Jan. 6, 1942. W. C. GROENIGER 2,268,819

WASTE AND OVERFLOW VALVE

Filed May 11, 1939 2 Sheets-Sheet 1

Fig. 1.

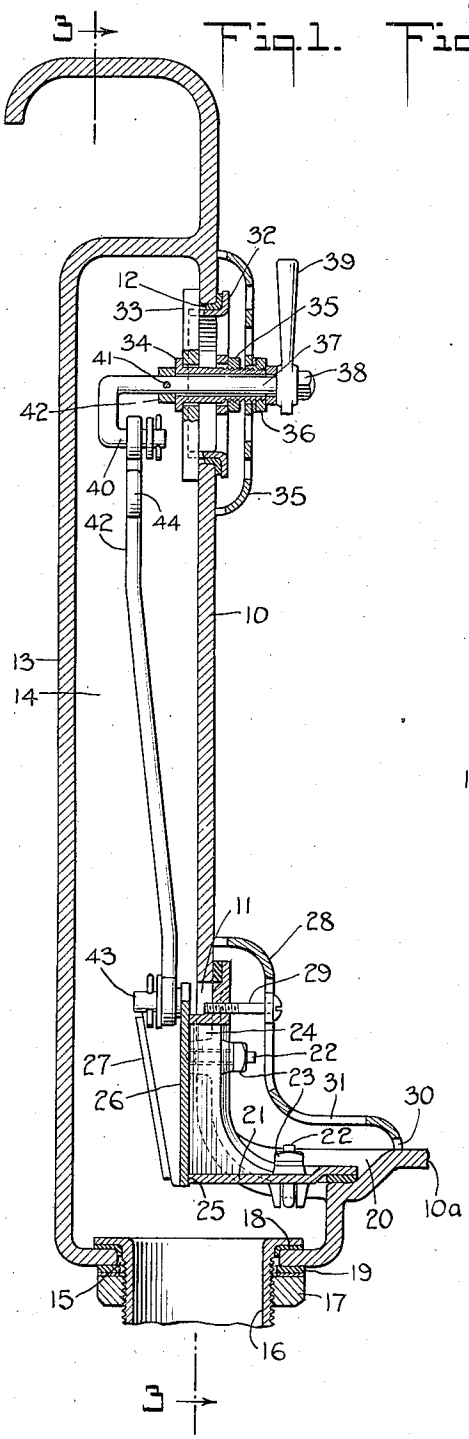
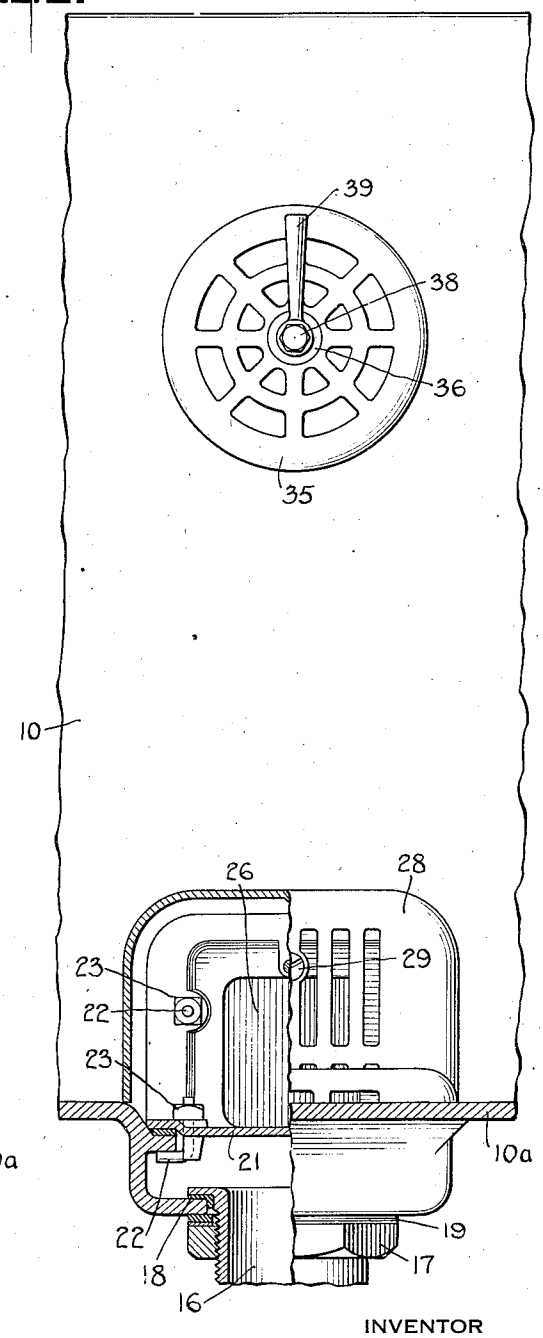


Fig. 2.



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Filed May 11, 1939 2 Sheets-Sheet 2

Fig. 3.

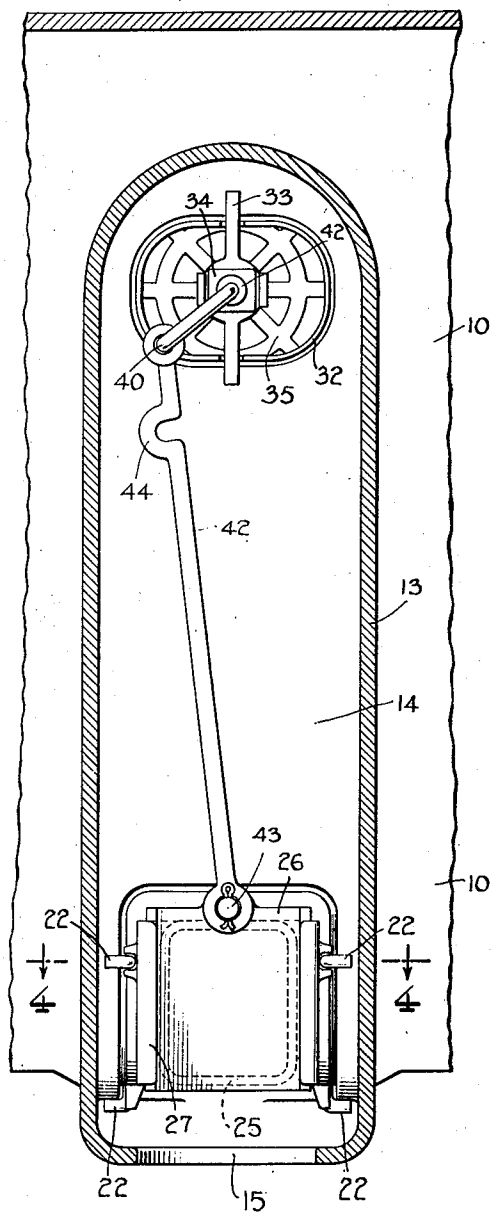
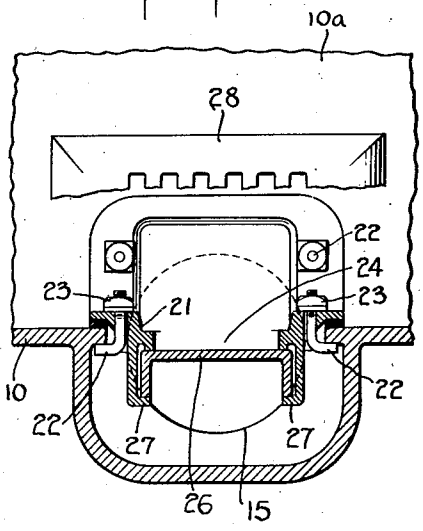


Fig. 4.



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Patented Jan. 6, 1942 2,268,819

UNITED STATES PATENT OFFICE

2,268,819

WASTE AND OVERFLOW VALVE

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Application May 11, 1939, Serial No. 272,995

1 Claim. (Cl. 4—199)

My present invention relates to waste and overflow outlets for baths, sinks, basins and the like, and more particularly to waste and overflow outlet fittings for such waste and overflow outlets.

My invention is adapted for use in connection with any receptacle for liquids in which it is desired to provide an outlet for discharging the liquid therefrom, and functions to permit the discharge of liquid from the receptacle and prevents the level of the liquid in such receptacle from rising above a predetermined height. Also the fittings to be used in connection with the waste and overflow outlet may be readily assembled and disassembled in the waste and overflow outlet fitting with a minimum of effort.

The object of my invention, therefore, is an improved waste and overflow outlet fitting for a receptacle for liquids, such as a bath tub, and to the fittings applicable therefor.

A feature of my invention is a waste and overflow outlet fitting formed as an integral part of a receptacle for liquids and the like.

A further feature of my invention is an improved waste and overflow outlet fitting formed integral with a receptacle for liquids and the like, and wherein the waste and overflow outlet openings from the container lead directly to the outlet fitting.

A still further feature of my invention is an improved waste and overflow outlet fitting for a receptacle for liquids and the like, in which the fittings therefor may be placed in position and adjusted with minimum of effort.

Other features of the invention will appear as the description thereof progresses.

In the accompanying drawings:

Fig. 1 is a sectional side elevation of the waste outlet end of a receptacle, such as a bath tub, and with which my present invention forms an integral part;

Fig. 2 is a front elevation, viewed from the inside of the receptacle, and illustrating the structure shown in Fig. 1;

Fig. 3 is a sectional side elevation, taken on the line 3—3 of Fig. 2; and

Fig. 4 is a sectional plan view taken on the line 4—4 of Fig. 3.

Referring to the drawings, 10 designates the waste outlet end of a bath tub or other receptacle 10a for liquids, such as water. Such waste outlet end has a waste outlet 11, and an overflow outlet 12, formed integral therewith and arranged at the bottom of and adjacent to the top respectively of the receptacle 10a.

Formed as an integral part of the container is a waste and overflow outlet fitting 13 forming a chamber, of which the outlet end 10 of the receptacle 10a forms a part. The waste outlet 11 and the overflow outlet 12 communicate directly with the chamber 14 and into which liquid will flow from the outlet 11, or from the overflow outlet 12 should the level of the fluid within the receptacle 10a rise too high.

Formed in the outlet fitting 13 is a passage 15 which is arranged at the lowest point thereof and has associated therewith the usual nipple 16, nut 17 and washers 18 and 19 respectively, and which in association with the nipple 16 and nut 17 serve to make a liquid-tight joint between the nipple 16 and fitting 13. Adjacent to the outlet 11, the bottom of the waste outlet end 10 of the receptacle 10a is provided with a depression 20 which acts as a means for insuring that all of the liquid within the receptacle may be withdrawn therefrom.

Associated with the waste outlet opening 11 is a valve member 21, such valve member being secured to the container 10a by bolts 22 and nuts 23, as clearly shown in Figures 1 and 2. The valve member 21 is provided with an opening or orifice 24 through which liquid may pass from the container 10a into the chamber 14. At the end of the passage 24 is formed a valve seat 25 and with which a valve 26, preferably of the shear gate type, may be brought into engagement. Formed integral with the valve member 21 are aligned guides 27 in which is slidably mounted the shear gate valve 26.

Fitting over the receptacle end of the valve member 21 is a combined screen and guard member 28, held securely in position by means of a screw 29 which engages in a threaded hole in the member 21. This combined screen and guard member 28 is provided with a plurality of the openings or passages 30, 31, etc., and it is noted that the openings or passages 30, 31, etc. are so arranged as not to obstruct the flow of liquid from the container. In other words, the combined screen and guard member permits every drop of liquid to flow out of the receptacle 10.

Associated with the overflow outlet 12 is a combined grate and bearing member 32, with which cooperates a member 33. The member 32 is in the receptacle 10a and the member 33 is located within the chamber 14. The members 32 and 33 are perforated to receive the sleeve bearing 34, threaded at its outer end to receive the nut 35 for clamping the members 32 and 33 together in adjusted position relative to the overflow out-

let opening 12. Fitting over the overflow outlet opening 12, and enclosing the member 32, is a combined guard and grate 35, secured in position by the nut 36 which screws onto the threaded end of the sleeve bearing 34.

Rotatably mounted in the sleeve bearing 34 is a shaft 37, to the outer end of which is attached, by nut 38, an operating handle 39, and the inner end thereof, that is, that portion within the chamber 14, is offset and a portion 40 of such offset lies parallel to the shaft 37. On the shaft 37, and engaging the rear end of the sleeve bearing 34, and held in position by the pin 41, is a collar 42 which prevents undue end play of the shaft 37 in the sleeve bearing 34. To the portion 40 of the offset is pivotally attached the upper end of a connecting rod 42 and the lower end of this connecting rod is pivotally attached to a shaft 43 forming part of the shear gate valve 26.

In order to insure a sufficient vertical movement of the shear gate valve 26, I have provided the connecting rod 42 with a lateral groove formed in an extension 44 which, as the shaft 37 is rotated, engages with the shaft 37 and thus permits a slightly greater rotative movement of the shaft 37 when the same is rotated to move the shear gate valve 26 upwardly, as viewed in Figures 1 and 3.

The structure above described and associated with the overflow outlet opening 12, the connecting rod 42, and the shear gate valve 26, are assembled as above described and then threaded in through the overflow outlet opening 12 into the position shown in Figure 1 after which the members 32 and 33 are clamped securely in position by the adjustment of the nut 35, and all necessary adjustments may be made without disturbing the assembly of the elements referred to.

Whereas I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of the invention.

I claim:

An improved waste and overflow outlet fitting for receptacles for liquid and in which receptacles a hollow outlet passage is arranged integral with and at the outlet end thereof, said receptacle having a waste outlet lying in its bottom and top respectively and communicating with the interior of the outlet passage, said fitting comprising a member constituting a substantially right angled closure for the waste outlet, a part of said fitting lying substantially parallel to and below the inner surface of the receptacle means for securing said member to the receptacle about the periphery of the waste outlet, a grating covering said member while permitting flow of water thereto, a passage extending through said member, a valve seat formed at the outer end of said passage and within the outlet passage, a shear gate valve mounted in said member and cooperating with the valve seat, operating means for operating the shear gate valve mounted in the overflow outlet of the receptacle, and a connecting rod extending between the operating means and the shear gate valve.

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