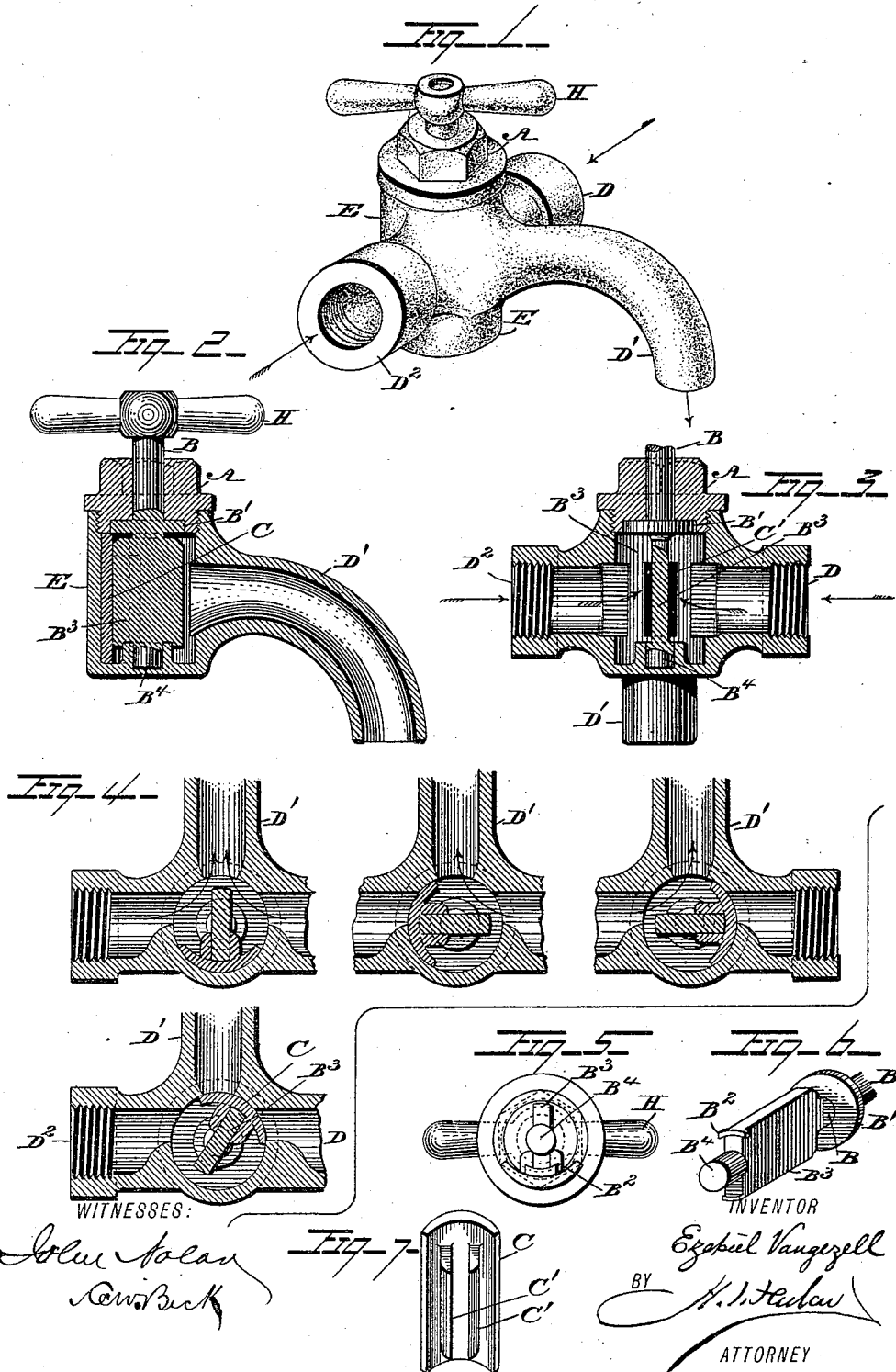


(No Model.)

E. VANGEZELL.
VALVE.

No. 470,270.

Patented Mar. 8, 1892.



UNITED STATES PATENT OFFICE.

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VALVE.

SPECIFICATION forming part of Letters Patent No. 470,270, dated March 8, 1892.

Application filed March 1, 1889. Serial No. 301,711. (No model.)

To all whom it may concern:

Be it known that I, EZEKIEL VANGEZELL, a citizen of the United States, residing at Atlantic City, in the State of New Jersey, have
5 invented certain new and useful Improvements in Faucets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 My improvements relate to water-way faucets; and they consist of such a faucet composed of a hollow cylindrical casing provided with an eduction-port and one or more induction-ports, in combination with a recessed
15 screw-cap, in which the valve-spindle and an annular projection from the valve-stem shall rotate; also, in the construction of the valve, the valve-spindle, and its several parts, and in the combination and arrangement of the
20 several parts of the device, as herein set forth, the chief object and purpose of the invention being to make a neat, cheap, and convenient multiple-way faucet which shall be self-grinding and require no packing, and
25 of which the casing or shell shall be provided with two or more inlet-ports and an outlet-port and consist of a single piece of metal.

In the accompanying drawings, in which similar letters of reference indicate like parts
30 in the several views, Figure 1 is a perspective view of the external parts of my improvement as applied to a multiple-way faucet. Fig. 2 is a vertical section thereof through the eduction-port. Fig. 3 is a vertical section
35 from the rear through the body of the faucet on a line with the two induction-ports, showing the valve closing the eduction-port. Fig. 4 is a longitudinal section through the several parts of the faucet to show the position
40 of the valve in relation to the respective ports in the four several positions which it is capable in the application of my improvement to a three-way-valve faucet. Fig. 5 is a top
45 view, partly in dotted lines, to show the position of the valve-stem with the valve-plate. Fig. 6 is an elevation of the valve stem or spindle, showing the vertical projection therein
50 which controls and carries the rotating valve, and showing also the packing and grinding plate, which fits in the recess of the cap of

the faucet. Fig. 7 is an inside front elevation of the rotating valve, showing its internal ribs, by which it is supported on and moved by the vertical projections on the valve-spindle.

55 The casing E is a cylindrical shell closed at the base and having two or more screw-threaded induction-ports D and D², two of which must be in line with each other, and an eduction port or nozzle D'. It must be noticed
60 in this connection, however, that the drawings illustrate a three-way valve having two induction-ports only, and for such construction a central rotating valve-plate (shown in
65 Fig. 7) is all that is necessary. Should the faucet have more than two induction-ports, a similar additional valve-plate must be provided, to be secured in like manner upon the other side
70 of the carrying-plate of the valve-spindle. The shell or casing E, with its ports, as described, is cast in a single piece and provided with an internal screw-thread at the top, into
75 which a screw-cap A is fitted. The said screw-cap is provided with a vertical cylindrical aperture, in which the upper end B of the
80 valve-spindle projects and fits snugly, so that it may be rotated by means of the handle H. The lower end B⁴ of the valve-spindle rests in a recess in the base of the casing E to steady
85 it. The valve-spindle, immediately below the portion which passes through the cap A, is provided with a plate B', which fits snugly in a recess of the same size in the base of the cap
90 A. Below the said plate B' there is cast upon the valve-spindle a flat plate B³, having projections B², as shown in Fig. 6. The valve,
95 as shown in Fig. 7, consists of a semi-cylindrical plate C, having internal vertical and parallel ribs C' C', arranged vertically and extending almost but not quite to the base of
100 the valve. The projections B² on the flat valve-plate of the spindle engage with the lower end of the vertical ribs of the valve. The result of this construction is that, having a casing or shell cast in a single piece, the
economy of that portion of the manufacture is assured from the consequent inability of the faucet leaking at any point other than the eduction-port or the top. The construction
of the top of the faucet is such that the ne-

cessity for packing or regrinding necessitated by wear is avoided, and also leakage at that point is obviated. The pressure of the water in the valve-chamber is such that it bears
 5 constantly against the plate B' of the valve-spindle and forces it into the recess of the cap A, forming a close-fitting packing, and any attrition from wear results only in regrinding by such action the seat of the plate B' in
 10 the recess of the cap, so as wholly to avoid leakage at that point. The pressure of the water being outward as well as upward, and the valve-plate C being semi-cylindrical, and therefore pressed outward by the column of
 15 water, and moving freely in that direction by its loose lateral play of the plate B³ of the valve-spindle, effectually closes the induction-port of the faucet not then desired to be
 20 therefrom. In like manner the closing of the eduction and one of the induction ports and prevention of leakage at those points is equally well accomplished by the means and for the reasons stated. The four several possible positions of the valve-plate C in its application to a three-way-valve faucet is shown in Fig. 4.

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

30 1. A faucet comprising a hollow casing having one or more inlet-ports and an outlet-port, an internally-recessed screw-cap A, closing the top of said casing or shell, a loose valve-spindle B, passing through said screw-cap
 35 and carrying a rotating valve, and a ring B', secured to said valve-spindle and adapted to fit in the recess of said screw-cap, said parts being constructed, combined, and arranged

relatively to each other, substantially as and 40 for the purpose set forth.

2. A multiple-way faucet consisting of a hollow cylindrical casing or shell E, open only at the top and having two or more inlet-ports and an outlet-port, all arranged annularly, an
 45 internally-recessed screw-cap A, closing the top of said casing E, a loose valve-spindle B, passing through the same and carrying a ring B', adapted to fit within the recess of the screw-cap, and a rotating semi-cylindrical
 50 valve carried by the said spindle B and operating to control one or all of both the inlet and outlet ports of the faucet at pleasure, said parts being constructed, combined, and arranged substantially as and for the purpose 55 set forth.

3. A faucet consisting of a cylindrical casing or shell provided with one or more induction-ports and an outlet port or nozzle, in combination with a screw-cap, a valve-spindle
 60 passing through the same and carrying a spindle-plate B³, provided with projections B², a rotating semi-cylindrical valve-plate C, provided with internal vertical and parallel ribs C' C', forming a guideway to receive the spindle-plate B³, and with which said projections
 65 B² engage in the vertical and rotating motions of the valve-plate C within the casing or shell, said parts being constructed, combined, and arranged substantially as set forth. 70

In testimony whereof I have hereunto affixed my signature this 1st day of February, A. D. 1889.

EZEKIEL VANGEZELL.

Witnesses:

DANIEL U. SNYDER,
 H. LAUSSAT GEYELIN.