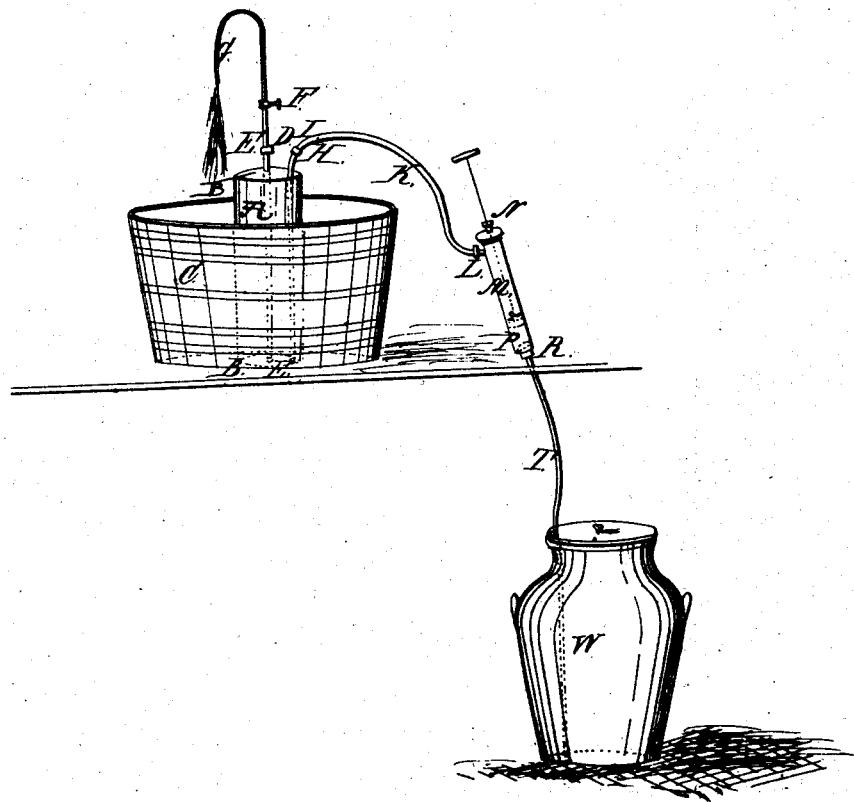


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L. B. Swan,
Soda-Water Apparatus,
N^o 995. Patented Nov. 3, 1838.



Witnesses;

Stillman V. Loringworthy.
James C. Wells.

Inventor;
Loring & Swann.

UNITED STATES PATENT OFFICE.

LANSING B. SWAN, OF ROCHESTER, NEW YORK.

ATMOSPHERIC SODA-WATER FOUNTAIN.

Specification of Letters Patent No. 995, dated November 3, 1838.

To all whom it may concern:

Be it known that I, LANSING B. SWAN, of the city of Rochester, in the county of Monroe and State of New York, have invented
5 a new and Improved Apparatus for and Mode of Preparing Soda-Water; and I do hereby declare that the following is a full and exact description.

To enable others skilled in the art to make
10 and use my invention, I will proceed to describe its construction and operation. I construct a cylindrical receiver or air vessel A of tin or copper or other suitable material, with convex ends B of sufficient capacity to
15 contain about four gallons more or less, being about 20 inches in length and about 9 inches in diameter more or less. I place this vessel in a wooden tub C of sufficient dimensions to contain ice for cooling.
20 Through the center of one of the heads of this cylinder I insert a tube of tin or some other suitable material D about $\frac{3}{8}$ of an inch in diameter descending to the bottom and open at the ends E E. In this tube I
25 insert a stop cock F, and at its upper termination attach a discharging pipe G with an orifice $\frac{3}{32}$ of an inch in diameter. Through the margin in the same head of the cylinder I also insert another tube of similar material and dimensions H, open also at the ends
30 and in like manner descending to the bottom. At the upper end of this tube I sometimes for the better security of the liquid in the cylinder or air vessel place a valve opening downward I, connected by means of a
35 lead pipe K of about the same diameter, with the discharging aperture L of a forcing pump M, about 12 inches in length and 2 inches caliber. This pump I construct of
40 zinc or some other suitable material with a packing box at the top N around the piston rod, a valve in the piston opening inward O, and also a valve P at the bottom of the pump opening in the same direction. To
45 the lower end or receiving aperture of the pump R, I attach a lead pipe of the same diameter as above T and of sufficient length to pass into a reservoir of stone or some other suitable material W of sufficient capacity to contain about 12 gallons more or
50 less, and placed in a cellar or at a convenient distance in any other situation.

To put my fountain in operation, I prepare any of the varieties of syrup in the
55 usual form, and dissolve in each gallon of

the same 7 ounces of tartaric acid. I then put into the reservoir any quantity of pure water which it will contain and dissolve in each gallon thereof 1 ounce of supercarbonate of soda. I then apply the hand to the
60 pump and after forcing into the air vessel or cylinder a sufficient quantity of the solution of supercarbonate of soda from the reservoir, to procure as rapid a discharge as is desired. I pour into a $\frac{3}{4}$ pint tumbler about
65 1 fluid ounce of the syrup prepared as before mentioned and open the stop-cock until the tumbler is filled.

The manner of its operation in producing soda water is thus: The cylinder being perfectly closed and also filled with atmospheric
70 air, this air, in consequence of the water forced into it by the pump, becomes compressed and being a very elastic fluid its expansive power is exerted upon the liquids in
75 the cylinder, causing it to pass out rapidly when the stop-cock is opened. The syrup containing an acid and the liquid in the cylinder or fountain a carbonated alkali, the instant they are brought in contact a chemical
80 decomposition takes place, carbonic acid gas is produced, and the consequent effervescence ensues.

Having thus fully described the construction and operation of my atmospheric soda
85 water fountain, I do hereby declare that I do not claim as my invention either of the individual parts of the apparatus described, the various devices used by me being such as are well known and in common use, but as I
90 verily believe not combined together and co-operating with each other, in the manner above set forth.

What I do claim, therefore, is—

The placing of a carbonated alkaline solution in a suitable vessel for containing the
95 same, and causing it to pass, as wanted, into a receiver, or air vessel, by means of a force pump, thereby condensing the atmospheric air contained therein, and thus causing it to operate like the ordinary soda-
100 water fountain, the whole connected, combined, and operating substantially in the manner, and for the purpose, herein set forth.

LANSING B. SWAN.

Witnesses:

WM. W. ELLSWORTH,
LINTON THORN.