

No. 741,772.

PATENTED OCT. 20, 1903.

L. DENAYROUZE.
INCANDESCENT VAPOR LAMP.
APPLICATION FILED APR. 11, 1902.

NO MODEL.

Fig. 1.

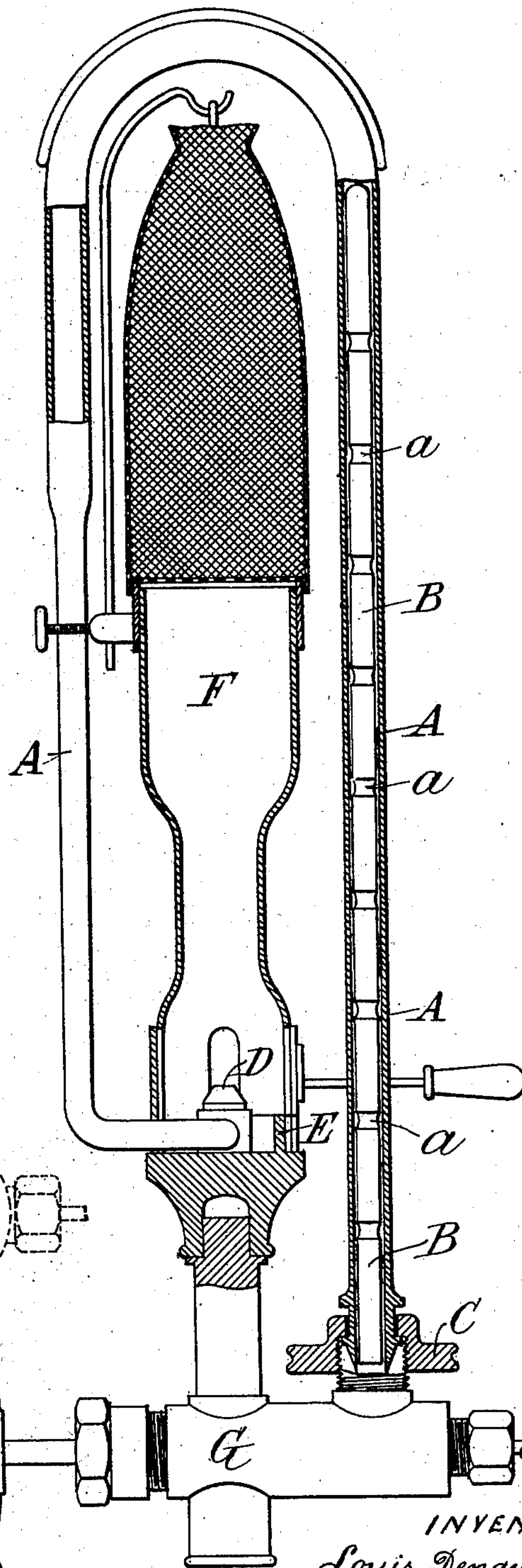
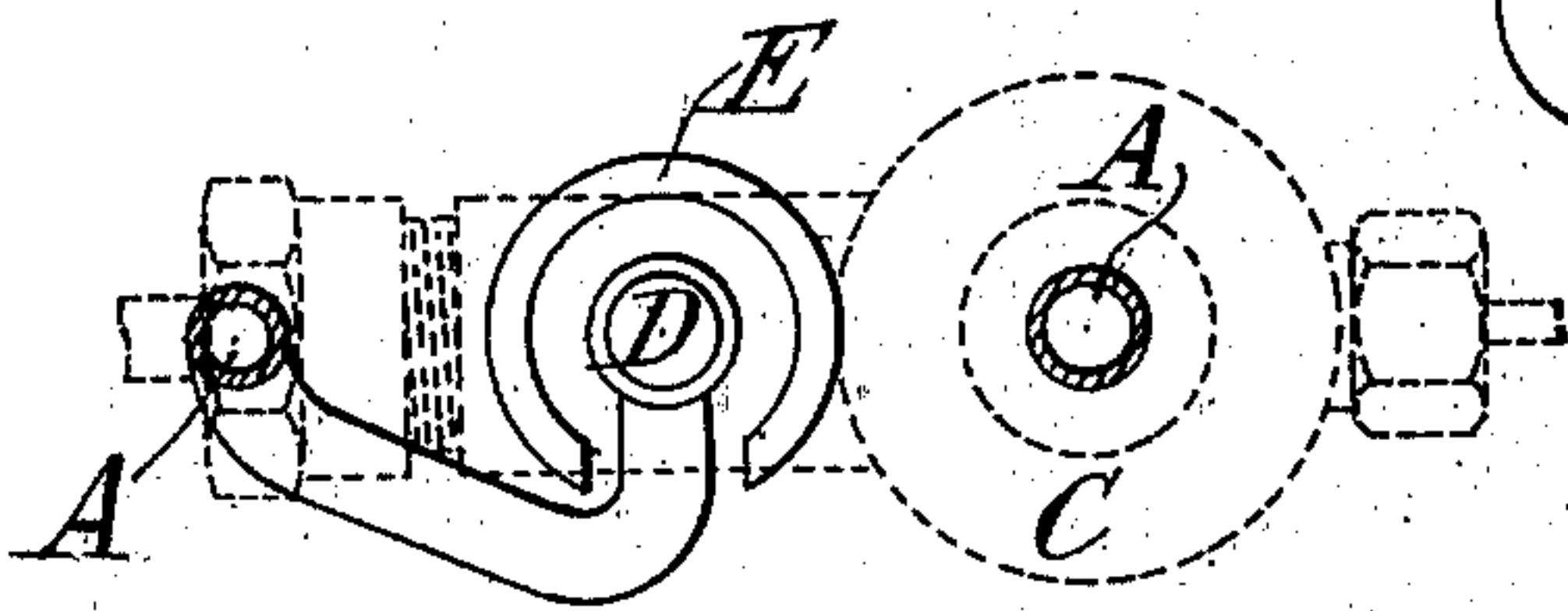


Fig. 2.



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UNITED STATES PATENT OFFICE.

LOUIS DENAYROUZE, OF NEUILLY, FRANCE.

INCANDESCENT VAPOR-LAMP.

SPECIFICATION forming part of Letters Patent No. 741,772, dated October 20, 1903.

Application filed April 11, 1902. Serial No. 102,425. (No model.)

To all whom it may concern:

Be it known that I, LOUIS DENAYROUZE, a citizen of the Republic of France, residing at Neuilly, Seine, France, have invented certain
5 new and useful Improvements in Incandescent Lamps by the Combustion of Vapors of Liquid Hydrocarbons, of which the following is a specification.

In all incandescent lamps in which mantles are heated to incandescence by the combustion of either petroleum, spirits of turpentine, benzin, impure alcohols, and other liquid hydrocarbons the difficulty arises that there is a liability to form deposits in the
10 tubes and orifices through which they pass when heated or in a vaporized condition and that these deposits in obstructing the passage of the combustible liquid or vapor diminish the supply thereof to the burner, and thereby
15 injuriously affect the efficiency of the lamp. All precautions that have hitherto been taken to obviate this defect have only had the effect of more or less retarding the said action. According to the present invention the said detrimental action is entirely obviated, as will
20 be described with reference to the accompanying drawings, in which—

Figure 1 shows a vertical section of a lamp constructed according to the present invention. Fig. 2 shows a part plan of the same.

The liquid combustible passes from the pipe H into the chamber G through an orifice regulated in the known manner by a conical screw-plug, and it is forced by the pressure from the
35 chamber G up through a vaporizing-tube A, in which is preferably situated a rod B, that almost entirely fills it, so as only to leave a very restricted space for the passage of the vapor. The said rod B has circular grooves
40 a formed in it at distances apart, in which the small amount of solid or liquid impurities carried along by the vapor will lodge and where they are allowed to accumulate for a certain length of time. The rod B can be
45 withdrawn from time to time through the lower end of the tube A and cleansed of deposit, and at the same time a suitable brush can be passed up through the tube A for clearing it of any adhering particles. By the above-described arrangement it will be seen that
50 the said parts, as also the injector-nozzle D,

into which the tube A opens, can be cleared of deposit with the greatest facility without disturbing the incandescent mantle and other parts of the lamp, the burner-support being
55 independent of the vaporizing-tube, while with the constructions at present employed frequent renewal of the mantle-nozzle and other parts is unavoidable.

By connecting the vaporizing-tube A to the
60 chamber G by means of a screw-union C, as shown, and by forming the annular flange E, that supports the mixing-tube F of the burner, with a gap, as shown at Fig. 2, the removal of the tube A for the above purpose
65 is effected with the greatest facility. The screw-union C, which is turned by hand, is carried with a certain play between two flanges on the tube A, the lower end of which is coned, as shown, and is pressed by the
70 screw-union C into the internally-coned threaded outlet of chamber G. On unscrewing the union-piece C the coned end of tube A is raised out of the outlet and the other end, together with the nozzle D, is drawn
75 out laterally through the gap of E. The entire operation can be effected in a few seconds—in fact, in a shorter time than the replacing of the carbons in an arc-lamp. In a manner similar to the latter the person in
80 charge of the lamps carries clean tubes with him and after removing a tube that has been in use for a certain time replaces it by one of the clean ones, so that the lamp is always kept in perfect working order. The removed
85 tube is taken to the store and cleansed, ready for use the next day. Thus the tubes A may be compared with the carbons of an arc-lamp, but with the great advantage that they
90 can be used over and over again.

Having thus described the nature of this invention and the best means I know of carrying the same into practical effect, I claim—

1. In an incandescent lamp burning liquid fuel, the combination of a vaporizing-tube,
95 and a rod therein nearly filling said tube and forming therewith a narrow longitudinal annular passage having wider pockets therein transverse to the direction of flow of the fuel for collecting outside of said passage solids
100 deposited by the fuel.

2. In an incandescent lamp burning liquid

fuel, the combination of a vaporizing-tube, and a rod therein nearly filling said tube and forming therewith a narrow longitudinal annular passage having wider pockets therein
5 transverse to the direction of flow of the fuel for collecting outside of said passage solids deposited by the fuel, said pockets being formed on said rod, and said tube being readily detachable to permit removal of said
10 rod for cleaning out the solids deposited in said transverse pockets.

3. In an incandescent lamp burning liquid fuel, an oil-supply chamber G, an injector-nozzle D freely removable from the lamp, a
15 vaporizing-tube A containing a rod B with annular grooves *a*, and connected to the removable injector-nozzle D, and a screw-union C connecting said tube A detachably to said

supply-chamber, substantially as and for the purposes described. 20

4. In an incandescent lamp burning liquid fuel, the combination of a vaporizing-tube A containing a rod B nearly filling said tube and forming therewith a narrow longitudinal
annular passage, and said rod having annu- 25 lar grooves B forming wider pockets transverse to the direction of flow of the fuel for collecting outside of said passage solids deposited by the fuel.

In witness whereof I have hereunto signed 30 my name in the presence of two subscribing witnesses.

LOUIS DENAYROUZE.

Witnesses:

ARMENGAUD, Jeune,
MARCEL ARMENGAUD, Sen.