Dec. 27, 1955 J. M. GOSSEN 2,728,118

ADJUSTABLE THRESHOLDS

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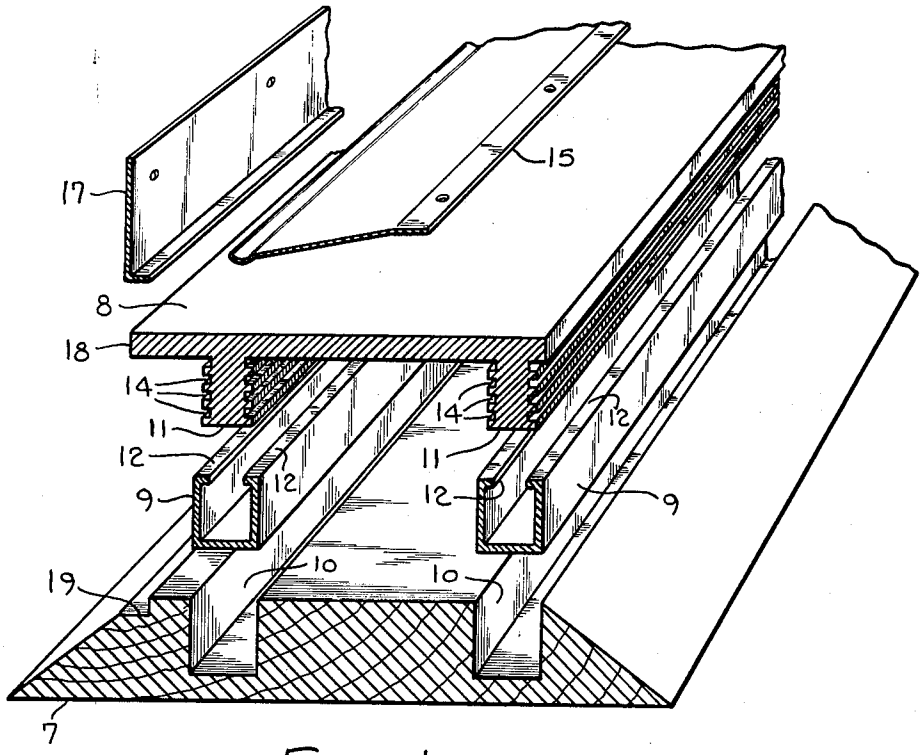


FIG. 1

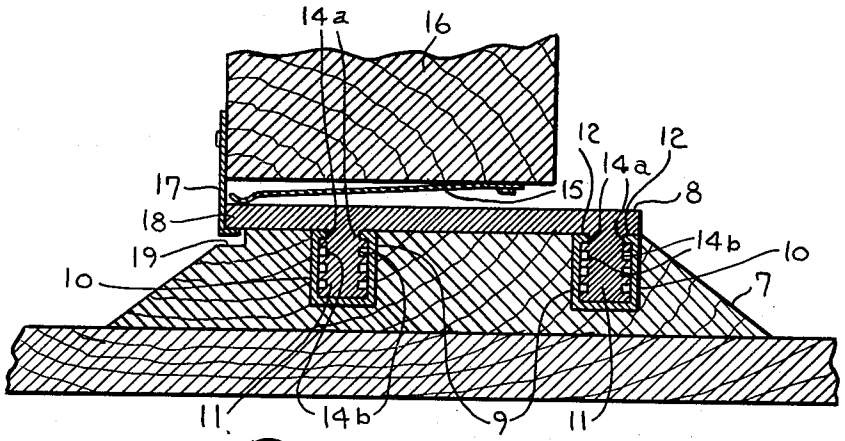


FIG. 2

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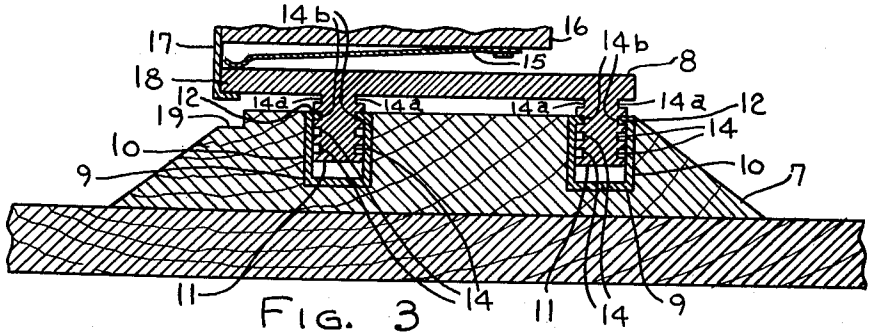


FIG. 3

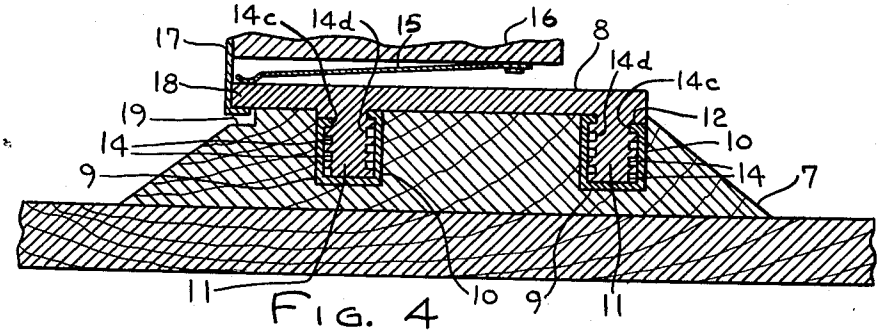


FIG. 4

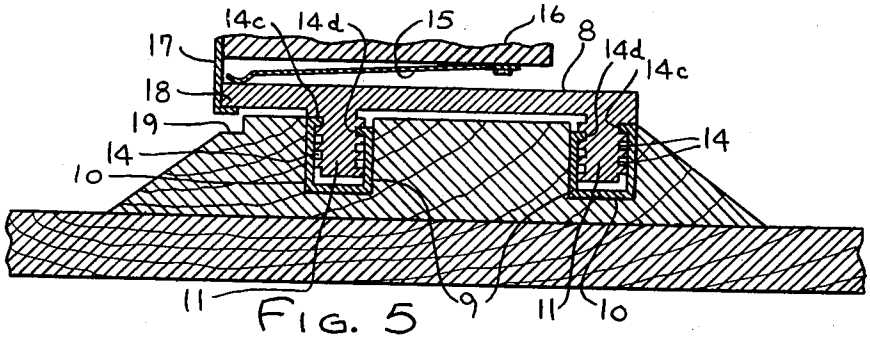


FIG. 5

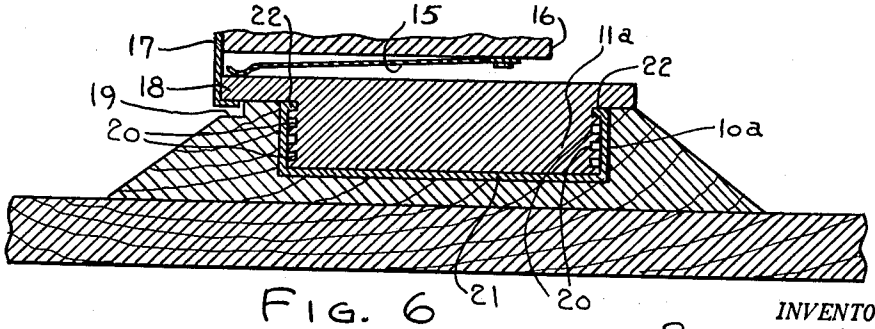


FIG. 6

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ADJUSTABLE THRESHOLDS

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3 Claims. (Cl. 20—64)

The invention relates to thresholds or door sills and more particularly to adjustable type sills and at times to sills having provision to meet weather stripping between the sill and the door.

Various forms of adjustable type sills have been proposed, but so far as I am aware these structures have not met with commercial success either because the design was impractical, too complicated, or too costly. The object of the present invention is to provide an adjustable type threshold of simple but strong construction in which the adjustable sill member may be easily adjusted in height to accommodate the expansion or contraction of the door and to permit weather stripping if carried by the door to cooperate with the adjustable sill member.

The invention further consists in the several features hereinafter described and more particularly defined by claims at the conclusion hereof.

In the drawings:

Fig. 1 is a perspective exploded view of parts forming my improved threshold construction;

Fig. 2 is a vertical sectional view through the assembled threshold in operative lowered position of adjustment;

Fig. 3 is a view similar to Fig. 2 showing the adjustable sill in a raised position;

Figs. 4 and 5 are views similar to 2 and 3 showing certain modifications;

Fig. 6 is a view similar to Fig. 2 showing another modification.

Referring to the drawings, the threshold includes a base sill member 7, an adjustable sill member 8, and one or more sill raising or lowering or what may be termed jack members 9.

Referring to Figs. 1 to 5, the base member 7 which may be of wood or other suitable material is provided with a pair of spaced channels or grooves 10 extending the length thereof. The sill member 8, preferably an extruded metal section of brass or aluminum, is provided with depending spaced flanges or tongues 11 extending the length thereof and whose central axes aline with those of the grooves 10.

The jack members 9 are metal channel members extending the length of the sill and provided with inturned or inwardly extending top flanges 12 which may, as shown in Figs. 1 to 3, be of the same height or may, as shown in Figs. 4 and 5, be of varying heights from the bottom of said channel. These channels 9 are of a width to snugly fit in the channels or grooves 10 in the base member 7 and are substantially equal in height to the depth of the grooves 10.

On each of the sides of the tongues 11 a series of spaced lengthwise extending notches or grooves 14 are formed, which notches as shown in Figs. 1 to 3 are spaced the same distance on each side of each tongue, or which notches as shown in Figs. 4 and 5 are spaced the same distance apart on one side but this spacing is staggered the width of one notch on the other side.

With the arrangement of notches shown in Figs. 1 to 3 in the lowermost position of the sill member 8, the

flanges 12 engage the upper set of oppositely disposed notches 14*a* when the channels 12 are in place in the bottom member 7 as shown in Fig. 2 so that the resilient metal weather strip 15 extending lengthwise of and attached at one end to the bottom of the door 16 may engage the top of the member 8 and the hook-like toe strip 17 attached to the inner side of the door and limiting the downward flexing of the strip 15 in the open position of the door may engage beneath the inner edge 18 of the sill member 8. The member 7 has a lengthwise extending recess 19 formed therein to provide clearance for this engagement. If when the door is first hung, the bottom thereof has more clearance above the base of the sill as shown in Fig. 3, then the channels 12 are slipped onto the tongues 11 so that, for example, they engage in the second set of notches 14*b*. This may amount to an adjustment of say one-sixteenth to an eighth of an inch depending upon the width of the notches 14.

To provide a still finer adjustment, the structure shown in Figs. 4 and 5 may be used since this permits raising or lowering in half spacings as compared to the first form since in this form the sets of notches 14 on each tongue are staggered relative to each other a notch distance apart. Consequently, when from the lowered sill position shown in Fig. 4, the sill member 8 with the jacks 9 are removed from the base and these jacks are slid off the tongues and reversed from their positions shown in Fig. 4, then the flange on the longer side of the jack engages in the groove 14*c*, formerly occupied by the flange on the shorter side, and the flange on the shorter side of the jack engages in the groove 14*d* one notch lower than that engaged by the flange on the longer side of the channel in its Fig. 4 position as shown in Fig. 5. This staggering of the grooves 14 with the use of reversible unequal side height channels permits finer adjustment with any predetermined spacing between the grooves 14 and without any extra expense.

Instead of spaced grooves 10 a single wider width groove 10*a* can be provided in the base sill 7 as shown in Fig. 6 and the sill member 8 have a single tongue 11*a* provided with lengthwise extending spaced grooves 20 on its sides cooperating with the channel jack member 21 in the same way as the spaced parts of the first described construction, said member 21 having inturned flanges 22 for selective engagement in the grooves 20 to vary the height of the sill member 8 relative to the base member 7.

The weather stripping for the forms shown in Figs. 4 to 6 is the same as that shown in Fig. 2 and has been similarly numbered.

It will be noted from the above description that all that is necessary to effect the vertical adjustment of the upper or adjustable sill member 8 is to remove its tongue or tongues with its or their associated jacks from the groove or grooves in the lower or base sill member and then readjust the position of the flanges on the jack or jacks relative to the grooves in the tongue or tongues and then replace these adjusted parts in the base member. As the tongue or tongues and associated jack or jacks extend the length of the sill, the adjustable sill member has a firm continuous support in the base and will resist deflection or bending stresses imposed by concentrated loads passing over any part of the sill member 8, and the walls of the grooves 10 prevent any spreading of the flanges 12 providing great strength to support any vertically imposed load on the sill 8.

The extent of vertical adjustment, within which solid, stable support of the upper sill 8 may be secured, is even adequate to furnish whatever change in sill height might be necessitated by installation of carpeting adjacent the threshold.

I desire it to be understood that this invention is not

to be limited to any particular form or arrangement of parts except in so far as such limitations are included in the appended claims.

What I claim as my invention is:

1. In a threshold, the combination of a base sill member provided with spaced lengthwise extending grooves extending inwardly from its top, an adjustable sill member provided with lengthwise extending depending spaced tongues alining with said grooves, each tongue having spaced sets of lengthwise extending notches in the sides thereof, and lengthwise extending channel members adapted to removably seat in said grooves and having inwardly extending top flanges for selective engagement with the notches in said tongue to support said adjustable sill member at varying heights relative to said base sill member.

2. The structure as defined in claim 1 wherein the notches on one side of a tongue are staggered relative to those on its other side, and the flanges on said channels are vertically spaced from each other the distance of the width of a notch in said tongues.

3. In a threshold, the combination of a base sill member provided with a lengthwise extending groove, an adjustable sill member provided with a lengthwise extending depending tongue having spaced sets of lengthwise extending notches in the sides thereof, the notches on one side of the tongue being staggered relative to those of its other side, a channel member adapted to removably seat in said groove and provided with inwardly extending flanges vertically spaced from each other the distance of a notch in said tongue.

References Cited in the file of this patent

UNITED STATES PATENTS

350,102	Beams	Oct. 5, 1886
386,084	Pratt et al.	July 10, 1888
628,420	Talbert	July 4, 1899
646,465	Seely	Apr. 3, 1900
974,706	Penny	Nov. 1, 1910