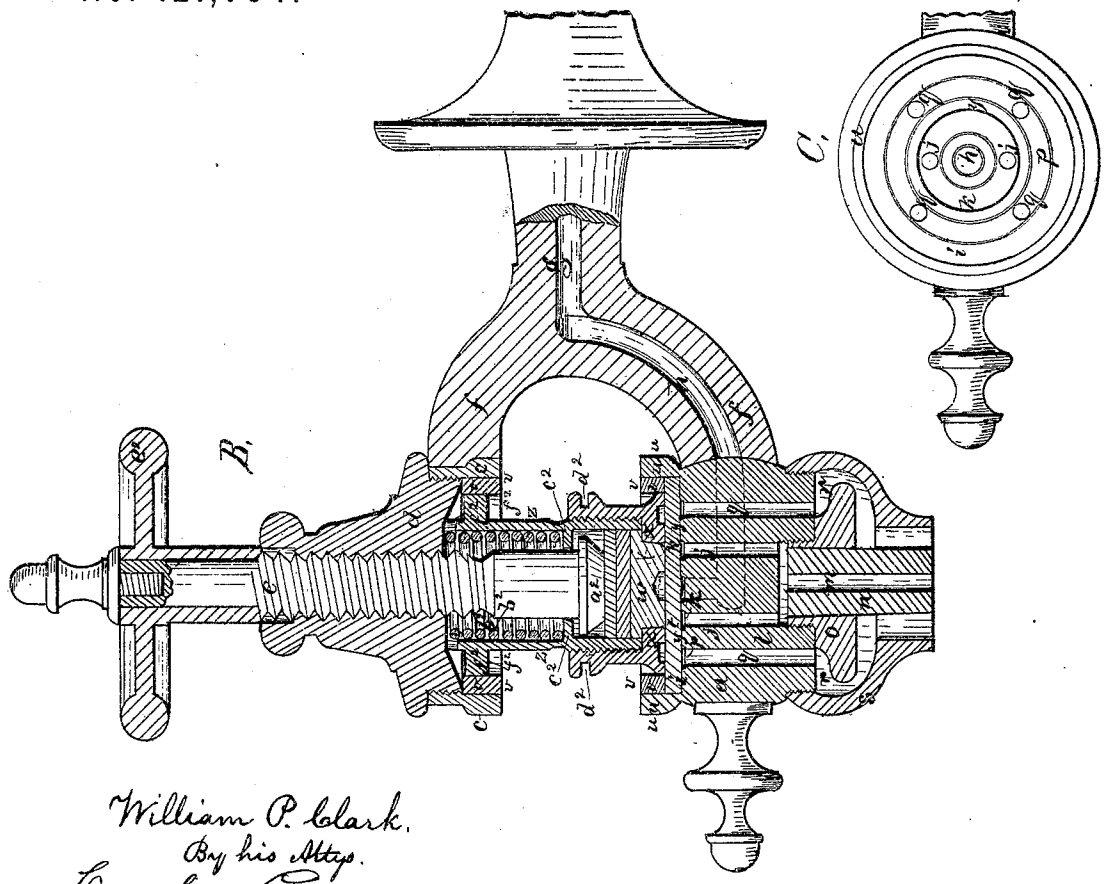
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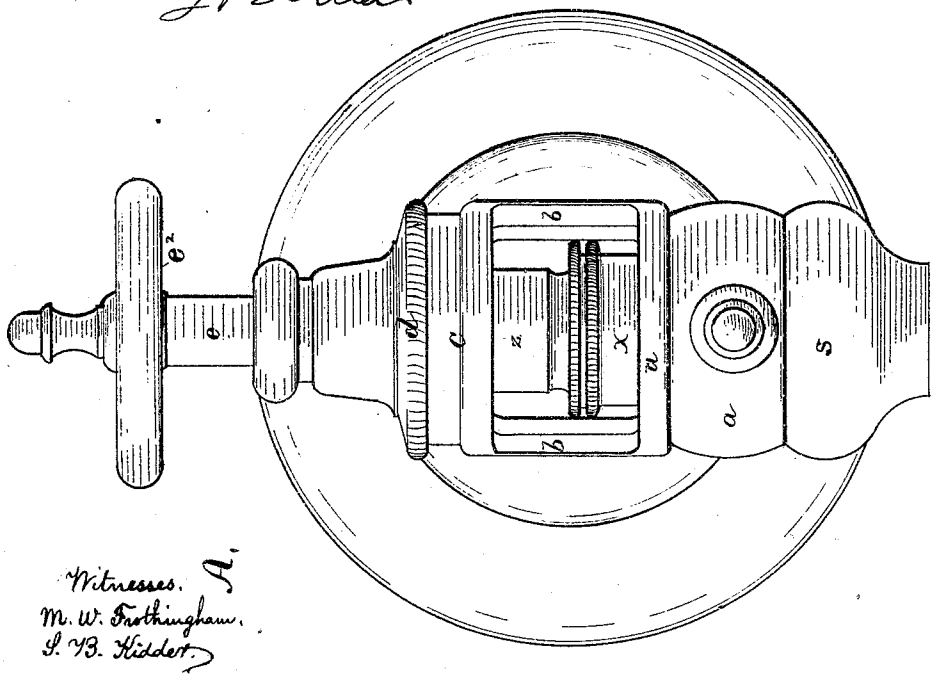
WILLIAM P. CLARK.

Draft Cock.

No. 121,754. Patented Dec. 12, 1871.



William P. Clark.
By his Attys.
Crosby & Gould



Witnesses.
M. W. Frothingham.
S. W. Kidder.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

WILLIAM P. CLARK, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN DRAUGHT-COCKS.

Specification forming part of Letters Patent No. 121,754, dated December 12, 1871.

To all whom it may concern:

Be it known that I, WILLIAM P. CLARK, of Medford, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Draught-Cocks; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

United States Letters Patent No. 56,709 were granted to me on the 31st day of July, 1866, for an improved draught-cock for soda-water apparatus, the purpose of my invention shown in said patent being to so arrange the valve of a stop-cock to a soda-fountain that, by a simple adjustment of the valve, there may be drawn sharp or flat soda, as desired.

My present invention relates to a new construction or arrangement of such cocks, the improvements having reference to a more simple and effective arrangement of parts, and to provisions for adjusting the force of the stream or the amount of gas-impregnated water discharged at a certain rotative movement or extent of rotative movement of the valve-stem or spindle. My invention consists in combining with the valve-spindle that operates the valve-closer, to open and close the center passage, an auxiliary valve-closer or ring operated by the continued movement of the spindle, the pressure of this ring being controlled by a spring, and this pressure and the position of the ring being made adjustable. The invention also consists in combining with the valve, valve-closer, and spindle an open ring or cylinder, which is driven or pressed down by the screw-cap and packs the edge of the disk-valve to make an impervious joint between the water-passages and the parts of the cock over them. The invention further consists in making the tops of the water-passages in one plane, so as to be covered and controlled by one valve. The invention further consists in making the central discharge-orifice in a removable tapering plug, so that tubes of varying bore may be interchangeably used.

The drawing represents at A and B, in front and sectional elevation, a cock or faucet embodying the invention C shows a plan of the valve-passages.

a denotes the body of the cock, in which are located the liquid-passages, said body being connected by two uprights, *b*, with a screw-threaded ring, *c*, upon which is screwed the cap *d*. The cap is centrally screw-threaded, and through it works the valve-spindle *e*, rotation of the spindle effecting the rise thereof. The cock is shown as applied to the front end of two arms, *f*, branching from the end of a horizontal tube, *g*, which forms the main passage for the soda-water from the charged fountain, said passage *h* extending through the lower arm *f* into the center of the faucet-body and up to the horizontal valve-seat *i*, as seen at B. From this valve-seat extend two vertical passages *j*, connected by a circular groove or channel, *k*, sunk into the top of the valve-seat concentric with the top of the center passage *h*, which lead down into a center chamber, *l*, from which chamber leads the delivery-passage *m* in the center of a tube, *n*, this tube being a tapering plug, slipped through and held by its form in a spreader and deflector-plate, *o*, screwed into the bottom of the faucet-body under the chamber *l*. This plug is readily slipped out by removing the plate *o* and pressing the plug up by hand; and it may be changed for others having different sizes of delivery-passages, so that large or small streams may be drawn, as may be desirable. Concentric with the center of the valve-seat is another groove or channel, *p*, sunk into the top of the valve-seat, a little further from its center than the channel *k;* and from this channel lead four, or any other suitable number, of liquid-ducts, *q*, which extend down from the valve-seat and discharge into a chamber, *r*, above the spreader and deflector *o*, this chamber leading into the circular delivery-space formed between the plug *n* and the inner surface of the nozzle or draught-tube *s*. The mouths of the center liquid-inlet passage *h*, the two adjacent outlet-passages *j*, and the several more distant outlet-passages *q* are all in one plane and are all covered by one flexible valve, *t*, confined within a circular flange, *u*, and pressed down all around its edge tightly against the valve-seat, and beyond the valve-passages by an open ring or cylinder, *v*, which extends up and through the ring *u*, and is forced down by the screw-cap *d* so as to make an entirely impervious joint at its edge, while the flexible nature of the valve permits it to yield over the valve-passages when the pressure upon it over such passages is removed. The center part of the valve is pressed down to the valve-seat, and so as to close the inlet-pas-

sage, by a button or disk, *w*, which is forced down by the screw-spindle, and which, when the spindle is started up, is released from pressure, so that the pressure of the charged soda-water from the fountain forces up the center of the flexible valve *t* and opens free communication from the inlet-passage *q* to the adjacent outlet-passages *j*. Communication with the outer passages *q*, however, is cut off by the bottom of a ring, *x*, which is screwed down to the circular face *y*, separatting the channel *p* from the channel *k*. This ring is nut-threaded and works on a screw-thread, *y'*, formed around the bottom of a sleeve, *z*, that encompasses the valve-spindle. This sleeve is confined between the ring *x*, at the bottom of the spindle *e*, and the cap, and is pressed down by the stress of a spring, b^2, the upper end of which bears against the under surface of the cap and the lower end against an annular shoulder, t^2, on the inside of the sleeve, the sleeve, in being pressed down by the spring, carrying with it the ring *x*, the pressure of the ring being regulated by turning the ring up or down, and thereby increasing or diminishing the stress of the spring.

When the spindle is rotated it rises vertically; and when its flange a^2 strikes the shoulder c^2 the sleeve is drawn up with the spindle, and thereby releases from pressure of the ring the part of the flexible valve over the channel *k* and the passages from the inlet-passage *h*, not only into the outlet-passages *j j*, but also into the outlet-passages *q*, delivering the gas-impregnated water in such body through the several passages, as to draw it flat, or without the pressure through the draught-tube at first required to mix the sirup and water. The extent of rotative movement of the valve-spindle required to release the valve both for the inlet *h* and outlet *j*, and for the outlets *q* is determined by the position of the ring *x* on the sleeve *z*. If the ring be turned up as high as permitted by the screw-threads the spindle and ring will start together, and all the passages will be opened at the start of the spindle. If, on the contrary, the ring be turned down to its fullest extent, or so as to force the sleeve up to its fullest extent, then the rotation of the valve-spindle will only operate the spindle and release the inlet-passage *h* and the passage *j* from the pressure of the valve *t*, the ring *x* remaining stationary upon its seat; and accordingly as the ring is screwed up on the sleeve *z* the amount of rotation of the spindle necessary to operate both the valve-spindle *e* and the valve-ring *x*, or to start the ring after the valve-spindle starts, is determined.

To vary the position of the ring it is provided with a milled head, d^2, accessible to the hand through the openings between the faucet-body and the cap-ring and the corresponding openings in the cylinder. The valve-spindle is provided with the ordinary hand-wheel e^2 for operating the spindle. Rotation of the sleeve *z* in operating the valve-spindle is prevented by ears or projections f^2, which enter slots cut in a ring or flange on the bottom of the cap.

I claim—

1. In combination with the valve-spindle *e*, the adjustable valve-ring *x*, operated substantially as described.

2. The valve-stem or spindle *e*, sleeve *z*, ring *x*, and spring b^2, combined and arranged substantially as shown and described.

3. The inlet-passage *h*, outlet-passages *j*, outlet-passages *q* having their upper orifices in one plane, covered by the single flexible valve *t*, substantially as shown and described.

4. In combination with the flexible valve *t*, valve-spindle *e*, and valve-ring *x*, the cylinder or ring *r*, extending from the valve to the screw-cap *d*, and forced by the screw-cap against the valve to pack it, substantially as shown and described.

5. In combination with the valve-ring *x*, the openings in the cylinder or ring *r* and in the faucet, to make the ring accessible to hand, substantially as described.

6. The removable outlet-tube *n*, formed as a tapering plug, to be slipped into the spreader *o*, substantially as shown and described.

WM. P. CLARK.

Witnesses:

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M. W. FROTHINGHAM. (167)