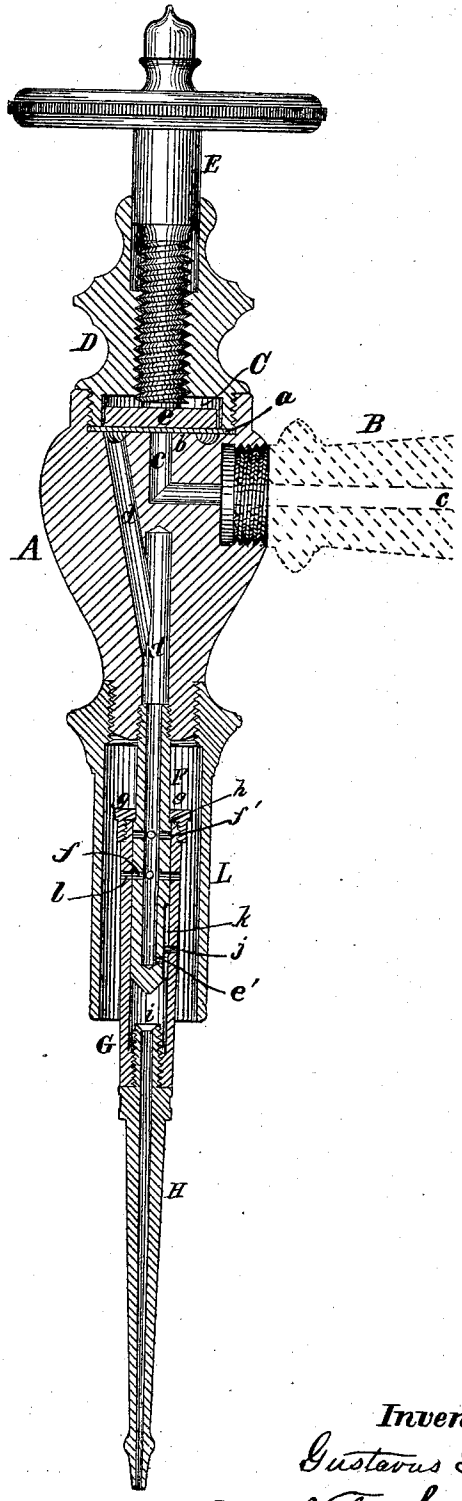
G. D. DOWS.

Draft-Cock for Soda-Fountains.

No. 222,680. Patented Dec. 16, 1879.




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# UNITED STATES PATENT OFFICE.

GUSTAVUS D. DOWS, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN DRAFT-COCKS FOR SODA-FOUNTAINS.

Specification forming part of Letters Patent No. **222,680**, dated December 16, 1879; application filed November 1, 1879.

*To all whom it may concern:*

Be it known that I, GUSTAVUS D. DOWS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Draft-Cocks for Soda-Fountains, of which the following, taken in connection with the accompanying drawings, is a specification.

My present invention relates to the construction of soda-draft cocks, and has for its object the production of cocks for that purpose which, while comparatively simple in construction, shall be most effective in thoroughly mixing the sirups with the soda, when sirups are used, and at the same time shall be capable of being changed in its manner of discharging the soda by a simple movement of the tumbler into which it is being drawn, so as to adapt it to produce the best result in drawing plain soda; and it consists, first, in the combination, in a soda-draft cock, of an inlet-passage closed by a valve or diaphragm, a central discharge-pipe of a length adapted to reach the bottom of the tumbler and discharge a small stream of the soda under pressure directly into the center of the mass of sirup contained therein, a second discharge-pipe surrounding the upper portion of said central discharge-pipe and extending downward to a point relative to said central pipe, that shall bring the lower end of said outer pipe or sleeve into, or nearly into, the mouth of the tumbler when said central pipe reaches its bottom, with a considerable space between said sleeve and the central pipe, and one or more radial holes through the sides of said central pipe, adapted to discharge a portion of the soda into the outer sleeve and against its walls, thus breaking the force of the pressure and allowing it to fall in a comparatively quiet state into the tumbler.

It further consists in constructing said central pipe in two parts telescopically connected, and provided with a valve and valve-seat, in such a manner that the lower portion may be readily moved upward upon the upper portion by pressing the bottom of the tumbler against its lower end, and thereby cause its valve and seat to be brought into contact, and thus shut off the flow of soda through said lower section of the central pipe, and cause the discharge of the entire supply through the lateral or radial holes into the outer pipe or sleeve, from whence it is discharged into the tumbler, the details of which device will be more fully explained in connection with the description of the drawing accompanying this specification, which is a central vertical section of so much of a soda-draft cock as is necessary to illustrate my invention.

A is the main body of the cock, designed to be screwed to the bracket or arm B, connected to the soda-fountain, a portion of which bracket or arm is shown in dotted lines. In the upper side of A is formed a chamber, C, closed by the cover D, provided with a female screw-thread, in which works the threaded spindle E, provided with a hand-wheel at its upper end, by which it may be operated.

A leather diaphragm, *a*, is placed on the seat *b*, so as to cover the inlet-passage *c* and the outlet-passage *d*, the outer edge of said diaphragm being clamped between the annular rim of the cover D and the outer portion of the bottom of the chamber C, and has resting upon its upper side the metal disk *e*, against which the end of the screw-spindle E impinges to force said diaphragm upon its seat, all constructed and arranged in a well-known manner.

The lower end of A has formed thereon a male screw-thread, to which is screwed the large straight pipe L, which extends about two inches (more or less) below the lower end of A, as shown.

Into the lower end of the discharge-passage *d* of the piece A is screwed the pipe F, having its lower end closed and made conical to serve as a valve, and provided with the side opening, *e'*, near its lower end, for the passage of the direct stream of soda under pressure, and the radial holes *f* and *f'*, the purpose of which will presently appear.

G is a sleeve fitted to and adapted to be moved up and down upon the pipe F, its downward movement being limited by the inwardly-projecting collar *g*, secured thereon, coming in contact with the shoulder *h*, formed upon the pipe F, as shown.

H is an open-ended pipe screwed into the lower end of the pipe G, and having formed in its upper end a conical seat, *i*, corresponding

to and adapted to co-operate with the valve on the lower end of the pipe F, to shut off the flow of the soda through the pipe H whenever it may be desired to do so by moving the pipes G and H upward till said valve and seat are brought into contact.

The pipe H extends sufficiently far below the lower end of the larger discharge-pipe L to reach the bottom of the tumbler into which the soda is to be drawn when the lower end of the pipe L is just within or near the top of the tumbler, and may be moved upward by raising the tumbler so as to press the bottom of the tumbler against its lower end in an obvious manner.

The pipe G is prevented from turning around the pipe F by the pin *j*, set therein, and the spline-groove *k*, formed in the side of the pipe F, said spline-groove also serving as a passage through which the soda escaping from the pipe F through the orifice *e'* finds its way beneath the pipe F and into the pipe H. The pipe G is also provided with a series of radial holes, *l*, so arranged as to coincide with the holes *f* in the pipe F when the pipe H is in its lowest position, and with the holes *f'* in said pipe F when the pipe H is moved upward into a position with the valve-seat *i* in contact with the valve on the lower end of the pipe F.

The operation of my improved draft-cock is as follows: When it is desired to draw soda with a sirup, the sirup is first drawn into the tumbler, and the tumbler is then held under the cock with the lower end of the pipe H in close proximity to the bottom of the glass, when, the hand-wheel being turned so as to raise the screw-spindle E, the pressure of the gases in the soda-fountain causes the diaphragm *a* to be raised, and the soda-water is forced through the passages *c* and *d* into the pipe F, a portion being forced through the orifice *e'* and the contracted passage of the pipe H under great pressure, and is discharged directly into the sirup, thoroughly mixing the sirup with the soda, while another portion is discharged through the radial holes *f* and *l* into the pipe L, against the vertical walls of which it is projected with considerable force, and then falls in a quiet state into the glass to make up the bulk of the beverage. If, however, it is desired to draw plain soda, the glass is placed under the cock and raised upward till the bottom of the glass comes in contact with the lower end of the pipe H and moves it upward till the seat *i* is brought into contact with the conical lower end of the pipe F, effectually closing the passage through the pipe H, when, if the hand-wheel be turned, the soda will all be discharged through the radial holes *f'* and *l* into the pipe L, impinging against its vertical walls, and then falls in a quiet state into the glass ready for use.

In case heavy sirups are used the whole of the soda may be made to flow through the discharge-pipe H with a corresponding increase of force by moving the pipe G H upward only so far as will bring the opening *l* in pipe G between the openings *f* and *f'* in the pipe F.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a soda-draft cock, the combination of a valve to close the inlet-passage and two discharge-pipes connected with the same source of supply, and made of such different lengths that the smaller pipe shall reach the bottom of the tumbler or glass when the lower end of the larger pipe is just within or near the upper end or the brim of said glass, substantially as and for the purposes described.

2. In a soda-draft cock, the combination of two discharge-pipes, arranged one within the other, when the inner pipe is provided with radial apertures to supply the outer pipe, and said pipes are made of such different lengths that the central pipe shall reach the bottom of the glass when the lower end of the outer pipe is just within or near the mouth of the glass, substantially as and for the purposes described.

3. In a soda-draft cock, the combination of the short outer discharge-pipe, L, and the long central discharge-pipe, G H, provided with the radial orifices *l l* and telescopically attached to and adapted to be moved endwise upon the pipe F, provided with radial orifices to match those in the pipe G H, substantially as and for the purposes described.

Executed at Boston, Massachusetts, this 23d day of October, A. D. 1879.

GUSTAVUS D. DOWS.

Witnesses:

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