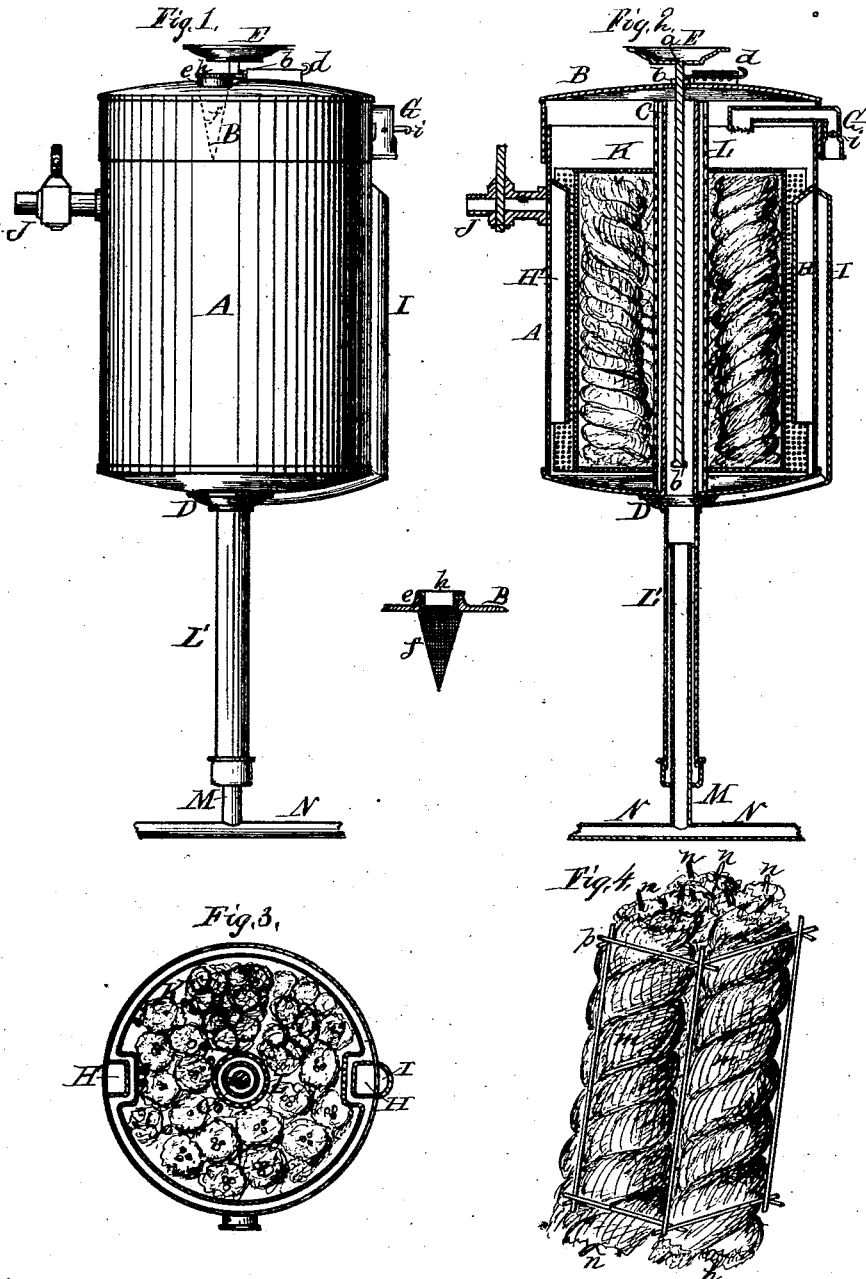


I. W. SHALER.

Carbureter.

No. 163,535.

Patented May 18, 1875.



Witnesses;
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UNITED STATES PATENT OFFICE.

IRA W. SHALER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **163,535**, dated May 18, 1875; application filed March 22, 1875.

To all whom it may concern:

Be it known that I, IRA W. SHALER, of Brooklyn, county of Kings and State of New York, have invented certain new and useful Improvements in Carbureters, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of an apparatus for generating gas from gasoline or other hydrocarbon oils for supplying chandeliers or other burners only when burning, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a longitudinal vertical section, and Fig. 3 a horizontal section, of the same. Fig. 4 is a detached view of the filling or absorbent.

A represents the outer case or oil-reservoir, provided with a tight-fitting cover, B, which is to be permanently fastened to the case. Through the center of the case A passes a vertical tube, C, which communicates with a chamber, D, underneath the center of the oil-reservoir bottom. Through the center of the cover B passes a rod, *a*, downward through the central tube C. On the upper end of the rod *a* is secured a plate, E, which is to be fastened to the ceiling, and near the upper end on the rod is a collar, *b*, to be caught by a spring-latch, *d*, on top of the cover B, to hold the carbureter suspended from the ceiling. On the lower end of the rod *a* is another collar, *b'*, which admits of the carbureter being lowered upon the rod when the latch *d* is withdrawn for convenience in filling. In the cover B is an opening, *e*, with a funnel-shaped or conical wire screen, *f*, projecting downward for filling the reservoir. This opening is closed by a cap, *h*, when the reservoir is filled. Through the cover B at one side passes an L-shaped air-inlet tube, G, in the outer vertical part of which is a valve, *i*, for regulating or entirely shutting off the supply of air. The

outer end of the tube G is closed by a valve, and on the under side at the inner end is a wire-cloth-covered opening, through which the air passes downward into the carbureter. On the inside of the case or reservoir are two vertical tubes, H and H', extending from near the bottom to near the top of the reservoir, both being open at their lower ends and closed at their upper ends. The upper end of the tube H communicates with a vertical tube, I, on the outside of the case A, said exterior tube extending downward to the bottom chamber D. The upper end of the tube H' communicates with a stop-cock, J, on the outside of the reservoir. K represents an interior shell made of perforated sheet metal, with a central perforated tube, L, as shown. This shell fits within the case A, the tube L passing over the central tube C. Within the shell K the packing or absorbent is placed. This consists of cotton or woolen yarn *m*, wound spirally upon wires *n n*, forming a series of wicks, placed within wire frames *p*, and these placed in the shell, thereby securing a better circulation of air, and consequently a more rapid carburation. From the bottom chamber D a pipe, L', extends vertically downward, and said pipe is provided with an interior extension-pipe, M, with arms N at its lower end. The pipe or pendant M can thus be adjusted as desired, for convenience of lighting, and also to increase or diminish the burner-light.

The reservoir being filled with suitable hydrocarbon oil, the valve *i* in the air-inlet pipe G is opened, admitting air into the reservoir. This air circulates among the packing or filling *m*, and becomes carbureted. The carbureted air or gas, being heavy, falls to the bottom, and as the volume of gas increases it rises in the reservoir and in the tubes H H'. As the gas reaches the top of the tube H it passes into the tube I, and falls directly through the same and into the chamber D, and from thence through the pipes L M to the burners. As long as the gas burns the circulation is continuous; but as soon as the light is turned out the circulation stops, there being no suction to draw in more air. By the valve *i* the admission of air is easily regulated. The gas

may be taken off from the stop-cock J to any point where needed.

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

1. The communicating pipes H and I, in combination with the oil-reservoir A and pipe L', as and for the purpose set forth.

2. The packing *m*, twisted upon wires *n*, and

placed in frames *p* within the interior perforated shell K, substantially as herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature.

IRA W. SHALER.

Witnesses:

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