

PATENT SPECIFICATION

568,997

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COMPLETE SPECIFICATION

Improvements relating to Friction Lighters

We, PENEY (1938) LIMITED, a company organised under the laws of Great Britain, of Saville Works, Croydon Road, Beckenham, in the County of Kent; FRANK BERTIE COALES, of 38, Shortlands, in the County of Kent, and HARRY ROBERT TIMBERS, of 24, Chatham Avenue, Hayes, in the County of Kent, both British Subjects, 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 in which a flint is guided in a tube into contact with the usual friction wheel and a snuffer arm which can be turned down to extinguish the flame after use is pivoted at the side of that tube.

The present invention is concerned with a form of construction of certain of these parts which is simple, does not require any separate turned or stamped metal parts, and can be formed by pressing operations without any turning operations.

According to the invention, the tube for holding the flint and flint pressure spring and a parallel tube at the side to which the snuffer arm is pivoted, are both formed by blanking out and forming a single piece of sheet metal. The second tube can then also house a coiled compression spring which acts on the snuffer arm to hold the latter in each of its extreme positions. Thus, a piece of sheet metal blanked out to the necessary size and shape may be bent along a series of longitudinal lines to form in succession the bottom of the flint tube, one side, the top and the other side of the flint tube, a connecting web, and then one side of the snuffer tube, the top of that tube, the other side, and finally the bottom of that tube. The resulting form of construction provides a support or mounting for attachment to the body of the lighter formed with two parallel tubes rectangular in cross-section for holding the flint and the snuffer arm respectively although the tubes may be made of circular cross-section.

In the particular form, the support or mounting may be spot-welded, soldered or rivetted to the top surface of the liquid

fuel container. The top surface of the snuffer tube may be slit at one end to receive a flat snuffer arm pivoted on a pin passing through the snuffer tube and a compression spring within the tube may be arranged to press upon a short tail end of the snuffer arm. As an alternative, the top surface of the snuffer tube may be slotted to hold a flat snuffer arm with a fixed pin as in a bayonet slot. A compression spring within the tube may be arranged to press upon the end of the snuffer arm forming a short tail.

An application of the invention to an ordinary smoker's pocket lighter will now be described as an example with reference to the accompanying drawings, in which:—

Figure 1 is a perspective view showing the snuffer arm raised;

Figure 2 is a side elevation of the lighter showing the snuffer arm folded down in full lines and raised in dotted lines;

Figure 3 is a plan of Figure 2;

Figure 4 is a part side elevation seen from the opposite side to Figure 2;

Figure 5 is a transverse section on the line V—V in Figure 2, and

Figure 6 is an outline of the piece of sheet metal which may be employed.

In the example shown in the drawings, the liquid fuel container consists of a body part *a* with a stout beading forming the upper rim and an outer part *b* pushed on from the bottom in a well known fashion. In an alternative form, loose top and bottom plates soldered into a tube may be employed. The wick tube *c* is formed either by punching a hole in the top of the body part *a* in the ordinary way or by inserting a nipple through a similar hole so that the sparks are thrown on to it from the friction wheel *d* rotated by a pair of thumb-wheels *e, e'*.

The pair of parallel tubes are formed according to the invention from a piece of sheet metal *f* of the shape shown in Figure 6. This is formed by right-angle bends along the dotted lines shown in Figure 6 so that the strip *g* forms the bottom of the flint tube *h*, the next strip *j* forms the left-hand wall of the flint tube, the next strip *k* forms the top of the flint tube, and the strip *l* forms the inner or

[Price 1/-]

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right-hand side of the flint tube, as seen in Figure 5. The strip *m* forms a connecting web, the strip *n* the inner side of the snuffer tube *o*, the strip *p* the top of the snuffer tube, the strip *q* the outer side of the snuffer tube, and finally the strip *r* the bottom of the snuffer tube. The pair of parallel tubes thus formed from a single piece of sheet metal is secured to the top of the body part *a* by spot-welding, soldering or rivetting in the case of metal bodies or by screwing or by means of an inserted plug in the case of bodies of plastic material.

15 The strips *g* and *k* at one end are formed with extension lugs *s*, *s'* drilled or punched as shown in Figure 6, to receive the spindle *t* of the friction wheel *d* and thumb-wheels *e*, *e'*. These wheels may be either mounted singly on a small spindle

20 screwed into the top of the body *a* or in pairs revolving on a spindle fixed in the lugs *s*, *s'* by spinning or rivetting. The tube *h* contains the flint, pressed against the friction wheel *d* in the ordinary way

25 by a compression spring behind the flint, the pressure of which is adjusted by a screw *u* which is of such a size that its thread screws into the tube *h* and is gripped therein.

30 The strip *p* of the metal has a lug *v* at the same end as the lug *s* and this lug is turned down to form the front of the snuffer tube *o*. The snuffer arm *w* protrudes into slots *x*, *x'* cut at the other end of the strips *p*, *v* and the arm is pivoted on a transverse pin *y*. The movement of the arm is controlled by a compression spring *z* enclosed in the snuffer

40 tube *o*.

It will be appreciated that by this means the two parallel tubes *h* and *o* are formed in the simplest way by press tools without the need of any turning opera-

tions, and the whole structure can be made with a minimum of labour, and consequently is extremely cheap to produce.

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 provided with a tube for guiding a flint and a second parallel tube to which a snuffer arm is pivoted, both formed by bending a single piece of sheet metal.

2. A friction lighter according to claim 1, in which a control spring for the snuffer arm is housed in the second tube parallel to the tube for guiding the flint.

3. A friction lighter according to claim 1 or claim 2, in which extensions of the top of the first tube are employed as supports for the thumb-wheel and friction-wheel spindle.

4. A friction lighter according to claim 1, claim 2, or claim 3, in which a piece of sheet metal is bent to form a pair of parallel tubes each of rectangular cross-section and connected by a part of the sheet metal which is attached to the top surface of the liquid fuel container.

5. A friction lighter according to claim 4 having flint tube, snuffer tube and supporting member secured to the top of the fuel container and constructed substantially as described with reference to the accompanying drawings.

Dated this 13th day of April, 1944.

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

FIG. 1.

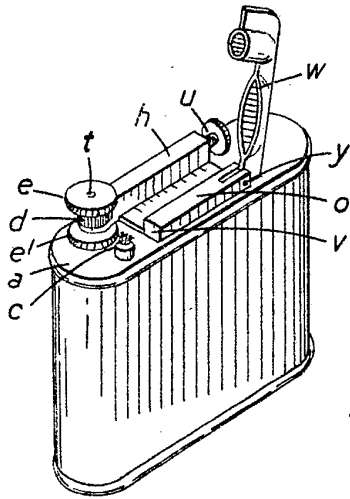


FIG. 4.

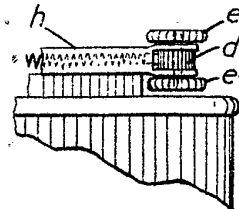


FIG. 2.

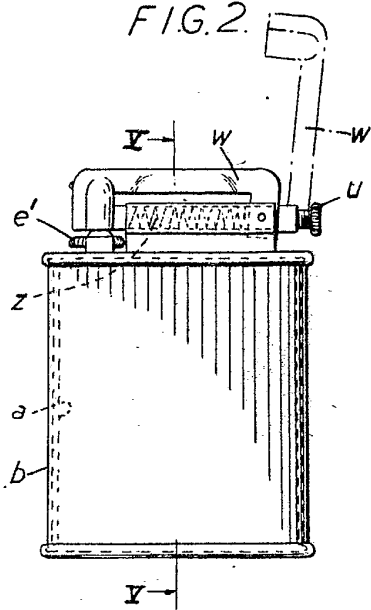


FIG. 5.

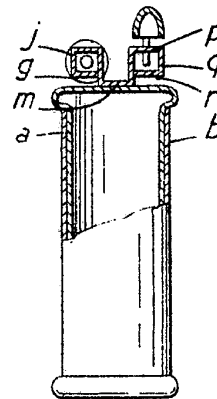


FIG. 3.

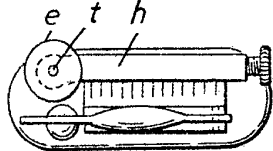


FIG. 6.

