

(No Model.)

C. V. BEST.
VAPOR BURNER.

No. 471,596.

Patented Mar. 29, 1892.

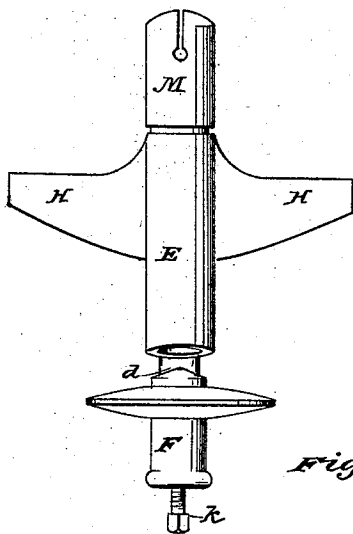


Fig. 2.

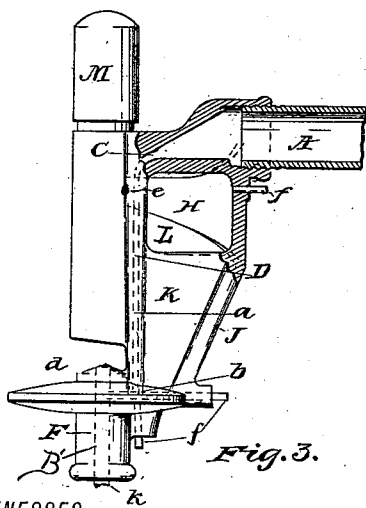


Fig. 3.

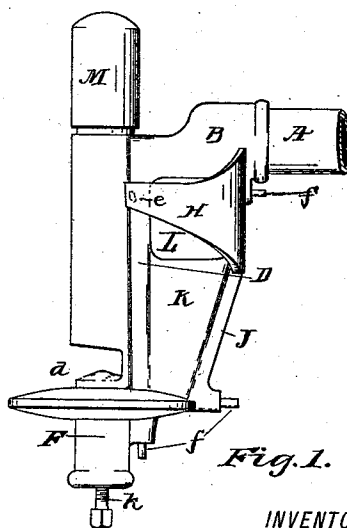


Fig. 1.

WITNESSES:

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CLEARMONT V. BEST, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE W. ALTHOUSE, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 471,596, dated March 29, 1892.

Application filed April 6, 1891. Serial No. 387,757. (No model.)

To all whom it may concern:

Be it known that I, CLEARMONT V. BEST, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have

invented a new and useful Improvement in Vapor-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in gasoline vaporizers and burners; and it consists in providing means by which the hydrocarbon may be vaporized and the vapor or atoms superheated before reaching the mixing-chamber.

With these ends in view my invention relates to certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claim.

Figure 1 of the accompanying drawings is a side elevation of a vapor-burner illustrating my invention; Fig. 2, a front elevation showing the form of the pattern and casting, the wings that form the hood for the sub-light extended to facilitate molding; Fig. 3, a sectional view of the atomizer and sub-light or heater.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

A represents a supply-pipe leading from the tank or source of supply to the atomizer B, which is connected with the body portion of the burner by a neck portion C. A rib D is extended down the side of the mixing-chamber E to the bottom portion F of the frame. A pipe-like aperture *a*, as indicated by the dotted lines, extends from the atomizing-chamber B through the neck C and down through the rib D, intercepting a similar aperture *b*, extending from the lower end of the aperture *a* to a vertical aperture *B'*, centrally located in the base F, as shown by the dotted lines, thus forming a continuous conduit from the atomizer to an aperture *d* below the mixing-chamber E, in which is provided a regulating-pin *k*, the body of which is threaded and turned into the base F, as shown, by which the flow of vapor to the mixing-chamber may be regulated. A small aperture *e* is formed in the side of the mixing-chamber E, as shown

in Fig. 3, by the side of the rib D. These apertures are formed by the use of small drills, the outer or unused end portions closed by plugs *f*. The object of the aperture *e* is to provide a sub-light or heater at a point below and under the atomizer B, and to protect said sub-light from being extinguished by wind wings, as H, are provided that are cast integral with the body of the burner, as shown in Fig. 2, which in the finished burner, as shown in Fig. 1, are bent forward, their front ends embracing the pipe *a* and a portion of the mixing-chamber E, thus partially inclosing the flame of the sub-light and directing and impinging the flame on the atomizer to atomize or vaporize the gasoline and onto the pipe *a*, through which the vapor passes from the vaporizer to the mixing-chamber, by which arrangement the one sub-light or flame serves to vaporize the gasoline in the chamber B and superheat it in the pipe *a*, the flame striking the wings H at their central portion and is spread out on the inner surface of the wings and directed forward and about the pipe *a*.

The web K, filling the space between the frame-piece J and the rib D, extending up to the lower edge of the wing, serves to direct the air upward to support and bear the flame up about the atomizer and to prevent cross-currents, by which the flame would be carried off to one side away from the atomizer and conduit.

I wish to call attention to the form of the lower edge of the wing, as shown in the drawings, having the lower edge cut away or graded oblique to a line drawn longitudinally through the wing, by which the front end portion of the wing is made narrower than the base or rear portion, by which the port L is made larger at the front portion of the heating-chamber formed by the inclosing wings, where the greatest amount of air is required to perfectly support the combustion of the vapor. A further advantage of this structure is that the sub-light is brought near to the burner M, which, if extinguished by violent winds, will be relighted by the sub-light.

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

In a vapor-burner, the combination, with a

supply-pipe A, of a mixing-chamber E, having a sub-light aperture *e*, a pipe *a*, integral with the mixing-chamber and parallel thereto, the frame-piece J, a web K, connecting said
5 frame and mixing-chamber, an atomizer B, communicating with the pipes A *a*, upwardly-graded wings H, connecting the atomizer with the frame J and bent forward to embrace both sides of the pipe *a*, by which a heating-chamber is formed, the sides of which will direct
10 and impinge the flame of the sub-light against

both sides of the pipe *a* and about the atomizer B, and the base F, located beneath the mixing-chamber E and provided with a valve-controlled aperture communicating with the
15 pipe *a*, substantially as set forth.

In testimony whereof I have hereunto set my hand this 19th day of March, A. D. 1891.

CLEARMONT V. BEST.

Witnesses:

W. K. MILLER,
CHAS. R. MILLER.