July 19, 1966 L. M. LAWSON 3,261,130

THRESHOLD AND METHOD OF INSTALLATION

Filed July 28, 1964

FIG. 1.

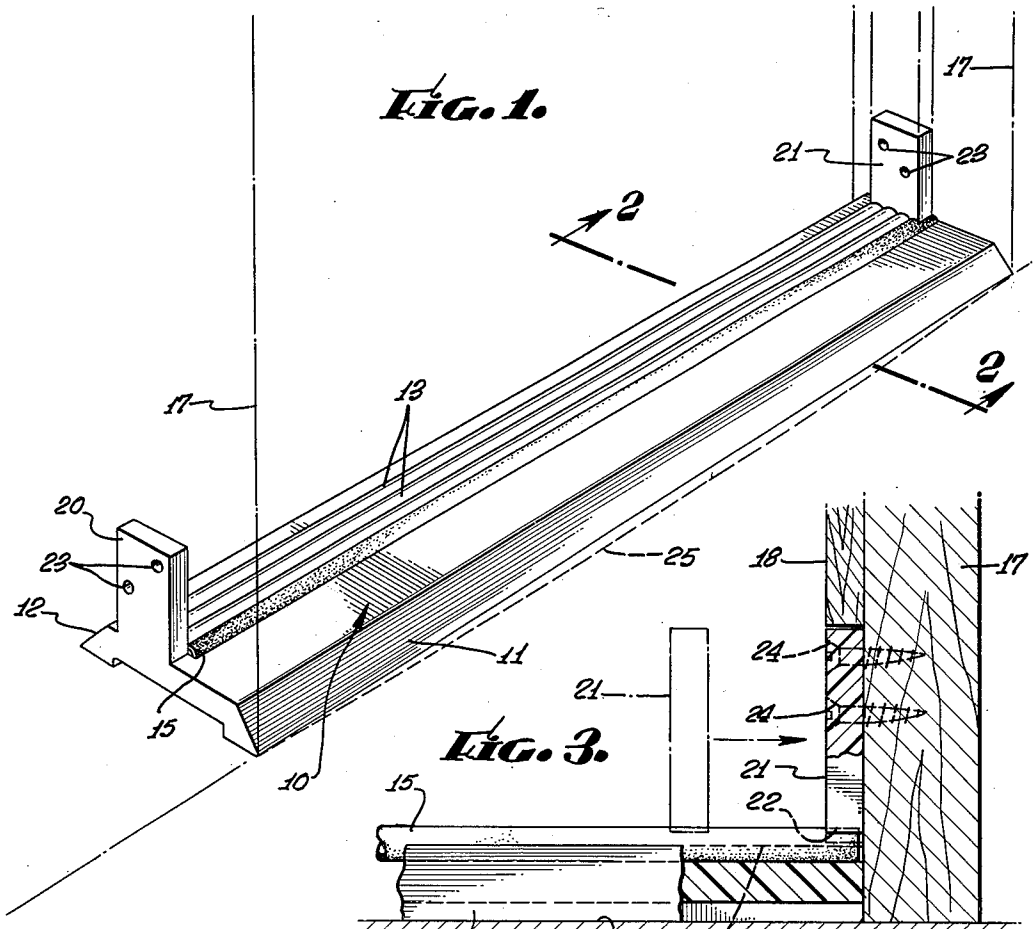


FIG. 3.

FIG. 2.

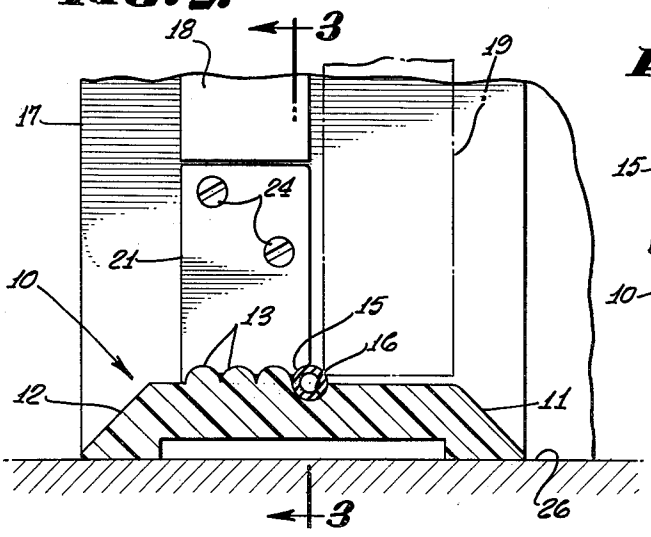
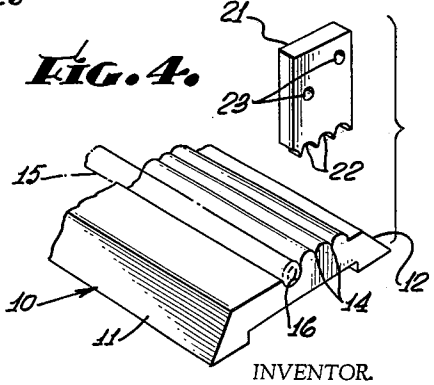


FIG. 4.



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THRESHOLD AND METHOD OF INSTALLATION

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This invention has to do with improvements in door thresholds and methods for their installation or replacement, and has for its general object to obviate the many practical difficulties of making such installations using conventional thresholds and practices for securing them in place.

Normally thresholds are cut to lengths approximating the distance between the door opening side frame members, and the door jambs are applied to directly overlie the ends of the threshold substantially in engagement therewith. Ordinarily the threshold is secured to the floor by screws passing at intervals along the threshold into the floor, thereby presenting difficulties by reason of the increasing usage of concrete floors which must be drilled and otherwise conditioned to receive the screws. The same kind of difficulties are encountered when a threshold is to be removed and replaced by attachment into the floor.

The present invention obviates all problems of floor attachment by providing a novel threshold structure adapted to novel technique in installation, whereby the threshold is installable and replaceable independently of floor attachment, all with great savings in time and labor.

Structurally the invention contemplates providing a threshold with upstanding terminal projections adapted to be received directly beneath or in engagement with jambs shortened from the conventional to extents required for accommodation of such projections. The latter are adapted for attachment to the door frame members so that the threshold is held thereto and maintained in such keyed relation with the door jambs as to eliminate any necessity for attachment to the floor. By this mode of attachment the threshold is rendered quickly and easily removable and replaceable, all as will later appear.

More specifically, the invention contemplates such projections in the form of key blocks, one of which may be formed or attached integrally to one end of the threshold, while the other block is formed separately and is adapted for shifting along the top surface of the opposite end of the threshold, preferably in interfitting relation with longitudinal tread grooves or ribs in or on the threshold surface. Thus, the threshold may be positioned to bring one of the key blocks against the door frame and beneath one of the jambs, the movable key block then is shiftable against the opposite frame member and beneath the corresponding jamb, and both blocks are attachable, as by screws, to the door frame members.

The invention has various additional features and objects, such as the incorporation of weatherstripping in the threshold, and bowing the latter to have bearing against the jamb terminals, all of which will be understood more fully from the following description of an illustrative embodiment of the invention shown by the accompanying drawing, in which:

FIG. 1 is a showing in perspective of a threshold assembly in accordance with the invention;

FIG. 2 is a cross section end view taken from the plane of line 2—2 in FIG. 1, showing one end of the threshold in association with the door frame and jamb;

FIG. 3 is a cross section on line 3—3 of FIG. 2; and

FIG. 4 is a perspective showing of the shiftable key block and corresponding end of the threshold.

Referring first to FIG. 1, in the broad contemplation

of the invention, the threshold generally indicated at **10** may be made of any suitable material, e.g. wood, metal or non-metallic, or combinations thereof, although it is considered advantageous and preferable to mold or extrude at least the threshold strip of an organic plastic which may be selected among the various commercial resins to be abrasion and warp resistant and to have the manufacturing advantage of being extrudable as a continuous strip from which individual threshold lengths may be cut. Although capable of many variations from the precise shape shown, in general it is contemplated that the threshold will be given an overall slope at the door side, as by beveling its surface at **11**, and at the far side by beveling at **12**. Adjacent the closed door position, the surface of the threshold is longitudinally irregularized as by the provision of parallel ribs **13** defining between them recesses or grooves **14**, see FIG. 4, or otherwise according to conventional top surface threshold configurations permitting of interfitting relation with the later described shiftable key block. Desirably the threshold may embody a suitable weather stripping or seal against which the door closes, and which is shown as a deformable (e.g. nylon) rod or tube **15** cemented within a groove **16** adjacent the innermost of the ribs **13**.

As will be understood, the length of the threshold **10** is predetermined to fit between and engage, or be brought close to engagement with the usual door frame members **17** which also mount or may be formed integrally with door jambs **18** toward which the door indicated by the broken lines **19** in FIG. 2, closes as the bottom edge of the door is closed against the seal **16**. The jambs **18** may be conventional, excepting that instead of extending down to the threshold, as ordinary, they are terminated above the threshold to accommodate the key blocks. Thus the jambs may initially be so related in their terminal extents in the case of a new threshold installation, or previously installed jambs may be cut off as at the locations shown, to accommodate a replacement threshold in accordance with the invention.

At one end the threshold is provided with an upstanding projection preferably in the form of a key block **20** which may be molded integrally with or otherwise attached in any suitable manner to the body of the threshold. At its opposite end, the threshold has a similar but separately formed key block **21**, see FIG. 4, which is shiftable along the ribbed surface of the threshold in the course of installation, as will appear. Preferably the bottom of the key block **21** is irregularized at **22** to have interfitting and straight sliding engagement with the threshold ribs **13**, thus to assure constancy in orientation of the block laterally with respect to the threshold, as well as to lock the threshold against lateral shifting beneath the block when the latter is secured to the door frame.

As previously observed, the invention provides for original or replacement installation of the threshold independently of any direct connection with the floor **26** on which the threshold rests. In the process of installation, the threshold is positioned with its ends in substantial engagement with the door frame members **17**, with the key block **20** brought beneath and substantially in engagement with the bottom end of its corresponding door jamb **18**. The block then is secured to the corresponding door frame member **17** as by screws inserted through openings **23** in the manner of attachment of the shiftable block **21**. Referring to FIG. 3, block **21** then is applied to and slid along the surface of the threshold to be brought beneath the corresponding jamb **18**, and the block is then securely attached to the frame member **17** by screws **24**. Preferably both key blocks correspond in width to the door jambs **18**, and when brought beneath them, the blocks effectively and solidly key the ends of the threshold to the door frame member and jambs with such

security as to assure retention of the threshold against displacement.

In the interests of maintaining tightly keyed engagement of the blocks upwardly against the jam terminals, it is contemplated that the threshold may be formed so as to have a slight downward bow toward its center, or upward bow toward its ends, as indicated by the dotted line **25** in FIG. 1, so that in the process of installation the threshold will be flattened downwardly against the floor surface and thus stressed so that when positioned beneath the door jambs, the key blocks **20** and **21** will tend to be urged upwardly against the jamb terminals, thus contributing to the tightness and security of the locking effect.

I claim:

1. The combination comprising door side frame members, an elongated threshold received between said frame members, abnormally shortened door jambs carried by said members and terminating above and fully overlying the threshold, and a pair of projections extending upwardly from the ends of the threshold and received below and in alinement with the jamb terminals so that the bottom ends of the jambs directly overlie the top ends of said projections to block upward displacement thereof, and means for attaching said projections to the door frame members.

2. The combination of claim **1**, in which said projections extend upwardly from the top surface terminals of the threshold.

3. The combination of claim **1**, in which one of said projections is movable along the threshold into underlying relation with a door jamb.

4. The combination of claim **3**, in which the threshold is bowed with slight downward curvature toward its center so that when flattened against a door surface said projections will be pressed upwardly against said jambs.

5. The combination of claim **3**, in which said one of the projections has the form of a key block slidable within grooves in the top surface of the threshold and both projections are wooden blocks corresponding in width with the door jambs.

6. The combination of claim **5**, in which said top surface of the threshold carries a non-metallic weather strip paralleling said grooves.

7. The combination of claim **1**, in which one of said projections is fixed to the threshold to underlie one of the door jambs and the other projection is slidable along the top surface of the threshold into underlying alinement with the other door jamb.

8. In combination of claim **7**, in which the top surface of the threshold is longitudinally grooved and said other projection is shaped to interfit with said grooves.

9. The combination comprising a pair of door frame side members, a threshold adapted to extend between said members, a pair of abnormally shortened door jambs carried by said members and terminating above the threshold, and a pair of projections extending upwardly from the ends of the threshold below and in alinement with the door jambs so that the bottom ends of the jambs directly overlie the top ends of said projections to block upward displacement thereof, and means associated with said projections for holding the threshold in place independently of attachment of the threshold to the floor.

10. The combination of claim **9**, in which said projections comprise blocks alined in corresponding width with the jambs and operable to key upwardly against the bottom ends of the jambs.

11. The combination of claim **10**, in which one of said blocks is slidable along the top surface of the threshold.

12. The combination of claim **10**, in which the top surface of the threshold is longitudinally grooved and one of said blocks is shaped to interfit with said grooves and movable along the threshold in the course of its installation.

13. The combination of claim **12**, in which said blocks are attached to said frame side members.

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