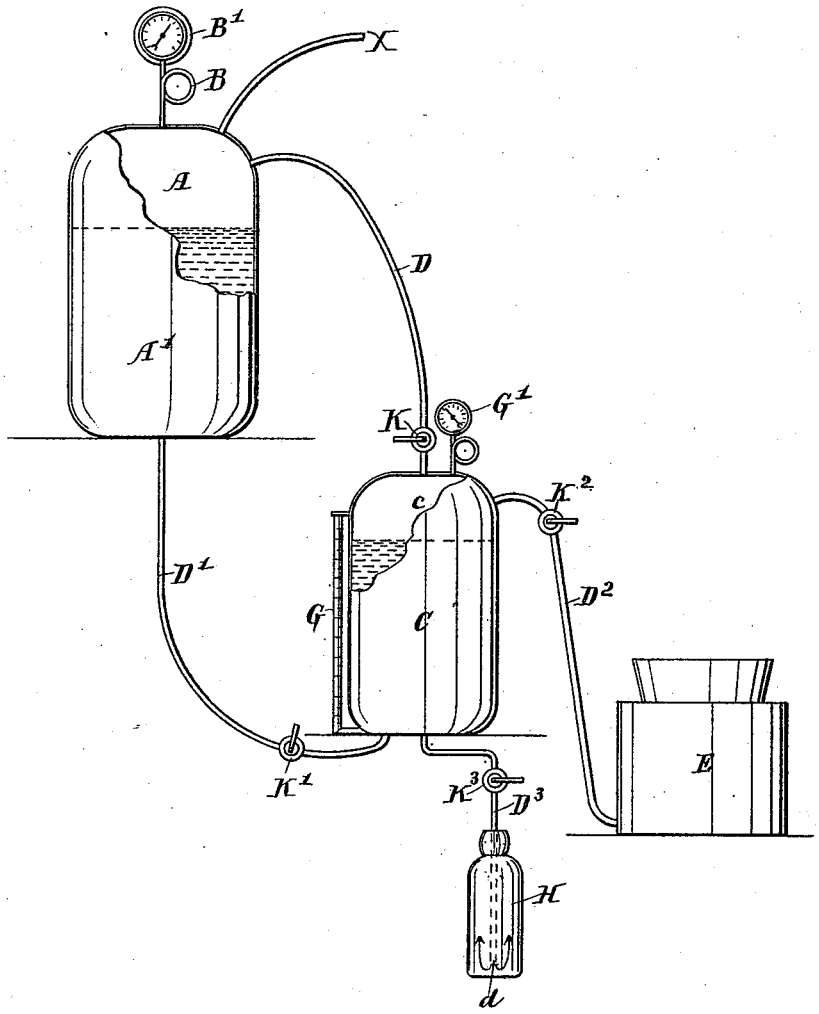
(No Model.)

H. ROBERTSON.

BOTTLING CARBONATED FLUIDS.

No. 490,681. Patented Jan. 31, 1893.



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HARRY ROBERTSON, OF JERSEY CITY, NEW JERSEY.

BOTTLING CARBONATED FLUIDS.

SPECIFICATION forming part of Letters Patent No. 490,681, dated January 31, 1893.

Application filed June 23, 1891. Renewed December 23, 1892. Serial No. 456,178. (No model.)

To all whom it may concern:

Be it known that I, HARRY ROBERTSON, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Bottling Carbonated Fluids, of which the following is a full and true description, enabling others skilled in the art to which it pertains to make the same.

My invention relates principally to the bottling of carbonated waters, but its uses may be extended to any fluid charged with gas natural or artificial, such as wine, beer or the like.

The object of my invention is to secure a safe and reliable means for bottling effervescent fluids and by exerting a uniform and indicated pressure upon the moving fluid.

The accompanying drawing in which like letters refer to like parts fully illustrates my device.

The figure is a perspective and part section of my device.

A is a reservoir.

A′ is the fluid contents of reservoir.

B is a pipe leading to the pressure gage B′.

C is the supply fountain.

D. D′, are the pipe connections between the reservoir and fountain.

D^2 is the pipe connection between the fountain and gasometer E.

D^3 is the discharge pipe.

G is a water gage on fountain.

G′ is a gas gage on fountain.

X is the supply pipe of reservoir A.

H is a bottle.

d is the end of discharge pipe D^3.

In this invention, the process of carbonating the fluid is not an essential element; the carbonated fluid, (water for instance) is pumped or otherwise forced into reservoir A, through the pipe X under pressure which is indicated by the pressure gage B′, the cocks K and K′, on the pipes D, and D′, being closed to prevent any of the water or gas flowing into the fountain C; the best working condition of the reservoir is to have its fluid contents A′, fill about two-thirds, and the gas one-third, with a gas pressure greater than the weight of the water it contains. The reservoir A is placed above the distributing fountain C as shown; when the bottling apparatus is to be used, the cocks K′, K^2 and K^3, are first closed, and the cock K, on the pipe D, leading from the upper part of A, where the gas is held, to the upper part of C, is opened, as the fountain C is empty the gas pressure is at once equalized in both A, and C; the cock K′, on the pipe D′, leading from the lower part of the reservoir to the lower part of C is now opened, the gas pressure in both A and C being equal, the water flows by gravity at first, from A to C, and afterward by both gravity and top pressure of gas, until at length the fountain C is nearly filled, the water gage G shows the amount of fluid contents of C,—the cocks K and K′ are now shut, and the cock K^2, on the pipe D^2, leading into the gasometer E is opened, this allows the gas at *c* to pass into the gasometer E and expand, thus reducing the pressure on the fluid contents of C′ to a condition suitable for bottling with safety. The fluid in C, being now in a condition to bottle, that is done by placing the tube D^3 into the bottle H, or vessel to be filled, with the nozzle *d*, almost touching the bottom, in this manner, the bottle can be filled by simply turning on the cock K^3, on the outlet pipe until the vessel is filled when the cock K^3 is shut off, the tube D^3 withdrawn, and the bottle H corked or stoppered during the whole operation the fluid is kept at a low temperature by ice or cooling device in order to retain a greater amount of gas.

In handling the bottle for filling, I prefer to have the filler place the bottle in position as described, and withdraw the same when filled by hand, always keeping the cock controlling the flow through the discharge nozzle under control, hence no bench for the rest of the bottle is shown.

In the manufacture of my device, I preferably use metal for all parts except the indicators. More than one outlet pipe may be also used to facilitate the bottling.

From the above it will be seen, that the carbonated fluid being discharged into the receptacle at the bottom, allows of the escape of the atmospheric air through the neck or top. In this manner of filling the bursting of the bottles is avoided, as a uniform pressure is always attainable, while the waste, now so great,

caused by the overflow of vessels, is almost entirely avoided, as the supply cock on the discharge pipe is always under control.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

The combination in a device for bottling carbonated fluids of a main chamber adapted to be partially filled with fluid and gas, connected to an auxiliary chamber by two pipes, one of which controls the gas flow, and one the fluid flow, the auxiliary chamber having a fluid gage, and a gas pressure gage upon it, and a gas chamber connected to the auxiliary chamber by a pipe; the pipe connections between the different chambers being controlled by cocks, as and for the purpose herein described and set forth.

HARRY ROBERTSON.

Witnesses:
BISHOP A. CHAMBERLIN,
ALFRED BEATTIE, Jr.