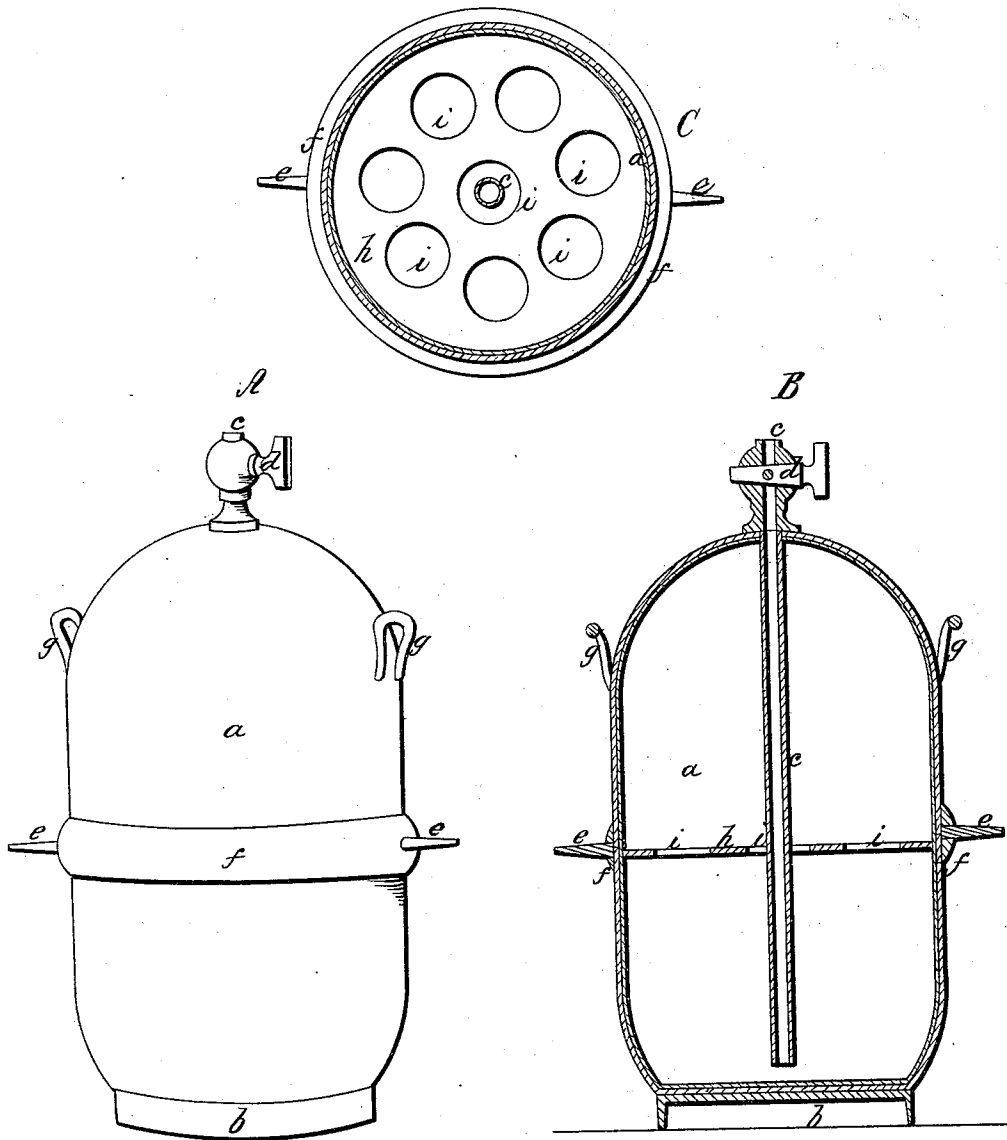


G. D. Dows.

Soda Fountain.

No 99,170.

Patented Jan. 25, 1870.



Witnesses;

*J. B. Kidder.
Mr. W. Frothingham.*

Inventor;

*G. D. Dows
by his Atty
Crosby, Hartney & Guler*

UNITED STATES PATENT OFFICE.

GUSTAVUS D. DOWS, OF BOSTON, ASSIGNOR TO HIMSELF, CALVIN DOWS,
OF SAME PLACE, AND GEO. S. CUSHING, OF LOWELL, MASS.

IMPROVEMENT IN SODA-FOUNTAINS.

Specification forming part of Letters Patent No. 99,170, dated January 25, 1870; antedated
January 12, 1870.

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 an Improved Soda-Fountain; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms parts of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to the construction of soda-fountains or vessels in which water is impregnated with carbonic-acid gas for the manufacture of the beverages known as "soda-water," and from which vessels such gas-impregnated water is drawn by its own pressure when thus charged or aerated. Such a vessel usually consists of an oblong cylindrical case, into which water is first introduced in quantity sufficient to two-thirds fill the vessel, carbonic-acid gas being subsequently let into the vessel through a suitable induction-cock and by means of an elastic pipe, while the vessel is rocked upon suitable trunnions, the rocking being designed to facilitate the impregnation of the water by such agitation of the body of the water as shall cause the gas and water to be intimately commingled. This is only effected, however, by great labor; and the object of my improvement is to make such provision in the construction of the fountain as shall cause the water to be quickly divided and subdivided in its movements through the vessel, so as to expedite and facilitate the process of impregnation by breaking up the body of water and bringing the parts into contact with the gas, my invention consisting in placing within the vessel breakwaters or obstructions which shall act under the rocking or oscillating movements of the vessel to break the water into jets, drops, or currents, thus bringing all the particles of the water into direct contact with the gas and causing it to be quickly charged.

The drawing represents a fountain embodying my improvement.

A shows the fountain in elevation. B is a vertical central section of it. C is a horizontal section of it.

a denotes the case or vessel, preferably formed of tin-lined copper, and standing upon a base, *b*.

c is the pipe through which the water and gas are introduced, the entrance to this pipe being controlled by a cock, *d*, and the pipe ex-

tending nearly to the bottom of the vessel, as seen at B.

ee denote two trunnions, by which the fountain is slung upon suitable bearings, so that it may be readily swung or oscillated, these trunnions projecting from opposite sides of a band, *f*, uniting or encircling the two halves or parts of the vessel.

g g denote the handles for lifting the vessel.

Extending across the chamber of the vessel is a stationary partition or diaphragm, *h*, perforated with holes *i*, as seen at B and C.

The vessel being first charged with water in sufficient quantity, and being slung or suspended by its trunnions *e*, so that it may be freely oscillated, the carbonic-acid-gas pipe is connected to the pipe *c*, over the cock *d*, and the cock *d* being then opened gas presses into the vessel through the pipe *c*. The vessel being now rocked, it will be obvious that the partition *h* and its perforations will cause the water to break into many parts as it rushes from end to end of the cylinder through the perforations, and that the gas displaced by the moving water and the gas entering through the pipe *c* will be brought into intimate contact with all the broken parts of the body of water, causing the whole body to be rapidly charged or impregnated with the gas, or, in other words, to be speedily manufactured into soda-water.

Several diaphragms or partitions may be used, or spurs or projections may extend inwardly from the inner surface or wall of the vessel in such manner as to obstruct the free passage of water from end to end and break it into divisions. I prefer, however, the perforated partition or partitions *e*.

By this construction soda-water is prepared much quicker and more easily and is better impregnated than by the old construction.

I claim—

A soda-fountain made as a closed vessel, with trunnions and with an inlet-pipe reaching from the top to near the base of the fountain and within it, and with a controlling valve or cock, when such fountain is provided with a perforated diaphragm or obstructions, substantially as specified.

GUSTAVUS D. DOWS.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.