Nov. 26, 1935. O. DAHL 2,022,408

METAL WEATHER STRIP

Filed Sept. 24, 1934

Fig. 1.

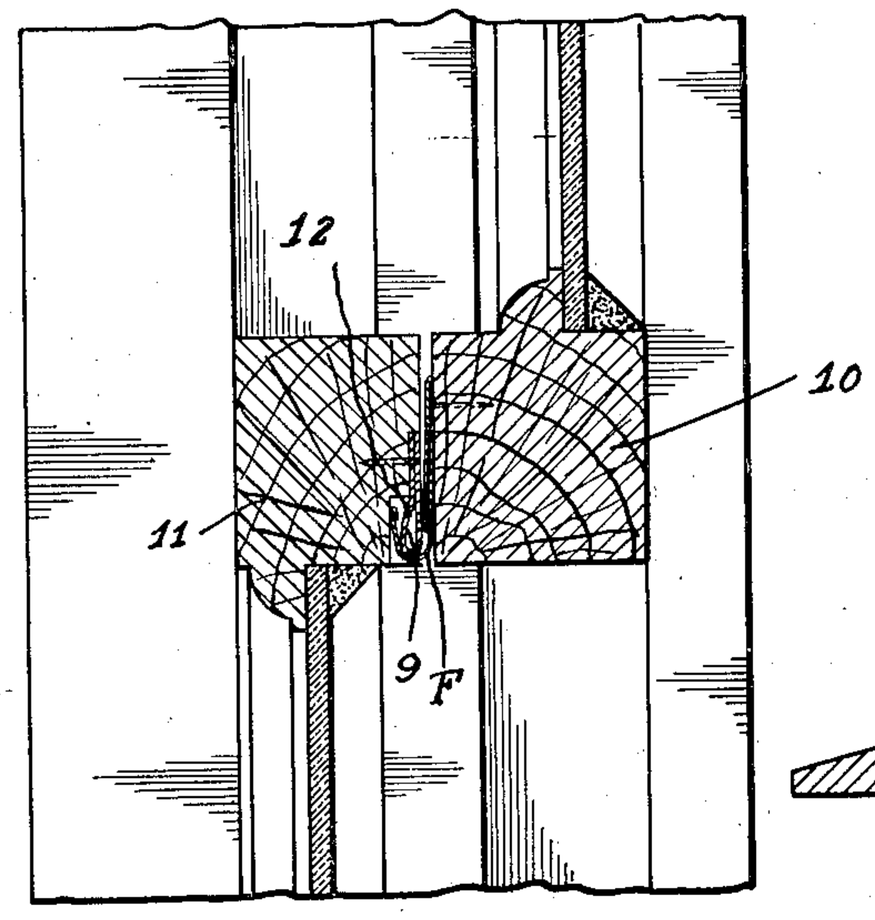


Fig. 2.

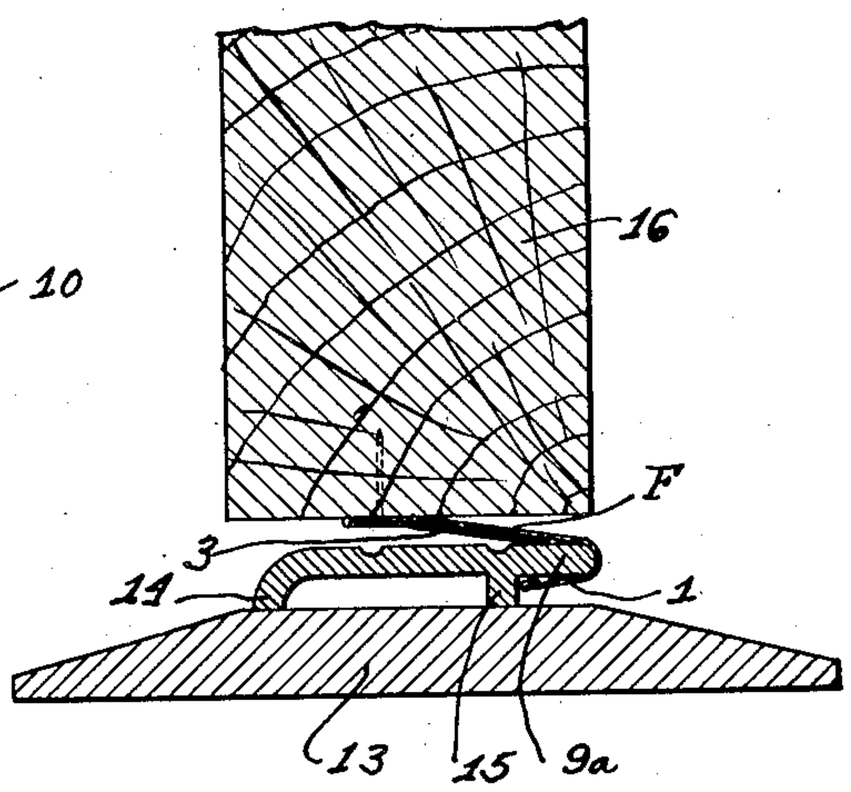


Fig. 3.

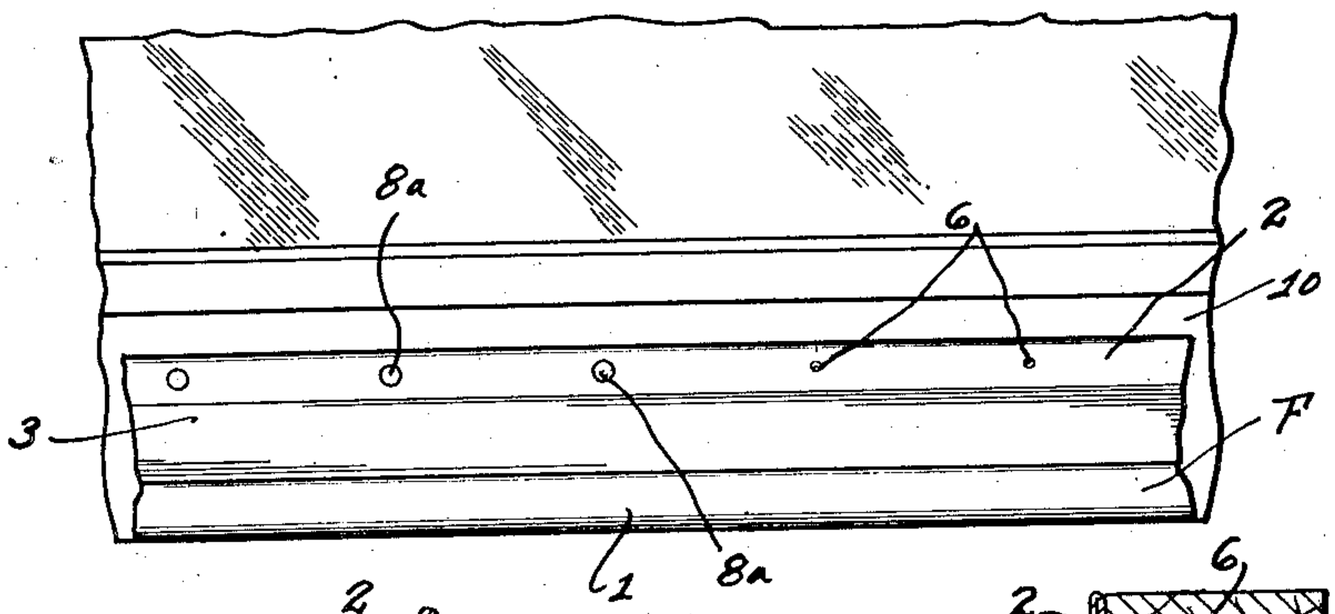


Fig. 4.

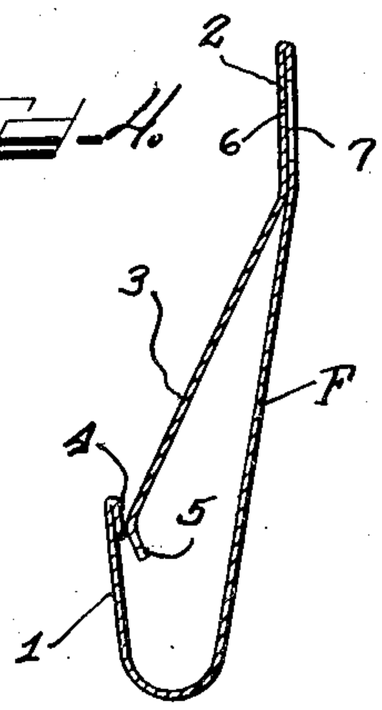
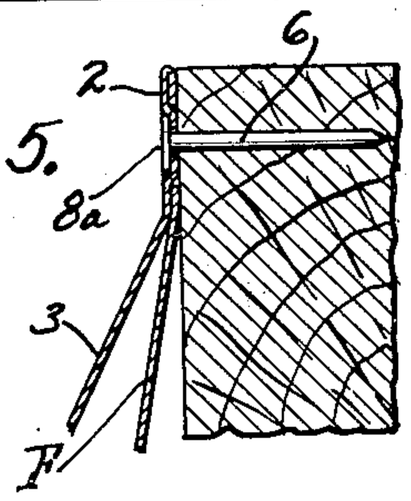


Fig. 5.



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UNITED STATES PATENT OFFICE

2,022,408

METAL WEATHER STRIP

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Application September 24, 1934, Serial No. 745,180

4 Claims. (Cl. 20—69)

This invention relates to a metal weather strip and concerns itself primarily with a structure comprising a female member and a cooperating male member.

The primary purpose of this invention is to provide a female member having a resilient tongue that always produces an efficient seal against the ingress of weather. The resilient tongue is preferably formed integrally with the female member and acts to automatically take up all wear between the two members.

The invention comprises the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawing, which illustrates a preferred form of this invention, and in which similar reference numerals refer to similar features in the different views:

Figure 1 is a fragmentary transverse sectional view through a window equipped with a metal weather strip involving this invention.

Figure 2 is a fragmentary transverse sectional view through the base of a door structure equipped with the same metal weather strip.

Figure 3 is an enlarged elevational view of the female member illustrating its application to a window.

Figure 4 is an enlarged transverse sectional view through the female member of the weather proofing structure.

Figure 5 is an enlarged fragmentary sectional view illustrating the manner in which the female member is attached to its support.

In the drawing, there is illustrated the preferred embodiment of this invention, but it will be understood that different variations may be resorted to. The female member which is designated by the reference F preferably consists of a single integral structure formed from resilient sheet metal which is stamped or formed to provide a hook shaped portion 1, at one end portion. The sheet of metal is folded upon itself at an intermediate point as indicated at 2, and this folded portion provides a double thickness for attaching purposes. The other end portion 3 extending from the folded portion 2 is bent upwardly and is of sufficient length to extend within the hooked portion 1. The terminal of the hook shaped portion 1 is preferably crimped over as indicated at 4 to provide a stronger edge for a purpose that will later appear, and the upwardly extending portion 3, which is in the nature of a resilient tongue, has its terminal edge bent inwardly as shown at 5, the apex of the bend 5 engaging the crimped edge 4. It will be noted that the portion containing the hook shaped end slopes upwardly a slight degree from the folded portion and is adapted to yield.

The folded portion 2 is provided with apertures for receiving securing nails 8. It will be noted that a small aperture 6 is formed in the top member of the fold 2 that is of sufficient size to receive the shank of the nail, while a much larger aperture 7 is formed in the bottom member of said fold of a diameter substantially equal to the diameter of the head 8a of the nail. Consequently, it is possible in driving the nails to counter-sink portions of the outer member of the fold 2 in the apertures 7 as shown in Fig. 5, to bring the heads 8 flush with the outer surface of the weather strip.

The female member is adapted to be attached to one of two relatively movable members. A male member 9 as shown in Fig. 1, or the male member 9a shown in Fig. 2 is adapted to be attached to the other member. In Fig. 1 the relatively movable members are illustrated as upper and lower window sashes respectively designated as 10 and 11. The female member F is secured upon the inner surface of the sash 10, while the male member 9 is secured upon the inner surface of sash 11. The male member 9 is shown as a strip of metal folded upon itself to provide a loop 12 adapted for entering the female member F and depressing the resilient or spring tongue 3, which urges the male member against the outer wall of the hooked end to efficiently exclude the weather. When the sash 10 is lowered or the sash 11 is elevated, the male member 9 will readily be withdrawn from the female member.

In Fig. 2, the male member 9a is shown as a solid metal threshold plate attached to a base member 13 which may be the base of a door frame or the like. This metal plate has a downturned end 14 and a rib 15 for supporting the main portion slightly above the base. The part that enters the female member projects beyond the rib 15 and above the base. The female member F is shown as attached to the bottom edge of a door 16 so that when the door is closed, the female member F will engage over the male member 9a, the spring tongue 3 being yieldingly depressed for efficiently excluding the weather, as is apparent.

From the foregoing, it will be apparent that a novel weather proofing structure between two relatively movable members has been invented, that automatically takes up all looseness or wear of the parts to effectively exclude the weather.

I am aware that many changes may be made

and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting hte patent granted hereon otherwise than is necessitated by the prior art.

I claim as my invention:

1. In a weather proofing structure, a sheet metal member having a folded attaching portion comprising a bottom ply and a top ply, the top ply having small apertures adapted for receiving the shanks of attaching members and the bottom ply having larger apertures substantially the size of the heads on the attaching members for the purpose set forth.

2. In a weather proofing structure, a sheet metal member having a two ply attaching portion provided with apertures for receiving securing means, said apertures being enlarged in one ply for counter-sinking portions of the other ply therein.

3. A metal weather strip comprising a resilient sheet metal member having cooperating terminal portions diverging into overlapping portions forming a top ply and a bottom ply, the top ply having small apertures for receiving the shanks of attaching members and the bottom ply having larger apertures substantially the size of the heads on the attaching members for the purpose set forth.

4. A metal weather strip for excluding the weather between a pair of members, comprising a resilient sheet metal plate folded intermediate a pair of opposed edges, said folded portion being flattened for receiving securing means for attachment to one of said members, the parts of said plate forward of said flattened portion extending at an angle to said last mentioned member, one of said parts having a hook-shaped end for engaging over the other member and the other part of said plate constituting a resilient tongue extending at an angle to the first mentioned part and into said hook-shaped end.

OSCAR DAHL.