(No Model.)

J. H. BEARE.

LIQUID FAUCET.

No. 581,877. Patented May 4, 1897.

Fig. 1.

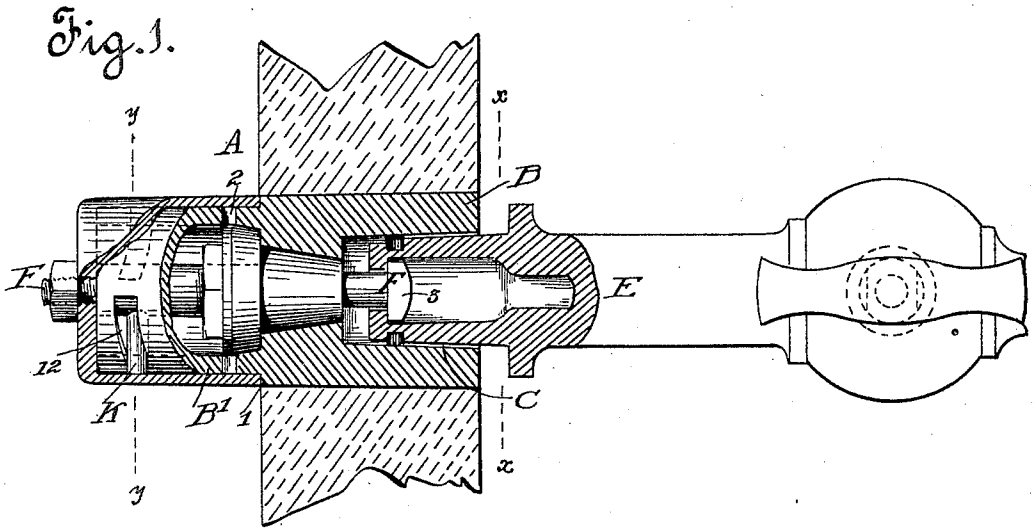


Fig. 2.

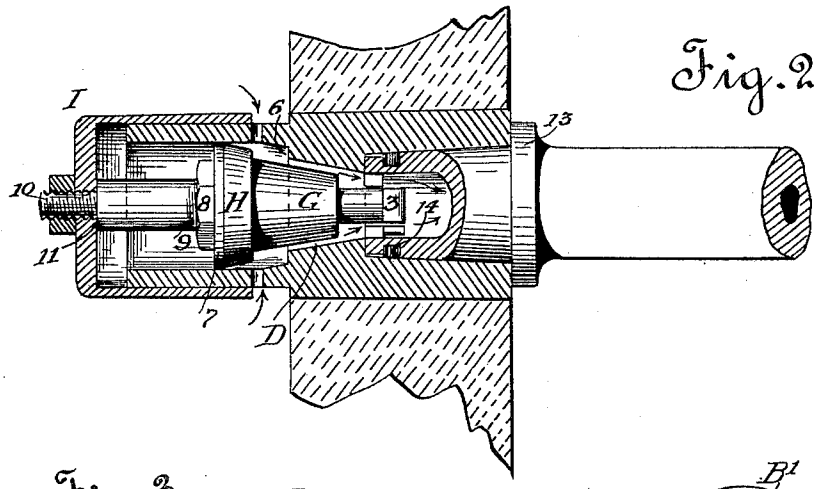


Fig. 3.

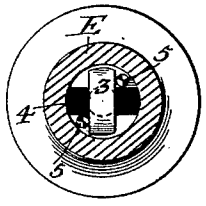
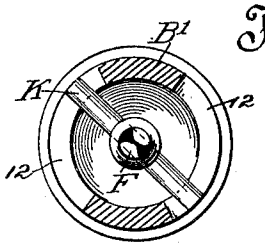


Fig. 4.



Witnesses.

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LIQUID-FAUCET.

SPECIFICATION forming part of Letters Patent No. 581,877, dated May 4, 1897.

Application filed June 2, 1896. Serial No. 593,965. (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 casks, barrels, and other receptacles, and more particularly to that class of faucets which remain in the barrels and are kept closed until by the insertion of a spigot their valves are opened to receive liquid from the barrel, which passes through the faucet and is controlled by the cock of the spigot.

The object of the invention is to prevent any possibility of leakage when the barrel is not in use and at the same time to have the faucet always ready for use by the simple act of placing the spigot in position.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is in part a vertical section and in part a broken plan view of the faucet with the valves closed. Fig. 2 is a similar view, but with the valves open. Fig. 3 is a cross-section on the line *x x*. Fig. 4 is a cross-section on the line *y y*.

A is supposed to represent the part of barrel into which the faucet is inserted.

B is a smooth slightly-tapered cylinder, of brass or other metal, adapted to be driven into the barrel and holding its position by friction without bushings or external threads. It is provided with an extension B′, which enters the barrel and is cylindrical in shape and of slightly-reduced diameter, so as to form a circular shoulder 1.

The faucet B is chambered internally, as shown at C D, the chamber C being an inwardly-tapering cavity into which the spigot E is inserted, while the chamber D, which communicates with it, is reversely tapered, its walls diverging toward the interior of the barrel. This inner chamber D forms a valve-seat as well as a liquid-passage. Within the faucet are valves which are opened by the placing of the spigot E in position and are closed by the act of withdrawing it.

The inlet-openings 2, by which the liquid from the barrel enters the faucet, are formed in the extension B′ of the faucet and may be as many in number as required.

The valves which control the passage of liquid to and through the faucet are three in number and are all carried by or form a part of an interior stem F, the forward end of which is provided with a head 3, Fig. 3, so that it may be turned by interlocking with the end of the spigot E. The spigot is hollow, and its inner end has a slot 4, which when it is inserted passes over the head 3. The spigot is then turned until pins 5, adjacent to the slot 4, bear upon the head 3 and cause the stem to turn.

G is a cone-shaped valve on the stem which has for a seat the tapered chamber D.

H is a valve of soft material, such as rubber, which has an angular seat 6 formed in the wall of the cylinder and immediately behind the valve G. This valve may be a rubber washer held in place by a plate 7 and nut 8 on a thread 9 of the stem. To the rear of these valves the stem extends on through the extension-chamber B′ and has a threaded end 10 and a shoulder 11. Upon this threaded end is secured the hollow shell or cap I, which is the valve for closing the inlet-holes 2 and which fits closely upon and around the cylindrical extension B′. With the valves all closed, as in Fig. 1, this cap covers the holes 2 and its end abuts and fits against the shoulder 1.

The inlet-holes 2 are doubly closed, without by the cap I and within by the valve H, which, it will be seen, covers these holes, while also making a tight fit with its own seat. The obstructions to the inlet of liquid are thus, first, the outer cap, which makes a ground-joint with the cylinder; second, the valve H, which closes the inlet-openings inside; third, the same valve in close contact with its angular seat and under compression, as hereinafter described; fourth, the conical valve G on its long metal seat. This arrangement of valves makes an absolutely liquid-tight passage to the spigot, and if any liquid could enter the holes 2 and find its way into the space behind the valve H its pressure would only tend to compress that valve more tightly

against its angular seat. None of these valves have any movement independently of the others, but all are controlled by the act of turning the stem by means of the spigot, such movement resulting in an open liquid-passage, as shown in Fig. 2. Near the rear end of the stem is secured a transverse pin K, which enters inclined slots 12 in the cylinder B', and that cylinder being immovable the stem and all the valves are compelled to move longitudinally in one direction, according to whether the stem is turned to give a closing movement or an opening movement. This is illustrated in Fig. 2, in which the stem has been moved toward the interior of the barrel, pushing the cap-valve away from the shoulder 1, so as to uncover the inlets, pulling the rubber valve back behind the inlet and away from its seat, and unseating the metallic conical valve. The same motion draws the spigot into the chamber until its flange 13 bears against the face of the faucet and its inner end against the rear wall of chamber C. The spigot is preferably provided with a rubber gasket 14 in order to make a liquid-tight joint in the chamber while the faucet-valves are open and prevent leakage around the spigot.

It will be seen by Fig. 3 that it requires about a quarter-turn of the spigot before its pins 5 bear upon the head of the valve-stem. This insures that the spigot is in proper position for use before the valves begin to open.

The spigot cannot be withdrawn until all the valves are closed, and, as illustrated in Fig. 4, it is intended that the valves shall be closed tightly before the pins K have reached the ends of the slots, so that all possible pressure may be put upon the valves before the spigot is removed. The rubber valve is made somewhat thicker than its seat, so that it will close and cut off the liquid before the metal valve G is completely seated. The continued turning of the stem to seat the metal valve therefore puts the rubber valve under strong compression longitudinally, making it expand laterally against its seat.

It will be noticed that the outside cap forms a perfect protection against the pitch when used with beer-barrels, and this is really its principal use. It is well known that the valves usually employed in beer-faucets are often clogged by pitchy deposits, which makes it difficult to operate them.

What I claim is—

1. In combination in a faucet, a hollow cylinder having a reduced extension, a passage-way extending entirely through the cylinder, the valve-seats arranged therein, the valve and valve-stem, said extension having perforations leading radially through the side thereof into said passage at the forward portion thereof and cam-slots running circumferentially, said perforation being adapted to be closed by said valve when the valve is seated and a shell or cap fitted to inclose said extension carried by said valve-stem, projections also carried by said stem and extending into said slots and means for rotating said stem whereby it will be shifted longitudinally and slide said shell or said extension to cover or uncover said perforations, substantially as described.

2. In combination in a faucet, a cylinder having a reduced extension, a covered passage in the main part of said cylinder, and an enlarged passage in said extension having a tapered end forming a shoulder, a conical plug fitted to the conical passage in the main cylinder, perforations leading through the wall of said extension, a valve for interiorly closing said end adapted to rest on said shoulder, and close the passage-way leading into the main part of said cylinder, a valve-stem carrying said plug and valve, a shell fitted to inclose said extension carried by said stem, a connection between said stem and the interior of said extension and means for rotating said stem to shift the same and said shell, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 19th day of May, 1896.

JOSEPH H. BEARE.

Witnesses:
L. W. SEELY,
M. R. SEELY.