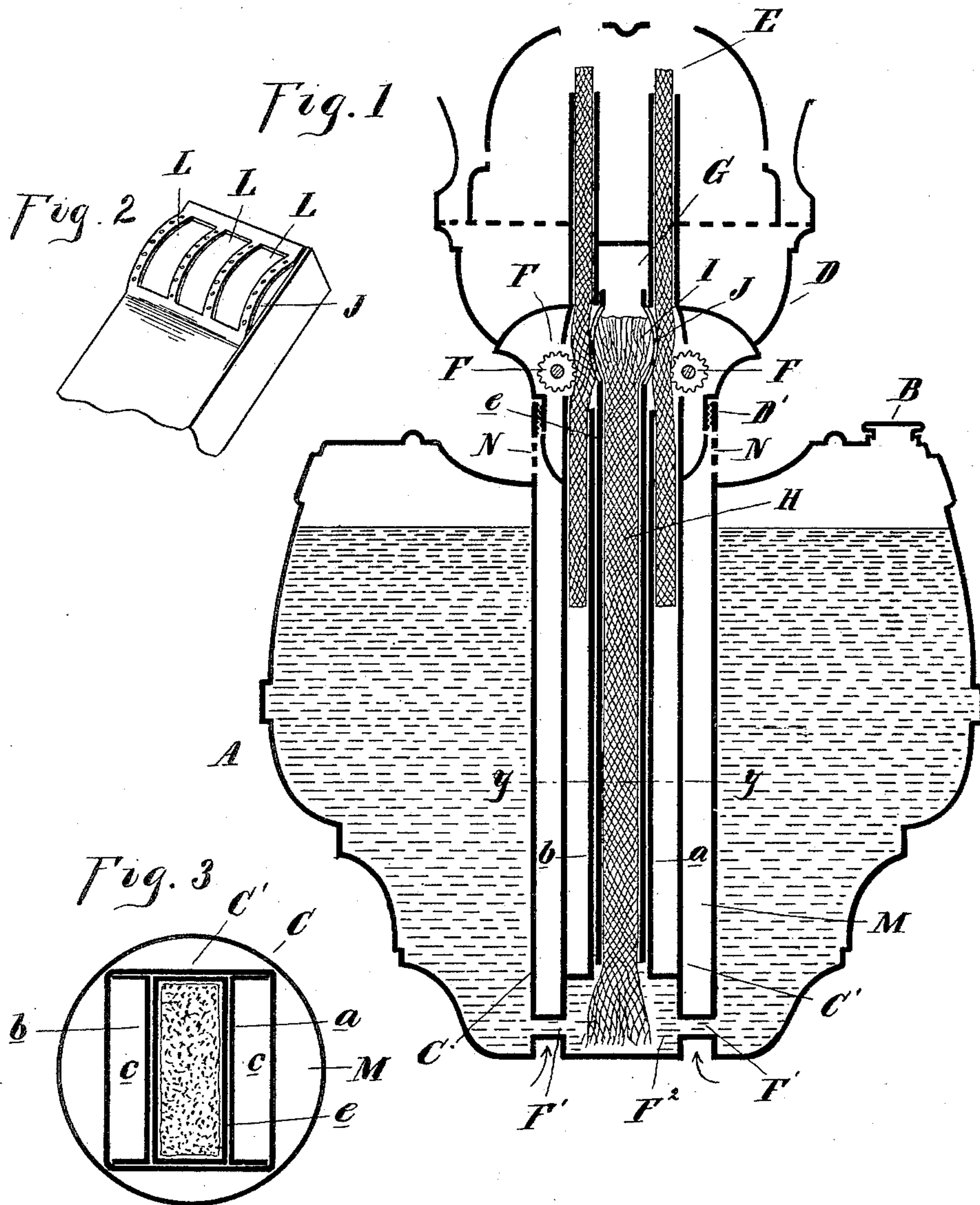


(No Model.)

H. H. DE FERNELMONT.  
OIL BURNER.

No. 467,736.

Patented Jan. 26, 1892.



Witnesses:  
P. M. Hulbert  
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Attys.



# UNITED STATES PATENT OFFICE.

HENRY H. DE FERNELMONT, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO SAMUEL T. DOUGLAS, OF SAME PLACE.

## OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 467,736, dated January 26, 1892.

Application filed March 21, 1891. Serial No. 385,884. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. DE FERNELMONT, a subject of the King of Holland, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in oil-burners; and the invention consists in the peculiar construction of the burner and the feed device employed therein.

The invention further consists in the peculiar construction of the oil-feeding device, whereby the lamp-wick receives its oil through the medium of a feeding-wick, the parts being so constructed that in case the lamp is overturned no oil can escape therefrom.

The objects which I desire to accomplish with this novel construction are, first, to so construct a lamp that the oil cannot be spilled therefrom; second, to so construct the lamp that the same supply of oil will be had at all times, whether the oil in the reservoir be much or little, and, third, to prevent the heating of the oil in the lamp.

While I have shown my improvement applied to a lamp, it is evident that it may be applied to any other oil-burner, whether for heating or cooking stoves, and it is equally well adapted for such use, as it is in connection with a lamp and to burners having round or flat wicks and to burners with a single wick or a multiple of wicks.

In the drawings, Figure 1 is a central vertical section through a lamp embodying my invention. Fig. 2 is a detached perspective view of the upper end of the wick-casing. Fig. 3 is a cross-section on line *y y* in Fig. 1.

A is the body or reservoir, having the usual filling-aperture B. Centrally in this reservoir is a downward-extending casing C, which I preferably carry to the bottom of the reservoir, connected at top and bottom therewith to form a tight joint. This casing may be square or round; but I preferably make it round, so that the cap D of ordinary construction may be secured to the flange D' at the top. Within the cap I show the lamp-wicks E, and show

raising and lowering devices therefor at F. Within the casing C, I form another casing C', preferably rectangular and extending to the bottom of the lamp and secured thereto. Communication is established from the lamp-reservoir through this inner casing by means of the ducts F'. The inner casing I preferably divide by means of the walls *a b* into the central chamber and two side chambers *c c*. These side chambers are closed at their lower ends, and between them and the bottom of the lamp is formed an oil-chamber F<sup>2</sup>. In the central chamber is secured (preferably detachable) a feed-wick casing or holder *e*, open at the top and bottom and extending to near the bottom of the inner casing C', having communication with the chamber F<sup>2</sup> at the bottom. At the top the walls of this wick-holder abut against the cap D within this top. Above the feed-wick holder *e* is formed a drip-chamber G, the use of which will be more fully hereinafter explained. The lamp-wicks E are adapted to enter the chamber *c*.

H is the feed-wick, extending from top to the bottom of the feed-wick chamber and entering at the bottom of the chamber F<sup>2</sup>.

I is an enlargement or head formed by spreading the feed-wick at the top to increase its capillary action at this point, and to accommodate this enlargement I form the outwardly-curved spring-bearing J upon each side of the feed-wick chamber, as plainly shown in Figs. 1 and 2, apertured at L to allow a free lateral communication at this point, where the lamp-wicks E are tightly pressed in contact either by the raising or lowering devices or in any other suitable manner.

Between the casing C and the casing C' are formed the air-chambers M. Air entering at the bottom may find exit at the top through the apertures N in the casing C.

The parts being thus constructed, they are intended to operate as follows: As long as there is any oil in the reservoir it will enter freely into the chamber F<sup>2</sup>, where it will be carried by the capillary action of the feed-wick H to the top thereof, and in the head I a quantity of oil will be maintained, which will be freely absorbed into the lamp-wicks E, from the fact that they are in contact with the feed-wick at these points, and thus supply



the necessary oil for fuel. Air in circulating through the air-passages M, coming in at the bottom and finding exit at the top, will keep the oil cool at all times.

5 In case the lamp should be overturned it is evident that, as the only exit from the inside of the lamp to the outside is through the channels F', the feed-wick H, apertures L, and the lamp-wicks, little or no oil could pass  
10 therethrough, for if the lamp is inverted the level of the oil will be below the channels F' and cannot enter therethrough into the chamber F<sup>2</sup>. Such oil as may be in the feed-wick will be retained in the drip-chamber G, so  
15 that no oil will spill therethrough.

It is evident that the lamp-wicks themselves may be lengthened or shortened so long as they are of sufficient length to make contact with the top of the feed-wick. Thus I am en-  
20 abled to burn my lamp with good results, whether there is half an inch of oil in the lamp or whether it be full, and whether the lamp-wicks have been burned almost their entire length or are new.

25 As the feed-wick L is never brought in contact with the flame, that need never be replaced.

While I show the air-chamber around the wick-chambers, it is not a necessity of my construction and may be omitted therefrom.  
30

What I claim as my invention is—

1. In an oil-burner, the combination, with the reservoir, of a casing therein extending to the top and forming a wick-chamber open  
35 only at the top, a lamp-wick in said casing, a casing beside said wick-chamber extending above the wick-chamber and forming a feed-chamber, a connection between the reservoir and the bottom of the feed-chamber, and a  
40 connection between the feed-wick and lamp-wick at the top, substantially as described.

2. In an oil-burner, the combination, with the reservoir, of casings forming a wick-cham-

ber therein, open at the top only, a casing forming a feed-chamber beside the wick-cham- 45 ber and extending from top to bottom of the lamp, a feed-wick filling said feed-chamber, and connection between the feed-wick and reservoir at the bottom and between the feed-wick and lamp-wick at the top, substantially as de- 50 scribed.

3. In a lamp-burner, the combination, with the wick-chambers, of a casing forming a feed-chamber between the same, the perforated yielding enlargement at the top thereof, and 55 the feed-wick therein, substantially as described.

4. In a lamp-burner, the combination, with the reservoir, of the casing forming the wick-chamber, a casing forming a feed-chamber, 60 connection between the reservoir and the feed-chamber and the lamp-wick at the top, the perforated head I on the top of the feed-chamber casing, and the springs J, substantially as described. 65

5. The combination, with the reservoir, of the central casing therein, the feed-wick in said casing, the connection between said reservoir and said feed-wick at the bottom and between said feed-wick, a lamp-wick at the 70 top, and drip-chamber G, substantially as described.

6. In a lamp, the combination, with two wick-chambers open at their tops only, of a removable feed-casing open at top and bot- 75 tom and extending above and below the wick-chambers and formed with a perforated head above the wick-chambers, substantially as described.

In testimony whereof I affix my signature in 80 presence of two witnesses.

HENRY H. DE FERNELMONT.

Witnesses:

JAMES WHITTEMORE,  
N. L. LINDOP.