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## PATENT SPECIFICATION



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271,652

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### PROVISIONAL SPECIFICATION.

#### Improvements in Spirit Lighters Suitable for Igniting Cigars and the like.

I, HENRY CAEN, Engineer, British subject, 133, Goldhurst Terrace, Hampstead, N.W. 6, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to pyrophoric spirit lighters for igniting cigars and the like of the type in which an inflammable spirit is set alight by means of a spark.

10 It is customary to fill these lighters with spirit by pouring it in or by combining a suction pump mechanism with the lighter.

15 In my invention, I provide a hole or an inlet in the casing of the lighter preferably near to the base or end of the lighter.

20 When the lighter is in use, the hole is closed by a cap, a screw or the like. Conversely the hole may be in the cap and may be closed by the casing of the lighter when in use.

25 In order to fill the lighter with spirit, the cap or screw is partly withdrawn from the casing and in this manner a temporary receptacle for spirit is provided in

the space formed by the withdrawal of the cap, and upon immersing the base and cap of the lighter in spirit, the latter will flow through the beforementioned hole in the casing or in the cap into this receptacle, and upon returning the cap to its original position, the spirit will be forced into the lighter or into absorbent material with which the interior of the lighter may be provided. The action above described is that of a hand operated force pump.

30 In order to operate the cap more conveniently, I may attach a rod or the like to it. This cap and rod will then form a piston and piston rod, and upon placing the lower end of the lighter in spirit, and reciprocating the piston and rod, the spirit will be forced into the lighter, and the lighter, the rod and the cap will constitute a force pump.

Dated the 4th day of June, 1926.

HENRY CAEN.

### COMPLETE SPECIFICATION.

#### Improvements in Spirit Lighters Suitable for Igniting Cigars and the like.

50 I, HENRY CAEN, British subject, Engineer, 133, Goldhurst Terrace, London, N.W. 6, 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:—

55 This invention relates to pyrophoric spirit lighters for igniting cigars and the like of the type in which an inflammable spirit is set alight by means of a spark.

60 It is customary to fill these lighters

[Price 1/-]

with spirit by pouring it in or by combining a suction pump mechanism with the lighter.

65 In my invention, I provide a hole or inlet for the spirit in the casing of the lighter or in the cap of the lighter preferably near to the base or end of the lighter.

70 When the lighter is in use, the inlet is closed by a cap, a plug or the like or by the casing.

In a modified form of this invention, I

withdraw the cap or plug from the casing of the lighter and in this manner provide an inlet for the spirit between the casing and the cap or plug.

- 5 In order to fill the lighter with spirit, the cap or plug is partly or wholly withdrawn from the casing; the lighter is immersed in the spirit, and the latter will flow through the inlet or into the space  
10 formed by the withdrawal of the cap or plug, and upon returning the cap or plug to its original position, the inlet will be closed, and the spirit which is contained in the cap or plug will be forced into  
15 the absorbent material with which the lighter may be provided.

- In order to operate the cap or plug more conveniently, I may attach a rod or the like to it; the cap or plug and the  
20 rod will then form a piston and piston rod, and, in conjunction with the casing, they will constitute a force pump, and on placing the end of the lighter in spirit and reciprocating the piston and rod, the  
25 spirit will be forced into the lighter.

To enable the invention to be fully understood, I will describe it by reference to the accompanying drawings in which:—

- 30 Figure 1 is an exterior view of one form of a lighter constructed according to my invention.

Figure 2 is a part sectional view of the lighter shown in Figure 1.

- 35 Figure 3 is an exterior view of the same lighter with the cap partly withdrawn for filling.

- 40 Figure 4 is an exterior view of another form of lighter constructed according to my invention.

Figure 5 is an exterior view of the lighter shown in Figure 4 with the cap withdrawn for filling.

- 45 Figure 6 is an exterior view of a part of a lighter constructed according to my invention in which a plug is used instead of a cap.

- 50 Figure 7 is an exterior view of a part of a lighter constructed according to my invention in which the cap is entirely withdrawn from the casing in order that an inlet may be formed between the casing and the cap through which the spirit may flow.

- 55 According to Figures 1 & 2, the lighter consists of a main casing *a*, an outer casing or cap *b* provided with the inlet hole *c*, a sparking wheel *d* mounted on the hollow pillar *e* in which is contained  
60 the pyrophoric material *f*, the latter being forced into contact with the sparking wheel by the spring *g* which may be secured at one end to the top of the casing, and the other end may pass  
65 through a slot in the hollow pillar, which

may be provided for this purpose. A wick-nipple *h* provides a support for the wick *i* which passes in the usual manner to the interior of the casing which may be filled with any suitable absorbent material *j*.

Although I describe certain forms of abrasive wheel, spring, hollow pillar and wick nipple, I do not limit my invention to them, but may employ any desired form of them.

According to Figure 3, the outer cap *b* has been partly withdrawn, from the main casing *a*, and immersed in the spirit *k*. The spirit will flow through the inlet *c* and into the space formed by withdrawing the outer cap *b*, and upon returning the outer cap to its original position as in Figure 2, the spirit which has flowed into the lighter will be forced into the absorbent material *j*.

Figure 4 is a modified form of lighter constructed according to my invention. In this, the main casing *a* contains the absorbent material *j*. It is closed at the top by a washer *l*, through which passes the piston rod *m*. The outer caps *b* & *n* are securely fastened to the ends of the piston rod *m*. The wick tube *h* containing the wick *i* is secured to the washer *l* and may pass through it.

In Figure 5 the piston rod *m* and the two caps *l* & *b* have been moved downwards in the direction of the arrow *o*, and a space is thus provided within the cap *b*, and when this cap is immersed in spirit as at *k*, the spirit will flow through the inlet *c*, and upon returning the lighter caps and piston rod to their original position as in Figure 4, the spirit contained in the cap *c* will be forced into the absorbent material *j*. The lower cap *b* and the piston rod *m* in conjunction with the outer casing *a* constitute a force pump, and by reciprocating the cap and rod while the end of the lighter is immersed in spirit, the absorbent material may be impregnated with spirit.

According to Figure 6 in place of the outer cap which I have described above, I may employ an inner plug provided with the inlet *c*; the plug being hollow.

According to Figure 7, I may dispense with the inlets described in the foregoing figures, and by withdrawing the cap *h* beyond the end of the main casing *a*, the spirit is enabled to enter the cap *b* through the opening *q* which is in this manner provided between the main casing *a* and the cap.

Although I have described the inlets as being in the cap or in the plug, it is sometimes convenient to place them in the lower end of the main casing instead, and although I have described a par-

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ticular form of force pump in connection with the inlet, I do not limit my invention to it, but I may employ any known form of force pump in conjunction with  
5 the inlets.

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  
10 claim is:—

1. A pyrophoric spirit lighter for

igniting cigars and the like characterised in that the spirit container is provided with or comprises a force pump for filling  
purposes.

2. Spirit lighters as claimed in Claim 1 substantially as described with reference to Figures 1, 2 & 3, or Figures 4 & 5, or Figure 6, or Figure 7 of the accompanying  
20 drawings.

Dated the 21st day of November, 1926.

HENRY CAEN.

[This Drawing is a reproduction of the Original on a reduced scale.]

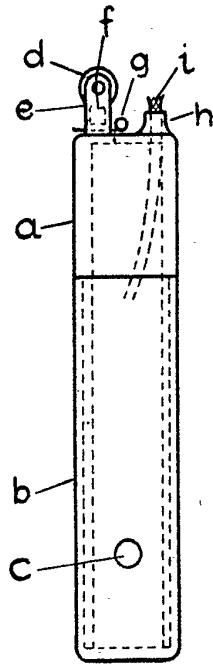


FIG. 1

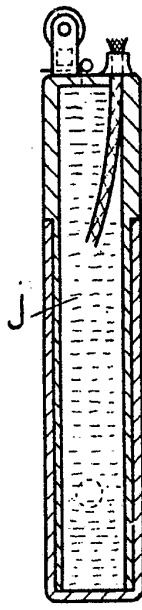


FIG. 2

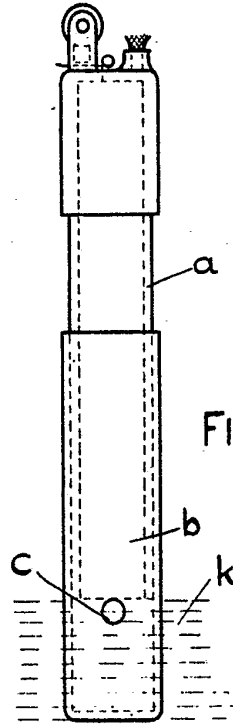


FIG. 3

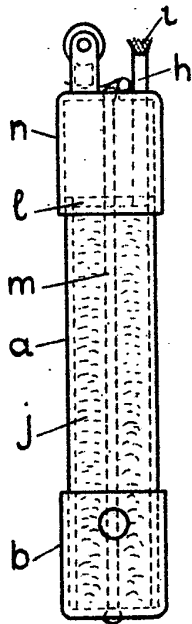


FIG. 4

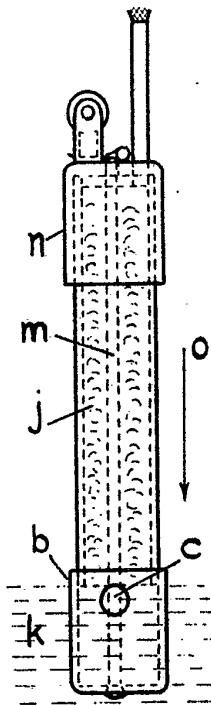


FIG. 5

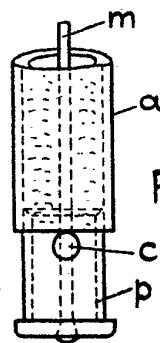


FIG. 6

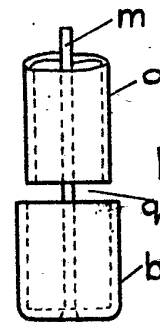


FIG. 7