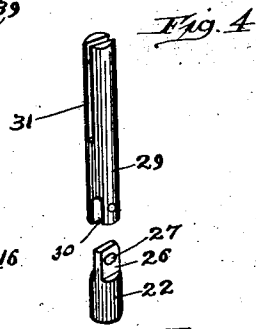
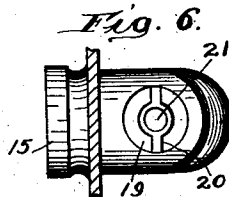
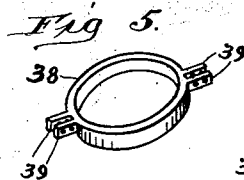
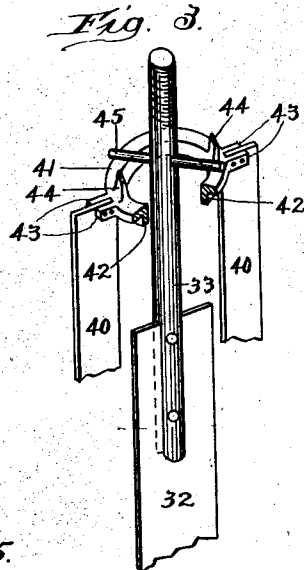
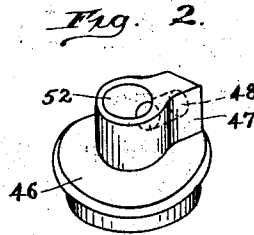
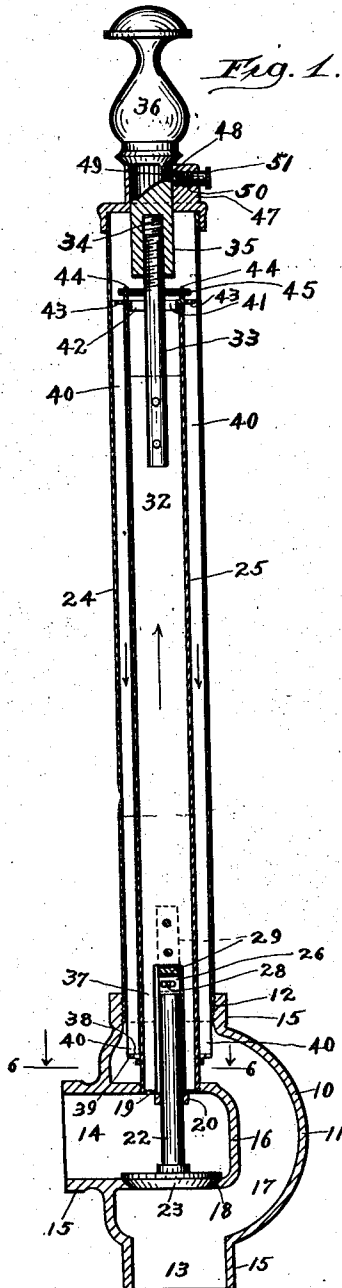


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WASTE AND OVERFLOW MECHANISM.
APPLICATION FILED MAR. 7, 1910. RENEWED JUNE 6, 1912.

1,049,795.

Patented Jan. 7, 1913.



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UNITED STATES PATENT OFFICE.

JAMES ALLINGHAM, OF CHICAGO, ILLINOIS.

WASTE AND OVERFLOW MECHANISM.

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Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed March 7, 1910, Serial No. 547,646. Renewed June 6, 1912. Serial No. 702,107.

To all whom it may concern:

Be it known that I, JAMES ALLINGHAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Waste and Overflow Mechanism, of which the following is a specification.

This invention relates to certain improvements in a mechanism for bath-tubs, lavatories, sinks, and the like, of a somewhat similar character and construction to that shown and described in Letters Patent No. 955,740, granted to me on April 19, 1910, for improvements in a valve mechanism for lavatory apparatus, and some of the objects of my present invention are similar to those set forth in the above mentioned application, but other objects and results will be attained thereby, and the objects, in part, are as follows: to provide a waste valve mechanism that will afford means whereby the construction of the vessel, in connection with which it is used, will be cheapened and rendered more sanitary, easily cleaned and symmetrical in appearance.

Another object is to provide a mechanism of the above described character which shall be attractive in appearance, simple and inexpensive in construction, durable and efficient in operation with a minimum of fouling surface, and so made as to be readily applied to a vessel and its parts easily adjusted as well as having manual means for cleaning the fouling surface without removing any of its parts.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In the accompanying drawing which serves to illustrate the invention: Figure 1, is a vertical sectional view of a waste and overflow mechanism embodying the invention, showing the valve and its operating members in their lowered positions; Fig. 2, is a detached perspective view of the cap which closes the upper portion of the outer tube of the mechanism; Fig. 3, is a fragmental perspective view of the combined means for operating the valve and cleaning the fouling surface of the tubes of the mechanism; Fig. 4, is a detached perspective view of the members of the jointed valve stem, showing said members separated; Fig. 5, is a perspective view of the collar used for connecting the cleaning bars or

blades for the outer tube at their lower ends; and Fig. 6, is a plan view partly in section, taken on line 6—6 of Fig. 1, showing the inner or overflow tube removed from the overflow opening therein.

Like numerals of reference, refer to corresponding parts throughout the different views of the drawing.

Referring now to Fig. 1 of the drawing, the reference numeral 10, designates the valve casing of the mechanism as a whole, and the same consists of a hollow casing 11, having openings 12, and 13, in its upper and lower portions respectively, as well as a horizontally disposed opening 14, located about midway between the openings 12, and 13. These openings are preferably formed in extensions 15, with which the casing is provided and said extensions may be screw-threaded or otherwise adapted to engage pipe sections or tubes for the purpose to be presently explained. Within the casing 11, is located another casing 16, between the walls of which casings is formed a by-pass 17, which communicates at its upper and lower ends with the openings 12, and 13, respectively. The inner casing 16, extends inwardly from the opening 14, of the outer casing, and has a valve-seat 18, in its lower portion and an opening 19, in its upper part, which opening is provided with a transversely disposed bar or member 20, having a central opening 21, for the reception and operation of the valve stem 22, which has a valve 23, suitably mounted on its lower end to open and close the opening or valve seat 18, in the inner casing. The extension 15, in which the opening 14, is formed is adapted to be connected by means of a pipe section (not shown) to the waste opening of a bath-tub, wash-basin, sink, or other vessel, so that the water in the vessel may pass into the inner casing 16, and it will be understood that the valve casing may be located at any suitable point with respect to the vessel, but when the device is to be used in connection with a bath-tub, the valve casing will preferably be located at one end of the tub near the bottom thereof, and usually at that end on which the faucets for the hot and cold water are located.

In the drawing, the mechanism shown, is especially intended for use in connection with a bath-tub, and it will be seen that a tube 24, of a suitable size, is fitted at its lower end in the opening 12, of the upper ex-

tension 15, and is extended upwardly to a suitable point to be about flush with the top of the bath tub. Located within the tube 24, is an inner tube 25, which has its lower end fitted in the opening 19, of the upper horizontal portion of the inner casing 16, directly above the valve-seat 18, in the lower portion of said casing. The tube 25, is somewhat smaller than the tube 24, and is extended upwardly within the latter to a suitable point near its upper end. As shown in Fig. 1, the lower portion of the valve stem 22, is extended through the opening 21, in the horizontal bar or partition 20, and has its upper end provided with a reduced portion 26, having an elongated slot 27, to receive a pin 28, used for connecting the valve stem 22, to a member 29, which has its lower portion provided with a slot 30, to receive the reduced portion 26, on the valve stem 22. The upper portion of the member 27, is also provided with a vertical slot 31, to receive a cleaning bar or blade 32, which is located in the inner tube 25, and extends from the lower end thereof upwardly to near its upper end at which portion it is connected to a rod 33, the upper portion of which is screw-threaded to engage a screw-threaded socket 34, formed in the lower portion of the shank 35, of a knob or handle 36, used for operating the valve and for cleaning the inner and outer tubes. The lower portion of the blade or bar 32, is provided with a vertical slot 37, to receive the valve stem 22, so as to provide means for slight movement of said stem, for it will be understood that as the stem 22, is loosely connected to the member 29, on the blade or bar 32, the said stem will be so supported that the valve 23, will be accurately seated, should the tubes 24, and 25, or either of them be a little out of plumb.

Surrounding the lower portion of the inner tube 25, is a collar 38, which has a pair of diametrically disposed projections 39, which are on its outer surface between which the lower ends of the cleaning blades or bars 40, are placed and secured. As shown, these blades are located between the inner and outer tubes 25, and 24, respectively, and extended upwardly to the upper portion of the inner tube. Located on the upper end of the inner tube 25, is a ring or collar 41, which has on its lower surface a downturned flange 42, to fit within the tube 25, and is provided on its outer surface with diametrically disposed projections 43, in pairs, between which are placed and secured the upper ends of the cleaning bars or blades 40, which as before stated are interposed between the inner and outer tubes. The upper portion of the ring or collar 41, is provided with a number of projections 44, to engage a pin or rod 45, extended horizontally through the rod 33, just above said ring. Fitted on the upper end of the

outer tube 24, is a vertical apertured cap 46, which has on its upper portion an enlargement 47, provided with a horizontally disposed opening 48, in which opening is movably located a head or block 49, against which rests one end of a spring 50, the other end of which rests against the screw 51, located in said opening. As shown in Fig. 1, the shank 35, of the handle 36, is extended through the aperture 52, of the enlargement 47, and cap 46, and engages the upper portion of the rod 33, on which it can be suitably adjusted by reason of its screw-threaded engagement with said rod. By employing the spring pressed block or head 49, and the screw 51, which are located in the opening 48, of the extension 47, it is apparent that when the shank of the knob is raised the said head or block will act as a brake thereon and retain it in its raised position, yet will permit it to be easily pressed downward or turned if desired. The pressure of the block or head 49, may be regulated by turning the screw 51, in the proper direction as is apparent.

From the foregoing and by reference to the drawing, it will be clearly understood and readily seen that when the valve 23, is in its closed position as shown in Fig. 1, the water from the vessel will enter the opening 14, of the valve casing, and as it rises in the vessel will pass through the opening 19, of the inner casing and up through the inner tube 25, from which when a sufficient quantity of water is admitted to the vessel, it will overflow into the tube 24, and from thence pass through the by-pass 17, and out through the discharge opening 13, which may have communication with a discharge pipe leading to any suitable point. By this construction, it is apparent that only one opening in the bottom or lower part of the vessel is necessary to take care of the waste and overflow, and that the ordinary overflow opening in the upper portion of the vessel may be dispensed with, thus rendering the vessel more attractive in appearance and saving the expense of producing the last named opening and furnishing the same with connections to carry away the overflow water. In my present construction, it is obvious that the sizes of the overflow tubes can be made much smaller than ordinarily, thus furnishing a more compact and cheaper fitting, and it will also be understood that by virtue of the by-pass feature of the mechanism, the dirty or soiled water will have access only to the inner or smaller tube, while the overflow from said tube will impinge only the surface of the outer or larger tube, thereby reducing the fouling surface to a minimum. As the means for supporting the valve is both vertically reciprocating and rotatable, it is evident that the fouling surfaces of

the tubes 24, and 25, can be readily scraped or cleaned by the blades or bars 32, and 40, and that the valve 23, may be raised from its seat and held in its raised position by means of the spring pressed head or block 49, so that the water may be discharged directly from the vessel through the inner casing 16, and from thence through the opening 13, in the valve casing. It is manifest that as the rod 33, to which the handle 36, is connected is not in continuous engagement with the collar 41, that the blade 32, within the inner tube may be raised or rotated independently of the blades 40, but when it is desired to rotate the last named blades, this can be done by turning the handle in either direction so as to cause the pin 45, to strike the projections 44, which upon further turning of the handle will cause the blades 40, to be turned in the outer tube and scrape or clean its inner surface.

From the above description, it is obvious that the device is susceptible of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts of the mechanism herein set forth in carrying out my invention in practice.

Having thus fully described my invention what I claim as new and desire to secure by Letters-Patent is—

1. In a mechanism of the class described, the combination with a casing having means to connect it in communication with a vessel and provided with a discharge opening, of a disk valve in the casing, a plurality of tubes extended above the casing and communicating therewith, a conduit communicating with the discharge opening of the casing and extended above the valve and through said tubes, means for cleaning said tubes consisting of a bar located between said tubes and another bar within the inner tube, and means for operating the valve and said means.

2. A valve of the character described, consisting of a casing, means on the casing to connect with an opening in a vessel and with a drain pipe, an inner casing formed integral with said casing, a projection on the outer casing forming a by-pass between said casings, a valve seated in the casings, a stem on the valve extended through openings in said casings, a tube rigidly secured to the inner casing and encircling said stem, a tube rigidly secured to the outer casing and encircling the inner tube and spaced apart therefrom, and manual means for operating the valve stem for opening and closing the valve.

3. A valve of the character described, consisting of a casing, means on the casing to

connect with a vessel and with a drain pipe, an inner casing formed integral with the outer casing, a projection on one side of the outer casing, a by-pass between said projection and the wall of the inner casing, said casings having openings in their upper walls, two tubes secured to and extended above said openings, a valve seated in the lower wall of the inner casing, a stem on the valve extended through and terminating above the tubes, and manual means for operating the stem.

4. A valve of the character described, consisting of an outer and inner casing formed integral with each other, a projection on one side of the outer casing, a by-pass between said projection and the inner casing, the said casings having openings in their upper walls, two tubes, one within the other, rigidly secured to said walls and extended above the casings, a valve seated in the casings, a stem on the valve extended through and terminating above the tubes, and manual means on the stem for operating the same.

5. A valve of the character described, consisting of a casing having reduced openings therein for connecting with a vessel and with a drain pipe, one of said openings having a horizontally disposed extension into the casing, said extension having an opening in its upper and lower walls, two tubes, one within the other, secured to and extended above said casing and said extension, a by-pass communicating with the tubes and with a drain pipe, a valve seated in the lower opening of said extension, a stem on the valve extended through and terminating above the tubes, and manual means for operating the stem.

6. A valve of the character described, consisting of a casing, means on the casing to connect with a vessel and with a drain pipe, a tube secured to the upper wall of said casing, a horizontally disposed extension communicating with the waste opening, the upper wall of said extension having an opening therein and an inner tube secured to and extended above said extension, a by-pass between said extension and casing communicating with said tubes and with the opening to the drain pipe, a valve seated in the lower wall of said extension, a stem on the valve extended and terminating above the tubes, and means to operate the stem.

7. A valve of the character described, consisting of a casing, means on the casing to connect with a vessel and with a drain pipe, an inner casing formed integral therewith, and communicating with the waste opening of a vessel, an extension on one side of the outer casing, the upper walls of said outer and inner casings having openings therein, two tubes secured to said walls and extended above said openings and communicating

with the inner casing, a by-pass between said inner casing and said extension communicating with the tubes and with the drain pipe opening, a disk valve seated in the lower wall of the inner casing, a stem on the valve extended into the tubes and terminating above the tubes, and manual means for operating the valve.

8. A valve of the character described, consisting of an outer and inner casing, means for connecting the same with a vessel and with a drain pipe, the upper walls of said casings having openings therein, an outer and inner tube secured to said walls and ex-

tended above said casings, a by-pass on one side and between said casings communicating with the tubes and with the drain pipe, a valve seated in the lower wall of the inner casing, a stem on the valve extended into the tubes, means on the stem for cleaning the tubes, and manual means for operating the stem for cleaning the tubes and for opening and closing the valve.

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