

No. 725,514.

PATENTED APR. 14, 1903.

W. S. TRAILL.
ILLUMINATING DEVICE.
APPLICATION FILED DEC. 12, 1902.

NO MODEL.

Fig. 1.

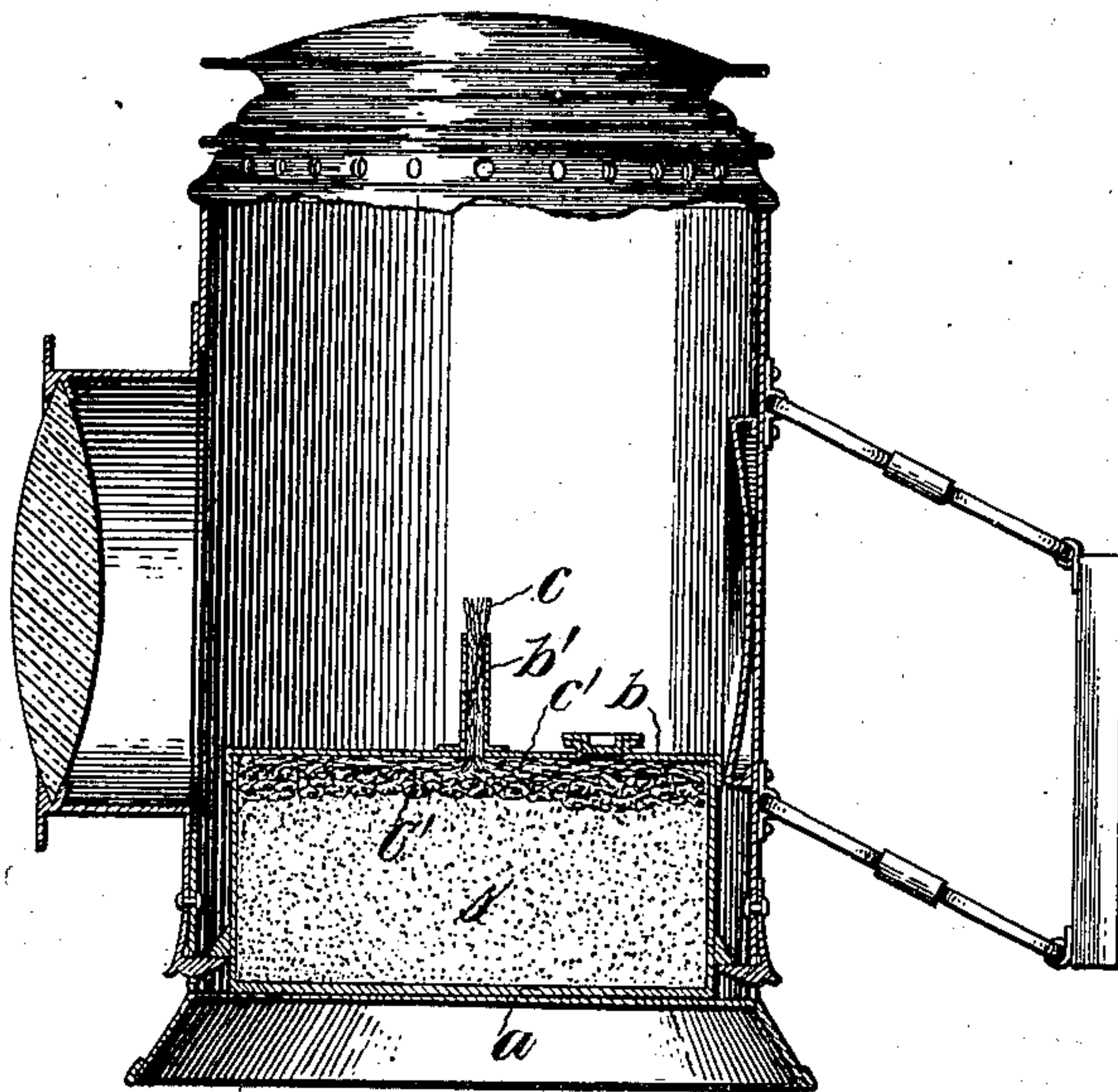
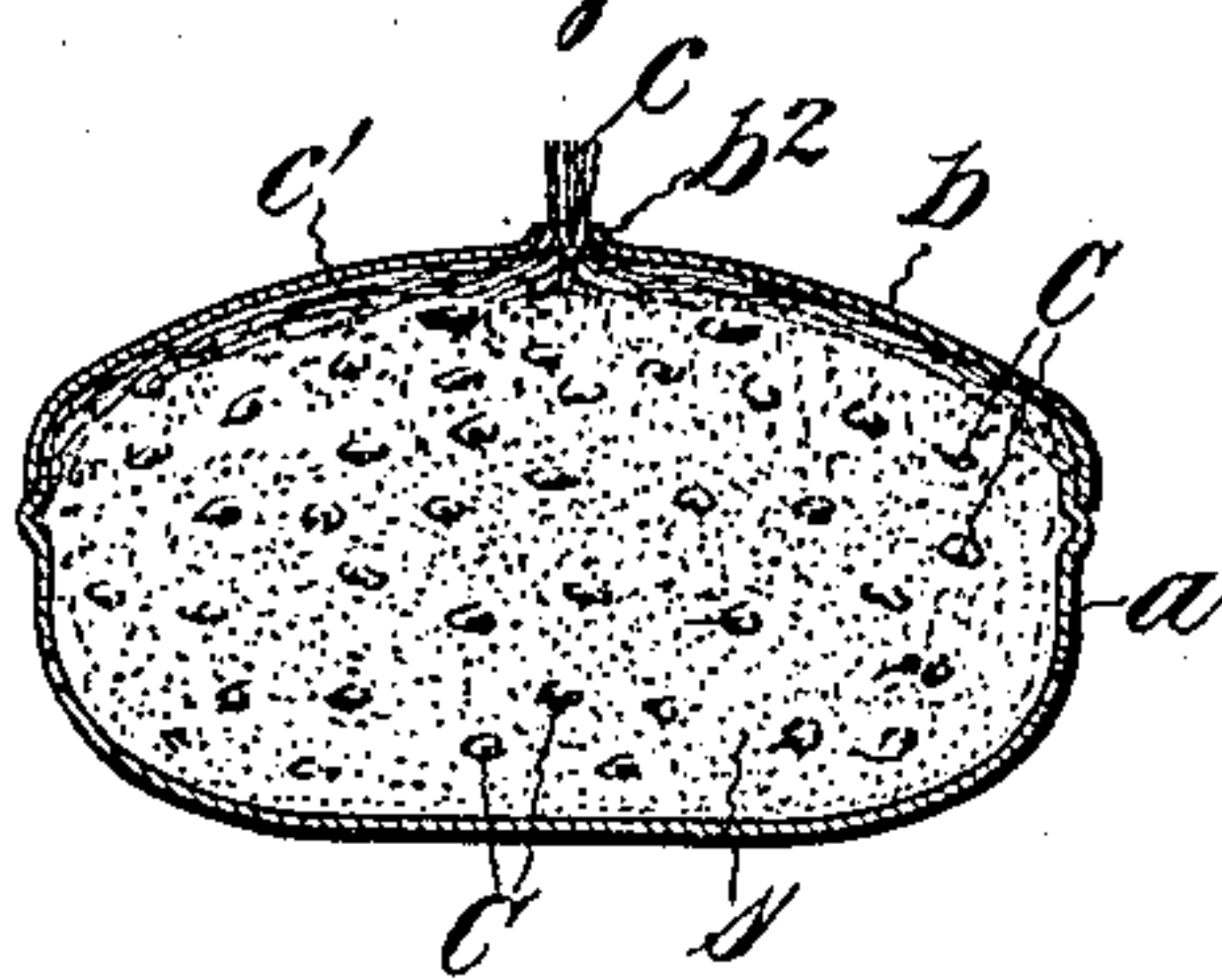


Fig. 2.



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By

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UNITED STATES PATENT OFFICE.

WALTER SINCLAIR TRAILL, OF LONDON, ENGLAND.

ILLUMINATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 725,514, dated April 14, 1903.

Application filed December 12, 1902. Serial No. 134,996. (No model.)

To all whom it may concern:

Be it known that I, WALTER SINCLAIR TRAILL, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in Illuminating Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has relation to illuminating devices, and more particularly to lamps in which hydrocarbons are used as the illuminating agent.

My invention has for its object a lamp which can be very cheaply constructed, is of great durability, and free from all liability to explosion; but that my invention may be fully understood I will describe the same in detail, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are vertical sections of lamps embodying my invention.

The lamp-body, or more properly the font, and hereinafter referred to as the "font," may be of any desired form according to the uses made of the lamp.

In Fig. 1 I have shown a font adapted for use in vehicle or hand lanterns, and in Fig. 2 I have shown a lamp for use as a night-light, *a* indicating the font, and *b* its cover, which is shown in Fig. 1 as provided with a wick-tube *b'*; while in Fig. 2 the cover of the font is simply provided with an axial aperture *b²* for the passage of the wick *c*. The cover in case of vehicle-lamps or hand-lanterns or larger hand-lamps may be removably connected to the font, so that access may be had to the interior. The font *a* contains a non-combustible absorbent, which may be any substance sufficiently porous to absorb petroleum and hold it in its pores, and I have found that common salt possesses the required property, while at the same time it enhances the brilliancy of the flame. The font *a* may simply be packed with sufficiently-fine salt, or the latter may be molded into blocks that fit the font as accurately as possible, so as to prevent any considerable body of oil from col-

lecting at any one point, especially in the vicinity of the flame.

In hand or table lamps the font may be provided with a gallery for a chimney; but when used for vehicle or hand lanterns or for night-lights I dispense with this.

The wick *c* to be used in my lamps is preferably made of an incombustible material, as asbestos, and is splayed and spread out, as shown at *c'*, over the body of salt, so as to readily take up the oil therefrom.

Although the lamp will burn with a steady bright, in fact, quite brilliant flame, there is nevertheless some little odor emanating from the products of combustion, which in case of night-lights when used in small rooms becomes more or less offensive to many persons and especially to sick people. To avoid this, I have experimented in various ways and with various substances and found that camphor answers the purpose best. In my experiments I have dissolved the camphor in the coal-oil before saturating the salt therewith, but found that this is impracticable, as the flame will emit too pungent an odor. I have, however, found that by incorporating the camphor in a more or less coarse granular condition with the salt *s*, as shown at *C*, Fig. 2, or by placing a comparatively thin layer *C'* of more or less coarsely-granulated camphor on the saline absorbent, as shown in Fig. 1, I attain the desired result. While in this condition the camphor is dissolved very slowly or gradually, so that the absorbent may be charged with hydrocarbon a great many times without renewing the supply of camphor. This is of importance in night-lights, which are very small and in which the cover *c* is preferably not made removable.

The saturating of the absorbent with the liquid hydrocarbon illuminant may be effected in any desired manner, either through a filling-aperture in the cover *c* of the font *a*, closable by a screw-cap, while in lamps for vehicles or night-lights the font is provided with a few apertures above its bottom, so that it may be placed in a saucer or other suitable vessel containing a sufficient quantity of coal-oil for saturating the absorbent, any excess of oil being of course removed by allowing it to drain through said apertures, after which the oil adhering to the lamp is wiped off and

said lamp is ready for use. It requires, however, but little practice to determine the quantity of oil necessary for saturating the absorbent, so that draining off an excess of oil can
5 be readily avoided.

These lamps can be constructed very cheaply—in fact, for a few cents—as regards the night-lights and vehicle-lamps. They are absolutely safe and consume much less oil
10 than similar lamps of usual construction.

I am aware that common salt has been used in lamps as an absorbent for hydrocarbon illuminants, and I am also aware that camphor has been used in the preparation or manufacture of so-called “burning fluids” where-
15 in the camphor is held in solution and do not desire to broadly claim either the use of common salt as an absorbent for lamp-fonts or the use of camphor for increasing the brill-
20 liancy of the flame of a hydrocarbon-burner; but

What I do claim is—

1. A lamp, comprising a font provided with a suitable wick-passage, an absorbent there-
25 in consisting of common salt and gum-camphor and an asbestos wick splayed and spread over the absorbent and passing through the aforesaid wick-passage, for the purpose set forth.

30 2. A lamp, comprising a font provided with

a suitable wick-passage, an absorbent consisting of common salt and more or less coarsely-granulated gum-camphor and an asbestos wick splayed and spread over the absorbent and passing through the aforesaid wick-pas- 35 sage, for the purpose set forth.

3. A lamp, comprising a font provided with a suitable wick-passage, an absorbent consisting of common salt and of a layer of gum-camphor thereon, and an asbestos wick splayed 40 and spread over the camphor and passing through the aforesaid wick-passage, for the purpose set forth.

4. As an article of manufacture, a night-light comprising a small font provided with 45 apertures above its bottom and with a suitable wick-passage in its upper face, an absorbent consisting of common salt and a layer of more or less coarse granular gum-camphor thereon, and an asbestos wick splayed and 50 spread over the layer of camphor and passing through the aforesaid wick-passage, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in pres- 55 ence of two subscribing witnesses.

WALTER SINCLAIR TRAILL.

Witnesses:

GEO. M. BURRELL,

H. H. FITZ.