June 10, 1930. R. C. SHAND 1,762,838

ROOF DRAIN

Filed Jan. 23, 1929

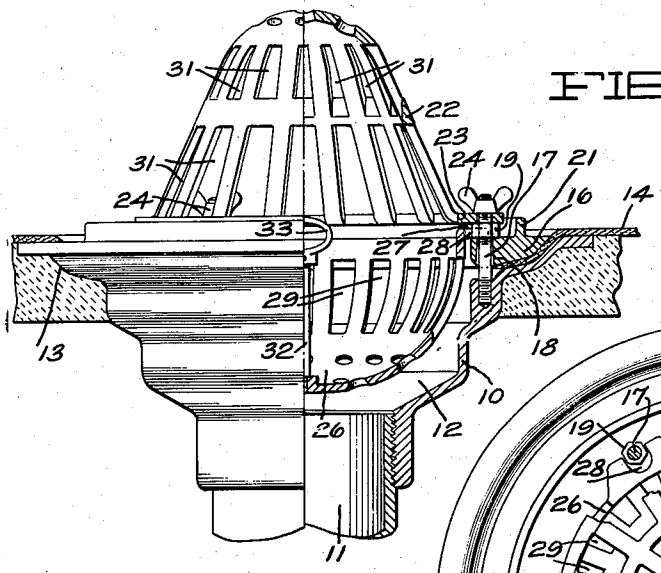


FIG. 1.

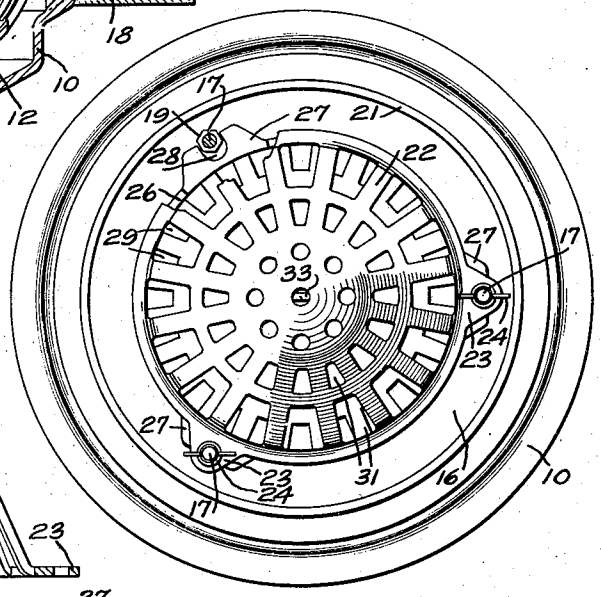


FIG. 2.

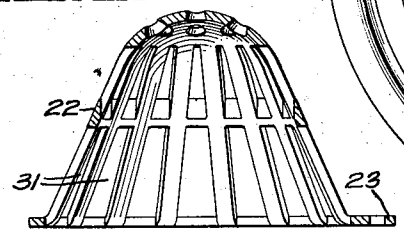


FIG. 3.

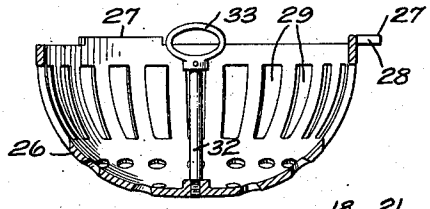


FIG. 4.

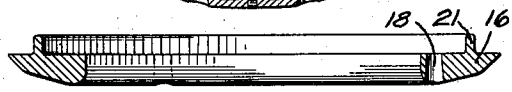


FIG. 5.

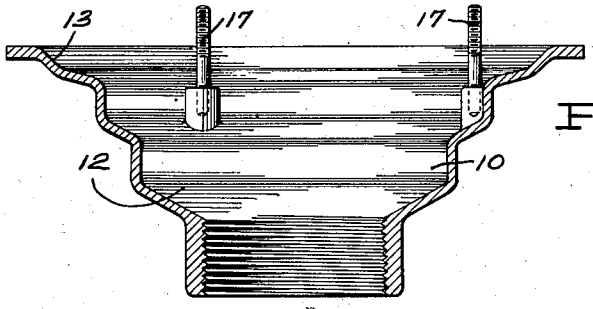


FIG. 6.

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UNITED STATES PATENT OFFICE

REGINALD C. SHAND, OF PIEDMONT, CALIFORNIA, ASSIGNOR TO SHAND & JURS COMPANY, OF BERKELEY, CALIFORNIA, A COPARTNERSHIP CONSISTING OF REGINALD C. SHAND AND ALBERT E. JURS

ROOF DRAIN

Application filed January 23, 1929. Serial No. 334,558.

This invention relates generally to devices for installation in connection with roofs of buildings, and which serve to convey water to drainage pipes.

It is an object of this invention to devise a roof drain of relatively simple construction, which can be readily manufactured and installed, and which will give relatively long service without the necessity of making repairs or replacements.

It is a further object of this invention to devise a roof drain of novel character having both strainer and sediment receiving members, and in which the sediment receiving member is so constructed that it will not become stuck or fast to the body of the drain thru accumulations of tar or other cementitious material.

It is a further object of this invention to construct a roof drain in which the sediment and strainer members are formed as separate parts, and in which the strainer member serves to retain the sediment receiving member in normal position.

It is a further object of this invention to devise novel means for securing a clamping ring to the body of a roof drain and for removably retaining a strainer member to the body.

Further objects of the invention will appear from the following description in which I have set forth the preferred embodiment of my invention. It is to be understood that the appended claims are to be accorded a range of equivalents consistent with the state of the prior art.

Referring to the drawing:

Figure 1 is a side elevational view partly in section illustrating a roof drain constructed in accordance with my invention.

Fig. 2 is a plan view of the roof drain as shown in Fig. 1.

Figs. 3, 4, 5 and 6 are detail cross sectional views of the strainer member, the cup-shaped sediment member, the clamping ring, and the body member respectively, of my roof drain. These views when taken together illustrate the manner in which the parts of my roof drain can be taken apart or assembled.

The specific embodiment of my invention illustrated in the drawing includes a body member 10, the lower portion of which is formed to make connection with the upper end of a drain pipe or conduit 11. The opening in this body member, designated at 12, is enlarged at the upper end of the body; such enlargement being generally provided by forming the body member flared or bell-shaped as shown. When installing my drain in connection with a roof, the upper face 13 of the body is arranged at substantially the same level as the drainage level of the roof. The waterproofing member 14 of the roof is generally extended in overlapping relationship with the upper face 13, and is engaged by an annular clamping ring 16. In order that ring 16 may be clamped tightly upon the member 14 to provide a water-tight connection, I have shown a plurality of threaded rods or studs 17 which are threaded into the body member 10, and extend upwardly from the same. These rods extend thru holes 18 in clamping ring 16, and have their upper threaded ends engaged by clamping nuts 19. In order to minimize entrance or tar or other roofing coating material into the body, clamping ring 16 is preferably provided with an annular rib or ridge 21.

Extending over the opening 12 in the body and positioned substantially entirely above the drainage level of the roof, there is a dome-shaped strainer member 22. The lower rim or edge of strainer member 22 is provided with a plurality of laterally extending lugs 23, which are apertured to receive the upper threaded ends of rods 17. Readily removable wing nuts 24 engaging rods 17 serve to clamp lugs 23 and thus detachably retain the strainer in normal position.

In addition to the strainer 22 I provide a sediment cup 26, which is preferably normally disposed within the body opening 12 directly below the strainer member 22. The diameter of sediment cup 26 is substantially the same as the internal diameter of clamping ring 16, and its upper edge is normally arranged at substantially the same level as the drainage level of the roof. For removably retaining sediment cup 26 is normal po-

sition, I provide a plurality of lugs 27 formed upon the upper edge of cup 26 and extending laterally from the same. These lugs can be provided with slots 28 for receiving nuts 19, and normally rest upon the upper face of clamping ring 16 as shown. The openings or perforations 29 in sediment cup 26 are preferably substantially smaller than the corresponding openings 31 in strainer 22, so that solid matter which may pass through openings 31 will be caught and held by the sediment cup. Secured centrally of the cup 26, I provide an upstanding rod 32 having a hand hold or handle 33 formed on its upper end.

When the drain is in use it is evidenced that a certain amount of material will accumulate within the cup 26, and that this material must be removed at certain intervals. To remove accumulated sediment it is only necessary to remove wing nuts 24 to remove the strainer 22, after which the sediment cup 26 can be readily lifted out from the body. Generally cementitious material, such as tar or other roof coating material, will accumulate within cup 26, and the construction of this cup together with the manner in which the same is associated with the strainer member and body members, precludes the possibility of the cup being stuck or cemented to the clamping ring or body member. This is made possible by having the sediment cup extend substantially entirely across the upper portion of the opening in the body member, and by having the upper edge of the sediment cup terminate near the drainage level of the roof. It is also to be noted that the rods or studs 17 serve both as means for forcing the clamping ring 16 towards the body and for the retaining of the strainer member 22 in position, and also indirectly for positioning and retaining the sediment cup 26.

Since the parts of my drain are of comparatively simple design, they can be made relatively strong and at a relatively low cost.

I claim:

1. A roof drain comprising a body member having an opening extending downwardly thru the same and adapted to be installed in connection with a roof, the upper face of said body being substantially at the level of the drainage level of the roof, a perforated sediment cup disposed within said body, lugs projecting from the upper edge of said cup, said lugs being supported by said body and serving to retain the cup with its upper edge near said level, and a dome like strainer removably positioned over said opening, said strainer extending above said level and being removably disposed on said body.

2. A roof drain comprising a body member having an upwardly diverging opening thru the same, said body being adapted to be assembled with a roof with the upper edge of the same near the drainage level of the roof, a perforated sediment receiving cup removably disposed within said body, said cup being of such diameter as to extend substantially entirely across the large upper portion of said opening, means extending laterally from the upper edge of said cup serving to support the same on the body, the upper edge of said cup in normal position being at substantially said roof level, a dome-like strainer, and lugs on the lower edge of the strainer adapted to be supported by said body whereby said strainer is removably disposed above said sediment cup.

3. A roof drain comprising a body member having an opening therethrough and adapted to be installed with its upper face near the drainage level of the roof, a perforated sediment receiving cup normally disposed within said opening substantially entirely below said drainage level, a clamping ring disposed upon the upper face of said body, threaded rods secured to said body and projecting thru said ring, nuts on said rods for engaging said ring and for forcing the same toward said body, lugs projecting laterally from the upper rim of said cup and adapted to rest upon said ring between said rods, a dome-like strainer, lugs projecting laterally from the lower edge of said strainer and engaging the upper ends of said rods above said nuts, and additional nuts engaging said rods for removably retaining said lugs and said strainer in normal position.

4. A roof drain comprising a body member having an opening extending downwardly through the same and adapted to be installed in connection with a roof, the upper face of said body being normally substantially at the level of the drainage level of the roof, a clamping member disposed on the upper face of the body and adapted to clamp a roof membrane between the same and said body, a perforated sediment cup disposed within said body, means adjacent the upper edge of said cup being supported on said member and in turn serving to support the cup with its upper edge near said lever, and a dome-like strainer removably positioned over said opening, said strainer extending above said level and being removably supported by said body.

5. A roof drain comprising a body member having an opening extending downwardly thru the same and adapted to be installed in connection with a roof, the upper face of said body being substantially at the level of the drainage level of the roof, a sediment receiving cup removably disposed within said body, the upper edge of said cup being on substantially said level, a dome-like strainer removable positioned on said body and extending over said opening and said sediment cup above said drainage level, said strainer being a separate member with respect to the

sediment cup, and means for sealing a roof membrane with respect to said body.

6. A roof drain comprising a body member having an opening extending downwardly through the same and adapted to be installed in connection with a roof, the upper face of said body being substantially at the level of the drainage level of the roof, means for sealing the roofing membrane with respect to said body, a sediment receiving cup removably connected to said sealing means, the upper edge of said cup being on substantially said level, and a dome-like strainer removably positioned on said body and extending over said opening and said sediment cup above said drainage level, said strainer being a separate member with respect to the sediment cup and said sealing member, whereby said strainer may be removed without disturbing the sealing member for the roofing membrane.

7. A roof drain comprising a body member having an opening extending downwardly thru the same and adapted to be installed in connection with a roof, the upper face of said body being substantially at the level of the drainage level of the roof, means for sealing the roofing membrane with respect to said body, a sediment receiving cup removably disposed within the opening thru said body, means interposed between the body and the cup for removably supporting said cup at circumferentially spaced points with the side walls of the cup spaced from the adjacent walls of the body, and a dome-like strainer removably positioned on said body and extending over said opening and said sediment cup above said drainage level, said strainer being a separate member with respect to the sediment cup and said sealing member, whereby said strainer may be removed without disturbing the sealing member for the roof membrane.

In testimony whereof, I have hereunto set my hand.

REGINALD C. SHAND.