

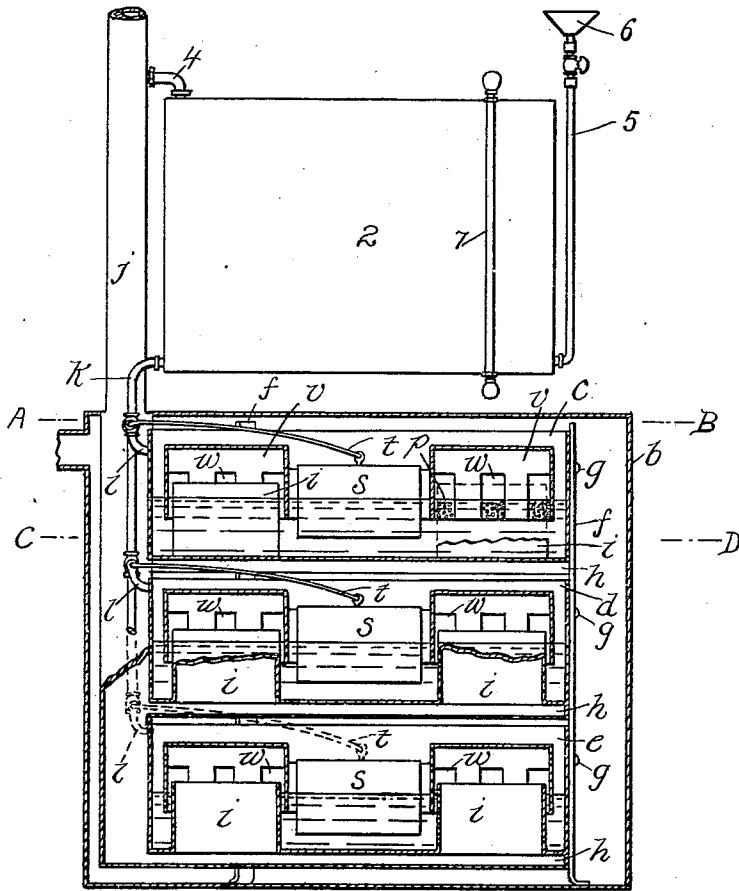
G. H. MAURER.  
CARBURETER.

APPLICATION FILED APR. 24, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. 1.



Witnesses

Alex. Currie.  
Frank H. Deinman

*George Hugo Maurer*

Inventor

By Attorney

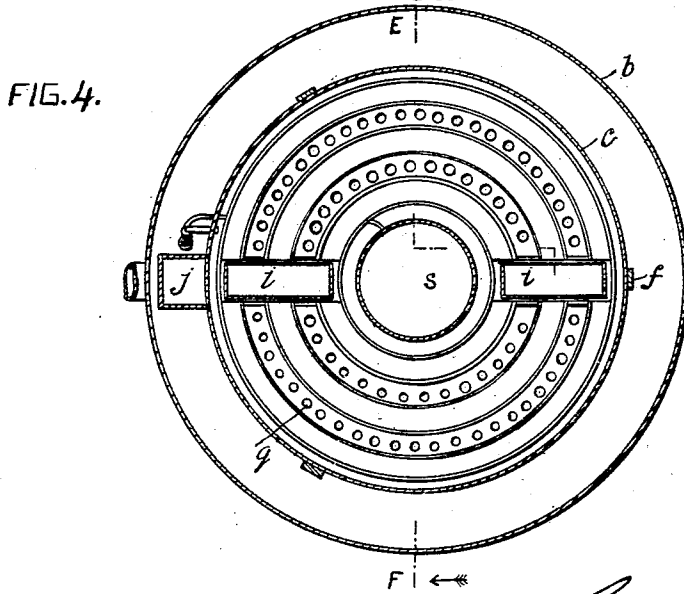
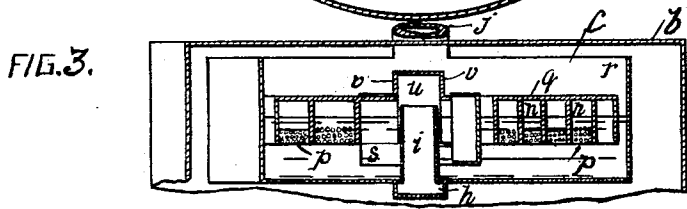
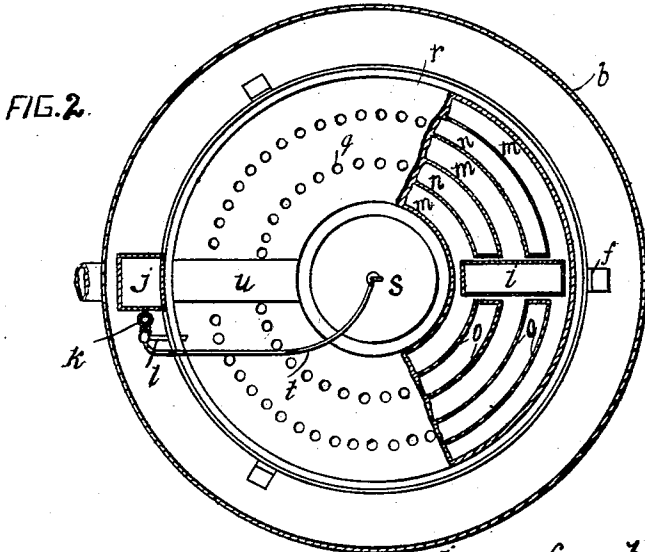
*Wm. R. Mann*

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2 SHEETS—SHEET 2.



Witnesses

*Alex Currie.*  
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# UNITED STATES PATENT OFFICE.

GEORGE HUGO MAURER, OF MONTREAL, CANADA, ASSIGNOR TO ALFRED WILLIAM BELFRY, OF MONTREAL, CANADA.

## CARBURETER.

SPECIFICATION forming part of Letters Patent No. 733,498, dated July 14, 1903.

Application filed April 24, 1902. Serial No. 104,537. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE HUGO MAURER, of the city of Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful improvements in Carbureters; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has for its object to provide means for distributing the fluid to be carburized more extensively through the carburizing substance, to reduce the size, and at the same time simplify the construction of carbureters generally.

The invention may be said, briefly, to consist in providing a device by means of which the fluid to be carburized is distributed to better advantage throughout the carburizing substance, said device consisting of a series of concentric annular chambers located one within the other, the alternate chambers communicating with the fluid-supply and at a point below the level of the carburizing substance with the intervening chambers, which communicate with a storage-chamber proper, whence the carburized fluid is drawn for consumption. The central space accommodates means for automatically controlling the supply of the carburizing substance, while the fluid to be carburized is fed under pressure.

For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which like symbols indicate the same parts, and wherein—

Figure 1 is a vertical sectional view of my improved carbureter; Fig. 2, a horizontal sectional view taken on line A B, Fig. 1, looking down; and Fig. 3 is a similar view to Fig. 2, taken on line C D, Fig. 1, looking up. Fig. 4 is a detail vertical sectional view of the upper portion of the inclosing casing, taken on line E F, Fig. 3.

The carburizing substance I prefer to use is gasolene, and I will describe the invention in detail as applied to the carburizing of air.

My improved carbureter consists of a casing *b*, having a series of preferably three pans *c*, *d*, and *e* supported therein a short distance above one another upon standards *f*, to which said pans are secured, as at *g*, the standards not being secured to but standing unat-

tached upon the bottom of the tank in order that the pans may be removed for repairs or other purposes. Each of the pans has a flattened pipe *h* extending diametrically across the bottom thereof, and a pair of short vertical pipes *i* extend from this pipe into the pan, while an air-conducting pipe *j* extends from any preferred form of air-supplying device (not shown) downwardly through the casing *b* and communicates with the pipes *h*. A gasolene-conducting pipe *k* also leads into the casing, and a series of valve-controlled branches *l* lead therefrom into the top of each pan.

The main feature of my invention resides in the distribution of the air through the gasolene. To this end the horizontal pipes *h* are provided, which in conjunction with a distributor proper of novel construction distribute the air through the gasolene.

As the distributors in all the pans are the same, I will only describe one in detail. This distributor proper consists of a float comprising a series of annular chambers *m* and *n*, alternating with one another and divided from one another by a series of annular partitions *o*, having their lower portions perforated, as at *p*, to effect a communication between said annular chambers, while a series of perforations *q* in the top *r* of the float and in line with chambers *n* effect a communication between said annular chambers *n* and the interior of the inclosing casing. The central portion of the float is left open, and a circular box-like valve-actuating float *s* is located therein, a rod *t* extending therefrom and being operatively connected to the valve controlling the particular gasolene-supplying branch leading thereto.

The annular chambers are intercepted by a pair of diametrically opposite radial pockets or caps *u*, formed by vertical diaphragms *v*, having opening *w* in line with the annular chambers *m*. These pockets or caps *u* fit over the vertical branch air-conducting pipes and the portions of the float forming the top of these pockets or caps are extended above the top of the float to accommodate said branches, which must be of a height greater than that attained by the gasolene at its highest level.

The gasolene is contained in a tank 2 of or-

dinary construction and having the before-mentioned pipe *k* leading downwardly therefrom, an air-intake pipe 4, leading to the upper end thereof, a filling-tube 5, with a flared mouth 6, leading to the lower end thereof, and a glass gage 7, communicating at its opposite ends with the top and bottom of the tank. The floats *s*, with the valves they actuate, constitute ball-cocks for maintaining a constant level of gasolene in the pans.

The operation of my improved carbureter is as follows: Entering pipe *j* the air flows therefrom and through pipes *h* and *i* and caps *u* to chambers *m*, and thence through the perforations in the lower portion of the walls of said chambers through the gasolene in the pans into chambers *n* and the interior of casing, from which it is drawn as required.

It is obvious that, if desired, any other hydrocarbonaceous substance other than gasolene may be used in my improved carbureter and other fluids to be carburized than air treated thereby without departing from the spirit of my invention.

What I claim is as follows:

1. A carbureter comprising an inclosed receptacle, means for supplying a carbureting liquid to said receptacle, a distributor within said receptacle for distributing the gas to be carbureted through the carbureting liquid therein, said distributor consisting of an annular float comprising a series of annular chambers open at their lower sides, a second series of annular chambers also open at their lower sides and alternating with and concentric of the chambers of said first-mentioned series the lower ends of the walls of said chambers being perforated, a supply to the first-mentioned series of the gas to be carbureted, and the top of said second-mentioned series being perforated, said receptacle having outlets for the carbureted gas, substantially as described and for the purpose set forth.

2. A carbureter comprising an inclosed receptacle, a supply to said receptacle of the carbureting liquid, a valve controlling said supply, a distributor within said receptacle for distributing the gas to be carbureted through the carbureting liquid therein, said distributor consisting of an annular float having a central opening, a supply to said float of the gas to be carbureted, means for distributing said gas through the carbureting liquid beneath said float, means for exhausting the carbureted fluid from said float, a valve-actuating float within the central opening in said distributing-float, and an operative connection between said valve-actuating float and the valve for controlling the supply of the carbureting liquid, substantially as described and for the purpose set forth.

3. A carbureter comprising an inclosing casing, a series of pans supported one above the other within said casing with a space between them, an air-supplying pipe leading downwardly into said casing to the lower end

thereof, an air-supplying pipe extending horizontally beneath each of said pans and communicating at one end with said main air-supplying pipe the other ends of said horizontal pipes being closed, a supply of carbureting liquid to each of said pans, a series of vertical air-conducting pipes leading from said horizontal pipes upwardly through said pans to a point above the highest level of the carbureting liquid therein, a float floating in said carbureting liquid in each pan and having a cap adapted to fit over the upper end of each of said vertical air-conducting pipes, a series of horizontal chambers within said float and communicating with said caps, a second series of horizontal chambers alternating with the chambers of said first-mentioned series and communicating therewith through the carbureting fluid, said second series having exhaust-openings in their upper ends leading into the inclosing casing, and an outlet from said casing for the carbureted fluid, substantially as described and for the purpose set forth.

4. A carbureter comprising an inclosing casing, a series of circular pans supported one above the other within said casing with a space between them, an air-supplying pipe leading downwardly into said casing to the lower end thereof, an air-supplying pipe extending horizontally beneath each of said pans and communicating at one end with said main air-supply pipe the other ends of said horizontal pipes being closed, a supply of carbureting liquid to each of said pans, a float floating in the carbureting liquid in each pan and consisting of an inverted annular pan having a series of annular chambers with open lower ends and concentric of one another, a second series of annular chambers having open lower ends and concentric of one another and alternating with the annular chambers of said first-mentioned series, a pair of diametrically opposite radial caps intercepting said two series of chambers, the chambers of said first-mentioned series communicating with said caps and at their lower ends with the chambers of the second-mentioned series, the chambers of said second-mentioned series having exhaust-openings in their upper ends leading into the inclosing casing, a series of vertical air-conducting pipes leading from said horizontal pipes upwardly through said pans into said caps and to a point above the highest level of the carbureting liquid in said pans, and an outlet for the carbureted fluid from the inclosing casing, substantially as described and for the purpose set forth.

5. A carbureter comprising an inclosing casing, a series of circular pans supported one above the other within said casing with a space between them, an air-supplying pipe leading downwardly into said casing to the lower end thereof, an air-supplying pipe extending horizontally beneath each of said pans and communicating at one end with said main air-supply pipe the other ends of said

horizontal pipes being closed, a supply of carbureting liquid to each of said pans, a float floating in the carbureting liquid in each pan and consisting of an inverted annular pan having a central opening and a series of annular chambers with open lower ends and concentric of one another, a second series of annular chambers having open lower ends and concentric of one another and alternating with the annular chambers of said first-mentioned series, a pair of diametrically opposite radial caps intercepting said two series of chambers, the chambers of said first-mentioned series communicating with said caps and at their lower ends with the chambers of the second-mentioned series, the chambers of said second-mentioned series having exhaust-openings in their upper ends leading into the inclosing casing, a series of vertical air-con-

ducting pipes leading from said horizontal pipes upwardly through said pans into said caps and to a point above the highest level of the carbureting liquid in said pans, an outlet for the carbureted fluid from the inclosing casing, a valve controlling each supply of carbureting liquid to the pans, a valve-actuating float within the central opening of said distributing-float, and an operative connection between said valve-actuating float and said valve, substantially as described and for the purpose set forth.

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

GEORGE HUGO MAURER.

Witnesses:

WILLIAM MCFEAT,

FRED. J. SEARS.