(No Model.) 2 Sheets—Sheet 1.

A. E. HARRIS.

LAMP WICK.

No. 452,103. Patented May 12, 1891.

Fig. 1.

Fig. 2.

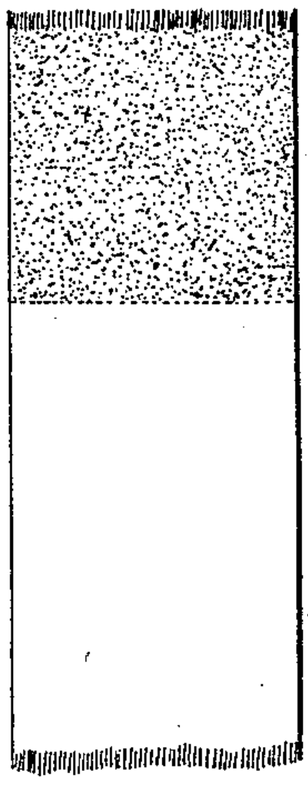


Fig. 3.

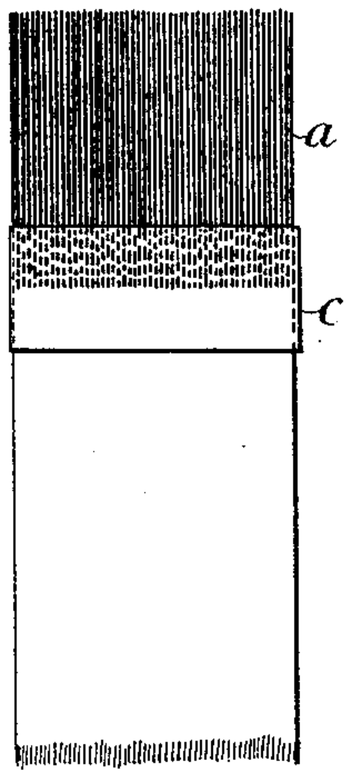


Fig. 4.

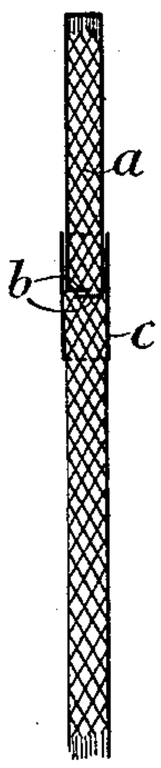
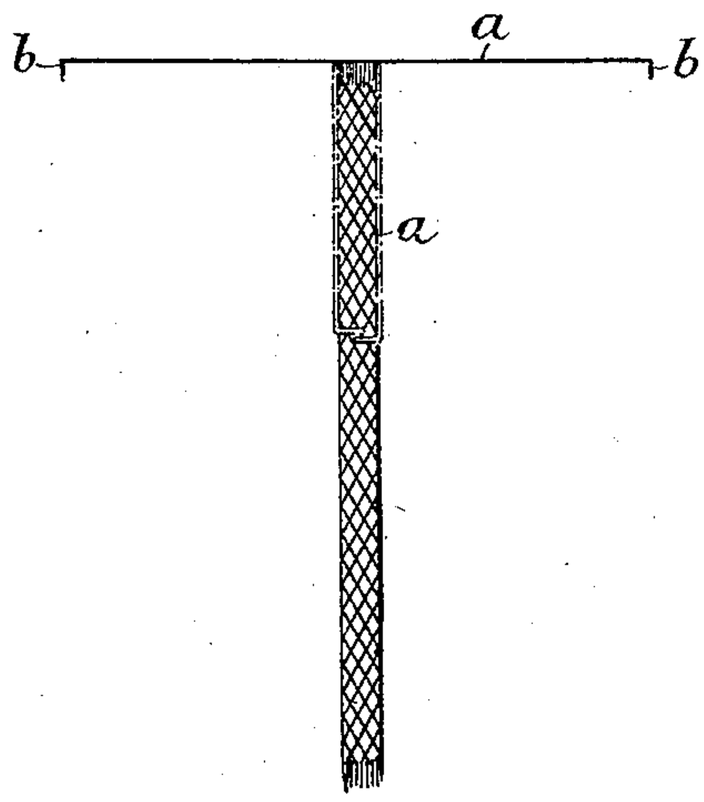


Fig. 5.



Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

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LAMP WICK.

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Fig. 6.

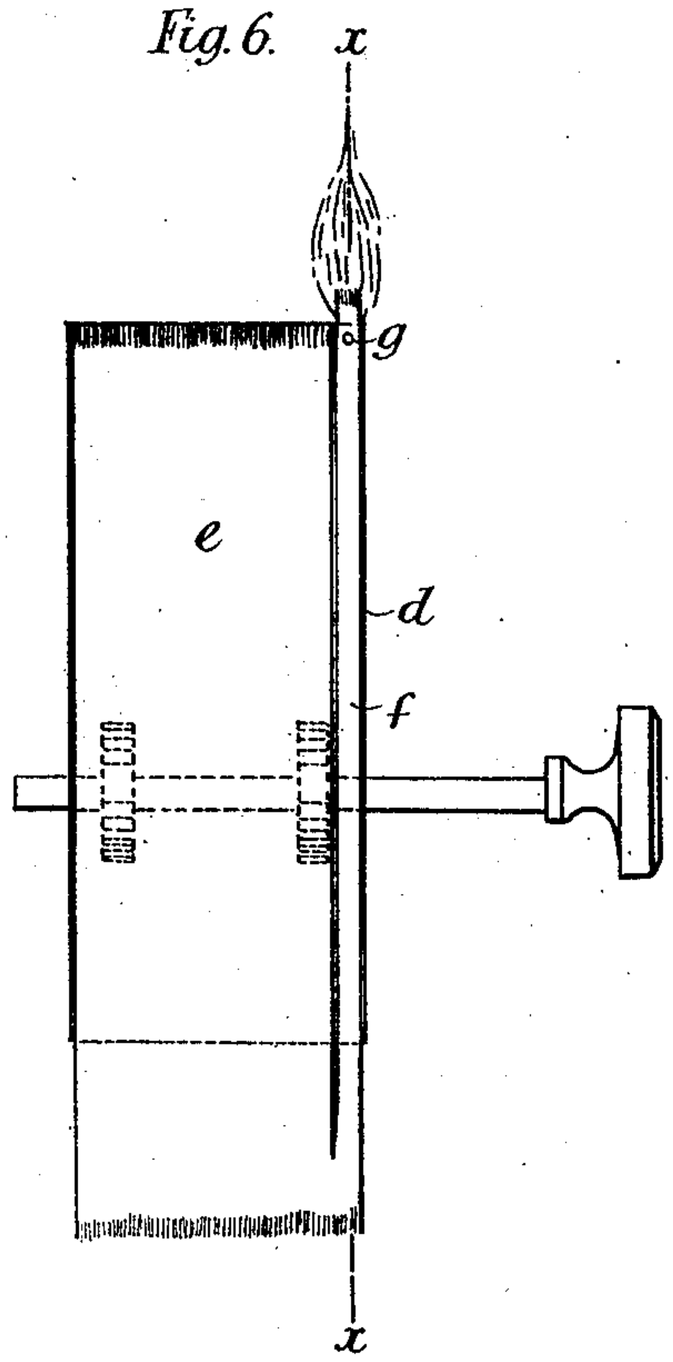
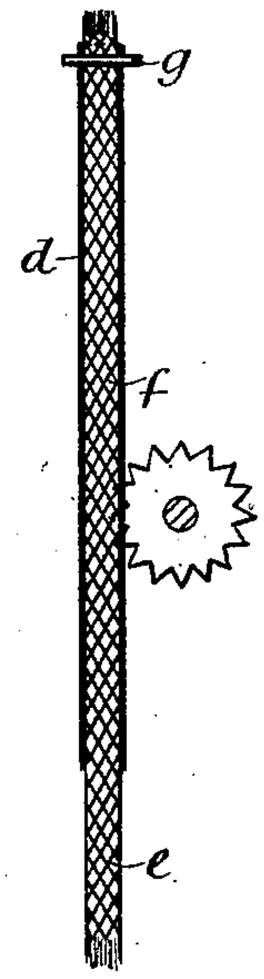


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED ELLIS HARRIS, OF LONDON, ENGLAND.

LAMP-WICK.

SPECIFICATION forming part of Letters Patent No. 452,103, dated May 12, 1891.

Application filed June 10, 1890. Serial No. 354,913. (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 lamp-wicks having incombustible tips, and to means for providing "pilot-flames" in lamps for permitting the same to be turned down without smelling.

A lamp-wick constructed according to my invention comprises a cotton or other feeding wick or conductor, with the upper end of which I incorporate particles of grains of metal, such as iron, brass, copper, or other metal filings or chips, or an amalgam of suitable metal and mercury; or I can incorporate with the upper end of the feeding-wick a number of fine wires, which are extended to form a continuation of the said wick, a sufficient number of wires being employed to form a bunch or bundle.

In order to hold the wires in their proper relative positions, I preferably bind around their lower portions and around the adjacent part of the feeding-wick a band or ferrule of metal or other suitable material.

To prevent a lamp from smelling when turned low, I provide for leaving what I term a "pilot-flame." This occupies only a small portion of the width of the wick, which portion is made thinner than the other portion, so as not to supply the oil faster than it can be consumed; or I form the wick in two or more parts, which can be turned up and down together or separately, so that in case it is desired to leave a pilot-flame the main part of the wick can be lowered and extinguished, leaving the other part, hereinafter termed the "pilot-wick," burning.

Although I have described the use of metal for forming the tip of my wick, I wish it understood that I may employ mica or other suitable incombustible material.

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

Figures 1 and 2 are sectional and face views, respectively, of a wick the tip of which has incorporated with it particles of metal; and Fig. 3 is a view similar to Fig. 2 of a wick the upper end or tip of which has wires incorporated therewith. Fig. 4 is a sectional view of the said wick, and Fig. 5 is a view showing the method of applying the wires. Fig. 6 is a sectional view of a wick-tube, the wick within which is so constructed that one part will serve as a pilot-wick. Fig. 7 is a section of the same on the line *x x*.

In manufacturing a wick of the kind shown in Figs. 1 and 2 I advantageously proceed as follows—that is to say, I first of all soak the upper part of the feeding-wick in paraffine, then coat this part with gum, and afterward spread over the gum the particles of metal to be incorporated. The upper part of the wick thus treated is then subjected to considerable pressure to force the particles of metal into the body of the feeding-wick, and then placed in a mold in order to bring it to the required shape to pass through the wick-tube of a lamp. When the tip of the wick has wire more or less incorporated with the feeding-wick, as shown in Figs. 3 and 4, I advantageously apply a number of wires *a a*, as shown in Fig. 5, which wires are turned down at the ends, as at *b b*, so that when they are bent over the end of the wick, as shown in Fig. 4, the ends *b b* will enter the body of the wick and be partly incorporated therewith.

c is the ferrule which is placed around the lower ends of the wires *a a* to prevent the ends *b b* from becoming detached from the wick.

One arrangement for providing a pilot-flame is shown in Figs. 6 and 7, in which *d* indicates a wick-tube, *e* the main part of the wick, and *f* the pilot-wick, which pilot-wick *f* may at its lower end be connected to the wick *e*, as shown, or be entirely separate therefrom, so that the wick *e* can be raised and lowered independently of the said pilot-wick.

In order to prevent the pilot-wick *f* from moving with the main wick *e*, I advantageously pass a pin *g* through the same and through the wick-tube, which pin can be readily removed when it is desired to raise the pilot-wick. The said pilot-wick, in addition to being made very narrow, is also advantageously made very thin, so that it will only carry a very small quantity of oil.

It is obvious that when the wick *e* is turned below the level of the wick-tube *d* only the flame of the pilot-wick *f* will remain alight, and that when the wick *e* is again raised this pilot-flame will serve for lighting the same.

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

1. The combination, with the wick-tube of a lamp, of a wick and a pilot-wick located therein, said wicks being in contact with each other, means for raising and lowering the main wick independently of the pilot-wick, and means for holding the pilot-wick against movement, substantially as described.

2. The combination, with the wick-tube of a lamp, of a wick located therein having its upper end divided into a main portion and a narrower portion or pilot, said parts being integral at a point between the ends of said wick, means for raising and lowering the main portion of the wick, and a pin engaging said pilot-wick and holding it against movement with the main portion, substantially as described.

3. A lamp-wick provided with a series of wires incorporated therein, said wires having inwardly-bent ends engaging said wick, and a ferrule engaging said wick adjacent to the bent ends of said wires for holding the same in position, substantially as described.

ALFRED ELLIS HARRIS.

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