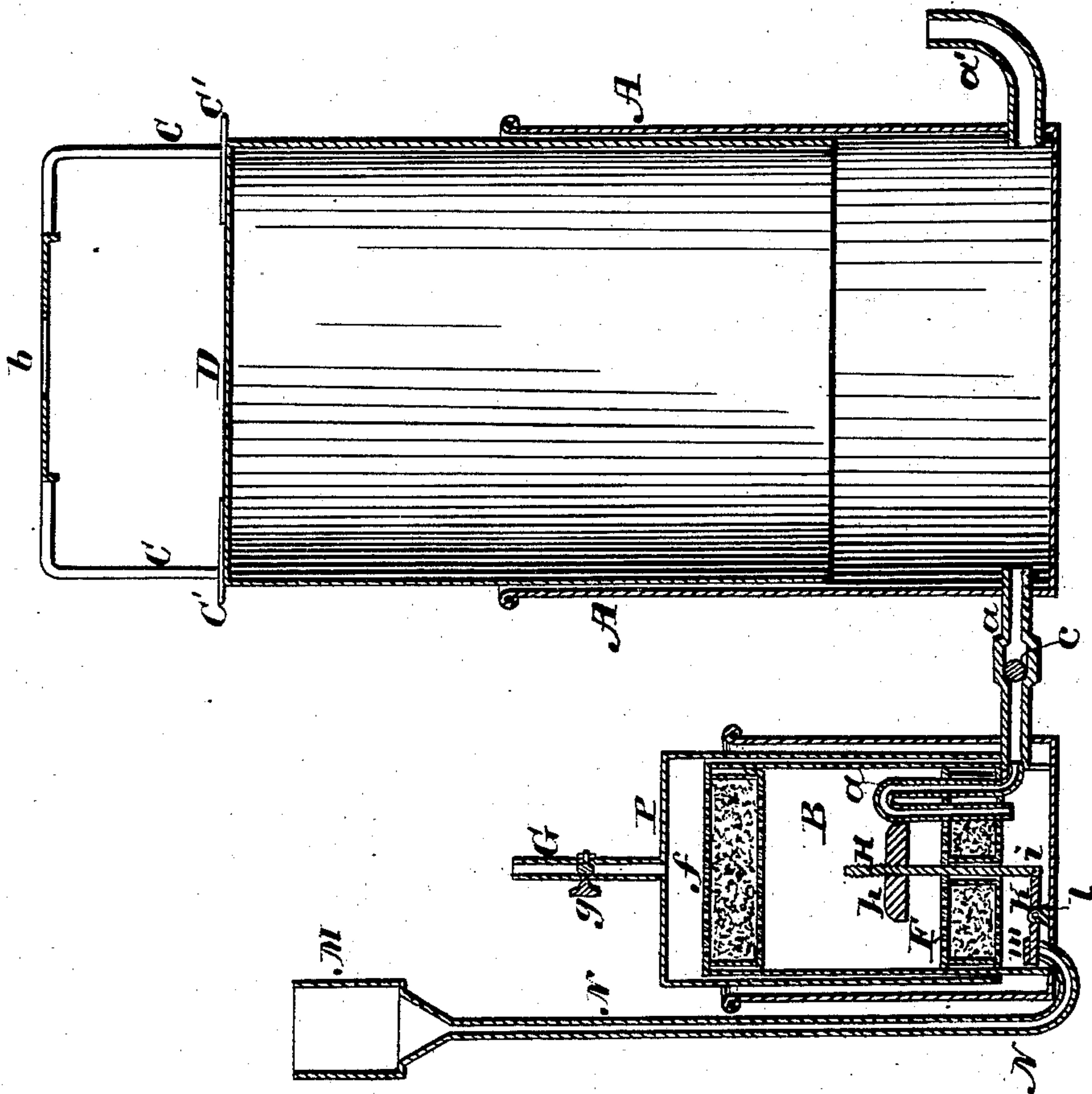


BOON & PERRY.

Carbureter.

No. 80,268.

Patented July 28, 1868.



Witnesses:

Jesse Jeff
James E. Fitch.

Inventors:

Henry T. Boon & Albert E. Perry
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UNITED STATES PATENT OFFICE.

ALONZO T. BOON AND ALBERT D. PERRY, OF GALESBURG, ILLINOIS.

IMPROVED APPARATUS FOR CARBURETING GAS AND AIR.

Specification forming part of Letters Patent No. **80,268**, dated July 28, 1868.

To all whom it may concern:

Be it known that we, ALONZO T. BOON and ALBERT D. PERRY, of the city of Galesburg, in the county of Knox and State of Illinois, have invented an Improved Apparatus for Carbureting Air; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

The figure in the drawing represents a section through the apparatus.

This invention relates to a process of carbureting air; and it consists in the employment or use of a reservoir or air-tank with double sides connected by suitable pipes and valves with a tank or generator, the tanks being constructed upon the principle of gasometers, and the pressure being regulated by weight attached thereto, whereby the object is accomplished by an extremely simple process.

To enable any one skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A represents a tank or water and air tight vessel, designed as the receptacle of atmospheric air, having a pipe, *a'*, attached thereto, through which air is forced or pumped into the said tank to supply the deficiency arising from its consumption in the generator B. To said tank A is attached the angular rods C, which pass through the perforated plates *c* on the inner cylinder or tank-cap, D, and serve as guides in the ascent and descent of the same. Said rods are attached at the top to a metallic disk, *b*, which is immediately above and perpendicular to the said movable tank-cylinder, to prevent its rising out of the fluid when air is forced in at the ingress-pipe *a'*, the said cylinder D being a few lines smaller than the cylinder or air-tank A, in order that it may freely move vertically within said cylinder, and that the space between the double cylinder may be filled with water or other suitable liquid. To the tank A is attached the pipe *a*, with valve *c*, leading into the generator B and opening under the carbureting or filtering substance therein contained.

B represents a gasometer or tank, having an interior and smaller cap cylinder or holder movable vertically therein, and, like the air-

vessel A, made air-tight, and in the lower part of said generator B is a movable partitioned apartment, F, for the reception of coarse emery or other granular and suitable substance, and in the upper portion of which is a similar movable perforated receptacle, *f*, for the reception of quicklime.

G is a pipe, with stop-cock *g*, through which the carbureted air is forced by pressure or weight applied to the cap-cylinder P.

H represents a rod, screw-threaded, upon which is the adjustable float *h*, the said rod passing through the perforated partition F, and attached by a pin, *i*, to the lever K, which lever has a standard or fulcrum, *l*, which operates the valve *m*, working upon the aperture of the pipe N. To the pipe N is attached the funnel M, into which is introduced the hydrocarbon or other gasoline. The pipe N will be provided with a suitable stop-cock to let the gasoline on.

Experience has demonstrated the great importance, both for economy and facility of operation, of some device connected with machines for carbureting air which will be automatic in its operation, and thus shut off the supply of gasoline at the moment when a sufficiency of the article has arrived at the point at which it is to be commingled with the atmosphere; and it will be observed that the float *h* upon the rod H is especially designed, in combination with the lever K and valve *m*, to accomplish this desirable result. The float *h*, which screws up or down on the rod H, being thus rendered adjustable, it is any easy task to regulate the quantity of gasoline flowing from the funnel M into the gasometer B by the height which it is permitted to attain in the receptacle B, for it is obvious that the float *h* will rise or be buoyed up when the gasoline has attained the elevation of the said float as adjusted upon the rod H, and that thereupon the valve *m* will be closed and the supply cut off.

The operation is as follows: Air is introduced into the air-tank A at the pipe *a'*, and the cock is closed to prevent its escape, and to the air tank or holder D a regulated pressure of weight is then applied, which forces the air through the pipe *a* until it is emptied or escapes underneath of the partition F. The gasoline or other hydrocarbon is then poured into the funnel G, and as it finds its level under-

neath of the partition F it there meets and unites with the air forced from the air-tank A just prior to being forced through the emery in partition F. Having passed through the emery in partition F, it is then separated and carbonized, and from thence it is forced through the lime in partition f, which purifies it. The pressure of the weights resting upon holder P forces it through the pipe G to the burners, whence it is consumed, or to the tank from which it is to be used, while the float h upon the rod H, connected with the lever K, and the valve m, working automatically, regulate the supply of gasoline and adjust said supply to the requirements of the process for its use.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

The emery-receptacle F, when combined and arranged with float h, screw-rod H, valve m, pipe N, and pipe a, substantially in the manner and for the purpose as herein shown and described.

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Witnesses:

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