(No Model.)

E. GALTIER.

BURNER.

No. 550,961. Patented Dec. 10, 1895.

Fig. 1

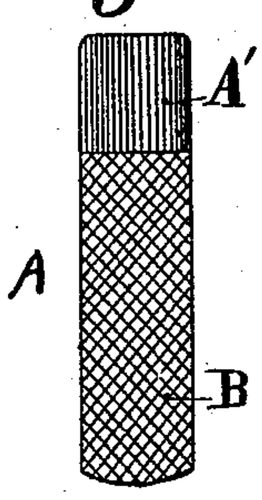


Fig. 2

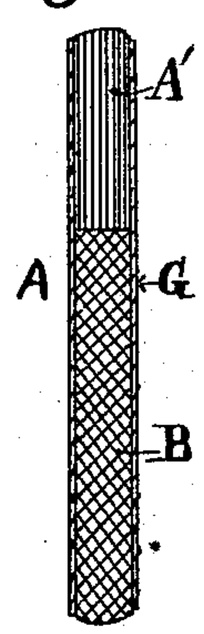


Fig. 3

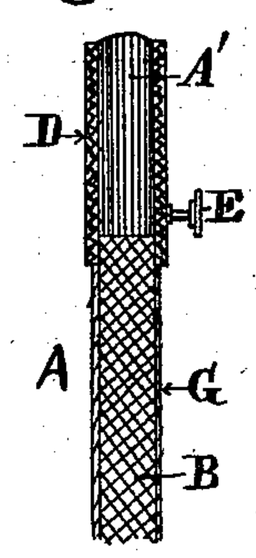


Fig. 4

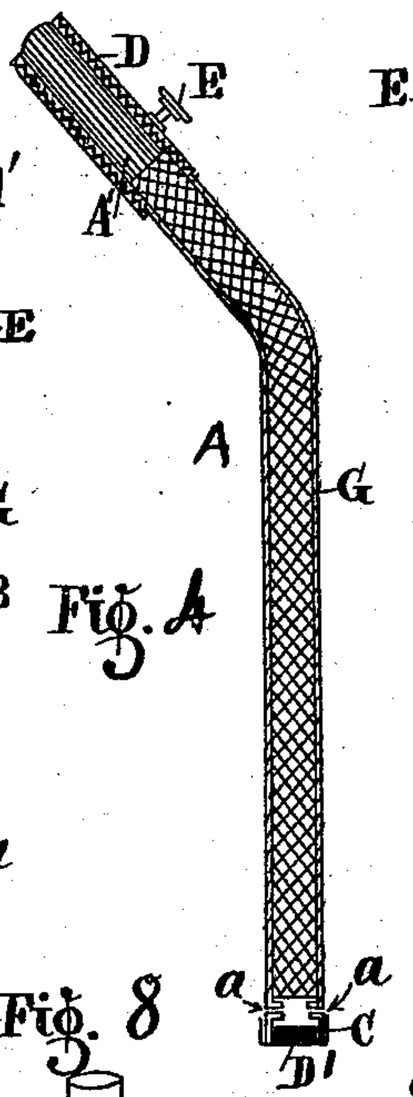


Fig. 5

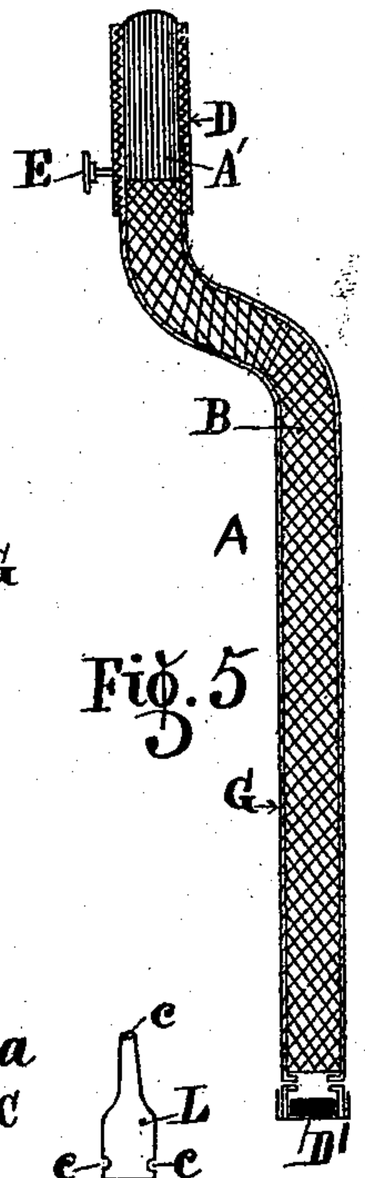


Fig. 6

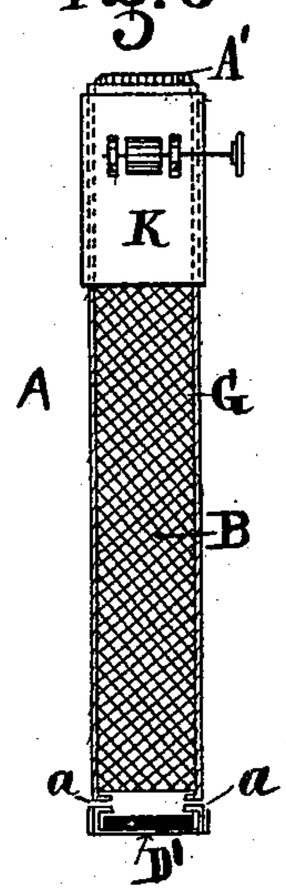


Fig. 7

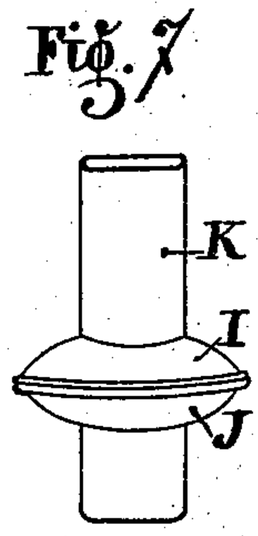


Fig. 8

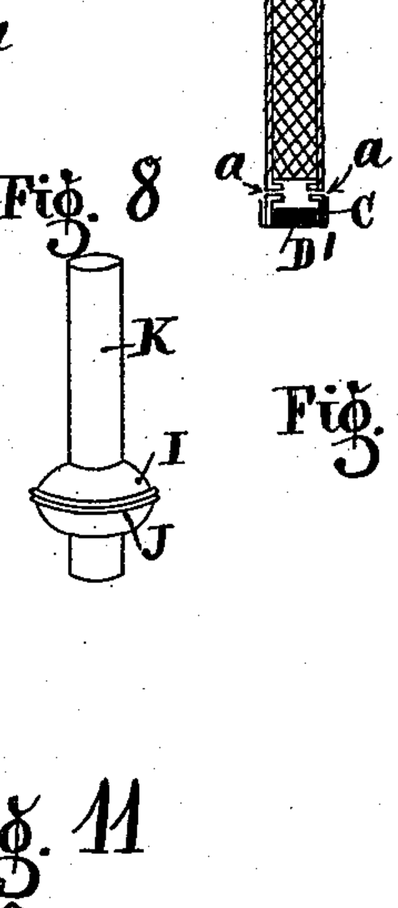


Fig. 9

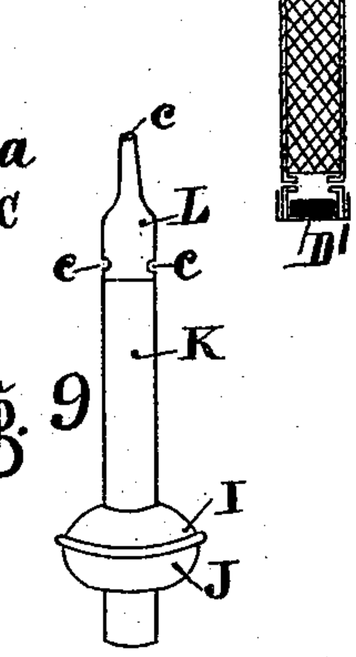


Fig. 10

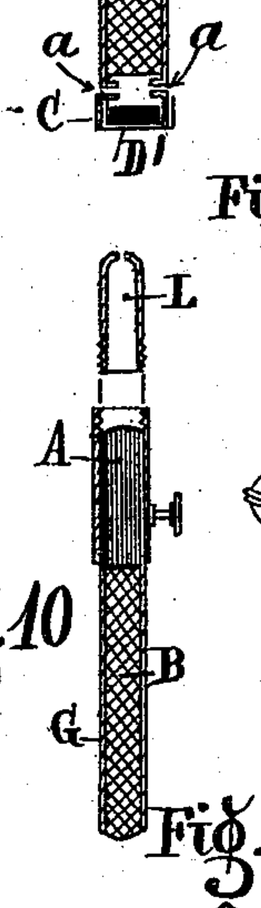
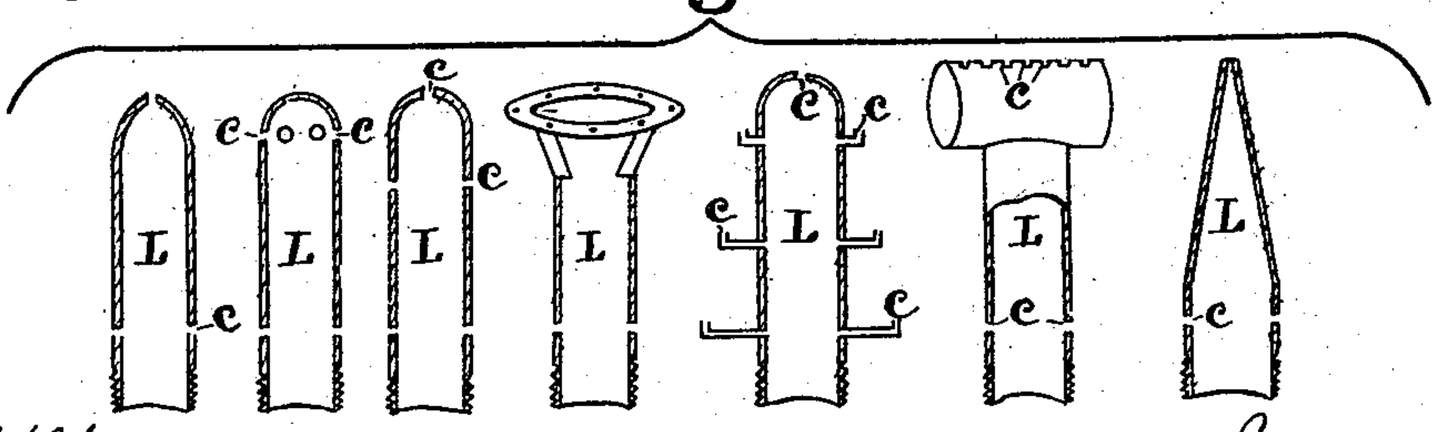


Fig. 11



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C. C. Thornton

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Attorney.

UNITED STATES PATENT OFFICE.

EMILE GALTIER, OF PARIS, FRANCE.

BURNER.

SPECIFICATION forming part of Letters Patent No. 550,961, dated December 10, 1895.

Application filed February 1, 1895. Serial No. 537,000. (No model.) Patented in France August 2, 1894, No. 240,479.

To all whom it may concern:

Be it known that I, EMILE GALTIER, a citizen of the French Republic, residing at Paris, France, have invented certain new and useful Improvements in Burners, (for which I have obtained Letters Patent in France, No. 240,479, dated August 2, 1894,) of which the following is a specification.

My invention has relation to burners adapted for use in burning various mineral essences, alcohol, &c., and among the objects in view is to provide a burner by which I am enabled to obtain a large, constant, and white flame of various shapes, as may be desired, and which flame may be readily regulated; and with the above and other objects in view the invention consists in the novel construction, arrangement, and combination of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the drawings, Figure 1 is an elevation of my improved wick for use in the burner. Fig. 2 is a sectional elevation showing the wick inclosed in a covering or sheath. Fig. 3 is a like view of the complete burner. Figs. 4 and 5 are similar views showing the burner in different shapes. Fig. 6 is a like view showing the extinguisher-tube combined with the burner. Fig. 7 is a perspective view of a different construction of extinguisher-tube, showing it in a flat shape. Fig. 8 is a like view of the extinguisher-tube seen in Fig. 7, but of an annular shape. Fig. 9 is a perspective view showing the extinguisher-tube of Fig. 8 combined with a cap or hood. Fig. 10 is a sectional elevation showing the flame-regulating tube applied and the hood or cap detached from the same. Fig. 11 represents views illustrating different constructions of caps, tips, or hoods for use with my burner.

With the use of ordinary burners employing the usual wick of some absorbent material there are many disadvantages and inconveniences, among which may be mentioned the constant trimming and renewal of the wick and the poor flame caused by the clogging of the wick with deposits resulting from the burning of the oil, which flame is also unsteady; and it is the primary object of my invention to obviate all disadvantages and inconveniences by providing a burner in which the wick is practically indestructible and requires no renewal and in which the flame may be readily regulated and the same caused to partake of various shapes. I also provide means whereby the flow of oil to the wick may be cut off in the event of the upsetting of the lamp or vessel to which my burner is applied, and provide an extinguisher-cap which may be adjusted to extinguish the flame when desired.

In order that my invention may be readily understood, I will now proceed to describe the same, reference being had to the accompanying drawings.

In carrying out my invention I provide a wick A, which is composed of the absorbent body portion B, which comes in contact at one end with the oil or fluid, and the portion A′, attached in any suitable manner to the opposite end of the portion B. The portion B of the wick may be constructed of any suitable or desired material that will absorb and convey the oil to the portion A′ of the wick. Said portion B may be of cotton, silk, wool, or other fiber. The portion A′, I make of some indestructible refractory material and which is at the same time sufficiently porous to absorb the oil conveyed to it by the portion B. I find that a mineral substance, such as asbestos, answers the purpose admirably, and by reason of its nature is indestructible and requires renewal but very seldom, if ever.

The wick may be made flat, round, or of other shape to suit the lamp or vessel to which it is to be applied, and may of course be made in various lengths. The relative lengths of the tip A′ and body portion B may also be varied; but in practice the tip should be short compared with the portion B in order to obtain the best results.

The wick is adapted to be placed in a vessel containing the oil or fluid to be burned, the portion B being adapted to come in contact with the fluid and by capillary action convey the same to the tip A′, where it is ignited and burned, and by reason of the nature of the material composing the tip the latter will be unaffected by the flame and therefore last for an indefinite period without renewal.

Inasmuch as the body B of the wick does not come in contact with the flame, the said portion will also last for an indefinite period.

Thus I produce a wick which is of an extremely-inexpensive character.

In connection with the wick described I may in some instances employ a metallic casing or sheath G, which incloses the tip and body of the wick and extends the full height of the latter and also somewhat below the lower end of the body of the wick and is open at its top.

The upper portion of the sheath, extending above the lamp or vessel to which the invention is applied, may partake of any desired shape. It may be straight, as seen in Figs. 2, 3, 6, and 10, bent angularly, as in Fig. 4, and curved, as in Fig. 5.

In order to give access of the fluid to the wick, I provide the lower end of the sheath, just below the lower end of the wick, with openings *a*, which in practice should be very small, and through which openings the oil may have access to the wick.

Within the lower end of the sheath, below the openings *a*, I place such a quantity of mercury that should the lamp or vessel be upset, so as to assume a nearly horizontal or practically horizontal position, the mercury will be caused to then lie across and between the openings *a* and prevent access of oil to the wick.

The provision of the mercury in the lower end of the tube is important for the further reason that by its weight it serves to always hold the burner in an upright position in those instances where the burner may be loosely set within the vessel containing the oil.

In order that the size or height of the flame may be regulated, I provide the upper end of the device with a metallic sleeve D, which may be adjusted vertically to cause it to more or less cover the flame, and which sleeve may be held in the adjusted position by a thumb-screw E. The sleeve D, instead of being constructed in the shape seen in Figs. 3, 4, and 5, may be constructed as seen in Figs. 7, 8, and 9, in which instance it is composed of two somewhat semispherical sections I J, having any desired diameter and secured upon an extinguisher tube or cap K, which is adapted to be adjusted upon the tube D, so as to extinguish the flame when desired, said sections I J being adapted to serve as a hand-hold or knob, whereby the tube K may be easily operated. Any means may be used for adjusting the tube K. If desired, I may employ a burner tip or hood L, constructed so as to give flames of different shapes, and in Fig. 11 I show various forms of tips for this purpose. The said tip is adapted to be removably secured upon the tube D, as seen in Fig. 10, by threading the upper end of the tube interiorly and threading the tip L exteriorly, so as to adapt it to screw within the tube; or said tip may (and preferably) be removably secured within the tube K, as in Fig. 9, the said tip fitting snugly within the upper end of said tube. The tip L may have perforations *c* therein located at different points for the jets.

The burner may be lighted in any suitable manner by applying a light to the tip A′.

Many combinations and arrangements of my burner may be produced, and I do not desire to limit its application for any particular purpose nor to any character of lamp or device, and modifications may be made in the details of construction and arrangement of the parts without departing from the principles or sacrificing any of the advantages of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a wick, of an inclosing casing or sheath provided with openings to give access to the wick as specified, and mercury contained within said sheath and adapted to close said openings in the manner described.

2. The combination with a wick having a tip of asbestos, and an absorbent body portion of an inclosing casing or sheath having lateral openings just below the lower end of the said body portion and a receptacle portion below said openings, and mercury contained in said receptacle, for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of January, 1895.

EMILE GALTIER.

Witnesses:
TH. LEROUX,
CLYDE SHROPSHIRE.