No. 667,654. Patented Feb. 5, 1901.

C. R. GILLETT.

VAPOR BURNER.

(Application filed May 27, 1899.)

(No Model.)

Fig. 1.

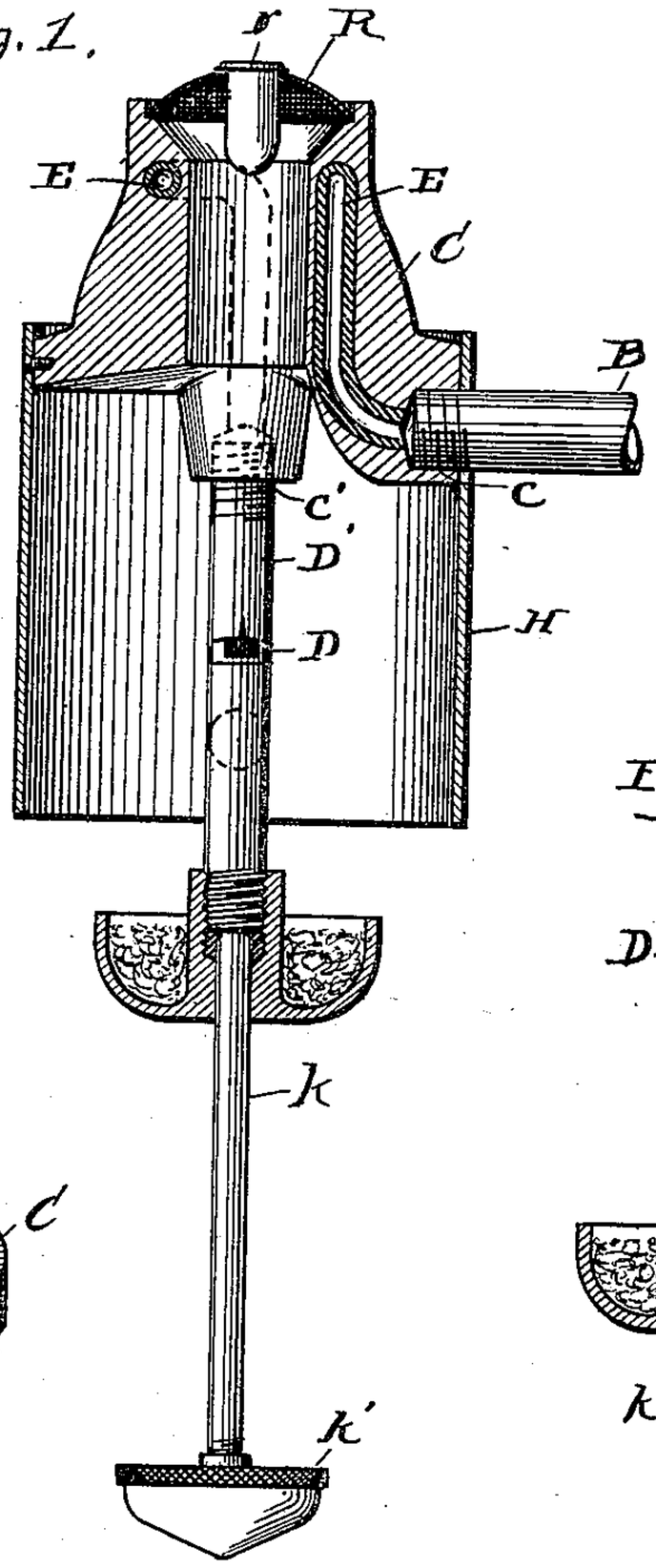


Fig. 2.

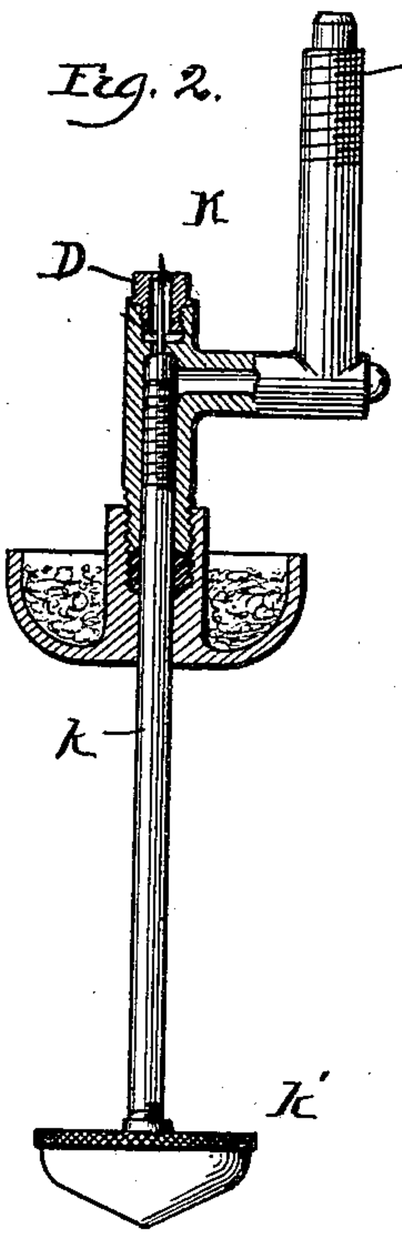
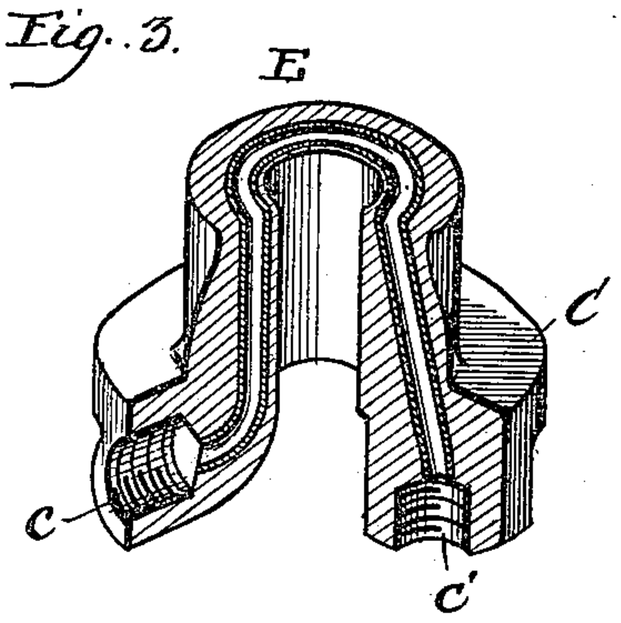


Fig. 3.



Witnesses
Oliver L. Dennis.
Katharine Gerlach.

Inventor
C. R. Gillett.
By Prince & Fisher
his Attorneys.

UNITED STATES PATENT OFFICE.

CLARENCE R. GILLETT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MAGIC LIGHT COMPANY, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 667,654, dated February 5, 1901.

Application filed May 27, 1899. Serial No. 718,474. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE R. GILLETT, a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Vapor-Burners, of which the following is a full, clear, and exact description.

The invention relates to the type of lamp-burner that employs gasolene or other like hydrocarbon as an illuminant, the gasolene liquid being fed in regulated quantity to the burner, where it is first converted into vapor. The vapor being projected as a free jet toward the burner-cap acts in passage to entrain a volume of air, which thereupon thoroughly commingles with the vapor to afford a proper mixture suited for clear and intense combustion.

The exact nature of the improvement will appear in detail from the following description and be thereafter more distinctly pointed out by claim at the conclusion.

Figure 1 is a view of the burner in longitudinal section with its jet-tube shown in elevation; Fig. 2, a detail view, partly in section, of said jet-tube detached; Fig. 3, a sectional perspective view of the burner, displaying the course of the sinuous internal channel through which the gasolene and gasolene-vapors pass.

The burner C consists of a solid-metal annulus, generally of brass, having an external lower flange, over the outer rim of which is secured the dependent cylindric curtain H. The curtain surrounds the jet-tube to shield the issuing gasolene-vapors from cross currents or draft, and being open beneath allows for easy ingress of the induced air-supply to be entrained by the jet of hydrocarbon vapors. The central hole through burner C promotes the desired admixture of the air and vapors. The mixture emerges at the top past gauze screen R, said screen resting on a sunken seat at the upper rim of the burner. A spreader *r*, dependent from the screen, aids in diverting the course of the inflammable mixture, such mixture as it bursts into flame above the screen being exposed to additional air-supply about the burner-rim.

Located within the wall of burner C is the continuous channel E, consisting of a separate metal pipe, usually of brass, bent conveniently to the form shown at Fig. 3 and set like a core in the mold, so as to be completely incased by the molten metal in the act of casting the body of the burner. By thoroughly cleaning the surface of the pipe E it becomes snugly united with the metal of the burner-body. No leak or seepage externally along the pipe can occur. The internal channel is without joint or break. In the absence of any drilling to establish the channel no filling-plugs are requisite to stop the end ports necessarily left by the drill. The tubule can be easily shaped, as shown, to assume a sinuous course free from angles or other like corners most apt to develop eddies or counter-currents in the circulating fluid. Ordinarily the inlet to the tubule is located at the burner-base in close junction with socket *c* for supply-pipe B. The tubule proceeds thence upward, takes a curved course about the top of the burner, and finally bends downward to an outlet-mouth *c'* at the burner-base. Threaded seat *c'* in the bottom of said burner tightly receives the leg D' of the jet-tube, said tube being bent in L form to bring its exit beneath the central draft-hole of the burner. A tip D, fitted in the mouth of the jet-tube, has a minute vent therein which compels the hot gasolene-vapors to forcibly issue as a fine stream projected upward through the burner. Needle-valve K, by its thumb-piece *k'*, governs the exit of vapor in familiar fashion, the gland for the valve stuffing-box being expanded, as appears, to constitute a starting-cup.

Obviously the details of structure can be varied according to the mechanic's skill without departure from the essentials of the invention.

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

In vapor-lamps, a central-draft burner having an internal tube curved in sinuous course about the central hole, united integrally with the burner-body and contained within the same, said tube constituting a continuous, jointless channel extending from the supply-pipe at one end to the jet-tube at the other, substantially as described.

CLARENCE R. GILLETT.

Witnesses:
GEO. P. FISHER, Jr.,
ALBERTA ADAMICK.