Sept. 6, 1938. M. S. OFTEDAL ET AL 2,129,381

THRESHOLD CONSTRUCTION

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Fig. 1.

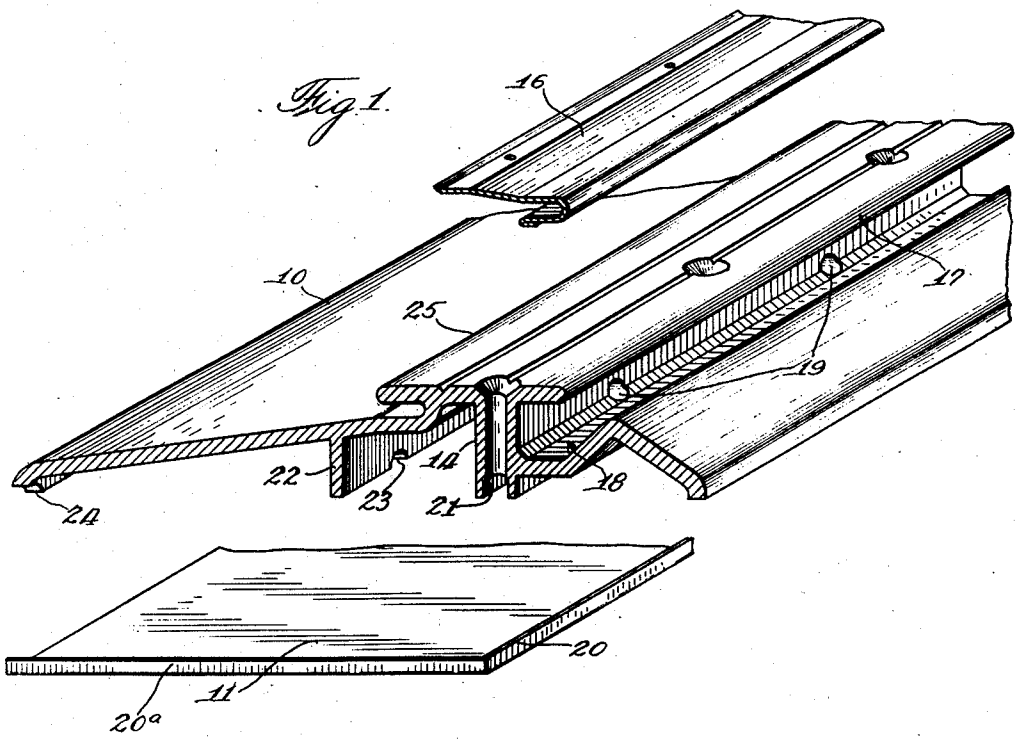
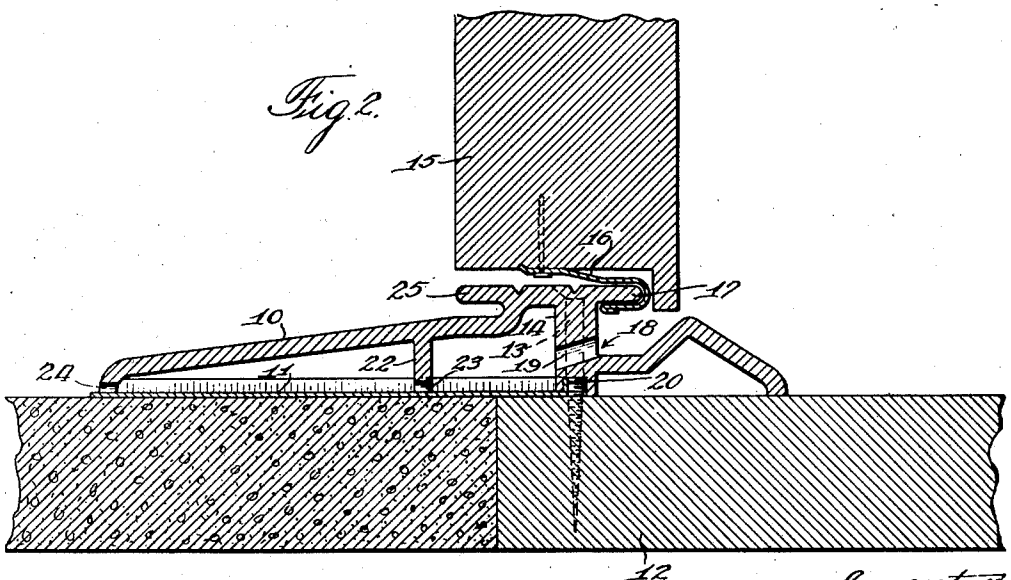


Fig. 2.



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Fig. 3.

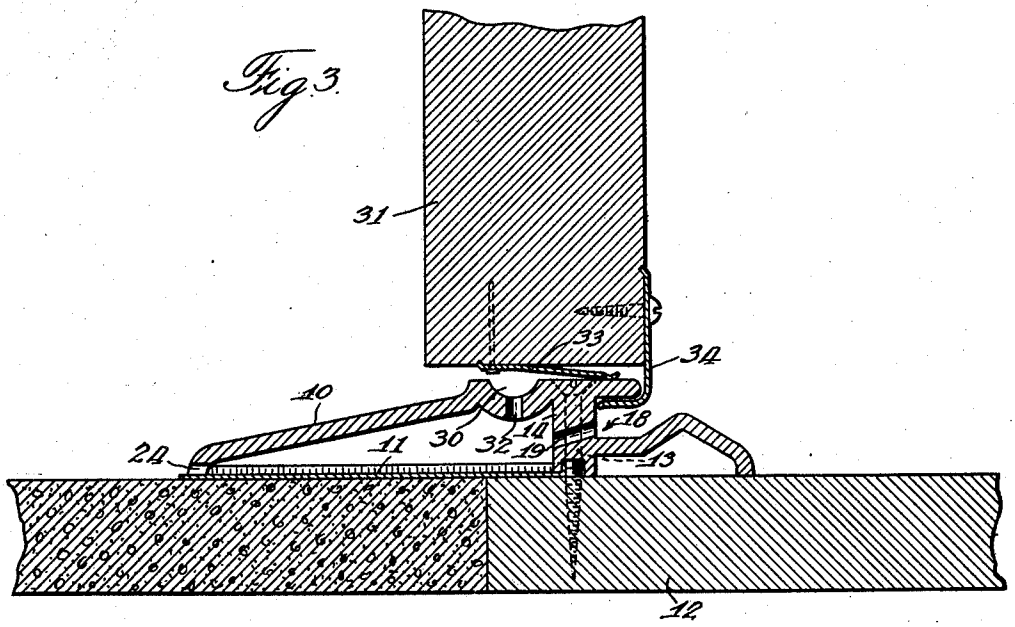
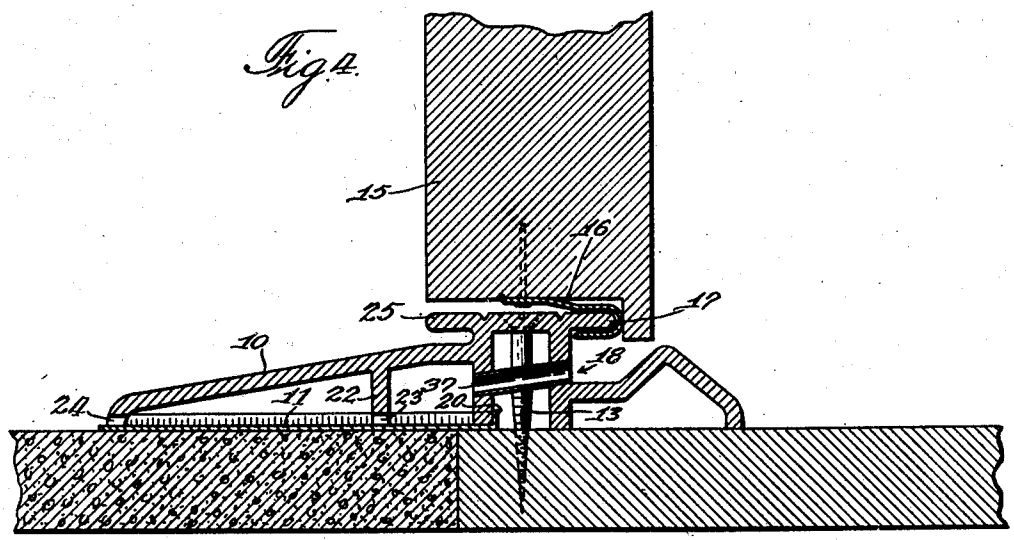


Fig. 4.



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THRESHOLD CONSTRUCTION

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2 Claims. (Cl. 20—64)

This invention relates to weather-proof threshold construction. More particularly, it relates to a threshold construction comprising a metal threshold member having a metal base plate underneath.

In such threshold construction, it has heretofore been customary to secure the threshold member to the sill or flooring by means of screws which passed through the base plate. This construction has certain objectionable features, since the holes in the base plate through which the securing screws pass permit moisture to pass through these holes around the screws and into the sill or flooring underneath. If the sill or flooring underneath the base plate is of wood, the entrance of moisture through the base plate down into the sill or flooring causes the wood to rot where the screws enter the wood, so that the screws soon lose their holding power.

One of the objects of this invention is to provide a threshold construction comprising a metal threshold member with a metal base plate or drainage plate underneath in which the above objectionable feature is overcome.

Further objects will appear from the description and claims.

In the drawings, in which several embodiments of the invention are shown—

Figure 1 is a disassembled view of a threshold construction and an associated sealing or spring hook member for the bottom of the door.

Fig. 2 is a vertical transverse section through the threshold construction and associated sill or flooring and door;

Fig. 3 is a vertical transverse section showing another form of threshold construction with its associated sill or flooring and door construction; and

Fig. 4 shows still another form of threshold construction with associated parts.

Referring to the drawings in detail and first to Figs. 1 and 2, the construction shown therein comprises a threshold member 10 of substantially uniform cross-section and having a substantially T-shaped central portion which may be of any suitable material, such as extruded brass, a base plate or drainage plate 11 forming a water-shed member underneath said threshold member, which may be of any suitable material, as rolled brass, means for securing said threshold member to the flooring 12 comprising a plurality of screws 13 extending through suitable openings in a central web or leg 14 in the threshold member and screwed into the wooden flooring 12 underneath without passing through the base plate 11, and a door 15, here shown as an inwardly opening door, having a hook-like sealing strip 16 attached to the rabbeted bottom edge of the door in any desired manner, as by suitable nails or screws, which may be of any suitable material, as brass or spring bronze, for snugly engaging over a lip or flange 17 extending inwardly from the upper portion of the threshold member 10.

This threshold member is provided with a gutter or channel portion 18 on its inner side and with a series of drainage openings 19 leading from this gutter or channel portion through the central web or leg 14 to the space above the drainage plate 11. The drainage plate may be provided with an upturned flange 20 fitting in a channel or groove 21 in the bottom of the central web or leg 14 to prevent moisture from draining inwardly and also to position said plate and hold it in position. The threshold member is shown as provided with an additional supporting web or leg 22 resting on the base plate 11. This intermediate supporting web or leg and the outer edge of the downwardly and outwardly sloping portion of the threshold member are provided with a series of openings 23 and 24 at suitable intervals at their lower edges to facilitate the drainage from the drainage plate to the outside of the threshold. The drainage openings of the three series 19, 23, and 24 are staggered with respect to each other to provide a tortuous path to retard the passage of air therethrough and which will also prevent the wind from blowing moisture inwardly to the inside of the threshold construction.

The threshold member 10 is also provided with an outwardly extending lip or flange 25 which co-operates with the door and sealing strip 16 and gutter 18 to prevent moisture from getting to the inside of the threshold construction. It will be seen that any moisture which finds its way past the outside flange or lip 25 and the sealing strip 16 will be caught in the inner gutter 18 and drained through the openings 19 into the space above the drainage plate, from whence it will be drained off through the drainage openings 23 and 24 to the outer edge of the drainage plate.

The screws 13, of course, when driven home, prevent moisture from passing through their holes, and, with this construction and arrangement of the threshold and associated parts, as will be seen, the objectionable features referred to above in prior types of construction are overcome, since the securing members do not pass through the base plate, and, hence, no moisture

can leak through the base plate to cause the wood underneath tc rot around the ends of the screws.

The construction of Fig. 3 is quite similar to that just described, except that here the intermediate supporting web and the outwardly extending lip or flange are omitted and a gutter or channel construction **30** is provided underneath the lower edge of the door **31**, from which a series of drainage openings **32** lead to the space above the drainage plate **11**. Also, a somewhat different form of seal is provided between the lower edge of the door and the threshold member comprising a spring bronze or other metal sealing strip **33** secured, as by nails, to the lower edge of the door and having its free edge bearing resiliently on the top of the threshold member. A second hook-like sealing strip **34**, preferably of spring bronze, is provided, having a flange or hook portion extending underneath the inwardly extending flange of the threshold member and making surface contact therewith.

In this construction, water flowing or dripping under the door will be largely caught in the channel **30** and drip and run down through the holes **32** onto the base plate **11**. If any water passes inwardly beyond spring strip **33**, it is caught by hook strip **34** and guided into the gutter **18** and passes thence through the holes **19** in leg **14** onto plate **11** and out through the series of holes **24** in the front edge of the threshold. As before, these holes are preferably staggered and those in the leg **14** are between the securing screw holes. Here again the securing screws **13** for the threshold pass down through the leg **14** to the rear or inwardly of the inner upturned edge of the drainage base plate **11**, and not through it, so that water on the plate will not get down into the wood sill or flooring through the holes through which the securing screws **13** pass.

The construction of Fig. 4 is quite similar to that of Figs. 1 and 2, except that here two spaced supporting ribs or legs are provided between which the securing screws pass, and drainage tubes **37**, which may be of any suitable material, as brass, are provided leading from the inner gutter **18** to the space above the drainage plate **11**. Here, also, the base or drainage plate is not punctured by or for the passage of the securing screws **13**, and moisture is prevented from getting into and rotting the wood sill or flooring.

The threshold members are, of course, of sufficient length to extend and fit between the side members of the door frame, and to prevent the escape of moisture at the ends of the base plate the plate itself may be turned up as shown at **20a** at the ends, and the space between the threshold member and the base plate at their ends may also be filled with a suitable waterproof calking compound to close and seal such space ends against leakage. The thresholds are longitudinally grooved on top beneath the door to provide a somewhat roughened or more or less corrugated surface to afford a good foothold and prevent slippage, and the larger groove **30** of the form of Fig. 3 also takes care of any water or moisture running down the sides of the door frame onto the threshold. While an in-swinging door has been shown in Figs. 2 and 4, it will be understood that the thresholds provided with the lip or flange **25** are equally adapted and intended for use with out-swinging doors, which in such case may be rabbeted from the opposite edge at the bottom and a spring hook member **16** reversed in position from that shown and secured to the bottom of the door, with its hook co-operating with the lip **25** of the threshold instead of the lip **17**. Such thresholds are, of course, capable of being made in different sizes, and they usually are made in sizes varying ½ inch in width from 2 inches for the narrowest to 6 inches for the widest.

While several forms of the invention have been shown in the drawings and described in the foregoing, it will be understood that other forms may be made without departing from the spirit or scope of the invention as set forth or intended to be set forth in the appended claims.

We claim:

1. A threshold construction comprising an elongated threshold member of substantially uniform cross-section, said member including an outside portion sloping downwardly and outwardly and a gutter on the inside portion of the threshold, a supporting leg on the underside of said member between the gutter and sloping portion, a drainage plate extending outwardly from said supporting leg and underneath said sloping portion, drainage openings from the gutter to the space beneath the sloping portion and above the drainage plate, and threshold securing means passing between said gutter and said drainage plate.

2. A weather-proof construction comprising an elongated threshold member of substantially uniform cross-section having a substantially T-shaped central portion, the top of said T-shaped portion being in substantial alignment with the bottom edge of the door, said threshold having an outwardly and downwardly sloping portion extending from under the head of said T, a gutter forming member extending inwardly from under the head of said T, a drainage plate underneath said outwardly and downwardly sloping portion, a means for conducting water from said gutter to said drainage plate through said T, and means for securing said threshold member to the flooring beneath including a securing member extending through said T-shaped portion into the flooring beneath said securing member passing between said outwardly and downwardly sloping portion and said gutter but not passing through said drainage plate.

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