Oct. 28, 1952 G. C. HAYMAN 2,615,214

WEATHER STRIP

Filed March 14, 1951

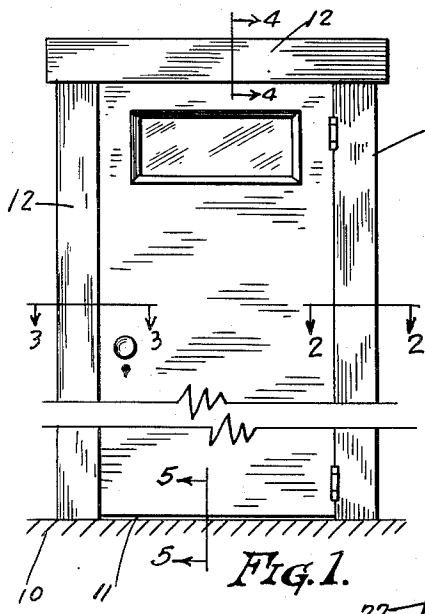


FIG. 1.

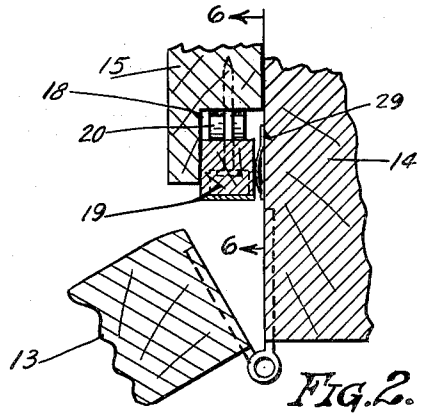


FIG. 2.

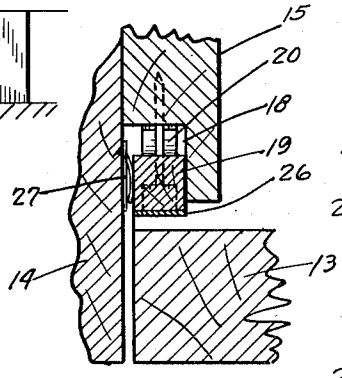


FIG. 3.

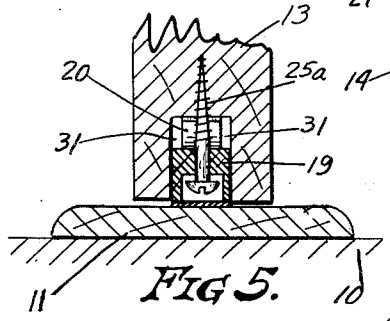


FIG 5.

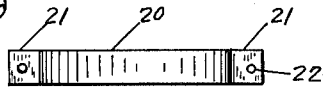


FIG. 8.

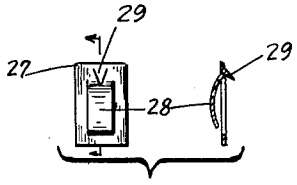


FIG. 7.

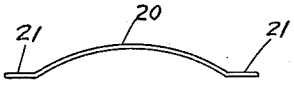


FIG. 9.

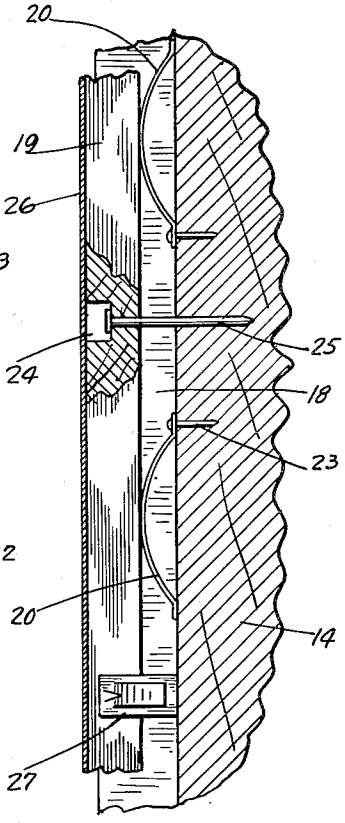


FIG. 6.

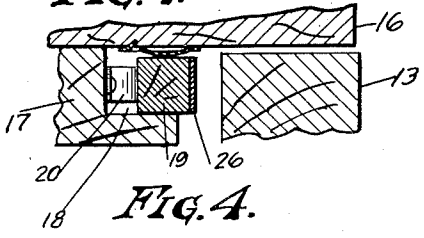


FIG. 4.

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WEATHER STRIP

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2 Claims. (Cl. 20—68)

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This invention relates to improvements in weatherstrips and has reference more particularly to a door and door frame provided with weatherstripping.

It is well known that doors such as are employed in ordinary residences, are in many cases so poorly fitted that a large amount of cold air enters between the door and the frame.

At the present time much of the lumber used in the construction of residences is not fully dried and therefore doors frequently shrink to the extent that, even if they were carefully fitted when first installed, much cold air can enter after shrinking has taken place.

To remedy this condition many kinds of weatherstrips have been invented and sold. Such weatherstrips are not applied until after the doors have shrunk to such an extent that the air leakage makes it difficult to properly heat the building.

It is the object of this invention to produce a door frame that is provided with weatherstripping at the mill where it is made and which will cooperate with any door, hung in the usual manner, to form an air tight seal.

Another object is to produce a door jamb and door stop assembly in which the weatherstrip is built into the assembly, at the mill, in such a way that the jamb, stop and weatherstrip can be sold for use by carpenters where the door frames are constructed on the job.

A further object is to produce a weatherstrip that can be provided at a comparatively small cost in material and labor and which will have sufficient movement to successfully cooperate with doors that have shrunk an excessive amount and which will have sufficient flexibility and resiliency to conform to the surfaces of doors that have warped to some extent.

The above and any other objects that may appear as the description proceeds are attained by means of a construction and arrangement of parts that will now be described in detail for which purpose reference will be had to the accompanying drawing in which the invention has been illustrated and in which:

Figure 1 is a front elevation of a door and frame constructed in accordance with this invention;

Figures 2, 3, 4 and 5 are sections taken respectively on lines 2—2; 3—3; 4—4; and 5—5, Figure 1;

Figure 6 is a view taken on plane 6—6, Figure 2; and shows a side elevation of the weatherstrip and the manner in which it is mounted for movement;

Figure 7 shows a front elevation and section of

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a spring employed in the construction to hold the strip in engagement with one wall of the groove in which it is positioned;

Figure 8 is a top plan view of a bow spring employed in the construction and

Figure 9 is an edge view of the spring.

In the drawing reference numeral 10 designates a floor and 11 a wooden threshold resting thereon. The casings on the door frame have been designated by reference numeral 12 and the door by numeral 13. The door has the usual butts and lock.

The door frame consists of jambs 14, stops 15, lintel 16 and lintel stop 17. The jambs and the lintel together with the stops associated with each, are of indentical size and construction and do not differ from the ordinary construction except insofar as the stops have been modified for the addition of the weatherstrip which will now be described.

The edges of the stops that face the door have been provided with rabbets 18 which in a typical construction are five eights of an inch deep and three eights of an inch wide. The size may obviously be varied as desired. Positioned in each rabbet is a wood seal-strip 19, there being one for each jamb and one for the lintel. Secured to the bottom wall of each rabbet are a plurality of arcuate springs 20: these springs have been shown in top plan and edge view in Figures 8 and 9. The ends 21 of the springs are bent as shown in Figure 9 and one end of each has a perforation 22 for the reception of brads 23 which serve to attach them, in the desired spaced relation, to the bottoms of the grooves in the manner shown in Figure 6. Each strip has a plurality of countersunk holes 24, spaced at suitable intervals, for the reception of large headed shingle nails 25 as shown in Figure 6 or long round head screws 25a as shown in Figure 5. The strips may move towards the bottoms of the grooves in response to pressure but are returned to their normal positions (shown in Figure 6), by the action of the springs as soon as the pressure is removed. The outer faces of the strips may have a covering 26 of felt. Instead of metal springs sections of sponge rubber may be substituted. The strips are made somewhat narrower than the width of the grooves to prevent them from binding due to unequal expansion and are urged against one of the side walls by metal springs 27 which have been shown in front plan and in edge view in Figure 7. Each spring consists of a piece of spring metal such as spring brass or bronze and has a tongue 28 cut on three sides and curved outwardly as shown in Figure 7. Each spring is formed

with a sharp projection **29** that serves to hold it in position between the strip and one wall of the groove.

The threshold has been shown in cross section in Figure 5 and designated by numeral **11**. The bottom of the door has a groove **31** in which is positioned a seal-strip **19** that is held in place by screws **25***a*, springs **20** and **27** are employed as above described.

When the door is open the seal-strips are held in their outermost position by the action of springs **20** and are limited in their outward movement by the heads of nails **25** and/or screws **25***a*.

When the door moves to closed position it moves strips **19** inwardly against the action of springs **20** and the strips therefore form a tight seal with the door surface.

At the bottom of the door strip **19** engages the threshold when the door is closed. Screws **25***a* permit the extent that strip **19** can move outwardly and allows adjustment to be made when the door is installed.

From the above description it is seen that the only change from the ordinary door frame construction is that the stops have been provided with rabbets. The strips **19**, springs **20** and **27** and the nails or screws that hold the strips in place are the only extra materials required.

Having described the invention what is claimed as new is:

1. A door frame having jambs and a lintel each provided inwardly from its front edge with a door stop, there being a rabbet in the front edge of the stops the open side of which faces the jamb forming therewith a groove, a seal-strip positioned in the groove, a resilient means between the seal-strip and the bottom of the groove urging the strip outwardly, means comprising wood screws for adjusting and limiting the outward movement of the strip to a position in which its outer surface projects a predetermined distance beyond the edge of the stop whereby it will be engaged by the inner surface of a door when it moves to closed position, and spring means positioned between one side of the strip and the adjacent side of the groove in which the strip is positioned to urge it against the other side of the groove.

2. A device in accordance with claim 1 in which the spring means consists of thin sheets of spring metal each having a tongue cut therefrom along three sides and bowed.

GEORGE C. HAYMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
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