(No Model.)

J. H. BEARE.

LIQUID FAUCET.

No. 567,877. Patented Sept. 15, 1896.

Fig. 1.

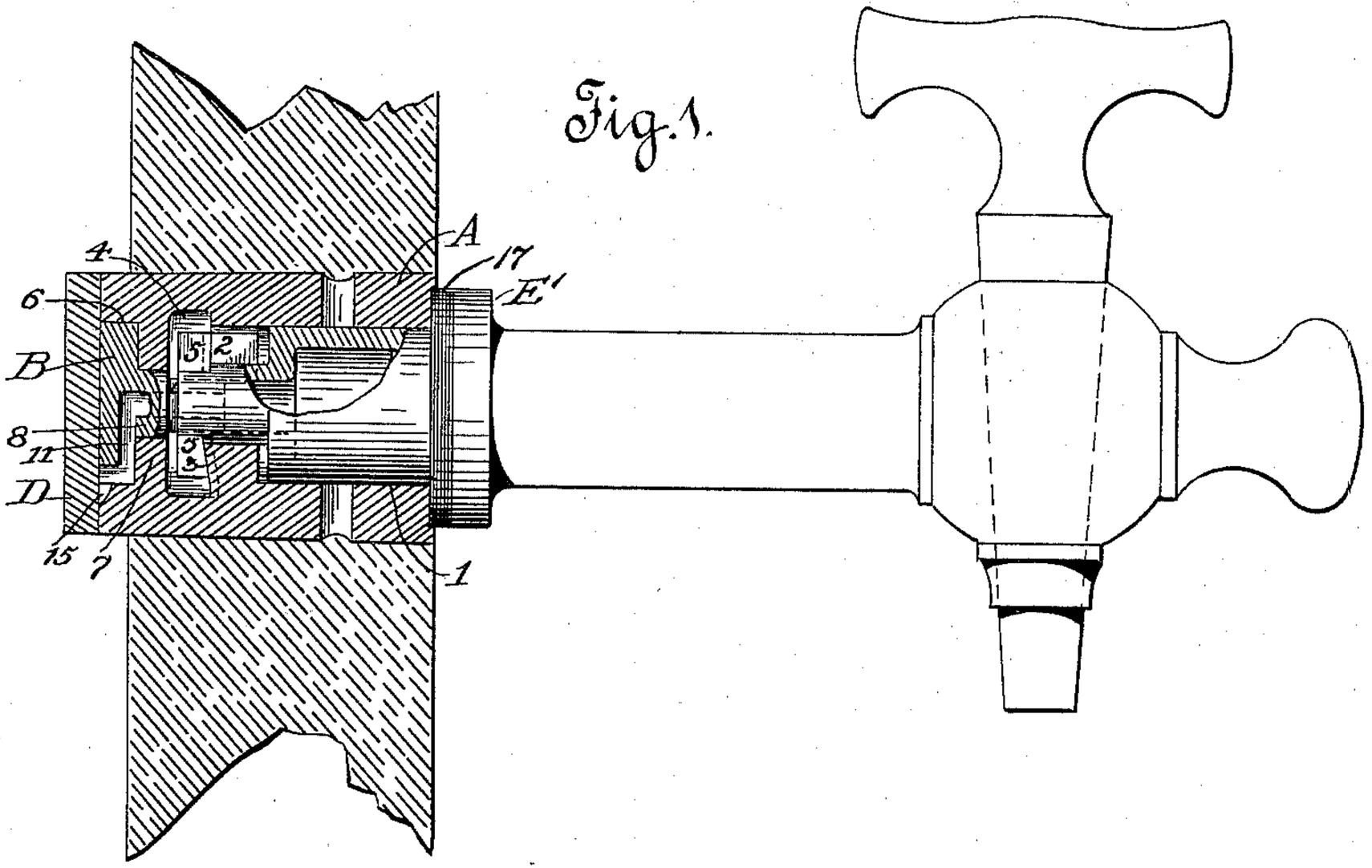


Fig. 2.

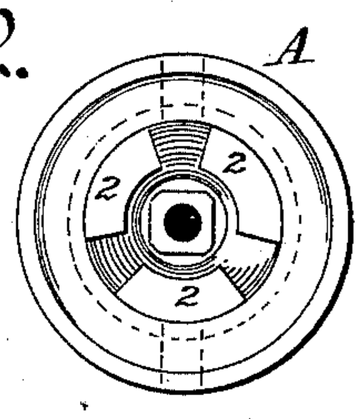


Fig. 3.

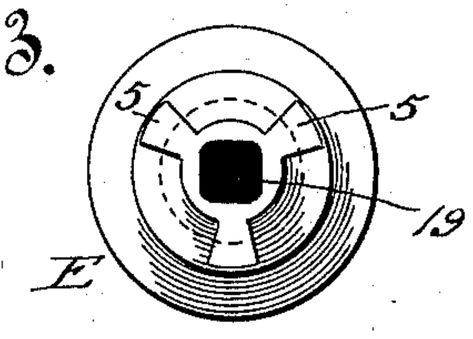


Fig. 4.

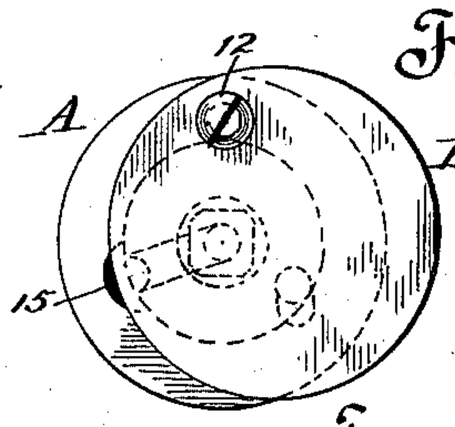


Fig. 5.

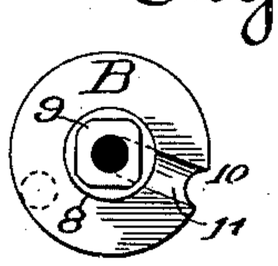


Fig. 6.

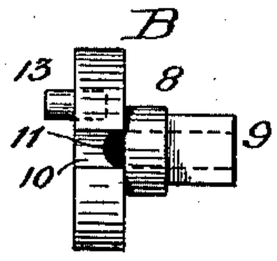
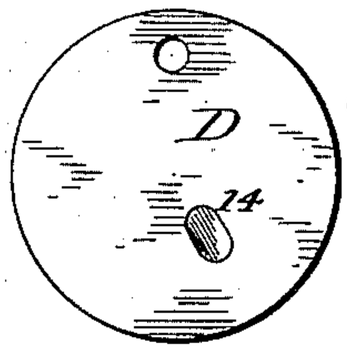


Fig. 7.



Witnesses.

F. E. Montenerdo.

M. K. Seely

Inventor:

Joseph H. Beare

by Shear & Seely.

Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH H. BEARE, OF SAN FRANCISCO, CALIFORNIA.

LIQUID-FAUCET.

SPECIFICATION forming part of Letters Patent No. 567,877, dated September 15, 1896.

Application filed April 1, 1896. Serial No. 585,761. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. BEARE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Liquid-Faucets; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to faucets for drawing liquids from the receptacles which contain them, and particularly to that kind of faucets which remain in the barrels, and which keep the same closed until the valve of the faucet is opened by the insertion of a spigot, after which the liquid is free to enter through the valve of the faucet and to be drawn off by the spigot as required. In this class of faucets the valves are open when the spigot is in place, but are automatically closed before the spigot can be withdrawn, the object being to prevent leakage at all times when the barrel is not in use.

My objects in the present invention are to make better, simpler, and cheaper faucets than now in use, and particularly to provide a more secure and more perfectly liquid-tight valve, as well as a better manner of applying the spigot to operate such valve. The means by which I accomplish these objects will be fully described in the following detailed description, which should be read in connection with the accompanying drawings.

Figure 1 is a cross-section of a barrel-head and a longitudinal section of my faucet in position therein. Fig. 2 is a front elevation of the faucet. Fig. 3 is a rear elevation of the end of the spigot. Fig. 4 is a rear elevation of the faucet with the external valve open. Fig. 5 is a front elevation of the inner valve. Fig. 6 is a side elevation of the same. Fig. 7 is a front elevation of the external valve.

In the description when I use the term "front" I refer to the side or face of any part of the device toward the outside of the barrel when the faucet is in place, and, conversely, the term "rear" applies to the side or face of any part toward the interior of the barrel. When I refer to the external valve, I mean a valve which is external relatively to the cylindrical body of the faucet, although it is located inside the barrel when the faucet is in place.

The construction of my device enables me to dispense with any sleeve or bushing for the barrel and to drive directly into the barrel-head the cylinder or casing A of the faucet, which has a plain smooth exterior, without screw-threads or projections of any kind. This casing is formed with a cylindrical interior chamber or bore 1 for more than half its length. At the end of this chamber the wall of the casing is formed with three equidistant lugs or projections 2 2 2, which have inclined rear faces 3, Fig. 1. Behind these lugs is a space 4 in which the inclined wings or arms 5 on the end of the spigot have room to turn. A recess 6 is formed in the rear end of the casing, which forms a bearing for the circular inner valve-plate B, which is set in the recess so that its rear face is flush with the end of the casing, Fig. 1. A partition 7 is formed with the casing, which has a round central hole forming a bearing for a hollow boss 8, projecting from the valve-plate B, and terminating forwardly with a square hollow projection 9, Fig. 6. The edge of the plate B is grooved, as shown at 10, and a channel 11 connects this groove with the passage through said boss and projection. (Compare Figs. 5 and 6.) If liquid could enter the channel 11 from the barrel, it would find its way through the boss and square projection and thence into the spigot, if the latter were in position.

The external valve D is a simple flat disk adapted to fit the end of the casing, to which it is pivoted by a pin 12, set off the center, so that the valve can swing eccentrically, Fig. 4. The valve makes a tight and perfect fit against the end of the casing and the plate B, and, in use, is constantly grinding its own seat, and hence is always tight. The valve is operated by a pin 13 on the plate B, Fig. 6, which enters an elongated recess 14 in the front face of the valve, Fig. 7. When the plate B is turned by the spigot, as hereinafter explained, the valve has the limited motion represented in Fig. 4. The opening motion of the valve uncovers a recess 15, made in the edge of the valve-seat, Figs. 1 and 4, and this recess is so arranged relatively to the inner valve B that the movement of the latter required to open the valve D causes the groove 10 and channel 11 to register with said recess. It is not, however, necessary to provide the recess 15, because by allowing more movement to the valve D it would uncover the groove 10 with the same result as

to the entrance of liquid. The liquid has now a free passage, as before described, into the spigot. It will be noticed that the liquid passes through the valves and thence directly into the spigot without entering the chamber of the faucet, so that there is never any body of liquid in the faucet-chamber, nor can there be any deposit there from such liquid to obstruct the operation of the spigot.

My arrangement of the two valves is by far the simplest of which I have knowledge, and yet I have found it perfectly effective. Two liquid-tight obstructions are formed when the valves are closed. First, the valve D covers the only possible liquid-inlet, and, secondly, the act of closing the valve D by turning the valve B moves the groove 10 out of line with the inlet 15 and against the wall of the valve-seat. The movements of these valves are controlled by the spigot E, of which an end view is shown in Fig. 3. The main part of the spigot may be of any construction desired. I prefer to provide it with a shoulder E′, which when it is inserted into the faucet firmly supports it in position and also compresses a packing 17 into a countersink in the face of the faucet and makes a liquid-tight joint there. The spigot beyond this shoulder fits the faucet-casing accurately to the lugs 2, and is then reduced in diameter. The reduced portion is provided with the equidistant wings 5, before referred to, which can be passed through between the lugs 2 and can be turned in the space 4. These wings have inclined front faces which bear against the inclined rear faces of the lugs 2. The extreme inner end of the spigot has a square hole 19 to fit the square projection 9.

When the spigot has been inserted, it is given a quarter-turn, which locks the wings 5 behind the lugs 2, draws the packed shoulder tightly against the mouth of the faucet, and holds it in position. The same motion turns the valve B, causing the groove 10 and channel 11 to register with the liquid-inlet, and also moves the external valve to uncover such liquid-inlet. The spigot cannot be withdrawn without the reverse quarter-turn, which closes both valves at the first movement, so that they have been completely closed before the spigot can be drawn out.

This being a driven faucet, I have provided holes 20 in the casing to receive a spanner or other tool by which power can be applied to remove the casing.

It will be noticed that the external valve is a plain flat disk, which has a surface contact throughout its extent. In faucets of this kind generally used a projecting valve has been employed. This is particularly objectionable when the inside of the barrel is coated with pitch to make it perfectly tight, as is often done in the case of beer-barrels, partly because such valves permit the pitch to work in between them and their seat and partly because the hardened pitch is liable to interfere with their easy working. The construction and bearing of my valve renders it perfectly pitch-proof and its shape prevents any interference with its easy working.

It may also be stated that in faucets of this kind commonly used the lugs which lock the spigot have been placed close to the front of the faucet. Hence the compression produced by locking the spigot is effective only through a very short bearing-surface, and the ordinary long spigot is supported very feebly and imperfectly. By placing the locking-lugs toward the rear of the faucet I provide a long bearing for the spigot in the faucet-casing, making a firm support for the spigot whatever its length may be.

What I claim is—

1. A faucet consisting of a cylindrical hollow casing, an external disk valve pivoted eccentrically upon one end of the casing, a second disk valve pivoted within the casing, and having a liquid-passage, a connection between said valves, and means for moving said valves simultaneously upon their pivots substantially as, and for the purposes set forth.

2. In a faucet, a cylindrical casing having a recessed inner end; a disk valve seated in such recess, and having a liquid-passage; a liquid-inlet, 15, in the edge of the valve-seat with which said passage is adapted to register; an external valve pivoted eccentrically to the casing and connected to said disk valve so as normally to cover said liquid-inlet; and means, such as a spigot, for turning both valves simultaneously, substantially as described.

3. In a faucet and in combination, a casing, having near its inner end a perforated partition; an internal valve seated in the casing and against said partition, and having a hollow pivoted bearing in said partition; a channel in said valve communicating with said hollow pivot; an external valve pivoted to the casing, seating against the internal valve and connected to the latter; and an inlet adapted when both valves are open to communicate through said channel with the hollow pivot, substantially as described.

4. In a faucet, a smooth cylindrical casing without threads or projections, and open at front and rear; a valve seated in and flush with the rear end thereof; a flat circular plate pivoted eccentrically to the casing, and bearing on the end of the casing and on the surface of said valve; said valve and plate being connected together so as to move simultaneously, the movement of said valve producing a liquid-passage to the interior of the casing, and the movement of said plate uncovering an inlet to said passage, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 17th day of March, 1896.

JOSEPH H. BEARE.

Witnesses:
L. W. SEELY,
S. C. HOUGHTON.