E. M. ROGERT.

BATH COCK.

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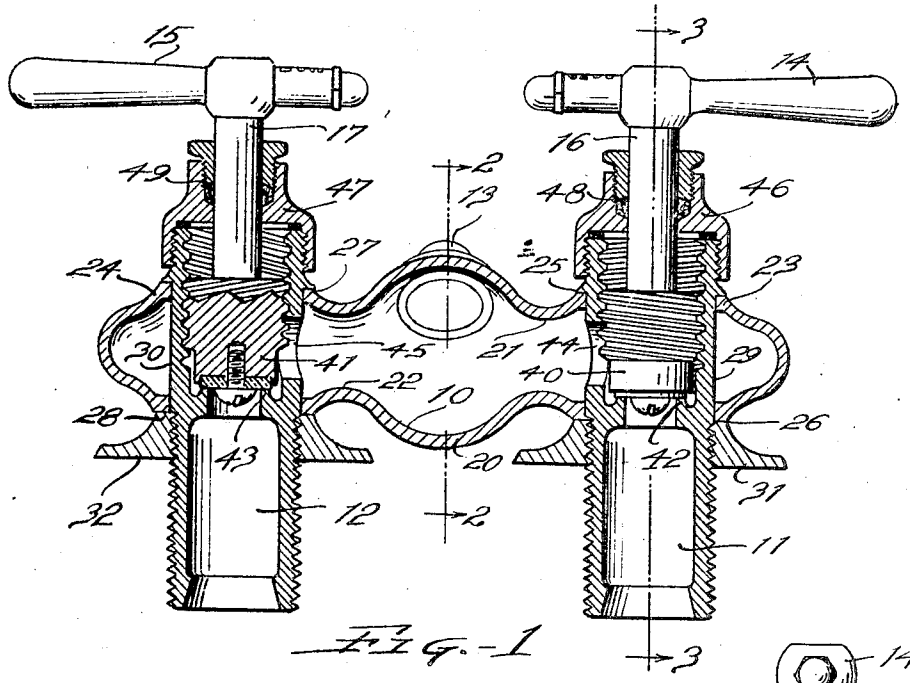


FIG. -1

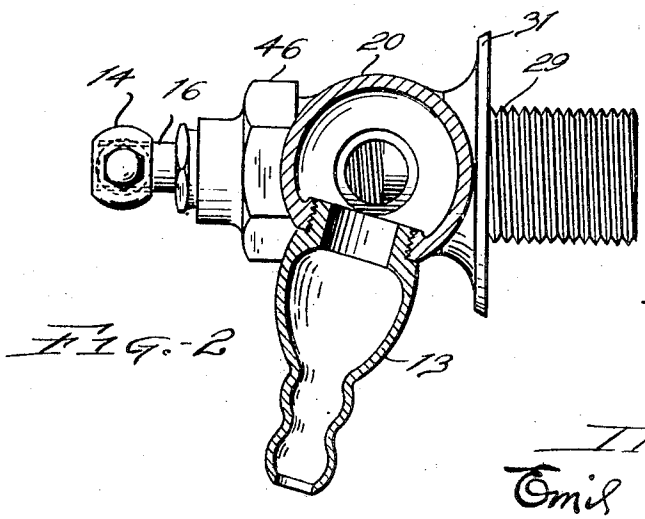


FIG. -2

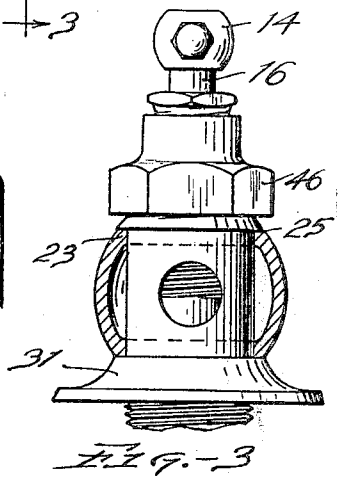


FIG. -3

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UNITED STATES PATENT OFFICE.

EMIL M. ROGERT, OF EUCLID HEIGHTS, OHIO.

BATH COCK.

Application filed September 16, 1921. Serial No. 501,096.

To all whom it may concern:

Be it known that I, EMIL M. ROGERT, a citizen of the United States, residing at Euclid Heights, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Bath Cocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to a bathing apparatus and is particularly concerned with improvements in a bath cock, wherein hot and cold water conduits are directed through a common discharge point.

One of the methods heretofore employed for constructing a bath cock has been to make the body portion integral with the flanges which engage the support, and to use this body as a guide way and seat for the valve mechanism. I have found, however, that in making the body integral with the flanges, that recesses are formed which render a polishing operation somewhat difficult, and which prevent the polishing and buffing of the body on a machine. Furthermore, in using the body as a housing for the valve mechanism, I have found that considerable loss is experienced by reason of the fact that slight imperfections in machining often necessitates a loss of the entire body.

One of the objects of my invention, therefore, is the provision of a bath cock which may be so constructed as to avoid the occurrence of corners and recesses that prevent the polishing and buffing by machine. In this connection, my invention contemplates the production of a bath cock wherein the hand polishing and buffing is reduced to a minimum and wherein the loss due to imperfections in machining the various parts is materially decreased.

A further object is the provision of a valve mechanism which is adapted to be inserted in either a bath cock or basin cock, and to be held therein without necessitating replacement of the entire body.

In carrying out my invention, I employ a one-piece body which is so arranged that it may be readily positioned on a machine, such as a lathe, and thereafter polished. Furthermore, I provide a sleeve which may be passed through the body and used as a housing to contain the valve mechanism. In addition to the body and sleeve, I provide a flange which acts as an abutment against a support and which cooperates with the sleeve to lock it to the body.

The means for accomplishing the above objects will be more fully set forth in the following description which relates to the drawings and the essential characteristics of my invention will be set forth in the claims.

In the drawings, Fig. 1 is a horizontal section taken through a bath cock, embodying features of my invention; Fig. 2 is a vertical section taken through the middle portion of the bath cock shown in Fig. 1; and Fig. 3 is a section taken on the line 3—3 in Fig. 1, and showing the valve mechanism in elevation.

In the various figures, 10 represents in general a body having provision at each end thereof for hot and cold water conduits 11 and 12 and having a common central discharge passage 13. Adjacent each of the inlet ports, I provide a valve mechanism of the plunger type each of which is operable by means of handles 14 and 15 which are secured to the plunger stems 16 and 17 respectively. The formation of the body, together with the construction of the valve mechanism, constitute the important features of my invention, and the details of the various parts will now be described.

The body 10 comprises a central enlarged portion as at 20 which is circular on every line of cross-section, and which is preferably arranged in the form of a sphere with the hot and cold water inlets diametrically opposite each other as at 21 and 22. The portions adjacent the hot and cold water conduits as at 23 and 24, respectively, are also spherical in form, except that segments are cut away on planes parallel to each other to provide bearing surfaces as at 25 and 26, and 27 and 28. The remaining portions, as shown in Fig. 3 represents a spherical zone wherein the bases constitute the bearing surfaces for the sleeves 29 and 30 and the flanges 31 and 32 respectively. By constructing the various portions of the body such that every line of cross-section normal to the axis is a circle, it follows that the body may be readily positioned on a lathe for polishing, and that the necessity for hand buffing and polishing is thereby obviated.

The valve mechanism for controlling both the hot and cold water comprises plungers 40 and 41 which may be attached to the stems 16 and 17 respectively. The valve

seats 42 and 43 are shown as being formed integrally with the sleeves 29 and 30 respectively, and are preferably positioned adjacent the discharge ports 44 and 45. In this way, fluid may pass directly from the conduits and be directed into the central portion 20 where the hot and cold fluids are thoroughly intermixed. Each of the sleeves may be also provided with a shoulder which is adapted to abut one of the bearing surfaces, as at 25 and 27 to make a water-tight seal therewith. These shoulders may be held against the body by means of flanges 31 and 32 which are shown as being in threaded engagement with that portion of the sleeve which forms simultaneously the intake conduit and the shank for attaching the faucet to respective water pipes. To lock each sleeve in position the respective flanges are turned on the threaded portion of the sleeves until they are brought into abutting engagement with the body, as on the bearing surfaces 26 and 28 respectively. In this way, the flanges may be made independently of the body and may be readily polished by positioning them on a machine.

To obtain a quick opening valve, I provide an internal thread on each sleeve which co-operates with an external thread on the plungers to move the valve the entire stroke while the handle attached to the stem is moved only a fraction of a revolution. The movement of each plunger in an outward direction is limited by caps 46 and 47 which are arranged to be threaded to the sleeves 29 and 30 respectively. Each cap provides a stuffing box indicated generally at 48 and 49, to prevent the flow of fluid along the stem positioned therein. When the plunger of either valve is brought into engagement with its respective cap, the packing in the stuffing box pertaining thereto may be readily replaced without closing the main valve.

In assembling a bath cock constructed in accordance with my invention, it is only necessary to insert the sleeves through the body until the shoulders abut the bearing surfaces 25 and 27, and then to draw the sleeves tightly against the body by means of the flanges 31 and 32 which abut the bearing surfaces 26 and 28. The plungers 40 and 41 which are fixed to the stems 16 and 17 are then fitted within the sleeves, and are held in position by means of the caps 46 and 47. When placing the bath cock on a support such as a bath tub, the sleeves are inserted through the wall of the tub until the flanges 31 and 32 abut the inner surface thereof, whereupon a lock nut may be threaded on the sleeve and be locked against the outer surface of such wall.

From the foregoing description, it will be seen that I have provided a bath cock wherein the body portion is so constructed that hand polishing and buffing is dispensed with. Furthermore, it will be seen that I have provided a valve mechanism which may be removed from the body as a unit and thereafter used on other water distribution apparatus, such as a basin cock. In this connection, my invention is adapted for the rapid production of valve parts, independently of the body, so that any imperfection caused by the machining operation does not necessitate a loss of the entire body.

Having thus described my invention, I claim:—

1. A bath cock body comprising substantially a surface of revolution wherein the generating line crosses the axis of revolution adjacent the ends of the body, whereby the body may be supported at the ends thereof in a work revolving machine.

2. A bath cock body comprising substantially a surface of revolution curved also longitudinally wherein the generating curve crosses the axis of revolution at the ends of the body whereby the ends of the body are closed, said body having oppositely disposed transverse openings near each end for receiving inlet conduits, and having a single opening adjacent the central portion for receiving a discharge conduit, and said body being adapted to be supported in a work revolving machine for polishing purposes.

3. In combination, a support, a body comprising substantially a solid of revolution having oppositely disposed flat bearing surfaces adjacent the ends thereof, and having a single flat bearing surface centrally positioned intermediate the ends, sleeves extending through the end portions of the body and abutting one of the flat surfaces, and flanges threaded on the sleeves, intermediate the body and support, and in abutting engagement with the opposite flat surface for locking the sleeves to the body, a manually operable valve in each of said sleeves, and a central discharge member in engagement with the body adjacent said central bearing surface.

4. In a device of the character described, the combination with a support, of a body having aligned openings therein, a sleeve extending through the openings and having a flange integral therewith, said flange abutting the exterior of the body adjacent one of said openings, and a removable flange in threaded engagement with the sleeve and abutting the body adjacent the other opening, said flange being positioned on the sleeve intermediate the body and support, and a manually operable valve carried by the sleeve.

5. In combination, a support, a body comprising substantially a solid of revolution having oppositely disposed flat bearing surfaces adjacent the ends, and having a single flat bearing surface intermediate the ends of the body, a common discharge passage-

way leading from said last mentioned bearing surface, inlet conduits extending through the body adjacent the first mentioned bearing surfaces, each of said conduits having an annular shoulder in engagement with one side of the body, a manually operable valve for each of said conduits, a member threaded on each conduit and intermediate the body and support for locking the conduits to the body.

6. A faucet body comprising substantially a solid of revolution having enlarged end and central portions, each of the end portions having oppositely disposed flat bearing surfaces for receiving inlet conduits, and the central portions having a flat bearing surface for receiving a common discharge conduit.

7. In a device of the character described, the combination with a support of a hollow body comprising substantially a solid of revolution having oppositely disposed flat bearing surfaces near the opposite ends thereof, and having a centrally positioned flat bearing surface, inlet conduits in engagement with the end surfaces, and a discharge conduit in engagement with the centrally disposed bearing surface, each of said inlet conduits comprising a sleeve having an annular shoulder in abutting engagement with one of the flat surfaces, and having the end adjacent the opposite bearing surface threaded, a flange threaded on each of said sleeves and in engagement with the bearing surface opposite the shoulder, said flanges being also positioned intermediate the body and support, and a manually operable valve in each of said sleeves.

8. A bath cock body comprising substantially a solid of revolution having the interior thereof hollow and having the ends thereof closed, whereby the body may be polished throughout the entire length thereof when revolved on a work revolving machine.

In testimony whereof, I hereunto affix my signature.

EMIL M. ROGERT.