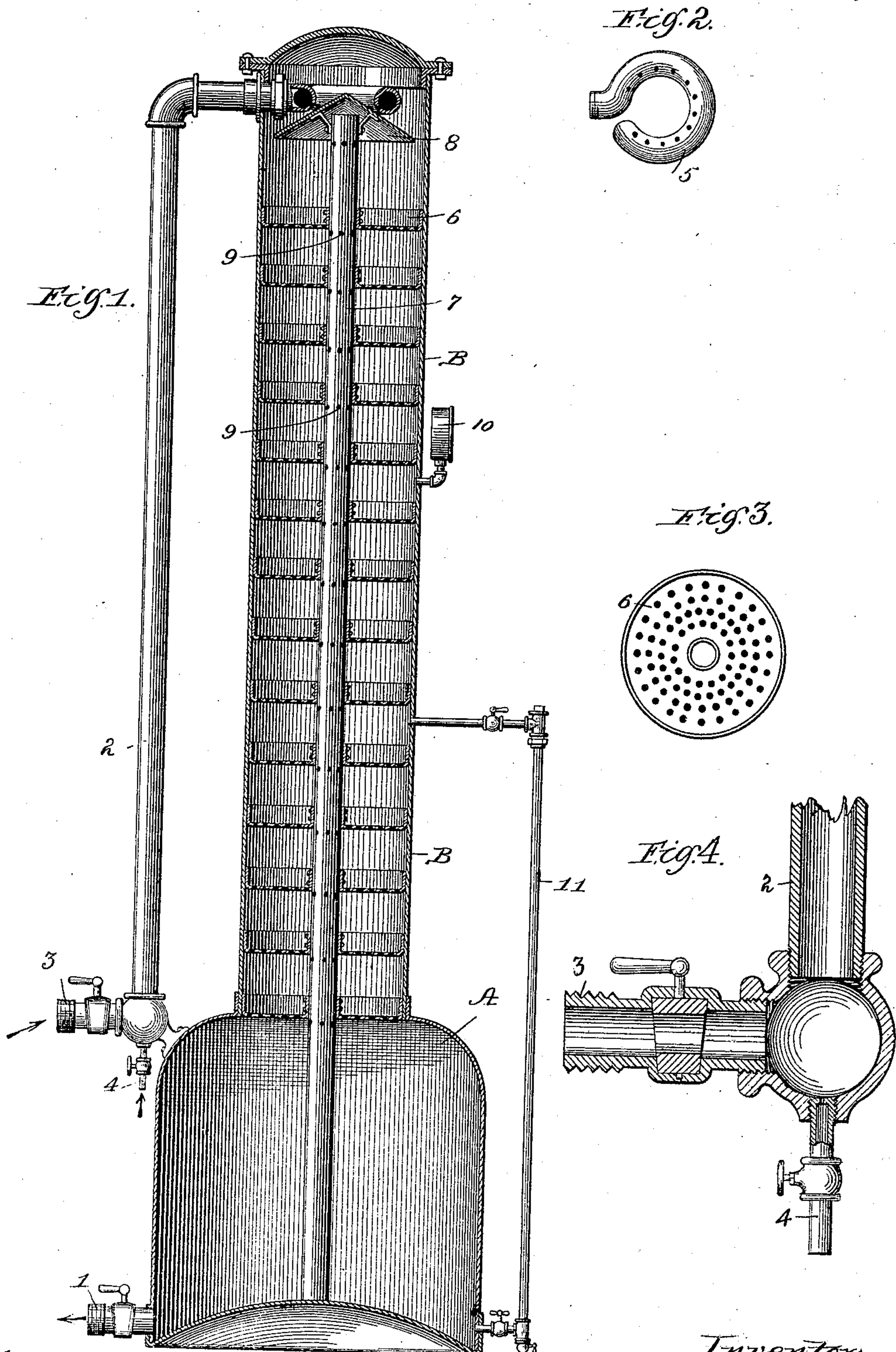


(No Model.)

C. F. A. CONVERT.
APPARATUS FOR CARBONATING LIQUIDS.

No. 516,590.

Patented Mar. 13, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES F. A. CONVERT, OF CHICAGO, ILLINOIS.

APPARATUS FOR CARBONATING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 516,590, dated March 13, 1894.

Application filed January 9, 1893. Serial No. 457,854. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FREDERICK ADOLPH CONVERT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Carbonating Liquids; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in an apparatus for carbonating liquids and consists in the features of construction and combinations of parts hereinafter fully described and specifically claimed.

In the accompanying drawings illustrating my invention,—Figure 1 is a vertical sectional view of the same. Figs. 2 and 3 are detail plan views. Fig. 4 is a sectional view on an enlarged scale of the gas and liquid supply pipes.

Referring now to said drawings, A indicates the collecting tank and B the saturating chamber mounted thereon and communicating therewith as more fully described hereinafter. The liquid and carbonic acid gas are led into the upper end of the saturating chamber B and the carbonated liquid is drawn off at the lower end of the tank through the outlet port 1. The pipe or passage for introducing the liquid and gas into the saturating chamber is constructed as follows: A pipe 2 suitably supported upon the apparatus is provided at its outer end with two branches, namely, a branch 3 through which liquid can be admitted, and a gas supply pipe 4 so that gas and liquid can be admitted together to the said pipe 2. The pipe 2 leads upwardly to the upper end of the saturating chamber B and passes through the walls of the same and ends in an annular distributing pipe 5 which is provided with a plurality of perforations on its lower inner side, as clearly shown in Fig. 2.

Located within the saturating chamber B are a plurality of sieves or perforated pans 6 that extend across the chamber and are arranged from a point near the top to the bottom thereof, while extending through the center of these sieves upwardly beyond the uppermost sieve is an upright pipe or passage 7. Mounted upon the upper end of said pipe 7

and just beneath the distributing pipe 5 is a distributing hood 8 upon which the liquid is thrown as it emerges from the pipe 5. The said pipe 7 is provided just below the hood 8 and just below each sieve or pan 6 with a series of perforations 9, thereby establishing through the pipe 7 communication between each compartment of the saturating chamber formed by said sieves or pans 6. A pressure gage 10 is mounted upon the saturating chamber and a liquid gage 11 upon the tank and saturating chamber, for obvious reasons.

The operation is as follows: The liquid and gas are both admitted under pressure into the pipe 2 through which they pass and escape through the perforated distributing pipe 5 into the saturating chamber. The liquid then falls upon the hood 8 and then upon the first sieve through which it trickles to the next sieve, and so on through each sieve to the tank A. In this way it will be seen that the liquid is effectually broken up during its passage through the saturating chamber by reason of its passage through the plurality of sieves, and in this condition it will absorb and become saturated with the carbonic acid gas which also issues from the distributing pipe 5 and passes down through the saturating chamber B and thus intermingling with the water will be absorbed thereby. By reason of the perforations in the pipe 7 it will be noted that the gas will be thoroughly distributed through the entire saturating chamber, for if the supply of liquid passing therethrough would in any way obstruct the passage of the gas through the sieve or perforated pan, the gas would easily find its way into the pipe through any one of the perforations and out into any of the compartments of the saturating chamber through the perforations in the pipe adjacent thereto, and this construction also insures the complete distribution of the gas to all parts of the saturating chamber, so that the gas is distributed equally through all parts of the chamber. After passing through the different sieves and entering the tank the carbonated liquid can be drawn off through the outlet port 1.

The gas supply pipe 4, is provided at its end with a small opening 12, as shown in Fig. 4, and the opening at the end of the liquid supply pipe 3, is the same size as said pipe.

Valves are placed in such pipes to control the supply therethrough and thus the supply of gas admitted can be regulated so that it will all be absorbed by the liquid.

5 I claim as my invention—

1. An apparatus of the kind specified comprising a saturating chamber having a plurality of sieves or perforated pans, a supply pipe or passage entering the upper end of
10 said chamber and terminating in an annular perforated distributing pipe, a distributing hood located beneath said distributing pipe, and a collecting tank communicating with the
15 bottom of said chamber, substantially as described.

2. An apparatus of the kind specified com-

prising a saturating chamber having a plurality of sieves or perforated pans, a pipe or passage extending through said chamber and sieves or pans and provided with openings
20 below said sieves or pans and communicating at its upper end with said chamber, a supply pipe or passage communicating with the upper end of said chamber and a collecting tank communicating with the bottom of said cham-
25 ber, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. A. CONVERT.

Witnesses:

HARRY COBB KENNEDY,
RUDOLPH W. LOTZ.