

A. M. LANE.
METAL WEATHER STRIP.
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987,244.

Patented Mar. 21, 1911.

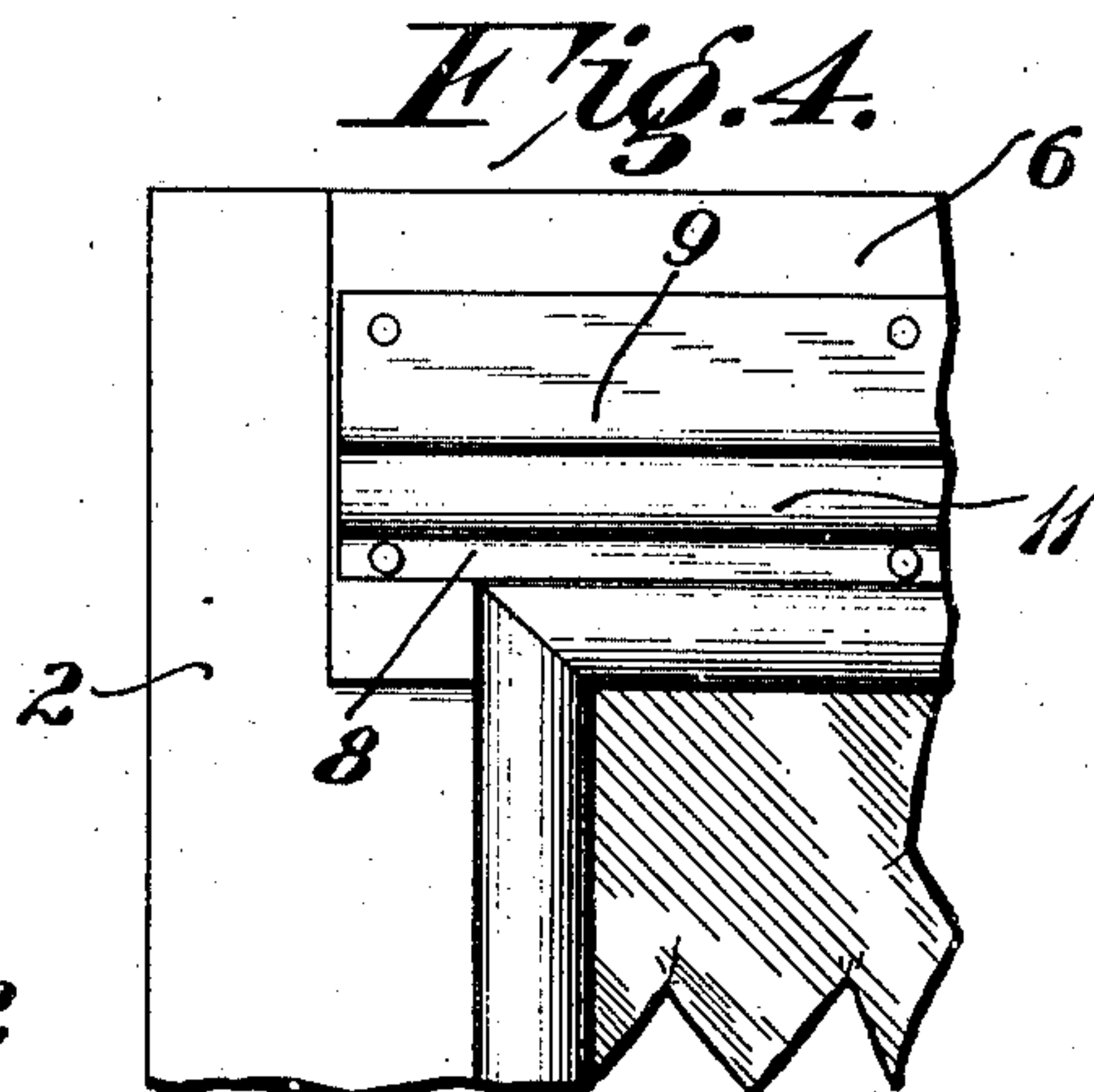
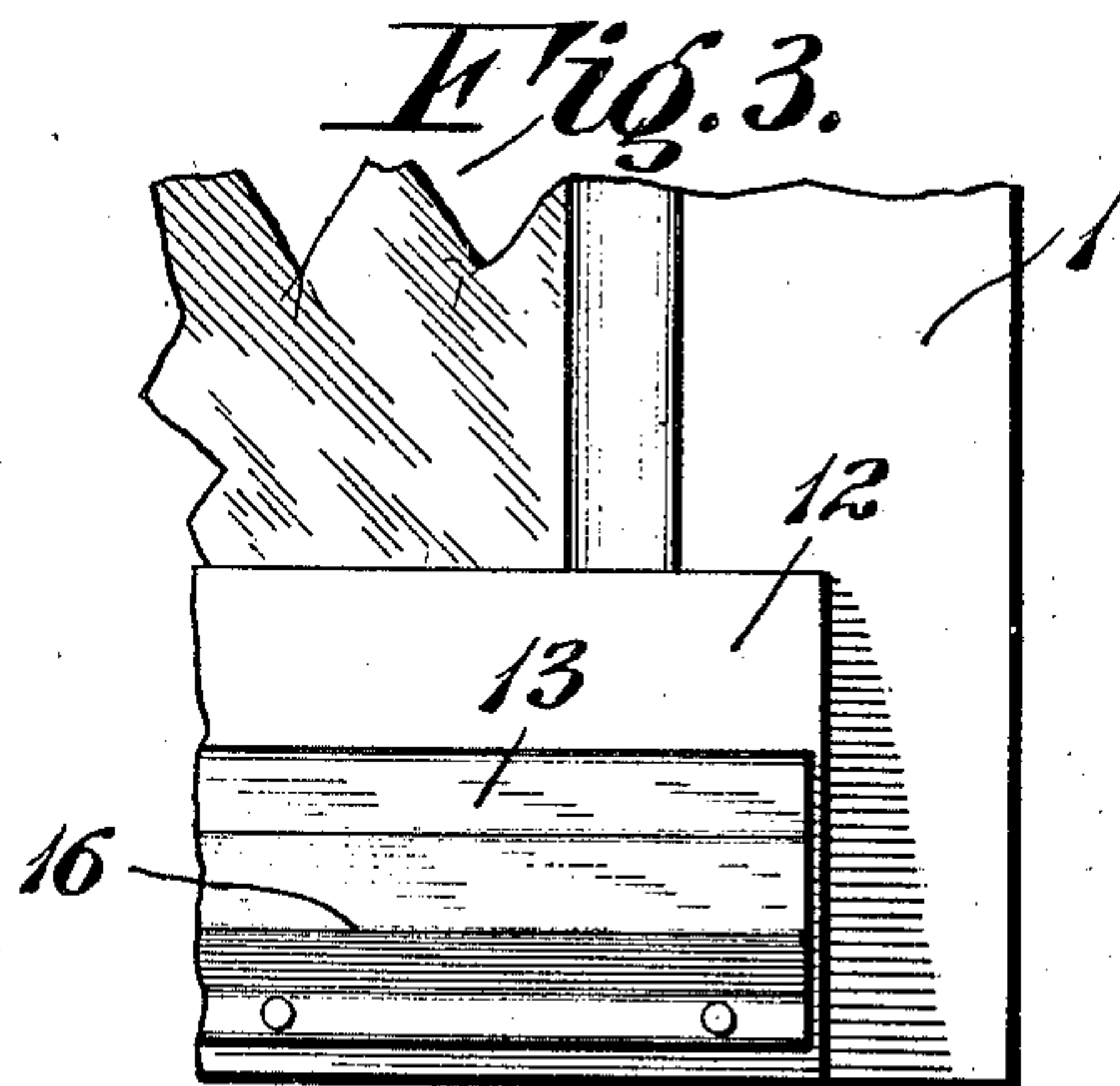
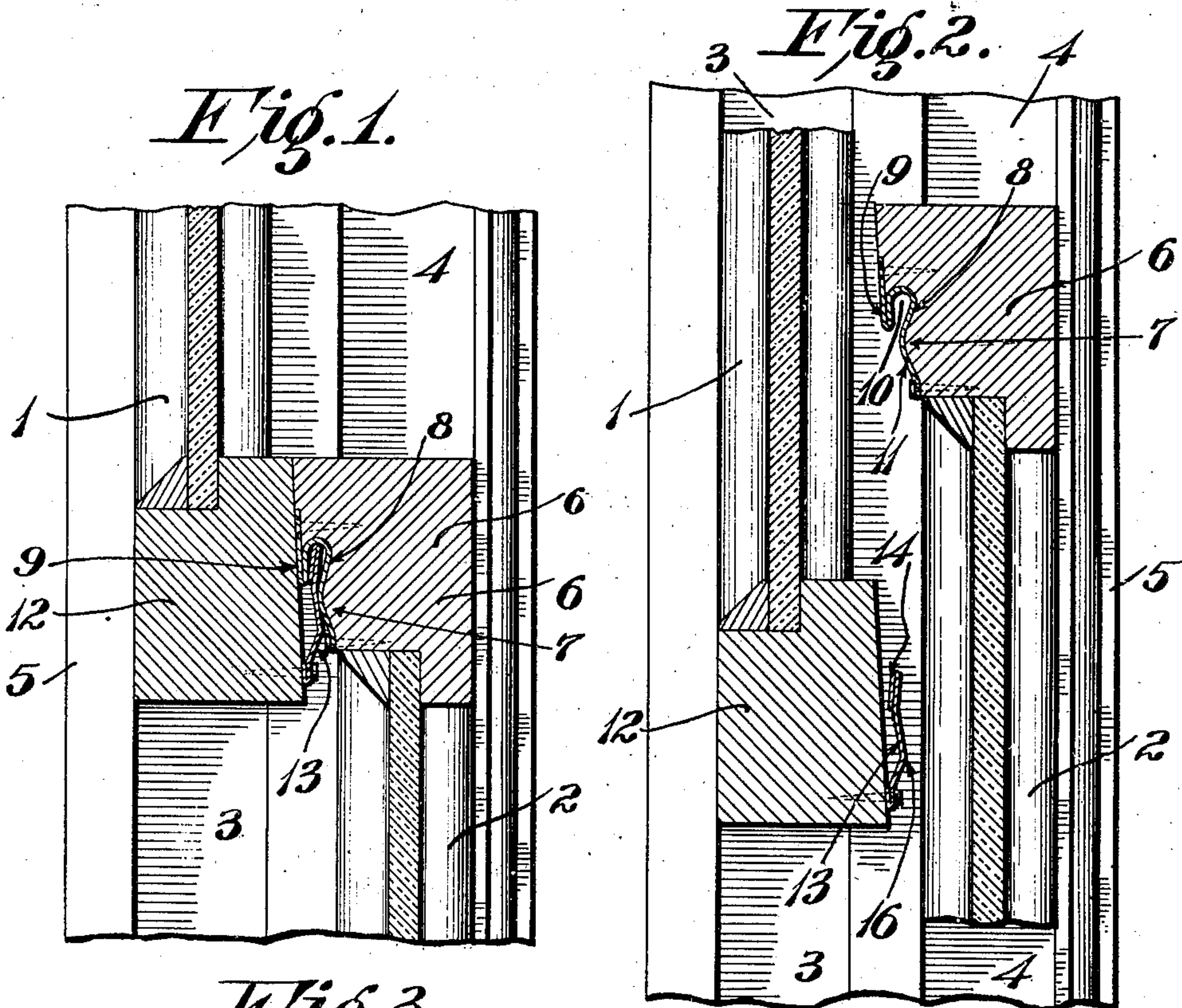
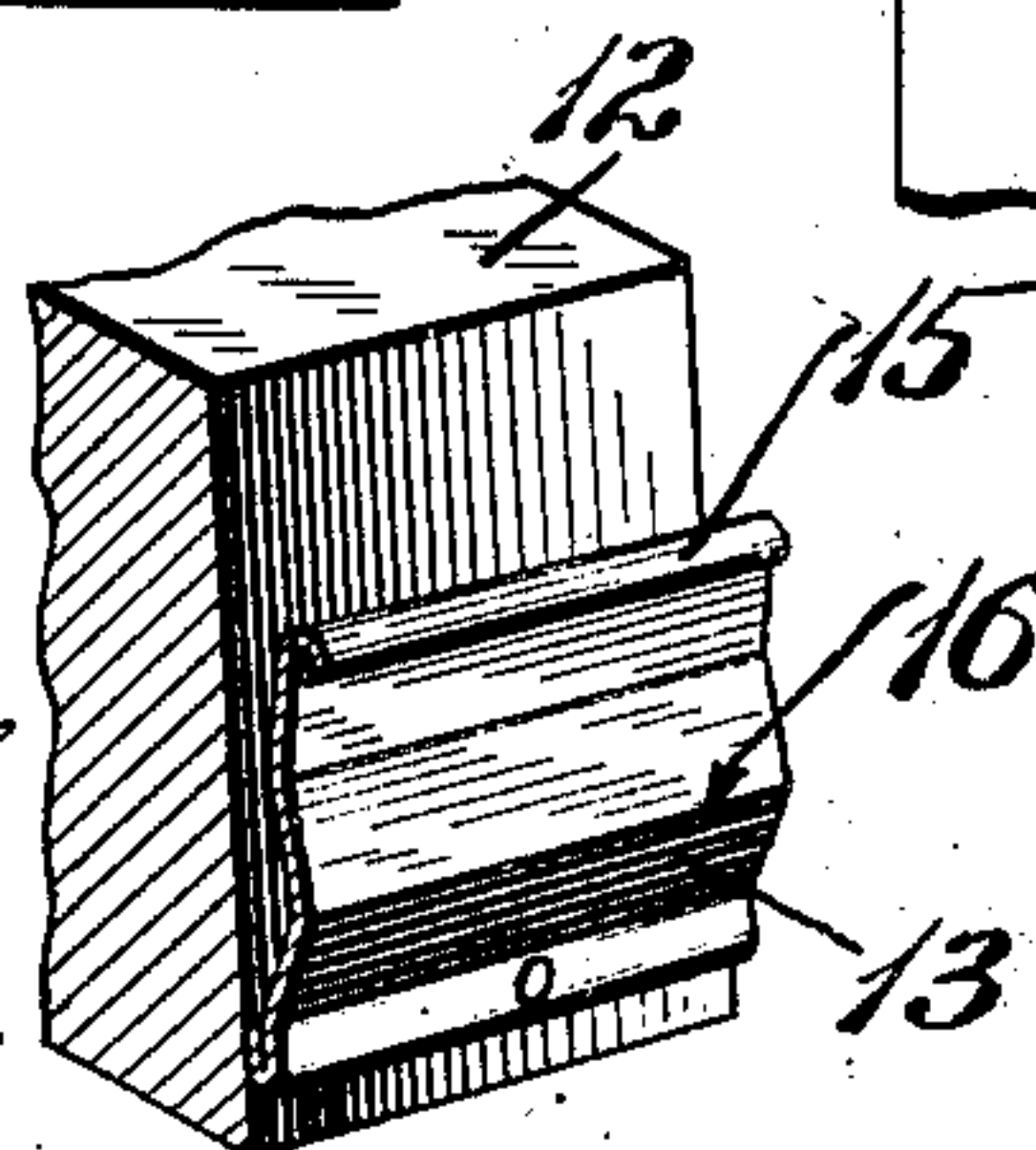


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

ALFRED M. LANE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO MONARCH METAL WEATHER STRIP COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

METAL WEATHER-STRIP.

987,244.

Specification of Letters Patent.

Patented Mar. 21, 1911.

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To all whom it may concern:

Be it known that I, ALFRED M. LANE, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Metal Weather-Strips, of which the following is a specification.

This invention relates to weather strips and more particularly to strips for the meeting rails of cooperating upper and lower sliding window sashes and casements or swinging window sashes.

It has for its principal objects to make a tight joint between two sashes or the sash and window frame, as the case may be, and to attain certain advantages hereinafter more fully appearing.

The invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawing which forms part of this specification and wherein like symbols refer to like parts wherever they occur, Figure 1 is a fragmentary vertical section through the portions of two window sashes adjacent to the meeting rails, the same being in closed position; Fig. 2 is a similar view showing the two meeting rails moved apart; Fig. 3 is a fragmentary inner face view of one corner of the upper sash adjacent to the meeting rail, showing the resilient strip secured thereto; Fig. 4 is a face view of one corner of the lower sash adjacent to its meeting rail, showing the groove or pocket strip secured thereto; and Fig. 5 is a sectional view showing a slightly modified construction of the resilient strip.

In the drawings, upper and lower sliding window sashes 1, 2, are illustrated as being respectively fitted in grooves 3, 4, in the window frame 5. The meeting rail or top rail 6 of the lower sash 2 is formed with a horizontal molding 7 on its outer face. Over this molding is fitted a longitudinal strip 8 whose upper portion is rebent as at 9 and then curled or looped to form a longitudinal inverted groove 10 whose bottom is rounded and mouth portion is contracted. The grooved portion of the strip 8 is fitted in a groove in the molding and the lower portion of the strip is bowed as at 11 to fit the horizontal beaded portion of the molding. The strip is secured to the meeting rail by a row of tacks, screws, or other se-

curing devices along the upper and lower edges thereof.

On the meeting rail or lower rail 12 of the upper sash 1 is fitted a resilient strip 13. This strip 13 is secured along its lower marginal portion to the inner face of the meeting rail and its free edge portion is adapted to enter in the groove 10 provided in the strip 8. The upper marginal portion of the strip 13 is folded back upon itself as at 14 or, in some cases, instead of folding the strip back upon itself, the marginal portions may be rolled to form a bead 15 as shown in Fig. 5. The middle portion of the strip is bent inwardly on a horizontal line as at 16 and the upper marginal portion is also preferably inclined inwardly so that said marginal portion will contact first with the bowed portion 11 and then ride through the opening in the slot 10 of the strip 8.

When the window is closed, the top edge portion of the strip 13 will bear against the bottom of the overhanging groove portion 10 of the strip 8 and the horizontal ridged portion adjacent to the top edge of the strip 13 bears against the depending lip formed by the rebent upper portion 9 of the strip 8. The inwardly bent portion 16 of the strip 13 contacts with the horizontal bowed portion 11 of the strip 8. Thus, when the window sashes are fully closed, the strips 8 and 13 contact at three points throughout their length. The strip 13 being formed of resilient metal permits of the strips being applied between the meeting rails of sashes having considerable play or looseness in their vertical slideways in the window frame. So, too, in case the window sashes are not fully closed, there will still be one or more points of contact between the two strips 8 and 13. A meeting rail strip constructed according to my invention also prevents the insertion of a flat blade or other instrument between the two meeting rails and thus prevents the opening of a sash-lock which may be provided for the two sashes.

While the strips have been illustrated as applied to the meeting rails of two cooperating sliding sashes, obviously, the same may be readily applied to the meeting rails of two casements or hinged sashes, or between the rails of the sashes and the window frame.

Obviously, the strip admits of considerable modification without departing from

my invention, and, therefore, I do not wish to be limited to the specific construction and arrangement shown.

What I claim is:

1. The combination with the meeting rails of two cooperating window sashes, of a grooved strip secured along the cooperating face of one of said meeting rails, and a resilient strip secured along one of its longitudinal marginal portions to the cooperating face of the adjacent meeting rail, the free edge portion of said resilient strip being bent toward said grooved strip and adapted to enter and bear against the grooved portion thereof and the middle portion of said resilient strip being bowed throughout its length toward said grooved strip and adapted to bear against the face of said grooved strip outside of the groove when the marginal portion of said resilient strip is in said groove.
2. The combination with the meeting rails of two cooperating window sashes, of a strip secured to one of said meeting rails and having an overhanging grooved portion, a resilient strip secured along one longitudinal edge portion to the cooperating face of the adjacent meeting rail, the free edge portion of said resilient strip being bent toward said grooved strip so as to enter and bear against said overhanging grooved portion of the adjacent strip and the middle portion of said resilient strip being bowed transversely throughout its length and adapted to bear against the face of the adjacent strip outside of the groove when the marginal portion of said resilient strip has entered said groove.
3. The combination with the meeting rails of two cooperating window sashes, one of said meeting rails being formed with a molding on its face which cooperates with the adjacent meeting rail, a metal strip secured to the molding on said first mentioned meeting rail, said strip having a longitudinal overhanging bowed portion adjacent to and parallel with the mouth of said overhanging grooved portion, and a resilient metal strip secured along one longitudinal edge portion to the cooperating face of the adjacent meeting rail, the free edge portion of said resilient strip being bent toward said first-mentioned strip and adapted to enter said overhanging grooved portion and bear against the bottom and one side wall thereof, and the middle portion of said resilient strip being bent toward said first-mentioned strip so that it bears throughout its length against the face thereof outside of the groove when the marginal portion of said resilient strip is in said groove.
4. The combination with the meeting rails of two cooperating window sashes, of a metal strip secured to the cooperating face of one of said meeting rails, said strip hav-

ing a rebent portion and a looped portion adjacent thereto constituting a longitudinal inverted groove, the portion of said strip below and adjacent to the opening of said groove being bowed outwardly throughout its length parallel with the groove, a resilient strip secured along its lower longitudinal edge portion to the cooperating face of the opposite meeting rail, the free upper edge portion of said resilient strip being bent toward said first-mentioned strip so as to enter the grooved portion thereof and being adapted to bear against the bottom of said groove and against the rebent portion of said first mentioned strip, the intermediate portion of said resilient strip being bent outwardly throughout its length toward said first-mentioned strip so as to bear against the bowed portion thereof when said marginal portion of said resilient strip is in said groove.

5. In a weather strip, the combination of two cooperating metal strips, one of said strips being rebent and looped to form a longitudinal groove having a contracted mouth, the major axis of said mouth being substantially parallel with the outer face of the rebent portion of the strip and the portion of the strip adjacent to the mouth of said groove being bowed outwardly throughout its length, and the cooperating strip being resilient and adapted to be secured along one longitudinal edge portion, the free edge portion of said resilient strip, being turned toward said grooved strip and adapted to enter the groove therein and to contact with the bottom of said groove and one wall thereof, and the middle portion of said resilient strip being bent outwardly throughout its length so as to bear against the bowed portion of the cooperating strip when the free edge portion of said resilient strip has entered said groove.

6. In a weather strip, the combination of two cooperating metal strips, one of said strips being rebent near its margin and having its intermediate portion folded adjacent to said rebent portion to form a longitudinal groove, one side wall of which, is formed by said rebent portion and the opposite wall being inclined toward said rebent portion whereby the mouth of said groove is contracted, and the portion of the strip contiguous to the inclined wall of the groove being bowed transversely throughout its length, and the cooperating strip being resilient and adapted to be secured along one longitudinal edge, the free edge portion of said resilient strip being arranged and adapted to enter the groove in said first mentioned strip and contact with the bottom of said groove and one wall thereof, and the middle portion of said resilient strip being bent transversely throughout its length so as to bear against the bowed portion of the first

mentioned strip when the free marginal portion of said resilient strip is in the groove of said first mentioned strip.

7. A weather strip comprising two metal strips which are adapted to be brought together edgewise, one of said strips being rigid and having its intermediate portion rebent and rolled to provide a longitudinal groove whose major axis is substantially midway between the two marginal portions of the strip which are offset with respect to each other, and one side of said strip being bowed transversely throughout its length adjacent to the mouth of the groove, and the cooperating strip being resilient and adapted to be secured along one longitudinal edge, and the free marginal portion of said resilient strip being bent transversely throughout its length so as to enter the groove in said first mentioned strip and bear against the bottom of the groove and the rebent side wall thereof, and the middle portion of said resilient strip being bent transversely throughout its length so as to bear against the bowed portion of said first mentioned strip when the two strips are brought in cooperative relation to each other.

8. In a weather strip, the combination of two cooperating metal strips, one of said strips having a longitudinal groove, and the other strip being resilient and adapted to be secured along one longitudinal edge-portion,

the free edge portion of said resilient strip being arranged and adapted to enter the groove in said first mentioned strip and contacting therewith, and said resilient strip being also arranged and adapted to bear throughout its length against said first mentioned strip outside of the groove after its free edge portion has entered said groove.

9. In a weather strip, the combination of two cooperating metal strips, one of said strips having its longitudinal marginal portions offset and its intermediate portion rebent and looped to form a groove having its major axis parallel with the face of the strip, and the other strip being resilient and adapted to be secured along one longitudinal edge portion, the free edge portion of said resilient strip being bent so as to bear against said first-mentioned strip and adapted to enter the groove therein, and the middle portion of said resilient strip being also arranged and adapted to bear against said first mentioned strip outside of the groove when its free edge portion has entered said groove.

Signed at St. Louis, Missouri, this 7th day of May, 1910.

ALFRED M. LANE.

Witnesses:

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J. B. MEGOWN.