

PATENT SPECIFICATION

427,139



Convention Dates
(Germany)

Corresponding Applications
in United Kingdom

April 1, 1933:
Jan. 8, 1934:

No. 7325/34 }
No. 7326/34 } Dated March 7, 1934.

(One Complete Specification Left under Section 91 (2) of the Patents and Designs Acts, 1907 to 1932.)

Specification Accepted: April 16, 1935.

COMPLETE SPECIFICATION

Improvements in or relating to Pyrophoric Lighters

I, AUGUST SCHEIBINGER, of Gartenfeldstrasse 19, Bad Homburg vor der Höhe, Germany, a German Citizen, 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:—

Most pyrophoric lighters as at present in use contain cotton wool or a substance resembling cotton wool and the cotton wool or the like must be impregnated with liquid or semi-solid fuel. The defect of this impregnation resides in the fact that the fuel evaporates more or less rapidly, however efficiently the lighter may be closed.

The fuel carrier according to this invention is constructed in the form of a felt block provided with a longitudinal channel closed at the inner end, and impregnated with a slowly evaporating liquid or pasty fuel and completely surrounded by a casing of a non-inflammable mass which prevents evaporation of the fuel, the said fuel carrier being capable of being inserted in the container of any of the usual types of friction lighters. Vaporisation takes place so slowly that the fuel carrier will last a month, half a year or possibly for years without troublesome refilling being necessary. The fuel carrier, after having fulfilled its function for half a year or a year, may be thrown away, without having to be refilled in the meantime. If, however, the fuel carrier is to be refilled after this long time, this may be effected by introducing a fresh supply of fuel, which is hereinafter again referred to, and thus producing fresh impregnation. This impregnation must, however, take place slowly, in a normal carrier at least 250 drops must be introduced, until the walls of the carrier have absorbed the whole, the process of filling must also be frequently interrupted for a few minutes. If a pasty or so-called solidified fuel is used this is introduced by injecting the same into the longitudinal channel. This process of refilling, if to

be undertaken at all, may be compared with that of a stamp pad, which has to be regenerated. In this case also fresh colour must be several times applied, until the stamp pad has again become completely saturated, after which the pad remains serviceable for a considerable length of time. The fuel carrier is composed of a single stamped out felt block, it being particularly remarked in this connection that a hard stamped felt material is concerned.

The invention is hereinafter described by way of example with reference to the accompanying drawing, in which

Fig. 1 is a longitudinal section, and

Fig. 2 a perspective view of one embodiment of a fuel carrier according to this invention, suitable for use in a lighter having a separate striker functioning as a match.

Referring to Fig. 1 of the drawing the felt block *a* consisting of one piece is provided with a channel *c* terminating in a cotton wool container *d* in the lower half thereof, adapted for the reception of the striker of the lighter. The felt block completely encloses this cotton wool or wadding container, only a single opening being left for the introduction of the striker.

The carrier can, of course, be adapted to lighters of any type. The felt block, after having been stamped out to the desired shape from the compact felt mass, may be prepared by impregnating the same for several days in a vessel, until the compact felt mass has completely absorbed the fuel and then gives up the same in the course of months or a year to the cotton wool or continuously feeds the latter by evaporation. Impregnation is effected, for example in a mixture of heavy benzine and amyl acetate, which compared with benzene evaporates slowly, particularly in the compact stamped out and prepared felt mass.

In order to render the impregnated felt block capable of being stored for a long time before introduction into the con-

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tainer of a friction lighter and in order to retain the fuel therein and to remove the danger of fire, the felt block is completely surrounded by a casing *c* of a non-inflammable substance which prevents the fuel from evaporating. A substance which hardens from the pulpy to pasty condition is best employed for the purpose. The preparation of the casing, particularly when producing the same from the pulpy condition, is simplified by casting or pouring the same round the block. Care must be taken to ensure that the opening *e'* of the channel *c* is covered by the mass, but that the latter cannot flow into the channel. For this purpose it is advisable to insert a wad of cotton wool into the channel *c* before the casting operation.

20 A mass, suitable for coating the felt pad in accordance with this invention is as follows:

	0.5	kgms of baryta
	0.25	" " casein
25	0.25	" " animal glue
	0.05	" " glycerine.

The casein is boiled with the glue with constant stirring, the baryta, previously moistened with water, is then added and the mass stirred until it acquires a white colour. The glycerine is then stirred in.

30 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. A fuel carrier constructed in the form

of a felt block provided with a longitudinal channel closed at the inner end and impregnated with a slowly evaporating liquid or pasty fuel and completely surrounded by a casing of a non-inflammable mass which prevents evaporation of the fuel, the said fuel carrier being capable of being inserted in the container of any of the usual types of friction lighters.

2. A fuel carrier as claimed in claim 1, wherein the longitudinal channel terminates at its inner end in an enlarged cavity.

3. A fuel carrier as claimed in claim 2, wherein a loose filling of cotton wool or like absorbent material is provided in the enlarged cavity.

4. A fuel carrier as claimed in claim 1, wherein the casing is constructed from a mass which hardens from a pulpy or pasty condition.

5. A fuel carrier as claimed in claim 1 or 4, wherein the casing covers the opening of the channel without filling the same.

6. The improved fuel carrier substantially as hereinbefore described with reference to the accompanying diagrammatic drawing.

Dated this 7th day of March, 1934.

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

