B. LABARTHE, A. GUILLEMARE & L. PALLAS.

LAMP-BURNER.

No. 187,645. Patented Feb. 20, 1877.

Fig. 1.

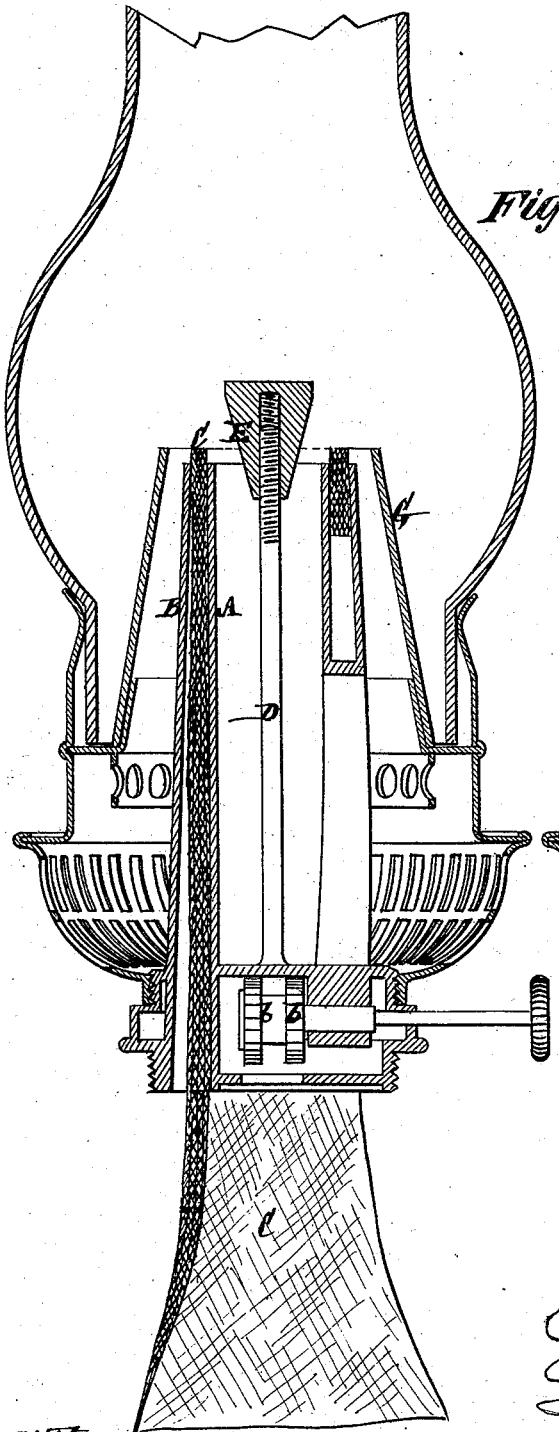
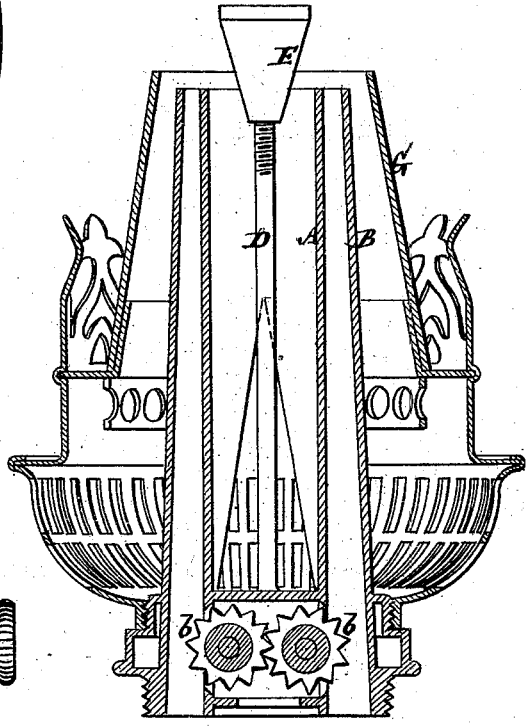


Fig. 2.



Witnesses
John Becker
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Leopold Pallas
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UNITED STATES PATENT OFFICE

BERNARD LABARTHE, OF SABRES, ACHILLE GUILLEMARE, OF MONT DE MAISON, AND LEOPOLD PALLAS, OF SABRES, FRANCE.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **187,645**, dated February 20, 1877; application filed January 6, 1877.

To all whom it may concern:

Be it known that we, BERNARD LABARTHE, ACHILLE GUILLEMARE, and LEOPOLD PALLAS, the first and third of them of Sabres, in the Department of Landes, and the second of them of Mont de Maison, in said Department, in the Republic of France, have jointly invented a new and useful Improvement in Burners for Lamps; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention has for its object the burning, for illuminating purposes, in lamps, more successfully or efficiently than has heretofore been done, various liquids or substances, such as the essence of turpentine, different resinous liquids, and the more fuliginous hydrocarbons. Other oils or liquids, however, may be used.

The invention is equally applicable to new and old lamps—that is, to lamps specially constructed for the purpose, and to lamps now in use, by changing the construction of the burner.

Said invention consists in a novel construction of the burner of the lamp, the same having an outer cone of increased width at its bottom, and not only contracted at its top, but made to project above the wick-tube with which it is combined, whereby thin or lamelliform currents of air are conducted in a rapid and efficient manner up within said outer cone, and made to impinge upon the base of the flame.

The invention also consists in a combination, with the wick-tube of an Argand burner, and an outer cone made wide at its base, and projecting above the top of said wick-tube, of a flame-distributing button, preferably made adjustable in relation with the wick, and having its under side of conical form.

By means of this invention we are able to burn in a lamp, free from much or any smoke and offensive odor, and with an enlarged illuminating effect, such liquids or substances as the essence of turpentine, different liquid products obtained by the distillation of coal-tar residues and resin, as well as the most fuliginous hydrocarbon liquids resulting from the distillation of pine wood, or any inflammable liquid which is the product or extract of coniferous trees.

The accompanying drawing represents the invention applied to an Argand burner in which a circular wick is used, or a wick which is made to assume a circular form as it is fed up through the burner, but the invention may be applied to a flat wick.

Figures 1 and 2 are vertical sections in planes at right angles with each other of the burner, as above indicated.

The wick-tube is composed of an inner tube, A, through which an interior current of air is admitted, and an outer tube, B, which may be of conical form, and between which and the inner tube A the wick C is fed by the ratchets *b b*, and converted from a flat shape below to a circular one in the upper portion of the burner.

D is a stem arranged to project up within the inner tube A, and carrying on its upper end, above said tubes, a flame-distributing disk or button, E, of conical form on its under side, and which is made adjustable up or down to vary its distance from the upper edge of the wick, by constructing said button to screw onto the stem D, or in any other suitable manner. This adjustment of the button provides for different conditions, both as regards the substance being burnt, and in other respects. In practice it is adjusted lower or closer to the wick-tube than in other burners.

G is the outer cone of the burner, up within which an exterior current of air is admitted to the flame. This outer cone G is of greater than ordinary width at its base, and contracted at its top, for the purpose of inducing a sharp or active current of air up through it, and its upper end is made to project above the top of the tubes A B, and up to the level of the upper end of the wick C, when the latter is adjusted to its burning position above the top ends of the tubes A B.

This construction of the burner reduces the thickness of the flame, and induces such a strong draft as to admit of a more perfect combustion of the carbon with or by the oxygen of the air.

By constructing the opening at the mouth

of the Argand burner, which provides for the supply of the exterior current of air, carbonaceous deposits are prevented from forming, and the combustion is effected in a regular manner.

The leading advantages are, first, the more rapid conduction of the products of combustion; and, second, the more copious supply around the flame of the oxygen necessary to effect combustion.

The adjustable button E will be found specially serviceable in lamps burning petroleum and using circular wicks. The extension of the outer cone G above the wick-tubes A B, and up to the level of the upper end of the wick, provides for the more perfect circulation of the outer current of air to the flame, and said current of air in being lamelliform has a keener and more perfect action. The conical form of the button E, on its under side, likewise conduces to the improved effect. Furthermore, the chimney of the lamp may be swelled at or near its base, instead of being formed with a contraction or throat, as in many other lamps.

We have proved, by actual experiment, that with a burner constructed in accordance with our invention, a light remarkable for its intensity may be produced, by burning the essence of turpentine, or turpentine and resin-oil, in equal parts, or resin-oil alone.

As contrasted with other burners, we avoid by our improved burner, when using the fuliginous materials we have named, both excessive smoke and deposit of lamp-black on the wick. This effect, and the superiority of the light obtained, are mainly due to the lamelliform character of the currents of air where the latter impinge on the flame.

The button E may be more or less modified in form, and, instead of being adjustable, may, in some case, be fixed at its required distance from the wick. Other changes also may be made—as, for instance, in the construction of the outer cone G, both as regard its outline, and admission or exclusion of exterior air to or from it, but it is essential that it should have a widened base, and that the current of air supplied by it to the flame shall be lamelliform as it strikes the base of the flame. The chimney used, may vary in length according to the material burnt in the lamp.

We claim—

The combination, with the conical wick-tubes, of the cone G, having its upper edge extending above the top of the wick-tubes, and the deflector adjustable on its carrying-rod, substantially as described.

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Witnesses:
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