J. FARRELL.

**Basin-Faucet.**

No. 163,005. Patented May 11, 1875.

FIG. 1

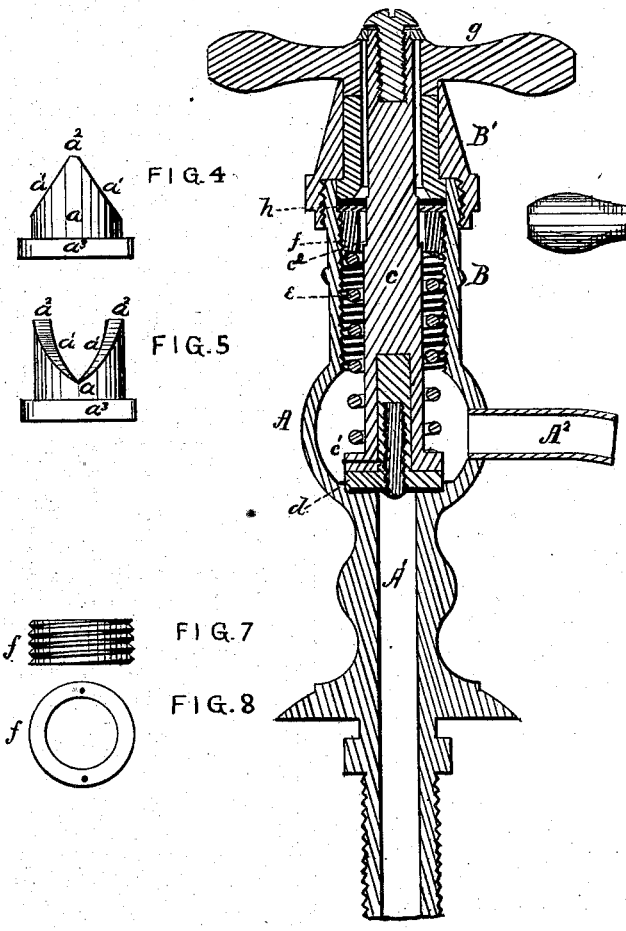



FIG. 4




FIG. 2

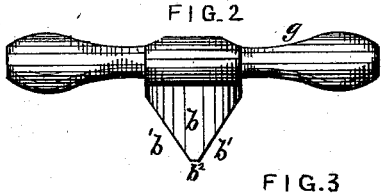



FIG. 5




FIG. 3

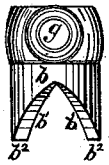


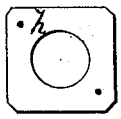

FIG. 7




FIG. 8




FIG. 6

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# UNITED STATES PATENT OFFICE.

JOHN FARRELL, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN BASIN-FAUCETS.

Specification forming part of Letters Patent No. **163,005**, dated May 11, 1875; application filed February 11, 1875.

*To all whom it may concern:*

Be it known that I, JOHN FARRELL, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Valve-Cocks; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which like letters indicate like parts.

Figure 1 is a section taken on a vertical plane through the center of a valve-cock constructed in accordance with my invention; and Figs. 2 to 8, inclusive, are detached views of various parts thereof.

My invention relates to the construction and combination of certain parts of a valve-cock, in which the valve is raised from its seat by means of double-reverse inclines, and closed by the expansive power of a spring, as hereinafter set forth and claimed.

The casing A of the valve-chamber is constructed with the induction and eduction pipes $A^1$ $A^2$ and a valve-seat, whereon the requisite valve for opening and closing communication between the valve-chamber and eduction-pipe is seated. In this connection I prefer to construct the valve-stem *c* with a collar, $c^1$, and swivel the valve *d* thereto, so that rotation of the valve-stem may not necessarily impart to the valve and packing a like movement, and consequent wear while in contact with its seat. To seat this valve, as against water-pressure, I arrange around its stem a coiled spring, *e*, and adjust its elasticity with reference to such pressure by an adjustable screw-ring, *f*, working within the cylindrical screw-threaded case B. In order to effect a vertical movement of the valve and stem by a partial rotation of the handle *g* either to the right or to the left, I make a tubular piece, *a*, Figs. 4 and 5, with double-reverse inclines $a^1$, sometimes designated as cam-surfaces, and fixedly set and hold the same in a preferably square-shaped seat at the end of case B by means of a screw-cap, B′. To the handle *g*, which is connected with the stem *c*, as by a screw and washer, I attach a counter-piece, *b*, having double-reverse inclines $b^1$, corresponding to the inclines of piece *a*, and fit the same down upon the inclines of the piece *a*, whereby a rotation of the handle and its piece *b* will produce a rectilinear or vertical movement of the valve-stem and valve, and open the port for the inflow of water from the induction-pipe into the valve-chamber. After the handle has been released the valve will be reseated by the spring-pressure before described. In order that the greatest possible vertical movement of the stem shall be less than the height of the inclines, so that the points of juncture $b^2$ of the inclines on piece *b* may not center and rest upon the corresponding points $a^2$ of piece *a*, I locate a stop, *h*, preferably in the upper end of case B, and form a shoulder, $c^2$, on the stem *c*, which, when striking against the said stop, will limit the upward movement of the stem and handle connected therewith. The base-plate $a^3$ of piece *a* is made of square or other than circular form, so that the position of the handle with reference to the delivery-spout when the valve is closed shall be fixed by the adjustment of the piece *a* in the case *b*, and also so that, by changing the position of the base-plate, as by turning it one-quarter of the way around in its correspondingly-shaped seat, the handle may, at pleasure, be brought into line with or stand at right angles to the delivery-spout when the valve is closed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a valve closing against the pressure, a screw-ring adjustable in the case or chamber independently of the valve-stem which passes through it, and a spring interposed between the screw-ring and valve, substantially as and for the purposes set forth.

2. The piece *a*, having double inclines in opposite directions, made independent of the cap in which it is seated, in combination with the counter-piece *b*, made independent of the stem which passes through it, but rigidly connected with the handle, the parts being arranged and combined substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOHN FARRELL.

Witnesses:

CHARLES G. PAGE,

JAMES M. CHRISTY.