

G. EKLUND.
LAMP BURNER.

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1,038,323.

Patented Sept. 10, 1912.

Fig. 1.

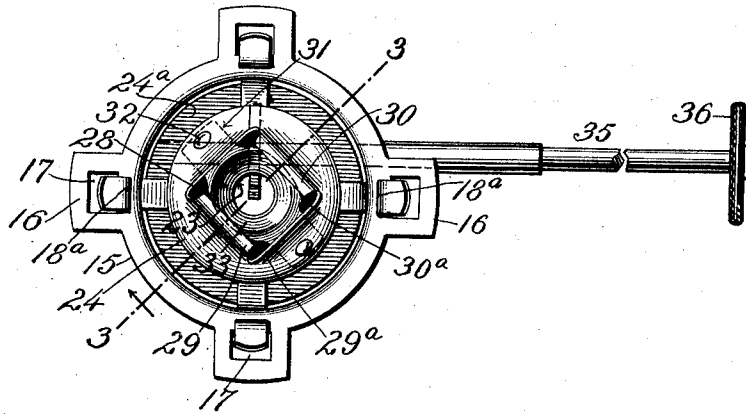


Fig. 2.

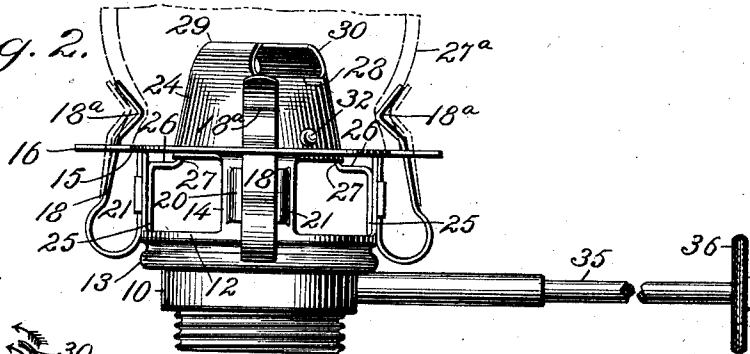


Fig. 3.

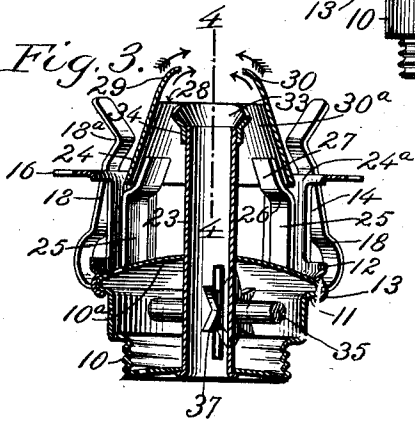
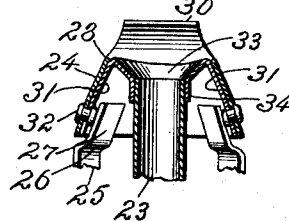


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

GUSTAV EKLUND, OF NEW YORK, N. Y., ASSIGNOR TO THE DRESSEL RAILWAY LAMP WORKS, A CORPORATION OF NEW YORK.

LAMP-BURNER.

1,038,323.

Specification of Letters Patent.

Patented Sept. 10, 1912.

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To all whom it may concern:

Be it known that I, GUSTAV EKLUND, a citizen of the United States, residing at the city of New York, borough of Bronx, in the county and State of New York, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a full, clear, and exact specification.

My invention relates to improvements in lamp burners of the type known as long time burners, and the same has for its object to provide a simple, efficient and reliable long time burner, in which the burner is fitted with a round wick which when burning will show a flat flame, emitting a white, steady and clear light which will not crawl or climb after the lamp has become heated.

Further said invention has for its object the reduction of the blue non-light-giving flame to a minimum, and the bringing of the white part only of this flame into the focus of the lens in such a way as to obtain a maximum of light rays emitted from the focal point of the lens.

Further said invention has for its object to provide a flame which will be as thick as possible consistent with perfect combustion, and which will show considerably greater lighting power than a larger sized flame which is thin and of a gaseous appearance.

Further said invention has for its object to provide a burner in which the parts will be maintained properly cooled during the period of use.

To the attainment of the aforesaid objects and ends, my invention consists in the novel details of construction, and in the combination, connection and arrangement of parts hereinafter more fully described, and then pointed out in the claims.

In the accompanying drawings forming part of this specification wherein like numerals of reference indicate like parts, Figure 1 is a plan view showing a lamp burner of the long time type; Fig. 2 is a side elevation of the same; Fig. 3 is a vertical section, taken on the line 3—3 of Fig. 1, showing more particularly the internal construction of the same, and Fig. 4 is a detail vertical section, taken on the line 4—4 of Fig. 3, of the upper portion of the burner.

In said drawings, 10 designates the base portion or head, which is usually screw-threaded for application to the oil font, and

which is provided with a top annular shoulder or bead 11, to which a ring 12 is secured by means of a spun portion 13 on said ring, which obviates the necessity of soldering. Said ring 12 is provided preferably with four properly spaced uprights 14, 14, between which the air for supporting combustion is admitted into the burner. The upper ends of these uprights 14, 14 support the chimney gallery 15. The ring 12, uprights 14, 14, and gallery 15 are preferably made of one piece of metal.

The chimney securing parts are preferably composed of four properly spaced, outwardly extending ears 16, 16 on the chimney gallery, which are provided with openings 17, through which extend upwardly spring fingers 18, 18, which are provided at their lower ends with upwardly extending flat portions 19, secured to the uprights 14 by means of lugs 20, 21, struck up from said uprights. The position of said spring fingers 18, 18, is determined by the abutment of the inner ends of their attaching portions 19 against the lower side of the chimney gallery 15. Said spring fingers 18, 18 are bent at their upper protruding ends 18^a into V-shape form, so that said ends may engage the lower portion of a chimney 22, and hold the same duly in position upon the gallery 15.

The wick-tube 23 is secured to the base portion 10, and extends upwardly above the base portion to a point above the gallery 15. Said wick-tube is preferably of cylindrical form to receive a round felt wick usually employed in long time burners.

A cone or metal shell 24 is secured in the burner preferably by means of upright strips 25, 25, which are soldered or otherwise suitably secured to the uprights 14, 14, and provided with inwardly extending portions 26, and upwardly extending portions 27 which fit within the lower rim of the said cone 24, and are soldered or otherwise suitably secured thereto. The said cone 24 is concentrically arranged around the wick-tube 23 and its lower edge is positioned in approximately the horizontal plane of the gallery 15, so that there is a free air space in the zone of the burner under said cone and above the top 10^a of the base portion 10. Furthermore, said cone 24 is of such diameter relative to the diameter of the opening through the gallery 15, as to provide be-

tween said two parts an annular air inlet throat 24^a, which has free communication with the open air space in the above defined zone.

5 From the upper edge or rim 28 of the cone 24 extend upwardly a pair of diametrically opposite vertically curved deflecting blades 29, 30, which converge toward a point in line with the longitudinal axis of the
10 wick-tube. These deflecting blades are preferably formed integrally with the cone 24, and are continuations of the top of the cone. The upper part of the cone is preferably flattened on four sides, and the said
15 deflecting blades 29, 30, project from two diametrically opposite sides of the edge 28, so that they are parallel with each other. Said cone is therefore of conical formation at its lower portion, and of substantially
20 pyramidal formation at its upper portion. Secured in said cone 24 is a cross-piece or bridge 31, which extends across the top opening of the cone, and has its ends riveted or otherwise suitably secured at 32 to oppo-
25 site sides of the inner surface of the said cone. This bridge 31 supports or is formed with an oil-collecting cup 33, which is provided with a downwardly extending neck or collar 34, into which the upper end of
30 the wick-tube 23 fits. The said collar 34 does not require to be soldered or secured to the wick-tube 23, but simply serves as means for connecting the wick-tube and cone, whereby each part coöperates with the other
35 in maintaining a central position.

An operating spindle or wick shaft 35 is suitably journaled upon the base portion 10, and is provided with an operating wheel 36 at one end, by means of which said wick
40 shaft and the spur-wheel 37 at the inner end thereof may be rotated to adjust the same and the wick in well known manner.

The main feature of this burner is the manner in which the air required for sup-
45 porting combustion is conveyed to the different parts of the burner from the open zone under the chimney gallery 15. The said parts are so shaped that the air for combustion is jetted and conducted up-
50 wardly at the proper angle to the flame, producing the results sought to be attained. It will be seen that the air admitted between the top 10^a of the base portion and the gallery 15 is conducted upwardly
55 through the cone 24, and is concentrated toward the top of the cone and deflected and directed inwardly directly above the wick-tube at the point of combustion just where the air supply is most needed. The column
60 of air which is conducted through the cone is split up, one part of it passing through opening 29^a adjacent one deflector, and another part of it through opening 30^a adjacent the other deflector, so that combustion
65 supporting air is supplied at both sides of

the flame, which is flattened and broadened by means of said deflectors. The annular opening, space or throat 24^a between the cone and gallery is preferably of such size as to admit enough air in an annular col-
70 umn surrounding the inner column of air, to cool the burner and the chimney. These parts being properly cooled, prevent the overheating of the wick-tube and the spreader formed by the deflecting plates
75 and thus do away with the gradual climbing of the flame. This defect is present in all other burners of this type, and it is detrimental and even dangerous in lamps used for train signals. It will be readily under-
80 stood that when the flame crawls, it is liable to smoke and fill the chimney with soot or even break it. Sometimes the smoking will blur or cloud the lens, and thus
85 cause the failure of a signal. A burner that becomes overheated so that the flame climbs, presents the further defect in that it consumes a great amount of oil and thereby materially shortens the life of the light, and
90 in another way causes the failure of a signal. A portion of the said annular column of air rises and is guided directly upward and inward to the flame by the converging outer
95 surfaces of said deflecting plates, and without obstruction to complete the combustion in a level above the deflecting plates.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A lamp-burner, comprising a base-portion, a wick-tube, a gallery, a cone, separated
100 from said gallery to provide an air-inlet throat, means for supporting said gallery and cone from said base-portion, and for
105 spacing said cone away from said base-portion to provide direct sidewise connection with the outer air for said cone, in the zone of the burner immediately above said base-portion, and deflecting means in connection
110 with said cone for concentrating and directing air from within the cone toward a point above said tube, and for conducting air, entering through said throat, directly above said point.

2. In a lamp-burner, a cone, deflectors extending upwardly as continuations of the
115 converging sides of said cone, a bridge spanning the upper open end of said cone, and an oil-collecting cup thereon.

3. A lamp burner comprising a wick tube, a gallery, a cone separated from said gal-
120 lery by an annular throat, deflectors extending upwardly as continuations of the converging sides of said cone, and an oil collecting cup having its upper edge arranged
125 in a horizontal plane with the upper edge of the body of said cone and below said deflectors.

4. A lamp-burner, comprising a wick-tube, a gallery, a cone, separated from said
130

gallery by an annular throat, a bridge spanning the upper open end of said cone, and an oil-collecting cup thereon fitted to said wick-tube.

- 5 5. A lamp-burner, comprising a wick-tube, a gallery, a cone, separated from said gallery by an annular throat, converging deflectors extending upwardly from the upper edge of said cone, a bridge spanning the

upper open end of said cone, and an oil- 10 collecting cup thereon.

Signed at the city of New York, in the county and State of New York, the 1st day of November, nineteen hundred and nine.

GUSTAV EKLUND.

Witnesses:

CONRAD A. DIETERICH,
HELEN SULLIVAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."