O. GRÖNBLADH.

PRESSURE BURNER FOR PETROLEUM INCANDESCENT LAMPS.

APPLICATION FILED AUG. 26, 1908.

916,438. Patented Mar. 30, 1909.

Fig. 1

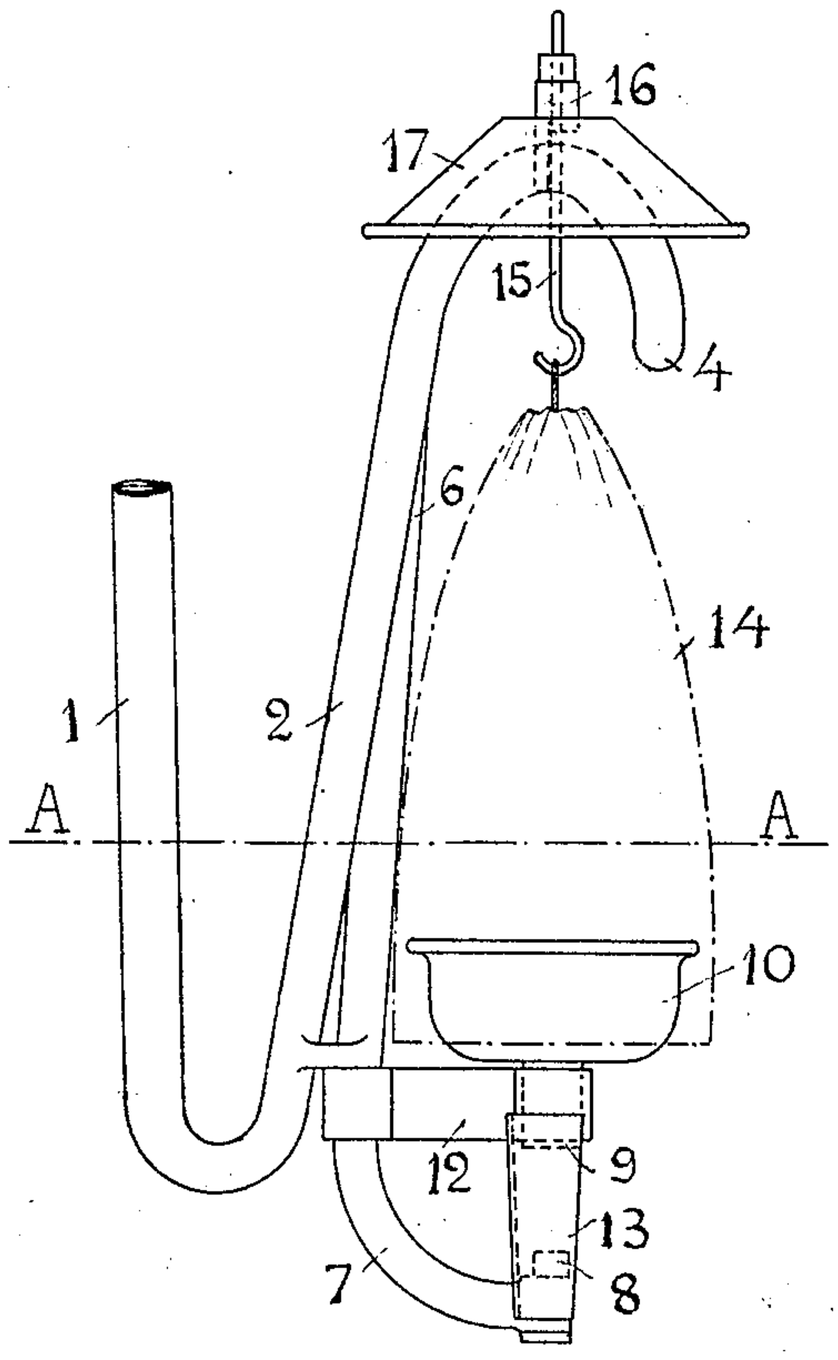


Fig. 2

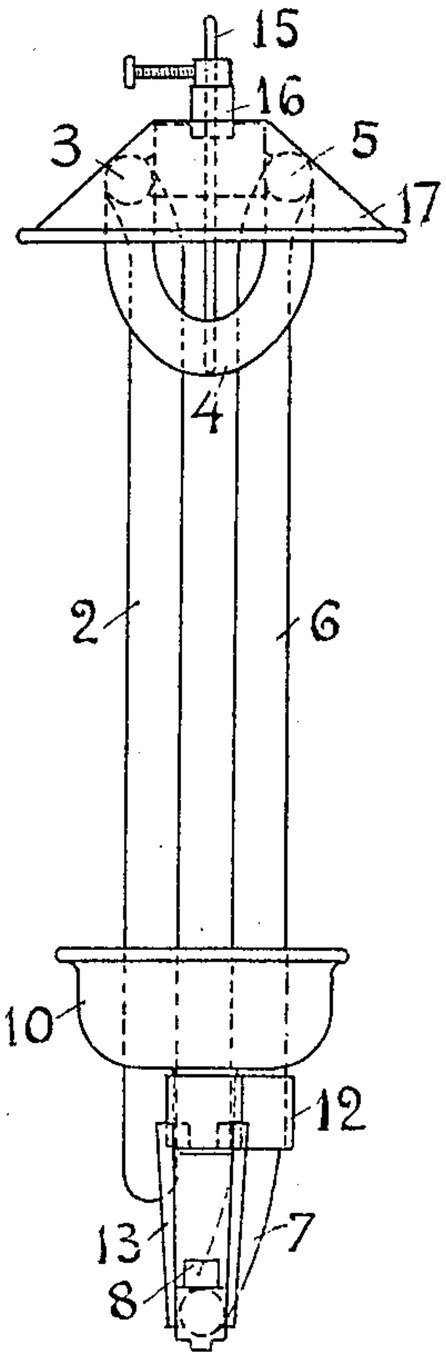
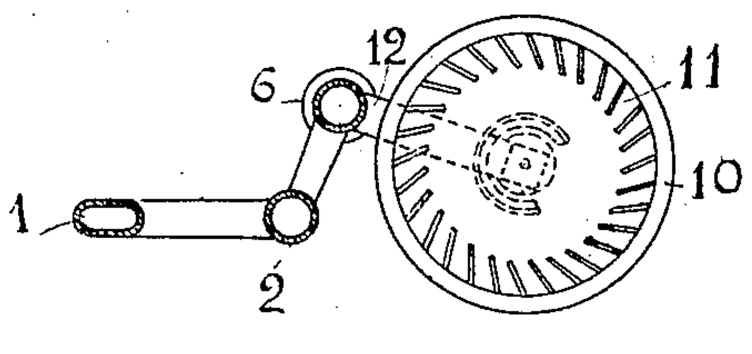


Fig. 3



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UNITED STATES PATENT OFFICE.

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PRESSURE-BURNER FOR PETROLEUM INCANDESCENT LAMPS.

No. 916,438. Specification of Letters Patent. Patented March 30, 1909.

Application filed August 26, 1908. Serial No. 450,374.

To all whom it may concern:

Be it known that I, OLOF GRÖNBLADH, a subject of the King of Sweden, residing at Parkgatan 2, in the city of Stockholm, Sweden, have invented an Improved Pressure-Burner for Petroleum Incandescent Lamps, of which the following is a specification.

My invention relates to pressure burners of incandescent lamps for petroleum and similar liquid fuel, having a vaporizer formed of a bent pipe, and the object of my improvement is to overheat the vapors generated in such vaporizer in order to essentially increase the temperature of the flame and thus the intensity of the light produced by the incandescent mantle. For attaining this object without complicating the construction and without obstructing the free emission of light from the mantle I construct the tubular vaporizer so that it consists not only of an ascending branch and a descending branch both located on the rear side of the burner and reaching to a point right above the top of the flame (as hitherto used) but I prolongate both said branches so as to project forward and downward from said point and merge to-gether about on a level with the top of the incandescent mantle. Said prolongation being surrounded on all sides by the hot gases ascending from the flame and exposing to them a considerable surface, it is adapted to absorb the heat from the said gases and give it off to the petroleum vapors inside the pipe.

On the annexed drawing, which illustrates a burner with such improvement, Figure 1 is side view, Fig. 2 front view (the incandescent mantle not shown) and Fig. 3 horizontal section on line A—A, Fig. 1, seen from above.

1 is the pipe supplying the liquid fuel to the vaporizer. The latter has an ascending part 6, which communicate through the forward-downward projecting prolongation 3, 4, 5, of a U-shaped or other suitable form, the lowest middle part 4 of which is located about on a level with the top of the incandescent mantle 14, while the upper ends 3, 5, which merge with the branches 2, 6 are located right above the flame. At the lower end the branch 6 has a prolongation 7, which is curved forward so that the nozzle 8 provided on its free end is located right below the mouth 9 of the mixing chamber 10, which is supported by an arm 12 fixed to the branch 2 or 6 or both. The top 11 of mixing chamber 10 is perforated or provided with slots along its circumference as shown.

The petroleum gas generated and overheated in the pipe 2, 3, 4, 5, 6 will escape through nozzle 8 in form of an upright jet, which is thrown into chamber 10, where it dashes against the inside of top of said chamber and thereby is intimately mixed with air sucked in by said jet. The mixture will then escape through the openings in the outer part of said top and if lighted will burn above chamber 10 and bring the mantle 14 into incandescence and simultaneously heat the pipes 2, 3, 4, 5, 6 so as to continue the generating and overheating of petroleum gas. The heating of the burner at each start is effected by a separate flame of spirituous or other suitable fuel, the screen or apron 13, which is open forward, as shown in Fig. 2, being intended to cover (envelop) the petroleum gas jet so as to hinder its lighting by said separate flame, as no lighting should take place but above the chamber 10.

The mantle 14 is suspended on a hook of wire 15, which is adjusted up and down in a guide 16 and locked by a screw or other means. The guide 16 is fixed on the upper part of vaporizer 2, 3, 4, 5, 6. The cap 17 passed on said guide and covering the upper part of the vaporizer is intended to concentrate the heat on said part.

I claim:

1. In a device of the character described, the combination with a tubular vaporizer comprising an ascending and descending branch and a U-shaped connecting portion therefor, said U-shaped connecting portion being bent forwardly and downwardly, of a burner, a nozzle 8 in which the descending branch terminates and a screen extending from said nozzle to said burner, said screen being open at one side throughout its length.

2. In a device of the character described, the combination with a vaporizer comprising an ascending and descending tube and a U-shaped connection between said tubes, said U-shaped connection projecting forwardly and downwardly, of a mantle which is overhung by said forwardly and downwardly projecting portion, a burner supported from the descending tube, a nozzle located at the bottom of the descending tube and beneath said burner, a screen extending from said burner to said nozzle, a cap within which the upper portion of both the ascend-

ing and descending tubes lie, a screw for supporting the mantle, a guide and means for vertically adjusting said screw through said guide, said screw depending between the upper portion of the ascending and descending tubes, said cap and said guide being entirely supported by said vaporizer tubes, substantially as shown and described.

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

OLOF GRÖNBLADH.

Witnesses:
HJALMAR ZETEERSTRÖM,
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