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COMBINATION SILL AND THRESHOLD

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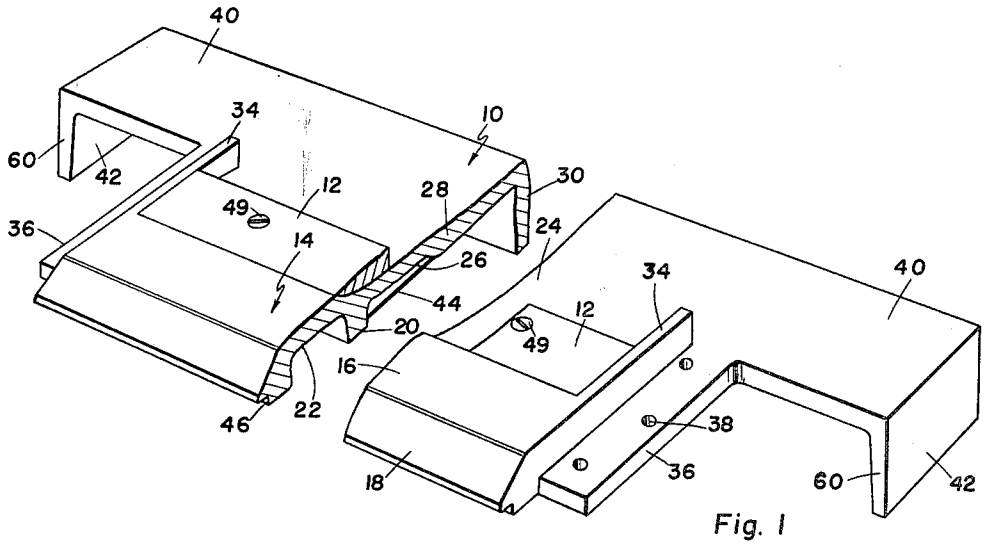


Fig. 1

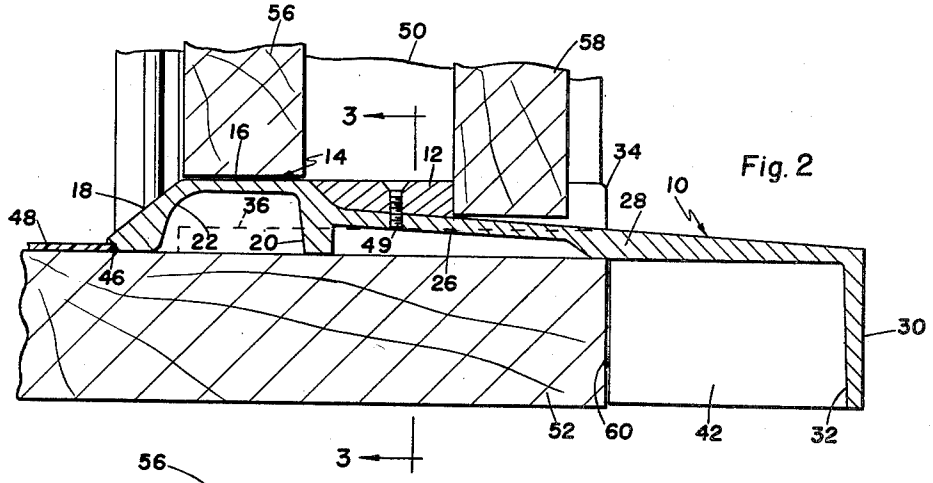


Fig. 2

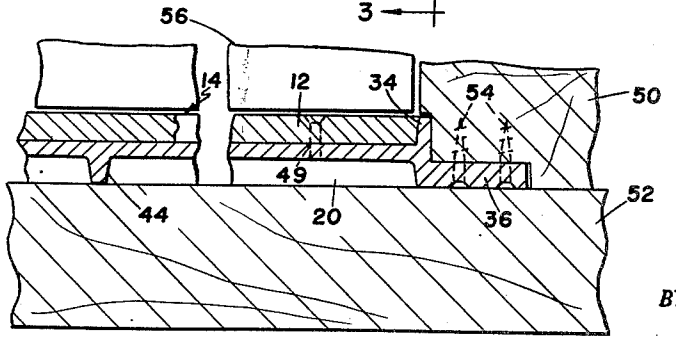


Fig. 3

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COMBINATION SILL AND THRESHOLD

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7 Claims. (Cl. 20—64)

The present invention relates generally to building structures and more particularly to a combination sill and threshold for use in doorways.

The primary object of this invention is to provide a combination sill and threshold which may be manufactured in two parts by simple casting although other methods of fabrication can be employed.

Another object of this invention is to provide a combination sill and threshold having a removable step portion adapting the same for use with outwardly and/or inwardly swinging doors.

Another object of this invention is to provide a combination sill and threshold which is shaped to provide efficient drainage and to prevent seepage of water under the lower ends of the door frame.

Another object of this invention, ancillary to the immediately preceding object, is to provide a combination sill and threshold having laterally extending flanges or horns which are securable to the lower ends of the door frame stiles, this assuring satisfactory securement thereof.

Another object of this invention is to provide a combination sill and threshold which may be used with many different types of doors and building structures and for neat engagement with many kinds of floor covering material.

Another object of this invention is to provide a combination sill and threshold which is adapted for fabrication from many different materials, so that the choice of material can be according to the dictates of availability and price considerations, the exact sizes and proportions being matters easily determined to suit particular conditions and needs.

Another object of this invention is to provide a combination sill and threshold which is inexpensive and practicable to manufacture.

Finally, it is an object to provide a combination sill and threshold of the aforementioned character which is simple, safe and convenient to use, and which will give generally efficient and durable service.

With these and other objects definitely in view, this invention consists in the novel construction, combination and arrangement of elements and portions, as will be hereinafter fully described in the specification, particularly pointed out in the claims, and illustrated in the drawing which forms a material part of this disclosure and wherein similar characters of reference indicate similar or identical elements and portions throughout the specification and throughout the views of the drawing, and in which:

Fig. 1 is a perspective view of the combination sill and threshold.

Fig. 2 is a lateral sectional view of the device.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Referring now to the drawing, the device is designed with a view toward fabrication thereof by casting and is shaped to fit between and to be permanently secured to the lower ends of the door frame stiles. The device comprises an elongated member having a sill **10**, a removable step portion **12**, and a threshold **14**, it being noteworthy that the sill extends from the threshold well beyond the building structure at the floor level as indicated clearly in Fig. 2.

The threshold **14** comprises a raised step **16** having a sloping face **18** and a support pillar **20**, all disposed longitudinally along the casting, and defining a cavity **22**. The remainder of the threshold constitutes a gradually sloping surface **24** extending from the raised step **16** and having a cavity **26** therebelow. The sill **10** is a continuation of the sloping surface **24** and is thickened at the junction as indicated at **28**. At the outer edge of the sill **10** is a downwardly disposed outer wall **30**, the depth of which is approximately equal to the thickness of the average floor structure, and the wall **30** defines a chamber **32**.

At each end of the threshold is a vertical baffle **34** extending transversely across the threshold from the raised step **16**. Outside the baffles **34** are horizontal flanges **36** each having screw holes **38**.

The sill **10** projects beyond the flanges **36** at each end as indicated at **40** and is provided with end walls **42**. The threshold **14** is reinforced by means of a plurality of spaced ribs **44** within the cavity **26** extending from the support pillar **20** to the thickened portion **28**. The removable step **12** is contoured to fit the sloping surface **24** of the threshold and extends the full length thereof between the baffles **34**. The upper surface of the removable step **12** is flush with the upper edges of the baffles **34**, thus forming a continuous level surface from the top of the raised step **16**, said removable step being fastened by means of screws **49**.

The device is installed in a door frame structure having conventional door frame stiles **50** and rests on the edge of the building structure **52** at the floor level. The edge of the threshold **14** remote from the sill **10** is provided with a longitudinal groove **46** which receives the edge of the floor tile **48** or analogous floor elements as illustrated in Fig. 2. The lower ends of the door frame stiles **50** are recessed to receive the horns or flanges **36** and the baffles **34**. The device is secured to said lower ends by means of suitable screws **54** inserted through the screw holes **38**. The baffles **34** prevent the seepage of moisture from the ends of the threshold into the frame. The projecting ends **40** extending beyond the door jamb on each side provide a neat appearing small step.

It will be evident that the door **56** is hung directly above the raised step **16**, while the screen door **58** or other outer door, if used, is abutted against the removable step **12**. The door **56** would, of course, normally open inwardly, while the other door **58** would open outwardly. In cases where a screen door or outwardly opening door is not used, the removable step **12** may be detached to provide an extended, substantially uniformly sloping sill.

When door **56** is omitted and a single outwardly swinging door is used, such as that indicated at **58**, the bottom of the door will abut the removable step **12**.

Another important feature of the invention will also now be appreciated, namely, the utility of the end walls **42** as strengthening flanges and butt members since the edge portions **60** engage the side of the building structure **52**, thus supporting the extended or cantilever portion of the sill. The end walls **42** are, therefore, important functional elements in permitting the use of this cantilever sill, and these same end walls, along with the outer wall **30** also constitute a continuous drip edge preventing moisture seepage toward the building.

Further description would appear to be unnecessary.

It is understood that minor variation from the form of the invention disclosed herein may be made without departure from the spirit and scope of the invention, and that the specification and drawing are to be considered as merely illustrative rather than limiting.

I claim:

1. A combination sill and threshold comprising a unitary structural element having a raised threshold, a sill integral with said threshold and extending along one side thereof, said sill having downwardly extended walls at the outer edges and ends thereof, and baffles at each end of said threshold projecting upwardly therefrom for snug fitting engagement of door frame stiles.

2. A combination sill and threshold comprising a unitary structural element having a raised threshold, a sill integral with said threshold and extending along one side thereof, said sill having downwardly extended walls at the outer edges and ends thereof, and baffles at each end of said threshold projecting upwardly therefrom for snug

fitting engagement of door frame stiles, horizontal flanges at each end of said threshold extending beyond said baffles.

3. A combination sill and threshold comprising a unitary structural element having a raised threshold, a sill integral with said threshold and extending along one side thereof, said sill having downwardly extended walls at the outer edges and ends thereof, and baffles at each end of said threshold projecting upwardly therefrom for snug fitting engagement of door frame stiles, horizontal flanges at each end of said threshold extending beyond said baffles, said sill having extended portions projecting longitudinally of the sill beyond said flanges, and said sill and extended portions having depending walls at the outer edge and ends thereof.

4. A combination sill and threshold comprising a unitary structural element having a raised threshold, a sill integral with said threshold and extending along one side thereof, said sill having downwardly extended walls at the outer edges and ends thereof, and baffles at each end of said threshold projecting upwardly therefrom for snug fitting engagement of door frame stiles, horizontal flanges at each end of said threshold extending beyond said baffles, said sill having extended portions projecting longitudinally of the sill beyond said flanges, said sill and extended portions having depending walls at the outer edge and ends thereof, the threshold having a groove to receive an edge of a floor covering and extending along the lower edge of the threshold remote from said sill.

5. A combination sill and threshold comprising a unitary structural element having a raised threshold, a sill integral with said threshold and extending along one side

thereof, said sill having downwardly extended walls at the outer edges and ends thereof, baffles at each end of said threshold projecting upwardly therefrom for snug fitting engagement of door frame stiles, and a removable step portion secured to said threshold between said baffles.

6. A combination sill and threshold comprising a unitary casting having a hollow raised threshold, a sill integral with said threshold and extending along one side thereof, a depending longitudinal support pillar beneath said threshold, said sill having extended portions at each end thereof, vertical baffles at each end of said threshold and projecting upwardly therefrom, horizontal flanges at each end of said threshold beyond said baffles, and a plurality of spaced ribs extending transversely from said pillar throughout a portion of said sill.

7. A combination sill and threshold comprising a unitary casting having a hollow raised threshold, a sill integral with said threshold and extending along one side thereof, a depending longitudinal support pillar beneath said threshold, said sill having extended portions at each end thereof, vertical baffles at each end of said threshold and projecting upwardly therefrom, horizontal flanges at each end of said threshold beyond said baffles, a plurality of spaced ribs extending transversely from said pillar throughout a portion of said sill, and a removable step portion secured to said threshold between said baffles.

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