

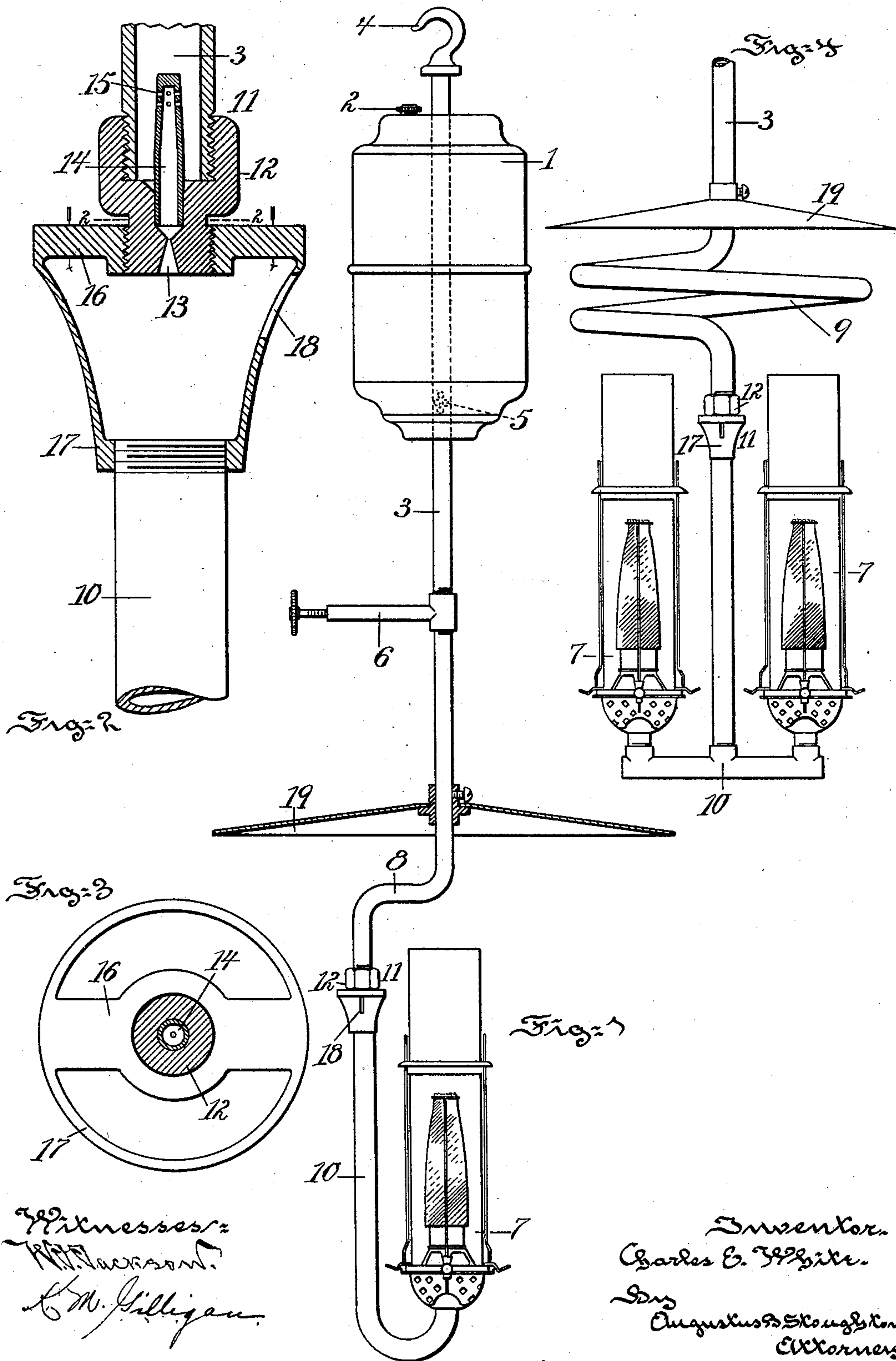
No. 636,422.

Patented Nov. 7, 1899.

C. E. WHITE
HYDROCARBON INCANDESCENT LAMP.

(Application filed Mar. 29, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

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HYDROCARBON INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 636,422, dated November 7, 1899.

Application filed March 29, 1899. Serial No. 710,913. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WHITE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hydrocarbon Incandescent Lamps, of which the following is a specification.

Objects of the invention are to provide a comparatively simple, efficient, and inexpensive hydrocarbon-lamp for heating Welsbach and other incandescent mantles, to prevent impurities in the fluid fuel or oil from interfering with the operation of the lamp, and to insure a supply of air for the burner.

My invention consists of the improvements hereinafter described and claimed.

The nature, characteristic features, and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is an elevational view, partly in section, of a lamp embodying features of my invention. Fig. 2 is a sectional view drawn to an enlarged scale in order to illustrate means embodying features of my invention and adapted to arrest impurities. Fig. 3 is a sectional view taken on the line 2 2 of Fig. 2, and Fig. 4 is an elevational view illustrating a modification of the invention.

In the drawings, 1 is a fount or reservoir which may be provided with an oil-inlet, as 2. From this reservoir or fount depends an oil-supply pipe 3. As shown in the drawings, this pipe 3 extends transversely through the fount or reservoir 1 and is provided with a hook or other suspension device 4 and with oil-inlets, as 5. This construction is simple, inexpensive, and efficient.

6 is a needle-valve for controlling the supply of oil.

Above the burner 7 the supply-pipe 3 is arranged so as to receive heat. As shown in Fig. 1, this is accomplished by an offset, as 8, and, as shown in Fig. 4, it is accomplished by a lateral bend or coil, as at 9. The mixing-tube 10 supplies the burners 7, of which there may be any appropriate number, and extends upward, so as to receive vapor from the dis-

charge end of the supply-pipe 3. At the discharge end of the pipe 3 there is a trap 11 for arresting impurities. As shown in Fig. 2, this trap comprises a coupling 12, provided with a vapor-nozzle 13 and into the interior of which is fitted a cap 14, projecting back into the pipe 3 and provided with vapor-inlets 15, so that impurities traversing the supply-pipe 3 will fall into the trap 11, while the vapors will pass through the openings 15 into the interior of the cap 14 and from thence by way of the nozzle 13. The coupling 12 is provided with a spider 16 (see Fig. 3) and with a socket 17, constructed for attachment to the pipe 10. By this construction a passage to the mixing-tube 10 is provided for air and at the same time means are afforded for suspending the burner or burners and the pipe 10 from the supply-pipe 3. In the side wall of the socket 17 is provided an opening or slot 18, through which a suitable instrument may be inserted for the purpose of cleaning the nozzle 13, which is beveled outward, as shown, for its reception.

19 is a reflector and deflector fitted to the supply-pipe 3 and made imperforate and constructed to prevent the passage through it of both air and hot products of combustion. This deflector is located over the burner and is exposed to considerable heat. Its function is to deflect hot air and cause the same to enter the open upper end of the socket 17, thus insuring a sufficient supply of air through the mixing-tube 10 to the burner or burners.

In use fluid fuel or oil, as gasoline, from the tank 1 passes by the openings 5 into the supply-pipe 3 and in regulated quantities past the needle-valve 6 over the top of the burner, as at 8 or 9, where it is vaporized. Impurities collect in the trap 11, from which they may be subsequently removed, and the vapor traverses the openings 15 in the cap 14, and from the latter it escapes as a jet or stream through the nozzle 13. The jet or stream of vapor enters the mixing-tube 10 along with a supply of air that is drawn or forced through the open upper end of the socket 17 in part by the action of the jet and in part by the air-currents which are set up beneath the solid cap 19. This mixture of air and vapor after

traversing the tube 10 reaches the burner or burners and is there consumed in order to heat the mantles or incandescents.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth, and illustrated in the accompanying drawings; but,

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

15 1. A hydrocarbon incandescent lamp comprising a supply-pipe provided with a needle-valve and depending from a fount, a coupling applied to the end of said pipe, a spider attached to and depending from the coupling
20 and provided with a socket, and an air-mixing tube depending from the socket and provided with a burner, substantially as described.

2. A hydrocarbon incandescent lamp comprising a fount or reservoir, a supply-pipe extending from the same and provided with inlets and with a needle-valve, a nozzle at the end of said pipe, a coupling connected with said pipe, a spider connected with and depending from the coupling and provided with
30 a socket, and an air-mixing tube carried by the socket and provided with a burner, substantially as described.

3. In a hydrocarbon-lamp the combination of a supply-pipe in which oil is vaporized, a coupling attached to the end of said pipe and provided with an internal receptacle terminating in a nozzle, a cap removably fitted in said receptacle and over said nozzle and extended into said pipe and perforated near its top, a spider connected with said coupling
40 and provided with a socket, and a mixing-tube attached to the socket, substantially as described.

4. In a hydrocarbon-lamp the combination of a burner having an air-mixing tube extending upward and provided at its upper end with an opening for the inlet of air, and a deflector constructed to prevent passage through it of air and located above and extending over the burner and above the air-inlet opening, substantially as described.
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5. In a hydrocarbon-lamp the combination of an imperforate deflector, a burner located beneath the same and provided with an upwardly-extending air-tube open at the top and constructed to receive currents of air set in motion by the ascending currents of gases from the burner, substantially as described.
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In testimony whereof I have hereunto signed my name.
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CHARLES E. WHITE.

In presence of—

K. M. GILLIGAN,
W. J. JACKSON.