R. H. BURKE.

SHUT-OFF T VALVE.

APPLICATION FILED APR. 29, 1911.

1,020,022.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.

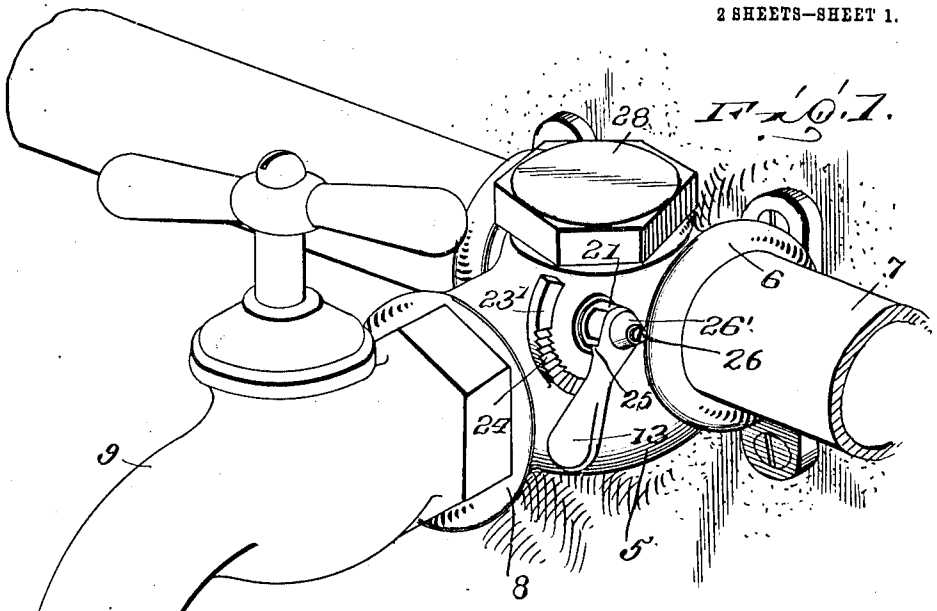

Fig. 1.

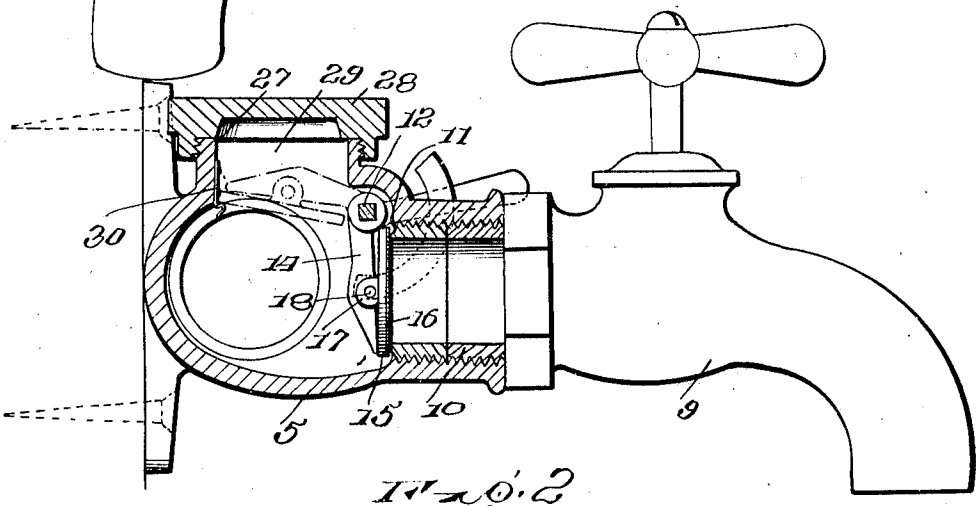

Fig. 2.

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Witnesses

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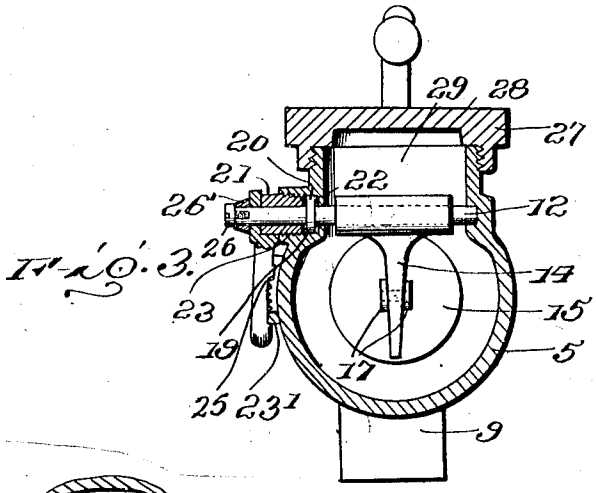

Fig. 3.

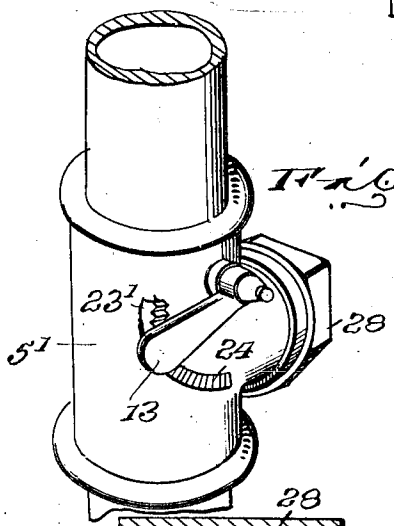

Fig. 4.

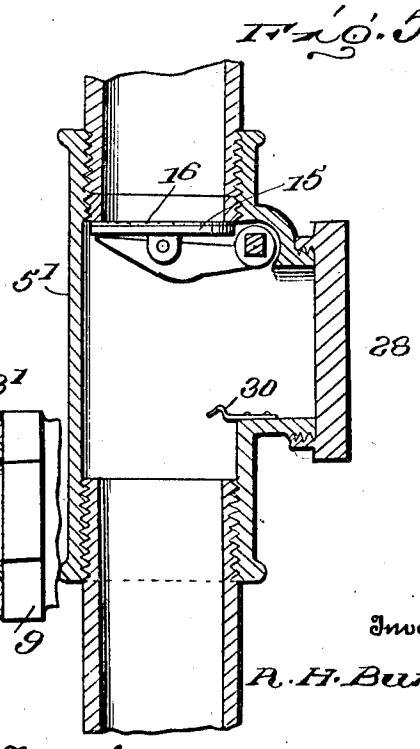

Fig. 5.

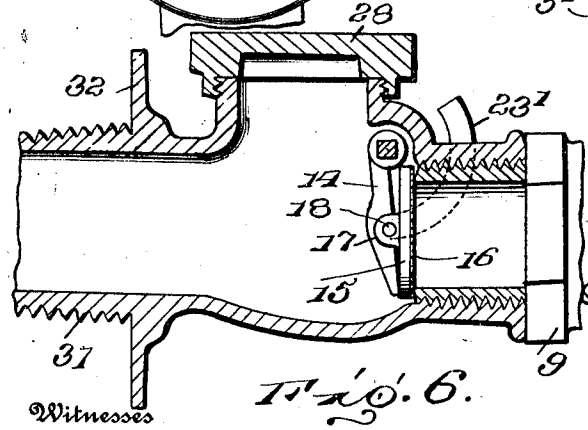

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

RICHARD H. BURKE, OF LEXINGTON, MASSACHUSETTS.

SHUT-OFF T-VALVE.

1,020,022. Specification of Letters Patent. Patented Mar. 12, 1912.

Application filed April 29, 1911. Serial No. 624,174.

To all whom it may concern:

Be it known that I, RICHARD H. BURKE, a citizen of the United States, residing at Lexington, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Shut-Off T-Valves, of which the following is a specification.

This invention relates to cut-off valves and has for its object the provision of a comparatively simple and thoroughly efficient device of this character, especially designed for use in connection with sinks, bath tubs, lavatories and the like, and by means of which the flow of water to a discharge faucet may be cut-off to permit repairs to or replacement of said faucet without the necessity of cutting off the main water supply.

A further object of the invention is to provide a valve including a casing having means for attachment to a supply pipe and faucet, respectively, and provided with a removable valve seat disposed at the discharge end of the casing, there being a pivoted valve housed within the casing and adapted to bear against the seat for controlling the flow of water to the faucet.

A further object is to provide means operatively connected with the valve for holding the latter in different positions of adjustment.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a cut-off T-valve constructed in accordance with my invention, showing the same applied to a supply or service pipe to receive a faucet; Fig. 2 is a vertical sectional view of the same, the faucet being shown in elevation; Fig. 3 is a transverse sectional view, showing the manner of mounting the valve within the casing; Fig. 4 is a perspective view, showing the valve connected in a supply pipe; Fig. 5 is a longitudinal sectional view of Fig. 4; Fig. 6 is a vertical sectional view, showing the cut-off T-valve provided with a flange for attachment to a sink or tray.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved valve forming the subject matter of the present invention comprises a casing 5 having oppositely disposed nipples 6 for connection with a supply pipe 7 and provided with an intermediate nipple 8, the interior walls of which are threaded for engagement with the threaded end of a faucet 9. Disposed within the casing 5, is a removable collar 10 having exterior threads for engagement with the interior threads on the nipple 8, the inner end of said collar being inclined or beveled to form a sharp edge 11 constituting a valve seat. Extending transversely of the casing at the nipple 8, is a stub shaft 12, one end of which is journaled in a socket formed in the interior wall of the valve casing, while the other end thereof projects laterally beyond the opposite wall of the casing to form a support for an operating handle 13. Secured to the shaft 12, is an arm 14, on which is pivotally mounted a flat disk constituting a valve 15. One side of the disk or valve 15, is provided with a soft metal face 16 adapted to bear against the valve seat 11, while the other side thereof is formed with spaced ears 17, which embrace the arm 14 and are provided with transversely alined openings to permit the passage of a pivot pin 18.

Formed in one side of the casing 5, is a pocket or depression 19 adapted to receive a collar 20 formed on the stub shaft 12, the interior walls of the depression being threaded for engagement with a correspondingly threaded cap or closure 21. Interposed between one side of the collar 20 and rear wall of the depression 19, is a washer 22, there being a suitable packing 23 interposed between the opposite side of the collar and the cap 21 in order to prevent leakage around the shaft 12.

Secured to or formed integral with the casing 5, is a lug 23′ provided with a plurality of spaced teeth 24 arranged in the arc of a circle for engagement with a single tooth 25 formed on the inner face of the operating handle 13, there being a screw 26

threaded in the outer end of the shaft 12 and engaging a washer 26′ so that after the valve has been moved to either open or closed position, said valve may be locked against further movement by rotating the screw 26 to force the tooth 25 into engagement with the adjacent teeth 24. The top of the casing 5 is provided with an opening 27 to permit the attachment of a vertical supply pipe, when desired, said opening being normally closed by a cap 28. It will here be noted that a chamber 29 is formed in the upper portion of the casing beneath the cap 28 for the reception of the valve when the latter is in open position, thus not to offer any obstruction to the passage of water from the supply pipe 7 to the faucet 9.

In order to assist in holding the valve in open position, there is provided a spring catch 30, one end of which is rigidly secured to the inner wall of the valve casing 5, while the free end thereof projects within the chamber 29 and in the path of movement of the valve 15 so that when the latter is swung upwardly to open position, the free end of the catch 30 will engage said valve. It will of course be understood however, that if desired, the spring catch 30 may be dispensed with, the interengaging teeth on the casing 5 and handle 13 being, in most cases, sufficient to hold the valve in adjusted position. By forming the casing 5 with the opening 27, not only may the casing be attached to a vertical supply pipe, but when said casing is attached to a horizontal supply pipe, access may be readily had to the valve to effect any necessary repairs thereto, by removing the cap 28. Thus it will be seen that should the faucet 9 leak and need repairing or replacing, it is merely necessary to rotate the handle 13 until the valve 15 engages its seat 11 when the flow of water to the faucet will be cut-off, thus permitting said faucet to be readily detached and repaired without the necessity of shutting off or otherwise interrupting the flow of water from the main supply pipe to the other faucets. It is obvious that by moving the handle in the opposite direction, the valve may be opened so as to permit the flow of water through the casing to the faucet after the latter has been repaired.

In Figs. 4 and 5 of the drawings, the casing 5′ is shown connected in a vertical supply pipe, instead of directly with the faucet, and in Fig. 6, the casing is provided with a nipple 31 for connection with the water supply pipe and a flange 32 adapted to bear against a sink or tray, the construction and operation of the devices shown in Figs. 4, 5 and 6, being otherwise similar to that shown in Fig. 1 of the drawings. The casings may be connected in water supply pipes leading to the faucets or spigots of lavatories, bath tubs, or wherever a cut-off T-valve of this construction is found desirable or necessary.

Having thus described the invention, what is claimed as new is:

1. A device of the class described including a casing having inlet and outlet ports and provided with exterior teeth, a transverse shaft journaled in the casing, a valve carried by the shaft and adapted to close the outlet port, a handle secured to one end of the shaft for moving the valve to open and closed positions, a tooth formed on the handle and adapted to engage the teeth on the casing for holding the valve in different positions of adjustment, and means mounted on the shaft and co-acting with the handle for forcing the tooth on said handle into engagement with the adjacent teeth on the casing.

2. A device of the class described including a casing having inlet and outlet ports and provided with a lug having exterior teeth, a shaft journaled in the casing and having one end thereof projecting through the casing and provided with a threaded opening, an arm secured to the shaft, a valve mounted on the arm and adapted to close the outlet port, a handle mounted on the extended end of the shaft and provided with a tooth adapted to engage the teeth on the lug, a washer bearing against the handle and a screw threaded in the opening in the shaft and bearing against the washer for forcing the tooth on said handle into engagement with the adjacent teeth on the casing.

3. A device of the class described including a casing having oppositely disposed nipples for connection with a water supply pipe and provided with an outlet port, the interior walls of which are threaded, a collar engaging the threads of the outlet port and having its free end beveled to form a valve seat, a transverse shaft journaled in the valve casing and having one end thereof extended laterally beyond the exterior wall of the valve casing, an arm carried by the shaft, a valve mounted on the arm and having a soft metal face for contact with the valve seat, teeth extending laterally from one side of the casing and arranged in the arc of a circle, and an operating handle secured to the extended end of the shaft and provided with a tooth adapted to engage the teeth on the casing for holding the valve in different positions of adjustment.

4. A device of the class described including a casing having oppositely disposed nipples for connection with a water supply pipe and provided with an outlet port, there being an opening formed in the top of the casing between said nipples, the walls of said opening and outlet port being threaded, a collar engaging the threads of the outlet

port and having its inner face beveled to form a valve seat, a cap forming a closure for said opening, a shaft journaled in the casing and having one end thereof extending laterally beyond the casing and provided with a threaded opening, an arm carried by the shaft, a valve mounted on the arm and provided with a soft metal face for contact with the valve seat, teeth formed on the exterior of the casing, an operating handle secured to the shaft and provided with a tooth adapted to engage the teeth on the casing, a washer bearing against the handle, a screw threaded in the opening in the end of the shaft and bearing against the washer for forcing the tooth of said handle in engagement with the adjacent tooth on said casing, and a spring catch arranged within the casing beneath the cap and adapted to engage the valve for normally holding said valve in open position.

5. A device of the class described including a casing having inlet and outlet ports and having one side wall thereof provided with a depression, the walls of which are threaded, there being a series of teeth formed on the exterior wall of the casing around the depression, a shaft journaled in the casing and provided with a collar seated in said depression, a valve seat disposed at the outlet port, a valve carried by the shaft and adapted to engage the valve seat, a packing seated in the depression and surrounding the collar, a plug engaging the threaded wall of said depression and bearing against the packing, a handle carried by the extended end of the shaft and provided with a tooth adapted to engage the teeth on the casing, and means mounted on the shaft for forcing the tooth on said handle into engagement with the teeth on the casing.

In testimony whereof, I affix my signature in presence of two witnesses.

RICHARD H. BURKE. [L. S.]

Witnesses:
J. G. FITZGERALD,
J. L. MORRISSEY.