

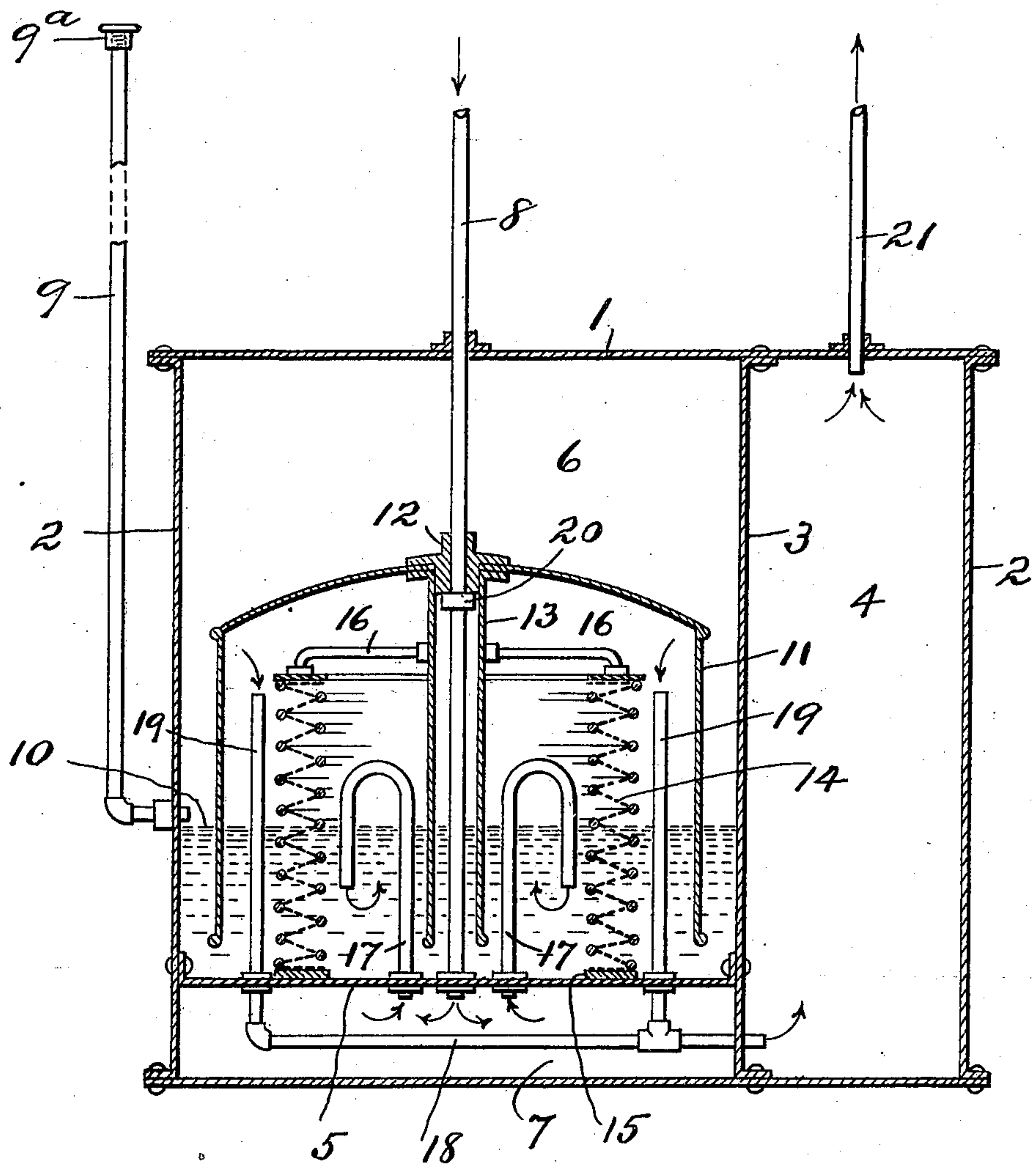
No. 887,017.

PATENTED MAY 5, 1908.

T. E. PUDDINGTON.

CARBURETER.

APPLICATION FILED AUG. 30, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS E. PUDDINGTON, OF HAMPDEN CORNER, MAINE.

CARBURETER.

No. 887,017.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed August 30, 1906. Serial No. 332,705.

To all whom it may concern:

Be it known that I, THOMAS E. PUDDINGTON, a citizen of the United States, residing at Hampden Corner, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

My invention relates to carbureters, of the class that is buried in the ground, and is an apparatus intended for the purpose of charging a volume of air, or aeriform fluid, under pressure, with a hydrocarbon vapor, and thus producing a carbureted air suitable for an illuminant.

With this object in view, my invention consists of the novel construction and combination of parts, as hereinafter described and specifically set forth in the claims.

Similar reference characters in the drawing and in the specification indicate similar parts of the apparatus.

The figure represents a central longitudinal sectional view of my improved carbureter.

1 designates a longitudinally arranged cylindrical tank whose ends are closed by heads 2, 2. Near one head of said tank and transverse of the same, is a partition 3, arranged so as to provide a gas supply-chamber 4, and between the opposite head of said tank, near its bottom, and the partition 3, is a horizontal plate 5, arranged so as to provide an oil-chamber 6 and an air-chamber 7, above and below said plate, respectively. Centrally of the oil-chamber 6, of the tank 1, is a vertical air-inlet-pipe 8, which passes through said tank and communicates with the chamber 7 therein. The usual fill-pipe 9 extends from above the ground to charge the hydrocarbon oil within the chamber 6 to a normal level, indicated by numeral 10, and said pipe having its charge-end closed by a screw-cap 9^a. A gas-bell or holder 11 has a central hub 12 secured upon its dome, and said hub surrounds and has a sliding fit upon the air-pipe 8. A tube 13 surrounds the air-pipe 8, within the bell, and said tube has its upper end secured to the dome of the latter, thus forming an annular gas-bell or holder whose lower open end portion is below the surface of the oil. The oil thus forms a seal for the bell and prevents the escape of air or gas therefrom into the chamber 6.

14 designates a collapsible cylindrical accordion wall, made of burlap, or other suitable absorbent material and formed into a

series of rings whose inner and outer edges are sewed together and constituting a succession of accordion folds. The bottom of this wall 14 is weighted by a metallic ring 15, which rests upon the partition plate 5, and the top of said wall is supported by cross rods 16, 16, which are secured to the tube 13 of the gas-bell. Said rods 16, 16 are arranged to keep the upper portion of the wall 14 above the level of the hydrocarbon liquid.

Within the wall 14 and secured to the partition-plate 5, are pipes 17, 17 which communicate with the air-chamber 7, and said pipes recurve from above the level of the hydrocarbon oil and terminate below the surface of the same. A gas-pipe 18, from the gas supply-chamber 4, has two branch pipes 19, 19 that enter through the partition plate 5 and extend above the level of the hydrocarbon liquid within the bell or gas-holder 11. A collar 20 is made fast on the air-pipe 8, to prevent the bell or gas-holder from resting upon the partition plate 5.

The operation of this apparatus is as follows: The hydrocarbon liquid, which may be of naphtha, gasolene, or other suitable substance, is charged into the chamber 6 through pipe 9 in the usual manner and desired quantity, in proportion to the size of the carbureter, which will bring it to about the level 10 as indicated, after which said pipe 9 is closed by the screw-cap 9^a in the usual manner. Compressed air is forced through the pipe 8 into the chamber 7 and thence passes through the pipes 17, 17, and is discharged into and near the bottom of the hydrocarbon liquid, and bubbles up through the volume of said liquid and is enriched by the vapors thereof. As the vapor or gas accumulates above the liquid level within the bell, said bell rises, and as the accordion wall 14 is distended by said bell its folds open, because the lowest fold is kept in position upon the partition plate 5 by the weight 15. By capillary action the upper portion of the wall above the surface of the liquid, is kept constantly saturated to the greatest possible degree, and as the wall offers a very extended area for the evaporation of the hydrocarbon liquid, a rapid evaporation takes place, and the volatile elements of the liquid quickly pass off from this portion of said bag above said liquid, in vapor, and assist in filling the dome of the bell. The upward movement of the bell 14 not only extends the area of evaporating surface, but also serves to agitate the

liquid by the movement of the folds, which are submerged therein. As the vapor passes from the distended folds of the wall the gas so formed accumulates in the dome of the
5 bell and passes through the pipes 19, 19, thence into the pipe 18, and into the supply-chamber 4, from which it finally passes out through the discharge-pipe 21 to the burners or points of consumption.

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

15 In a carbureter, the combination of a receptacle chamber containing the hydro-carbon liquid, an air chamber below the same, an annular bell within the receptacle cham-

ber and having its lower edges sealed in said liquid, an air pipe leading down through the top of the receptacle chamber and down through the center of said bell and upon 20 which the bell is guided as it rises and falls, means for leading air from the air chamber into the bell through the hydro-carbon liquid and means for conducting the gas from the bell. 25

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

THOMAS E. PUDDINGTON.

Witnesses:

MABEL A. COOK,
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