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POCKET LIGHTER

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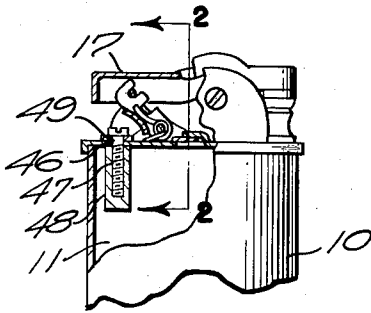


FIG. 1

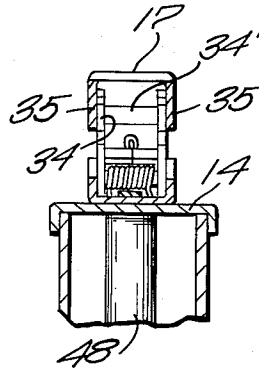


FIG. 2

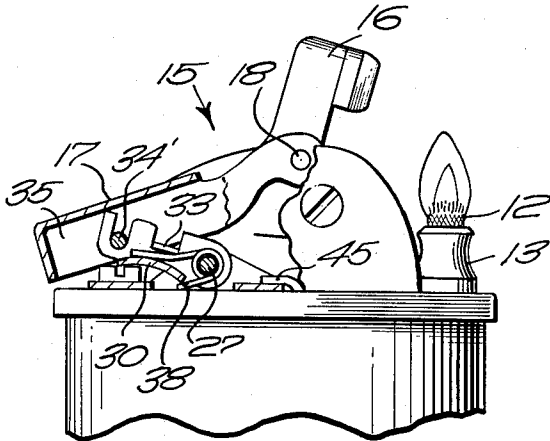


FIG. 3

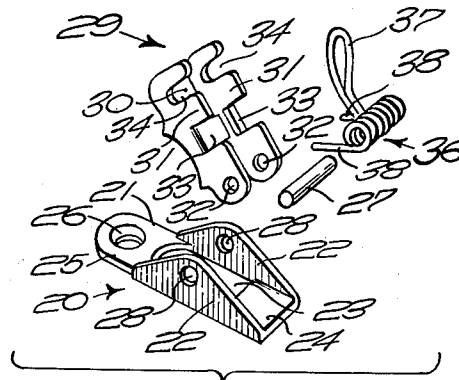


FIG. 4

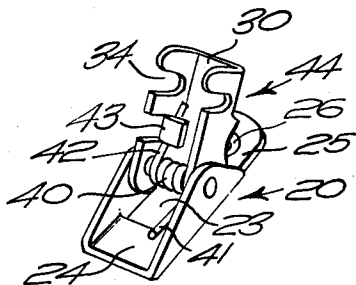


FIG. 5

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## POCKET LIGHTER

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1 Claim. (Cl. 67—7.1)

This invention relates to a pocket lighter of the type in which manual pressure upon an actuator will lift a wick cap and at the same time throw a spark to ignite the wick.

Heretofore in a lighter of the above type a spring has been utilized for returning the wick cap to a position covering the wick and return the other parts to initial position. With the spring under tension, assembly of these parts becomes somewhat difficult and disassembly for repairs similarly difficult should the spring become fatigued or break.

One of the objects of this invention is to provide a unit carrying a spring which may be more easily inserted into position for operation of the actuator and wick cap.

Another object of the invention is to provide a spring which will have one of its ends move the parts which it actuates without actually hooking on to that part.

Another object of the invention is to provide an assembly in which the spring will be in relaxed position until tensioned by fastening the unit in position on the top wall of the lighter.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings:

Figure 1 is an elevation partly in section of a pocket lighter equipped with my invention;

Figure 2 is a section on line 2—2 of Figure 1;

Figure 3 is a section similar to Figure 1 but on a larger scale and showing the finger piece depressed to lift the snuffer cap from the wick, which action also ignites the wick;

Figure 4 is an exploded view of the assembly for the arm or link and spring which is utilized for moving the parts in one direction;

Figure 5 is a view of a modified form of the assembly.

In proceeding with this invention, I provide a carrier plate upon which an arm is pivotally mounted, which arm serves as a link to engage the finger piece of the lighter and lift the same to initial position but will permit the finger piece to be depressed and the arm or link swung about its pivot to increase the tension on the spring which encircles the pivot so as to return the finger piece to its initial position when the pressure thereon is released. This carrier may be attached to the top wall of the lighter by inserting one of its ends beneath a lip raised from the top wall of the lighter and attaching the other end by means of a screw through the wall of the lighter, and as this attachment occurs, one leg of the spring, extending from a coil about the pin, which before assembly is relaxed, will engage the top wall of the lighter and place the spring under tension, while the other leg will engage the arm or link pivoted on the carrier so as to swing the arm or link about the pivot in the desired direction. This second leg will move with reference to the link, and it may slide along the link to assume such relative position thereto as occasion may require. By this arrangement the spring is relaxed until the carriage is assembled and

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then is placed under tension. No stop need be provided for the link, it being merely necessary to swing this link backwardly until the manual actuator of the lighter may be moved to have a cross pin engage the recesses of the link.

With reference to the drawings, 10 designates a casing which forms a fuel compartment 11 for containing fuel for ignition of a wick 12 which extends through a boss 13 mounted on the top wall 14 of the casing. The igniting mechanism for this wick is designated generally 15 and comprises generally a snuffer cap 16 and a finger piece 17 pivoted as at 18 and which may be swung about this pivot to cause lifting of the snuffer cap and at the same time rotation of a friction wheel (not shown) to throw a spark against the wick 12 to ignite the same.

This invention has to do primarily with the mechanism for returning this finger piece 17 to raised position, such as shown in Figure 1. It has been found advantageous to provide an assembly which may be positioned after the finger piece, snuffer cap, and other parts are assembled on the lighter. This unit assembly comprises a carrier designated generally 20 (Figure 4) which has a base plate 21 with ears 22 extending at right angles thereto, the plate being cut away as at 23 between the ears, leaving a bridging portion 24 at one end between the ears and a portion 25 at the other end beyond the ears, in which portion 25 there is an opening 26 for fastening the carrier in position on the top wall 14 of the casing. A pivot pin 27 extends through the openings 28 in the ears 22 and pivotally mounts the arm or link 29 (Figure 2) in position.

This link 29 is formed of sheet stock providing a body portion 30 with sides 31 extending at right angles thereto. Openings 32 are formed at one end of the sides 31 which receive the pivot pin 27 to pivotally mount the arm or link 29 on the carrier 20. Fingers 33 are cut from the sides 31 and are bent inwardly into substantially contacting relation so as to provide an encircling space between them and the body portion 30 of the link. Recesses 34 are also provided in the side walls 31 which engage a pin 34' extending between the sides 35 of the finger piece 17.

A spring 36 is formed as a helical with its center portion extending radially as a leg 37 doubled upon itself, while its opposite ends 38 also extend radially from the coil as legs at an angle to the leg 37 substantially as shown in Figure 2. The coil of this spring 36 encircles the pin 27. The ends or legs 38 extend through the opening 23 in the carrier 20, while the loop leg 37 extends between the sides 31 so as to be slidable in the space beneath the fingers 33.

In Figure 5 I have shown a little different form of spring in that here the coil 40 has one leg 41 extending through the opening 23 in the base 24, while the other leg 42 extends beneath a single finger 43 which is bent inwardly from one side only of the arm or link 44, this link or arm being otherwise the same as that described in greater detail and designated 29 above.

Carrier 20 with the spring and arm assembled thereon is positioned on the top wall of the casing and slid to a position so that the bridging portion 24 extends beneath a raised overhanging arm 45 which may be secured to the top of the lighter. With this portion 24 slid under this overhanging portion 45, the other end of the carrier will have its opening 26 register with an opening 46 in the top wall of the casing and with an opening 47 in the threaded well 48 below the casing so as to receive a screw 49 to hold the outer end of the carrier in position. As the carrier is secured, the legs 38 of the spring will engage the top wall 14 of the casing and provide a portion against which it will thereafter act, while the arm or link 29 may then be swung to tension the spring and

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locate the pin 34' of the finger piece in the notch 34 of the arm, which at the same time holds the spring in tension, and the arm when so located will lift the finger piece from the position shown in Figure 3 to that in Figure 1. The loop end 37 of the spring may slide in its space beneath the fingers 33 on the inside of the body of the arm as this movement occurs. Regardless of whether the form shown in Figure 4 or the form shown in Figure 5 is used, the assembly will be the same.

I claim:

The method of assembling a pocket lighter which comprises subassembling on the top wall of a fuel tank a pivoted snuffer cap and a finger member for actuating the snuffer cap, sub-assembling a separate unit comprising a carrier having a bottom wall with a hole therein, a

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link pivoted thereon and a spring about the pivot with one end engaging the link and the other end extending through said hole, and positioning the second sub-assembly between said top wall and finger member to cause the link to engage said finger member, and to cause said spring end which extends through said opening to engage the top wall and be moved to tension the spring as the second sub-assembly is moved into position.

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