

(No Model.)

A. E. HARRIS.  
LAMP WICK.

No. 463,277.

Patented Nov. 17, 1891.

Fig. 1.

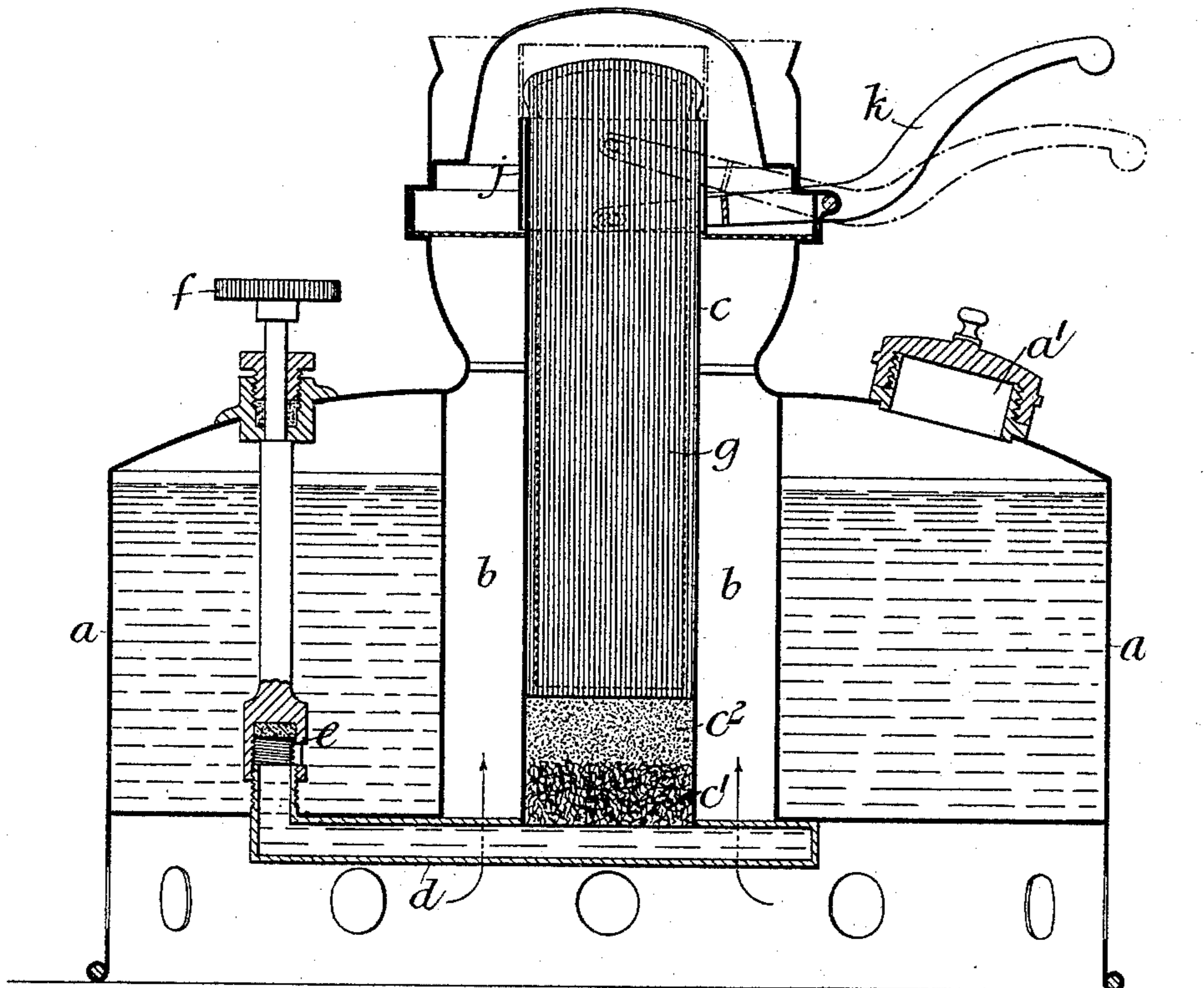


Fig. 2.

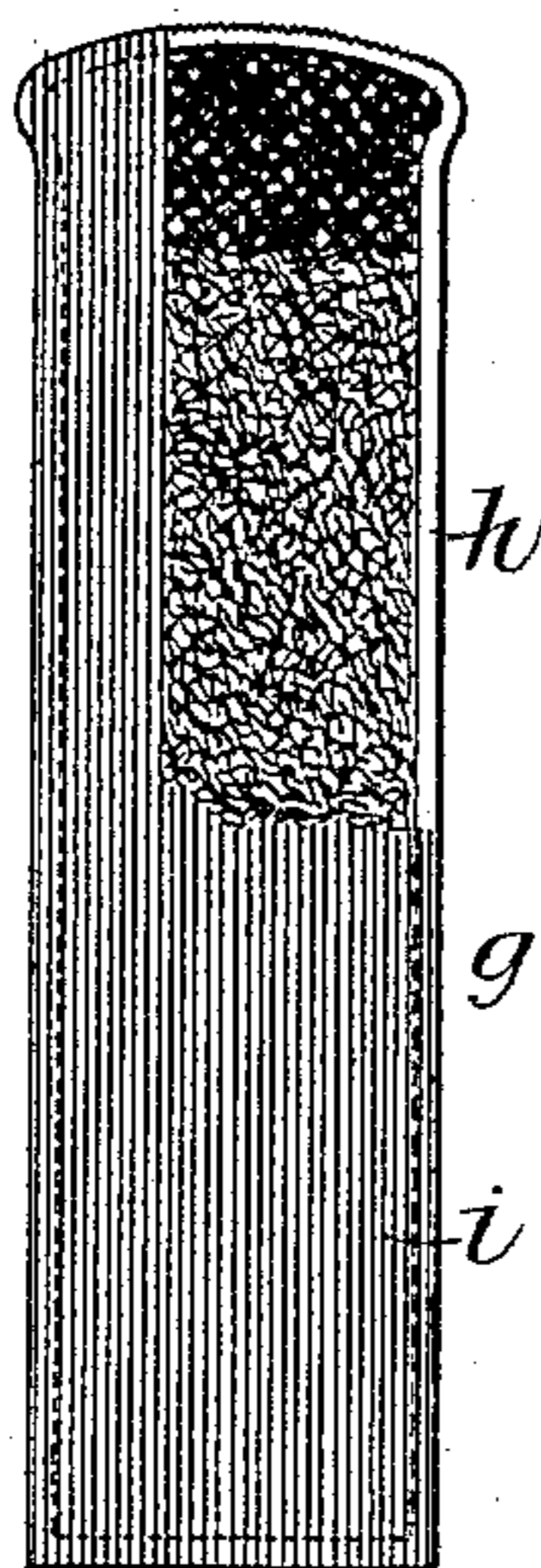


Fig. 3.

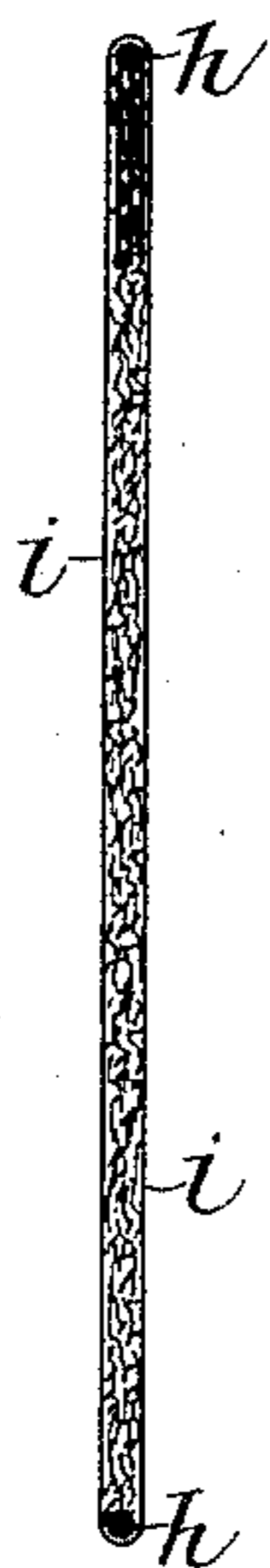
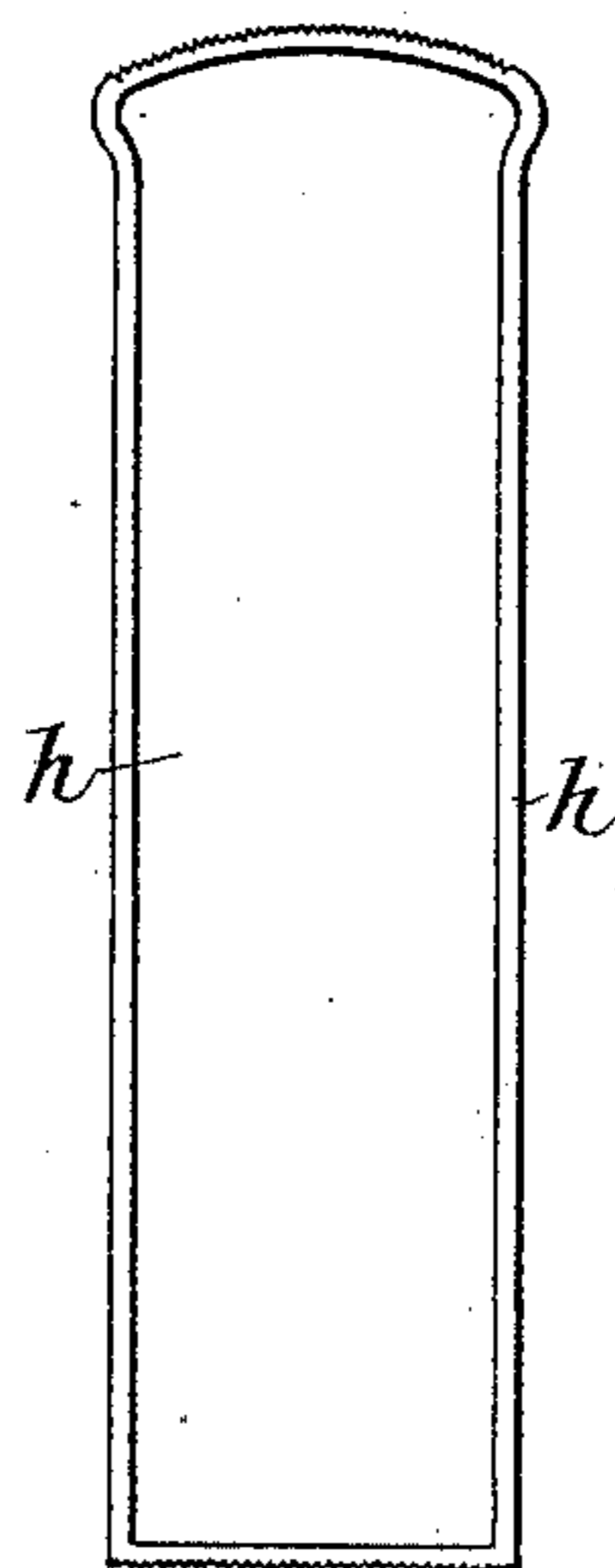


Fig. 4.



Witnesses.

G. J. Kieffer  
John E. Dousfield.

Inventor.

A. E. Harris

# UNITED STATES PATENT OFFICE.

ALFRED ELLIS HARRIS, OF LONDON, ENGLAND.

## LAMP-WICK.

SPECIFICATION forming part of Letters Patent No. 463,277, dated November 17, 1891.

Application filed August 14, 1890. Serial No. 362,004. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED ELLIS HARRIS, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in Lamp-Wicks, of which the following is a specification.

My invention relates to lamps for burning hydrocarbon and other oils.

According to my invention the burner proper of my lamp is constructed of a metal frame adapted to fit the burner-tube, the said frame being wound with fine wire and the space inclosed by the wire filled with suitable fibrous material. The oil for the combustion is supplied to the burner from a reservoir placed in any suitable position and forming a part of the lamp or not, as required, and in some cases the said reservoir is advantageously in the form of a bag adapted to be compressed to force the oil therefrom.

In practice, when I use a bag I prefer to employ a bladder or wizen, as I have found these to be impervious to oil. This bladder or wizen is placed in a suitable box or chamber and compressed by a weight or its equivalent. The supply of oil to the burners should be regulated according to the size of flame required, and for this regulation I employ a valve which can be adjusted, and which when shut off serves to extinguish the light.

To enable my invention to be fully understood, I will describe the same with reference to the accompanying drawings, in which—

Figure 1 is a sectional view of a lamp provided with my improvements. Fig. 2 is a view of the burner detached and shown partly in section. Fig. 3 is a vertical section of the said burner, and Fig. 4 is a view of the frame forming the foundation of the burner.

Similar letters of reference indicate corresponding parts in the several figures.

*a* indicates the oil-reservoir of the lamp, which reservoir, as shown in Fig. 1, is provided with an aperture *b* at the center through which air for supporting the combustion of the flame passes, as indicated by the arrows in the said figure, and which also serves to receive the burner, so that the latter is out of contact with the oil-supply.

*c* is the burner-tube, the lower end of which communicates through the pipe *d* with the interior of the reservoir *a*, and *e* is the valve

for controlling the supply of oil to the burner, which valve is operated from the exterior of the reservoir by means of a milled head *f*, as shown, or by any other suitable means.

*a'* is the nozzle through which the oil is introduced into the reservoir *a*.

*g* is the burner proper, and *h* is the foundation-frame of the same, the upper end of the said frame being shaped, as shown in Fig. 4, or in any other suitable manner, according to the shape of flame required. Around this frame *h* is wound a wire *i*, as shown in Figs. 2 and 3, and in order to prevent the several turns of the wire from becoming displaced relatively to each other the upper and lower bars of the said frame are preferably notched, as shown in Fig. 4, the wire lying in the said notches. The space inclosed by the wire and the frame is, as before stated, filled with suitable fibrous material, which serves to conduct the oil to the top of the burner. This fibrous filling is advantageously composed of tow or hemp, except at the upper end of the burner, where I advantageously place asbestos having wire incorporated therewith, as I have found that if tow or other combustible fibrous material be employed at this point it will soon become carbonized, and consequently lose its power of suction or absorption.

The burner, as hereinbefore stated, is inserted into the tube *c* with its end projecting above the said tube, as shown in Fig. 1, and the oil is admitted into the tube *c* through the pipe *d*, so that it will come into contact with the fibrous filling of the burner and so be conducted by capillary attraction to the top of the same.

In order to prevent any free oil remaining in the tube *c*, which free oil during the burning of the lamp would probably become vaporized, owing to the heat of the burner-tube and burner, I advantageously place in the lower end of the tube *c* a packing of suitable fibrous material *c'*, such as tow or hemp, and over this packing I sometimes place at *c<sup>2</sup>* a layer of granulated material—such as metal filings or spongy iron—as indicated in Fig. 1. It will thus be understood that when the valve *e* is raised to allow oil to pass to the burner only sufficient oil enters the tube *c* to fill the interstices of the said burner.

*j* is a sleeve which I sometimes place upon

the burner-tube *c*, which sleeve is connected to a lever *k*, so that it may be readily raised or lowered to vary the size of the flame, or raised sufficiently, as indicated by dotted lines in Fig. 1, to extinguish the flame.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

10 A wick comprising a metal skeleton frame adapted to fit the wick-tube and formed at its upper end in accordance with the shape of

the desired flame, the said frame being wound lengthwise with wire and having the space contained by such frame and wire filled with 15 absorbent material, substantially as shown and described.

ALFRED ELLIS HARRIS.

Witnesses:

G. F. REDFERN,

JOHN E. BOUSFIELD,

*Of the firm of G. F. Redfern & Co., 4 South Street, Finsbury, London, Patent Agents.*