B. GARVEY.

Lamp.

No. 37,442. Patented Jan. 20, 1863.

Fig. 1

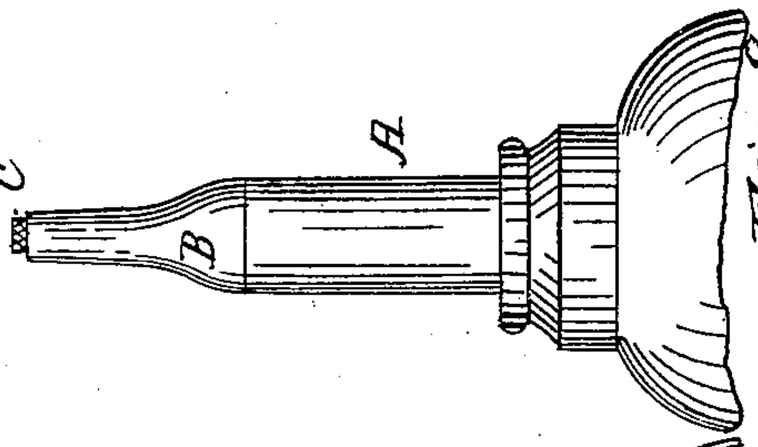

Fig. 2

Fig. 3

Fig. 4.

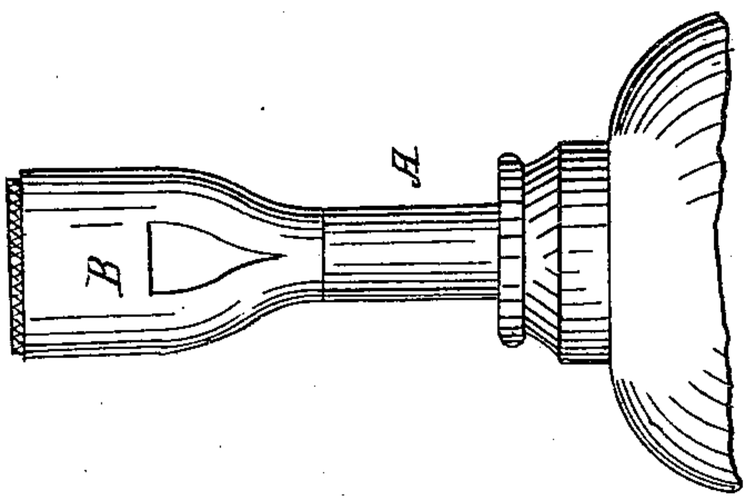

Fig. 5

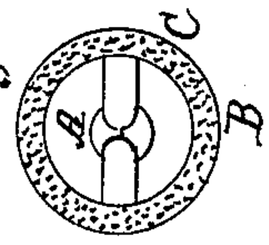

Fig. 6

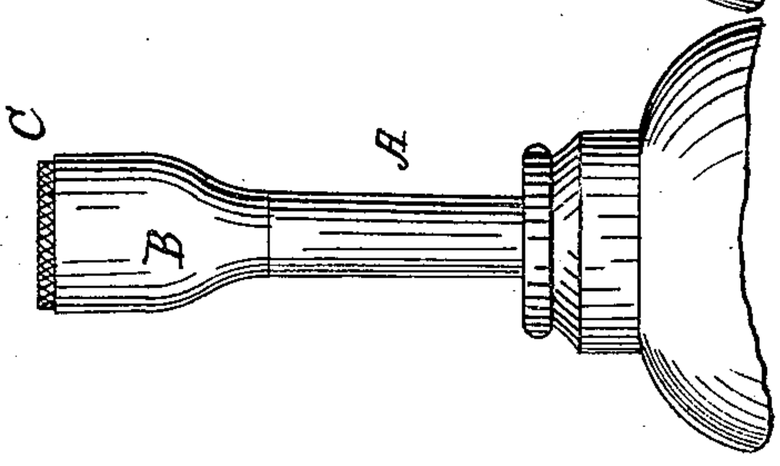

Fig. 7

Fig. 8

Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN GARVEY, OF NEW YORK, N. Y.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **37,442**, dated January 20, 1863.

To all whom it may concern:

Be it known that I, BENJAMIN GARVEY, of the city, county, and State of New York, have invented a new and useful Improvement in Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in making the wick-tubes of lamps, in whole or in part, of a material that conducts heat badly, so as to confine the heat as far as possible to the point of combustion, and thus to insure complete or perfect combustion; also to prevent the conducting of heat to the reservoir, and so to prevent the evaporation of the fuel and the consequent disagreeable odor, and in employing permanent and rigid wicks, or their equivalents, so as to dispense with the trouble of trimming, and also to allow the wick to be moved easily within the wick-tube by any well-known device for regulating wicks, or of the wick being permanently fixed while the wick-tube slides upon it for the purpose of regulating the amount of wick exposed, and consequently the size and quality of the flame.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I make my lamp of any of the usual patterns, and with a reservoir below or above the level of the burner, as may be desired, and with a wick-tube and burner of any required shape.

In the accompanying drawings, Figure 1 represents a candle-shaped wick-tube with a cylindrical wick, A being the tube, B the burner, which may be simply a part of A, or may be a distinct part when it is desirable to use materials of different properties. C is the wick, consisting of a metallic case, *c*, and a cotton core, D, Figs. 2 and 3.

Figs. 4 and 5 show an annular or Argand burner, and Figs. 6, 7, 8, and 9 show a fish-tail or flat-wick burner. Other forms of burners and wick-tubes readily suggest themselves.

The tube A, I make of glazed porcelain or pottery, or of glass, or of any other material that conducts heat badly, and I make the burner B either of the same material as the tube A, and in one piece with it, or I make the burner of metal or some material not liable to be injured by the heat.

When using glass for wick-tubes of the candle shape, I employ differently-colored glass to imitate wax or other candles, or I fill them with plaster-of-paris, white or colored, to produce the desired effect.

The wicks which I employ in this lamp I make of any material or combination of materials which will give an incombustible surface at the point of combustion and a degree of rigidity sufficient for the operating of the wick by a lifter within the tube, or for enabling the wick to be permanently fixed while the tube A or burner B is movable upon it, for the purpose of regulating the amount of wick exposed. I, however, generally make my wicks with a metallic case, *c*, and a cotton core, D, for instance by rolling a piece of common cotton wick up in an envelope of wire-gauze, or by filling a tube of perforated or slit metal with a cotton wick, so as to get an incombustible and rigid surface with an absorbent core. The case may be made of unglazed pottery or any similar material, or the wick may be made in whole or in part of any bibulous and incombustible material, but for general use and facility of manufacture I prefer the kind of wick described.

I have not described any means of operating the wick in regulating the size of flame, for it is obvious that any slide, screw, or wheel regulator in common use can be readily applied to a wick so formed.

This lamp is used in the same manner as any ordinary lamp now in use. It, however, does not need a chimney, as the amount of wick exposed can be so regulated as to insure complete combustion without the aid of an artificial draft. The cotton core insures the raising of a sufficient supply of oil or other fuel, while the metallic casing prevents the burning away of the cotton core, at the same time that it diffuses the vapor of the fuel and mixes it with the air, and so insures perfect combustion and a clear flame. The stem A, being a bad conductor of heat, confines the heat to the point of combustion, and so insures a perfect flame. It also prevents the communication of heat to the reservoir, and thus does away with the evaporation of the essential or volatile oil in the flue and consequently with the disagreeable odor which arises from some forms of fuel. It also lessens the risk of explosion.

The wicks herein described may obviously be employed in metallic wick-tubes or ordinary wicks may be used in the wick-tubes herein described and a partial improvement in lamps be so obtained; but to get the complete result of a permanently-trimmed non-explosive lamp, free from disagreeable odor, both require to be used.

I claim—

1. Incombustible wicks for lamps, formed of the materials and in the manner substantially described in the accompanying specification.

2. The application to lamps of tubes of glass, glazed pottery, or other such material, which is a bad conductor of heat, and is at the same time impervious to the fuel, for the purpose of protecting the wick from the cooling effects of external air, and of confining the heat of the flame, as far as possible, to the wick, in the manner set forth substantially in the accompanying specification.

3. Wick-tubes made of any suitable materials in imitation of candles or tapers of wax, spermaceti, paraffine, &c., in the manner described in the accompanying specification.

BENJAMIN GARVEY. [L. S.]

Witnesses:

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