Sept. 24, 1929. H. E. BRICKER 1,729,243

DOOR SILL

Filed March 24, 1928

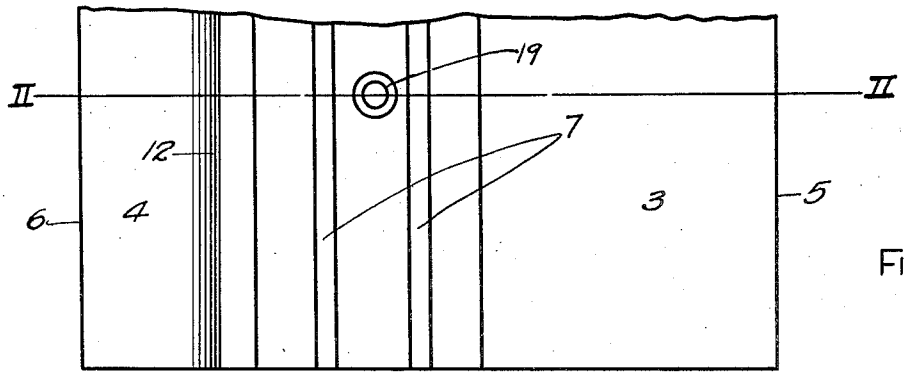


FIG. 1.

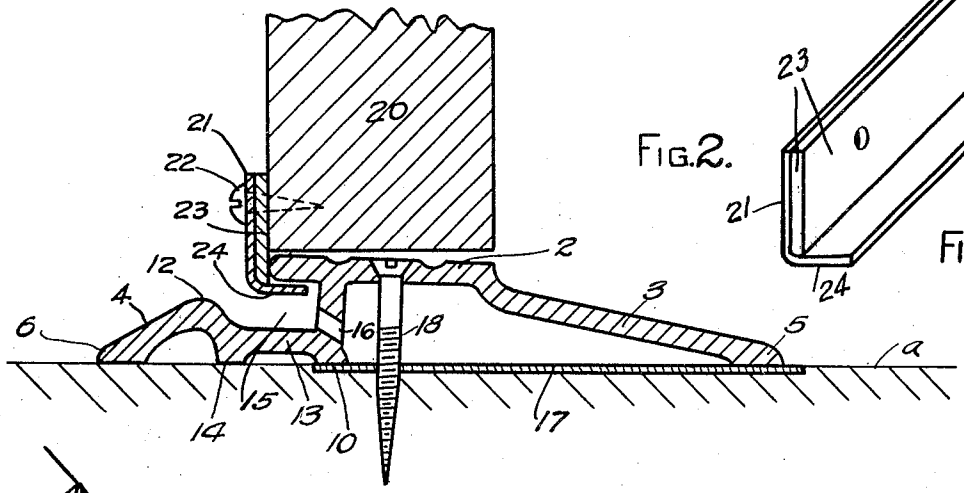


FIG. 2.

FIG. 4.

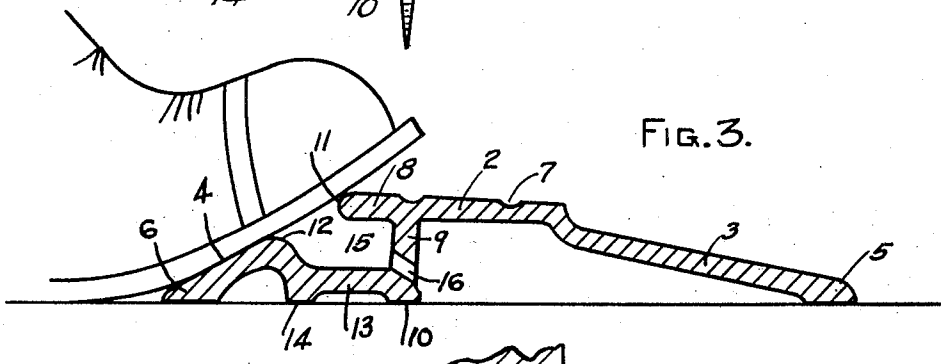


FIG. 3.

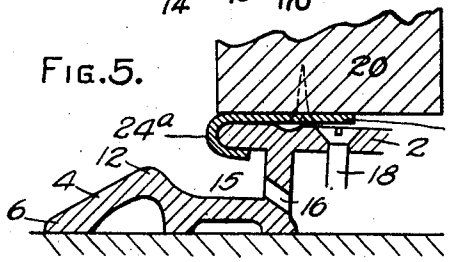


FIG. 5.

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UNITED STATES PATENT OFFICE

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DOORSILL

Application filed March 24, 1928. Serial No. 264,337.

My invention is an improvement in one-piece metal door sills or treads, adapted to provide for door mounting and closure, with certain features of construction and advantage contributing to prevention of water entrance to the interior, avoidance of objectionable obstruction over the threshold, etc., as shall be more fully hereinafter described.

The object in view is to provide a one-piece sill which may be fabricated in one piece, adapting it to be laid and secured upon the floor, and used as a door base in substitution of the usual wooden sill.

In the drawings showing one preferred construction:

Fig. 1 is a plan view of the sill, partly broken away;

Fig. 2 is a cross section on the line II—II of Fig. 1, showing a door and its weather strip in position over the sill;

Fig. 3 is a view similar to Fig. 2, omitting the door, and illustrating the fending action of the sill;

Fig. 4 is a perspective detail view of the weather strip attachment;

Fig. 5 is a view similar to Fig. 2, showing a modified construction of weather strip.

The sill as a whole is made in a continuous strip or piece, of suitable non-corrosive metal, as bronze, alloy, etc., and by any suitable method, as by extruding the article through a die. One advantage of such method of manufacture is in giving an initial smooth dense surface, easily adapting it to polishing by buffing, for surface finishing. The several elemental portions of the sill comprise a middle elevated door sill portion 2, an outer sloping base member 3 and an inner rounded or sloping base member 4. The latter terminates in bearing terminals 5—6, the lower faces of which conform to a common floor level *a* for placement thereon.

The door sill member 2 is spaced upwardly above the base level *a* a suitable distance, and its surface, of uniform width, preferably slopes slightly downward towards the outside, as shown. Said surface is interrupted by one or more longitudinal grooves 7 for tread security against slippage of the foot.

The inner portion of the middle member 2 extends in the form of a web or flange 8, rounded at its edge and projecting inwardly beyond the downwardly extending web or wall 9 providing an intermediate support for the elevated middle sill portion, and having a floor engaging pedestal 10 on the level of the outer bearing terminals 5—6, conforming to the floor line *a*.

The inner abruptly sloping base portion 4 extends towards the rounded terminal 11 of web 8 on a line substantially tangent to its upper edge and is rounded as at 12, merging downwardly into the lower bottom web portion 13 connecting it with the wall 9. Between inner terminal bearing 6 and bearing 10 is preferably provided an additional intermediate bearing strip 14, ensuring ample support on the floor surface.

Between the flange 8 and web 13 is thus formed a depressed trough or gutter 15, closed behind the wall 9 and open outwardly and upwardly between the rounded rising projection 12 and the edge 11. The purpose of such gutter is to collect any water or snow which may pass inwardly over the elevated sill portion 2, leakage therefor being provided by one or more ports or weep holes 16 extending through the wall 9.

In addition to the supporting and stabilizing function of the pedestal bearing portions 5, 6, 10 and 14, arranged on a common floor contacting level, these facilitate the mounting and setting of the entire sill in connection with any suitable intervening cushioning material, as elastic putty, or the like.

If desired, a thin plate 17 of metal or other suitable material may be laid underneath all or a portion only, as the outer portion, of the sill.

Such plate will protect the lower wood work, stone, or other floor material from the action of moisture, and will carry it off through one or both ends of the sill, as may be provided. The sill is secured in position by screws 18 inserted through suitably spaced holes 19 along the middle of the elevated part 2.

As thus constructed and mounted, the sill

provides for opening and closing of the door 20, either with or without any supplemental sealing or weather strip device. When the latter is used, it may conveniently be in the form shown in Figs. 2 and 4 in the shape of an L-shaped metal strip 21 secured to the inner lower edge of the door by screws 22 with an intervening packing strip 23 of felt, rubber, etc. The strip extends below the door edge for abutting contact against the edge 11 and the L flange 24 of strip 21 retains the packing and rides underneath the flange 8 when the door is closed, as in Fig. 2.

In Fig. 5, I show a modified construction of weather strip 21^a having the hooked J terminal 24^a engaging the rounded terminal of the flange 8. Such form of strip is secured up underneath the bottom edge of the door, as shown.

The construction of the sill as a whole not only provides the features and advantages noted, but also avoids the danger of presenting any serious obstruction to the feet of one passing over the threshold in either direction. The outer sloping wall 3 leads upwardly to the front edge of the elevated sill surface 2 in a practically continuous unobstructed surface.

At the other side, the general slope of the inner portion 4, while somewhat steeper, tends to direct the sole of the shoe upwardly across the open gap between such surface and the rounded edge 11, effectively preventing tripping or stubbing, due to such upward sloping face, as in Fig. 3.

The construction and advantages of the invention will be readily understood and appreciated from the foregoing description. It is simple, durable, efficient and inexpensive to manufacture and provides an excellent one piece door sill having the weather absorbing and other advantages described. It may be manufactured in continuous lengths, of any desired cross sectional dimensions or proportions, and cut to any length desired for use, and is well and successfully adapted to perform its functions in a satisfactory manner.

What I claim is:—

1. A one-piece metal door sill formed of a continuously integral parallel sided body having opposite downwardly sloping sides and a middle elevated tread having an edge portion extending laterally towards one of said sides, such side adjacent to the edge portion having an outer surface sloping towards the edge portion and then rounded downwardly providing an open gap and extended inwardly underneath the edge portion, the side portion being then vertically disposed underneath the tread providing a support therefor backward from the edge portion.

2. In a one-piece metal door sill, the combination with an elevated tread portion having an extending rounded edge flange member, of a vertically disposed supporting wall located inwardly beyond the edge providing a bottom support therefor, then extended laterally forming a bottom wall and rounded upwardly providing an open top trough and then outwardly and downwardly at a sloping angle substantially tangent to the rounded edge of the tread portion and terminating in a floor contacting supporting edge.

In testimony whereof I hereunto affix my signature.

HARRY E. BRICKER.