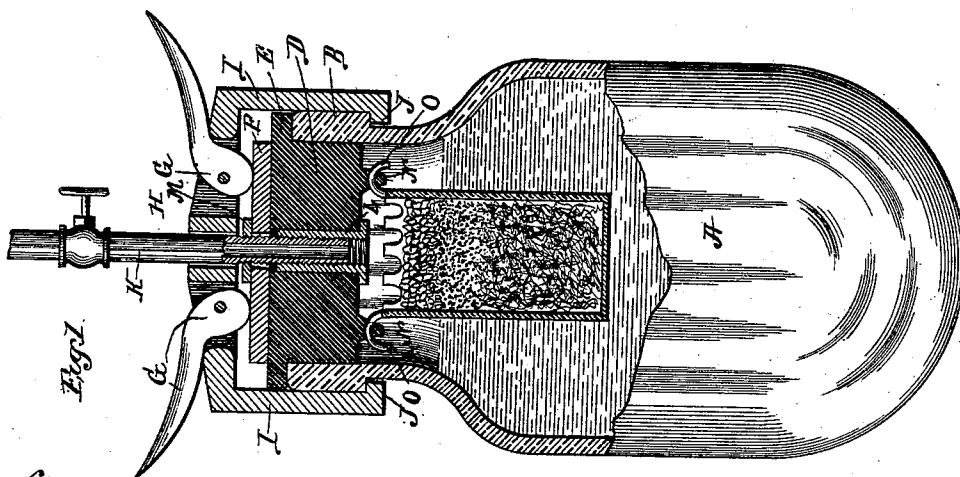
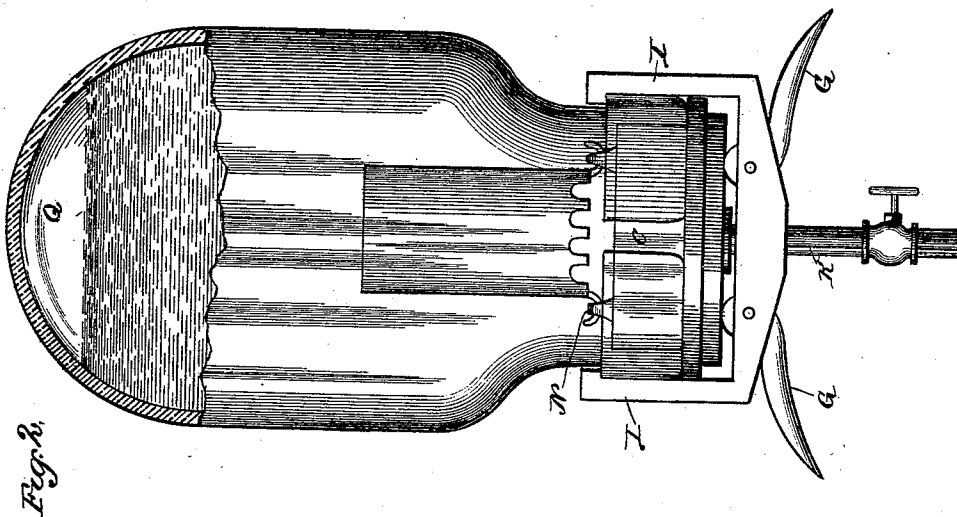


(No Model.)

W. T. THACKERAY.  
CARBONATING APPARATUS.

No. 437,318.

Patented Sept. 30, 1890.



Witnesses.  
W<sup>m</sup> M. Rheem.  
J. R. Andrews.

Inventor,  
*Wm. F. Thackeray*  
 By *Elliot & C. Cochran*  
 Attys.

# UNITED STATES PATENT OFFICE.

WILLIAM T. THACKERAY, OF CHICAGO, ILLINOIS.

## CARBONATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 437,318, dated September 30, 1890.

Application filed January 7, 1890. Serial No. 336,199. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM T. THACKERAY, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Carbonating Apparatus, of which the following is a specification.

This invention relates to improvements in carbonating apparatus more especially designed for domestic purposes or for the use of physicians for carbonating mineral and other waters, and particularly the manufactured mineral waters—such as soda, vichy, seltzer, and other mineral waters—used as beverages.

In the prior form of apparatus heretofore employed for this purpose, so far as I am aware, a siphon has invariably been employed for drawing the water from the retort or vessel in which it is contained, utilizing the pressure of the gas therein upon the top of the water for forcing it out through the siphon; but this apparatus, aside from the expense thereof, is further objectionable because, as demonstrated by practice, before the contents of the bottle are entirely discharged a considerable portion of the gas has escaped which, combined with the expansion thereof, renders it difficult, if not impossible, to discharge all of the liquid from the vessel, besides which a quantity of the gas which should be absorbed by the liquid is frequently reduced to an objectionable and undesirable extent.

The prime object of this invention is to dispense with the employment of a siphon for drawing carbonated waters and to utilize the gravity of the water, combined with the pressure of the gas in the containing-vessel, for discharging the liquid therefrom.

Another object is to utilize the water as a seal for confining the gas in the vessel and to absolutely insure the taking up or absorption by the liquid of the maximum and desirable quantity of gas, whereby the escape of the gas from the vessel is prevented and the pressure thereof utilized to discharge all of the liquid from the vessel.

Other objects are to enable the manufacture and carbonating of waters in small quantities and at comparatively small extent, so

that the water need not be manufactured until desired for immediate use, and to provide certain details in the carrying out of my invention, all as illustrated in the accompanying drawings, in which—

Figure 1 represents a central vertical section through a carbonating apparatus embodying my invention, showing the same in position ready for use and before the water is manufactured or carbonated; Fig. 2, a side elevation of the same, partly in section, showing the apparatus inverted, at which time the water has been manufactured and carbonated and is ready to be drawn from the vessel.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the retort or containing-vessel, which is preferably a cylindrical jar of any suitable capacity, provided at the top of the neck thereof with an annular flange B, through which is cut a vertical slot C for convenience in securing the clamp to the vessel, as will be more fully described farther on. Within the neck of the jar fits a rubber or other elastic and gas-tight cork D, provided with a flange E, fitting over the end of the neck of the jar so as to act as a gasket for rendering the joint air-tight when in use, a metallic plate F, corresponding in size with the body of the cork, resting upon the flange or head of the cork and being held in close relation thereto by means of eccentric or cam levers G, pivotally secured to a clamp H, which latter is in turn detachably connected with the jar, but so as to resist the strain of the cam when in operative position by means of depending legs I thereon straddling the neck of the bottle and provided with inwardly-turned feet J, which are passed through the slot C in the flange B to the under side of the flange, and the clamp then given a half-turn so that the feet will engage the under side of the flange.

The plate F and the clamp H are perforated at their centers to permit the passage of the shank of a faucet K, the inner end of which is preferably screw-threaded and engages a correspondingly screw-threaded thimble se-

cured in the center of and passing through the stopper, this thimble being provided with a flange on the lower end thereof bearing against the under face of the stopper, while the faucet is provided with either a fixed or adjustable flange or collar M, bearing against the upper face of the plate F, these two flanges serving to bind the plate, stopper, and faucet together for convenience in removing the parts from the jar, they being removable with the clamp. On the underside of the stopper is formed any desirable number of perforated lugs N, through which pass hooks O, formed on the upper edge of a mineral-containing cup P, which is thereby suspended in the jar and maintained at all times in proper position.

In operation the retort is first filled with a sufficient quantity of pure water, and the cup is then filled with the proper proportion of powdered chemicals attached to the stopper, and the stopper inserted in position in the manner before indicated, suspending the cup in the vessel, displacing a portion of the water contained therein. The apparatus may be kept in this condition (illustrated in Fig. 1) ready for immediate use, when desired, it being understood that the vessel is now sealed and rendered both water and gas tight. When desired to use the water, it is only necessary to invert the vessel, as illustrated in Fig. 2, when the water therein will come in contact with the powder in the cup and effect its solution and carbonation, ready for instant use. With the parts in this position, that portion of the gas generated by the solution and not absorbed by the water will be confined in the upper portion of the vessel at Q, out of contact with any of the joints thereof, for which the water in the vessel now acts as a seal, and the water may be readily drawn off from the bottom of the vessel through the faucet under the influence of the gravity thereof and the pressure of the gas in the upper portion of the vessel, carrying with it or permitting the escape of only such portion of the gas as is absorbed thereby and which it is desirable to discharge with the water.

By the employment of this apparatus the use of a siphon for drawing off the water is dispensed with, and carbonated waters may be quickly and simply manufactured in any desirable quantity and only when needed for immediate use, the apparatus combining in

the maximum degree safety, simplicity, and facility in its operation, together with durability and economy of construction.

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

1. In a carbonating apparatus, the combination, with an invertible retort and a rubber stopper therefor, provided with an annular flange on the upper end and depending perforated lugs on the lower end thereof, of a chemical-containing cup attached to and suspended from said lugs, a metallic plate resting upon said stopper, a clamp therefor, and a faucet projecting through said plate and stopper, substantially as described.

2. In a carbonating apparatus, the combination, with an invertible retort provided with an annular flange on the neck thereof, and a rubber stopper therefor, provided with an annular flange on the upper end and perforated lugs on the lower end thereof, of a chemical-containing cup attached to and suspended from said lugs, a metallic plate resting upon said stopper, a clamp engaging the flange on the retort, cam-levers pivoted thereto and bearing upon said metallic plate, and a faucet passing through said clamp-plate and stopper, substantially as described.

3. In a carbonating apparatus, the combination, with an invertible retort, an annular flange on the neck thereof, provided with vertical slots, and a rubber stopper fitting in said neck, provided with an annular flange on the upper end thereof and perforated lugs on the lower end thereof, of a chemical-containing cup attached to and suspended from said lugs, a metallic plate resting upon said stopper, a screw-threaded thimble secured to and projecting centrally through the stopper, a faucet provided with a screw-threaded shank engaging said thimble, a flange or collar thereon bearing upon the metallic plate, the clamp provided with inwardly-turned feet for engaging the under side of the retort-flange, and cam-levers pivoted thereto and bearing upon the metallic plate, substantially as described.

WILLIAM T. THACKERAY.

Witnesses:

R. C. OMOHUNDRO,  
W. R. OMOHUNDRO.