(No Model.)

# L. M. BOURGEOIS, Jr.

## CARBURETOR.

No. 550,776. Patented Dec. 3, 1895.

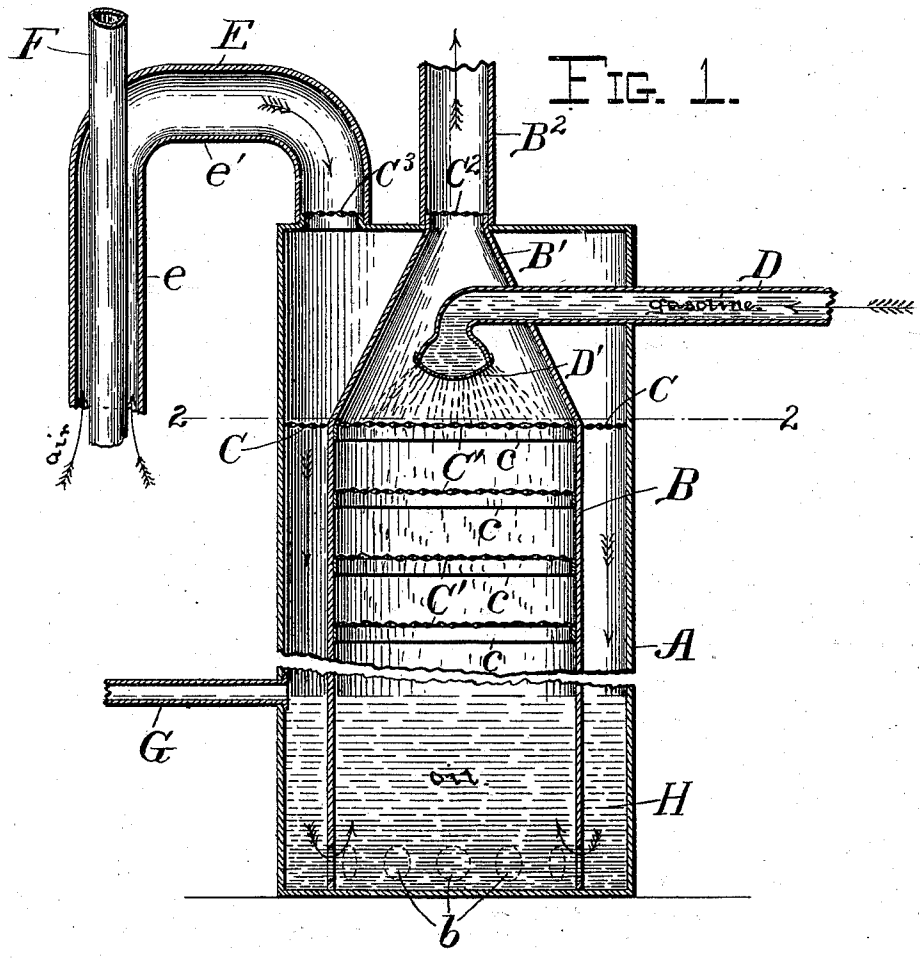


FIG. 1.

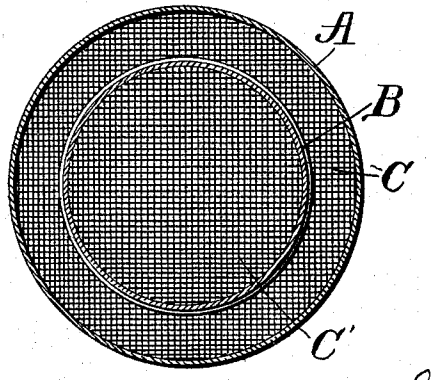


FIG. 2.

Witnesses
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# UNITED STATES PATENT OFFICE.

LOUIS MARCELLUS BOURGEOIS, JR., OF NEW ORLEANS, LOUISIANA.

## CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 550,776, dated December 3, 1895.

Application filed March 25, 1895. Serial No. 543,124. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS MARCELLUS BOURGEOIS, Jr., a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Vaporizers and Carburetors; 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.

My invention relates to improvements in apparatus for carbureting air, for the purpose of making inflammable gas; and it consists of certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout both views.

Figure 1 represents a vertical central section through the apparatus, and Fig. 2 represents a section along the line 2 2 of Fig. 1 and looking down.

A represents an inclosing-chamber which may be cylindrical or of any other preferred shape, but for convenience in manufacture is preferably made cylindrical. This chamber incloses an inner chamber B, provided with a conical cap B′, terminating in the delivery-pipe $B^2$ for carrying off the carbureted air.

Between the two chambers A and B is an annular gauze screen C, and inclosed within the chamber B are a plurality of gauze screens C′, arranged one above the other and preferably detachably mounted on rings *c*, secured within the chamber B.

Gasoline is fed into the chamber B by means of the pipe D, which terminates in a rose or scattering-plate D′. When the pressure of the incoming air is exceeded by that of the column of the gasoline in the chamber B, the gasoline will rise up in the chamber H high enough to overflow through the pipe G, and the air-supply should then be shut off until the excess of gasoline is carried off by the pipe G.

The air to be carbureted is injected through the pipe E, which is preferably led upward, as at *e*, around the smoke-stack F or any other heating-surface, and is then bent over toward the carbureting-chamber, as at *e*′. The said air is caused to pass through the screens $C^3$ in the pipe E and C in the chamber A, and the carbureted air is carried off through the screen $C^2$ in the pipe $B^2$. These various screens C, $C^2$, and $C^3$ serve as a protection against explosion from external causes, on the well-known principles of the miner's safety-lamp.

The operation of the device is as follows: A pump, fan, or other suction device (not shown) is applied to the pipe $B^2$, creating a partial vacuum in the chamber B, which is filled by the inflow of air from the pipe E, which air will force the liquid down in the outer chamber below the tops of the apertures *b*, when the air will bubble up through the liquid H and will rise through the screens C′, where it is met by the spray from the rose D′. The air is thus brought into intimate contact with the volatile liquid and is thoroughly carbureted before it passes off through the pipe $B^2$. The influx of gasoline through the pipe D may be caused either by a separate pump (not shown) or by the partial vacuum in the chamber B.

Instead of the smoke-stack F the pipe E may be jacketed about the steam-cylinder or any other heating-surface.

It will be obvious that various modifications of the herein-described apparatus might be made which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus of the character described, the combination with an outer vessel partly filled with volatile inflammable fluid, of an inner inclosed vessel contained in said outer vessel and provided with perforations near its base and beneath the surface of the said volatile fluid, a screen extending between said vessels and above the surface of said fluid, a plurality of screens stretched across the inner vessel, means for spraying the volatile fluid on said inner screens, and passages for air through the space between the two vessels, and through the several screens, substantially as and for the purposes described.

2. In an apparatus of the character described, the combination with an outer vessel partly filled with a volatile inflammable liquid, of an inner vessel inclosed in said outer vessel and provided with perforations near its

base and beneath the surface of the said volatile liquid, a screen extending between said vessels and above the surface of said liquid, a plurality of screens stretched across the inner vessel, means for spraying the volatile liquid on said screens in the inner vessel, a pipe for admitting air into the top of the outer vessel, and a pipe for drawing off air from the top of the inner vessel, with gauze screens in each of said pipes, substantially as and for the purposes described.

3. In an apparatus of the character described, the combination with an outer vessel partly filled with a volatile inflammable liquid, of an inner vessel inclosed in said outer vessel and provided with perforations near its base and beneath the surface of the said volatile liquid, a gauze screen interposed between the two vessels above the surface of said liquid, and through which the incoming air has to pass, a plurality of screens stretched across the inner vessel, means for spraying the volatile liquid on said screens in the inner vessel, a pipe for conveying hot air into the upper portion of the outer chamber, a pipe for drawing off the carbureted products from the top of the inner chamber, gauze screens in both of the said pipes, and means for keeping the surface of said liquid at a predetermined height, substantially as and for the purposes described.

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

LOUIS MARCELLUS BOURGEOIS, JR.

Witnesses:
JAMES WILKINSON,
W. H. BOFINGER.