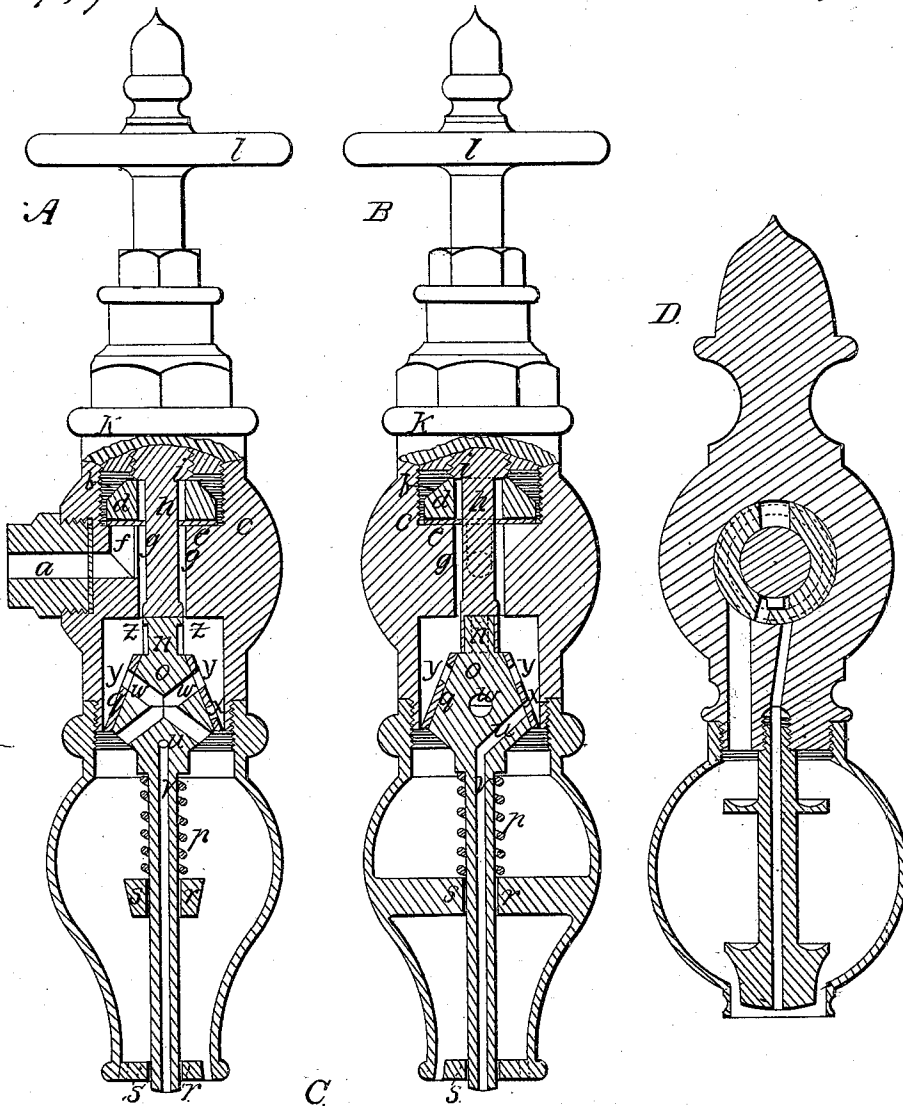


A. J. Morse.
Draught Cock.

No 91,703.

Patented Jun. 22, 1869.



Witnesses:

M. W. Frothingham
S. B. Kidder

by his atty Inventor
Cooley, Halsted & Gould

United States Patent Office.

ANDREW J. MORSE, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 91,763, dated June 22, 1869.

IMPROVEMENT IN DRAUGHT-COCK

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ANDREW J. MORSE, of Boston, in the county of Suffolk, and State of Massachusetts, have invented an Improved Draught-Cock for Soda-Apparatus; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practise it.

In several kinds of soda-water apparatus now in use provision is made for drawing the gas-impregnated water in two streams: first, in a fine stream, through a small orifice, to cause, by the force of the stream, a perfect intermingling of the sirup with the water, and then a large stream, through a broad orifice, for charging the glass as quickly as possible, so that the beverage can be drank before liberation of much of the gas.

My invention has reference to the construction of a draught-cock for drawing soda-water having this provision; and

The invention consists in so constructing the cock that the fine orifice, or passage to said orifice, is opened as the handle or hand-wheel of the cock begins to turn, while continuation of the movement of the wheel operates to close the small orifice or passage, and opens connection between the valve-chamber and the large eduction-tube or outlet for delivery of the main body of impregnated water for filling the glass or beverage-holder.

The drawings represent a draught-cock mechanism embodying my improvement.

A shows the cock, partly in vertical central section, and partly in elevation.

B is a vertical, central, and transverse section.

C is a horizontal section on the line *x z*.

a denotes the pipe leading from the fountain into the valve-chamber, *b*, in the body, *c*, of the cock, this chamber having a valve, *d*, pressure of which upon a seat, *e*, closes both the inlet, *f*, into the chamber, and the outlet, *g*, therefrom.

The valve may be loose upon a screw-spindle, *h*, a shoulder, *i*, or other projection from which forces the valve down upon its seat when the screw is turned down, while pressure of the gas-impregnated water forces the valve up, and allows the water to flow into and from the valve-chamber when the screw is turned up, the screw working in a suitable nut-thread formed in the cap *k*, and being turned by a wheel, *l*, or other suitable handle.

The valve-stem passes through the valve *d*, and down through a central hole in the body of the cock; and at its lower end it is connected to another valve-stem, *n*, of a conical valve, *o*, which is pressed up by a spring, *p*, against a seat, *q*, to which its conical valve-surface accurately fits.

The valve-spindle *n* extends below the valve, passing through guide-holes *r*, made in bridges *s*, extending across the chamber of the draught or outlet-tube *t*.

The valve *o* is always in contact with its seat, but has a fluid-passage, *u*, leading from one side of it, through, into a central passage, *v*, made through the spindle *n*, and several fluid-passages, *w*, leading from its upper or conical surface, through it, into the chamber of the draught-tube below.

The passage *u* is in a horizontal plane with an orifice, *x*, leading from the valve-seat, and communicating thereby with the valve-chamber *b*; and the valve-passages *w* are in a horizontal plane with orifices *y*, leading from the valve-seat, and also communicating with the valve-chamber *b*.

The valve-stem *h* is bifurcated at its lower end, and the top of the spindle *n* extends up into the stem *h*, one or more pins or projections, *z*, entering the notch or notches at the sides of the stem *h*, as seen in the drawings, so that, by turning the main valve-stem, the auxiliary valve *o* may be turned, as will be readily understood.

Each pin *z* is made smaller than the notch which it enters, so that the valve-stem *h* may be rotated slightly without imparting movement to the conical valve *o*.

The operation of the cock is as follows:

When the valve *d* is pressed down upon its seat *e* by the screw-spindle or valve-stem *h*, the valve *o* is in position to bring the fluid-passage, *x*, of the conical valve-seat into line with, or so as to open into the passage *u*, leading, through the valve *o*, into the central eduction-passage *v*, while each passage *y*, through the valve-seat, is closed by the surface of the valve, each two adjacent passages, *w y*, being out of line. If the screw-spindle is now turned slightly, no movement will be given to the conical valve; but the starting up of the spindle enables the valve *d* to be pressed up by the impregnated water, and such water will flow into the valve-chamber *b*, down around the stem *h*, into the space back of the valve-seat *q*, and thence, through the connecting-orifices or passages *x u*, into and through the central passage *v*, from whence it will be driven, in a fine stream, with such impetus, as to cause almost instant commingling of sirup, previously drawn into a tumbler, with the soda-water thrown thus into said tumbler; and, this mixing having been effected, the screw-spindle is rotated a little further, so as to turn the valve *o* in its seat, cutting off the communication between the passages *x u*, and bringing each two adjacent passages *w y* into line, when the soda-water will flow freely, through the valve *o*, into the chamber of the draught-tube below, from the large orifice of which it will flow in quantity, to quickly fill the tumbler, without liberation of the gas.

When the screw-spindle is turned down, the valve-

passages *w*, through the conical valve, and the fluid-passages *f g*, of the main valve-seat, will be simultaneously closed.

Thus, it will be seen, that by a very slight turn of the screw-spindle, the passage is opened for escape of a fine sirup-mixing stream, and, by a slight further turn of the same wheel, such forcibly-driven stream is cut off, and passages are opened for escape of several streams into the chamber of the draught-tube, in which they commingle, and from which they escape in a large stream, which quickly fills the tumbler from which the beverage is to be drank.

The arrangement of the parts may, of course, be modified, in accordance with the peculiar style or general construction of the cock; as, for instance, when the screw-valve spindle is arranged horizontally with respect to the draught-tube, as shown at D, where the end of the screw-spindle forms the main valve, and extends through the auxiliary valve, starting back the screw, opening the main valve, and allowing the soda-water to escape into and from the valve-chamber, through a small orifice leading through the bottom of

the auxiliary valve, into and through a fine tube leading down through and discharging at the bottom of the draught-tube, while, by turning the screw a little further, the auxiliary valve will be turned so as to cut off this fine passage, and open communication between the valve-chamber and a large orifice bored through the auxiliary valve, and through a large fluid-passage leading from the valve-chamber down into the main chamber of the draught-tube.

I claim a soda-water draught-cock, having a main valve, *d*, and an auxiliary valve, *o*, controlling fine-stream and main-stream orifices, both operated by one screw-spindle, when the parts are so constructed and arranged that, rotation of the screw-spindle having opened communication with the fine-stream orifice, continued rotation thereof shuts off such communication, and opens communication with the large-stream orifices *y y*, substantially as described.

ANDREW J. MORSE.

Witnesses:

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FRANCIS GOULD.