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OVERFLOW DRAIN LOCK PLATE

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

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This invention relates to plumbing fixtures and particularly to what are known generally as bath drains. Furthermore, this invention is concerned with facilitating the installation of bath drains, so as to connect the overflow head thereof with the overflow opening of a bathtub or similar plumbing or water containing tub.

Therefore, in the art, where a bathtub is built in, as is most generally the case in building construction for residential purposes nowadays, it has often been very difficult for a plumber to properly align and maintain a bath drain in alignment with regard to the overflow opening in the tub, without having an assistant at one side of the wall and being able to manipulate the head thereof, so as to be aligned with the opening in the tub and fastenings entered in said tub opening to maintain the overflow head in position.

As is suggested by the foregoing, an improvement which will facilitate the installation of a bath drain of the class described, without the necessity for having two men on the job, but even more specifically of speeding up the installation so as to enable faster production by a plumber, will obviously be a desirable improvement, and such is contemplated hereby.

With the foregoing in mind therefore it is a principal object of this invention to provide a bath drain structure in which the overflow head is susceptible of being connected to the overflow opening of a tub in such a manner that will facilitate the connecting of the overflow head with the tub, and rapidly permitting the finish trim to be installed thereon.

It is a further object of this invention to provide overflow head structure involving a lock plate, of special construction which will facilitate the installation of a bath drain in the manner hereinafore outlined, without necessitating special tools or special rigs which are devised by plumbers under some circumstances.

It is yet another object of this invention to provide a special lock plate construction which will facilitate emplacing the lock plate on the overflow head in conjunction with the screws thereof, whereby subsequent manipulation may be effected without requiring that the plumber change positions once the head is aligned with the opening and will permit him to install the lock plate and thus position the head in the opening with a minimum amount of difficulty.

It is a still further object of this invention to provide a lock plate of novel form which in conjunction with a novel form of face plate will enable the installation and removal of such face plate or like member easily and rapidly without tools being required.

Another object of this invention is to provide lock plate construction in conjunction with that of the face plate whereby it is feasible to connect the face plate to the lock plate and thus cover the opening for overflow without the use of screws or other noticeable fastenings, as well as simplifying the installation of such overflow plate.

Other and further objects of the invention will be understood from a consideration of the specification appended hereto and disclosed in the drawing wherein:

FIGURE 1 is a fragmentary view partly in section and partly in elevation illustrating a generally conventional bath drain installed in a tub with the usual operating elements of the same to the tub with the mounting of the lock plate and face plate likewise disclosed.

FIGURE 2 is a transverse sectional view taken about on the line 3—3 of FIGURE 2 looking in the direction of the screws.

FIGURE 4 is a plan view of a lock plate according to this invention.

FIGURE 5 is the rear view of a face plate with the special connecting means provided by this invention.

FIGURE 6 is a fragmentary view illustrating the interlocking of the lock plate and face plate or overflow plate.

Referring now to FIGURE 1, the tub 1 is shown as having installed thereon a generally conventional bath drain 2, the generally conventional bath drain 2 including the drain arm 3, the usual T 4, the overflow arm 5 with the overflow head 6 supported at the end thereof, the overflow head being in alignment with the tub opening 7 and a face plate 8 being shown in position with operating devices for a trip lever drain indicated by the handle 9.

Referring now to FIGURE 2, the overflow head 6 is shown as threadedly engaged at 10 to the upper end of the overflow pipe 5, the bathtub wall 11 shown with the opening 17 therein being in alignment with the extending opening 12 of the overflow head, a suitable rubber gasket 13 being provided as is usually the case in the rear of the wall 11.

The lock plate generally designated 14 and more particularly illustrated in FIGURE 4 is shown in position in FIGURE 2, the FIGURE 4 disclosure indicating a ring-like member 15 at opposite portions thereof and extending inwardly there being furnished the ears 16 and 17, said ears being provided with suitable screw receiving openings or slots 18 and 19 respectively, these slots 18 and 19 are arranged to slip over and downwardly on lock plate screws 20 and 21 respectively, as shown in FIGURES 2 and 3, the screws 20 and 21 being equipped with the portions such as 23 of threaded nature as indicated in FIGURE 2, being engaged in a suitably formed boss 24, there being such a boss at each of the opposite sides of the head 6, to receive the threaded portions such as 23.

The screw 21 will further be equipped with an engaged head 25 which is in turn furnished with internal threads 27 therein, adapted to receive screw such as 29, entered in suitable openings in the face plate 8 previously mentioned, said face plate 8 being furnished primarily to provide a covering for the drain opening generally but being equipped at its lower portion such as indicated at 31 with suitable slots to permit water to flow upwardly therefrom and over and thence downwardly in the overflow head in the event the tub is filled overly full with water.

The face plate 8 of course will be provided with a pair of screw openings through which screws such as 29 may be inserted and engaged with corresponding sections 25 of the lock plate screws 21 or the like to maintain the face plate 8 in its position as previously suggested, facilitating removal of the face plate where necessary.

It is also noted that this face plate may be formed with a suitable opening and suitable handle such as 9 to permit the use of the drain as a trip lever drain, all as well known in the art and forming no part of this invention.

Reverting now to FIGURE 4, the lock plate 14 is further shown as having in the ring-like member 15 suitable coupling lugs such as 33 and 34, being identical and extending inwardly toward each other on opposite ends of a diameter, being formed with suitable coupling arms 35 and 36 respectively which are adapted to engage with suitable arms formed on a modified form of face plate 38, being of the same general configuration as the face plate 8 previously mentioned, but having inwardly the mating lugs 39 and 40, these being equipped with offset arms 41 and 42 respectively.
As will be understood from a consideration of FIGURE 6, in this modified form of connection of the face plate, the coupling lug such as 33 of the lock plate 14 will interengage with the corresponding mating lug 39 by reason of the position of the arms of the respective parts indicated and described before at 35 and 41 respectively.

In order to facilitate connection of the face plate, the arms and lugs will be rotated slightly so as to be moved into position whereupon further rotation in the opposite direction will cause the inter-engagement of the arms and lugs in the manner illustrated in FIGURE 6, whereby the face plate 38 is maintained in position with regard to the lock plate without the use of the screws such as 29 heretofore described.

It will thus be understood that the plumber by the simple manipulation of the face plate can inter-engage mating lugs and coupling lugs and thereby obviate the necessity to use tools in connecting the face plate in position.

In the customary use of the lock plate 14, the same will be positioned with the ears 16 and 17 behind the heads of the respective lock plate screws, the lock plate screws in turn being fastened so as to firmly position the overflow head and thereby either the face plate 8 can be fastened by the screws such as 29 or if a face plate such as 33 is provided simple rotation of the face plate in proper position will cause the inter-engagement of the respective lugs.

It will also be readily understood that by reason of the novel ear arrangement, providing screw receiving openings or slots, 18 and 19, the lock plate screws may be positioned in the head prior to positioning of the head at the opening in the tub, and thereafter the lock plate simply dropped over the screws such as 23 behind the heads such as 25 and if necessary slight tightening of the lock plate screws may be resorted to.

Alternatively of course removal of the lock plate is facilitated without the removal of the screws by simply loosening them slightly and thereby the installation of the bath drain with the elements heretofore described in detail is greatly facilitated.

I claim:

1. In a bath drain construction the combination comprising, an overflow head having fastener receiving means, a lock plate including a substantially circular body having a continuous ring-like marginal portion defining a central opening, a pair of ears on said margin extending into said central opening, means defining a fastener receiving opening in each of said ears, a plurality of coupling lugs on said margin, each of said lugs having an arm whereby said lugs and said arms extend in opposite directions over a portion of said central opening, fastener means extending through said openings in said ears interconnecting said overflow head and said lock plate, a face plate, and mating lug means interconnecting said face plate and said lock plate to retain said face plate on said lock plate.

2. The combination set forth in claim 1, wherein the arms on said coupling lugs are offset and extend partially around the inner periphery of said lock plate and are formed integrally therewith and the mating lug means extend in opposite directions from said coupling lugs partially around the face plate, said coupling and said mating lugs being interengaged.

References Cited in the file of this patent

UNITED STATES PATENTS

1,239,453 Block .................. Sept. 11, 1917
1,261,354 Stone .................. Feb. 8, 1917
1,477,478 Donahue ................ July 26, 1924
2,832,081 Young .................. Apr. 29, 1958