

No. 630,549.

Patented Aug. 8, 1899.

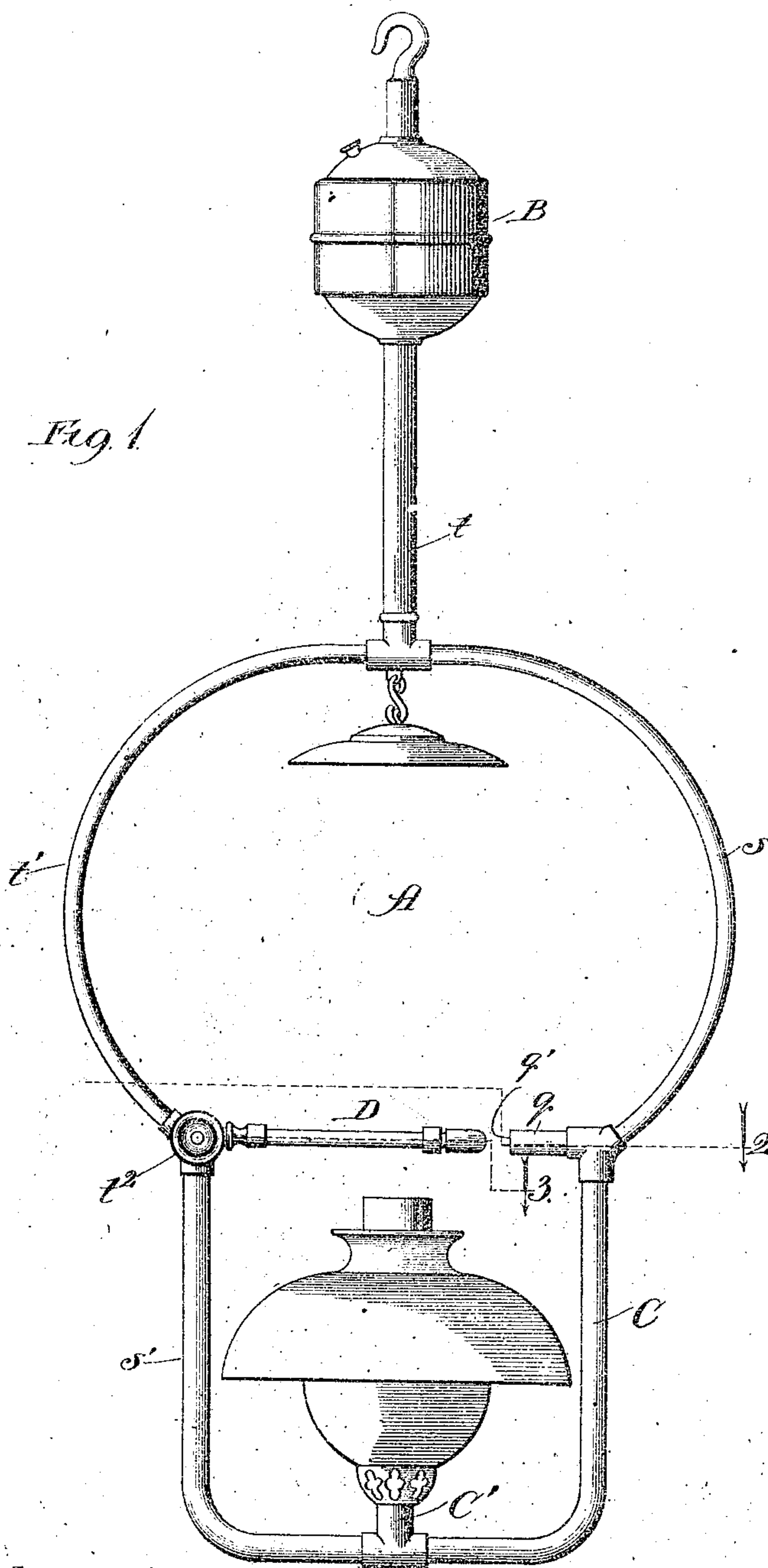
J. MOSKOWITZ.

VAPORIZER FOR HYDROCARBON LAMPS.

(Application filed Apr. 17, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
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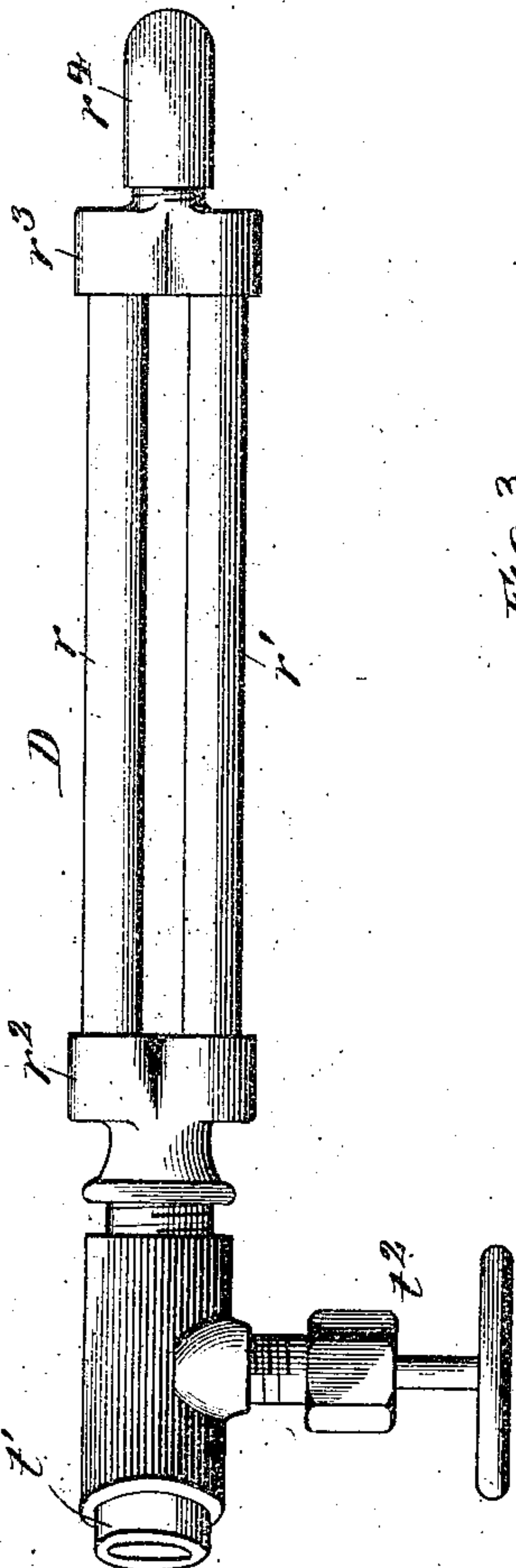
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2 Sheets—Sheet 2.

Fig. 2.



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Fig. 3.

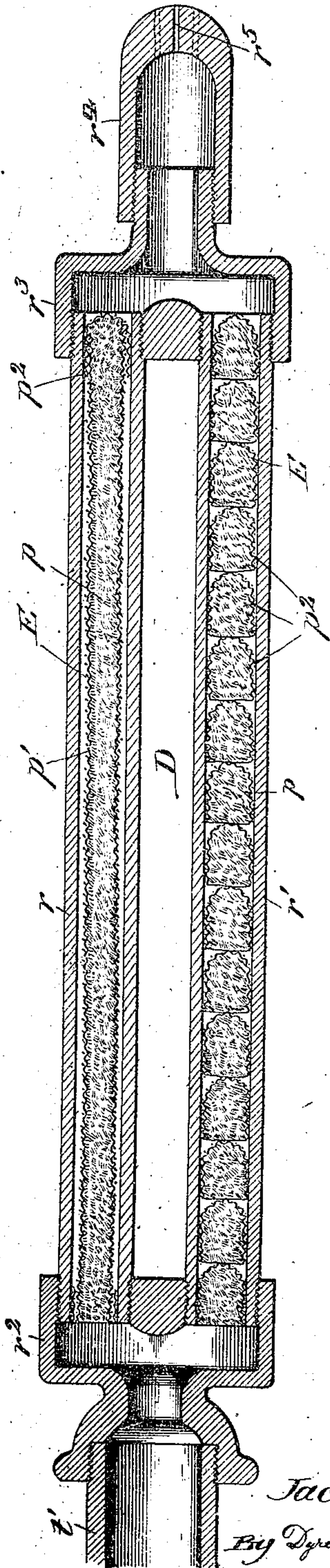


Fig. 5.

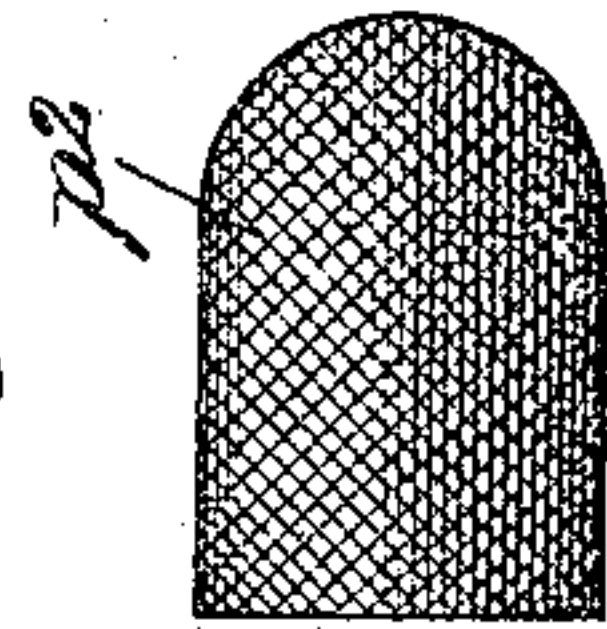
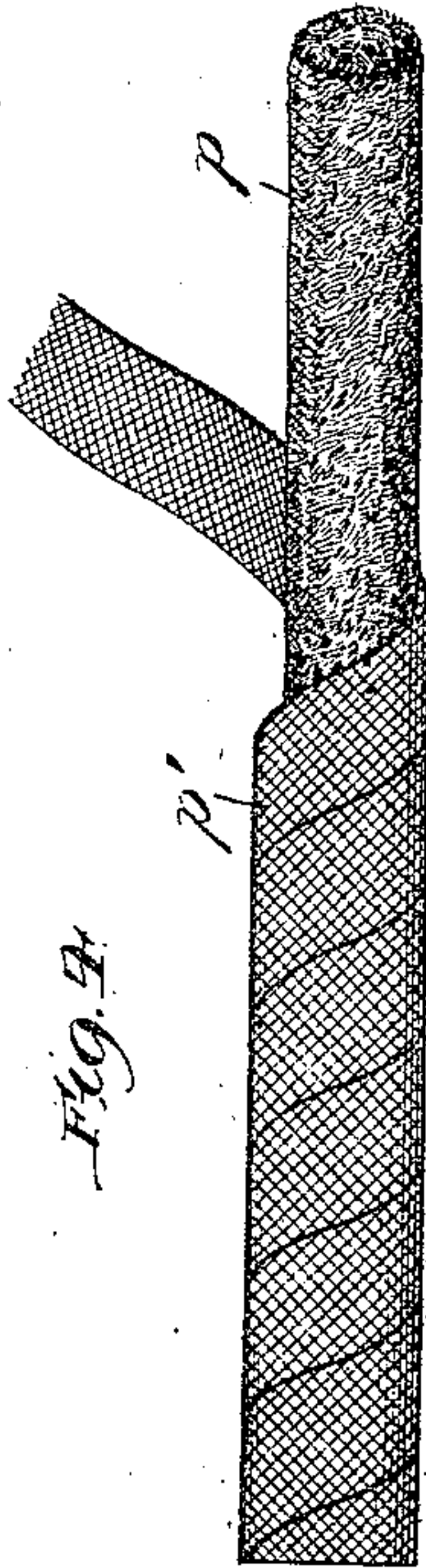


Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB MOSKOWITZ, OF CHICAGO, ILLINOIS.

VAPORIZER FOR HYDROCARBON-LAMPS.

SPECIFICATION forming part of Letters Patent No. 630,549, dated August 8, 1899.

Application filed April 17, 1899. Serial No. 713,354. (No model.)

To all whom it may concern:

Be it known that I, JACOB MOSKOWITZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vaporizers for Hydrocarbon-Lamps, of which the following is a specification.

My invention relates to improvements in the construction of the vaporizing tubes or chambers employed in connection with lamps or fixtures of the class wherein a volatile hydrocarbon oil from a suitable reservoir is fed through and gasified in a chamber which is heated from the flame of the lamp and thence discharged to mix with air and enter a mixing-tube which conducts the mixture to the burner. The vaporizing-chamber and mixing-tube together form a construction of the Bunsen-burner type, which in practice requires that the outlet from the vaporizing-chamber or generator shall be comparatively small to give desired force to the current of escaping gas, and in the constructions of vaporizing-chambers or generators hitherto employed great difficulty has been experienced on account of the frequent clogging of this outlet by particles of carbon or other material carried with the gas.

My object is to provide a vaporizing-chamber or gas-generating device of improved construction in which the danger of clogging will be obviated; and to this end my invention consists in the general as well as details of construction and combinations of parts, all as hereinafter set forth and claimed.

Referring to the drawings, Figure 1 is a gas-generating gas-lamp provided with my improvements; Fig. 2, an enlarged and broken section taken on the irregular line 2 of Fig. 1; Fig. 3, a still further enlarged section taken on line 3 of Fig. 1; Fig. 4, a view illustrating the construction of one form of strainer which I employ, and Fig. 5 a strainer of alternative construction.

A is a fixture or lamp-carrying support formed with a reservoir B, oil-conducting pipes $t\ t'$, mixing-tube C, and burner C', the parts s and s' being bracing rods or tubes plugged at the ends.

The particular shape or construction of the parts named forms no part of my present in-

vention and may be of any suitable construction.

D is my improved gas-generating or vaporizing device, which, as shown, comprises tubes $r\ r'$, which may extend parallel with each other and provided at opposite ends with caps $r^2\ r^3$, respectively, common to both and forming chambers. The cap r^2 is screwed upon the end of the tube t' , so that the generator extends in a horizontal plane in the direction of the mouthpiece q of the tube C. Screwed upon the cap r^3 is a discharge-cap r^4 , having a minute discharge-opening r^5 in direct line with the inlet-opening q' of the mouthpiece q . I prefer to employ two tubes $r\ r'$, extending side by side in the horizontal plane and in vertical plane with the burner C'. However, more than two such tubes may be employed, if desired, and so far as certain details of my invention are concerned a single tube may be employed.

In operation hydrocarbon oil from the reservoir B passes downward through the supply-pipes $t\ t'$ to the chamber r^2 and the chamber formed by the tubes $r\ r'$. The latter are heated from the burner C' to vaporize the oil and cause it to discharge under pressure to the chambers $r^3\ r^4$ and escape through the minute opening r^5 to the mouthpiece q . On the principle of the Bunsen burner a suitable quantity of air is carried by the gas into the mouthpiece q , and the mixture is conducted by the tube or pipe C to the burner C'. On the supply-tube is a valve t^2 , whereby the supply of oil to the vaporizer may be suitably controlled. As the oil is vaporized any solid particles of carbon or foreign substances would be carried by the gas to the outlet r^5 to clog the same unless straining means, such as it is the object of my invention to provide, are placed between the inlet-chamber r^2 and outlet r^5 . In the tube r I show a strainer E, consisting of loosely-packed asbestos or other refractory or incombustible material p , wrapped or confined in a foraminous casing p' . The casing may be formed of a strip of refractory metal wire-gauze wound spirally over the loosely-packed filler p , and the tube thus formed is provided at its end adjacent to the chamber r^3 with a shield or cartridge p^2 . The tube or casing p' may be constructed in any other suitable manner and should preferably

be of a diameter somewhat less than the inner surface of the tube r to be out of contact therewith throughout the greater part of its extent at least. Oil entering the tube r from the chamber r^2 is absorbed by the porous filler p , and the latter becomes more or less saturated. Under the heat applied to the tube the oil is vaporized and escapes from the filler through the porous casing into the tube r and passes around or through the shield or cap p^2 to the chamber r^3 . All solid particles of carbon or other material are retained by the filler and prevented from reaching the chamber r^3 , while the cap p^2 prevents any particles of the filler material from being carried through it. In the construction shown in the tube r' a series of shields or cartridges p^2 are provided, the same being filled with loosely-packed straining material, such as asbestos fiber or other comparatively incombustible substance. The cartridges may be of conical form, as shown, and present obstructions to the escape of the filler in the direction of the chamber r^3 . The oil entering from the chamber r^2 is absorbed by the filler material, and as it is vaporized or gasified under the heat it escapes through the porous material of the cartridges, which may be of wire-gauze, and moves to the chamber r^3 . The filler p and its casing, whether in one length, as shown in the tube r , or in the form of caps or cartridges, as shown in the tube r' , will strain the gas, so that it will be practically free from solid particles when it reaches the minute outlet r^5 . Thus there can be no clogging of the latter. In the event that the filler material or cartridges become so impregnated with solid particles as to prevent sufficiently free passage of the hydrocarbon they may be removed and cleaned or provided with fresh filling material. The abstraction and reinsertion of the strainers may be quickly and easily accomplished.

There is a material advantage in providing a plurality of—that is to say, two or more—tubes, for the reason that they increase the capacity of the vaporizing-chamber as well as the surface exposed to the burner; also, because in the event that one channel should become clogged the other or others will still remain open for the passage of the hydrocarbon.

There is an advantage in providing more than one outlet through the cap r^4 , as indicated by dotted lines in Fig. 3, and owing to my improved straining means these openings may be very minute without danger of clogging. A series of such outlets diminishes the noise of the escaping gas and produces a more steady flame at the burner.

While I prefer to construct my improvements as shown and described, they may be variously modified in the matter of details without departing from the spirit of my invention as defined by the claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a hydrocarbon-burner, a hydrocarbon-oil-supply conduit, a vaporizing-chamber above the burner, to be heated thereby, and interposed in the path of the hydrocarbon from the supply-conduit to the burner, and a strainer in said chamber through which the hydrocarbon must pass, comprising a series of porous cartridges having an oil-absorbing filler all of refractory material, substantially as and for the purpose set forth.

2. In combination with a hydrocarbon-burner, a hydrocarbon-oil-supply conduit, a vaporizing-chamber consisting of a plurality of tubes forming separate passages extending over the burner, to be heated thereby, and interposed in the path of the hydrocarbon from the supply-conduit to the burner, and strainers in said tubes through which the hydrocarbon must pass, comprising refractory oil-absorbing material provided at its discharge end with a refractory foraminous shield, substantially as and for the purpose set forth.

3. In combination with a hydrocarbon-burner, a hydrocarbon-oil-supply conduit, a vaporizing-chamber consisting of a plurality of tubes forming separate passages extending over the burner, to be heated thereby, and interposed in the path of the hydrocarbon from the supply-conduit to the burner, and strainers in said tubes through which the hydrocarbon must pass, comprising refractory oil-absorbing material provided with a refractory foraminous casing, substantially as and for the purpose set forth.

4. In combination with a hydrocarbon-burner, a hydrocarbon-oil-supply conduit, a vaporizing-chamber comprising a plurality of tubes extending over the burner, to be heated thereby, and interposed in the path of the hydrocarbon from the supply-conduit to the burner, and strainers in the said tubes through which the hydrocarbon must pass, each comprising a series of porous cartridges having an oil-absorbing filler, all of refractory material, substantially as and for the purpose set forth.

JACOB MOSKOWITZ.

In presence of—

M. S. MACKENZIE,
M. J. FROST.