

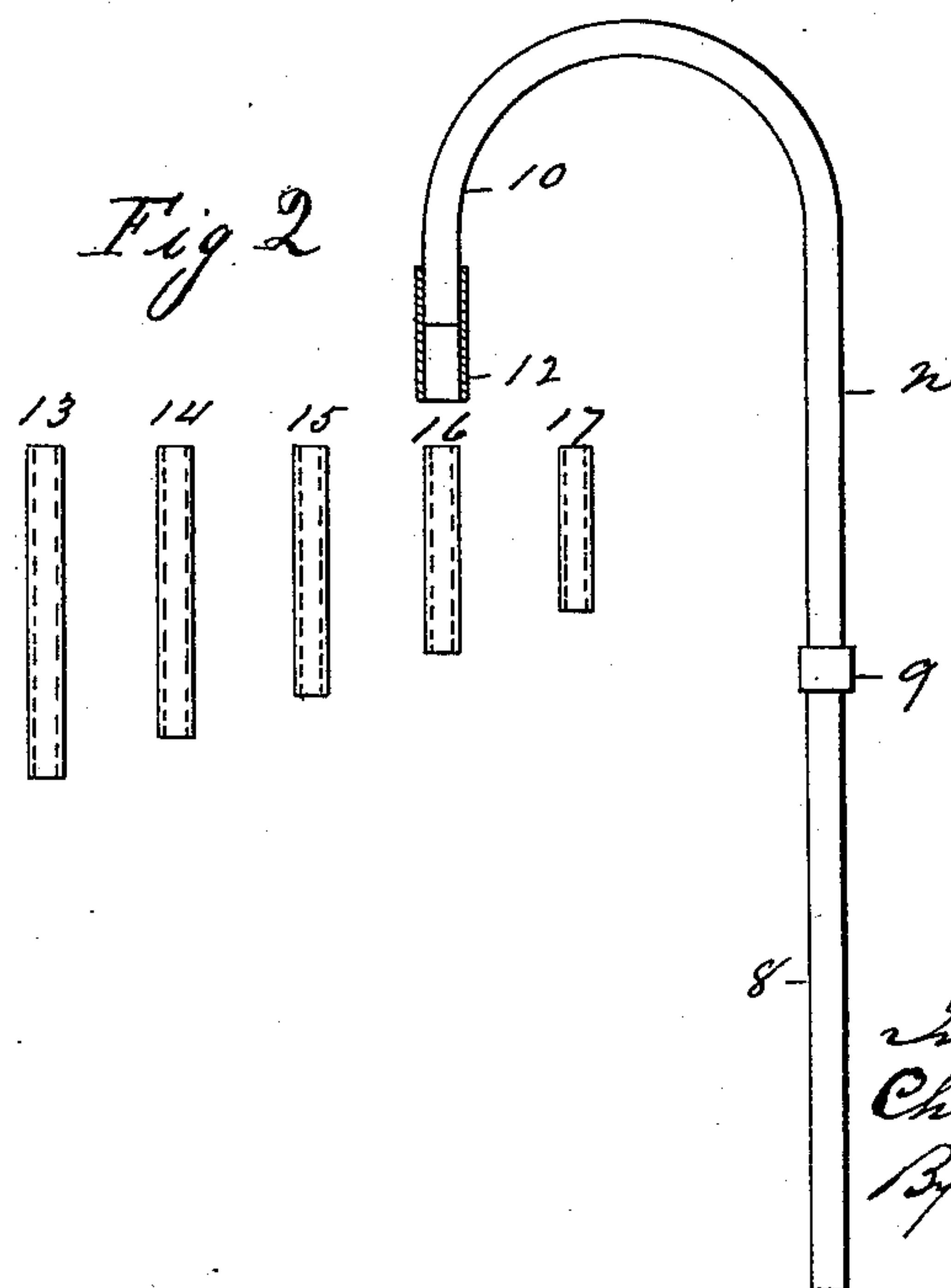
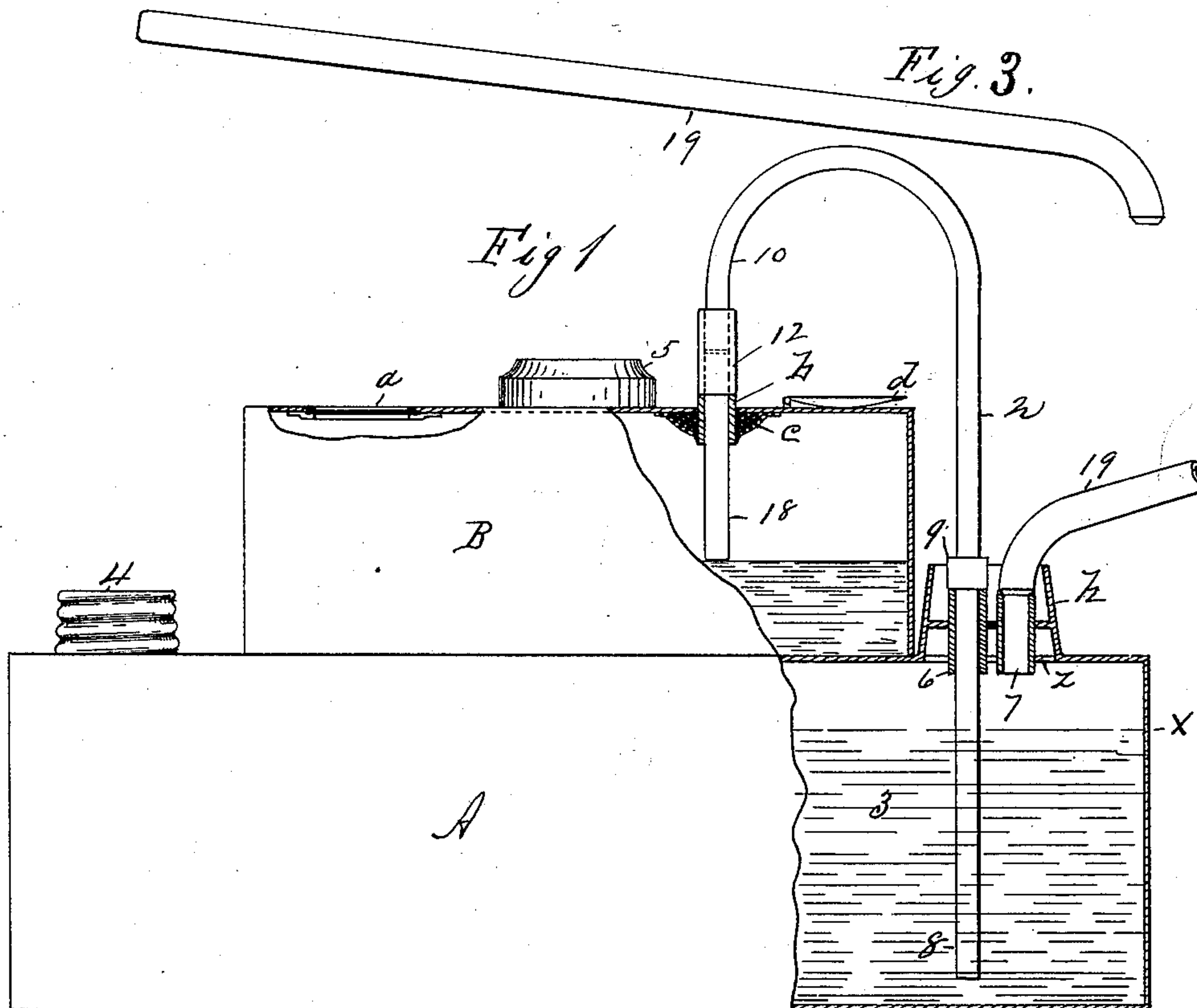
(No Model.)

C. H. DENISON.

### DOUBLE RESERVOIR LAMP.

No. 359,502.

Patented Mar. 15, 1887.



Witnesses

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# UNITED STATES PATENT OFFICE.

CHARLES H. DENISON, OF SPRINGFIELD, MASSACHUSETTS.

## DOUBLE-RESERVOIR LAMP.

SPECIFICATION forming part of Letters Patent No. 359,502, dated March 15, 1887.

Application filed February 5, 1887. Serial No. 226,690. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. DENISON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Double-Reservoir Lamps, of which the following is a specification.

This invention relates to lamps having two oil-receptacles, one above the other, which require to be provided with means for transferring oil from the lower to the upper one, and with means for causing more or less of said transferred oil in the upper reservoir, with which the burner of the lamp is connected, to remain therein, so as to feed the burner for a greater or less number of hours; and the invention consists in the peculiar construction and arrangement of the devices for transferring oil to said upper oil-receptacle or lamp proper, and for returning all except a certain portion thereof, be it more or less, to the lower receptacle or reservoir, all as hereinafter fully described, and pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a side elevation of the body of a lamp having upper and lower oil-receptacles, (the sides of the latter being shown partly broken away,) or, in other words, an oil-reservoir having a lamp-body located above it and capable of being filled from said lower receptacle, having my improvements applied thereto. Fig. 2 is a side elevation of an oil-transferring siphon and of several detachable siphon-legs of different lengths. Fig. 3 is a side elevation of an air-tube adapted to be used in transferring the oil from the lower oil-receptacle to the upper one or to the lamp-body.

In the drawings, A indicates the lower reservoir or oil-receptacle of the lamp, into which oil 3 is introduced through the usual capped tube, 4. The reservoir A is ordinarily filled with oil about to the line *z*, as shown in Fig. 1, said reservoir being adapted to hold enough oil to fill the upper receptacle or lamp-body, B, several times. An ordinary burner is attached to said lamp-body by screwing it into the collar 5 in the usual way, and for convenience of looking through the top of the body B to see how much oil there is in it. A piece of glass, *a*, is set in said top. Said top has

also fixed therein a short metallic tube or a sleeve, *b*. Said sleeve is preferably set in an opening in said top surrounded by a piece of wire-gauze, *c*, in order to allow the air in the lamp-body free movement when oil is running into and out from it, as below described. A cover, *d*, is hinged on the top of the lamp-body at one side of the sleeve *b*, and is adapted to swing over and cover the latter.

A short tube, *h*, is secured at an opening, *z*, through the top of the reservoir A, within which are rigidly secured two tubes, 6 and 7. The tube *h*, which projects above the top of the reservoir A, may, if desired, be covered with any suitable cap, to prevent the entrance of dust into the reservoir when the siphon *n* is not placed in the lamp-body and reservoir, as shown in Fig. 1. The said siphon *n* is not attached to either the reservoir A or the lamp-body B; but its long leg 8 is adapted to slide vertically through the tube 6 to bring the siphon to the position shown, a collar, 9, fixed thereon, serving as a stop when it is brought against the end of tube 6, to hold the siphon from sliding farther down, and to hold the end of said long leg just above the bottom of the reservoir, as shown.

The short leg 10 of the siphon has a sleeve, 12, rigidly secured to its end, and the length thereof is such that when said collar 9 rests against the end of said tube 6 the end of said sleeve is brought against the end of the sleeve *b* in the lamp-body, as shown. It is seen, therefore, that the short leg of the siphon terminates at the outer end of said sleeve or tube *b* in the lamp-body, and to obtain siphon connection with the interior of said body to a greater or less depth a series of tubular extensions, 13 14 15 16 17 18, each differing in length from the other, are employed, each of which is capable of being temporarily attached to the end of the short leg of the siphon by placing one end thereof in the sleeve 12 thereon, and when the siphon is placed as in Fig. 1 the tubular extension thereon passes down through the sleeve *b* into the body B, (more or less,) according to its length, said tubular extensions being changed when it is desired to leave more or less oil in the lamp to supply the burner.

Fig. 4 illustrates an air-tube, 19, (a part of which is shown in Fig. 1,) which is used by a



person to cause oil to flow from the reservoir A through the siphon *n* into the lamp-body B. In practice one end of said tube 19 is placed against the outer end of the tube 7 in the top of the reservoir, and by blowing through said tube sufficient air-pressure is created above the oil 3 in said reservoir to drive the oil through the siphon into the lamp-body, and as soon as the oil in the latter rises to and covers the end of the said short-leg extension of the siphon the air-pressure is made to cease, and oil commences to flow back through the siphon into the reservoir A, the oil in the lamp-body being drawn down to the level of the end of said extension.

Lamps of the class herein shown and described are adapted to be kept lighted for a certain number of hours each night and to be extinguished by a lack of supply of oil, and consequently more or less oil is supplied to the lamp-body B, according to the number of hours that the lamp is to be kept burning, and that variable supply of oil is determined by the use of the aforesaid tubular extensions, which are applied, as may be needed, to the short leg of the siphon. Thus the longest extension, 13, reaches deepest into the lamp-body, and consequently leaves less oil in the latter after the aforesaid overflow into the reservoir than is left when a shorter extension is used, and in this manner such length of extension is employed as will leave the required quantity of

oil in the lamp for one hour's burning, or for several hours, as may be desired.

From the above description of the construction and operation of the oil-transferring devices and of those which regulate the quantity of oil which is left in the lamp-body for burning it is seen that the position of the siphon is always the same during its operation, and that the above-described variable oil-supply to the lamp is obtained by the said change of the tubular extensions of the short leg of the siphon, the latter being removable from the lamp and the reservoir for the purpose of making said exchange, and, furthermore, that the construction of lamps of this class is greatly simplified, from the fact that the siphon *n* serves to conduct the oil to the lamp and from it, thereby obviating the employment of separate overflow devices, as is usual in such lamps.

What I claim as my invention is—

The combination, with a lamp, of an oil-reservoir beneath the latter, a siphon having its long leg extending into said reservoir and its short leg terminating at or near the top of the lamp-body, several detachable tubular extensions for said short leg of the siphon, and means, substantially as described, for forcing air into said reservoir, substantially as set forth.

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Witnesses:

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