

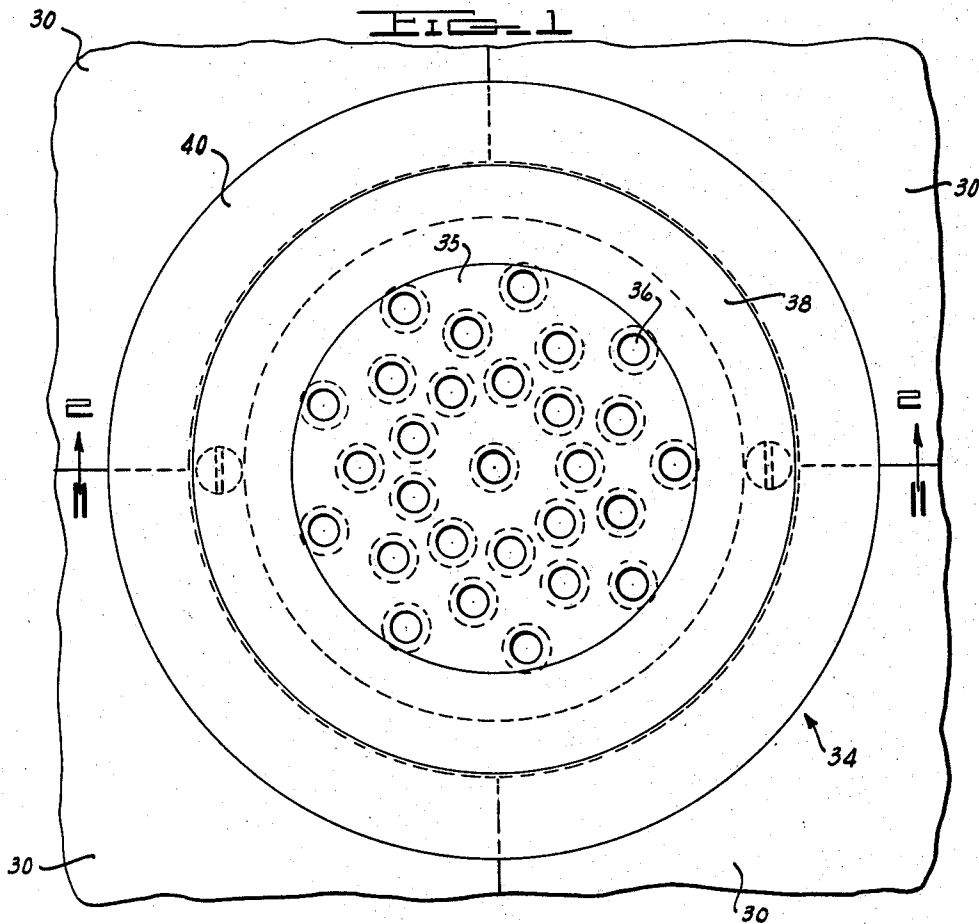
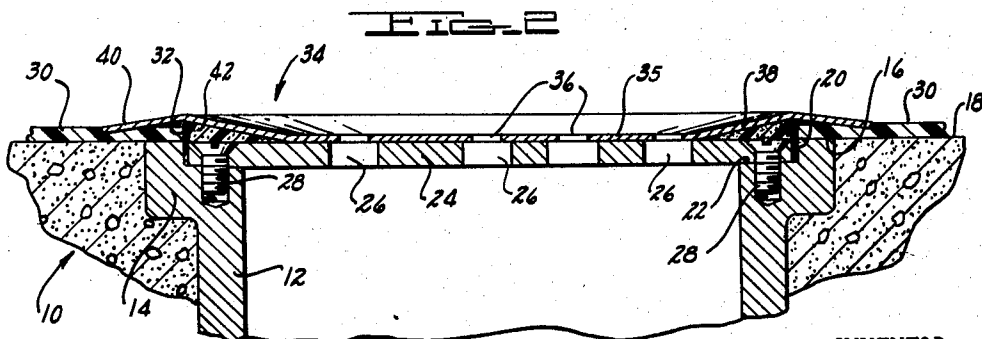
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TRIM DRAIN COVER

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TRIM DRAIN COVER

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This invention relates to a floor drain structure and refers more particularly to a trim drain cover.

The trim drain cover is intended to be applied over the usual perforated drain cap in a floor. When a floor is covered with floor tile, it is necessary to trim the tile around the drain cap. It is extremely difficult to trim the tile evenly and neatly around the drain cap, and hence, even when the tiling is done by experienced personnel, the tile around the drain is apt to have a rough or ragged appearance. Moreover, the abrupt edge of the tile around the drain provides a weak spot because the tile may be pulled away from the floor at this point if such edge is accidentally struck with an article of furniture being moved across the floor, for example, or by the heel of a shoe.

One object of this invention is to provide a trim drain cover to be applied over the usual drain cap which will overlie the edge of the tile surrounding the drain cap and provide a pleasing appearance.

Other objects of the invention will become apparent as the following description proceeds, especially when taken in conjunction with the accompanying drawing, wherein:

Figure 1 is a top plan view of a trim cover applied over the drain cap in a floor structure, constructed in accordance with the present invention.

Figure 2 is a sectional view taken along the line 2-2 on Figure 1.

Referring now more particularly to the drawing, the numeral 10 designates a concrete floor. The floor has a cylindrical drain pipe 12 therein which has at its upper end a radially outwardly enlarged portion 14 which terminates at its upper end in a top surface 16 substantially flush with the top surface 18 of the floor 10. The enlargement 14 has an internal annular groove 20 in its top surface. The top surface 22 of the groove is parallel to the top surface 16 of the enlargement and is adapted to support the marginal edge portion of the floor metal drain cap 24. The drain cap 24 has openings 26 there-through for the passage of fluid and is secured to the enlargement 14 of the drain pipe by screws 28. The top surface of the drain cap is substantially flush with the surface 18 of the floor.

The floor tile elements 30 are applied over the surface of the floor in edge to edge relation and may be formed of asphalt or any suitable material. Ordinarily, a mastic or suitable tile cement is provided in a thin film (not shown) between the surface of the floor and the underside of the tile to secure the tile in place. The tile is cut to provide a circular opening 32 which closely surrounds the drain cap. As a practical matter, it is very difficult to cut the opening 32 neatly and almost invariably the opening will be somewhat ragged.

In order to provide a pleasing appearance, the trim drain cover 34 is provided. This cover may be formed of a relatively thin plate of flexible material such as aluminum. Any suitable material may be employed in

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the manufacture of the cover 34. However, such materials selected should be pleasing in appearance and have a degree of flexibility.

The cover 34 is formed from a circular plate of material. The plate comprises a flat central circular portion 35 formed with perforations 36. The central portion 35 is applied over the drain cap 24 in surface to surface contact therewith and the perforations 36 are generally aligned with the openings 26 in the drain cap. The plate has an intermediate annular inverted frusto-conical portion 38 integrally connecting into the outer margin of the central portion and having its outer margin disposed sufficiently above and beyond the central portion to substantially overlie the edge of the tile defining the opening 32 in the tile. The plate also has an outer annular frusto-conical portion 40 integrally connecting into the outer margin of the intermediate portion and has its outer marginal portion embedded in the surrounding floor tile.

The annular space between the intermediate portion 35 of the cover and the drain cap 24 is filled by the mastic or tile cement as indicated at 42.

The trim drain cover may be supplied commercially to the home owner or to the floor tile installer in a condition in which it has substantially the cross section shown in Figure 2.

The mastic 42 is then applied to the drain cover in a manner substantially as illustrated. The drain cover is applied over the drain cap 24 with the central portion 35 in surface to surface contacting relation with the drain cover as illustrated. The outer annular portion 42 is then pressed downwardly to embed the same into the surrounding portions of the tile as shown. Thus, the mastic fills the entire annular space between the tile, cover 24 and cover 34. Preferably, the tile is heated with a torch or otherwise around the opening 32 so that the outer portion of the cover may be forced into the material of the tile without undue effort.

The drain cap 24, which is usually of cast iron, is retained in the assembly since it serves as a support for the light gage aluminum cover 34.

It is, of course, possible to secure the trim drain cover 34 in place over the drain cap 24 by means other than the mastic or tile cement specified above. Thus, the trim drain cover could be held in place by bolts extending through it and also through the cast iron cover 24 into the existing tapped holes in the drain pipe. Alternatively, expansion or Molly type bolts may be provided extending through the fluid passages in the trim cover and the cast iron cover to hold the trim cover in place, or spring clips could be used in place of the expansion bolts. Each of these three methods could be used if the trim cover were designed to suit one specific type of cast iron cover.

However, each of these three methods has its limitations since there are many variations in the cast iron covers now in use. Some have one hole and some two for receiving the securing bolts and others have no holes at all, being secured in place by other means. Furthermore, the fluid passages are of varying shapes and arrangements. Mastic or tile cement is believed to be the most satisfactory way of attaching the trim drain cover. First of all, it is universal in its application, that is, it can be applied to any design of cast iron cover. Secondly, the mastic creates a seal at the edge of the tile to prevent water seepage under the tile. Thirdly, the mastic compensates for minor unevenness in the floor and creates a firm seat for the trim cover.

What I claim as my invention is:

1. In combination, a floor having a drain opening, a perforated drain cap covering said opening with the top surface of said drain cap substantially flush with the

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top surface of said floor, a layer of floor tile laid over the top surface of said floor and cut to provide an opening closely surrounding said drain cap, a trim drain cover comprising a relatively thin plate having a flat central portion formed with perforations, said central portion overlying said drain cap in surface-to-surface contact with the top surface of said drain cap and with the perforations in said central portion registering with the perforations in said drain cap, said central portion being completely surrounded by the opening in said floor tile, said plate having an annular portion surrounding and integrally connecting into the margin of said central portion, said annular portion being of downwardly opening concavo-convex configuration and extending over the edge of the floor tile defining the opening therein and having its outer edge embedded in said floor tile with the top surface of said annular portion at its outer edge substantially flush with the top surface of said floor tile.

2. In combination, a floor having a drain opening, a perforated drain cap covering said opening with the top surface of said drain cap substantially flush with the top surface of said floor, a layer of floor tile laid over the top surface of said floor and cut to provide an opening closely surrounding said drain cap, a trim drain cover comprising a relatively thin plate having a flat central portion overlying said drain cap in surface-to-surface contact with the top surface of said drain cap and with the perforations in said central portion registering with the perforations in said drain cap, said central portion being completely surrounded by the opening in said floor tile, said plate having an intermediate annular inverted frusto-conical portion integrally connecting into the outer margin of said central portion and having its outer margin disposed sufficiently above and beyond said central portion to substantially overlie the edge of the tile defining the opening therein, and an outer annular frusto-conical portion integrally connecting into the outer margin of said intermediate portion and having its outer edge embedded in said floor tile with the top surface of said outer annular portion at its outer edge substantially flush with the top surface of said floor tile.

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3. In combination, a floor having a drain opening, a flat circular perforated drain cap covering said opening with the top surface of said drain cap substantially flush with the top surface of said floor, a layer of floor tile laid over the top surface of said floor and cut to provide a circular opening closely surrounding said drain cap, a trim drain cover comprising a relatively thin plate having a flat central circular portion formed with perforations, said central portion overlying said drain cap in surface-to-surface contact with the top surface of said drain cap and with the perforations in said central portion registering with the perforations in said drain cap, said central portion being of smaller diameter than said drain cap and centrally disposed relative thereto, said plate having an intermediate annular inverted frusto-conical portion integrally connecting into the outer margin of said central portion and extending laterally outwardly and upwardly from said central portion in spaced relation to said drain cap, the outer margin of said intermediate portion being disposed sufficiently above and beyond said central portion to overlie the edge of the tile defining the opening therein, said plate having an outer annular frusto-conical portion integrally connecting into the outer margin of said intermediate portion and having its outer edge embedded in said floor tile with the top surface of said outer annular portion at its outer edge substantially flush with the top surface of said floor tile, and a sealing compound completely filling the annular space between said intermediate portion, said drain cap and the edge of said floor tile defining the opening therein to prevent water seepage under said floor tile.

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