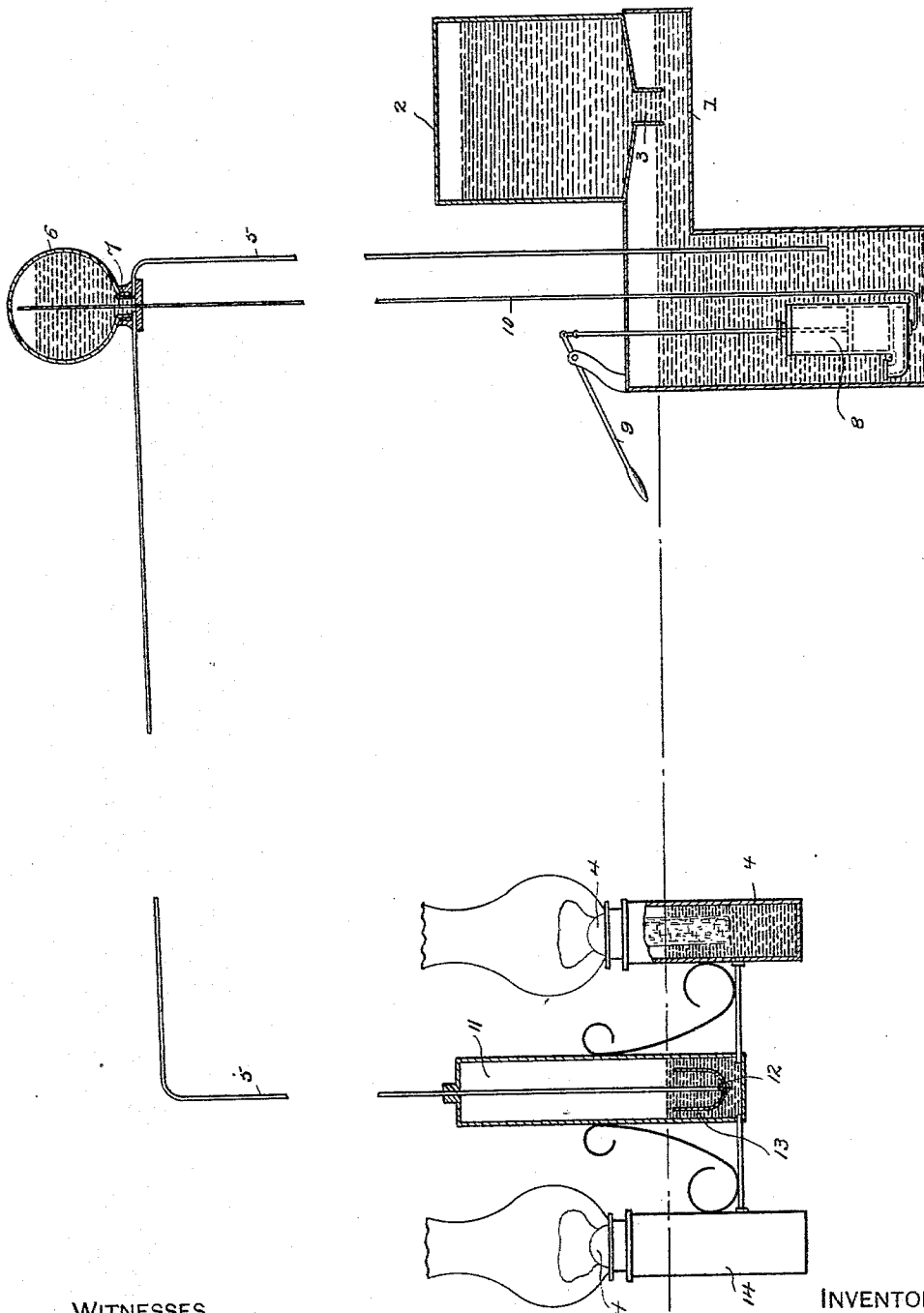


(No Model.)

F. RHIND.
APPARATUS FOR HYDROCARBON LIGHTING.

No. 545,309.

Patented Aug. 27, 1895.



WITNESSES

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR HYDROCARBON LIGHTING.

SPECIFICATION forming part of Letters Patent No. 545,309, dated August 27, 1895.

Application filed January 17, 1895. Serial No. 535,209. (No model.)

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Hydrocarbon Lighting; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to simplify and improve the construction of apparatus for illuminating by means of hydrocarbon oils, so that the supply-pipe shall always be kept primed, thus preventing the breaking of the siphon and insuring a constant and uniform supply of oil to the burners.

With these ends in view I have devised the novel apparatus of which the following description, in connection with the accompanying drawing, is a specification, numbers being used to designate the several parts.

The drawing is an elevation, partly in section, illustrating the arrangement of parts by which the desired result is attained.

1 denotes a tank of ordinary construction, which may be kept supplied with oil in any suitable manner, as by a can 2, the neck 3 of which is always immersed in the oil in the tank. From this tank oil is supplied to burners 4 by a supply-pipe 5, which extends upward from the tank, over, and then downward to the burners in the usual manner. Each of the burners is provided with a wick-reservoir 14.

At the highest point in the supply-pipe I place a reservoir 6, which may be made of glass, so as to indicate the amount of oil therein. This reservoir opens into the supply-pipe, to which it is secured by a suitable airtight connection 7.

8 denotes a pump of any ordinary or preferred construction. I have shown the pump as placed within the tank and as operated by a hand-lever 9.

10 denotes a pipe which leads from the

pump into reservoir 6, into which it opens near the top thereof. By submerging the pump I avoid all danger of leakage of air through the pump and pipe 10 into the reservoir.

Each burner or group of burners is provided with a reservoir 11, in which the supply-pipe terminates below the level of the oil therein.

At the lower end of the supply-pipe, which is provided with perforations 12, is a cup 13, into which oil passes from the supply-pipe and from which it runs into the reservoir, the top of the cup being above the highest perforation in the pipe, so as to insure that the cup will always be filled with oil. This cup insures a perfect seal at all times at this end of the supply-pipe and prevents air from being drawn from reservoir 11 when the pump is operated to fill reservoir 6, even if the oil in reservoir 11 should have been entirely exhausted by the burners. When the apparatus is placed in use, the wick-reservoirs and the reservoirs 11 are all filled with oil, and then air is exhausted from reservoir 6 by means of the pump, which permits said reservoir to fill with oil from the supply-pipe. It is obvious that air in the supply-pipe will rise to the highest point therein and that as reservoir 6 is placed at this point any air getting into it will rise to the top of the reservoir. This construction insures against breaking the siphon and produces a constant and uniform supply of oil to the burners. If reservoir 6 is made of glass, the amount of oil contained therein is apparent at all times. When the oil in the reservoir 6 gets low, the attendant operates the pump and removes air from the top thereof, which causes said reservoir to again fill with oil. The seal at the lower end of the supply-pipe insures that air will not be drawn from reservoir 11 and the burners when the pump is operated.

Having thus described my invention, I claim—

In a hydrocarbon lighting system the combination with a tank, a supply pipe, a reser-

voir 11 in which the supply pipe terminates
and means for preserving a seal in reservoir
11 should the oil in said reservoir become ex-
hausted, of a reservoir 6 placed at the high-
5 est point in the supply pipe, a pump sub-
merged in the tank and a pipe leading from
reservoir 6 to the pump by which air may be
exhausted from said reservoir so that oil will

pass to said reservoir from the supply pipe
without breaking the seal in reservoir 11. 10

In testimony whereof I affix my signature
in presence of two witnesses.

FRANK RHIND.

Witnesses:

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S. V. RICHARDSON.