

No. 731,384.

PATENTED JUNE 16, 1903.

J. P. NEWBOLD.

VAPOR BURNER.

APPLICATION FILED MAY 20, 1902.

NO MODEL.

Fig. 1.

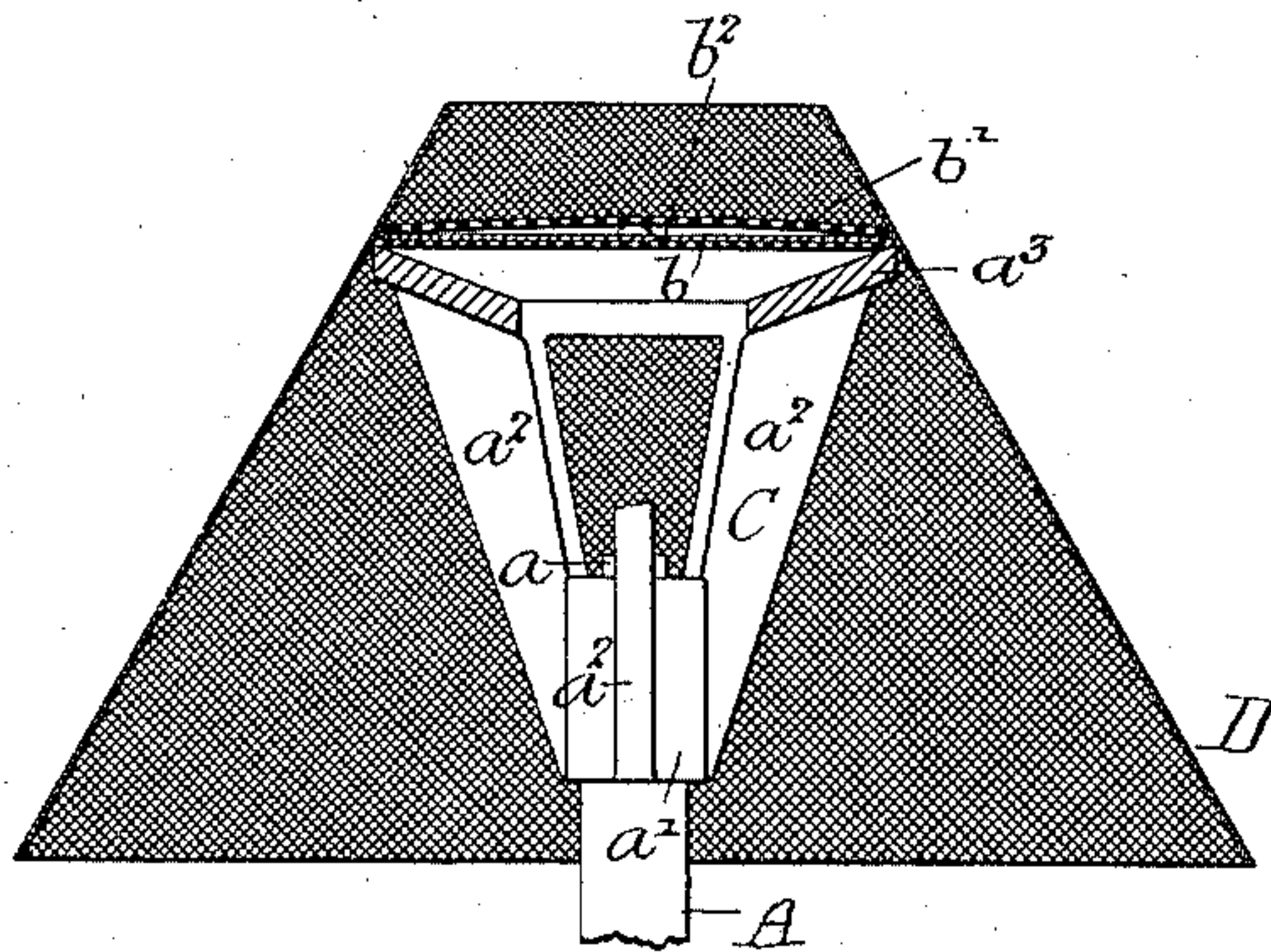


Fig. 2.

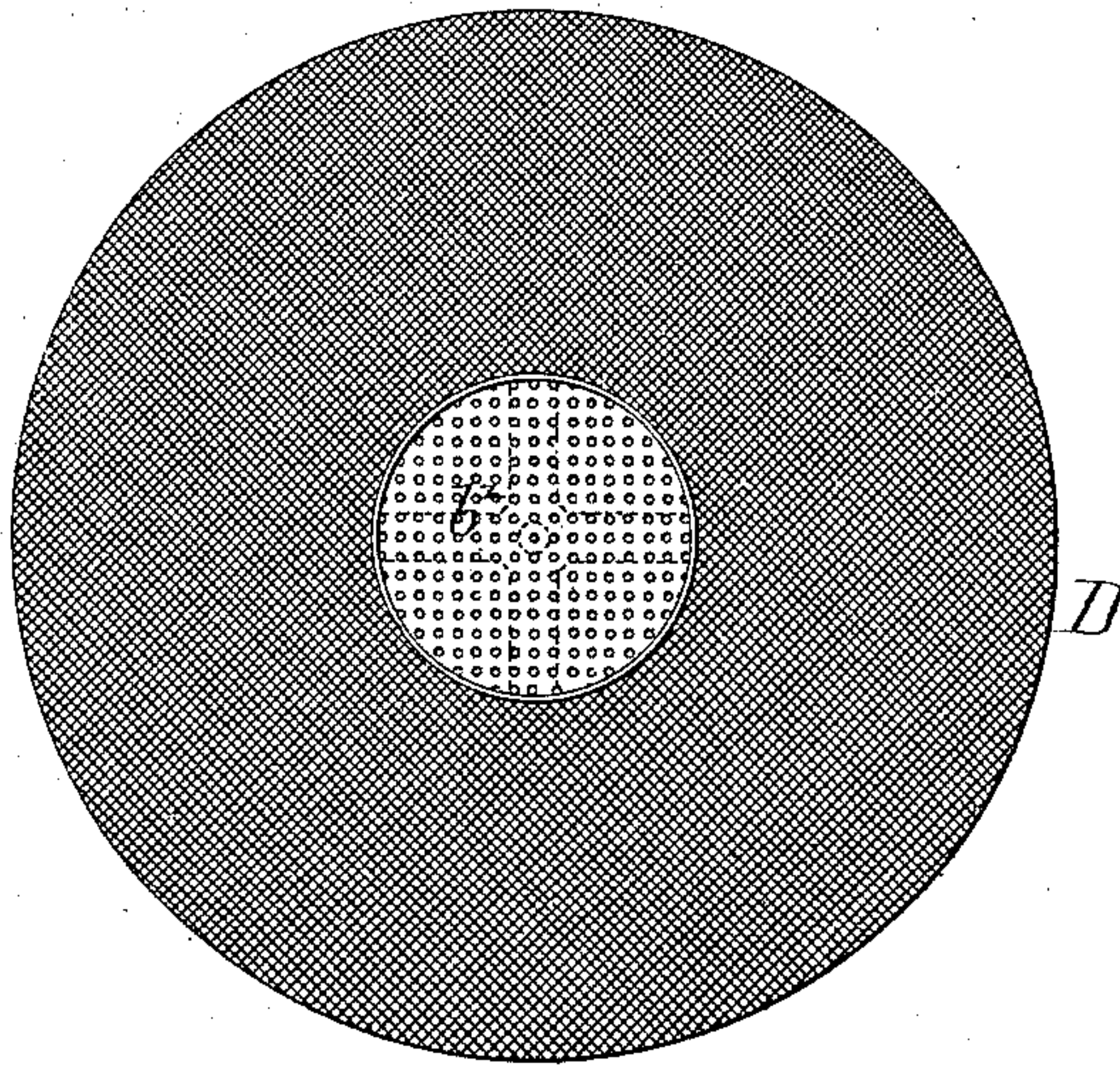
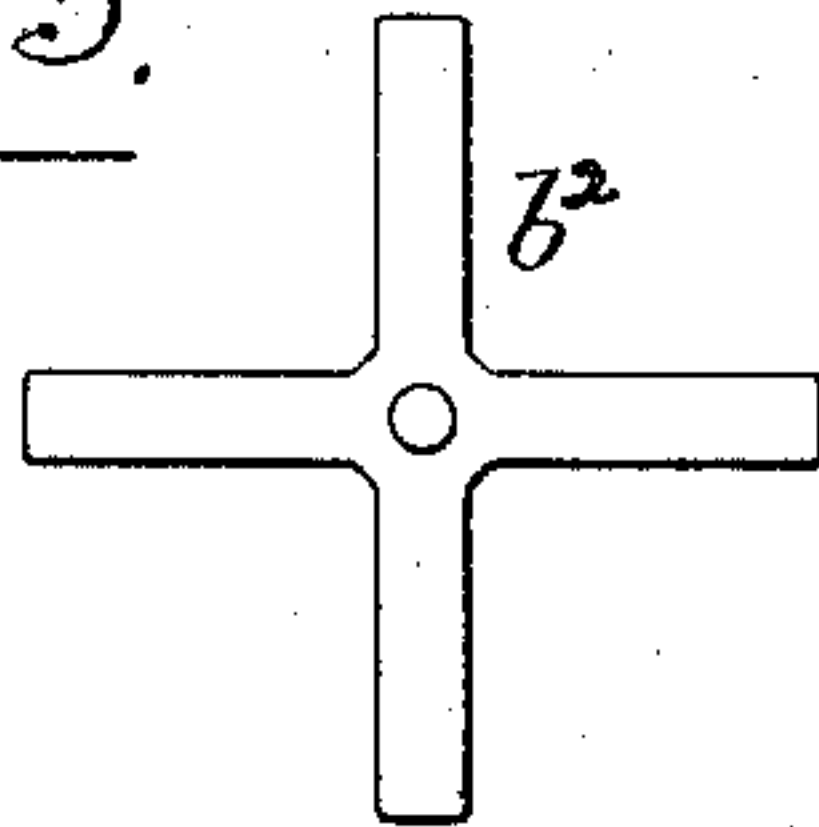


Fig. 3.



Witnesses:-

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UNITED STATES PATENT OFFICE.

JOHN P. NEWBOLD, OF CAPE MAY, NEW JERSEY.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 731,384, dated June 16, 1903.

Application filed May 20, 1902. Serial No. 108,193. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. NEWBOLD, a citizen of the United States, residing in Cape May, New Jersey, have invented certain Improvements in Vapor-Burners, of which the following is a specification.

My invention consists in certain improvements in burners, having for its object the provision of a device especially designed to prevent the humming or roaring noise usually accompanying the operation of a hydrocarbon-burner. This object I attain as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a common form of hydrocarbon-burner equipped with my improved device, whereby the operation of said burner is rendered noiseless. Fig. 2 is a plan view of my improved device, and Fig. 3 is a plan view of the preferred form of separator employed for holding apart the perforated sheets forming a part of my invention.

In the above drawings, A represents a pipe or tube connected to any suitable source of supply for liquid hydrocarbon, being provided with a vapor-jet nozzle *a*, which is screwed into a threaded opening in the end of a tubular section *a'*, mounted upon the end of the supply-tube A. This section *a'* has three upwardly-extending arms *a²* formed integral with it, which are joined at their top portions by an inclined ring *a³*. Carried on this ring are two sheets of gauze or perforated plates *b* and *b'*, separated from each other by strips of material *b²*, preferably of a cross shape, as indicated in Fig. 3. Also supported by the ring, which preferably forms an integral part of the frame C, constituted by the members *a'*, *a²*, and *a³*, is a conical hood or casing D, which extends for a short distance above the gauze plates or joints and also projects for a distance below the burner, as indicated.

I have found when vaporized hydrocarbon from any suitable source is forced through the supply-pipe A and caused to escape from the vapor-jet nozzle *a* that if lighted it burns with a noiseless blue flame above the upper gauze sheet *b'*. It is found that the gauze hood D admits the necessary air to the body of vaporized hydrocarbon without being set

in vibration and without causing the vibration of a column of air, thereby being free from the objectionable noise noticeable in burners of this class. I have also found that in order to secure the best results the two horizontal gauze plates *b* and *b'* should be employed, these being preferably held a fixed distance apart by means of the separate strips or bars illustrated. In order to confine the flame and secure the best action, I have found it advisable to extend the conical gauze hood above the level of said plates.

I claim as my invention—

1. In a burner, the combination of a supply-pipe provided with a vapor-jet nozzle, a supporting-frame carried by said supply-pipe, a sheet of perforated heat-resisting material extending over the top of said frame and a hood of the same material as said sheet also of perforated material and open at the top, said hood surrounding said sheet and extending both above and below the same, substantially as described.

2. In a burner, the combination of a supply-pipe provided with a vapor-jet nozzle, a supporting-frame carried by said supply-pipe, a plurality of sheets of perforated material extending over the top of said frame and having a space between them with a conical hood also of perforated material and open at the top, the same surrounding said sheets and extending both above and below the same, substantially as described.

3. In a burner, the combination of a supply-pipe provided with a vapor-jet nozzle, a supporting-frame carried by said pipe, two sheets of perforated material extending over the top of said frame, spacing bars or strips between said perforated sheets whereby the latter are retained at a definite distance from one another, and a hood of perforated material extending around said sheets and spacing-bars, said hood being open at the top and projecting both above and below the same, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN P. NEWBOLD.

Witnesses:

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