

N° 5438



A.D. 1915

Date of Application, 10th Apr., 1915—Accepted, 23rd Sept., 1915

COMPLETE SPECIFICATION.

Improvements in and connected with Lighters especially for Lighting Pipes and like purposes.

I, KARL WIEDEN, Manufacturer, of Ohligs, Rheinland, Germany, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

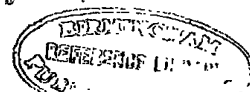
5 This invention relates to pipe-lighters especially adapted for smokers and devised to be carried in the pocket, of the kind in which the vapour of a volatile liquid contained in small quantity within the apparatus, is permitted gradually to permeate the wick and render it very easily ignitable for a limited period
10 sufficient for the purpose in view. Such apparatus are to be distinguished from lamps of well-known types devised to burn alcohol, petrol or other volatile liquids, inasmuch as in these lamps the construction is devised to ensure a continuous flow of combustible liquid or vapour directly to the wick or through a porous filtering medium such as sponge-felt asbestos or the like whereas in
15 lighters of the kind now in view the object is to economise combustible as much as possible by preventing the flow of liquid combustible and allowing the same to volatilise into the wick so that only a very small amount of combustible is present therein and available at one ignition.

Fire lighters of this type are already known, provided with separate liquid
20 containers, from which the wick and wadding space is supplied; these have a valve or the like upon the outlet opening of the benzine container, which must be opened from time to time in order to allow the necessary amount of liquid to pass into the wick and wadding. The manipulation of such lighters is however troublesome, and the outlet of the liquid container is mostly so made that the liquid flows out too quickly and to too large an extent, and is consequently
25 uselessly wasted. It is known that the very fluid benzine for instance will trickle through the very finest chink of a valve or the like, even through the thread of a screw cap. It is on this account very difficult to ensure that no more benzine escapes than is necessary for moistening the wick and wadding.

30 According to the present invention, the combustible container is obturated behind the wick and wadding by means of a slightly porous body, such as leather. The obturator must be so selected and regulated that only so much combustible can quickly pass through its pores as is requisite for the ordinary use of the lighter. The obturator must not allow the liquid to pass through in such quantities that it flows in the liquid form into the wick and wadding,
35 but rather the benzine or the like which passes through should volatilise on the outer surface of the obturator and saturate the wick and wadding space to a certain extent with moist combustible vapour. Leather has proved a particularly effective body, for the purpose especially as this can be easily regulated as regards its permeability by means of a compression screw.

40 Or the lighter can be so constructed that separate regulation to any great extent is no longer necessary. That is to say, it is determined by experiment

[Price 6d.]



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what porosity is requisite and the lighter is furnished with a body of corresponding porosity. Then, neither before nor during use does it require adjustment of any kind.

The obturator is preferably inserted so as completely to fill the outlet of the benzine container; the benzine vapour will then pass through its pores in sufficient quantities. The obturator preferably consists of a slightly tapering metallic capsule, the inner hollow space of which is filled with the porous body or a porous material of suitable composition. 5

Such a lighter is extremely economical and is ready for use continuously right up to the last drop of benzine, especially if, as is mostly usual, it is carried in the pocket so that the heat promotes the evaporation of the benzine. 10

Two examples of construction in accordance with the invention are illustrated in the accompanying drawings, which show small cylindrical forms of a pocket lighter on an enlarged scale. The outer casing of the lighter can have any other desired shape, for example, it may be flat. 15

Figure 1 shows one form of construction in longitudinal sectional elevation.

Figure 2 is an elevation of the benzine container.

Figure 3 shows a modified construction, the lower part in section, the upper part in elevation. 20

Figure 4 is an elevation of the obturator.

In the drawings *a* is the wick container with the filling of wadding. The benzine receptacle *b* is inserted tightly in the lower open end of the container *a* so that as far as possible no evaporation can take place between them. Beneath the wadding is the orifice of the benzine receptacle with the screw plug *c* and washer *d* of leather or the like. As shown in the drawing, this screw plug is completely screwed into the orifice so that the leather washer is compressed, and only vapour can pass through or around it. 25

In the second form of construction shown in Figures 3 and 4, the orifice *e* of the benzine container is made tapering so that a correspondingly tapering stopper *f* can be tightly inserted. The latter is preferably milled around its upper edge. The stopper *f* has an opening for the passage of the benzine both at the top and bottom, and its interior is filled with a suitable porous material *g*. If necessary this material can be covered both at the top and bottom by leather discs *h* and *i*. For protecting purposes and for holding together all the parts better, a small perforated plate *k* is preferably inserted at the top. The stopper may be filled up in other suitable ways, or instead of a stopper, the porous body can be inserted directly in the opening. 30 35

The rest of the construction of the lighter is obvious from the drawing.

In order to ignite the wick *l*, the lower part of the lighter is taken in one hand and the cap *m* removed by the other hand, and the sharp edge of the steel plate *n* surrounding the wick is struck upon the flint or fire-giving body *o* with the cover upwards, that is to say, lengthwise against the sharp edge of the plate *n*, so that the sparks are directed against the wick, in the well-known manner. The wick when ignited burns a short time, limited by the amount of combustible vaporised into it. 40 45

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 I claim is:—

1. The improved lighter, comprising a detachable fuel receptacle in proximity to the absorbent material and wick, having the orifice of the said receptacle obturated by means of a slightly porous body adapted to allow only vaporised combustible to pass into the absorbent material and the wick, substantially as set forth. 50

2. In a lighter of the kind claimed in Claim 1, regulating the degree of permeability of the slightly porous body by compression substantially as set forth. 55

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3. The improved lighter constructed and operating substantially as set forth and illustrated in one modification in Figure 1 and in another modification in Figure 3 of the accompanying drawing.

Dated this 10th day of April, 1915.

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Liverpool and Bradford,
Patent Agents for the Applicant.

Fig.1

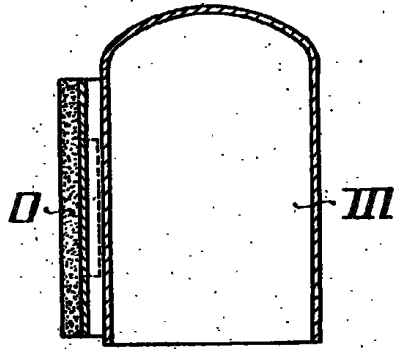


Fig.3

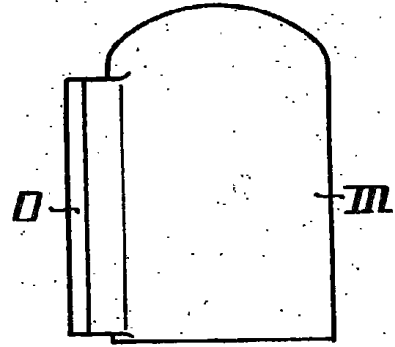
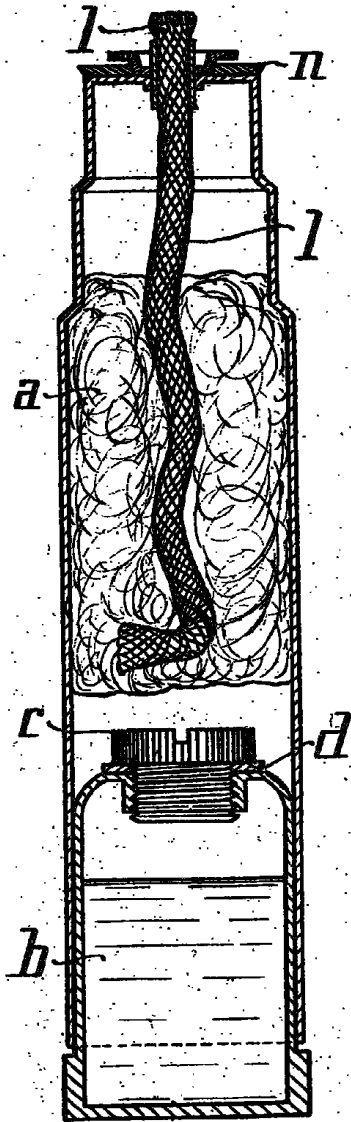
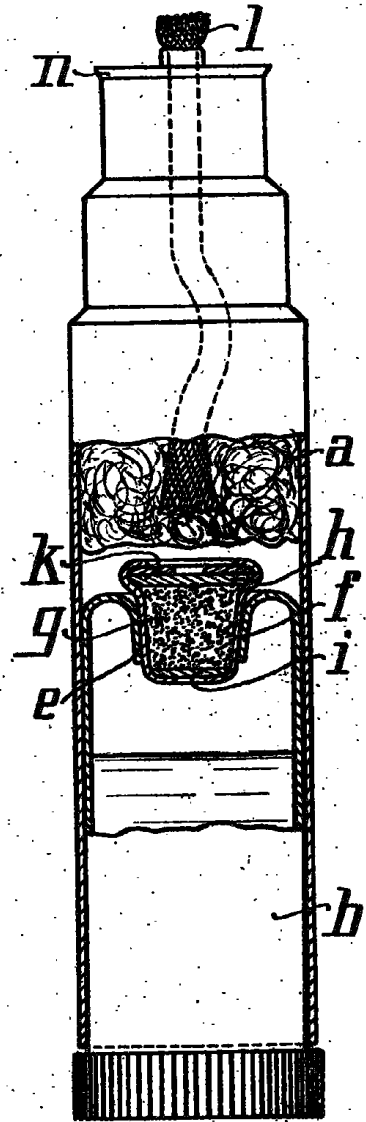
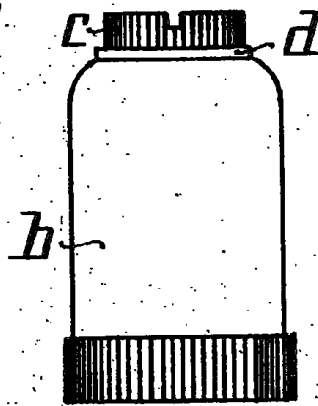


Fig.4



Fig.2



[This Drawing is a full-size reproduction of the Original.]

