

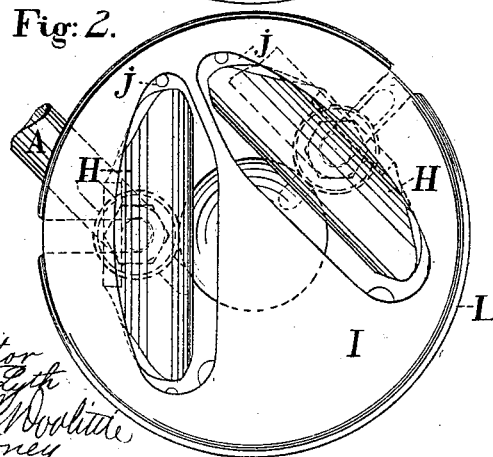
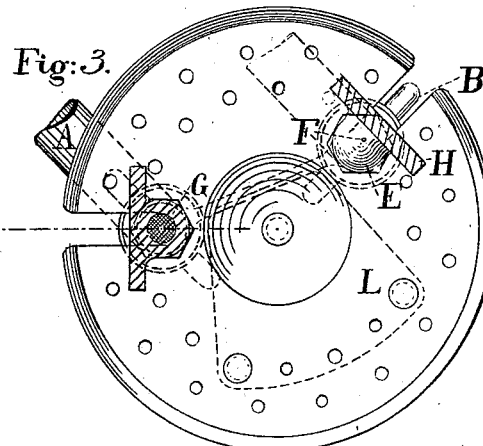
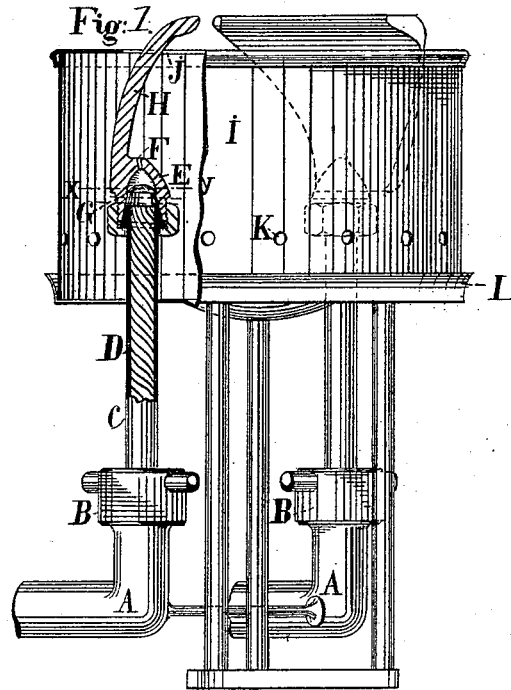
(No Model.)

G. W. LYTH.

BURNER AND LAMP FOR MINERAL OILS OR THEIR EQUIVALENTS.

No. 346,856.

Patented Aug. 3, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORG WILHELM LYTH, OF STOCKHOLM, SWEDEN.

BURNER AND LAMP FOR MINERAL OILS OR THEIR EQUIVALENTS.

SPECIFICATION forming part of Letters Patent No. 346,856, dated August 3, 1886.

Application filed March 5, 1884. Serial No. 123,095. (No model.) Patented in England February 15, 1884, No. 3,362; in France February 15, 1884, No. 160,352; in Germany February 16, 1884, No. 71,815; in Italy March 31, 1884, No. 430; in Canada August 1, 1884, No. 19,880; in Sweden February 5, 1885, No. 61; in Spain August 10, 1885, No. 7,337, and in Norway December 22, 1885, No. 229.

To all whom it may concern:

Be it known that I, GEORG WILHELM LYTH, a subject of the King of Sweden, residing at Stockholm, in the Kingdom of Sweden, have
5 invented new and useful Improvements in Burners and Lamps for Mineral Oils or their Equivalents, of which the following is a specification.

This invention has been patented in the following countries, viz.: Great Britain, No. 3,362, February 15, 1884; France, No. 160,352, February 15, 1884; Germany, No. 71,815, February 16, 1884; Italy, No. 430, March 31, 1884; Canada, No. 19,880, August 1, 1884; Sweden, No. 61, February 5, 1885; Spain, No. 7,337, August 10, 1885; and Norway, No. 229, December 22, 1885.

In the burners for mineral oils hitherto in use the upper part of the burner is heated by
20 the flame in some way or other, and consequently the oil in this upper part also gets heated, and is transformed into gas that escapes through one or more minute orifices or holes in the burner and feeds the flame; but
25 after a while the holes in such burners become clogged with some pitchy hydrocarbon deposits from the oil and the flame goes out.

The object of my invention is to improve the means for automatically reigniting the
30 flame of a lamp after it goes out; and it consists of an arrangement of two or more burners placed in proximity to each other, and spreaders arranged at an angle to each other with a suitable cover for the spreaders, as
35 hereinafter described and claimed.

Figure 1 shows in elevation and partially in section a combination of two such burners to one lamp. Fig. 2 represents the same in
40 plan, and Fig. 3 the same in cross-section with the upper part or cap taken away.

A is the feed-pipe for the mineral oil or its equivalent, which pipe in its upper part, C, is fitted by a wick, D. This upper part is by means of the nut B, in the way shown in the
45 drawings, firmly and tightly screwed to the pipe A. To the upper end of this part C the burner proper, E, containing the jet hole or holes F for the vaporized oil, is secured in the same way, metal against metal. Beneath that

hole (or holes) in the burner proper, E, is a
50 small piece of fine wire netting, G, through which the oil or the gas must pass before reaching the orifice at F. The burner is also provided with a common flame spreader, H, and the whole of the upper part of the burner is
55 surrounded by a metallic cap or cover, *i*, provided with a hole, *j*, at the top for the flame, and the upper part of the spreader H, and with several smaller holes, K, round the bottom for the air. The cap *i* is supported
60 by a concave perforated plate, L, which in its turn is supported by the feed-pipe, or in some other way.

In using this improved burner the pitchy substances are now deposited in the net-work
65 G inside the burner, and do not ascend to the hole F, which thereby continues to remain open, and a long while (many weeks) will elapse before all the orifices become closed and the flame extinguished, provided, of
70 course, sufficient oil be found in the reservoir (not shown in the drawings) from which the pipe A takes the supply. The cap *i*, heated by the flame, serves in its turn to heat the air of combustion which penetrates through the
75 holes in the cap and the bottom. By this means the burning of the vaporized oil becomes more perfect and more rapid, the flame steadier, the light whiter, and the lighting-power considerably increased. The concave
80 plate L serves to collect the oil which may possibly overflow when the lamp is not lighted, which oil is carried away by the pipe M; but it also serves to receive a small quantity of spirits, which may be ignited when the lamp
85 is to be lighted to hasten the heating of the burner, and thereby also hasten the vaporizing of the oil.

The lamp represented in Figs. 1 and 3 consists, as shown, of two single burners of the
90 construction above described, mounted side by side, with their spreaders inclined at an acute angle to each other, the whole closed in a common cap or cover. The same letters of reference represent the corresponding parts.
95 One of the advantages of this combination is that in consequence of the angular position of the spreaders H H to each other the power

of the light from the two flames becomes practically the same in all directions, which is not the case when only one burner, and consequently only one flame, is used. Another advantage is that such a lamp burns uninterruptedly as long as it contains oil, for when the pitchy hydrocarbons from the vaporized oil have been deposited in such quantities that the gas no longer penetrates through one of the burners its flame goes out. In consequence thereof this burner becomes somewhat cooled, and the oil comes (in a fluid state) into contact with the pitchy substances in the net G and quickly dissolves them, after which the oil again rises into the burner proper, E, and through the orifice at F, when it is instantly ignited, because of the great heat proceeding from the other flame, which still continues to burn. After a while the other flame is extinguished by the same cause, and its burner purifies itself. In this manner the automatic purifying of the burners goes on without the light of the lamp being extinguished. It is not likely that both flames will go out at the same time; but should the oil be very impure, so that such an occurrence might be feared, it would be an advantage to have separate reservoirs, from which pipes A A would take their supply. In ordinary cases

only one reservoir is required. Then the pipes A A are united to one pipe somewhere below the screw-joints B B. Another way of preventing the lamp from going out, as long as it contains oil, is to place together three or more single burners in the same way; but it is unnecessary unless one wishes still more to increase the lighting-power of the lamp.

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

1. The combination, with the lamp, of the burners, the spreaders, arranged, as shown, at an acute angle to each other, and the cover surrounding said spreaders, substantially as described.

2. In a mineral oil or vapor lamp, the combination of two or more burners, placed in proximity to each other for effecting the automatic reigniting of the flame, and the spreaders, arranged at an angle to each other, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORG WILHELM LYTH.

Witnesses:

FREDRIK L. ENQUIST,
KARL PALM.