

W. T. McMILLEN.
Carbureters.

No. 143,523.

Patented Oct. 7, 1873.

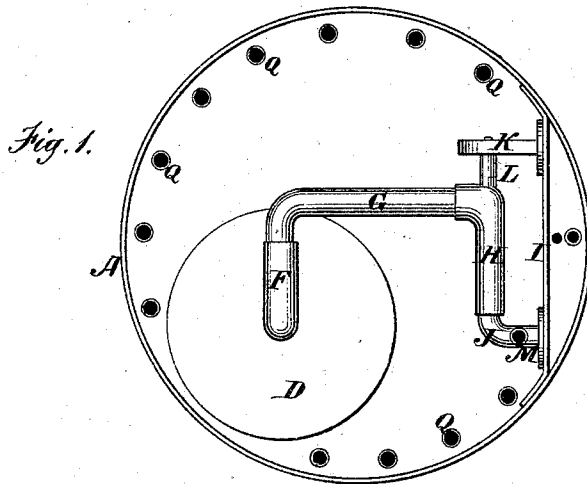
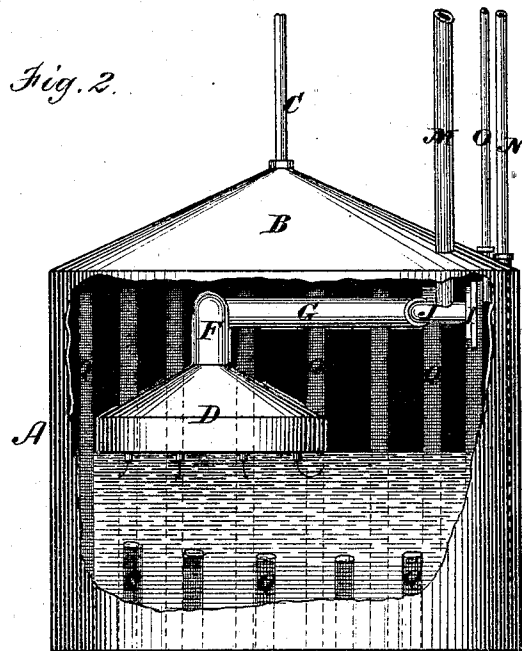
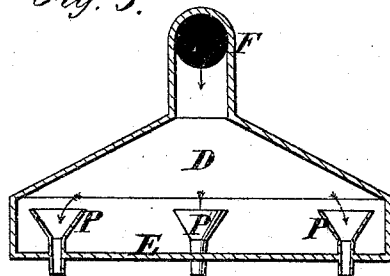


Fig. 3.



Witnesses.
G. F. Brown.
Melville Church.

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W. T. McMillen
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Hill & Cresswell.

UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **143,523**, dated October 7, 1873; application filed February 24, 1873.

To all whom it may concern:

Be it known that I, WILLIAM T. McMILLEN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Carbureter; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a top-plan view of my improved carbureter, with the cover removed; Fig. 2, an elevation with the side broken away to show the interior construction; and Fig. 3, a vertical section of the floating air-chamber.

Similar letters of reference in the accompanying drawings indicate the same parts.

My invention consists in providing a floating air-chamber, resting on the surface of the hydrocarbon liquid contained in the carbureter, which shall automatically conform to the varying height of the liquid without changing the length of the supply-pipe, the air-reservoir being jointed by means of angular pipes and a trunnion, as hereinafter more fully set forth.

In the accompanying drawings, A is the cylindrical case of the carbureter, constructed with the conical top B, from the apex of which projects the discharge-pipe C. D is the air-reservoir, having a closed bottom, E, and provided upon its top with a short right-angular pipe, F, which receives the short arm of a second right-angular pipe, G. The opposite end of this latter pipe enters the end of a third angular pipe, H, as shown. I is a plate secured within the case A upon one side and near the top, and J is a short angular pipe firmly attached in a horizontal position to one end of said plate, so as to enter the longer end of the pipe H. The opposite end of the plate I is provided with an ear, K, which affords the necessary bearings for a trunnion, L, formed upon the pipe H at the elbow. By means of this trunnion the pipe H turns freely upon the rigid pipe J, which freedom of movement, in connection with the joint formed by the pipes F G, allows the air-reservoir to float upon the surface of the hydrocarbon liquid contained in the vessel A, as shown, and to

automatically rise and fall as the quantity of liquid is increased or diminished. By this construction, therefore, the air supplied to the reservoir is forced through the liquid under all circumstances, and its richness in hydrocarbon rendered uniform. M is the air-supply pipe, extending from the rigid pipe J upward through the top of the carbureter, and connecting with a blower, fan, or other suitable air-forcing apparatus. N is the supply-pipe for the liquid, provided with a suitable stop-cock, and O is a secondary air-pipe, to be used for an additional supply of air, if required.

The operation of the apparatus thus far described is as follows: The requisite quantity of gasoline or other hydrocarbon liquid is supplied to the vessel A through the pipe N, and the air forced, through the pipe M and the jointed pipes previously described, into the air-reservoir D, from which it is discharged into the liquid through the series of funnel-shaped openings or conduits P, secured in the bottom of such reservoir, as shown. After passing through the liquid it escapes above the same thoroughly charged with the hydrocarbon, and is drawn off through the pipe C to the burners. The funnel-shaped conduits P facilitate the discharge of air from the reservoir, and prevent the introduction of liquid thereto when the air is not under pressure.

It sometimes happens that from some cause the supply of air from the forcing apparatus is momentarily suspended. When this occurs in carbureters unprovided with the air-reservoir, the supply of hydrocarbon vapor is also suspended, and the light at the burners extinguished. The floating air-reservoir, however, overcomes this difficulty, as it holds sufficient air to keep up the supply through the liquid during the momentary stoppage of the forcing apparatus.

Q Q are a series of vertical pipes, constructed of wire-gauze and arranged around the interior of the case, as shown, so as to extend considerably above the liquid. They are covered and lined with cloth or other suitable absorbent, which, by capillary attraction, shall elevate certain quantities of the liquid and

promote its evaporation. By this means the surface exposed to the action of the air is greatly increased.

In using the carbureter I prefer to bury it in the earth several feet, and to surround it with a suitable packing of sawdust or spent tan-bark, to prevent freezing in winter, and to preserve as nearly as possible a uniform temperature.

Having thus described my invention, what I claim as new is—

1. The air-reservoir D, jointed to the rigid supply-pipe by means of the angular pipes F

G H and the trunnion L, turning in suitable bearings, substantially as described, for the purpose specified.

2. The angular pipe H, adapted to turn as the reservoir rises or falls by means of the trunnion L and its bearings, and the rigid angular pipe J, entering the end of said pipe H in line with the trunnion, substantially as described.

W. T. McMILLEN.

Witnesses:

MELVILLE CHURCH,
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