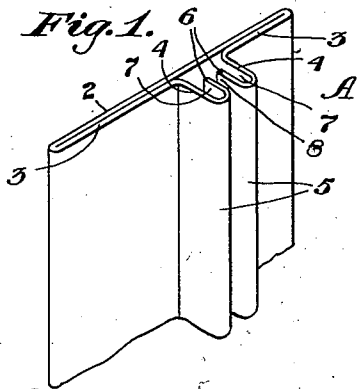
No. 848,961.

PATENTED APR. 2, 1907.

S. P. BRICKER.
WEATHER STRIP.

APPLICATION FILED SEPT. 22, 1905.

2 SHEETS—SHEET 1.



Witnesses:

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Chas. S. Rpley.

Inventor:

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3 SHEETS—SHEET 2.

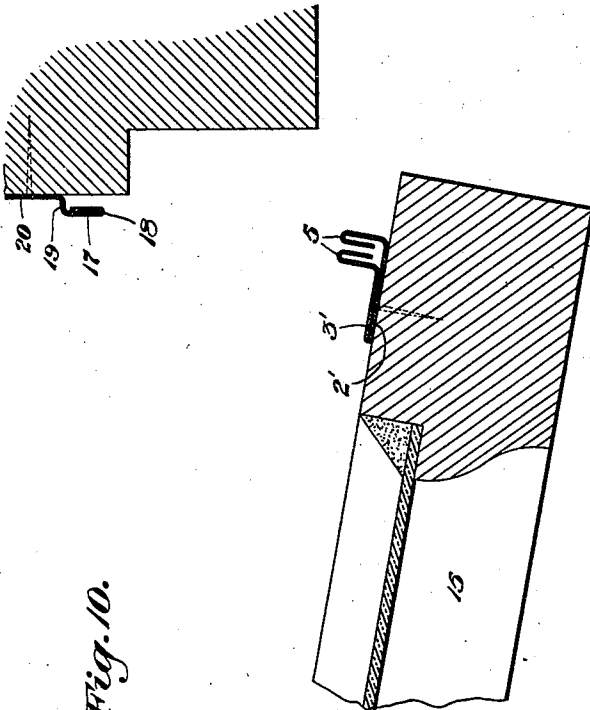
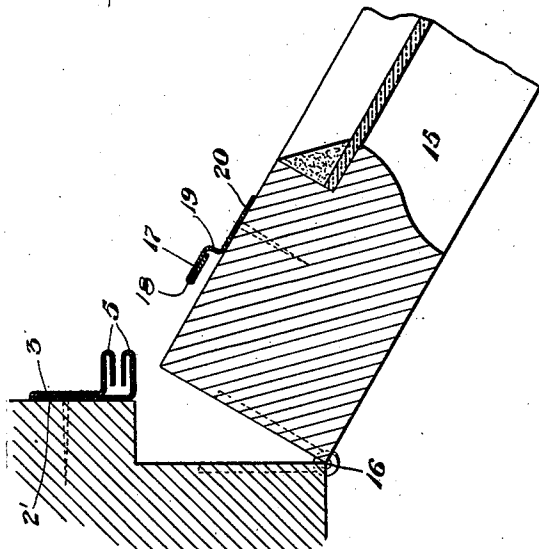


Fig. 10.



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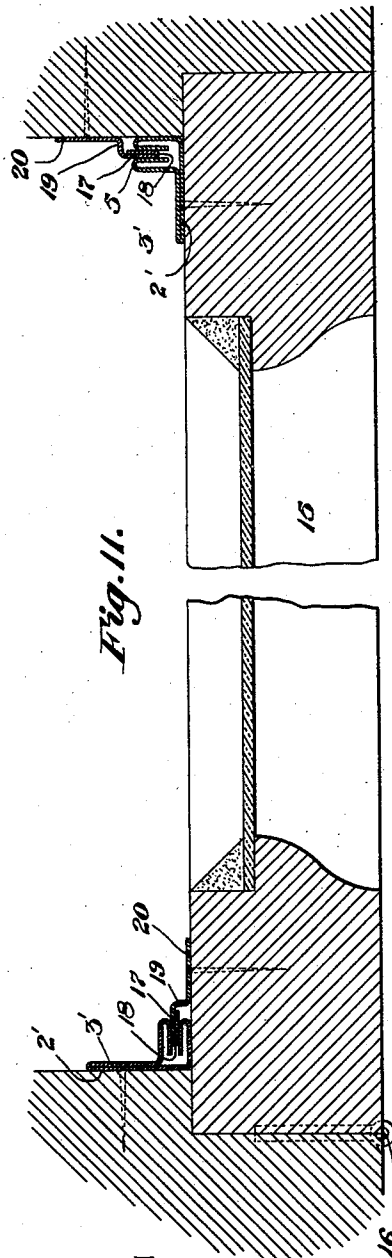


Fig. 11.

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UNITED STATES PATENT OFFICE.

SAMUEL P. BRICKER, OF ALLEGHENY, PENNSYLVANIA.

WEATHER-STRIP.

No. 848,961.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed September 22, 1905. Serial No. 279,615.

To all whom it may concern:

Be it known that I, SAMUEL P. BRICKER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Weather-Strips, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the specification, in which—

Figure 1 is a perspective view of a portion of my improved weather-strip as applied to the frame. Fig. 2 is a similar view showing a portion of the interfitting sash member. Fig. 3 is a horizontal sectional view through a portion of the frame and sash, showing the parts in position and in interfitting engagement with each other. Fig. 4 is a similar view showing a modified arrangement employing a single-thickness tongue member. Fig. 5 is a similar view showing a modified construction of the tongue member. Fig. 6 is a similar view showing the frame member in interfitting engagement with the groove of the sash only. Figs. 7 and 8 are views similar to Fig. 1, showing modified forms of construction. Fig. 9 is an end view showing a further modified construction. Fig. 10 is a horizontal sectional view of an open casement-window or door provided with my improved strip. Fig. 11 is a similar view showing the window closed and the strip members in sealing engagement.

My invention relates to the class of metallic weather-strips wherein a weatherproof sealing-joint is provided between the sash and the casing of a window-frame or between a door and its frame adapted to permit of the easy operation of the sash or door and to exclude the elements, as wind, rain, snow, dust, &c., from passing between the frame and sash or door.

While the invention is particularly adapted to the sashes of sliding windows, it may be used with good results with the sashes of casement-windows or with hinged doors wherein the joint is made by causing one of the elements to close upon or open away from the other, as will be readily understood and as shown in the drawings.

Referring now to the drawings, A represents the sash member of the strip, which is secured upon the inner sides of the runway of the sash-frame by nails or screws passing through one or both of the flanges, as indicated at *b* in dotted lines, or by inserting the

edges of the strip in suitable recesses or retaining-grooves *c* in the parting-beads or by merely inserting the edge-terminals underneath the parting-beads or in any other suitable manner. The frame member A is preferably formed of one continuous blank of thin sheet metal, preferably zinc or other suitable non-corrosive material, bent to provide the back or base portion 2 of any suitable width, either of the full or greater width than that of the runway between the beads or of any less width, as may be desired. The sheet metal is redoubled upon itself at one or both edges and extends inwardly upon the outer side of the base 2, forming the outer base portion 3, which thus constitutes a securing-flange for the device and also provides a smooth metallic face for the runway, against which the edge of the sash will bear with a minimum of friction, facilitating the operation of the sash, while also giving a finished appearance. At any desired location between the terminal edges of the flange members the portions 3 are bent outwardly at right angles to the base, as indicated at 4, and then turned inwardly, as indicated at 6, forming extended parallel ribs provided with rounded terminal edges 5, the inwardly-turned terminal edges of the parts 6 of the strip being adjacent to each other. These sides 4 and 6 constitute redoubled walls of the outwardly-extending ribs and are parallel with each other, preferably with an intervening space 7, whereby a considerable degree of resiliency is provided, facilitating a tight joint when in interfitting engagement with the rib member attached to the sash.

An intervening space 8 between the sides 6, of any suitable width, provides for the admission of the sash rib or tongue and is likewise useful to permit of the redoubled sides closing toward each other, so as to make a tight interfitting engagement with the groove of the sash either with or without an additional intervening rib, as indicated in Fig. 6. The adjacent faces of the terminal edge portions 6 may, however, be in contact, if desired. If preferred, the sides 4 may be merely bent around inwardly, providing the rounded terminal edges 5', as indicated in Fig. 8, and do not necessarily extend backwardly toward the base 2, and good results may be had with both forms. In either construction smooth rounded edges of the ribs are provided, obviating any roughness or sharp corners and overcoming any objections

due to the danger of cutting or of interference with a cleaning implement or cloth.

B represents the sash member, which is formed, as shown in Fig. 2, of a strip of similar thin sheet metal bent or doubled at its middle portion to provide an extended rib 9, having a rounded edge adapted to interfit between the parts 6, as shown in Fig. 3, the plate being redoubled outwardly at each side, providing the spaces 10 and the outer walls 11. This sash element is secured within a suitable groove in the sash in any convenient manner, as by tacks or nails *d*, inserted through the base of the device, as shown, along the bottom of channel-openings 10. If preferred, however, a single thickness of sheet metal may be used, as indicated at 12, Fig. 4, or such a single sheet may be bent into U form, as shown in Fig. 5, providing the projecting interfitting tongue 13 and attaching-flange 14, while any other suitable form may be used for the same purpose. If preferred, also the strip A may be merely inserted within the interior of the groove of the sash without any other interfitting sash member and will give good results, while being more economical.

An especial advantage in the construction of the frame member A is that the outwardly-projecting ribs, formed of parts 4 and 6, being independent of each other, will have sufficient resiliency to permit of their lateral adjustment toward or from each other, so as to make a tight joining engagement with the sash-groove independent of variations in its width, due to shrinkage, expansion, or any other cause.

In Fig. 7 I show a modified form of the frame-strip A, wherein the back base 2' and the front base 3' extend at one side only of the outwardly-projecting ribs, the construction otherwise being the same as just described. A claim covering this construction broadly is embodied in my copending application, filed March 6, 1905, Serial No. 248,382. This form is equally advantageous in all essential respects and only differs in the construction above noted in the omission of one of the base-flanges. It will be understood that when but a single base-flange is used it may be of any width desired to cover all or a portion only of the runway at one side of the ribs or to provide for the easy lateral adjustment of the strip to correspond to a variably-located groove in the sash, as may be required by local conditions in applying the device.

In Fig. 9 I show a modified construction in which the projecting ribs 4'', extending outwardly from the base 3'', are doubled in a reverse direction, the free edge-terminals 6'' being on the outside, while the inner walls 4'' of the ribs are bent outwardly from the base-flanges 3'' at right angles, as already described, preferably with the intervening

space 8''. The terminal edges 5'' of the ribs are also rounded, and an intervening space 7'' is also preferably provided between the sides forming each rib in the same manner generally as already set forth.

In Figs. 10 and 11 I show the strip in the form illustrated in Fig. 7 as applied to each side of the frame and window, respectively, of a casement-window or door 15, hinged at 16 and provided at the hinge side with a male member 17 of any suitable form to conveniently enter between the rib portions of the frame members. On the other side the arrangement is reversed, the male member being attached to the frame and the female member to the window. The male members are conveniently made of a single strip of sheet metal doubled upon itself at one edge to provide an entering element of considerable stiffness and to also give it the desirable rounded edge 18. It is preferably bent at its middle portion to provide the narrow connecting element 19 and an attaching-flange 20, whereby sufficient clearance is provided for one side of the female member, while the entire strip is easily and firmly attached, does not occupy much space, and is somewhat ornamental. It will be understood also that the same construction may be applied to the top and bottom of the window, &c.

What I claim is—

1. As an improved article of manufacture, a weather-strip formed of a plate of sheet metal bent to provide a base, inwardly-disposed redoubled base-flanges, and extending doubled ribs having inner unattached terminal edges, substantially as set forth.

2. As an improved article of manufacture, a weather-strip formed of a sheet-metal base having its edge portions bent inwardly toward each other upon the base, then outwardly at right angles thereto, and then bent backwardly toward the base to provide rounded edges, substantially as set forth.

3. As an improved article of manufacture, a weather-strip comprising a base of thin sheet metal doubled to form an attaching-flange and independent outwardly-extending ribs at right angles thereto formed by doubling each edge portion of the metal upon itself, substantially as set forth.

4. A weather-strip comprising a sheet-metal blank doubled upon itself to provide an attaching-base and having its terminal sides bent outwardly at right angles to the base and rounded at the edges, substantially as set forth.

5. A weather-strip comprising a sheet-metal blank doubled upon itself to provide an attaching-base and having its terminal edge portions bent outwardly at right angles to the base and doubled upon themselves, substantially as set forth.

6. A weather-strip comprising a sheet-

metal blank doubled upon itself to provide an attaching-base and having its terminal edge portions bent outwardly at right angles to the base and doubled upon themselves, with an intervening space between the sides forming each rib, substantially as set forth.

7. A weather-strip comprising a sheet-metal blank doubled upon itself to provide an attaching-base and having its terminal edge portions bent outwardly at right angles to the base and bent upon themselves to form doubled ribs, with an intervening space between the ribs, substantially as set forth.

8. As an improved article of manufacture, a weather-strip formed of a strip of sheet metal, having its opposite edges bent to provide closely adjacent doubled ribs, with its intervening portion formed into an attaching-base at right angles to said ribs, substantially as set forth.

9. A weather-strip comprising a sheet-metal base, flanges connected therewith and extending inwardly toward each other having their terminal edges bent outwardly at right angles to said base and turned inwardly toward each other to form outer rounded edges; substantially as set forth.

10. In a weather-strip, the combination of a frame member comprising a base reflexed upon itself and having its edge portions

formed into doubled ribs, and an interfitting sash member, substantially as set forth.

11. In a weather-strip, the combination with a sash having a receiving-groove, of a frame member comprising a base reflexed upon itself and having its edge portions formed into doubled ribs extending at right angles to the base and into the groove of the sash, substantially as set forth.

12. In combination, a window-jamb, spaced strips applied to said jamb forming a runway, a sash mounted in said runway, and a weather-strip comprising a base secured in the runway of the sash and cooperating with the spaced strips aforesaid, an edge portion of the base being folded thereon and bent outwardly to form a side of the body of the strip, said side being refolded to form a spaced side.

13. A weather-strip comprising a base having an edge portion thereof folded upon itself, the folded portion of the base being projected outwardly therefrom to form a side, said side being bent upon itself to form a second side in spaced relation thereto.

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

SAMUEL P. BRICKER.

Witnesses:

CHAS. S. LEPLEY,
C. M. CLARKE.