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2,832,081

WASTE CONTROL FACE PLATE ASSEMBLY

Filed May 11, 1954

2 Sheets-Sheet 1

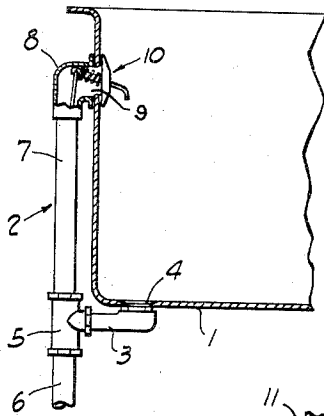


FIG. 1

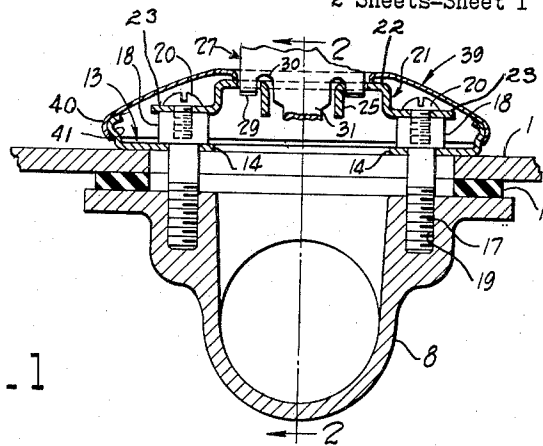


FIG. 4

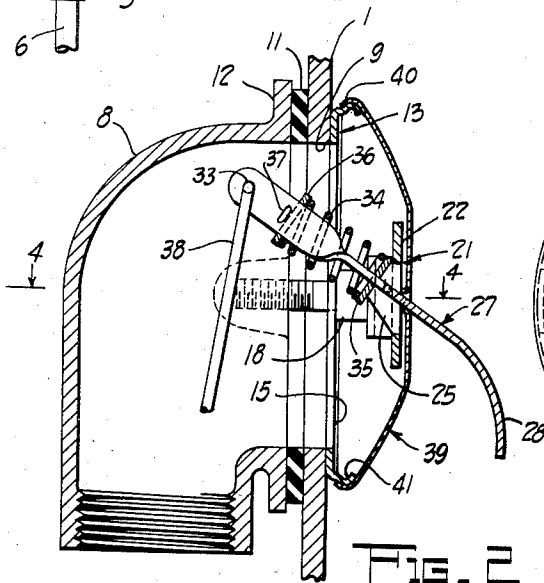


FIG. 2

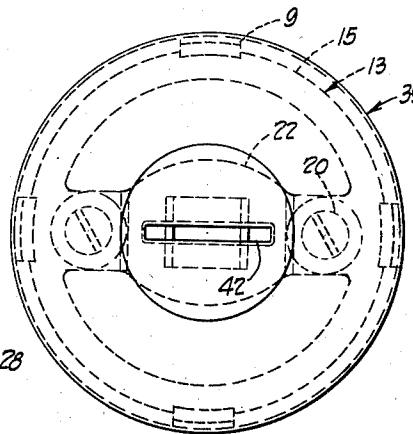


FIG. 3

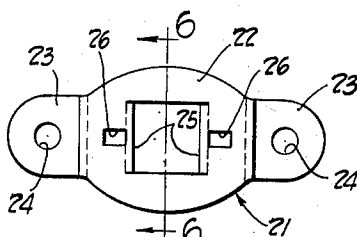


FIG. 5

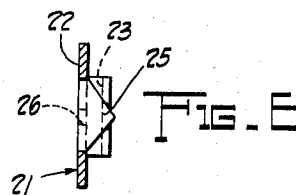


FIG. 6

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2 Sheets-Sheet 2

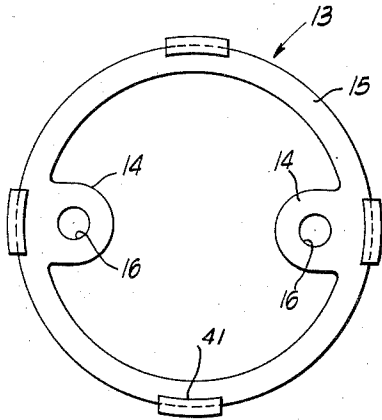


FIG. 7

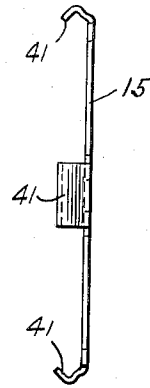


FIG. 8

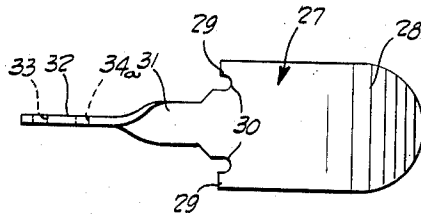


FIG. 9

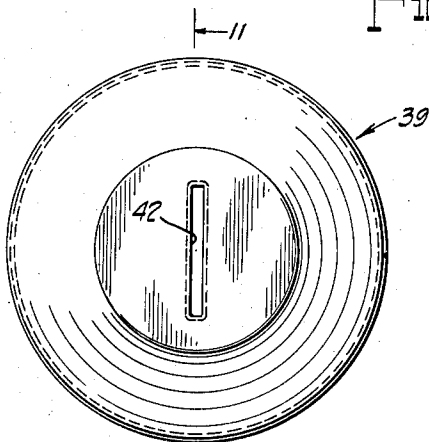


FIG. 10

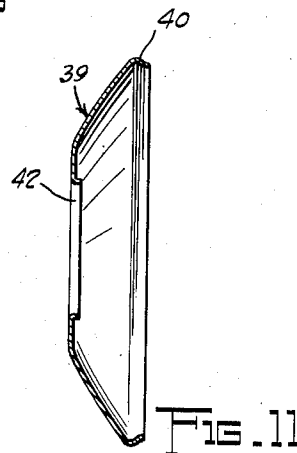


FIG. 11

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WASTE CONTROL FACE PLATE ASSEMBLY

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4 Claims. (Cl. 4—199)

This invention relates to bath drains and more particularly to what is known as the overflow face plate structure therefor.

Bath drains presently in use are commonly of two general types, involving a trip lever arrangement and the simple stopper for control of drainage of the tub in which the same may be installed. In both cases overflow of the tub must be prevented by providing an overflow head and arm connected to the tub near the top thereof, whereby when the water reaches a certain height the same will drain through the head and arm.

In the above arrangements the face plates are decorative and functional parts of the drain, covering the opening in the head, and in the case of the trip lever, providing for the mounting and accessible operation of the lever or control member for regulation of the flow through the usual drain opening, the same effecting manipulation of parts mounted in the overflow or drain arm.

In such previous structures, the face plates have been formed of castings usually and fastened to the head by means of machine screws visible and accessible from within the tub.

The present invention generally contemplates a new approach to such arrangements, since it eliminates several problems and enables use of less expensive materials, not only to fabricate, but also to finish and assemble in place on the tub.

It is therefore a principal object of the invention to provide a control and cover unit for a bath drain which may be formed entirely of metal stampings and readily assembled and disassembled.

A further object of the invention is to provide a bath drain control and cover unit, whereby the cover part of the unit may be positioned and maintained in place by suitable gripping means, whereby emplacement and removal of the same is simply effected.

A still further object of the invention is to provide a control and cover unit which includes control parts separate from the cover unit, whereby assembly is simplified and the cover part may be removed or replaced without affecting the control parts.

Another object of the invention is to provide a cover member which interengages with a suitable lock plate availed of to maintain the overflow head in place, without the use of screws or the like normally required for such purpose.

A further object of the invention is to provide a control unit which includes the desirable positioning features of the conventional lever member, and the unit as a whole may be mounted with respect to the overflow head prior to attachment of the cover, in contrast to the usual requirements of prior devices, wherein the control portion and cover member were formed in a single unit and of necessity were removed and replaced as such a unit.

Other and further objects of the invention will be understood from a consideration of the specification appended hereto, and shown in the drawings wherein:

Figure 1 is a somewhat diagrammatic illustration show-

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ing the conventional type of tub, with the trip lever type of bath drain mounted thereon, many of the details being omitted.

Figure 2 is an enlarged sectional view showing an overflow head and the device of this invention as being mounted on a tub, certain of the parts being illustrated fragmentarily.

Figure 3 is a front view of the device shown in Figure 2, certain of the parts being omitted and showing the relationship of other of the various parts.

Figure 4 is a transverse sectional view taken about on the line 4—4 of Figure 2, showing the relationship of certain of the parts.

Figure 5 is a plan view of the rocker plate used in the assembly.

Figure 6 is a view taken about on the line 6—6 of Figure 5.

Figure 7 is a plan view showing the lock plate, availed of for assembling the overflow head to the usual tub.

Figure 8 is a side view of the lock plate shown in Figure 7.

Figure 9 is a top plan view of the handle availed of, showing the configuration of the same.

Figure 10 is a plan view of the face plate used in the unit.

Figure 11 is a sectional view taken about on the line 11—11 of Figure 10.

Referring initially to Figure 1, the same generally illustrates, somewhat diagrammatically, a portion of a tub generally designated 1, the same shown as having mounted thereon a generally conventional trip lever bath drain designated 2, the same comprising a waste arm 3 connected at the bottom of the tub by means of the usual plug 4. The waste arm is in turn mounted in conjunction with a waste T 5, the same being conventional, the waste T in turn delivering water from the tub to the drain outlet 6.

Above the waste T 5 is the overflow arm 7, the same being connected to the T and at its upper end to the overflow head designated 8. The overflow head 8 is mounted so as to be in alignment with an opening 9, the same being formed in the tub, and in this instance shown as having engaged therewith the face plate assembly generally designated 10 to be more particularly described hereinafter and shown in the other figures in the drawings.

Referring now to Figures 2, 4, and 5 initially, the overflow head 8 is shown in enlarged detail, as being mounted in alignment with the opening 9 in the tub 1, the said overflow head being provided with a suitable rubber washer or gasket 11, between the flange 12 of the overflow head 8, and the outer surface of the tub 1.

As will be seen in Figure 4, the overflow head 8 is maintained in position at the opening 9, by means of a lock plate 13, shown in greater detail in Figures 7 and 8, the said lock plate being equipped with inwardly extending ears 14, and the body of the lock plate being of ring-like configuration as shown at 15 in Figure 7. The ears 14 of the lock plate are provided with suitable openings 16 adapted to receive the screws 17 therethrough, the screws 17 having the enlarged head sections 18 thereon, the threaded portion 17a being obviously engageable with and entered in the corresponding sections in the head 8 the said sections being threaded openings 19 as usually provided.

The enlarged heads 18 of the screws 17, are in turn interiorly threaded so as to receive machine screws such as 20 therein, the machine screws 20 in turn providing for the mounting of a rocker plate 21, shown in greater detail in Figures 5 and 6.

The rocker plate 21, includes a body section 22, and offset therefrom and integral therewith with laterally

extending ears 23 at opposite sides, the ears 23 in turn being equipped with suitable screw receiving openings 24, the said openings 24 being obviously to receive the screws 20 previously mentioned.

At the central portion of the body 22, it is provided with the triangular shaped cam members 25, the same being pressed out of the center portion of the body 22 so as to lie in the positions shown in Figure 6, the same being at substantially right angles to the body portion 22 as will be understood, the same being also shown in Figure 4.

At opposite sides of the opening formed by pressing out the triangular cam members 25, are rectangular openings 26, which are adapted to receive and support the handle member designated 27, and shown in Figure 2 and Figure 9.

The handle member 27, as seen in Figure 9 is provided with a section 28, which section is intended to be grasped by the hand of the person using the bath drain, as seen in Figure 2, the said handle 27 being further equipped with ears 29, which enter the openings 26 previously referred to, and notches 30 which bear against the portions of the body 22 at the base of the cam members 25 as seen in Figure 4. The handle 27 is further provided with an extension 31, integral therewith and being twisted so as to lie in the position shown in Figure 9, there being provided at the twisted section 32 suitable openings 33 and 34a as seen in Figure 9.

Further referring to Figure 2, it will be seen that the handle 27 is intended to be equipped when in place on the rocker plate 21, with a spring 34, the spring 34 surrounding the extension 31 of the handle, a suitable washer 35 being mounted adjacent the cam members 25, and a further washer 36 being at the opposite end of the spring and maintained in position on the handle by means of a suitable cotter pin 37 inserted in opening 34a of the handle section 32. The opening 33 of the handle is intended to receive and operate a lift wire 38 in the conventional manner. It will be understood of course that the lift wire 38 extends downwardly in the overflow arm 7 to operate the part for shutting off the water flow through the plug 4 from the bottom of the tub, all the usual provisions being made and not here described since they are well known.

It should be probably explained at this point that manipulation of the handle 27 may be accomplished in a substantially vertical or up and down direction, so that the handle is maintained in either the full up position or the full down position by an engagement of the washer 35 with the respective surfaces of the cam members 25 so as to make the flow of water from the tub possible or to prevent the flow as may be desired by manipulation of the handle into the other position from that shown in Figure 2. In other words by pushing downward on the handle 27, the water may be permitted to flow from the tub and conversely by raising the handle into a position at substantially 90 degrees from that shown in Figure 2, the water may be shut off from such flow.

All of the foregoing, provides for operation of the unit, the rocker plate 21 being susceptible of being mounted and operating the device without any further parts being necessary. However the opening in the tub which is present with only the parts thus far being described being in place, is unsightly and it is desirable to close the same in a suitable manner. Therefore reverting to Figures 2, 10, and 11, a suitable cover plate generally designated 39 is provided, and adapted to be mounted in place on the lock plate by reason of the peculiar formation of the said cover plate 39, as having in this instance at its outer periphery an inwardly turned skirt 40, the said skirt 40 being adapted to engage suitable resilient cover engaging elements 41, formed integrally with the ring member 15 of the lock plate 13. In this particular instance four of these members 41 are provided, the

same being formed so as to permit the cover plate 39 to be snapped thereover for maintaining the cover plate in place. By the same token of course the cover plate 39 may be removed in any suitable manner by inserting a screw driver or other implement between the edge of the same and the tub as will be understood.

Centrally of the cover plate 39, is an elongated opening 42, the same being formed by piercing and forcing the material slightly inwardly, and of suitable size so as to enable the cover plate to be slipped over the handle 27 and thus thereafter engaged with the elements 41 as shown in Figure 2. The opening 42 is close enough to the rocker plate 21, to permit movement of the handle into the various positions required either upwardly or downwardly as for example shown in Figure 2.

As will be clear from the foregoing description, the various parts of the device described, may all be formed of stampings and thus of suitable material to carry out their intended purpose. For example the cover plate 39 may be made of stainless steel or the like and of relatively thin construction so as to have a certain amount of resiliency and yet be rigid enough to withstand the usual treatment. Additionally, the other parts may be formed of brass or stainless steel as the case may be, all of the foregoing being in contrast to the usual type of cover and control unit which is presently provided, since such previous devices have resorted to castings, of brass which are expensive to not only form but finish as well. If stainless steel be used, obviously finishing of the same is readily accomplished, and further it is not necessary to assemble the cover plate 39 in place until all of the work of installing the bath tub has been accomplished, thus saving the finish thereof and similarly preventing damage during such installation or other type of work. Accessibility of the various parts is also obvious and operation of the same may be effected in a manner similar to that of presently known bath drains of this type. Also it will be clear that where no control unit is necessary, the cover plate 39 may be simply a round plate having the interengaging parts and still provide for drainage of the overflow of the tub if necessary.

I claim:

1. In a bath drain of the class described, in combination with an overflow head, a rocker plate secured to said head, said rocker plate having a relatively large central aperture having a pair of parallel edges and a pair of parallel cam members extending normal to said rocker plate and carried thereby, one cam member at each side of said aperture, an opening adjacent each cam member to provide fulcrum edges, a handle lever protruding through said aperture having ears protruding into respective openings, said ears serving as a rocking support for said handle with respect to said rocker plate and having fulcrum bearing on the fulcrum edges of respective openings, and resilient means carried by said handle lever and co-acting with said cam members to hold said handle lever in a selected position.

2. The combination as claimed in claim 1, including a lock plate intermediate said rocker plate and said overflow head, and having a central aperture through which the lever handle extends, said lock plate having a pair of ears in the general plane of said aperture, bolts passing through said ears and into said overflow head to secure said lock plate thereto, said rocker plate being in turn secured with respect to said lock plate by fastenings engaging said bolts, and a cover plate covering said rocker plate and lock plate and removably secured in place thereover, said cover plate having a handle lever opening therethrough.

3. The combination as claimed in claim 1, wherein a cover plate is provided for covering the rocker plate and lock plate, said lock plate having off-standing elements for attaching the cover plate thereto and said cover plate having a skirt portion for inter-engaging said elements,

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said cover plate further having an opening through which the handle lever extends, said cover plate being non-rotatably positioned thereby.

4. The combination as claimed in claim 1, wherein the handle is provided with a broad flat portion for manipulation and a narrow portion for connection to operating mechanism of the drain, said narrow portion facilitating mounting thereof through the central aperture and being twisted intermediate its end and its juncture with the broad portion so as to lie at 90° to the said broad portion.

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