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SAFETY REPLACEMENT COVER FOR CATCH BASINS

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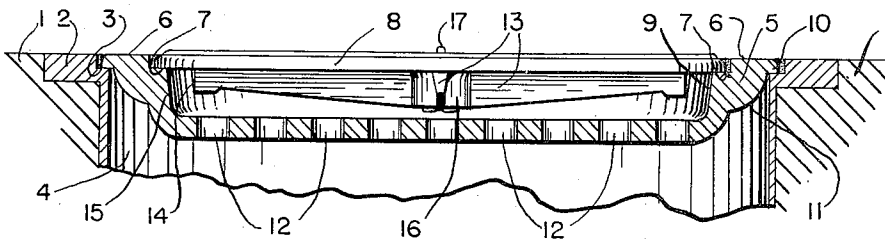


FIG. 1.

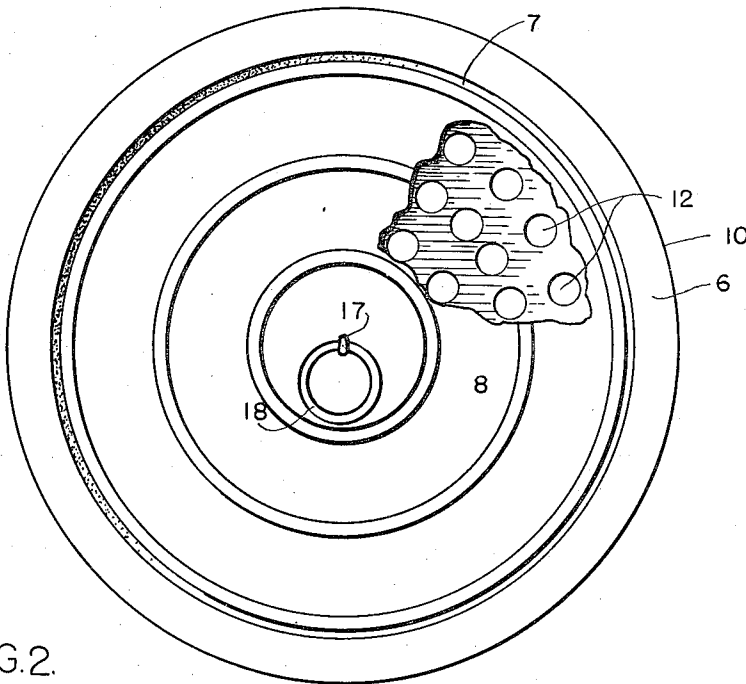


FIG. 2.

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SAFETY REPLACEMENT COVER FOR
CATCH BASINS

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1 Claim. (Cl. 182-31)

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This invention relates to safety means and has special reference to a replacement catch basin cover unit for use particularly in homes and other places where the common catch basin and cover present a constant hazard.

It is well known that catch basins are a constant source of fear in homes and other buildings, where there is much traffic in the basement in the vicinity of the catch basin. This is especially so where children are present, and in places where regular work is done, such as the weekly laundry or the like. This fear is due to the fact that catch basins are ordinarily quite deep and have only a flat disc-like metal cover thereon. Unless the cover is seated perfectly over the opening, a person who may step on the cover may suffer a serious accident, such as breaking a leg, or will at least suffer either sprained ligaments, cuts, or bruises, to say nothing of the shock which may result. In cases where the injured person is a renter, the landlord is likely to be sued for damages and thus will suffer financial loss on his property.

It is my principal object to provide an auxiliary, or replacement, catch basin cover, which will insure against any serious accidents happening due to an unsafe catch basin.

Another object is to provide a replacement catch basin cover which may be manufactured in standard sizes to be used to replace standard sized catch basin covers.

Another object is to provide a safety tray in my replacement cover unit which will bias itself to a firm seat on the rim of the catch basin and thereby eliminate one of the most common hazards in catch basin covers, to wit: that of the cover being seemingly properly seated but actually not so seated.

Another object is to provide a replacement cover with a dish-like, reticulate tray which will provide adequate drainage into the catch basin, and will provide for absolute safety against anyone being injured due to stepping into a catch basin; and also to provide a cover for the tray which will adequately close the mouth of the reticulate tray when the catch basin is not in active use.

A further object is to provide a safe and efficient catch basin cover in as simple and inexpensive a manner as possible.

These and other objects and advantages will become more apparent as the description of the invention proceeds.

In the accompanying drawing forming a part of this application:

Fig. 1 is a vertical central sectional view of a catch basin having my replacement cover unit installed therein, the cover member of my replacement unit being shown in elevation.

Fig. 2 is a top plan view of my replacement unit with parts broken away to show the reticulate construction of the tray portion.

In the drawing, the reference numeral 1 indicates a portion of a floor which has a rim 2 installed therein which provides a seat 3 for the usual cover (not shown) of a catch basin 4.

The cover which is usually used for a catch basin is merely a circular flat disc which is of a diameter substantially equal to the diameter of the seat 3, and this disc is of a thickness so that when placed on the seat, it forms a substantially continuous surface with the floor surrounding the catch basin. Due to the relatively small area provided as a seat for the cover disc it is sometimes difficult to seat the disc properly. Unless this disc is perfectly seated, a great hazard is present. In some cases where the cover disc is not quite perfectly seated, but seemingly is so seated, when a person steps on one side of the cover it slips out from under foot and allows the foot to travel down into the catch basin, the dangers in which are clearly apparent.

My replacement cover includes a tray member 5 which is preferably circular as most catch basins are circular. The tray's diameter is substantially equal to that of the greatest diameter of the seat 3, and the thickness of the outer rim 6 is preferably substantially equal to the depth of the seat 3, thus providing for a substantial form fit of the tray in the seat 3 as shown.

On the inner edge of the rim 6 a seat 7 is provided for the cover member 8 of my replacement unit, and from the inner edge of the seat 7, the tray member dips downwardly as at 9 to form a shallow tray, the bottom of which is preferably not more than one inch below the upper face of the rim 6 and floor 1. This feature insures against anyone being injured by stepping into the catch basin, as a one inch drop is not sufficient to result in any serious accident.

As seen in the drawing, the outer edge of the rim 6 provides a flange or ledge 10 which rests on the seat 3 to support the replacement unit in its desired position. From the ledge or flange 10, an arcuate annulus 11 is provided which is preferably substantially quarter round. This annulus 11 is one of the features of my invention which provides for maximum safety. With the construction here shown, it will be seen that when the replacement unit is placed over the catch

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basin, the annulus 11 will not provide a seat for the unit and will not cause any obstruction to the movement of the cover as it is being installed by sliding it over the open catch basin or manhole opening. Therefore the unit will slip readily over the catch basin opening and the depending tray or dish portion will drop smoothly into place and the flange will engage the seat 3 firmly all around. The annulus 11 assures the centering of the unit over the catch basin, and the depth of the tray will insure that the unit can not rest on the catch basin rim improperly without the unit standing materially above the floor level.

It will be apparent to those skilled in the art that the center of gravity of the tray will be materially below the seat 3 and this will aid materially in maintaining the proper setting of the unit on the catch basin as well as assist in properly seating the unit initially. In addition, it will be impossible for the tray portion of my unit to slip out of place on its seat due to someone's stepping on any portion thereof, thus eliminating the most dangerous hazard of catch basin and manhole covers, to wit: that of having a cover seemingly seated properly when it actually is not so seated.

The bottom of the tray is provided with a plurality of perforations 12 (they being here shown as enlarged, proportionately, to what they are in actual practice) that insure ample drainage capacity and at the same time act as a strainer to prevent large objects from going into the catch basin and clog the drain.

The cover member 8 of my replacement unit is provided with a plurality of preferably radial reinforcing ribs 13 on the under side thereof which extend to within a relatively short distance from the bottom of the tray as shown, so that if the cover 8 should be improperly seated, a person stepping on same will experience but a very slight lowering of the foot as the ribs will engage the bottom of the tray and thus the drop will be less than one-half inch with the construction here shown.

The outer edges of the ribs 13 are preferably substantially vertically disposed as at 14 and these vertical edges insure against the cover 8 sliding out from under foot as they will engage the side walls 15 of the tray and stop the sliding of the cover 8.

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The ribs 13 are joined at the center of the cover by a hub 16, and an axial hole extends through the cover and hub to receive a cotter key 17 or the like by means of which the ring 18 is installed on the cover to permit its being handled easily and conveniently.

From the above it is deemed apparent that I have provided a novel cover replacement unit for catch basins which insures maximum safety without impairing the operation of the catch basin but rather improving same by providing a strainer in addition to the safety features.

Having thus described my invention what I claim is:

As a new article of manufacture, a safety replacement cover unit for catch basins having a cover seat, said unit comprising a shallow open tray having an outer rim and a reticulate bottom, a flange around the upper peripheral edge of said rim to engage said seat and support said tray with a major portion thereof below said seat, a substantially quarter round annulus on the outer edge of said cover and extending from the inner edge of said flange inwardly and downwardly to insure proper seating of said tray in said basin, an annular seat formed on the inner edge of said rim, said last mentioned seat being formed in substantial horizontal alinement with and adjacent said flange, a circular cover for said tray, said cover being seated on said last mentioned seat, said cover being in substantial horizontal alinement with said rim, a plurality of radial ribs on the under side of said cover, said ribs having substantially vertical ends to provide stops to prevent the slipping of said cover off said tray.

OSCAR WALTER NELSON.

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