J. E. BOYLE.

COCKS OR FAUCETS FOR WASH-BASINS, &c.

No. 193,801. Patented Aug. 7, 1877.

Fig: 1.

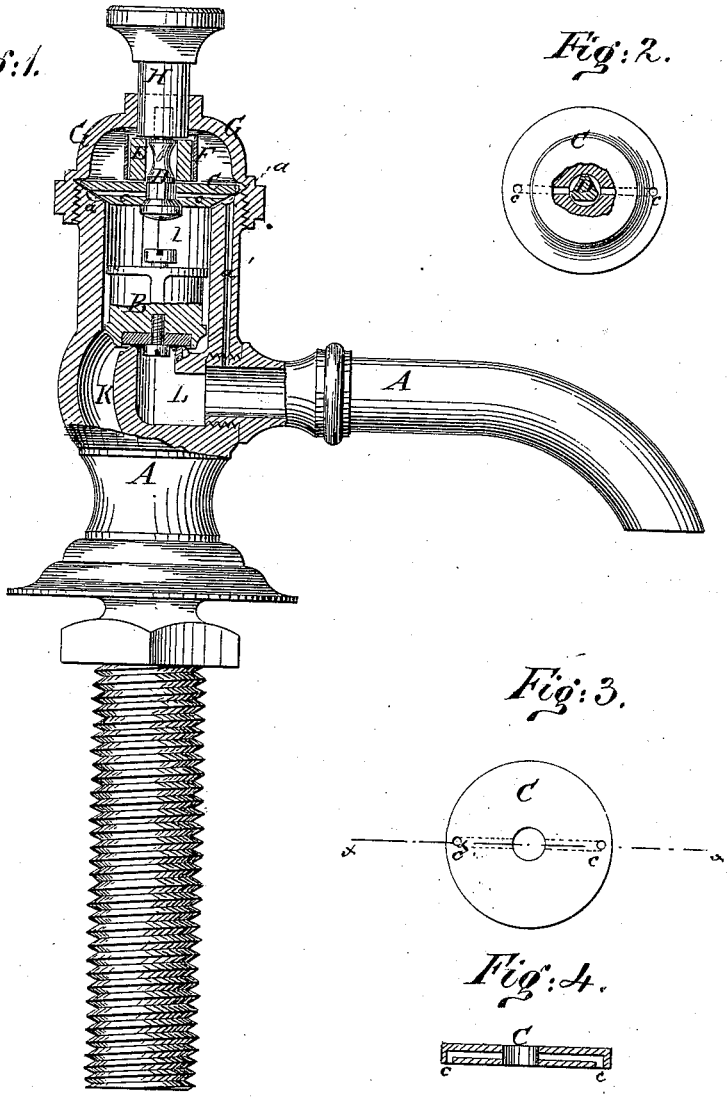

Fig: 2.

Fig: 3.

Fig: 4.

Witnesses:

Gw. Stevenson

Dudley Dixon.

Inventor:

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UNITED STATES PATENT OFFICE.

JAMES E. BOYLE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COCKS OR FAUCETS FOR WASH-BASINS, &c.

Specification forming part of Letters Patent No. **193,801**, dated August 7, 1877; application filed March 7, 1877.

To all whom it may concern:

Be it known that I, JAMES E. BOYLE, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Cock or Faucet for Wash-Basins and other Purposes; and I do hereby declare the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal sectional view of the cock or faucet and of all its parts. Fig. 2 is a vertical view of the disk C, with beveled ground-in edge. Fig. 3 is a vertical view of the disk C with square edge. Fig. 4 is a sectional view of the disk C with square edge, showing the water-way.

My invention relates to an improvement in valve cocks or faucets, whereby the gravitating-plug referred to in Letters Patent issued to me November 3, 1874, No. 156,407, is controlled by means of a trip-valve operated through a disk in the top of the chamber of a cock or faucet.

To enable a person skilled in the art to make and use my invention, I will describe it.

A A is the outer case and nozzle of the cock or faucet. B is a gravitating-plug, fitting loosely in the chamber I, having its valve-seat at *a*. C is a disk of brass or other metal, fitted in the top of the chamber I, with ground-in beveled edges. D is a trip-valve, the stem of which passes through and has its seat on the under surface of the disk C, the stem of the trip-valve opposite the inner surface of the rubber band E being cut away at *b*, so as to leave a considerable space between the rubber and the stem. E is a band of rubber resting on the disk C. F is a metal shield around the rubber band E. G G is the cap of the cock or faucet, screwed to the top of the chamber I, and holding the disk C firmly to its ground-in seat. H is the knob or finger-piece of the cock, into which the stem of the trip-valve D is screwed, the shoulders of the knob or finger-piece resting upon the upper surface of the rubber band E. *a* is a groove in the beveled surface of the edge of the case or body of the chamber I, connecting with *a'*, which is a water way or passage from the groove *a* to the outlet or nozzle of the cock or faucet. *c* is a water way or passage leading from the trip-valve D, through the disk C, to the groove *a*. K is the induction water-way, and L is the eduction water-way, of the cock or faucet.

The operation of the cock or faucet is as follows: When the cock is not in operation, closed or at rest, the chamber I is full of water, supplied to it from the induction water-way K and around the gravitating-plug B, and the plug B and the trip-valve D are held by the pressure of the water in chamber I firmly to their respective seats. In opening the cock or faucet for the supply of water to the basin, or for other purposes, the operator presses upon the knob or finger-piece H, compressing the rubber band E into the concave part of the stem of the trip-valve D. The water in chamber I is then immediately discharged, through the passage *c* in the disk C, to the groove *a* and the passage *a'*, to the outlet or nozzle of the cock, and simultaneously the gravitating-plug B is forced, by the pressure of the water, from its seat to the top of the chamber I, opening the water-ways for the flow of water at the nozzle. Upon the removal of the pressure upon the knob or finger-piece H, the trip-valve D is closed, by means, in part, of the rubber band E acting as a spring, and in part by the pressure of the water, and the gravitating-plug B descends to its seat in chamber I gradually, and closing the cock or faucet, the slow closing being due to the gradual filling of the chamber I with water around the gravitating-plug B. The rubber band E is used as a spring to insure the closing of the trip-valve D, and also as a packing around the stem of the trip-valve D, to prevent the escape of any water above the disk C.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the gravitating-plug B, operated in the chamber I, with the disk C, the trip-valve D, the water-ways *c* and *a'*, and the groove *a* in cocks or faucets, substantially as described.

2. The combination of the disk C and its horizontal water-ways with the trip-valve D and groove *a* in cocks or faucets, substantially as described.

J. E. BOYLE.

Witnesses:
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GEO. STEVENSON.