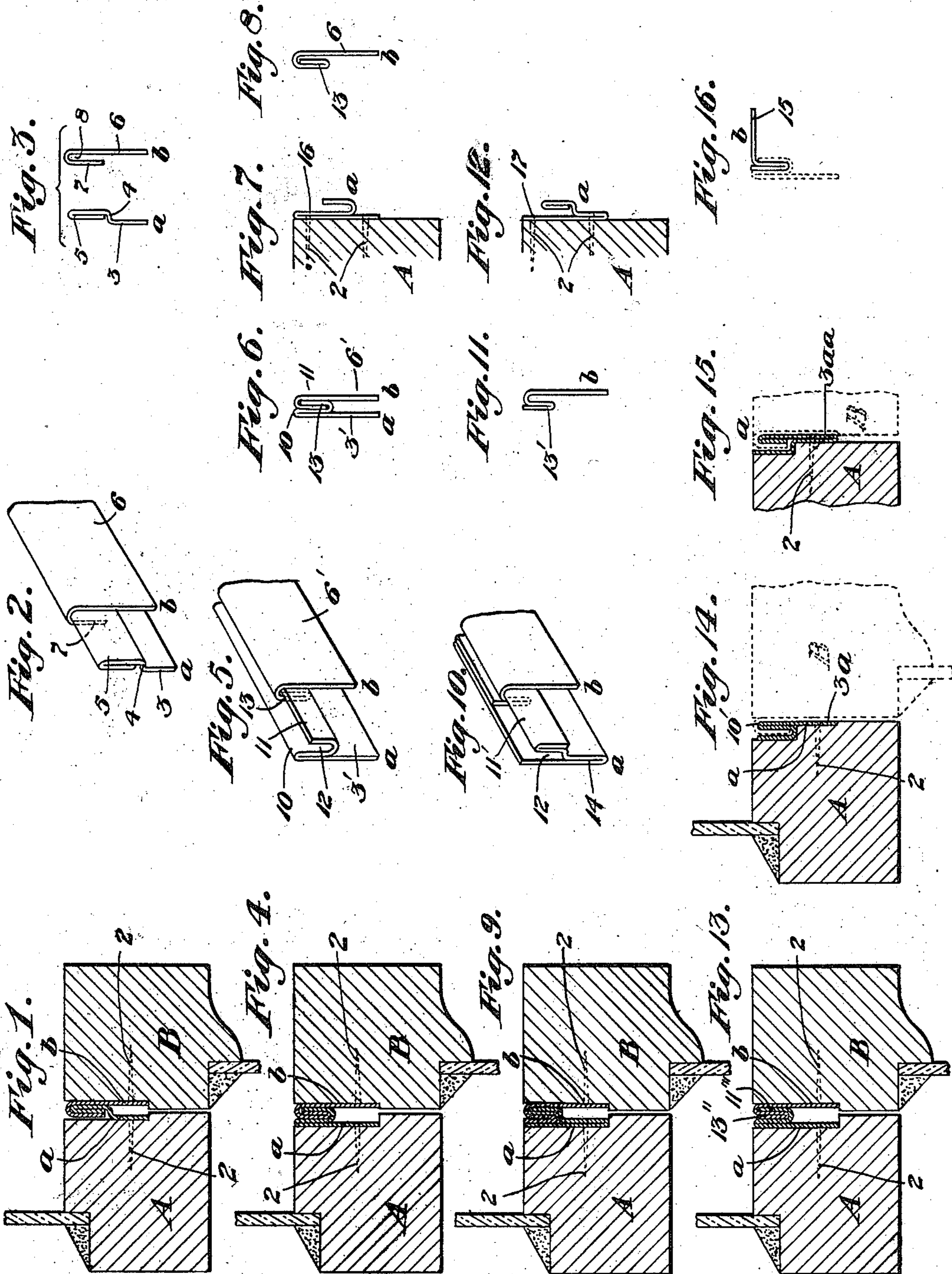


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MEETING RAIL WEATHER STRIP.  
APPLICATION FILED NOV. 29, 1907.

989,760.

Patented Apr. 18, 1911



Witnesses:  
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# UNITED STATES PATENT OFFICE.

SAMUEL P. BRICKER, OF ALLEGHENY, PENNSYLVANIA.

## MEETING-RAIL WEATHER-STRIP.

989,760.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed November 29, 1907. Serial No. 404,924.

*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 Meeting-Rail Weather-Strips, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention refers to improvements in metallic weather strips and relates particularly to strips used with the meeting rails of window sashes and known as meeting rail strips.

Generally stated, the strips are made of thin sheet metal, preferably zinc or any suitable metallic non-corrosive material, bent to provide two cooperating or co-acting members, each of which is adapted for attachment to one of the meeting rails, and so arranged that the free tongue or sealing rib of one strip shall engage a receiving groove or space in the other or between it and the meeting rail, to effectually close the opening between the meeting rails against the passage of the elements, to make a weather-tight fit.

Referring to the drawings:—Figure 1 is a cross sectional view through the upper and lower meeting rails of two window sashes, showing one form of the device in operative position. Fig. 2 is a detail view of portions of the strips, assembled together and detached from the sashes. Fig. 3 shows separate end views of each strip. Fig. 4 is a sectional view showing a modified construction. Fig. 5 is a detail view of the strip of Fig. 4, assembled together. Fig. 6 is an end view showing a similar construction employing a single thickness tongue for the lower sash meeting-rail strip. Fig. 7 is a sectional detail view of the upper sash meeting-rail and its strip, attached along its upper and lower edges. Fig. 8 is an end view of the lower meeting rail strip of Fig. 4. Fig. 9 is a sectional view showing a further modification. Fig. 9<sup>a</sup> shows a similar upper rail strip with a single thickness tongue. Fig. 10 is a detail view of the strips of Fig. 9, assembled together. Fig. 11 is an end view of the lower meeting rail strip of Fig. 9. Fig. 12 is a sectional detail view of the upper sash meeting-rail and its strip attached along its upper and lower edges. Fig. 13 is a sectional view showing a further modification. Fig. 14 is a similar sectional view showing the sealing

rib of the upper rail strip on the same plane with the base. Fig. 15 is a similar view showing another form of the same arrangement. Fig. 16 shows a construction where one of the strips is provided with an attaching flange.

In the various forms shown by the drawings, it will be observed that the co-acting strips are made of thin sheet metal, reflexed or doubled upon itself to provide tongues, walls, or grooves and attaching bases or flanges, which are disposed in parallel planes; that the strips as thus made are capable of attachment to the inner opposing faces of the meeting rails; and that when so attached and interfitted they occupy a minimum of space between the meeting rails, are concealed from view, and are adapted to engage with and be disengaged from each other on closing or opening either sash.

In the drawing, A represents the meeting-rail of the upper sash and B the meeting-rail of the lower sash of a window of ordinary construction, and *a* represents the meeting-rail strip of the upper sash and *b* the meeting rail strip of the lower sash, throughout the various constructions, each of said strips being secured to its respective rail by nails, tacks or screws 2 driven through the securing flanges into the rails as clearly shown. For the purpose of clearance the inner face of one of the meeting-rails may be cut away as shown, or each meeting-rail may be recessed for the same purpose.

The upper sash rail strip *a* of the construction shown in Fig. 1 is made of a strip of thin sheet metal having an attaching base or flange 3, laterally deflected at 4, and then extended in a direction generally parallel with the base, and reflexed or doubled upon itself to provide the sealing rib or tongue 5, the inner face of which is located outwardly beyond the inner face of the base 3 sufficiently far to provide clearance space for the tongue of strip *b*. Said strip *b* of the lower sash rail consists merely of an attaching base reflexed to provide a parallel sealing rib 7 with an intervening space 8 for reception of rib 5 of strip *a*, the two strips being so formed as to snugly engage each other when in closed position to prevent passage of the elements.

In the construction shown in Fig. 4 the base 3' of the upper rail strip *a* extends for the full width of the strip and is then re-



flexed as indicated at 10, reinforcing the strip and stiffening it, the reflexed portion being then rounded and again reflexed to provide a parallel sealing flange 11 with an intervening space 12 for reception of the tongue member of strip *b*. Said strip *b* is of the same construction as shown in Fig. 1, but when used with the form of strip *a* having a single thickness sealing rib 11, is preferably of double thickness as to its rib 13, which engages groove 12 embracing rib 11 in the same general manner.

The arrangement of rib 13 with relation to its base 6' is parallel, leaving a suitable intervening space for rib 11 of strip *a*, although if desired the terminal sealing rib of strip *b* may also be made of single thickness as shown in Fig. 6, space 12 of rib *a* being correspondingly reduced to insure weather-tight engagement.

The base of the upper rail strip *a* of the construction shown in Fig. 9 is reflexed providing a double thickness attaching portion as indicated at 14, through which tacks or screws may be inserted, and a particular feature of advantage is that in addition to the stiffening effect the double thickness permits of the recessing or counter-sinking of the base for the purpose of inserting screws flush with the outer face. The sealing rib 11' of such form is also preferably doubled and the intervening space 12' of suitable width to receive either the single thickness tongue of Fig. 1 or the double thickness tongue 13', as shown. With either form the object is the same and the sealing engagement secured by regulating the thickness of the engaging ribs and the corresponding spaces.

In Fig. 9<sup>a</sup> the attaching base 14' is doubled as just described, but the sealing rib 11'' is single as shown, and either form may be used with good results, although ordinarily the double thickness is preferred as its edge is thereby rounded and smooth.

The construction shown in Fig. 13 is substantially the same as that shown in Fig. 4 except that the tongue 13'' is bent or doubled in the opposite direction and the spaces between it and the flange 6'' correspondingly reduced to receive the single thickness rib 11''' of strip *a*.

In Fig. 14 I have shown a construction in which the strip *a* is made by doubly reflexing the strip of metal to provide the doubled sealing rib 10', of substantially the same construction as is shown in Fig. 4 except that the strip is reversed in position as to the meeting rail.

Also in Fig. 15 the same arrangement is provided except that the base 3<sup>aa</sup> is also doubled and off-set inwardly as shown to provide the inner wall of the receiving groove for the strip *b*. The advantage of both constructions is that the recessing of

the meeting rail is reduced and a compact, neat joint provided for.

In Fig. 16 the strip *b* is shown as being provided with a securing flange or base 15 extending at right angles to the sealing rib, adapted to engage the tongue, and it will be understood that such construction will operate to give the same general results, flange 15 in such case being secured to the top edge of the meeting rail strip. I prefer, however, the construction employing the parallel attaching bases and the resulting advantage of compact construction, concealment from view and the facility for cooperation as will be obvious from the description and illustrations.

If desired, for the purpose of insuring more rigid attachment of the strip to the meeting-rail, the base of strip *a* may be extended beyond the edge of the sealing rib as indicated at 16 in Fig. 7 and at 17 in Fig. 12, showing the base extended beyond the rib of double thickness and of single thickness respectively whereby an additional row of attaching screws or nails may be used. With either method of attachment, *i. e.*, by a single or a double row of nails, the projecting rib and the intervening trough are comprised in a single resilient element capable of cooperation with the corresponding resilient co-acting element of the other sash rail, and with any of the various forms shown good results may be secured and for the objects described.

While the strip as thus constructed is particularly adapted for use as a meeting-rail strip for the horizontal meeting-rail of window sashes it will be understood that it may also be employed with swinging casement windows or doors, sliding windows, or any other construction where the conditions are favorable.

The attaching bases may, if desired, be previously provided with apertures for the securing nails or screws or they may be driven through the metal in the operation of attaching them, and the invention is not to be considered as in any way limited to such specific features, while other changes or variations may be made by the skilled mechanic in its design, construction or other details, without departure from the scope of the following claims.

What I claim is:—

1. A meeting-rail weather-strip, consisting of a strip of sheet metal having an attaching base, said strip being doubly reflexed to form a sealing rib and groove, the first reflexion lying against the base to form the sealing rib and the second reflexion being separated therefrom to form the groove.

2. A meeting-rail weather-strip, consisting of a strip of sheet metal having an attaching base, said strip being doubly reflexed to form a sealing rib and groove, the



first reflexion lying against the base to form the sealing rib and the second reflexion being separated therefrom to form the groove, and a coacting strip having a tongue for en-  
5 gagement with said sealing rib and groove and a base portion for attachment to the meeting rail of a companion sash.

3. A meeting-rail weather-strip, consisting of a strip of sheet metal having an at-  
10 taching base, said strip being reflexed and

then deflected and again reflexed, the reflexion lying against the base to form a sealing rib and groove.

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

SAMUEL P. BRICKER.

Witnesses:

C. M. CLARKE,

CHAS. S. LEPLEY.