N° 19,483 A.D. 1901

Date of Application, 30th Sept., 1901

Complete Specification Left, 12th June, 1902—Accepted, 28th Aug., 1902

PROVISIONAL SPECIFICATION.

"Improved Wick Burner for Incandescent Spirit Light".

We, FRANZ CHRISTEN of No. 11 Hausvoigteiplatz Berlin, Merchant, and FELIX HEINRICH ASCHNER of No. 222 Prenzlauer Allée Berlin, Engineer, do hereby declare the nature of our said invention to be as follows

The production of incandescent light by using spirit or a similar fluid as combustible has hitherto been effected in such a manner that the spirit is gasified in a suitable way and the gas, in order to produce a so-called blue-flame for sufficiently heating the incandescent substance, is mixed with air and ignited. The practical use of wick burners for incandescent spirit light has hitherto met with the difficulty to prevent the transmission of heat to the wick tube to an adequate extent, so as to make such lamps perfectly safe against danger of an explosion and also to avoid a decomposition of the spirit in the upper part of the wick, or to prevent the latter becoming clogged by resinous matters or carbonized. These wick burners also claim the following advantages: the flame can be easily regulated, there is great economy in the consumption of the combustible, and the lamp can also be attended to by persons not having much experience in the art.

This invention has for its object to obviate the said drawbacks in connection with wick burners for incandescent spirit light by feeding the interior air to the flame in a peculiar manner through a tube closed below and provided with lateral openings or apertures, the said tube being arranged centrally in the interior of the wick tube which has, like the known petroleum burners, an opening for the supply or admission of air and forming the tubular shaft for the flame divider, which guides the air laterally inside against the flame, so that same properly conforms to the shape of the incandescent body.

This feeding of the cold external air into the wick tube and from thence into the perforated tubular shaft of the flame divider has the effect that an excessive heating of the wick tube and a gasifying of the spirit or fuel combustible, while obviating the above-mentioned draw-backs, is prevented. The gasification of the spirit takes place, as is the case with a petroleum lamp, only at the free upper end of the wick. By feeding the cold external air through the tubular shaft of the flame divider, which is very warm especially at its upper part, the air is heated sufficiently so as to produce a hot blue flame for heating the incandescent body.

The burner is composed of a wick tube for the round wick having the usual recess through which the cold air is passed. The wick can be adjusted, for instance, by means of pinion and rack by turning a key in the usual manner. The outer air is fed through the perforated gallery in the usual manner, while the inner air, which is drawn through the recess of the wick tube passes through slots or recesses of a tube, which is closed below and communicates above with the tubular shaft of the flame divider. The arrangement for guiding the rack of the wick mechanism is also provided within the said tube.

By means of the outer air supply, the wick tube is kept comparatively cool, so that a combustion of the spirit or fluid combustible only takes place at the free end of the wick, while the air entering through the perforations of the tubular shaft of the flame divider is heated on its way to the outlet at the top

[*Price* 8*d*.]

of the flame divider to such an extent that it assists in the formation of a hot blue flame. The size of the flame can be regulated in a very simple manner by turning the same higher or lower.

Dated the 30th day of September 1901

G. F. REDFERN & Co.,
4, South Street, Finsbury, London,
Agents for the Applicants

COMPLETE SPECIFICATION.

"Improved Wick Burner for Incandescent Spirit Light".

We, FRANZ CHRISTEN of No. 11 Hausvoigteiplatz Berlin, Merchant, and FELIX HEINRICH ASCHNER, of No. 222 Prenzlauer Allée, Berlin, Engineer, do hereby declare the nature of our said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The production of incandescent light by using spirit or a similar fluid as combustible has hitherto been effected in such a manner that the spirit is gasified in a suitable way and the gas, in order to produce a so-called blue-flame for sufficiently heating the incandescent substance, is mixed with air and ignited. The practical use of wick burners for incandescent spirit light has hitherto met with the difficulty to prevent the transmission of heat to the wick tube to an adequate extent, so as to make such lamps perfectly safe against danger of an explosion and also to avoid a decomposition of the spirit in the upper part of the wick, or to prevent the latter becoming clogged by resinous matters or carbonized. These wick burners also claim the following advantages: the flame can be easily regulated, there is great economy in the consumption of the combustible, and the lamp can also be attended to by persons not having much experience in the art.

This invention has for its object to obviate the said drawbacks in connection with wick burners for incandescent spirit light by feeding the interior air to the flame in a peculiar manner through a tube closed below and provided with lateral openings or apertures, the said tube being arranged centrally in the interior of the wick tube which has, like the known petroleum burners, an opening for the supply or admission of air and forming the tubular shaft for the flame divider, which guides the air laterally inside against the flame, so that same properly conforms to the shape of the incandescent body.

This feeding of the cold external air into the wick tube and from thence into the perforated tubular shaft of the flame divider has the effect that an excessive heating of the wick tube and a gasifying of the spirit or fuel combustible, while obviating the above-mentioned draw-backs, is prevented. The gasification of the spirit takes place, as is the case with a petroleum lamp, only at the free upper end of the wick. By feeding the cold external air through the tubular shaft of the flame divider, which is very warm especially at its upper part, the air is heated sufficiently so as to produce a hot blue flame for heating the incandescent body.

The accompanying drawing represents a vertical section through a wick burner for incandescent spirit light made according to the present invention.

The burner is composed of the wick tube *a* for the round wick *b* having the usual recess *c* through which the cold air is passed. The wick can be adjusted, for instance, by means of pinion and rack by turning the key *d* in the usual manner. The outer air is fed through the perforated gallery *e* in the usual manner,

while the inner air, which is drawn through the recess *c* of the wick tube, passes through slots or recesses *f*, *g* of a tube *h*, which is closed below and communicates above with the tubular shaft *i* of the flame divider *k*. The arrangement for guiding the rack *l* of the wick mechanism is also provided within the said tube *h*.

By means of the outer air supply, the wick tube *a* is kept comparatively cool, so that a combustion of the spirit or fluid combustible only takes place at the free end of the wick, while the air entering through the perforations *f*, *g* of the tubular shaft *h*, *i* closed below and open above, of the flame divider is heated on its way to the outlet at the top of the flame divider to such an extent that it assists in the formation of a hot blue flame. The size of the flame can be regulated in a very simple manner by turning the same higher or lower.

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 we claim is:—

Improved wick burner for incandescent spirit light, consisting of an ordinary round wick burner, in which the external air, which keeps the wick tube cool, is fed in a heated state to the flame through a tubular shaft *h i* of the flame divider *k* arranged at a suitable distance above the wick tube, said tubular shaft being closed below and open above and provided with perforations or slots *f g*, substantially as described and shown in the drawing.

Dated the 12th day of June 1902.

G. F. REDFERN & Co.,
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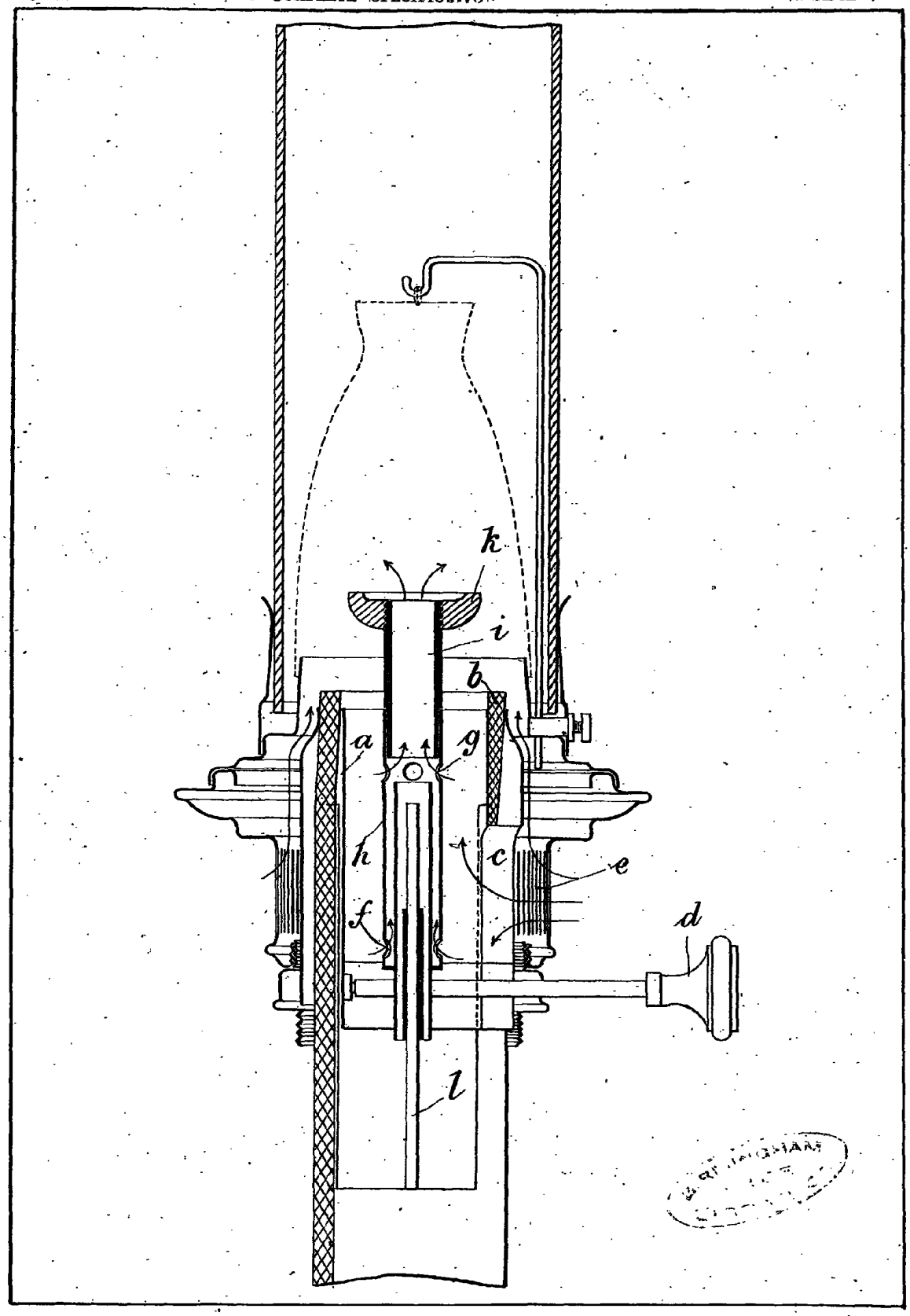
Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1902.

A.D. 1901. SEP. 30. Nº 19,483.

CHRISTEN & *another's* COMPLETE SPECIFICATION (1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale.]

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