Jan. 29, 1957 H. A. KELLER 2,779,070

THRESHOLD

Filed Aug. 15, 1955

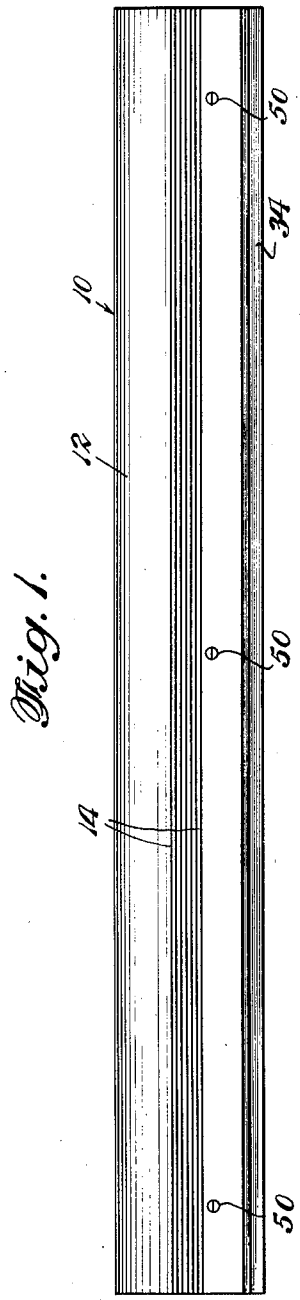


Fig. 1.

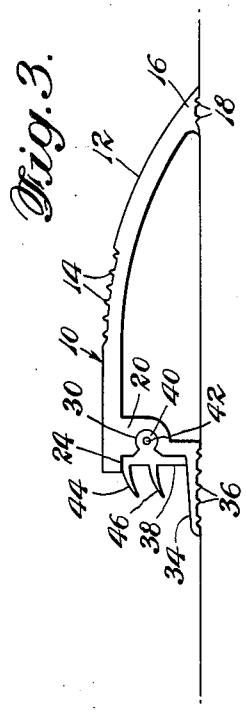


Fig. 3.

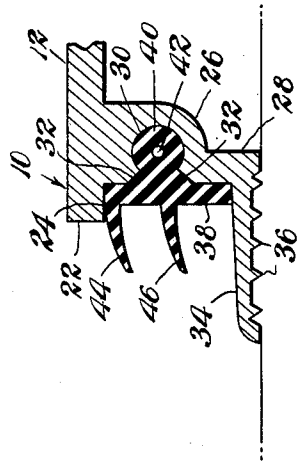


Fig. 4.

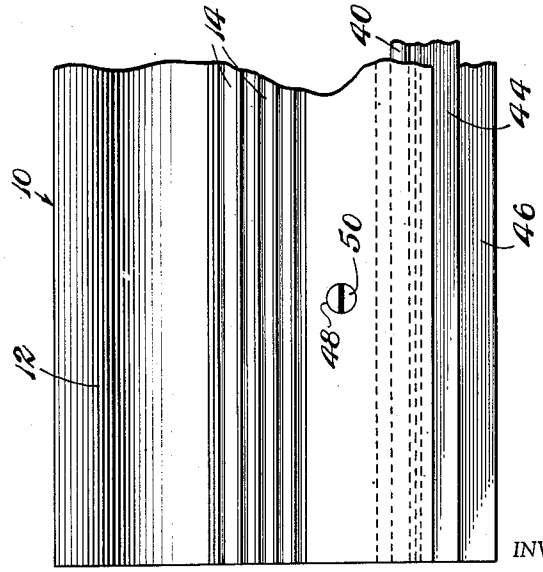


Fig. 2.

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United States Patent Office 2,779,070 Patented Jan. 29, 1957

2,779,070

THRESHOLD

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Application August 15, 1955, Serial No. 528,403

6 Claims. (Cl. 20—64)

This invention relates to thresholds of the type which coact with a door, when closed, to form a weather-tight seal between the bottom of the door and the floor.

Heretofore, thresholds of this general type were provided with a bead or groove which was adapted to engage with a lateral flange on the bottom of the door to form a seal. Both the bead or groove on the threshold and the flange on the door were formed of metal, or, possibly, spring metal, to resiliently engage each other. However, these metal flanges eventually tended to be bent out of shape so that they were constantly in need of repair in order to maintain their efficiency. Furthermore, during movement of the door, the flange would, in time, tend to contact the floor during its movement so that it would scrape the floor and be, itself, bent out of shape as well as scratching the floor. This would especially occur in instances where dirt, grit or other foreign particles would be caught between the flange and the floor. These particles would act as abrasive bodies when pulled over the floor by the projecting flange.

In addition to the above, once the flange on the door did engage with the appropriate part of the threshold, the engagement was rarely tight enough between the metal parts to effect a sufficient weather-tight seal. This would be especially the case if either the door, the threshold or the flange should warp in even the slightest degree or be bent out of shape in any manner.

It is, therefore, one object of the present invention to overcome the above, as well as other disadvantages of the prior types of thresholds by providing an efficient sealing means on the threshold itself.

Another object of the present invention is to provide a sealing means on the threshold which is not easily worn out by frictional contact.

Other objects of the present invention are to provide an improved threshold, of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

Fig. 1 is a top plan view of a threshold embodying the present invention.

Fig. 2 is an enlarged, fragmentary, detailed view of an end portion of the threshold shown in Fig. 1.

Fig. 3 is a side elevational view of the threshold of Fig. 1.

Fig. 4 is an enlarged, fragmentary, cross-sectional view of the fore portion of the threshold, as shown in Fig. 3.

Referring now in greater detail to the drawing wherein similar reference characters refer to similar parts, there is shown a bar **10**, preferably constructed of extruded aluminum or the like. The bar **10** has a convexly curved top wall **12**, as best shown in Fig. 3. The top wall is provided with ribs **14** throughout its length; these ribs **14** serving their usual function of acting as strengthening

means as well as acting as scraping means for the feet. At the rear edge of the wall **12**, on the under-surface thereof, there is provided a relatively small foot or enlargement **16** which is grooved on its lower surface, as at **18**, to form a friction contact means with the floor.

Slightly spaced from the front edge of the wall **12**, there is provided an integral, depending flange **20**. This flange **20** is spaced sufficiently from the front edge **22** of the wall to form an undercut shoulder **24**. The rear portion of the flange **20** is curved, as at **26**, and is undercut to form a vertical shoulder **28**.

At the front of the flange **20**, there is provided a groove **30** which is round in cross-section. This groove extends the full length of the flange **20** which, in turn, extends the full length of the bar **10**. This groove **30** is open at its front end and the edges defining this front opening or slot are beveled, as at **32**. A relatively wide, forwardly extending foot **34** extends out from the bottom of the flange **20**; this foot **34** being provided with ribs **36** on the under surface thereof.

Positioned between the undercut shoulder **24** and the top surface of the foot **34**, adjacent the front surface of the flange **20**, is a resilient plastic or rubber sealing strip **38** extending the full length of the bar. This strip **38** is held in place by means of a cross-sectionally round rib **40**, integral therewith and frictionally engaged within the groove **30**. The rib **40** is tubular for greater resilience, and is, therefore, formed with a central bore **42**. Extending forwardly from the front face of the strip **38** are two flanges **44** and **46**. These flanges extend the full length of the strip.

A plurality of holes **48** are provided in the top wall **12** of the bar adjacent the flange **20**. These holes are adapted to receive screws **50** for connecting the threshold to the floor. The ribs **18** and **36** on the feet **16** and **34** act to frictionally engage the floor under pressure of the screws.

The above-described threshold can be used in either of two ways. In one way, it can be used with doors of the same type as heretofore used wherein the doors have laterally extending metal flanges on the underside thereof. In such cases, the flange on the door will engage between the two flanges **44** and **46** of the sealing strip. These sealing flanges **44** and **46**, being constructed of a resilient material such as plastic or rubber, will more firmly and sealingly engage with the door flange than could be the case where a mere groove as metal bead is provided on the threshold. If the door flange should be somewhat warped or bent out of shape, an efficient seal will still be effected because the resiliency of the sealing flanges will make up for any misalignment of the door flange.

On the other hand, the threshold of the present invention may be used in conjunction with a door having no flange at all. When such a door is closed against the threshold, the portion of the door adjacent the lower edge presses against the flanges **44** and **46**. These flanges form two line-contact engagements with the door and, thereby, effect a highly efficient seal therewith. When the door is opened, it is pulled back from the flanges **44** and **46** so that no retarding friction is ever present to prevent easy opening of the door. Furthermore, since the sealing strip **38** and its flanges **44** and **46** are stationary, they are not subject to rapid wear as would be the case of a strip movable with the door.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A threshold unit comprising an elongated bar having

two spaced apart elongated edges, means for connecting said bar to a floor surface with one elongated edge in contact therewith, a depending flange adjacent but spaced from the other elongated edge of said bar, a floor surface contacting foot extending laterally from the lower edge of said flange, and a sealing strip positioned on the outer face of said flange between said other edge of said bar and said foot, said sealing strip having a plurality of laterally projecting sealing flanges extending out from the outer face thereof.

2. The device of claim 1 wherein said sealing strip is positioned between an undercut shoulder, formed between said other elongated edge of said bar and said depending flange, and said foot, there being a groove in the outer face of said depending flange lockingly engaging a rib on the rear face of said sealing strip.

3. The device of claim 1 wherein said elongated bar is provided with a plurality of spaced, serrated ribs extending longitudinally of the upper surface thereof.

4. A threshold unit comprising an elongated bar having a front and rear edge, said bar being convexly curved

downward from said front edge to said rear edge, a flange depending from said bar adjacent said front edge but spaced rearwardly therefrom, the lower end of said flange being positioned in a common plane with the rear edge of said bar, a forwardly extending lateral foot on the lower end of said flange, and a ribbed resilient, sealing strip positioned adjacent the front face of said flange between the front edge of said bar and said foot.

5. The device of claim 4 wherein said flange is provided with a longitudinal groove in the front face thereof, and wherein said sealing strip is provided with a longitudinal rib on the rear face thereof to frictionally engage within said groove.

6. The device of claim 5 wherein the ribs on said sealing strip form a plurality of line-contact sealing flanges.

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