

(No Model.)

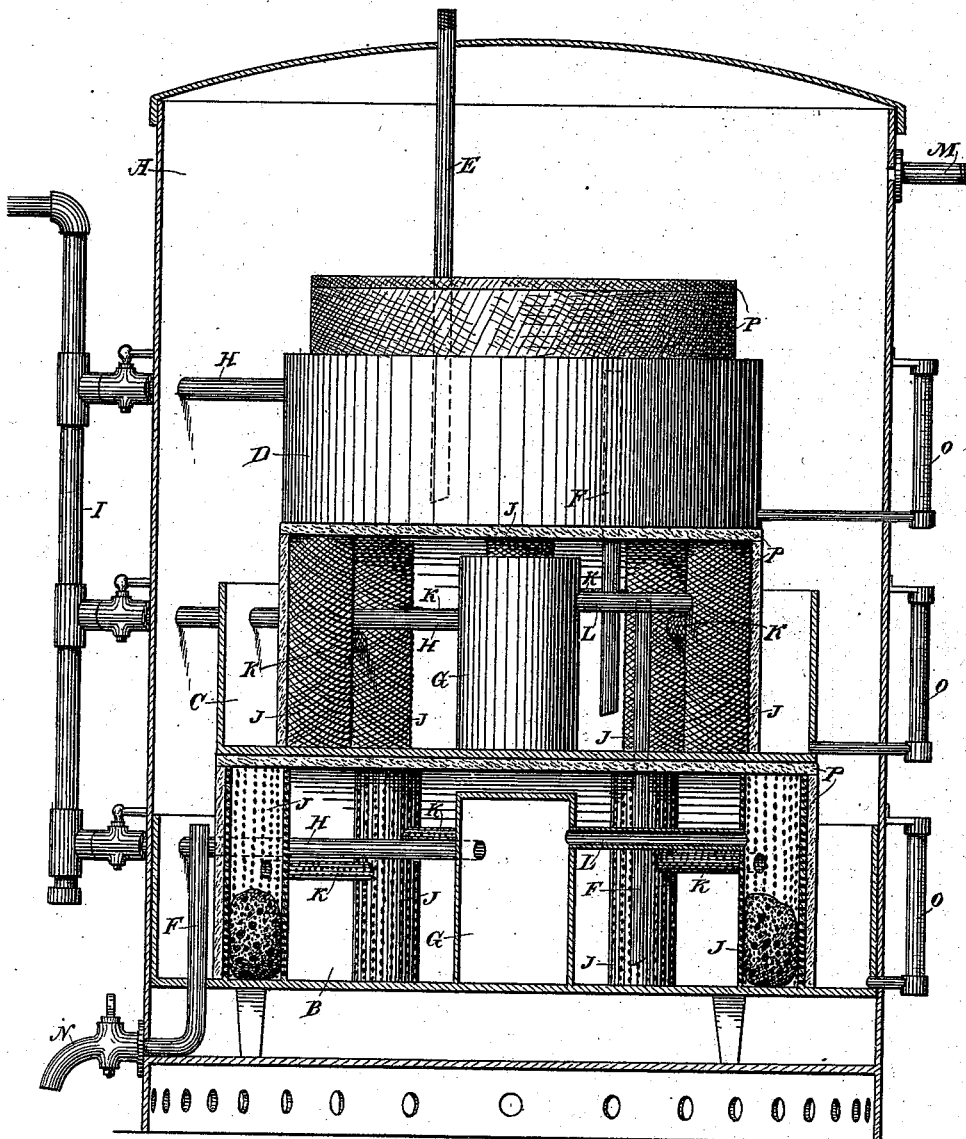
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L. MARKS.
CARBURETOR.

No. 382,819.

Patented May 15, 1888.

Fig. 1.



Witnesses,
George Strong,
J. H. House.

Inventor,
Louis Marks,
By Dewey & Co.
Attys

(No Model.)

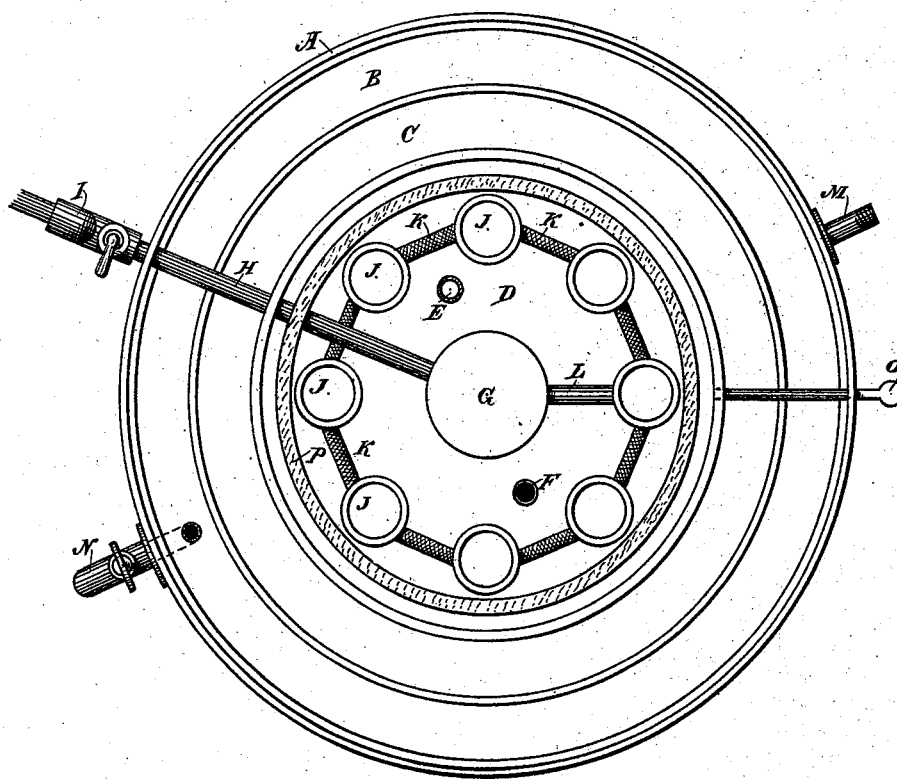
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L. MARKS.
CARBURETOR.

No. 382,819.

Patented May 15, 1888.

Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

LOUIS MARKS, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR, BY DIRECT AND
MESNE ASSIGNMENTS, OF TWO-THIRDS TO G. SCHLESINGER AND GEORGE
BURKHARDT, BOTH OF SAME PLACE.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 332,819, dated May 15, 1888.

Application filed November 22, 1887. Serial No. 253,951. (No model.)

To all whom it may concern:

Be it known that I, LOUIS MARKS, of the city and county of San Francisco, State of California, have invented an Improvement in Carburetors; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in hydrocarbon-gas generators. It consists of a series of superposed shallow pans or chambers fitted within an interior containing-tank, with means for supplying the chambers with the hydrocarbon liquid, and a peculiar arrangement of perforated pipes and chambers through which the air is forced for the purpose of enriching it to form a gas, and in certain details of construction, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a vertical section taken through the exterior chamber and the interior superposed vessels. Fig. 2 is a horizontal section showing one of the interior chambers.

A is the exterior tank, and B, C, and D are shallow vessels of different diameters, the largest standing nearest the bottom of the exterior tank, the next supported above this being of smaller diameter, and so on for as many as it may be desired to employ.

The top of the tank has a closed cover, through which passes a pipe, E, and a supply of hydrocarbon liquid is delivered through this into the upper vessel, D, and by means of overflow-pipes F each of the vessels below is supplied with the liquid. Exterior gages, O, are connected with the vessels and show the amount in each. In the center of each of these vessels is a close cylindrical chamber, G, into which air is delivered through pipes H, these pipes being supplied from a main, I, which receives the air from the pump or forcing apparatus. Each of the pipes H is provided with a cock or valve, so that the air may be cut off or supplied in any desired proportion to the closed chambers G. Surrounding these chambers G, and near the circumference of the pans or vessels B, C, and D, are tubes or cylinders J, made of perforated or gauze material, and these cylinders are united

by pipes K, of the same material, extending from one to another all about the circle. These pipes are covered with cotton wicking, felt, or other porous material, which is wound around them and also around the vertical cylinders J, and the latter are also filled with sponge or other porous material. Around the whole of these and upon the top are placed disks of felt P, or other suitable porous material, the object of all this being to cause the air to filtrate slowly through the material and the hydrocarbon liquid which is saturated, and thus combine with the air a sufficient portion of the hydrocarbon gas or vapor to enrich it enough for burning and illuminating purposes.

From the central air-chamber, G, a pipe, L, opens into one of the cylinders J, so that air which is received into the chambers G under pressure from the supply-main will be forced through the pipe L into the perforated cylinder J, with which it connects, and from this cylinder it will pass successively through the connecting-pipes K, from one of the cylinders J to the next, thus becoming thoroughly saturated and impregnated with the vapor or gas. In order to prevent the air flowing too rapidly through the pipes K, and thus pass around the circuit faster than is desirable, I so arrange these pipes K that the entering end of one stands in a different plane from the departing end of the next one, which is connected with the same cylinder J. The air becoming thoroughly impregnated gradually escapes through the porous material and passes upward to the top of the tank A, escaping through the discharge-pipe M and being led to the gasometer or receiver.

N is a discharge-pipe, through which the heavy liquid is drawn off as it becomes too poor to supply hydrocarbon to the air.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a carbureting apparatus, the combination of a hydrocarbon-gas generator, consisting of an exterior tank, the interior superposed shallow vessels of decreasing diameter from the bottom upward, a supply-pipe,

overflow-pipes in each vessel, an internal chamber within the vessels containing air under pressure, and the perforated discharge-pipes uniting said chambers and provided with a porous or fibrous covering, substantially as described.

2. In a carbureting apparatus, the gas-generator consisting of the exterior tank, the interior superposed shallow vessels with the supply and overflow pipes and air-chambers, in combination with perforated or foraminous cylinders J and the horizontal perforated pipes by which they are connected, said cylinders and pipes being inclosed in fibrous or porous material and receiving air from the central chamber, substantially as herein described.

3. In a carbureting apparatus, the vessels or pans for containing the hydrocarbon placed in a series within an exterior inclosing tank, having the central chambers receiving air under pressure, a series of vertical cylinders or chambers surrounding the central one and having an interior packing of sponge or porous material, and pipes by which they are united, said pipes having the receiving and discharge ends in different planes and covered with fibrous or porous material, substantially as herein described.

4. In a carbureting apparatus, the superposed hydrocarbon-containing pans within an outer inclosing-tank, the central air-chamber and the surrounding perforated-cylinders, one of which is connected with the central air-chamber, while the others are connected with the first and each other successively by intermediate perforated pipes, the same being covered with fibrous or porous material, and the fibrous or porous disks covering and surrounding the same, substantially as herein described.

In witness whereof I have hereunto set my hand.

LOUIS MARKS.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.