

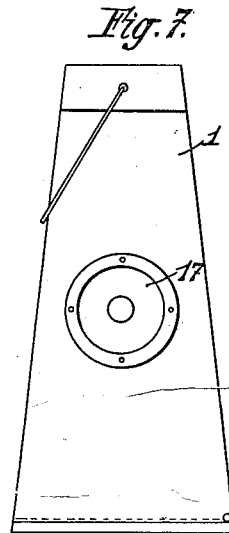
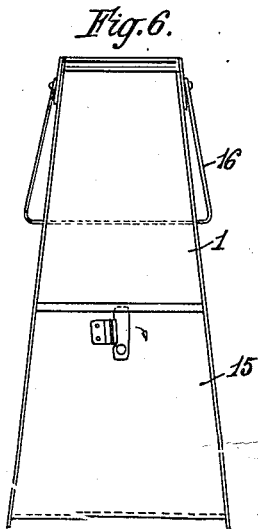
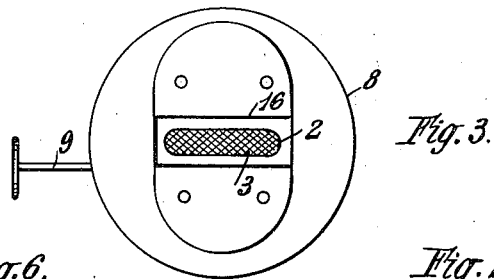
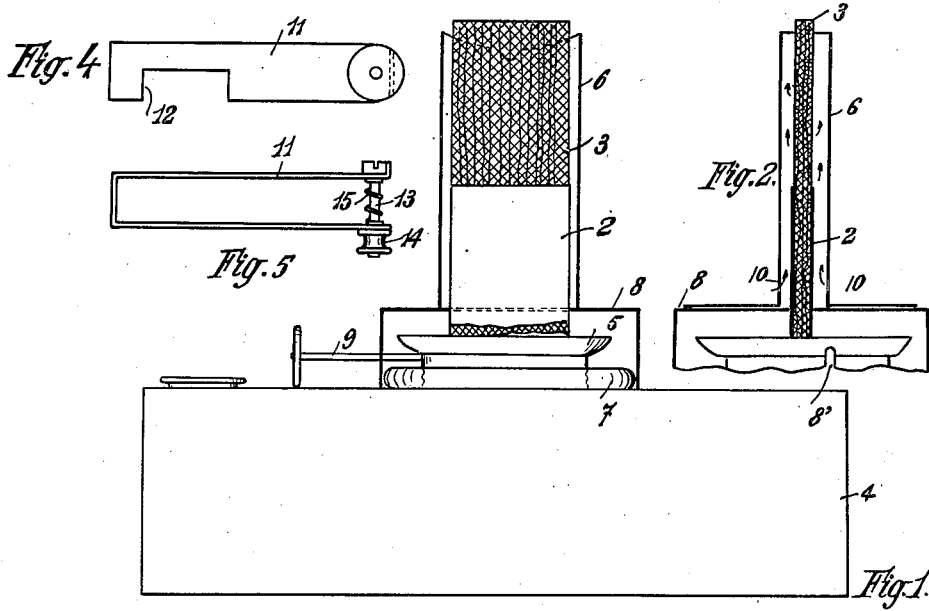
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SIGNALING LAMP

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SIGNALING LAMP

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3 Claims. (Cl. 67—53)

This invention has for its object the provision of signal lamps adapted to employ liquid hydrocarbon as fuel and in which the flame is caused to flicker.

5 In the operation of lamps according to the invention the wick, carried by a wick tube, is adapted to be brought to the height of the upper end of an incombustible sheath which is located around and extends above the said wick tube.

10 The upper end of the wick is adapted to be lighted so that the flame is similar to that of an ordinary petroleum lamp but however, although the wick is not in contact with the incombustible sheath a large portion of the wick between the upper
15 end of the wick tube and the upper end of the sheath does not become ignited. The incombustible sheath becomes heated as a result of the flame and vaporizes fuel from the non-ignited portion of the wick and this vaporized fuel is
20 adapted to be forced into contact with the flame by means of air entering at the lower end of the sheath into the free space between said sheath and the wick tube, with the result that the flame is momentarily intensified and as a
25 sequence the flame is caused to flicker.

The maximum intensity of the flame is adapted to be regulated according to the height of the wick and the periodicity of the flicker by the regulation of the entry of air into the sheath.

30 In order that the invention can be fully appreciated it will now be described with reference to the accompanying drawing in which:—

Fig. 1 shows in front elevation and partly in section a flickering flame lamp constructed according to one method of carrying the invention
35 into effect.

Fig. 2 shows, as a fragmentary view, a portion of Fig. 1 in side sectional elevation.

Fig. 3 shows, as a fragmentary view, a plan of
40 a portion of Fig. 1.

Figs. 4 and 5 show in elevation and plan a device for regulating the entry of air, and

45 Figs. 6 and 7 a front elevation and side elevation of a lantern having a lamp with flickering flame formed in sheet metal made according to the invention.

The burner of the lantern 1 is formed in any usual manner by a wick-tube 2 of rectangular form through which passes the wick 3 which
50 extends in the usual manner into the carburant contained in the reservoir 4. The wick-tube is soldered to a ring 5 in turn fixed by screwing or soldering to the reservoir 4 by means of a ring 7. 9 is the usual wick-adjusting control similar to
55 an ordinary petroleum lamp,

6 is a sheath of incombustible material of general rectangular section and of such size as to leave a space between its inner surface and the burner 2 when placed therearound. As shown, it extends well above the top of the burner 2
5 and at its lower end is fixed to or made integral with a cylindrical portion 8 which engages over the fixing ring 7 and has a slot 8' for the passage of the control rod 9.

10 are orifices which come opposite and at the lower portion of the sheath 6. The size of the openings 10 can be regulated by the device shown in Fig. 4. This device comprises a stirrup 14
15 with notches 12, the free ends of the limbs being connected by a headed screw 13 with a clamping milled nut 14, a spring 15 coming between the limbs to ensure an automatic opening of the limbs when the nut is unscrewed. This device is placed
20 over the sheath 6 and is disposed at the lower portion thereof. It can be slid into any suitable adjusted position, where it is clamped by the nut 14 so that the notches 12 more or less close the openings 10. The object is to regulate
25 the amount of air entering these openings 10 to pass upwards between the wick-tube 2 and the interior of the sheath 6.

The operation will be readily understood. The wick is brought to the level of the upper end of the sheath 6 and ignited. This heats the sheath and the wick-tube so that air entering through
30 the orifices 10 mixes with the vaporized carburant given off by the exposed surface of the wick coming within the sheath 6. On passing upwards this mixture comes into contact with the flame at the upper end of the wick and becomes ignited. The
35 slight explosion forces the gas following upwards in the sheath 6 downwards into the interior so that the amount of the carburetted mixture passing upwards in the sheath which is ignited is limited. Immediately thereafter the carburetted gas
40 again rises and is ignited and so on. There is thus produced a continuous series of rapid ignitions of a certain quantity of carburetted gas which gives the flame the desired flickering or intermittent quality.

45 It will be understood that the form and dimensions of the wick-tube can be varied, the sheath being shaped accordingly to give the free space necessary for the flickering effect.

Flickering light systems employing lamps according to the invention can readily be installed in practically every position whilst flickering light systems as at present known either necessitate the use of batteries with short life and high price or heavy and bulky accumulators requiring re-
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charging and having all the disadvantages of supervision, maintenance and the like, or requiring connection to an electric supply.

5 All these disadvantages are avoided by lamps according to the invention which can be located in positions without any preliminary installation.

Moreover, their maintenance consists simply in filling the lamp, trimming the wick from time to time and replacing it when consumed.

10 Flickering flame burners as herein described provided with a reservoir such as 4 can be located in any suitable lantern and as shown in the drawing (Figs. 6 and 7) this may take the form of a truncated square pyramid formed from bent sheet metal.

15 This lantern is fixed by means of a circular socket formed with an orifice and situated at the central part of the base. Into this orifice will pass a wood screw adapted then to screw into a thick plank for example. The door 15 of the lantern can be padlocked so as to prevent the theft of the lamp. If necessary, the lantern can be suspended by the handle 16. Under the cap there is a perforated sheet or a wire gauze for the purpose of preventing extinction by a strong wind.

20 The lantern carries on its sides red light intensifiers or lenses 17 on which conventional signs can be painted or indicated for the purpose of indicating cross roads, dangerous traffic spots, and the like.

30 The consumption of the lamp when utilizing petroleum as carburant is very low and duration of operation very long (minimum average: 50 hours for a wick of 25 m/m. width with a litre of petroleum).

35 The invention can be applied to different types of lamps, lamps for yards, public works, various undertakings, railways and more especially for designating level crossings, cross roads, and everywhere where there exists inconvenience or danger for traffic.

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What I claim and desire to secure by Letters Patent of the United States of America is:—

1. A flickering flame signal lamp adapted to employ liquid hydrocarbon fuel, comprising a reservoir for fuel, a wick-tube adapted to carry a wick, means for regulating the length of wick projecting above the said wick-tube, an incombustible sheath located around and extending above said wick-tube and adapted to become heated by the flame produced at the end of the said projecting wick in order to vaporize fuel from that portion of the wick which extends above the wick-tube but is within the said sheath, and means at the lower end of said sheath to permit the entry of air into the free space between the sheath and the wick-tube for the purpose of forcing such fuel vapour into contact with the flame in order to momentarily intensify said flame and so produce periodic flickering of the latter.

2. A flickering flame signal lamp as claimed in claim 1 wherein the incombustible sheath located around and extending above the wick-tube is provided with apertures for the entry of air towards its lower end and including sliding shutter means for regulating the size of such air inlets so that the periodicity of the flickering of the flame of the lamp can be adjusted.

3. A flickering flame signal lamp as claimed in claim 1 in which the wick tube and the incombustible sheath located around and extending above said wick tube are of flattened rectangular section, air inlet apertures are provided towards the lower end of said incombustible sheath and there is included, as air regulating means, a stirrup member adapted to be adjustably clamped on said sheath, said stirrup having cut away portions for adjustable positioning with respect to the air inlet apertures.

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