T. E. PUDDINGTON.

CARBURETER.

APPLICATION FILED AUG. 31, 1911.

1,011,244. Patented Dec. 12, 1911.

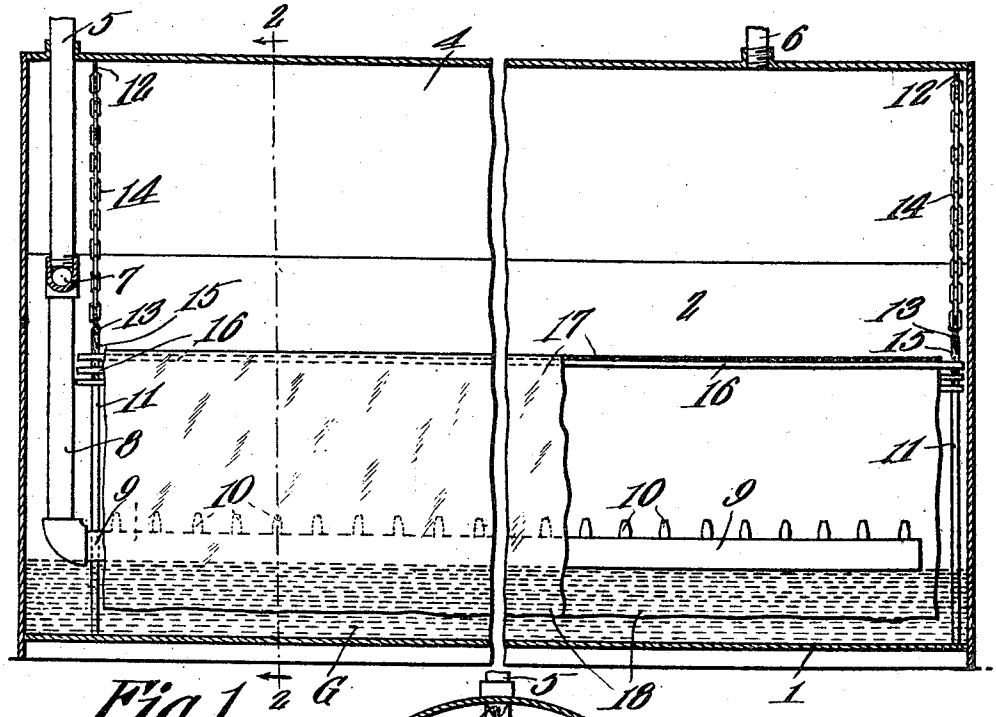

Fig. 1.

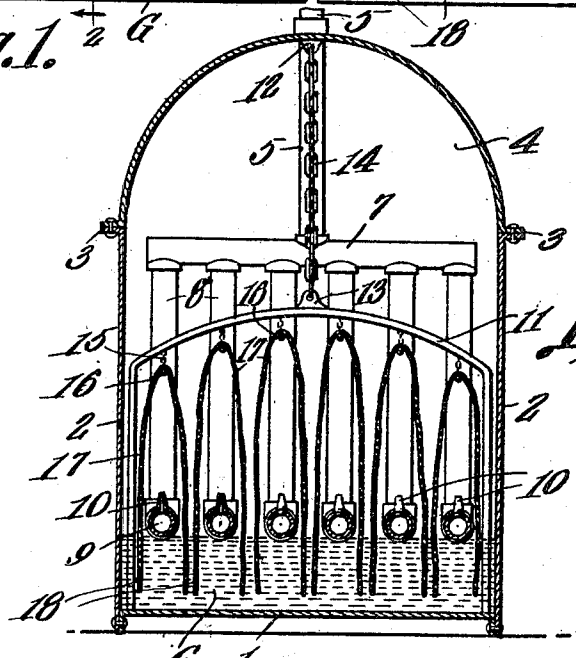

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS E. PUDDINGTON, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO CHARLES L. BRIGGS, OF ROCHESTER, NEW YORK.

CARBURETER.

1,011,244. Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed August 31, 1911. Serial No. 647,076.

To all whom it may concern:

Be it known that I, THOMAS E. PUDDINGTON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Carbureter, of which the following is a specification.

The present invention relates to improvements in carbureters, the primary object of the invention being the provision of a carbureter adapted to be used in connection with a gas system in which air is supplied under pressure to the tank containing the gasolene or hydrocarbon fluid, commonly known as the carbureter, this particular construction being provided with a series of parallel disposed air conducting pipes leading from the main manifold thereof and feeding air either below the level of the oil within the carbureter or above the level between a dome formed by a sheet or apron of fabric, each one of said conduits being provided with a separate apron or dome, the lower ends of said aprons being disposed within the fluid within the carbureter so that the fluid saturates the said aprons by capillary attraction and thereby provides a means for spreading the liquid and permitting the air admitted through the manifold and nozzles to properly intermix with the said oil, causing the same to vaporize and produce a highly desirable carbureted air.

A further object of this invention is the provision of a carbureter provided with a rectangular in cross section lower portion adapted to contain the liquid fuel and a curved in cross section dome having flexibly connected thereto, a frame with a series of longitudinally disposed and parallel rods, over which are adapted to hang sheets of fabric which form aprons disposed longitudinally of the carbureter with their lower ends submerged in the fluid oil, in combination with a series of air conducting pipes provided each with a series of nozzles disposed within the carbureter between their respective fabric aprons, the nozzles being disposed to project the air upwardly against and through the saturated aprons, thereby commingling and vaporizing the oil to produce the desired carbureted air.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a longitudinal sectional view through a complete carbureter constructed according to and embodying this invention. Fig. 2 is a cross section taken on line 2—2 of Fig. 1.

Referring to the drawings, the numeral 1 designates the bottom of the tank or carbureter having upstanding therefrom the walls 2, which are provided at their upper ends with the outstanding flanges 3 for the reception of the flanges of the curved dome 4, thus providing a closed in carbureting tank with an air manifold or supply pipe 5 entering at one end, and a carbureted air supply pipe 6 leading from the dome at the opposite end thereof.

Connected to the lower end of the air inlet or manifold 5 is a cross head 7, having connected thereto and depending therefrom a plurality of air conducting pipes 8, which have connected at their lower ends and at right angles thereto the longitudinally disposed and parallel pipes 9, each one of which is provided with a series of upwardly projecting nozzles or jets 10, which project streams of air upwardly as clearly shown in the drawings. Disposed within the carbureter, at opposite ends, and having the lower ends thereof resting upon the bottom, are the two U-shaped in elevation frames 11, which by means of the eyed lugs 12 and 13 and the flexible chains 14, the said frames may be raised or lowered when the dome 4 is removed or placed in position.

Depending from the cross bar of the respective frames 11 at equi-distances apart and transversely of the carbureter, are the chains or flexible connections 15, which carry the respective cylindrical rods 16, which form supports or hangers for the respective fabric aprons 17, which are disposed, as clearly shown in Fig. 2 of the drawings, so that their lower ends 18 will be submerged within the gasolene or liquid hydrocarbon fuel G within the carbureter and span or straddle the respective conduits 9 and their nozzles 10, so that a dome or

chamber is formed longitudinally within the respective aprons the full length of the machine. By this means it will be seen that the fabric aprons, which are preferably made of burlap, and have their lower ends submerged in the hydrocarbon fuel, will be saturated due to capillary attraction. As the said aprons are made of porous or woven material, the air being emitted from the nozzles 10 into the dome portions formed by the aprons seeps through the same to carry with it, the evaporated fluid and mixes therewith to form the desired carbureted air, which operation may be regulated according to the air pressure and air flow within the carbureter. By this means it will be seen that a series of longitudinally disposed carbureting compartments are formed throughout the length of the carbureter and that each of the respective air supply branches 9 and its nozzles 10, is mounted within a compartment formed by the porous material or fabric at 17, and that the continued flow of air against the said aprons will impart thereto a slight undulation or movement causing the lower ends thereof to be moved within the fluid producing the desired agitation to assist in the capillary attraction and the proper evaporation of the fluid, thereby providing a series of automatic liquid stirrers throughout the length of the apparatus and assisting greatly in the carburation of the air which is adapted to pass out of the supply pipe 6 to the burners (not shown).

If so desired the pipes 9 and their nozzles 10 may be disposed below the level of the hydrocarbon fluid within the carbureter, or they may be so mounted as to have a vertical adjustment with relation to the space within the aprons 17, whereby they may be retained above the level of the liquid or be submerged as desired.

By means of an automatic float actuated valve, not shown, the level of the fluid hydrocarbon may be automatically maintained at all times, the said fluid being supplied from a main reservoir at some distant point.

What is claimed is:

1. A carbureter, having a casing adapted to contain liquid hydrocarbon, the lower portion of which is a reservoir, an air inlet pipe leading thereinto, a carbureted air outlet pipe leading therefrom, a series of longitudinally disposed parallel branch pipes mounted in the casing and in communication with the air inlet pipe, each of said branch pipes having a plurality of nozzles, and a series of aprons one to each branch pipe, surrounding its respective branch pipe and having the lower ends thereof disposed with relation to the liquid within the reservoir to saturate the aprons by capillary attraction.

2. A carbureter having a reservoir, the lower portion of which is adapted to retain liquid hydrocarbon, an air inlet pipe leading thereinto, a carbureted air outlet pipe leading therefrom, a series of parallel and longitudinally disposed branch pipes in communication with said air inlet pipe within the casing and disposed in parallel, each of said branch pipes having a plurality of nozzles, a series of longitudinal rods disposed one above each of said branch pipes within the reservoir, and a sheet of absorbent material supported by each of said rods and disposed to span its respective branch pipes and having the lower edges thereof disposed within the liquid within the reservoir.

3. A carbureter having a reservoir adapted to contain a liquid hydrocarbon, a series of air inlet pipes disposed within said reservoir and longitudinally thereof, said pipes being arranged in parallel, and a series of porous absorbent sheets, one to each of said pipes, disposed above to form a dome thereover and having the lower edges thereof projecting below their respective pipes into the fluid.

4. A carbureter, having a reservoir adapted to contain a liquid hydrocarbon, a series of longitudinally disposed and parallel air supply pipes mounted within the reservoir and having each a plurality of outlets, and a series of sheets of porous absorbent material, one to each pipe disposed thereabove to form a dome throughout the length thereof, the lower edges of said sheets being submerged within the liquid in the reservoir, whereby said sheets are saturated through capillary attraction.

5. A carbureter, having a reservoir adapted to contain a liquid hydrocarbon, a plurality of air inlet pipes disposed in parallel and longitudinally of the reservoir, a frame disposed within the reservoir at opposite ends thereof, a series of rods supported by said frame, one to each pipe and above the same, and a sheet of porous absorbent material folded upon and supported by each of said rods and having the free ends thereof spanning its respective pipe and projecting to near the bottom of the reservoir.

6. A carbureter, having a reservoir adapted to contain a liquid hydrocarbon, a plurality of air inlet pipes disposed in parallel and longitudinally of the reservoir, a frame disposed within the reservoir at opposite ends thereof, a series of rods supported by said frame, one to each pipe and above the same, a sheet of porous absorbent material folded upon and supported by each of said rods and having the free ends thereof spanning its reservoir pipe and projecting to near the bottom of the reservoir, whereby the sheets become saturated by capillary attraction and the jets of air from the pipe act thereagainst to impart to the sheets a stirring action.

7. A carbureter having a reservoir adapt-

ed to contain a liquid hydrocarbon, the upper portion of which is a gas dome, a series of air inlet pipes disposed in parallel and longitudinally of the reservoir, each of said pipes being provided with a plurality of upwardly projecting nozzles, a frame mounted in said reservoir, and above the pipes, a series of rods supported by said frame longitudinally of the reservoir one to each pipe, a sheet of flexible porous absorbent material folded upon each rod and having the lower free ends thereof depending one upon each side of its respective air pipe, the lower ends thereof projecting below the pipes, whereby the action of the air from the nozzles will impart to the sheet a stirring action to agitate the liquid during the saturation of the sheet by capillary attraction.

8. In a carbureter, having a reservoir adapted to contain a liquid hydrocarbon, a removable dome therefor, a plurality of parallel and longitudinally disposed air inlet pipes mounted in the lower portion of the reservoir, a plurality of nozzles to each pipe, and a plurality of sheets of porous absorbent material one to each pipe and longitudinally of the reservoir, said sheets being folded and having their respective terminals spanning the respective pipes and disposed to be submerged within the fluid within the reservoir, and means for supporting all of said sheets from the dome.

9. A carbureter, having a reservoir adapted to contain a liquid hydrocarbon, the upper portion of which is a removable dome, a series of parallel and longitudinally disposed air inlet pipes disposed within the reservoir below the dome, each of said pipes being provided with a plurality of nozzles, two frames mounted at the opposite ends of the reservoir, a series of rods flexibly supported from said frames, one to each pipe and longitudinally of the reservoir, flexible connections between the respective frames and the dome, whereby when the dome is removed the frames are removed therewith, and a sheet of porous absorbent material folded upon each of said rods and disposed to have the terminals thereof straddle its respective air inlet pipe and project into the liquid below the pipe, whereby the air emitted from the nozzles will impart to the walls of the respective sheets an undulation while the sheets will be saturated due to capillary attraction.

10. A carbureter having a casing the lower portion of which is the hydrocarbon fluid reservoir, an air inlet pipe disposed longitudinally of said casing and provided with a series of upstanding nozzles, a rod disposed above said pipe longitudinally of the reservoir, a sheet of absorbent material folded upon said rod longitudinally of the reservoir and substantially the same length as the pipe the lower ends of said sheet being disposed upon opposite sides of the pipe to form a dome thereabove, whereby the jets of air from the nozzles in the pipe will impart to the walls of said sheet an undulatory movement, the sheets being saturated with the hydrocarbon fluid due to capillary attraction.

11. A carbureter, having a reservoir with a removable dome, said reservoir being adapted to contain a liquid hydrocarbon an air inlet pipe leading thereinto, a carbureted air outlet pipe leading therefrom, a header pipe in communication centrally with the lower end of said air inlet pipe, a series of vertical pipes in communication with said header and depending therefrom toward the lower portion of the reservoir, a longitudinally disposed pipe in communication with each of one of said vertical pipes and extending substantially the full length of the reservoir, each of said longitudinal pipes being provided with a series of upstanding nozzles throughout its length, a U-shaped frame disposed at each end of the reservoir and above the longitudinal pipes, a series of longitudinally disposed rods flexibly supported from said U-shaped frames one to each longitudinal pipe, and a sheet of flexible porous absorbent material folded upon and depending from each of said rods and having the walls thereof spanning its respective longitudinal pipes and extending to a point near the bottom of the reservoir.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS E. PUDDINGTON.

Witnesses:
HENRY L. BENTLY,
JAMES J. COUGHLIN.