R. P. HANGLITER.

APPARATUS FOR CARBURETING AIR.

No. 192,825. Patented July 10, 1877.

Fig. 1.

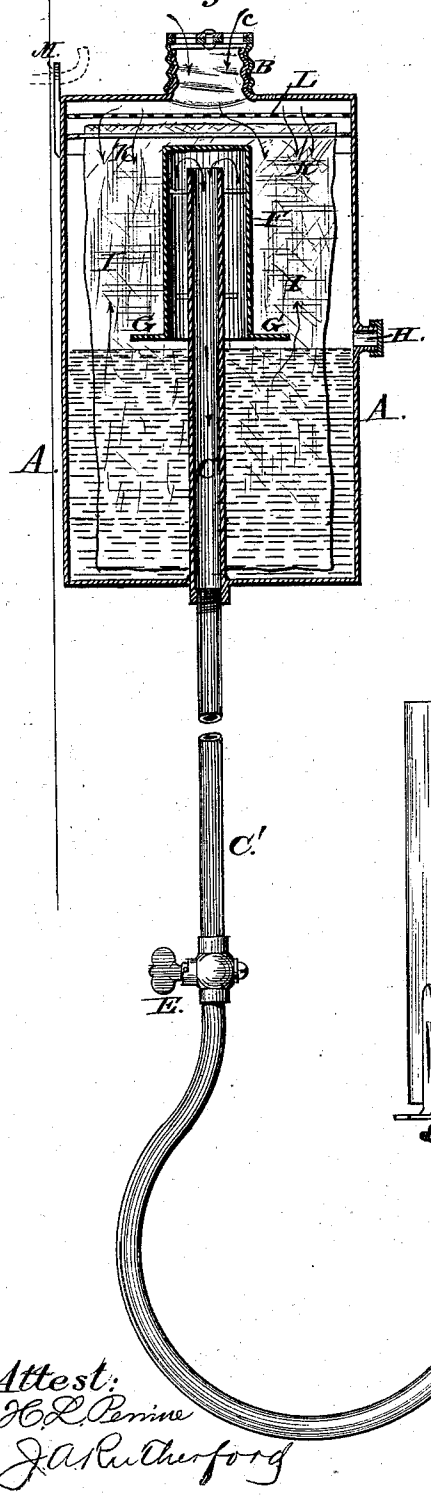


Fig. 2.

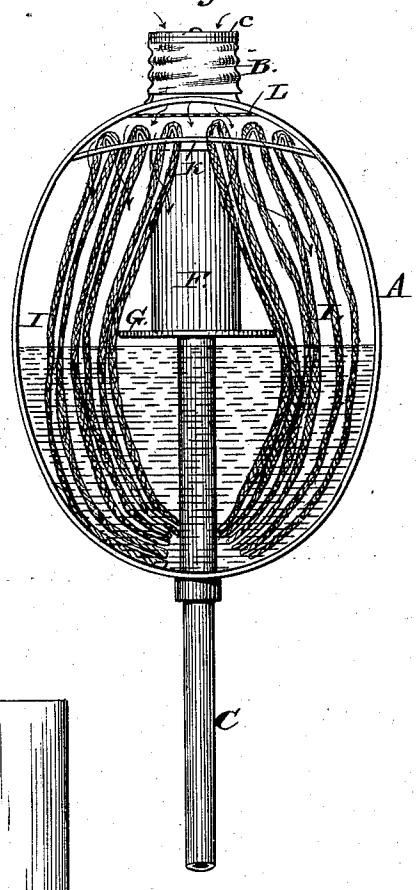
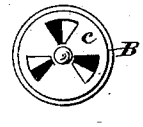


Fig. 3.



Attest:
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UNITED STATES PATENT OFFICE.

ROBERT P. HANGLITER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF A PART OF HIS RIGHT TO LEOPOLD E. F. TOBOLDT AND JAMES McGUINESS, OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. **192,825**, dated July 10, 1877; application filed June 16, 1877.

To all whom it may concern:

Be it known that I, ROBERT P. HANGLITER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Carbureting Air, of which the following is a specification:

This invention relates to an improved apparatus for carbureting air for illuminating purposes, its object being to produce an efficient and inexpensive apparatus by means of which ordinary atmospheric air may be automatically charged with the vapors of the volatile hydrocarbons, or the light products of petroleum, so as to furnish, at comparatively little expense, a brilliant illuminating-gas.

To this end my invention consists of a tank or vessel of suitable dimensions, provided with an opening at the top, having a suitable cap and valve for the purpose of charging it with hydrocarbon fluid, and for the admission of the air to be carbureted. From a point in the upper part of the vessel extends a pipe down through the lower part, terminating at its lower end in a suitable burner, and over the upper end of said pipe, which is open, is located a tube, somewhat larger in diameter, closed at its upper end, and terminating at its lower end just above the level of the hydrocarbon fluid when the vessel is properly charged, the lower end of said tube being provided with a broad flange or deflector, in order to bring the air, as it passes into said tube, into intimate contact with the hydrocarbon fluid. Within the vessel, and depending from a rack in the upper part, is arranged a series of sheets of fibrous material to be saturated with the hydrocarbon, in order to more thoroughly charge the air as it passes through, all of which will be fully hereinafter described, and specifically pointed out in the claims.

In the drawing, Figure 1 represents a vertical section of my improved apparatus; Fig. 2, a view of the same with one of the sides removed, and Fig. 3 a top view of the screw-cap and valve.

The letter A represents a tank or vessel, which may be constructed of any suitable material, and of any desired shape or capacity. B represents a cap, which may be of any suitable construction, a screw-cap being represented in the present instance, capable of being removed for the purpose of filling. In the top of said cap is formed an opening, provided with a valve, *c*, of any suitable description, which can be opened or closed at will, to admit air when the machine is in operation, and closed to prevent the evaporation and loss of the hydrocarbon when the apparatus is not in use. The letter C represents a tube extending from a point in the upper part of the tank or vessel down through the bottom of the same. From this tube C extends a tube, C′, terminating in one or more burners at its lower end, being provided at any convenient point with a cock, E, for controlling and regulating the flow of the gas. Above the upper end of the tube C is secured, in any convenient manner, a tube, F, of somewhat larger diameter, closed at its upper end, but opened at its lower end, which is provided with a broad flange or deflector, G, which operates to keep the sheets of fibrous material from being drawn into the tube F. The said tube F extends downwardly over the tube C, and terminates at its lower end at a point just above the level of the hydrocarbon fluid when the vessel is charged, or thereabout. The letter H represents an opening, provided with a screw-cap, located at the highest level of the liquid in the tank or vessel, in order to prevent the same from becoming overcharged in filling. Within the vessel A is suspended a series of sheets, I, of fibrous or other suitable material. These sheets are, in the present instance, suspended from a rack, K, located near the top of the apparatus, and extend down to the bottom of the same, and into the hydrocarbon liquid contained therein, so as to become thoroughly saturated with the hydrocarbon liquid, and charge the air with the vapor of the liquid as it passes through the vessel. Just below the filling-opening of the vessel may be located a foraminous partition, L, to distribute the liquid over the fibrous material when filling.

The apparatus, as thus constructed, may be

made in the form of a chandelier or side-wall bracket, the tank being located at the upper part of the same, suitable provision being made by means of a hook, as shown at M, for hanging; or the tank may be made of sufficient capacity and placed in the upper room of a building, and the pipe C connected with the gas-pipes thereof, so as to supply the rooms throughout the entire building with gas.

The operation of my invention is as follows: The vessel A is filled with hydrocarbon liquid to the level of the cap H at the side of said vessel. To light the gas it is simply necessary to open the valve at the top of the vessel and the stop-cock of the escape-pipe, and apply a light at the burner. The hydrocarbon vapor, being heavier than air, descends into the tube C, and causes a quantity of air to enter the vessel through the opening in the top. The air thus entering is distributed throughout the interior of the vessel and through the fibrous material, becoming thoroughly saturated with the vapor, and then passes with the vapor up between the tube C and the tube F, and from thence to the burner, furnishing a constant flow of illuminating-gas as long as the valve at the top of the vessel and the stop-cock are open.

What I claim, and desire to secure by Letters Patent, is—

1. In an apparatus for carbureting air, the combination of the vessel A, having a valved opening in its top, and a rack, K, from which is suspended the fibrous material I, the vertical tube C, the tube F, setting over the upper end of the tube C, and having its lower open end provided with a lateral flange, G, all substantially as and for the purpose described.

2. The combination of the vessel A, opening in top thereof, and its cap B and valve *c*, the tubes C and F, the fibrous sheets I, and the opening H, and screw-cap secured thereon, the whole adapted to operate to automatically carburet the air, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

ROBERT P. HANGLITER.

Witnesses:

CHAS. L. COOMBS,

JAMES L. NORRIS.