H. FAIRBANKS.

Carbureter.

No. 53,798. Patented Apr. 10, 1866.

Fig. 2.

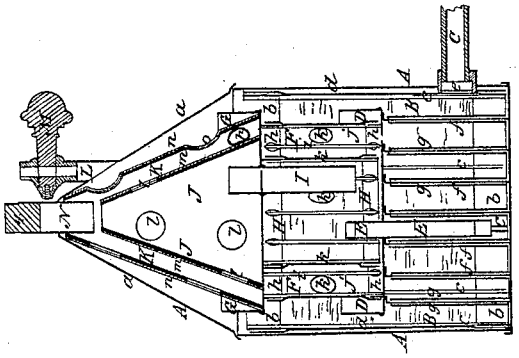


Fig. 1.

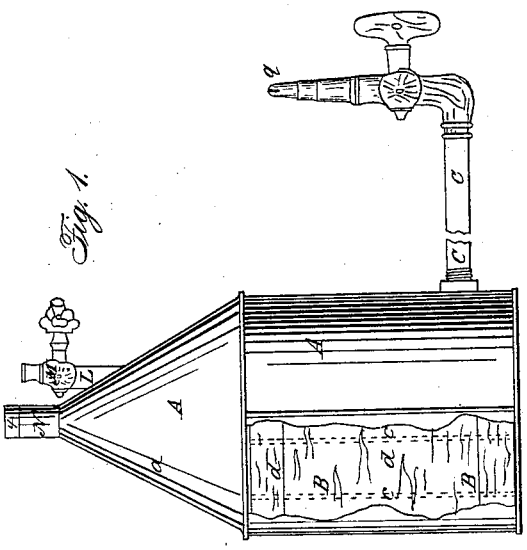
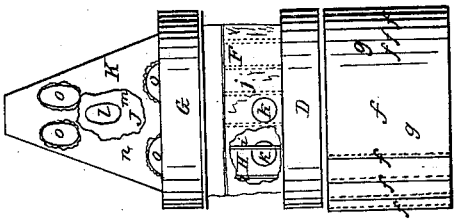


Fig. 3.



Witnesses:

H. C. Fischmacke
N. W. Stearns

Inventor:

Horatio Fairbanks

UNITED STATES PATENT OFFICE.

HORATIO FAIRBANKS, OF BOSTON, MASSACHUSETTS.

IMPROVED APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. **53,798**, dated April 10, 1866.

To all whom it may concern:

Be it known that I, HORATIO FAIRBANKS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Carbureting Air, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an elevation of my improved apparatus, a portion of the outer casing being broken away. Fig. 2 is a longitudinal vertical section through the center of the same. Fig. 3 is an elevation representing the greater portion of the interior, the outer casing being removed.

My invention has for its object to produce a cheap and simple apparatus for generating illuminating-gas; and it consists in a receptacle in the interior of which are placed one or more reservoirs for containing gasoline or other lighter grades of hydrocarbon oils, and a series of frames or plates covered with cloth or its equivalent, which soak up and become saturated with the oil, presenting an extended surface to the air which circulates around and between the frames and becomes mixed with the vapor arising from the gasoline, forming a cheap gas of superior illuminating qualities in a convenient and expeditious manner.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is a reservoir constructed of sheet metal in the form of a can, and having its upper portion, *a*, made removable. Within this reservoir A is placed a frame, B, composed of two rings, *b*, connected together by wires *c*, and over this frame is stretched the cloth *d*, a hole, *e*, being cut through it opposite to the pipe C, which is screwed into the reservoir A near the bottom.

D is a reservoir constructed in the form of a shallow pan, to the under side of which are secured the metallic strips *f*, which rest on the bottom of the reservoir A and are covered with cloth *g*.

E is a pipe which extends from near the top of the reservoir D down into the reservoir A, through which the oil passes down from the one to the other.

F is a frame composed of rings *h*, connected together by wires *i*, and covered with cloth *j*. This frame rests on the bottom of the reservoir D, and carries at its top the reservoir G, and within the frame F, and also secured to the under side of the reservoir G, is placed another frame, H, similar to F, but of a less diameter, holes *k* being made in the cloth of these frames, so as to allow the air to circulate freely around and between them.

I is a pipe similar to E, which extends from near the top of the reservoir G down into the reservoir D, through which the oil passes from G to D.

On the bottom of the reservoir G rests a conical metal frame, J, which is provided with holes *l* and covered with cloth *m*, and over this frame is placed another similar frame, K, which also rests on the bottom of the reservoir G, and is covered with cloth *n*, holes *o* being made through the frame and cloth, so as to allow the air to circulate between and around the frames, which are kept from contact with each other by projections *p*, Fig. 2, on the frame J.

L is a pipe, at the upper end of which is fitted a stop-cock, M, through which air is admitted to the interior of the reservoir A.

The gasoline or other fluid to be converted into gas is poured into the pipe N and runs down into the reservoir G, filling it and running over the edge of the pipe I down into the reservoir D. As soon as this reservoir is filled to a level with the top of the pipe E the fluid runs down this pipe into the bottom of the reservoir A, the quantity of fluid poured in being such as to leave the same amount in each of the reservoirs D and G and the bottom of the reservoir A. A cock may be placed in the bottom of the reservoir A, so as to draw off any excess of liquid in the event of a quantity being accidentally poured in sufficient to overflow and obstruct the pipe C. The pipe N is closed by means of a stopper, 4, when the apparatus is in operation.

It will thus be seen that the cloth-frames B F H J K, resting severally on the bottoms of the oil-reservoirs, absorb the oil and become thoroughly saturated with it, continuing to absorb oil so long as any remains in the reservoirs, and thus present an extended saturated surface to the air, which circulates between and around the frames and becomes

mixed with the volatile fluid arising from the gasoline on the cloth and in the reservoirs. The gas thus formed, being heavier than air, flows down to the bottom of the reservoir A, and through the hole *e* into the pipe C, to the burner *q*. If preferred, one or more circular frames similar to F may be attached to the under side of the reservoir D instead of the plates *f*, as I consider them equivalents; and it is evident that the cloth-covered frames or plates may be of any desired shape and be placed in a variety of positions within the reservoir A; and instead of two reservoirs, D G, being employed, one only or three or more may be used, according to the size of the apparatus, without departing from the spirit of my invention.

The above-described machine may be readily fitted up in any apartment, so as to produce a beautiful and exceedingly cheap light, and may be furnished at a low cost.

What I claim as my invention, and desire to secure by Letters Patent, as an improvement in apparatus for carbureting air, is—

The reservoir A, in combination with one or more reservoirs, D G, and a series of frames or plates covered with cloth or its equivalent and provided with suitable openings for the circulation of the air, operating substantially as set forth.

HORATIO FAIRBANKS.

Witnesses:

P. E. TESCHEMACHER,

N. W. STEARNS.