

March 28, 1961

LEE ROY GHORMLEY

2,976,584

THRESHOLD

Filed June 12, 1959

FIG. 1

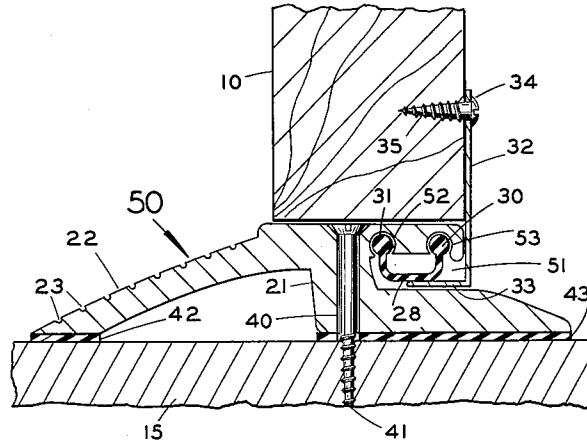
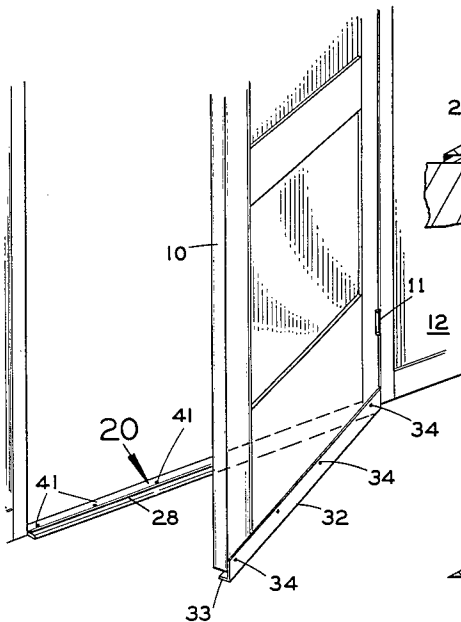


FIG. 5

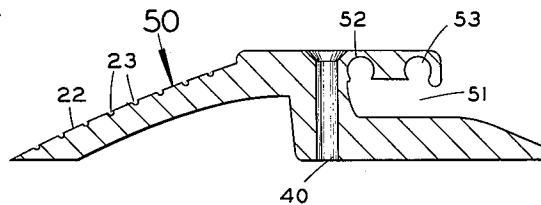


FIG. 6

FIG. 2

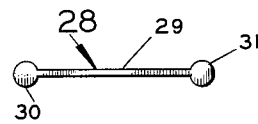
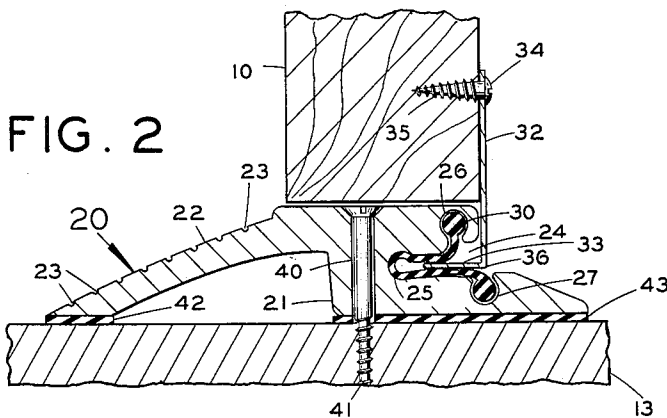
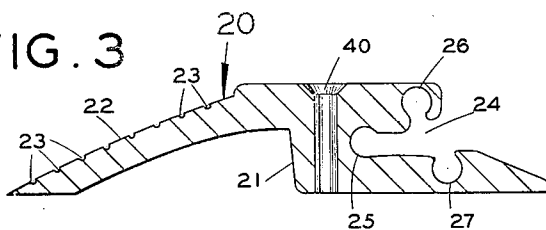


FIG. 4

FIG. 3



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2,976,584

THRESHOLD

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2 Claims. (Cl. 20—64)

This invention relates to thresholds but is more particularly directed to such thresholds that in combination with a door form a weather-tight seal.

A principal object of the present invention is to provide a threshold which seals most effectively against the ingress and egress of air, moisture and the like upon the closing of a door.

Another object of the present invention is to provide a threshold which in combination with a breaker plate mounted on a door forms a weather-tight seal upon the swinging of the door to its closed position.

A further object of the present invention is to provide a threshold which is simple in construction, inexpensive in cost and readily mounted beneath a door for use in preventing the infiltration of air, moisture and the like therethrough.

With these and other objects in view, the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming a part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a fragmentary perspective view of a door way showing my threshold and breaker plate.

Figure 2 is a detailed cross-sectional view of the threshold with the door shown in its closed position.

Figure 3 is a cross sectional view of my threshold as seen prior to assembly and positioned in place on a door sill.

Figure 4 is a cross sectional view of a flexible sealing member.

Figure 5 is a view similar to Figure 2 showing an alternate construction of my threshold.

Figure 6 is a cross-sectional view of the threshold shown in Figure 5.

Referring to the drawing wherein like numerals are used to designate similar parts throughout the several views, the numeral 10 refers to a door, shown only in part, hinged as at 11 to a wall 12. Mounted on a sill or floor 13 below and in alignment with the door 10 when in a closed position is my threshold 20. See Figure 2. The threshold 20 which is preferably extruded and made of suitable metal such as aluminum consists of a main body portion 21 and a bridge or tread portion 22 joined along one edge to the main body portion 21 and extending downwardly at an oblique angle terminating in the same plane as the base of the main body portion 21 which rests entirely on the floor 13. The outer surface of the bridge portion 22 is provided with a plurality of shallow grooves 23 forming a skid-proof tread upon which to step or walk.

The main body portion 21 is provided with a slot or opening 24 which extends along the full length of the

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threshold 20. The slot 24 extends inwardly, upwardly and downwardly in the main body portion 21 terminating in arcuate cross sectional bores 25, 26 and 27 respectively as best shown by Figures 2 and 3. A flexible sealing member 28 of rubber, plastic and the like, which is fitted in the slot 24, is likewise produced by an extrusion process and consists of a flat mid-portion 29 joined along each edge by bulbous end portions 30 and 31. The flexible sealing member 28 is readily positioned within the slot 24 by folding the flat portion 29 upon itself and inserting the folded mid-portion thereof in the arcuate bore 25, and the bulbous end portions 30 and 31 into the arcuate bores 26 and 27 respectively as shown by Figure 2.

The threshold 20 is provided with a plurality of bores 40 at the body portion 21 for receiving screws 41 and the like in order to secure the threshold to the floor 13. To prevent the leakage of air or moisture between the threshold 20 and the floor 13, flexible sealing strips 42 and 43 are placed between the floor 13 and the bridge portion 22 and main body portion 21 respectively. It is preferably to cut the sealing strips 42 and 43 in lengths equal to that of the threshold 20 and gluing same in position on the lower surfaces of the bridge portion 22 and main body portion 21 of the threshold 20.

Means are provided for sealing against the leakage of air, rain and the like between the bottom edge of the door 10 and the top portion of the threshold 20 comprising a breaker plate member 32 which is secured to the lower edge of the door 10 by screws 34 extending through bores 35 in the breaker plate 32. The lower edge 33 of the breaker plate 32 that extends below the bottom edge of the door 10 is bent as at 36 at right angles to enter the slot 24 when the door is in a closed position. The flange 33 engages the folds of the flexible sealing member 29 whereby the upper and lower surfaces of the flange 33 contact the flexible sealing member 28 comprising the folded portion 29 and thereby insuring against the flow of air, moisture, etc. past the door 10 and into the house when the door 10 is in its closed position.

Referring now to my alternate structure, I show a threshold 50 somewhat similar in configuration and construction with the threshold 20 described hereinabove, the difference residing in the cross-sectional shape of its slot 51. That portion of the threshold 51 which is similar in construction with the previously described threshold 20 is referred to and indicated by the same numerals so that the above discussion in connection with threshold 20 concerning those portions apply likewise to the modified threshold 50.

As best shown by Figures 5 and 6, the threshold 50 is provided with a slot 51 along its full length. The slot 51 is approximately rectangular in cross-section with a pair of spaced apart arcuate bores 52 and 53 at the upper portion of and communicating with the slot 51. The flexible sealing member 28 is now placed in the slot 51 with the bore 53 receiving the bulbous end portion 30 and the bore 52 receiving the bulbous end portion 31 and the flat body portion extending therebetween as shown by Figure 5. Now when the door 10 is closed, the flange 33 of the breaker plate 32 will enter the slot 51 with the upper surface of the flange 33 engaging the flexible sealing member 28. Any air or moisture entering the slot 51 between the lower surface of the flange 33 and the threshold 50 will be unable to pass beyond the juncture of the top surface of the flange 33 and the flexible sealing member 28 or beyond the position of the bulbous end portions 30 and 31 which fit snugly in the bores 53 and 52.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A threshold comprising an elongated member having a main body portion, a bridge portion connected to

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said main body portion, said main body portion having a slot extending substantially the full length of said elongated member, said slot having arcuate portions at an upper, lower and inner portion thereof, each of said arcuate portions being greater than semi-circular in cross section, an elongated flexible sealing member having a flat mid-portion and a bulbous portion mounted along each edge of said flat mid-portion, said flat mid-portion of said flexible sealing member being folded upon itself and received by said inner arcuate portion and said bulbous portions received by said upper and lower arcuate portions of said slot.

2. A threshold comprising an elongated member having a main body portion, a bridge portion connected to said main body portion, said main body portion having a slot extending substantially the full length of said elongated member, said slot having arcuate portions at an upper, lower and inner portion thereof, each of said

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arcuate portions being greater than semi-circular in cross section, an elongated flexible sealing member having a flat mid-portion and a bulbous portion mounted along each edge of said flat mid-portion, said flat mid-portion of said flexible sealing member being folded upon itself and received by said inner arcuate portion, said bulbous portions received by said upper and lower arcuate portions of said slot and a breaker plate mounted on a door, said breaker plate having a flange portion extending below said door and in a plane passing through said slot whereby upon the entering of said flange portion into said slot, flange member engages said flexible sealing member between said folds and prevents the flow of air there-through.

References Cited in the file of this patent

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