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ROOF DRAIN

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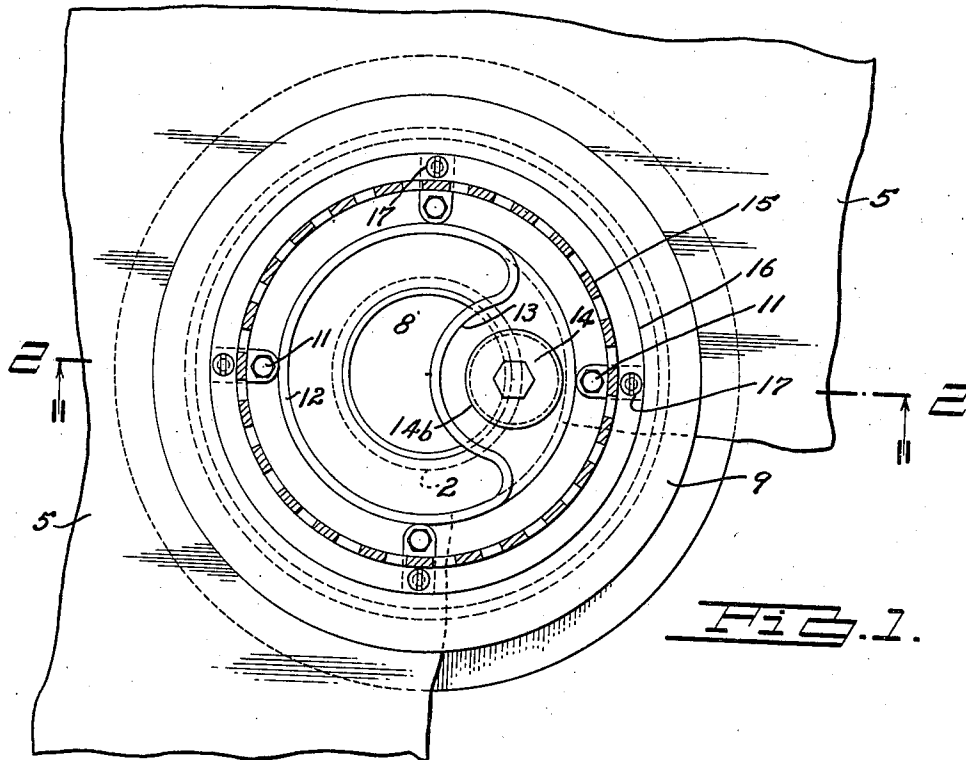


FIG. 1.

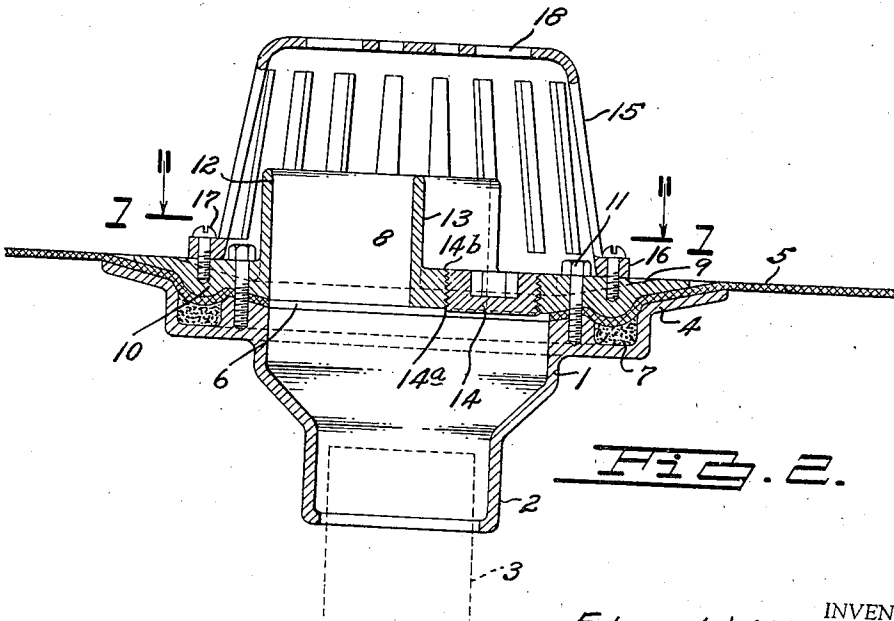


FIG. 2.

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ROOF DRAIN

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5 Claims. (Cl. 182—31)

This invention relates to roof drains, the object being to provide a drain for a substantially flat roof of such construction that a sheet of water will tend to be maintained on the roof in the summer time to protect the roofing material from disintegration from the effects of the hot sun and with which is provided a means for preventing the retaining of a sheet of water on the roof.

Ordinary flat roofs are usually covered with a sheet material together with tar and/or gravel and the hot sun tends to destroy it by causing the tar to flow and causing the edges of the sheets to turn upwardly which eventually provide for ingress of water to the building. If a comparatively thin film or sheet of water is maintained on the roof in the summer time which may be replenished from time to time, disintegration by heat of the sun will be prevented at least to a major degree and such sheet of water maintained on the roof is to a considerable degree preventive of the transfer of heat through the roof to the interior of the building.

A further object and feature of the invention is to provide a roof drain of a character to maintain a sheet of water on a roof that is of simple and inexpensive construction and useable in the summer period for the said purpose of maintaining water on the roof and adapted by removal of a convenient portion thereof to prevent accumulation of water on the roof as would be desirable during the winter period in order to prevent an accumulation of ice.

These and other objects and various novel features of the invention are hereinafter more fully described and claimed, and the preferred character of construction of a roof drain embodying my invention is shown in the accompanying drawing in which—

Fig. 1 is a section in plan view taken on line 1—1 of Fig. 2.

Fig. 2 is a vertical section taken on line 2—2 of Fig. 1.

A roof drain in accordance with my invention is provided with a main body 1 having side walls tapered at the bottom and terminating in a cylindrical lower end 2 adapted for connection of a conduit therewith indicated by dotted lines 3 which may be caulked in place. The body of the drain has at its open upper end a peripheral outer flange 4 over which the roof material or flashing 5 may be laid. The roof material has a central aperture 6 of a diameter approximately the same as the inner diameter of the upper end of the drain body. The flange 4 is preferably

provided with a circular recess 7 to receive a sealing material and over which the roof flashing 5 may extend. The flashing is secured in place by a head 8 which is provided at its lower end with a peripheral flange 9 having a rib 10 in its lower surface aligning with the recess 7 of the body and forcing the roof flashing downwardly thereinto to seal the flashing to the body flange 4. The head 8 is secured in place by means of cap screws 11 which extend through the flange 9 of the head into the flange 4 of the body thereby clamping the roofing in place.

A feature of this invention is in the character of the head. It is of a tubular material having an upstanding wall 12 providing a drain substantially circular in form throughout the greater part of its periphery and on one side is formed with the re-entrant portion 13 as shown more clearly in Fig. 1. At this re-entrant portion the base extends inwardly of the flange 9 forming a flat surface substantially on the same level as the roof flashing 5 and within the re-entrant portion 13, I provide a threaded aperture closable by the threaded plug 14. The tubular portion 12 of the head is open ended and extends above the level of the roof flashing a desired distance and when the plug 14 is in place, water may accumulate on the roof and about the drain to the depth determined by the height of the tubular portion 12. The drain head is usually positioned in a slight depression in the roof and the distance of the upper end of the member 12 from the roof flashing is sufficient to provide a desired depth of water on the roof in areas beyond the depression (if any) in which the roof drain may be positioned. Preferably also, to prevent an accumulation of debris on or about the head, I provide a slotted cover member 15 which has a bottom flange 16 resting on the flange 9 of the head and secured thereto as by screws 17. The grating member 15 extends above the upper end of the tubular portion 12 of the head and is also apertured at its top as indicated at 18. The grating member thus shields the drain head as well as the plugged aperture from an accumulation of material that might otherwise pass down into the head or accumulate over the plugged aperture and choke the flow therethrough.

With this arrangement of parts, I provide a means for maintaining water to certain depth on a roof, any excess water readily flowing over the top of the tubular portion 12 of the head and thence to the outlet and further, when such accumulation of water is not desired, as for instance in winter time, the plug 14 is removed

and thus all the water may drain from the roof.

The height of the dam 12 may be varied, depending upon the depth of the water required to be retained on the roof and the plugged aperture 14 is at the level of the flashing to prevent any retention of water from the drain head. The plug 14 may be of brass and the threaded ferrule 14^a may be inserted in the iron casting and a pin 14^b inserted to prevent rotation thereof. By use of such brass plug and brass ring 14^a, the rusting of the plug in place is prevented, and also the threads to receive the plug do not disintegrate as would be the case if the removable plug were threaded directly in the threaded opening in the cast iron member.

The essential feature of the invention resides in the provision of a dam which is of a height to determine the desired water level and water rising above the determined level flows over the top of the dam 12 through the head to the outlet. The plug 14 has a socket in its upper face and a wrench having an end to fit the socket may be introduced vertically downward through an opening in the top of the grating to permit the plug to be removed or screwed back to place without necessity of removal of the grating member 15.

From the foregoing description, it is believed evident that the various features and objects of the invention are attained by the structure described; that it is simple and inexpensive in construction, and that various changes may be made in the structure without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus briefly described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is:

1. A roof drain comprising a body member having an open upper end and a peripheral flange thereabout and an opening at the bottom for reception of a conduit, a head having a flange adapted to be mounted on the body flange, a roof flashing secured between the said flanges, said head having an integral vertical tubular portion extending upwardly and having an open upper end normally determining the depth of water that may accumulate on a roof, and a shield for preventing debris entering the body through the tubular portion comprising an apertured member enclosing the head.

2. A roof drain comprising a body member having an open upper end and an opening at the bottom for the reception of a conduit, a peripheral flange provided at the upper end of the

body, a head having a flange adapted to be mounted on the body flange for the securing of a roof flashing therebetween, said head having an integral vertical open ended tubular portion extending to above the flange and providing a dam for retaining water to a definite depth about the drain, said flange having an opening exteriorly of said tubular portion through which water may completely drain from the roof, to said conduit, and means manually operable to open or close said opening.

3. A roof drain comprising a peripherally flanged body member having an open upper end shaped at the bottom to receive a conduit, a head therefor including an open ended tubular portion having a peripheral flange for mounting on the body flange, said tubular portion having on one side thereof above the flange a re-entrant portion, said flange of the head at the said re-entrant portion having a threaded opening, a plug for closing the opening, the height of the tubular portion above the flange determining the level of water maintained on a roof, and an apertured shield enclosing the said upper end of the tubular portion and secured to the flange of the head.

4. A roof drain comprising a peripherally flanged body member having an open upper end and shaped at the bottom to receive a conduit, a drain head constructed to provide a dam and having a peripheral flange for mounting on the body flange, said dam being of a height to maintain a predetermined level of water about the drain head, a roof flashing secured between the said flanges, said head flange having an opening at one side of the dam practically at the roof level through which liquid from the roof may drain into the conduit, and a plug for closing the opening whereby the dam is made effective to maintain a definite water level on the roof, an apertured shield secured to the flange at the edge and enclosing said dam and the opening in the flange.

5. In a roof, a body member through which liquid may discharge from a roof, a conduit providing for discharge of liquid from the body member, said body member being arranged to provide a dam for maintaining a predetermined level of water on the roof and permitting water tending to accumulate to a greater depth to flow through the drain head into the conduit, and means associated with the body member and spaced from the dam operable to provide for discharge of water through the drain head to prevent an accumulation of water on the roof.

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