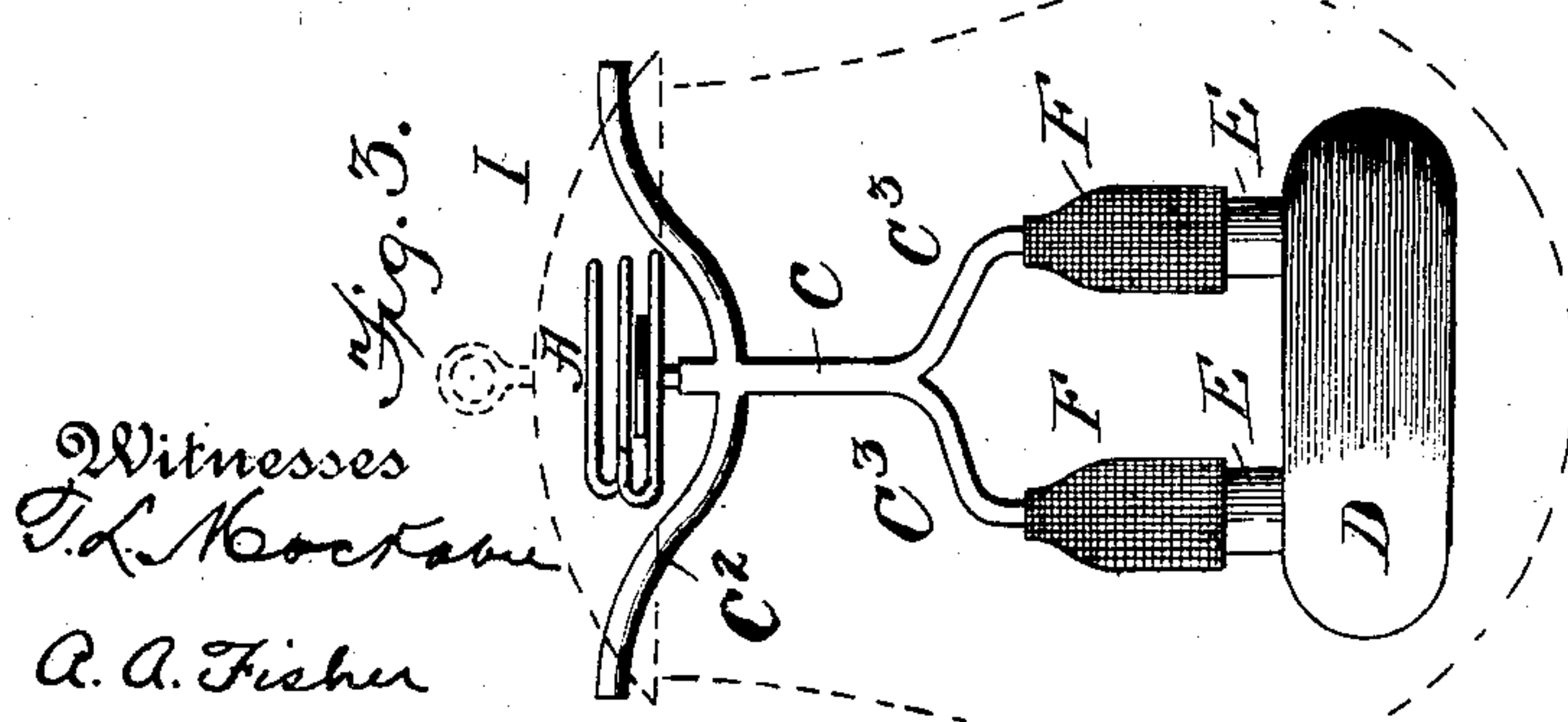
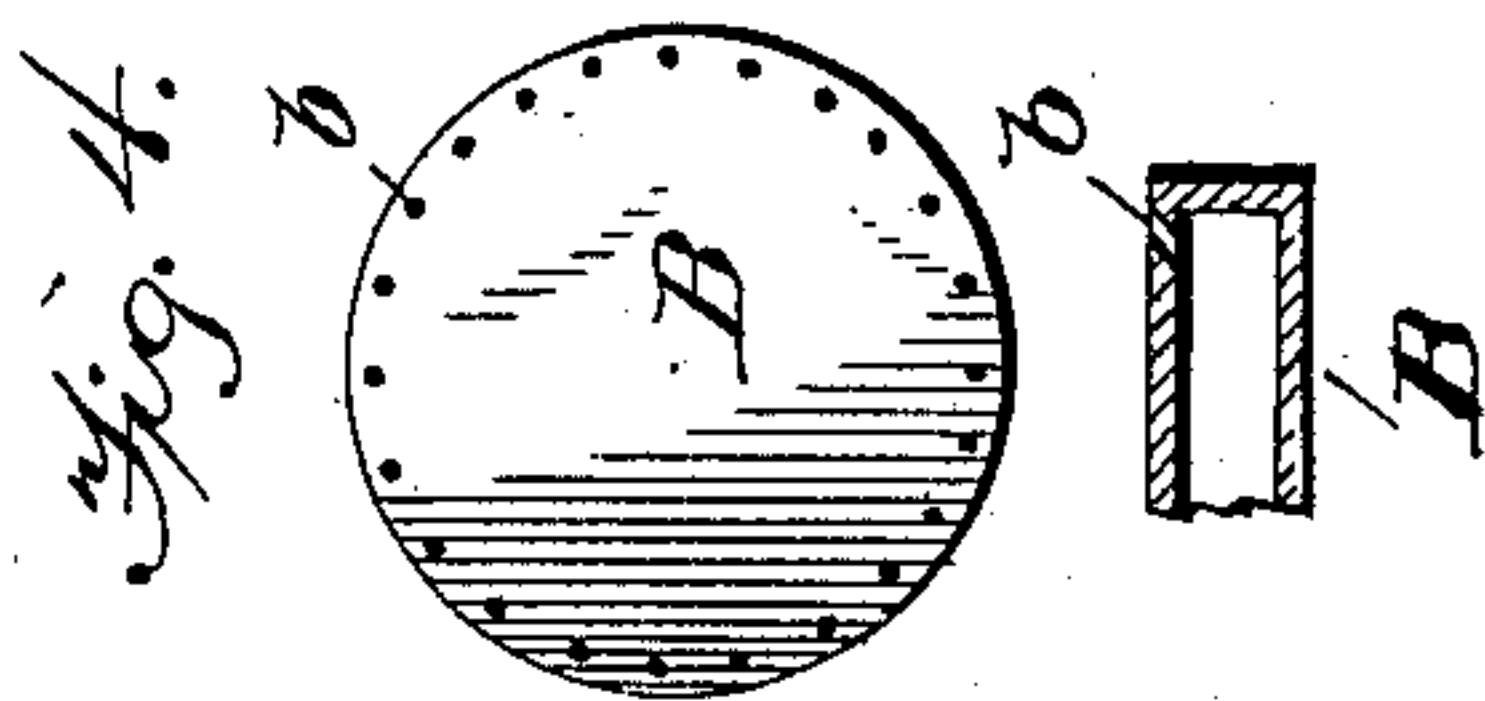
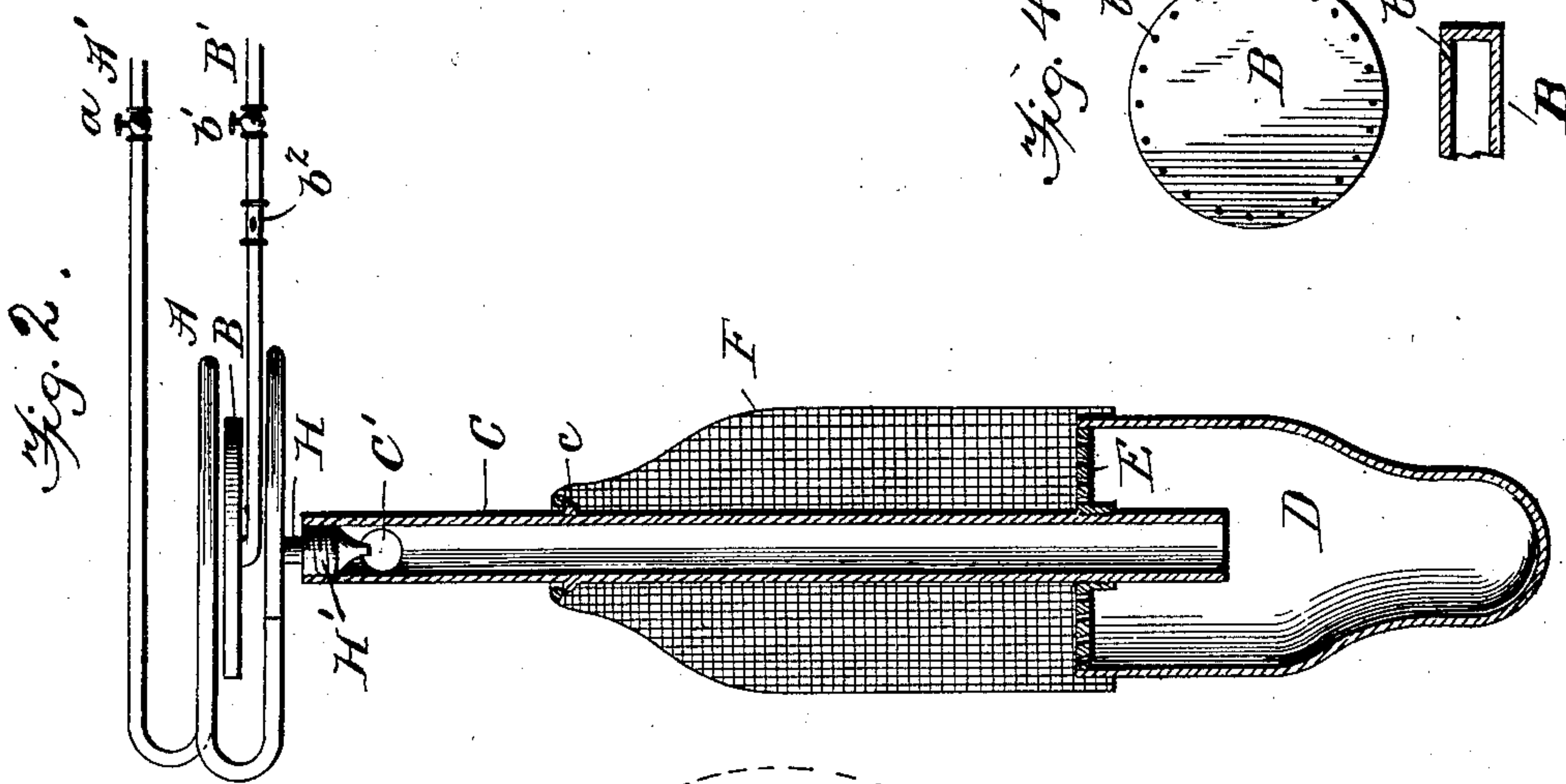
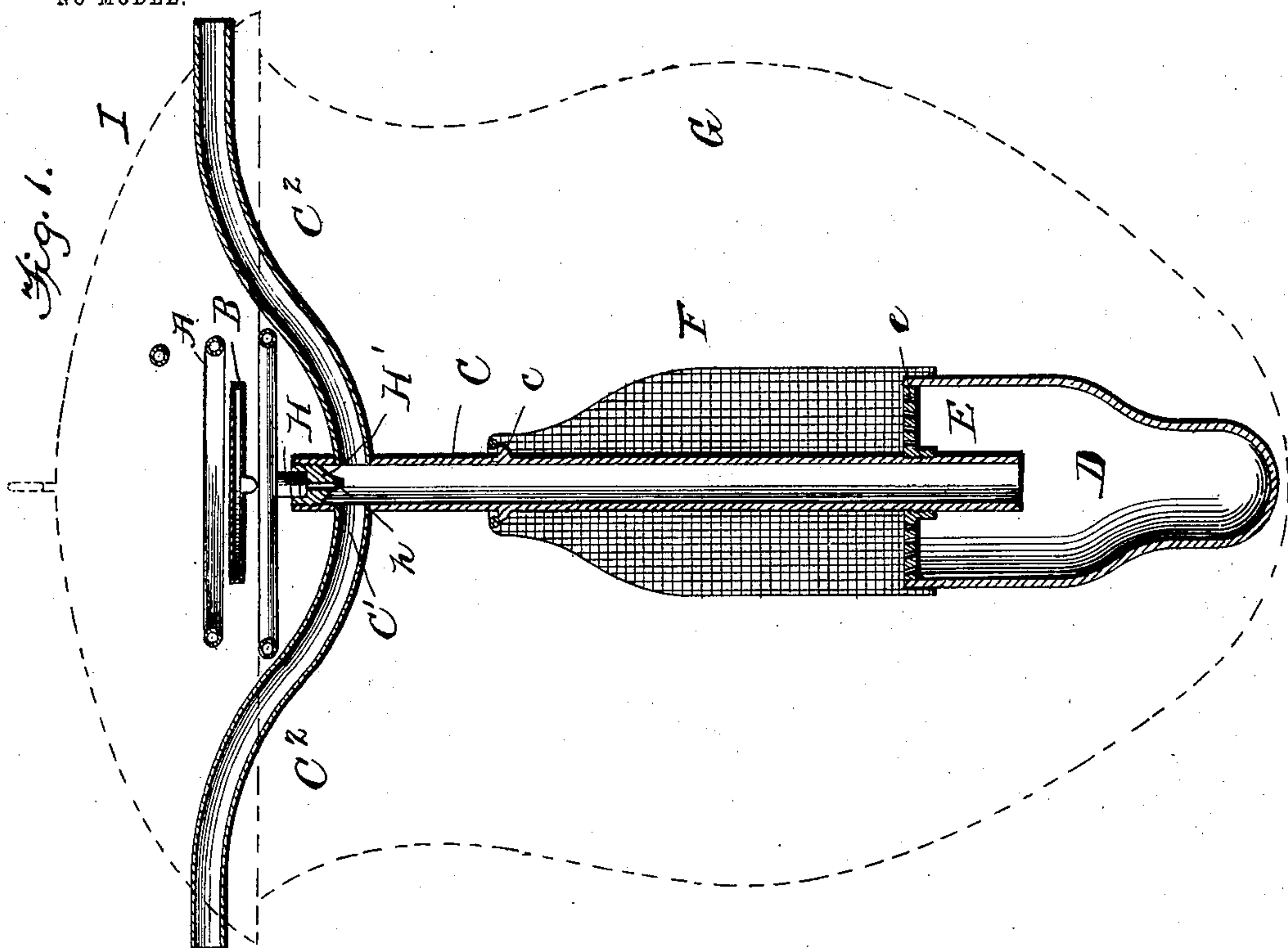


No. 734,470.

PATENTED JULY 21, 1903.

W. S. PROSKEY.
HYDROCARBON VAPOR LAMP.
APPLICATION FILED JUNE 15, 1899.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

WINFIELD SCOTT PROSKEY, OF OCALA, FLORIDA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PROSKEY LIGHT COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

HYDROCARBON-VAPOR LAMP.

SPECIFICATION forming part of Letters Patent No. 734,470, dated July 21, 1903.

Application filed June 15, 1899. Serial No. 720,685. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD SCOTT PROSKEY, a citizen of the United States, residing at Ocala, Marion county, State of Florida, have invented certain new and useful Improvements in Hydrocarbon-Vapor Lamps for Incandescent Lighting, of which the following is a specification.

This invention relates to hydrocarbon-vapor lamps for incandescent lighting, the object of the invention being to provide an improved construction of parts and to produce an improved lamp; and the invention consists in the various features of construction and arrangement of parts having the general mode of operation substantially as hereinafter more particularly set forth.

Referring to the accompanying drawings, Figure 1 is a longitudinal vertical section of a lamp embodying my invention. Fig. 2 is a vertical section of the operative parts of the lamp at right angles to the section of Fig. 1. Fig. 3 is a side view of a modification, showing a plurality of burners; and Fig. 4 is a plan view and an enlarged sectional detail of the burner for the primary heating.

My invention embodies the combination of one or more vapor-burners, a vaporizing apparatus therefor, a system of piping conveying oil to the vaporizing apparatus, a valve controlling the said system, a Bunsen burner separate from the vapor-burner arranged in operative relation to the vaporizing apparatus, a second system of piping conveying gas to said Bunsen burner, and a valve controlling said last-mentioned system of piping.

Referring more particularly to Figs. 1 and 2 of the drawings, there is the vaporizing apparatus having a vaporizing-tube A connected by the system of piping with a suitable source of supply of fuel or hydrocarbon under pressure, as through a pipe A', having a valve or stop-cock *a* for controlling the supply of said system. This vaporizing-tube is shown in the form of a number of coils, and it is provided with a nipple H, to which is applied a detachable vapor-vent nozzle H', having a contracted orifice *h*, through which the vaporized fuel passes.

In order to provide means for producing

the initial vaporization of the fuel or hydrocarbon in the vaporizing-tube, I provide in operative relation to the vaporizing apparatus a Bunsen burner B, separate from the main burner and shown in the present instance as disk-shaped and having a number of openings *b*, through which the jets of flame will be projected and impinge on the vaporizing-tube. This burner is connected to a suitable source of gas-supply by the second system of piping, the pipe B' having a regulating valve or cock *b'*, and the pipe is provided with an orifice *b''* for the admission of air to cause a blue or Bunsen flame at the burner B. This burner, as shown in the drawings, is arranged practically parallel with the vaporizing-tube and in such relation thereto that when the burner is ignited the jets of flame will impinge on the vaporizing-tube to produce the requisite initial heating, the end of the burner being closed and the openings being arranged preferably substantially as indicated in Fig. 4.

Connected to the vaporizing-tube is a mixing and conveying tube C, and in the present instance this tube is connected to the detachable vapor-vent nozzle H', secured to the nipple H of the vaporizing-tube. This tube is provided with an opening or openings C' at its top to receive air to be mixed with the vapor in the tube, and while these openings C' can receive the air directly I prefer to provide the air-tubes C² C², extending from the openings C' laterally and serving in the construction shown in Figs. 1 and 3 to form the support for the tube and burner hereinafter described by being secured to the hood I, (shown in dotted lines,) constituting what may be termed the "frame" of the lamp. This mixing and conveying tube C projects into the mixing-chamber D, secured to the tube, and it is surrounded by a burner E, shown in the present instance as a disk of refractory material having a number of perforations *e*, some of which are more or less inclined, so that the mixed air and vapor will pass up through the burner and the flame will be projected against the inner sides of the mantle F. This mantle F is suitably supported on the mixing and conveying tube C,

and, as shown, this tube is provided with a projecting lug or rib *c*, on which the upper end of the mantle rests, while the lower end of the mantle embraces the burner *E*, and it will be seen that the burner and incandescent mantle surround the mixing and conveying tube. It will further be seen that by this arrangement the vaporizing-tube being arranged above the burner and mantle is within the heat zone of the flame, so that the fuel or hydrocarbon in the tube will be vaporized by the heat of the flame when the lamp is burning. The mixing and conveying tube receives the vapor from the vapor-vent nozzle at the top of the tube, and the vapor is mixed with air passing through the openings *C'* at the top, and the mixed air and vapor passing down the tube is further completely mixed in the mixing-chamber *D*, from whence it passes to the burner.

The lamp shown is complete in itself, the vaporizing-tube being connected to the mixing and conveying tube through the medium of the detachable vapor-vent nozzle, and it may be supported in any suitable way, and when the hood *I* is used the tubes *C²* form bearings in the hood, and the pipes *A' B'* also pass through the hood and serve to unite the lamp and hood. This hood may be provided with a globe *G*, (indicated in dotted lines,) although the globe is not necessary to the successful operation of the lamp, but serves its usual purpose of protecting the flame from disturbances from the elements.

In Fig. 3 I have shown an adaptation of substantially the same elements in a lamp having a plurality of mantles, the mixing and conveying tube *C* being branched, as at *C³ C³*, and connected to the mixing-chamber *D*, on which are mounted the burners *E E*, with the mantles *F F* surrounding the mixing and conveying tube branches.

From the above description of the construction and arrangement of the parts the operation of the lamp will be readily understood by those skilled in the art and need not be specifically set forth, it being understood that in lighting the lamp the cock *b'* is opened and the gas-supply admitted to the Bunsen burner and ignited. Then the cock *a*

is opened, allowing the hydrocarbon or other fuel to flow into the vaporizing-tube, where the initial vaporization takes place, and the vapor passing through the detachable vapor-vent nozzle *H'* is mixed with the air in the mixing and conveying tube and further completely mixed, if necessary, in the mixing-chamber *D*, and passing up through the burner *E* is ignited, heating the mantle *F* to incandescence. The cock *b'* is then closed and the fuel is further vaporized in the vaporizing-tube by the heat from the incandescent material, the vaporizing-tube being in the zone of the flame.

While I have thus illustrated and described an embodiment of my invention, it is evident that the essential features may be embodied in other devices varying in details of construction and arrangement and accomplishing substantially the same results without departing from the spirit of my invention.

What I claim is—

1. In a vapor-lamp for incandescent lighting, the combination with a vaporizing-tube and an oil-supply pipe connected thereto, of a Bunsen burner and a gas-supply pipe connected therewith, a nipple connected to the vaporizing-tube, a removable vapor-vent nozzle connected to the nipple, a mixing and conveying tube connected to the nozzle and having an air-opening at its top, and a burner and mantle surrounding the tube, substantially as described.

2. In a vapor-lamp for incandescent lighting, the combination with a vaporizing-tube and means for producing the initial vaporizing, of a branched mixing and conveying tube having air-supply openings, a mixing-chamber connected to the branches of the mixing and conveying tube, and a burner and mantles surrounding each of said branches, substantially as described.

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

WINFIELD SCOTT PROSKEY.

Witnesses:

ARTHUR A. FISHER,
W. CLARENCE DUVAL.