C. A BLESSING.

Cock or Valve.

No. 221,506. Patented Nov. 11, 1879.

FIG. I.

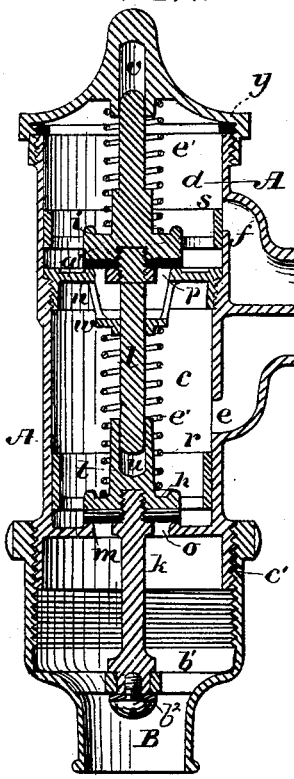
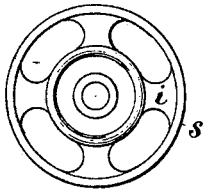


FIG. II.



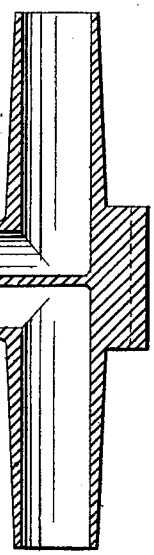


FIG. III.

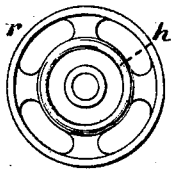


FIG. IV.

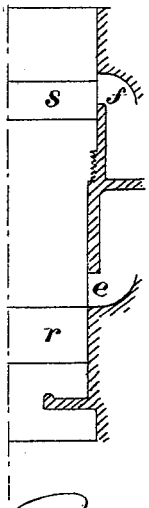


FIG. V.

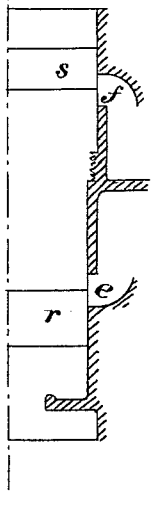
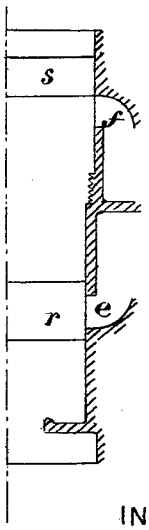


FIG. VI.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES A. BLESSING, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN COCKS OR VALVES.

Specification forming part of Letters Patent No. **221,506**, dated November 11, 1879; application filed October 1, 1879.

To all whom it may concern:

Be it known that I, CHARLES A. BLESSING, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cocks or Valves, of which the following is a specification.

This invention relates to certain improvements in cocks or valves; and it has for its object to provide a cock or valve by means of which hot or cold water alone, or mixed in any desired quantities, may be drawn from suitable sources connected with the valve by suitable pipes.

To this end the invention consists of a casing provided with two valve-chambers, communicating, by means of separate passages, with hot and cold water supplies, respectively, in combination with two independently-moving valves and suitable mechanism for actuating the same, whereby either cold or hot water alone or both together, mixed in any desired quantities, may be drawn off, as more fully hereinafter specified.

In the drawings, Figure I represents a sectional view of my improved cock or valve. Fig. II represents a top view of the upper valve-disk; Fig. III, a similar view of the lower valve-disk; and Figs. IV, V, and VI, diagrams showing the relative positions of the valves and ports for drawing off cold water, cold and hot water mixed, and hot water alone.

Referring to the drawings, the letter A designates the valve-casing, provided with two passages, *a b*, which may be connected, respectively, with cold and hot water supplies. The said casing is provided with two valve-chambers, *c d*, which communicate, by means of ports *e f*, with the passages *a b*, respectively. Within the valve-chambers are located the disk-valves *h i*, mounted on the vertical valve-stems *k l*, and seated, when in a normal position, on the seats *m n*, so as to close the ports *o p* and prevent the escape of the contents of the valve-chambers, the lower faces of the disk-valves *h i* being provided with elastic washers to effect a close joint in closing the cock.

Each valve constitutes a combined disk and cylinder valve, the cylindrical portions (indicated at *r s*) serving to control the ports *e f*, leading from the passages *a b* into the respective valve-chambers *c d*. The lower disk-valve, *h*, is provided with an extension, *t*, on top, which is recessed at *u* to receive the lower end of the valve-stem *l*, which has a longitudinal play therein for the purpose of allowing the valves to be operated either independently of or in conjunction with each other, as more fully hereinafter set forth.

The upper valve-stem, *l*, moves in and is guided by the recess *v* in the screw-cap Y, which tightly closes the top of the valve-casing, and the lower portion of said stem moves in a guide, *w*, secured to the partition *a'*. The lower valve-stem is secured to a bar, *b'*, extending across the interior of the discharge-nozzle, by means of a washer and screw, b^2, which prevents the screw-nozzle from being entirely screwed from the casing, and at the same time draws the lower valve down on its seat when closing the cock.

The cylindrical discharge B is provided with a female screw-thread, *c'*, and is adapted to ride upon the male screw-thread on the outer portion of the lower end of the valve-casing in such manner as to operate the valves, as more fully hereinafter explained.

The valves are each acted on by springs *e'*, by which the valves are held in a normal position, and automatically closed after being shifted; but such springs are not essential, as the pressure of water from within will effect this object when the screw-nozzle is screwed down to its normal position. The springs, however, are desirable, in order to assist the pressure of the water in closing the discharge-ports.

The operation of my invention is as follows: The parts being in a normal or closed position, as seen in Fig. 1, the disks of the respective valves will be closed upon their seats *m n*. The passage *a* being connected with a cold-water supply, and the passage *b* with a hot-water supply, upon turning or screwing up the discharge-nozzle B, so as to elevate the valve-stem *k*, the lower valve will be elevated from its seat, so as to permit the discharge of cold water alone, which will flow in through the port *e* and out through the port *o*, passing through the openings in the disk and cylin-

drical valve *h* and *r*, the upper valve remaining closed during such primary movement. Upon further elevating the discharge-nozzle the upper valve-stem will be elevated, carrying with it the upper valve, permitting hot water to flow into the valve-chamber *c* through the ports *f* and *p*, passing through openings in disk and cylindrical valves *i* and *s*, where it will mix with the cold water flowing in through port *o*. Upon still further elevating the valves the cylindrical portion of the lower valve will cover and close the port *e*, cutting off the flow of cold water, while the cylindrical portion of the upper valve will pass the port *f*, permitting hot water alone to pass out through the ports *f*, *p*, and *o*.

A cock or valve as thus constructed has the means for actuating the valve wholly below the casing and on the discharge-mouth, and no projecting levers are required, the screw-nozzle being neat and effective, and by its graduated movements effecting the entire control of the valve.

I have made the subject of a separate application filed on the same date with the present the combination, with the casing of a cock or faucet, of an adjustable screw-threaded nozzle fitting and adapted to ride upon the lower end of the screw-threaded casing, the nozzle being connected with the valve-stem carrying a valve for operating the same, and therefore do not here claim the said combination as broadly defined.

Having thus described my invention and its mode of operation, what I claim is—

1. The combination, in a cock or valve, of a valve-casing provided with two passages, communicating, respectively, with two valve-chambers, and independent disk and tubular valves and valve-stems connected with mechanism whereby said valves may be operated independently of or in conjunction with each other to open the lower ports for the discharge of cold water, to open all of the ports for the discharge of mixed hot and cold water, or to close the lower induction-port and open the remaining ports to discharge hot water alone, substantially as specified.

2. The combination, with the two independent valves seated in separate valve-chambers, of the screw-nozzle connected with the lower valve-stem and adapted to ride up and down the lower screw-threaded end of the casing, for the purpose of operating the valve, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

C. A. BLESSING.

Witnesses:

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ALBERT H. NORRIS.