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DRAIN CUP AND SUPPORT THEREFOR

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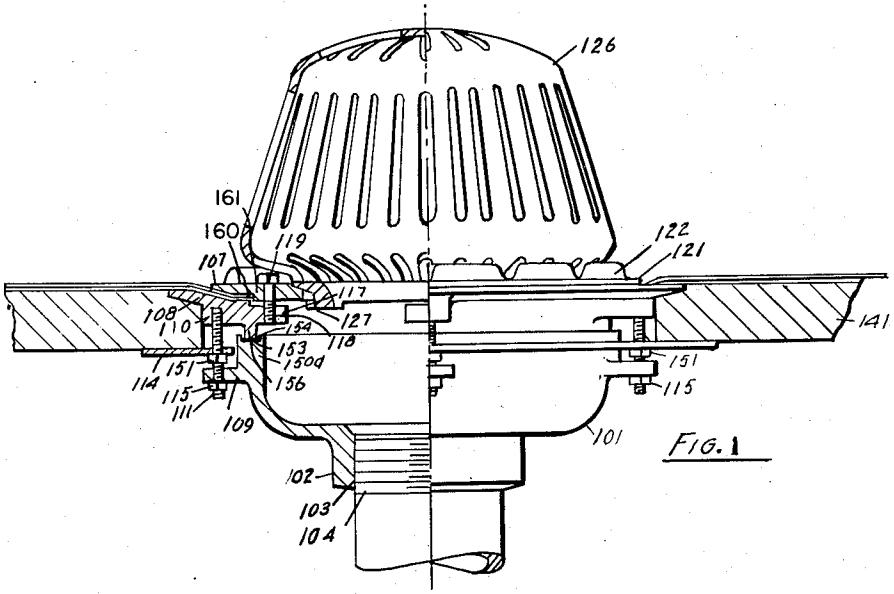


FIG. 1

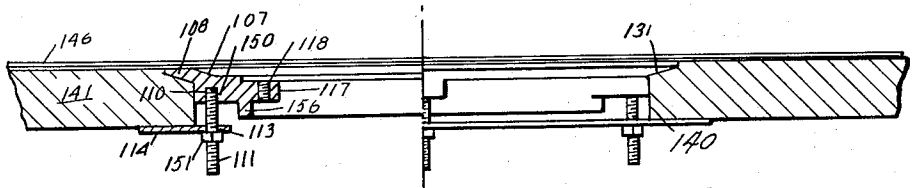


FIG. 2

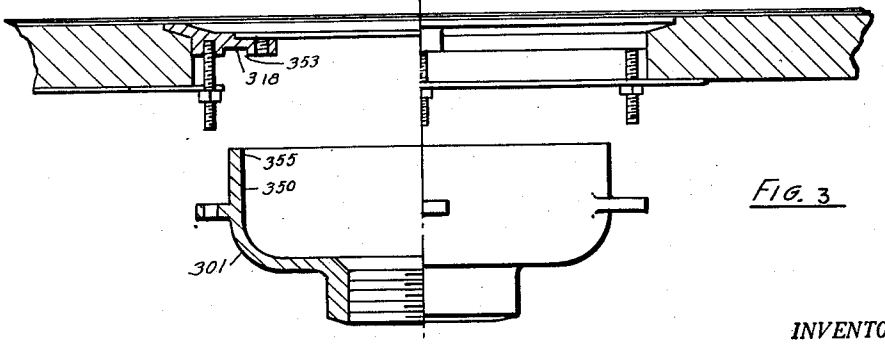


FIG. 3

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DRAIN CUP AND SUPPORT THEREFOR

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This invention relates to roof sump adapters.

In previous roof drains wherein it was desired to install a drain in a new roof, it was necessary to provide a hole in the roof. Further, with drains made according to prior designs, it was necessary to install the leader pipes to the drain cup before the roofing job was completed in order to hold the drain cup in place while the roofing was being installed. In this disclosure, a means is provided of installing the drain in the roof with the top flange of the drain cup flush with the roof. Also, a means is provided for supporting the body of the drain on the roof before the leader pipes have been installed. The body is locked in place by means of a clamp attached to the drain cup and engaging the roof. This permits the roofer to install the body of the drain and complete the roofing job at a later date. When the leader pipes have been installed, the hole is cut in the roofing material, the clamping collar is then installed, and the dome set in place.

More specifically, an object of this invention is to provide a roof drain which is simple in construction, economical to manufacture, and simple and efficient to use.

Another object of the invention is to provide a means for supporting the body of a roof drain independently of any leader pipes thereto prior to installation of piping.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 is a side view partly in cross section of the drain cup and adapter;

Fig. 2 shows a clamping ring and dome strainer removed from the drain cup and the clamping ring attached to the roof; and

Fig. 3 is a view similar to Fig. 2 but showing another embodiment of the drain cup disposed below the clamping ring.

Now with more specific reference to the drawing, Figs. 1 and 2 show a drain cup **101** having a threaded flanged outlet **102** threaded at **103** and having the upper end **104** of a leader pipe threadably engaged therewith. An upper clamping ring **121** having a gravel guard **122** is supported on the separable flange **107** which has the upwardly and outwardly inclined flanged portion **108** thereon. An under deck clamp **114** is supported through lugs **109** by means of threaded bolts **111** which engage threaded holes **110** in the shoulder **150** of the outwardly inclined flanged portion **108**. The threaded bolts **111** extend through the holes **113** in the under deck clamp **114** and have nuts **151** which engage the lower end of the under deck clamp **114** and force the under deck clamp **114** toward the flange **108**. Nuts **115** are adapted to be put on the bolts **111** and to engage the lugs **109** to hold the flanged member **108** into contact with chamfer **131**. A gasket **153** is disposed in a groove **154** in the upper edge **150*a*** of the drain cup **101**. A downwardly depending rim **156** is held in engagement with the gasket **153** by nuts **151**. A dome strainer **126** has a bayonet joint which locks it to the upper clamping ring **121** at **127**. Bolts **119** engage the threaded apertures **118** in legs **117** to lock the upper clamping ring **121** to the separable flange **107**. Shoulders **160** on ring **121** interfit with shoulders **161** on separable flange **107** to lock flashing **146** therebetween.

To install the roof drain, the upper clamping ring **121** is disposed in the opening **140** in the roof **141**. The opening **140** is formed with the beveled seat or chamfer **131** to receive the upwardly and outwardly projecting flange **108** on the clamping ring **121**. The lower deck clamp **114** is placed in the position shown and the bolt **111** is disposed through the hole **113** in the lower deck clamp **114**. The bolt **111** is then inserted in the threaded hole **110** and tightened thereon to hold the upper clamping ring **121** in tight engagement with the roof **141**. The flashing **146** may then be put in place in a continuous sheet over the separable flange **107** and the clamping ring **121** is attached by means of the bolts **119**. The strainer **126** may then be put in place and the gasket **153** may be located and the drain cup **101** may have the rim **156** drawn down against the gasket **153** and the nuts **115** put on the bolts **111** and tightened thereon. The leader pipe may then be put in place at any later time at the convenience of the installation personnel.

It will be noted that Fig. 3 shows another embodiment of the invention similar to the one shown in Fig. 1 wherein the upper edge **355** and the rim **350** engage the packing **318** in the peripheral groove **353** to form a seal therewith. This embodiment of the invention makes it possible to put the upper and lower clamping rings in place and lay the roof and flashing any time prior to the installation of the drain cup **301** and the leader pipe without any reduction of the convenience in later installing these elements.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A roof drain comprising an upper deck clamp having a flange thereon adapted to rest on the peripheral edge of an opening in a roof, an under deck clamp adapted to engage the roof adjacent the peripheral edges of said opening, and means to attach said upper deck clamp to said under deck clamp, said upper deck clamp having inwardly extending lugs thereon adapted to support a dome strainer, a drain cup, said means for attaching said under deck clamp to said upper deck clamp engaging means on said drain cup urging said drain cup into sealing engagement with said upper deck clamp, sealing means between said upper deck clamp and said drain cup, said sealing means comprising a depending rim on said upper deck clamp engaging packing material supported in a peripheral groove on said drain cup.

2. The roof drain recited in claim 1 wherein said dome strainer is supported on said upper deck clamp by means of a ring like separable flange supported on said upper deck clamp and having a bayonet connection cooperating with a complementary connection on said strainer.

3. In combination, a drain cup and means to support said drain cup in a roof comprising an upper clamping ring adapted to be supported on the upper edge of a roof, means to attach a roofing material to said upper clamping ring, a plate like lower deck clamp having a drain cup receiving opening in the center thereof, spaced apertures

in said lower deck clamp, bolts received in said apertures, said bolts extending upwardly and engaging threaded apertures in said clamping ring, said drain cup being received in said lower deck clamp opening, said drain cup having outwardly extending means adapted to be attached to said bolts.

4. The combination recited in claim 3 wherein said upper clamping ring has an upwardly and outwardly sloping surface on the upper edge thereof and a flat ring shaped separable flange member rests on said clamping ring surface clamping flashing material therebetween.

5. The combination recited in claim 4 wherein said clamping ring has an upwardly offset portion thereon and a mating offset shoulder on said separable flange adapted to seat thereon to clamp a flashing therebetween.

6. The combination recited in claim 4 wherein said upper clamping ring has inwardly extending lugs thereon receiving locking means to hold said separable flange in place.

7. In combination, a drain cup and an upper deck plate, said upper deck plate having a vertical peripheral portion adapted to interfit with an aperture in a platform, a flange portion extending upwardly and outwardly from said vertical portion, said flange adapted to rest in a chamfer formed in said platform around the outer edge of said aperture, said upper deck plate having a lip on the lower edge thereof, a cup shaped drain cup having an outlet

and an upwardly disposed peripheral edge having a flat surface thereon, said lip adapted to engage packing supported on said flat surface, means separably attaching said drain cup to said upper deck plate, a plate like lower deck clamp, an opening through said lower deck clamp receiving said drain cup, and means outside said drain cup to lock said lower deck clamp to said upper deck clamp whereby said upper deck clamp may be locked to said platform prior to the attachment of said drain cup thereto.

8. The combination recited in claim 7 wherein said upper deck clamp has an inwardly facing opening therethrough and a clamping ring adapted to be disposed above said upper deck clamp and having an outwardly facing shoulder complementary with said shoulder on said clamping ring whereby roofing material can be clamped therebetween, and means on said clamping ring for clamping a drain cup thereto.

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