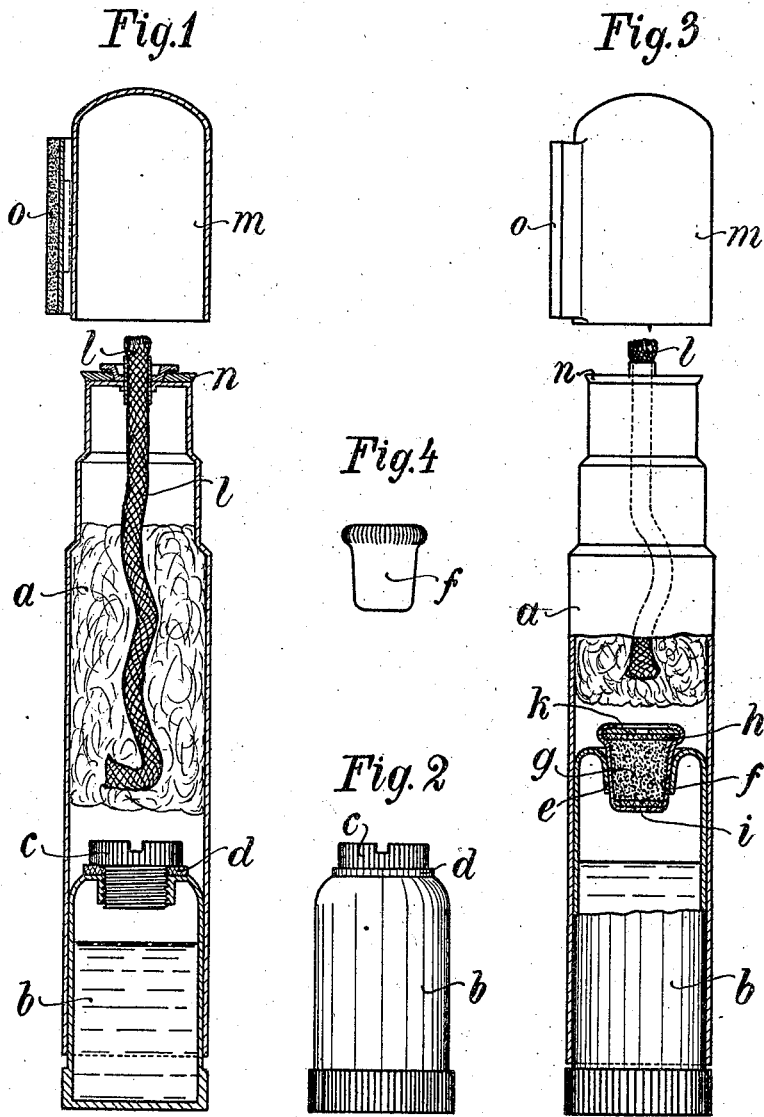


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PIPE LIGHTER.

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PIPE-LIGHTER.

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To all whom it may concern:

Be it known that I, KARL WIEDEN, subject of the King of Prussia, German Emperor, residing at Ohligs, in the Province of the Rhine, Germany, have invented certain new and useful Improvements in Pipe-Lighters, of which the following is a specification, reference being had therein to the accompanying drawing.

In known lighters having separate benzin containers, from which the wick and wadding space is supplied, a valve or the like is provided upon the outlet opening of the benzin container, to the rear of the wick and wadding space as a rule. This orifice is opened from time to time in order to allow the necessary amount of benzin to pass into the wick and wadding. The manipulation of such lighters is, however, rather troublesome since the outlet of the benzin container is mostly so made that the benzin flows out much too quickly and to too large an extent, and is consequently wasted. It is known that the very fluid benzin will trickle through the very finest chink of a valve or the like, or through the thread of a screw cap. It is on this account very difficult to make use of such an outlet so that no more benzin runs out than is necessary for the needs of the wick and wadding space.

Now according to the present invention, in such lighters a considerable saving in benzin and an appreciably more agreeable method of operation is effected, by closing the outlet opening of the benzin container to the rear of the wick and wadding space by inserting a slightly porous body, for example leather. For this purpose the permeability of this body is to be chosen, and to be regulated by special means so that as much benzin immediately passes through the pores as is necessary for the ordinary use of the lighter. A material must be employed that will not let the benzin through its pores in such quantities that it runs over in the liquid form into the wick and wadding space, but rather the benzin which passes through should evaporate on the outer surfaces of the body and saturate the wick and wadding space to a certain extent with moist benzin vapor. Leather has proved a particularly effective body, especially as this can be easily regulated as regards its permeability by means of a compression screw.

If it is desired to relieve the user of the lighter of the regulating of the porosity of

the intermediate body, the lighter can be so constructed that for any given case separate regulation to any great extent is no longer necessary. That is to say, by experiments it can be easily found out what porosity in each case is correct in use and it is to be recommended then that the lighter should be furnished beforehand with a body of corresponding porosity. Then, neither before nor during its use does it require adjustment of any kind.

This improvement can be constructed, for example, in such a manner that a stopper-like body without any room for play, is inserted in the outlet opening of the benzin container. This body allows the benzin and its vapor to pass through its pores in sufficient quantities. The stopper can by way of example consist of a slightly cone-shaped metallic capsule, the inner hollow space of which is filled with the porous body or a porous material of suitable composition.

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

Two examples of construction in accordance with the invention are illustrated in the accompanying drawings, which show small cylindrical forms of a pocket lighter, which is shown on a large scale. Evidently the outer casing of the lighter can take any other desired shape, for example, it may be flat.

Figure 1 shows the first form of construction in longitudinal section. Fig. 2 is an outside view of the withdrawn benzin container alone. Fig. 3 shows the second form of construction, the lower part in section, the upper part in external view. Fig. 4 is a side elevation of the cone shaped stopper *f*, shown in section, in Fig. 3.

a is the wick container with the filling of wadding. The benzin container *b* is inserted tightly in the lower open end of the container *a* so that as far as possible no evaporation can take place on this side. On the side bounded by the wadding container, is the opening of the benzin container with the screw *c* inserted and the washer *d* next below it of leather or equivalent material is also inserted. As is seen in the drawing, this screw is completely screwed into the opening so that the leather washer is compressed.

In the second form of construction shown in Figs. 3 and 4, the outlet opening *e* of the

benzin container is made cone-shaped, so that a correspondingly cone-shaped stopper *f* can be tightly inserted. The latter is for this purpose preferably milled around its upper edge. The capsule *f* has an opening for the passage of the benzin both at the top and bottom. The hollow space is filled up with a suitable porous material *g*. If necessary this material can be closed both at the top and bottom by leather disks *h* and *i*. For protecting purposes and for holding together all the parts better, a small perforated plate *k* is inserted at the top. Obviously the capsule may be filled up in other suitable ways. Also, instead of a capsule, the porous body can be inserted directly in the opening.

The rest of the construction of the lighter can be obtained 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, in the other hand, and the sharp edge of the steel plate *n* surrounding the wick is struck upon the pyrophorous body *o* with the cover upward, that is to say, lengthwise against the sharp edge of the plate *n*, so that the sparks are directed against the wick. Such lighters are, moreover, in themselves known.

Having now described the invention what I claim is,—

1. A pipe lighter comprising a wick and wadding container, a benzin container fitting tightly into the lower end of said wick container, and having an opening in its upper end, a screw cap on said benzin container, a porous washer between said benzin container and said screw cap and a cap provided with lighting means on the upper part of said wick container.

2. A pipe lighter comprising a wick and wadding container, a benzin container fitting tightly into the lower end of said wick container and having an opening in its upper end, a screw cap on said benzin container, a porous washer between said benzin container and said screw cap, a cap on the upper end of said wick container, a steel striker on the upper end of said wick container and surrounding said wick and a pyrophorous body on said cap, for the purpose specified.

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

KARL WIEDEN.

Witnesses:

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