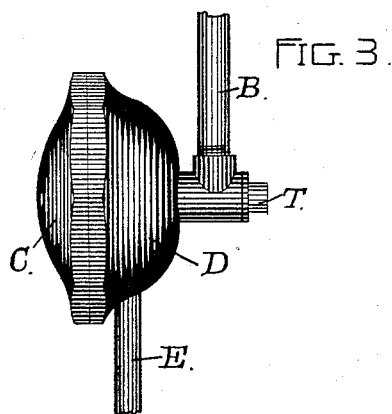
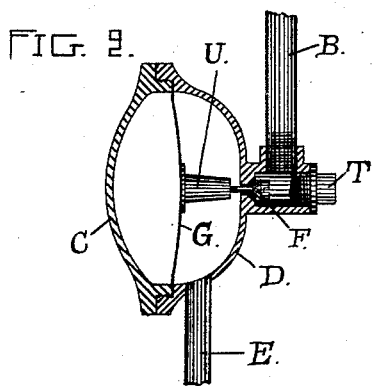
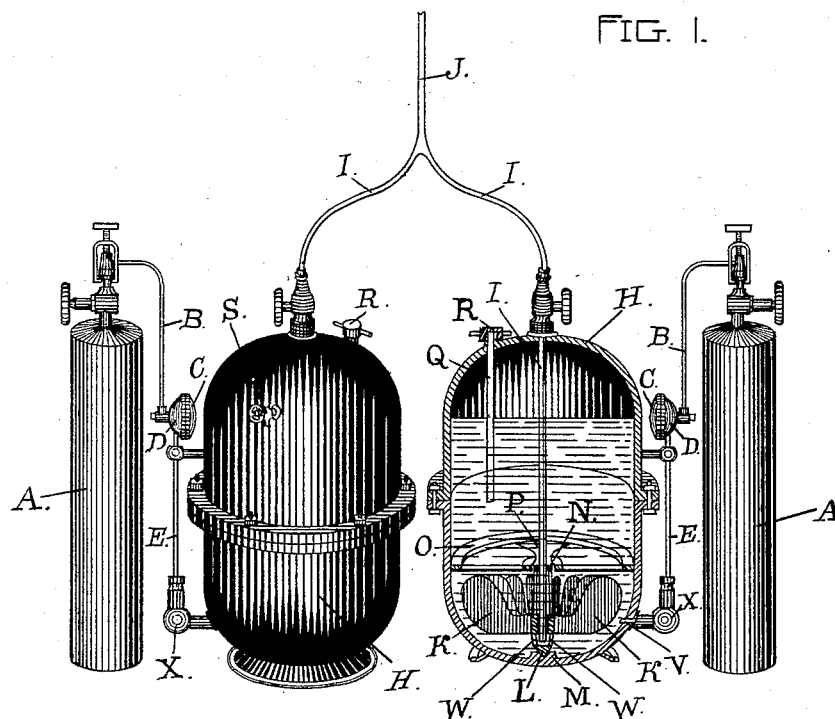


(No Model.)

C. W. GIBSON.  
BEVERAGE CARBONIZER.

No. 422,203.

Patented Feb. 25, 1890.



ATTEST,  
*John H. Redstone*  
*Chas. A. Parmelee*

INVENTOR,  
*Chauncey W. Gibson*

# UNITED STATES PATENT OFFICE.

CHAUNCEY W. GIBSON, OF SAN FRANCISCO, CALIFORNIA.

## BEVERAGE-CARBONIZER.

SPECIFICATION forming part of Letters Patent No. 422,203, dated February 25, 1890.

Application filed August 16, 1889. Serial No. 320,976. (No model.)

*To all whom it may concern:*

Be it known that I, CHAUNCEY W. GIBSON, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented a new and useful Improvement in Beverage-Carbonizers, of which the following is a specification, reference being had to the accompanying drawings and the letters referring thereto.

Figure 1 is a perspective view showing one fountain in section cut vertically through the center; Fig. 2, a sectional view of the automatic pressure-regulator; Fig. 3, a perspective view of the automatic pressure-regulator.

A represents the pressure-chamber which supplies the gas to the fountain; B, the pipe which connects the pressure-chamber and pressure-regulator; C and D, the two parts forming the case of the pressure-regulator; E, the pipe which connects the pressure-regulator and fountain; F, the valve which is opened and closed by the pressure of the gas in the fountain to regulate the supply of the same; G, the diaphragm which operates the valve F to open and close the same, as will be shown; H, the fountain; I and J, the pipes connecting the fountain with any suitable dispenser; K, the agitator for thoroughly mixing the gas with the liquid, as will be shown; L, the point of the spindle, which serves as the journal for the agitator; M, the step in which the point or journal of the agitator revolves; N, the collar in which the upper journal of the agitator revolves; O, the guide-supporting rim; P, the centering-guide to direct the service-pipe I centrally when being placed down into the fountain; Q, the pipe for filling the fountain; R, the cap for the pipe Q; S, the vent and overflow-valve; T, the plug for closing the opening through which the valve F is placed, and by means of which it is readily reached for the purpose of regulating the required pressure in the fountain; U, the connecting-block for the valve-stem to connect the same with the diaphragm; V, the nozzle through which the gas is discharged against the wings of the agitator; W, the arms which connect the stirrer or agitator with its point-journal.

The following is the construction of my improved "beverage-carbonizer:" I employ

a pressure-chamber A, of steel or other strong metal, to safely contain a pressure exceeding six hundred pounds to the inch. I produce this chamber A in a cylindrical form, as shown, and about the height of the fountain which it supplies, for convenience of construction and operation of the system. The reservoir A is generally charged with gas at a pressure exceeding six hundred pounds to the inch.

I construct the fountain of such metal as is generally employed in that class of manufacture.

I connect the automatic pressure-regulator C, D, F, G, and U with the pressure-reservoir A by any suitable pipe B. I form the pressure-regulator of metal and screw the parts C D (which form the case) together with the diaphragm clasped and made perfectly tight with an ordinary lead-joint.

The following is the operation of my improved beverage-carbonizer for the purpose of thoroughly mixing the gas with the liquid and maintaining any required pressure equal in degree from the first until the fountain is empty of liquid: To illustrate more clearly how this is effected, I will here particularly describe the construction and operation of the diaphragm and valve. I form the diaphragm of good springy sheet metal, which will allow a movement or vibration sufficient to close the valve F when the pressure is applied to the same. When there is no pressure against the diaphragm, the valve F stands open, as shown in Fig. 2, and as the pressure is applied it is gradually drawn down to its seat. When it is required to increase or diminish the pressure in the fountain, the plug T is taken out and the valve F is either screwed in or out, as required, thus requiring greater or less motion of the diaphragm and a corresponding variation in the pressure brought against the diaphragm. It must be understood that the pressure in the reservoir A is sufficient to insure a surplus after the fountain has fully discharged its liquid contents. When the fountain is filled with the liquid, the vent or overflow-valve is open. The liquid is poured in through the pipe Q until it overflows at the vent S, the pipe Q extending below the vent or overflow-valve S. The part of the fountain above acts

as an air-chamber and prevents the liquid from going in above that point. It also secures a detection of any leak when the cap R is placed upon the pipe Q, as the gas cannot  
5 escape without forcing out the liquid, as will be readily seen from the position of the lower end of the pipe Q, as shown. Thus prepared, the fountain is closed up tightly and opened through the nozzle W to receive its charge of  
10 carbonic-acid gas, which being driven with great force against the wings of the agitator K, it is revolved and thoroughly agitates and mixes the gas with the liquid in the fountain.  
When it is required to open the fountain  
15 and get at the interior construction of the same, it is separated at the flanges in the center and the pipes I and Q withdrawn with the upper portion of the fountain. The guide P secures the centering of the pipe I and  
20 guides it down through the center of the agitator K. It is bolted together in the usual manner for connecting articles of that class of manufacture.

Having thus described my invention in bev-

erage-carbonizers, what I claim, and desire to 25 secure by Letters Patent, is—

1. The combination of a fountain, a rotary agitator journaled therein, provided with a hollow spindle having a pivotal point in axial line therewith, an opening between said spin- 30 dle and point, and a depending tube passing through the hollow spindle and having connections with said opening and the fountain discharge-pipe.

2. The combination of a fountain having a 35 discharge-pipe, a rotary agitator journaled therein, and guides, as O and P, for centering the discharge-pipe and agitator.

3. The combination of a fountain, an agitator having a hollow journal-bearing and 40 pivoted at one end in said fountain, and a removable pipe-connection extending into the fountain and agitator and constituting another bearing for the agitator.

CHAUNCEY W. GIBSON.

Witnesses:

JOHN H. REDSTONE,  
CHAS. A. PARMELEE.