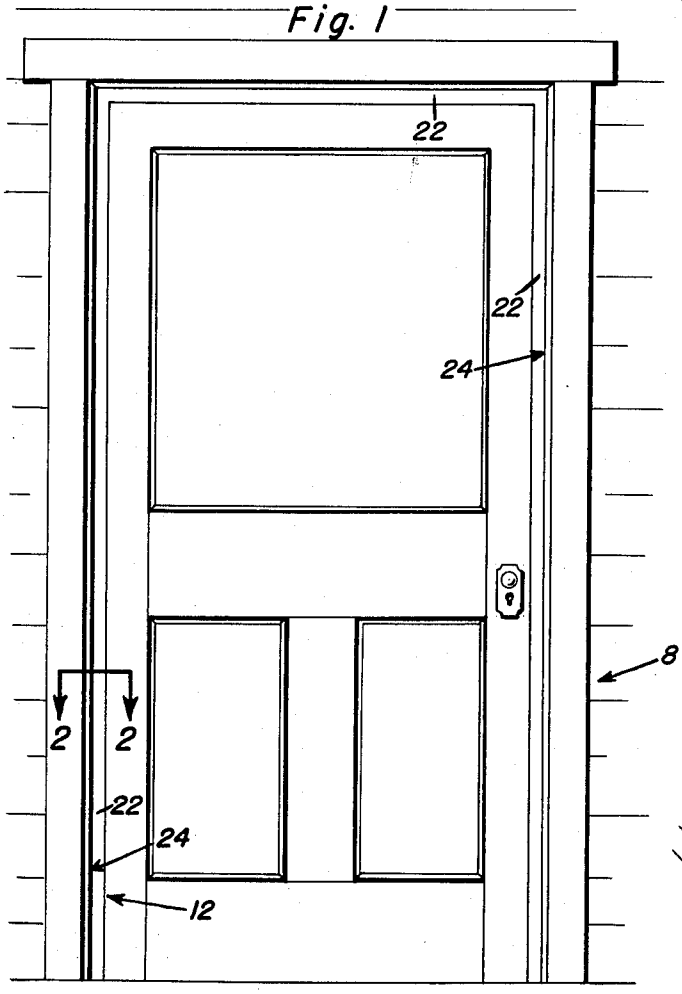
Feb. 14, 1956 G. H. CLAPP 2,734,238

WEATHERPROOF DOOR STOP

Filed Aug. 1, 1952

Fig. 1



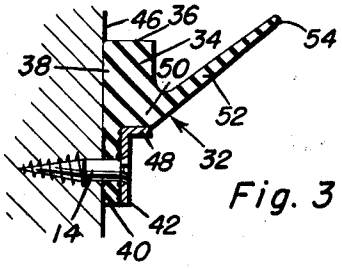




Fig. 3

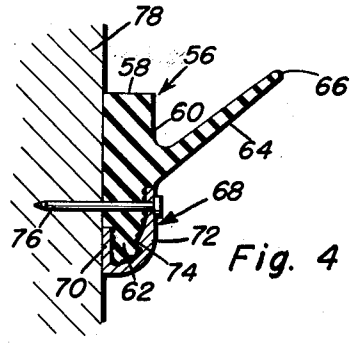



Fig. 4

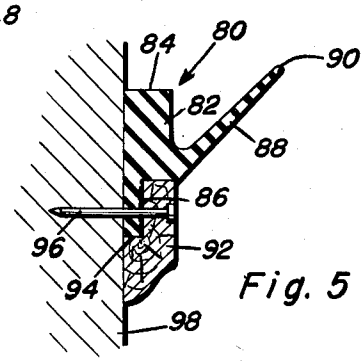



Fig. 5

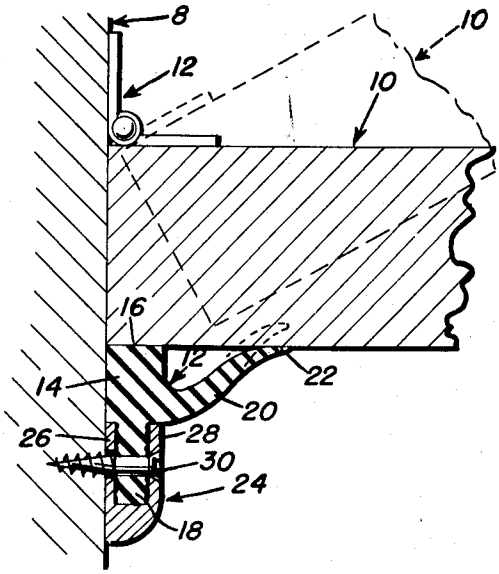



Fig. 2

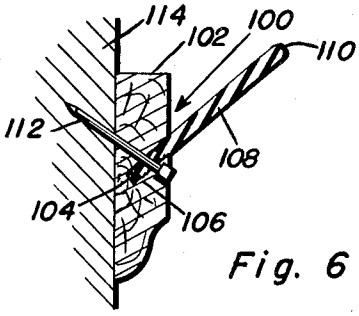



Fig. 6

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2,734,238

# WEATHERPROOF DOOR STOP

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Application August 1, 1952, Serial No. 302,187

4 Claims. (Cl. 20—69)

The present invention relates to certain new and useful improvements in door stop constructions and the general object of the invention is to structurally, functionally and otherwise improve upon similarly constructed and performing prior art weather-proofing door stops.

In carrying out the principles of the invention, an improved door stop is had which lends itself to use and satisfactory accomplishment whether it be installed inside or outside in respect to the door surfaces.

More specifically, the invention appertains to a simple, economical and practical door stop having an associated flexibly resilient rubber or equivalent flange which is joined with the door stop and provides a highly efficient weatherstrip to effectively exclude drafts and which combines with the abutment surface of the door stop in effecting the desired weatherproofing result.

A further object of the invention is to provide a combination door stop and weatherstrip which is susceptible of productive manufacture in a number of slightly differing forms or embodiments, all stemming from a novel generic concept.

A still further object is to provide the aforementioned combination door stop and weatherstrip, wherein the latter, because of its inherent resilient properties and its specific construction and arrangement will not adhere to the door surface due to the presence of snow or ice when applied exteriorly, and which will likewise free itself if perchance it should undesirably adhere to the door surface on an inside installation by reason of its ability to flex and break loose when the door is swung to an open position.

Briefly summarized and generically covered, the invention has to do with a door frame member, a door stop affixed to said member and having a flat surface providing an abutment surface with which a door portion is adapted to firmly contact, and a flexibly resilient door contacting flange adapted to yieldingly and sealingly engage said door portion, said flange being joined along one edge to said stop, being oblique-angled relative to said stop and having its other edge free and normally projecting to a position beyond the plane of said abutment surface, whereby when the said door portion is shut and in cooperating contact with said abutment surface, said other edge of the flange bears slidably yieldingly, and conformably against said door portion.

Then, too, novelty is predicated on the aforementioned structural characteristics wherein the free edge of the weatherstrip or flange is reduced in cross-section and is of highly pliant featheredged form, so that when the door is closed against the featheredge, the latter slides against the door surface, flexes and recedes from its normal projecting position to accommodate the closing movement while, at the same time, maintaining the desired weatherproofing seal, during the transition.

What is more, novelty is predicated on a combination door stop and companion weather-strip flange wherein the body of the door stop is also provided with a complemental attaching flange which is connected with an



anchoring or hold-down member which, in practice, takes varying cross-sectional forms, any of which members may be readily screwed or nailed in place against the door frame or casing.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the accompanying sheet of drawings wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is an elevational view of an ordinary door and frame construction including the improved combination door stop and weather-strip means and showing the same applied along the two vertical sides of the frame and across the top.

Figure 2 is an enlarged fragmentary section taken on the horizontal line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a similar horizontal section showing a modified form of the invention.

Figure 4 is a view like Figure 3, showing a further modification.

Figure 5 is a similar view showing a still further modification.

Figure 6 is also a similar view showing an additional modification in construction.

Reference is had first to Figures 1 and 2, wherein the door frame or casing, which is conventional, is denoted by the numeral 8. The door, also conventional, is denoted by the numeral 10 and is hingedly mounted in place as at 12 in Figure 2. As before stated the combination stop and weather-strip means is applicable either interiorly or exteriorly and it is, of course, fastened to the relatively stationary door frame. It is applied around the side vertical edges and across the top as shown in Figure 1, but the novelty is predicated, of course, on what may be described as a single door stop and weatherproofing flange or weather-strip. Referring to the form of the invention seen in Figure 2 two units are employed and the main unit is molded, extruded or otherwise formed from rubber. This may be called the combination door stop and weather-strip unit, and it is denoted by the numeral 12. It comprises a substantially rectangular body portion 14, one flat surface of which constitutes the door abutment surface and this is denoted at 16. Along one longitudinal edge there is an attaching flange or rib 18. Formed integrally with what may be called the inward side surface, the right hand surface in Figure 2 and projecting laterally from the surface in spaced relation, is the weather-strip and this is in the form of a flange 20. It is integrated with the body 14 and spaced from the abutment surface 16 and therefore is situated adjacent to the attaching flange 18. It is tapered in cross-section and may be described as wedge-shaped and the inner stout portion joins with the body 14 while the opposite edge or portion is free and is reduced to feather-edge proportions as shown at 22. The inherent resiliency of the flange 20 is such that when the free edge 22 is not under pressure, said flange projects normally to a position beyond the plane of the abutment surface 16, and therefore it is in the path of movement of the door when the door swings from open to closed position. In fact, it is thus a projectible and retractable weather-strip and it is pressed by the action of the door from its projected to its retracted position whereupon it then has yielding and sliding contact with the surface of the door. The second unit, which may be called a holder or hold-down unit, is denoted by the numeral 24 and this is preferably of aluminum which is extruded and is channel-shaped in cross-section. The inner wall is denoted at 26 and the outer one at 28.

The walls are provided with preformed openings to accommodate the wooden screw **30** which passes through the wall and also through the flange **18**, which fits in the channel between said walls. To obtain more satisfactory results the coacting surfaces of the flange **18** are ribbed or otherwise roughened and the outer wall **28** may be angled to assume an oblique-angled position in respect to the wall **26** to facilitate inserting the flange **18** into the channel, after which the wall **28** closes against the flange when the screws are applied.

In the form of the invention just described it will be seen that the flange **18** is centered between the respective flat side surfaces of the body portion **14**. In the modification shown in Figure 3 there is a slight variation in construction. The principal change, however, is in the hold-down or holder means for the combination door stop and weather-strip. The rubber unit in this form of the invention is denoted by the numeral **32** and it comprises a rectangular body portion **34** and a door abutment flat surface **36**. The attaching flange is flush on one side with the adjacent side **38** of the body portion and said flange is denoted by the numeral **40**. The hold-down member is a strip of aluminum or the like which is substantially L-shaped and the wider flange **42** is superimposed against the flange **40** and is fastened in place by wood screws or the like **44** which extend into the frame **46**. The shorter flange **48** abuts the shoulder **50** which is provided in this form of the invention. The weather-strip is also a flexibly resilient inwardly projecting flange and is wedge-shaped in cross-section and is denoted by the numeral **52** and the feather-edge portion is denoted at **54** and this projects in the same manner beyond the plane of the abutment surface **36**, and in fact this feature is common to all forms of the invention shown as is obvious.

In the form of the invention shown in Figure 4 the combination stop and weather-strip is denoted as a unit by the numeral **56**. The flat abutment surface is denoted at **58** and the rectangular body portion at **60**. The attaching flange, also rectangular in cross-section and of a cross-section less than the body portion is denoted by the numeral **62**, while the weather-strip flange is denoted at **64**. This corresponds in cross-section and shape to the flanges **20** and **52**, and it has a feather-edge free edge portion at **66**. The holder or hold-down member is denoted at **68** and here again this is preferably constructed from extruded aluminum and it has a narrower inner wall **70** and a wider outer wall **72**, the two walls defining a channel for reception and retention of the flange **62** and the interior surface of the wall **72** having a V-shaped rib **74** which functions as a keying or anchoring element and embeds itself in the flange **62** to more satisfactorily secure the parts together when the nail **76** is driven into the frame member **78**. In this arrangement the narrower wall **70** paves the way for unobstructed driving of the nail through an opening in the wall **72** and directly through the body portion and then into the frame member.

In the form of the invention in Figure 5 the rubber unit is denoted at **80**, the body portion at **82**, the abutment surface at **84** and the attaching flange at **86**. The obliqued angle flange or weather-strip is denoted at **88** and this has its free projecting feather-edge **90** projecting to a plane beyond the surface **84**. Here the holder is a strip of wooden molding or the like **92** having a rabbeted groove **94** for reception of the flange **86**. Here



the nail **96** is driven through the molding and flange and into the frame member **98**.

In the form of the invention shown in Figure 6, the stop is a strip of wooden molding and is denoted at **100** and has an abutment surface **102** and a diagonal groove or channel **104** receiving the coacting end **106** of a strip of rubber **108** which constitutes the weather-strip. The free edge thereof is denoted at **110**. The nail **112** is diagonally driven through the parts and into the frame, as at **114**.

This invention, while it is intended primarily as a stop for the common outside door, may equally well be used for other purposes such as refrigeration units, aircraft doors, etc., or any other place where a draft or circulating air current is objectionable.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in the shape, size and arrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having described the invention, what is claimed as new is:

1. A weather-strip construction comprising an extruded all-rubber elongated non-flexible but yieldable body embodying a stop which is rectangular in cross-section, said stop having a flat side for retentive attachment to a door frame and being provided along one lengthwise edge with a reduced attaching flange, and being provided along its other lengthwise side with an oblique-angled weather-proofing and sealing flange, the latter being flexibly resilient and wedge-shaped in cross-section and providing a free feather-edge which normally projects to a position beyond the plane of the adjacent lengthwise edge of said stop.

2. The structure defined in claim 1, and a rigid hold-down member for said attaching flange, said member and flange having overlapping portions and said member being adapted to be held securely in its anchored position by driven headed fasteners which pass through the member and also through the flange.

3. The structure defined in claim 1, and a rigid metal hold-down member, the latter being channel-shaped in cross-section and the surfaces of said attaching flange which fit into the channel shaped member having preformed holes to accommodate retaining screws.

4. The structure defined in claim 1, and a rigid metal hold-down member for said stop, said member being channel-shaped in cross-section and having a narrow inner wall and a relatively wider outer wall, the interior surface of said outer wall having a lengthwise keying and anchoring rib which embeds itself in the cooperating surface of said attaching flange.

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