

J. H. BEAN.
Carbureter.

No. 220,695.

Patented Oct. 21, 1879.

FIG. 1.

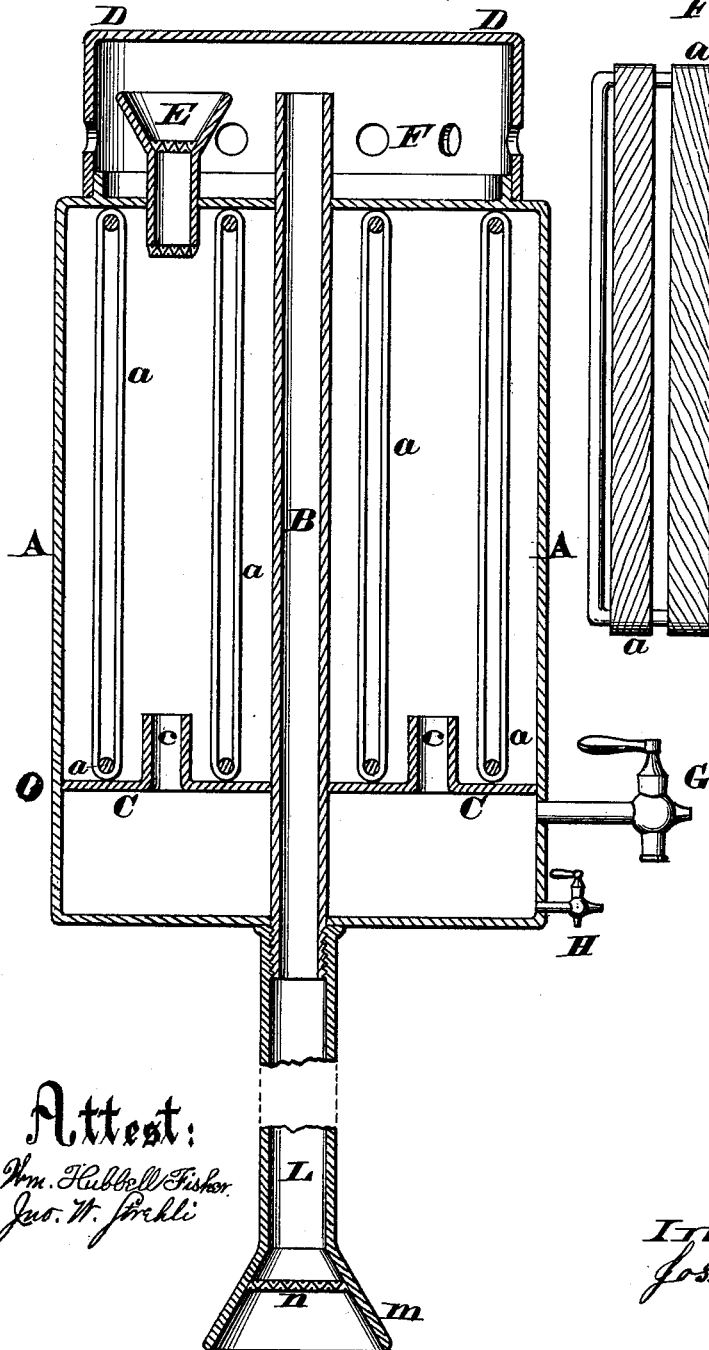
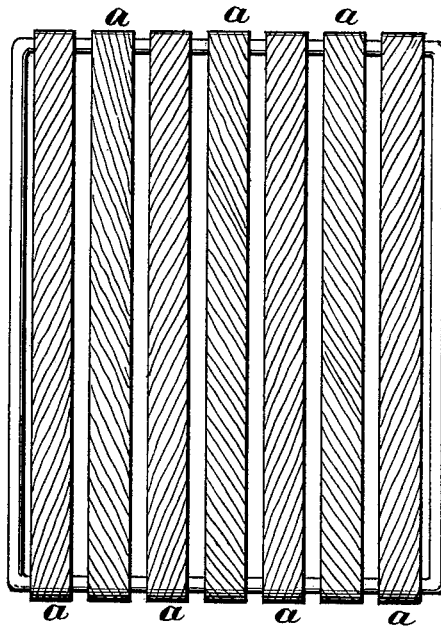


FIG. 2.



Attest:
Wm. Hubbell Fisher.
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UNITED STATES PATENT OFFICE.

JOSEPH H. BEAN, OF CLARKSVILLE, ASSIGNOR OF SEVEN-EIGHTHS OF HIS
RIGHT TO JAMES GEORGE HUNT, OF CINCINNATI, OHIO.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **220,695**, dated October 21, 1879; application filed
March 31, 1879.

To all whom it may concern:

Be it known that I, JOSEPH H. BEAN, of Clarksville, Clinton county, and State of Ohio, have invented a new and useful Improvement in Carbureters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings and letters of reference marked thereon.

The object of my invention is to produce a carbureter for domestic purposes which shall be simple, cheap, and effective; and to do this I have introduced some new features, which I now describe in detail.

Figure 1 shows a sectional elevation of my improvement, and Fig. 2 one of the wire frames for containing the absorbent material.

A represents the body of my carbureter, which may be made of any suitable material, or of any desired shape or size. In this is placed an inside or false bottom, O, forming between it and the true bottom the gas-chamber C. In this bottom are placed the overflow-tubes *c c*, while in the side of the gas-chamber are placed the test-cock H and gas-cock G.

Resting on the inner bottom, and extending to near the top of A, are the wire frames *a a*, placed a short distance apart and covered with any suitable absorbent, as shown in Fig. 2. Passing through the center of A is a hollow tube, B, made gas-tight where it comes in contact with A, and extends above and below A a short distance, as shown. To the lower end of this tube is attached the tube L. On the lower end of L is placed a funnel-shaped piece, M, with an inside safety-gauze, *n*. On the top of A, and extending down into it a short distance, is a funnel-shaped tube, E, protected inside and out with wire-gauze or its equivalent. Over these tubes, and resting on A, is the dome D. This is made a little higher than the tubes, and has openings or perforations at the bottom to admit of free circulation, as shown at F.

The operation of my carbureter is as follows: The dome D being removed and the cock H opened, gasoline is poured in at E. Falling onto the false bottom O, it is rapidly absorbed by the material on the wire frames *a*. If the pouring is more rapid than the absorption, it flows through the tubes *c* and out at the cock H,

when the pouring must cease, as the height of the tubes *c* determines the amount necessary to fill the absorbent and hold it suspended. The cock H being lower than the gas-cock G, and pouring ceasing when the fluid appears at this point, it is evident that no fluid can ever get into the pipe or space leading to the burner. The carbureter A being charged, the dome D is replaced and the carbureter placed in some suitable elevated position, and, if intended to supply gas for a building, is preferably placed in the attic. A piece of pipe or hose being attached to the cock G, and the cock being opened, the air will enter at E, and, becoming impregnated with the vapor of the gasoline, is made heavier than the atmosphere, and falls through the tubes *c* into the gas-chamber C, and out at the gas-cock G, and so to the gas-burner for consumption. The carbureter being placed in a suitable position in the building, the tube L is carried down into a convenient lower room, and the upper end connected with the tube B. The hot-air safety-funnel M is placed over a gas-burner or other source of heat, and any degree of warmth sent up through the carbureter into the warm-air dome D, from which the cold air is instantly expelled by the openings F, when warm air is admitted at E instead of cold, which can be supplied with great regularity by the burner, or a damper placed in the tube L. The warm air can be supplied from a burner or any source of artificial heat.

To start the gas when the weather is cold, a burning taper is placed for a moment under the safety-funnel M. This result may be partially reached by introducing warm air into a shell or box surrounding the carbureter, but much easier and quicker by the process shown; besides it is absolutely necessary to expel the cold air before the warm air will enter at E, and this can be done in no way so easily as by using the dome and outlets F.

This well-known method of producing gas or vapor from gasoline has many advantages over the regular gas-machines with air-pumps, as it is simpler, cheaper, and can be used where the others cannot, and many efforts have been made to produce a carbureter which will produce as good a light through cold weather without the air-pump as with it; but for want of means to

produce an even temperature inventors have only met with partial success. To overcome this serious drawback one inventor undertakes to drive heated air from a furnace into his carbureter; and another employs a coiled tube surrounded with wire-gauze and some absorbent material, and this placed in an outer shell, and the coil and absorbent saturated with gasoline, and hot air passed through this tube. The first of these plans is objectionable for the reason that an effort is made to drive the heated air into a vessel filled with very cold air, and no means provided for the escape of the cold air from the vessel, excepting through the absorbent material filled with gasoline. This takes a very hot fire and a long time to accomplish it. The second is objectionable for the reason that it is complicated, expensive, and the heat is too great where it first comes in contact with the gasoline, and cannot be evenly distributed through the carbureter.

My invention overcomes these objections by conveying the warm air up through a central

straight tube, which scarcely touches any part of the saturated material inside the carbureter, and therefore cannot produce undue heat in the same; and by means of the opening in the lower part of the dome D the cold air is instantly expelled from the dome and the warm air falls through all parts of the carbureter alike, and the heat required to produce an even temperature is very slight.

Having fully described my invention, what I claim is—

The carbureter consisting of the shell A, false bottom O, provided with overflow-tubes c, and forming the chamber O, and an absorbent-chamber above, in combination with frames a, central tube, B, connected tube L, the dome D, and air-inlet E, substantially as and for the purpose described.

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