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## PATENT SPECIFICATION

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Complete Specification Accepted: Feb. 25, 1938.



### PROVISIONAL SPECIFICATION

#### Improvements in or relating to Friction Lighters

I, SHOICHIRO WADA, a Japanese Subject, of 103, Canfield Gardens, Hampstead, London, N.W.6, do hereby declare the nature of this invention, 5 which has been communicated to me by Kabushiki Kaisha Namika Seisakusho, a company organised under the laws of Japan, of 1356, Sugamo-Machi, Kitatoyo-

10 This invention relates to portable or pocket pyrophoric igniters of the type in which sparks are produced by the rotation of a friction wheel against spring-

15 The invention also relates to pyrophoric igniters of the type in which the sparks from the pyrophoric material are caused to burn a dry tinder cord or wick.

20 Igniters of the first-mentioned type are usually constructed with a reservoir containing some inflammable spirit and into which one end of the wick dips. Such igniters, however, even if fitted with a wind guard, are practically useless out of 25 doors and particularly when a wind of any strength is blowing.

30 Igniters of the second-mentioned type are useful for outdoor purposes, but have disadvantages, namely, the smell of the smouldering tinder is not pleasant in a room; the tinder cord is usually of long length and no means has been provided to house and protect it against damp, and finally, no efficient means has been pro- 35 vided to raise or lower the tinder cord as and when desired.

The object of the present invention is to provide an improved construction of pyrophoric igniter of the type having a

dry tinder cord or wick, but without 40 having the disadvantages above-mentioned.

According to this invention a portable or pocket pyrophoric igniter, comprising a container for the dry tinder cord or 45 wick and fitted with an outlet tube for the cord, the usual frictional wheel and spring pressed pyrophoric material and a cap to cover normally the frictional wheel and exposed end of the tinder cord 50 or wick, is characterized in that the dry tinder cord or wick is raised or lowered in the said outlet tube by means of a spur wheel mounted in said tube and operated by means of a hand-wheel housed inside 55 the said casing with a portion of its periphery extending through said casing.

The periphery of the hand-wheel is preferably knurled and the extended portion should be so positioned in the casing 60 that it can be operated by the thumb when the casing is held in the hand.

A base may be fitted to the casing and this may be hinged thereto or be detach- 65 able therefrom.

The said base may itself be constructed as a container for spare pieces of pyrophoric material.

An igniter constructed in accordance with this invention may be constructed of 70 any suitable material and may be of any desired shape and size.

Dated the 18th day of September, 1936.  
WM. BROOKES & SON,  
No. 1, Quality Court, Chancery Lane,  
London, W.C.2,  
Chartered Patent Agents.

### COMPLETE SPECIFICATION

#### Improvements in or relating to Friction Lighters

I, SHOICHIRO WADA, a Japanese Subject, of 103, Canfield Gardens, 75 Hampstead, London, N.W.6, do hereby declare the nature of this invention, which has been communicated to me by Kabushiki Kaisha Namiki Seisakusho, a company organised under the laws of 80 Japan, of 1936, Sugamo-Machi, Kitatoyo-

shima, Tokyo, Japan, and in what

manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to portable or 85 pocket pyrophoric igniters of the type in which a dry tinder cord or wick is ignited by sparks produced by the rotation of a friction wheel against spring pressed pyrophoric material, and in 90

which the said cord is raised or lowered in an outlet tube by means of a spur wheel which may be operated by a handle.

The object of the invention is to provide an improved construction of the above-mentioned type of igniter.

According to this invention a portable or pocket pyrophoric igniter, of the type set forth, is characterized in that the dry tinder cord or wick is raised or lowered in the outlet tube by means of a spur wheel mounted in said tube and operated by means of a hand-wheel housed inside the said container with a portion of its periphery extending through said container.

The invention will now be described with reference to the accompanying drawings in which Figure 1 is a sectional elevation of one form of lighter constructed in accordance with this invention; Figure 2 is a rear view and Figure 3 is a perspective view of the detachable base.

*a* is a container for the dry tinder cord or wick *b*. The container *a* is fitted with an outlet tube *c* and a frictional wheel *d* of usual construction. *e* is a cap, mounted on the hinged arm *f*, to cover normally the wheel *d* and exposed end of the cord *b*. *g* is a spur wheel mounted in the tube *c* and has fitted thereto a hand-wheel *h* housed inside the container *a* but having a portion of its periphery extending outside said container.

The base *j* which is constructed as a container for spare pieces of pyrophoric material has a sliding fit in the container *a*. The said base is provided with a pivoted lid *k*.

An igniter constructed in accordance with this invention may be constructed of any suitable material and may be of any desired shape and size.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that what I claim is:—

1. A portable or pocket pyrophoric igniter of the type set forth, characterized in that the dry tinder cord or wick is raised or lowered in the outlet tube by means of a spur wheel mounted in said tube and operated by means of a hand-wheel housed inside the said container with a portion of its periphery extending through said container.

2. A portable or pocket pyrophoric igniter as claimed in claim 1, characterized in that a detachable base is fitted to the container.

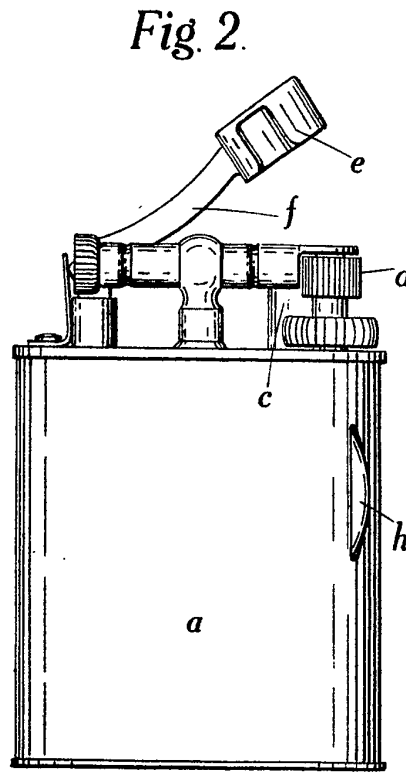
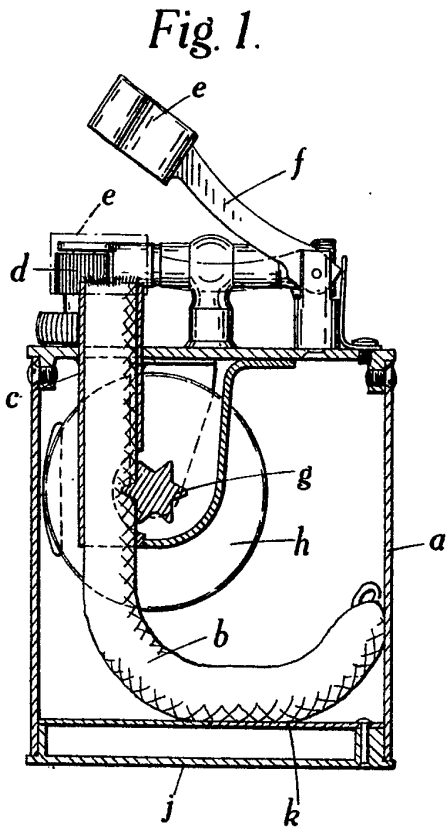
3. A portable or pocket pyrophoric igniter as claimed in claim 2, characterized in that the base is constructed as a container for spare pieces of pyrophoric material and is fitted with a pivotally mounted lid.

4. A portable or pocket pyrophoric lighter constructed substantially as described and illustrated in the accompanying drawings.

Dated the 3rd day of September, 1937.

WM. BROOKES & SON,  
No. 1, Quality Court, Chancery Lane,  
London, W.C.2,  
Chartered Patent Agents.

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



*Fig. 3.*

