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PATENT SPECIFICATION

404,211

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COMPLETE SPECIFICATION.



Friction Lighter.

We, HEINRICH MALTNER G.M.B.H., a Company incorporated under the laws of Germany, of Fichtestrasse 15, Offenbach a/Main, 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:—

This invention relates to friction lighters of the type having an upward flinging arm, carrying the extinguisher cap and pivoted at one end of the top of the container, and a movable catch device for the said arm at the other end of the said top. Heretofore, in one arrangement, a catch, comprising a spring controlled post having an L-shaped slot for engaging the pivoted arm carrying the extinguisher cap, is rotated about a vertical axis, by the thumb of the hand holding the lighter, for releasing the arm, the catch being rotated by engaging the thumb on the edge of a disc on the catch which disc forms part of the top of the container and is located at one end. This disc requires considerable strength to rotate same, and also is liable to damage the lining of the pocket particularly if the edge of the disc is ribbed. In other constructions the catch device is released by pressure applied at the end of the container top in the direction of its length. In another construction previously proposed, the upward flinging arm, carrying the extinguisher cap, is pivotally mounted at one end of the container top and a spring pressed plunger is mounted on the container inwards of the pivot axis of the said arm; and to press the plunger inwards, to release the said arm, the thumb, which has to be applied above the top of the container and also bent, is subject to a fairly severe strain, so that should the lighted flame be extinguished repeatedly by wind the thumb quickly gets tired, or may easily become stiff in frosty weather.

The invention has for its purpose to facilitate, to a considerable extent, the work of the thumb. It makes use of the positions which the thumb together with the fingers of the hand naturally assume when holding the lighter, and accom-

plishes the release of the catch device of the extinguisher cap carrying arm with the thumb fully or nearly fully extended, the thumb having, in effect, only to push.

According to the present invention, the friction lighter has an upward flinging arm, carrying the extinguisher cap and pivoted on one end of the top of the container and a movable catch device for the extinguisher cap carrying arm on the other end of the said top and is characterised in that a wing is provided on this movable catch device within the area of the top of the container and lying adjacent the fully or nearly fully extended thumb of the hand holding the fuel container, the thumb, when in position to apply pressure to the wing, lying alongside the top of the container. The movable catch device may consist of a longitudinally slotted cylindrical member rotatable about its axis against the influence of a spring, the slot being narrower at the top to form a catch for the extinguisher cap carrying arm which is automatically engaged therewith when the said arm is depressed and releases the arm when the wing on the cylindrical member is pushed by the fully or nearly fully extended thumb of the hand holding the fuel container.

In order that the invention may be clearly understood and readily carried into effect, reference may be had to the accompanying drawings, on which:—

Fig. 1 is a side elevation.

Fig. 2 is a plan, and

Figs. 3 and 4 are respectively sections through A—B of Figure 2 and through C—D of Figure 1.

The carrying arm *a* for the extinguisher cap *c* is mounted to rotate on the spindle *d*, mounted in the lugs *b* on the fuel container *i*, under the influence of an upward flinging spring. The friction wheel *g* rubbing on the flint (ferrocium) *f*, is disposed on the said spindle and rotates with the arm *a* which is widened out at its one end into a casing *a*¹ which encloses the friction wheel. The part *a*², disposed on the other side of the extinguisher cap, is kept very small, is bent down at right angles, and terminates

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in an end piece *h* which engages the catch device. The catch device consists of a short rotatable hollow cylinder *m* mounted to be under the influence of a coiled spring *k*, the wing *n* on the cylinder forming a thumb piece. On the container lid, a pin *r* is secured by means of a screw *o* passing through the said lid. The pin *r* forms a stationary pivot for the cylinder *m* which is prevented from moving axially by the screw *p*, which passes through a perforation in the top of the cylinder and is screwed into the pin *r*. The hollow cylinder has an annular turned recess *q* for receiving the coiled spring *k*, the one end of which is attached to the container lid, whilst the other end is fixed to the cylinder. A slot *v* is provided in the wall of the cylinder *m*, which slot is continued into a narrower slot in the top end wall of the cylinder thus forming an end projection *w*. A screw *s* on the container lid projects into the slot *v* and limits the rotary movement of the cylinder under the action of the spring *k*.

When holding the lighter, the thumb is laid sideways, close to the spark producing device, so that the inside face of the top of the thumb lies against the thumb piece or wing *n* (Figure 2). It, therefore, only requires a small push of the thumb, which causes the wing *n* to function in order to swing the narrower end of the slot in the cylinder opposite the end *h* of the arm carrying the extinguisher cap. A small rotary movement of the cylinder is sufficient to move the end projection *w* from over the end *h* of the arm *a*, the width of the lower portion of the slot *v* allowing the required movement, whereupon the arm *a* is hurled upwards. When the cylinder *m* is released by the thumb, it returns under the influence of the spring *k* to its initial position limited by stop *s*.

On the lowering of the arm, the end piece *h* of the same bears on the end

piece *w*, which may be bevelled, and presses same to one side to rotate the cylinder so that the end piece *h* can enter the slot *v* in which it is held, since the cylinder is driven back by the spring *k*, after the passage of the arm *a* below the end piece *w*, into the initial position.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A friction lighter with an upward flinging arm, carrying the extinguisher cap and pivoted on one end of the top of the container and a movable catch device for the extinguisher cap carrying arm on the other end of the said top characterised in that a wing is provided on this movable catch device within the area of the top of the container and lying adjacent the fully or nearly fully extended thumb of the hand holding the fuel container, the thumb, when in position to apply pressure to the wing, lying alongside the top of the container.

2. A friction lighter as claimed in claim 1 characterised in that the movable catch device consists of a longitudinally slotted cylindrical member rotatable about its axis against the influence of a spring, the slot being narrower at the top to form a catch for the extinguisher cap carrying arm which is automatically engaged therewith by rotating the cylindrical member when the said arm is depressed and releases the arm when the wing on the cylindrical member is pushed by the fully or nearly fully extended thumb of the hand holding the fuel container.

3. A friction lighter substantially as herein set forth and shown.

Dated this 3rd day of October, 1933.

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3, New Street, Birmingham, 2.

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

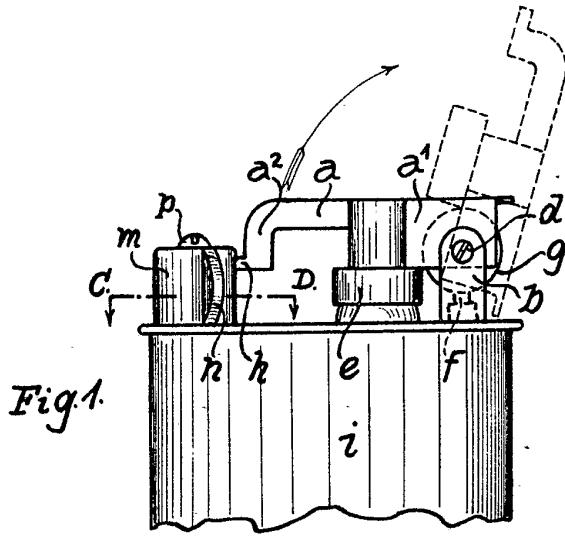


Fig. 1.

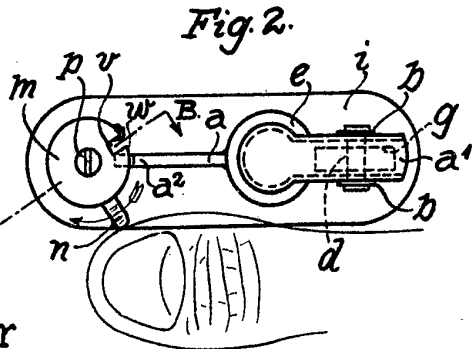


Fig. 2.

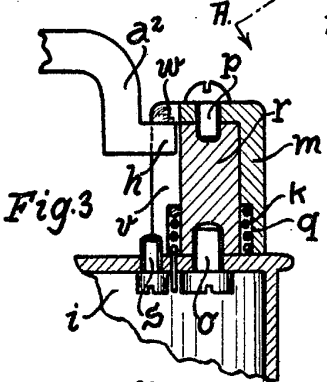


Fig. 3.

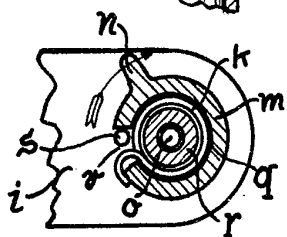


Fig. 4.