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METAL WEATHER STRIP FOR STEEL CASEMENT WINDOWS AND DOORS

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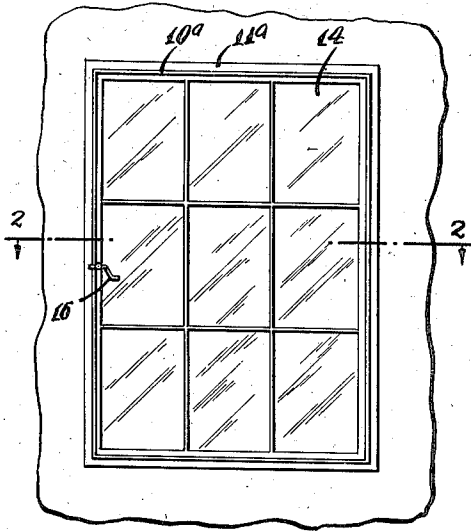


Fig. 1.

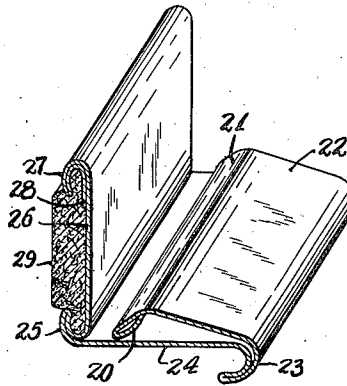


Fig. 4.

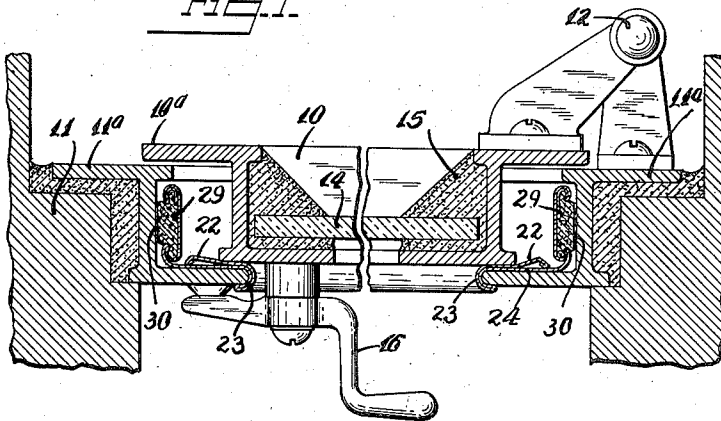


Fig. 2.

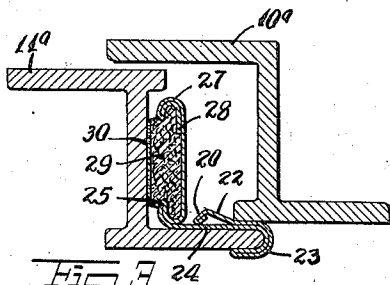


Fig. 3.

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METAL WEATHER STRIP FOR STEEL CASEMENT WINDOWS AND DOORS

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8 Claims. (Cl. 189—65)

This invention relates to new and useful improvements in a metal weather strip for casement windows, doors, and the like.

The invention has for an object the construction of a weather strip which is characterized by a one piece strip having an outer portion shaped to be resilient, an inner portion to support it, a portion extending substantially at right angles to said inner portion, and several double layer hook portions for anchoring the strip and holding a felt anchorage strip.

More specifically, the invention contemplates a construction wherein all the various hook portions and the other portions are formed from one strip of material continuously bent.

A feature of the invention is the fact that the portion which is disposed at right angles to the inner portion is formed with opposed hook portions adapted to clamp the edges of the felt or other similar strip.

A further object of the invention is the use of adhesive to attach the felt strip on a window frame and so prevent the passage of air, dust, dirt, and the like. At this point attention is called to the fact that if the weather strip is secured upon the frame with screws or fastening elements it is possible for air, dirt and dust to pass between the parts.

Another object of the invention is the construction of a weather strip as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a front elevational view of a casement window with metal weather strips according to this invention.

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged detailed view of a portion of Fig. 2.

Fig. 4 is a perspective view of the metal weather strip per se.

In Figs. 1 and 2 a casement window is shown comprising a sash 10 and a frame 11. The sash is supported by several hinges 12 so that it may swing open or closed. The frame is provided with the conventional edge piece 11a adapted to receive the conventional complementary

edge piece 10a of the sash. The sash is provided with several panes of glass 14 secured in position with putty 15 or similar material. The window is adapted to be locked by a latch 16 swivelly mounted on the sash and adapted to engage in a locked position with a portion thereof extending over an edge of the frame member 11a. This invention relates merely to the weather strip which is interposed between the sash 10 and the frame 11 when the sash is closed. This weather strip is secured upon the side member 11a of the frame.

The weather strip, according to this invention, comprises a strip having a curled edge portion 20 forming a resilient hem from which a sharply outwardly inclined portion 21 continues. A shallow inwardly inclining portion 22 continues from said outwardly inclining portion 21. A double layer hook 23 continues from the inwardly inclining portion 22 and connects with a base portion 24. This base portion continues into a double layer hook 25 at right angles thereto.

The double layer hook continues into a wall portion 26 substantially at right angles to the base portion 24. This wall portion continues into a double hook 27 opposed to the hook 25. The double hook terminates in an edge 28 located on the outside face of the wall portion 26.

A felt strip 29, or similar fastening strip, extends over the outer face of the wall portion 26 and is held in position by having its edges clamped by the hook portions 25 and 27. Cement 30 is interposed between the outer face of the felt strip 29 and the side of the frame member 11a for mounting the weather strip in position. The hook 23 engages over the inner free edge of the side member 11a, as clearly shown on the drawing, particularly Fig. 3.

When the sash is closed it strikes against a portion of the inwardly inclining portion 22, as clearly shown in Fig. 3. Preferably, it strikes the half-way area. Consequently there is a certain resilient action between the portion 22 and the sash. The hem 20 and the outwardly inclined portion 21 supplement the resilient tendency of the inwardly inclining portion 22. At the other side the inwardly inclining portion 22 is resilient by reason of being connected with the hook 23.

An important feature of the invention is the cementing of the felt strip 29 upon the side of the frame 11a which prevents dust and dirt from passing between these parts. To assist in the proper mounting of the weather strip on the frame the wall portion 26 and the base portion

24 are manufactured to have normal positions slightly greater than 90°. Consequently, when the strip is engaged on the right angle portion of the side member 11a it will exert a pressure
5 between the outer face of the felt 29 and the side of the frame member 11a.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right
10 is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. A metal weather strip for steel casement windows and doors, comprising a strip having a curled portion forming a resilient hem from which
20 a sharply outwardly inclined portion continues, a shallow inwardly inclined portion continuing from said outwardly inclining portion, a double layer hook portion continuing from said inwardly inclining portion, a base portion continuing from said hook portion and extending beneath and in intimate contact with said resilient hem, a double
25 layer hook continuing from said base portion and disposed outwardly at right angles thereto, a wall portion continuing from said latter-mentioned double layer hook and terminating in another double layer hook opposed to said latter mentioned hook, said latter two hooks being adapted
30 to support a fastening member which in turn supports said metal weather strip.

2. A metal weather strip for steel casement windows and doors, comprising a strip having a curled portion forming a resilient hem from which
40 a sharply outwardly inclined portion continues, a shallow inwardly inclined portion continuing from said outwardly inclining portion, a double layer hook portion continuing from said inwardly inclining portion, a base portion continuing from said hook portion and extending beneath and in intimate contact with said resilient hem, a double
45 layer hook continuing from said base portion and disposed outwardly at right angles thereto, a wall portion continuing from said latter-mentioned double layer hook and terminating in another double layer hook opposed to said latter-mentioned hook, said latter two hooks being adapted
50 to support a fastening member which in turn supports said metal weather strip comprising a felt strip.

3. A metal weather strip for steel casement windows and doors, comprising a strip having a curled portion forming a resilient hem from which
55 a sharply outwardly inclined portion continues, a shallow inwardly inclined portion continuing from said outwardly inclining portion, a double layer hook portion continuing from said inwardly inclining portion, a base portion continuing from said hook portion and extending beneath and in intimate contact with said resilient hem, a double layer hook continuing from
60 said base portion and disposed outwardly at right angles thereto, a wall portion continuing from said latter-mentioned double layer hook and terminating in another double layer hook opposed to said latter-mentioned hook, said latter two hooks
65 being adapted to support a fastening member which in turn supports said metal weather strip,

comprising a felt strip, and cement for securing the outer face of said felt strip to the side face of the frame of a window casement or door.

4. A metal weather strip for steel casement windows and doors, comprising a strip having a
5 curled portion forming a resilient hem from which a sharply outwardly inclined portion continues, a shallow inwardly inclined portion continuing from said outwardly inclining portion, a double layer hook portion continuing from said
10 inwardly inclining portion, a base portion continuing from said hook portion and extending beneath and in intimate contact with said resilient hem, a double layer hook continuing from said base portion and disposed outwardly at right
15 angles thereto, a wall portion continuing from said latter-mentioned double layer hook and terminating in another double layer hook opposed to said latter-mentioned hook, said latter two hooks being adapted to support a fasten-
20 ing member which in turn supports said metal weather strip, the latter-mentioned double layer hook continuing into an edge portion disposed against the outer face of said wall portion.

5. A metal weather strip, comprising a strip
25 of material having an outer portion with a bend to make it resilient, an inner portion beneath said outer portion joined to the outer portion by a double layer hook, and a portion extending substantially at right angles to the inner portion and
30 joined thereto by a double layer hook, and having at its extended end a double layer hook opposed to said latter-mentioned double hook.

6. A metal weather strip, comprising a strip
35 of material having an outer portion with a bend to make it resilient, an inner portion beneath said outer portion joined to the outer portion by a double layer hook, and a portion extending substantially at right angles to the inner portion
40 and joined thereto by a double layer hook, and having at its extended end a double layer hook opposed to said latter-mentioned double hook, the free edge of said outer portion having a curled portion forming a resilient hem.

7. A metal weather strip, comprising a strip
45 of material having an outer portion with a bend to make it resilient, an inner portion beneath said outer portion joined to the outer portion by a double layer hook, and a portion extending substantially at right angles to the inner portion
50 and joined thereto by a double layer hook, and having at its extended end a double layer hook opposed to said latter-mentioned double hook, said latter two hooks being adapted to support a felt strip clamped between the said hook por-
55 tions.

8. A metal weather strip, comprising a strip
of material having an outer portion with a bend to make it resilient, an inner portion beneath
60 said outer portion joined to the outer portion by a double layer hook, and a portion extending substantially at right angles to the inner portion and joined thereto by a double layer hook, and having at its extended end a double layer hook
65 opposed to said latter-mentioned double hook, said latter two hooks being adapted to support a felt strip clamped between the said hook portions, and cement for securing the outer face of the felt strip upon the frame of a casement window or door.

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