March 9, 1948. B. H. GOSTKOWSKI 2,437,354

POCKET LIGHTER

Filed June 10, 1944

Fig. 1.

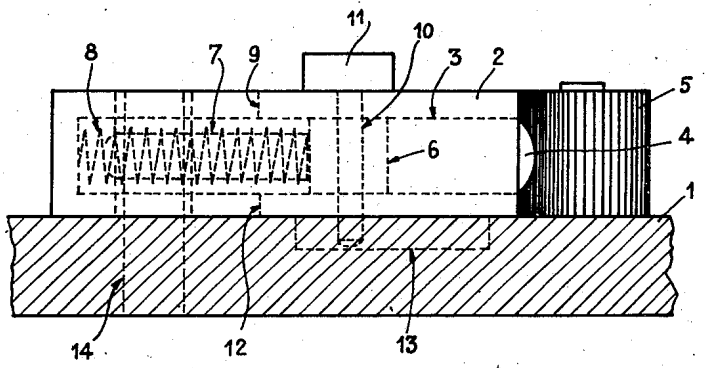
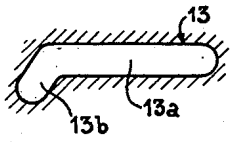


Fig. 2.



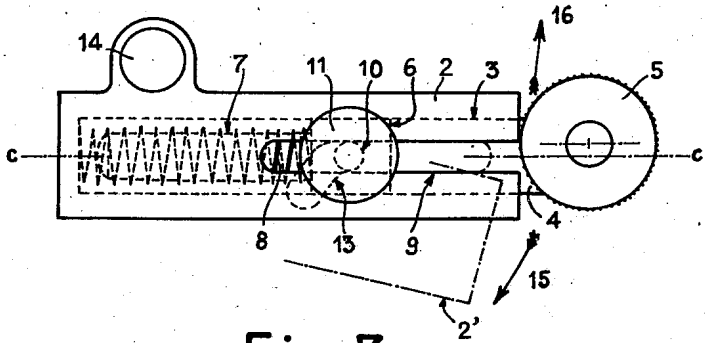


Fig. 3.

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Patented Mar. 9, 1948 2,437,354

UNITED STATES PATENT OFFICE

2,437,354

POCKET LIGHTER

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Application June 10, 1944, Serial No. 539,746. In Switzerland and Great Britain May 25, 1943

Section 1, Public Law 690, August 8, 1946
Patent expires May 25, 1963

2 Claims. (Cl. 67—7.1)

1

The object of the present invention is a pocket lighter, the flint of which is guided in the bore of an oscillatable flint holder for the purpose of pivoting the flint holder out of alignment with the abrasion or ignition wheel for thus rendering the opening of the flint holder readily accessible for the replacement of the flint.

In order to achieve this object, in accordance with the invention, a slide piece is provided in the bore of the flint holder and disposed between flint and flint spring. This slide piece cooperates with a guide groove in a wall of the lighter, adjacent to said flint holder, for oscillating the flint holder into and out of alignment with the ignition wheel.

For this purpose, the slide piece carries a pin which projects from its upper and lower sides and penetrates through two slots arranged one each in the upper and lower wall of the flint holder and extended axially towards the ignition wheel. The upper projecting end of the pin is provided with a knob whereas the lower projecting end is guided in the guide groove in the wall of the lighter and in juxtaposition with the slot in the lower wall of the flint holder. The guide groove consists of two branches, one straight branch axially extended towards the ignition wheel for movement of the pin therein and alignment of the holder with the ignition wheel at normal operation of the lighter. At the farther end of this straight branch, the second branch deviates laterally therefrom for guiding, when the slide piece is withdrawn by means of the knob against the action of the spring, the slide piece and oscillating the flint holder about its pivot out of alignment with the ignition wheel and rendering accessible the flint for replacement.

The annexed drawing shows by way of example an embodiment of a flint holder of the invention.

Fig. 1 is a side elevation of the flint holder;

Fig. 2 is a top view on the guide groove of the flint holder of Fig. 1; and

Fig. 3 is a plan view of the flint holder of Fig. 1.

On the upper wall of the fuel tank of the lighter, there is mounted a pivot 14 about which the flint holder, generally designated by 2, may be oscillated. 3 is the bore of the flint holder, open towards the abrasion or ignition wheel 5 and closed at its farther end. The bore 3 contains the flint spring 8 and the flint 4 which bears against ignition wheel 5.

Between spring 8 and flint 4, there is arranged the slide piece 6 which carries at its rear end a rod 7 for centering thereupon the spring 8 which

2

urges the slide piece against flint 4, and thus the flint against the ignition wheel.

A pin 10 integral with the slide piece, traversing it and projecting from its upper and lower sides penetrates with its projecting ends through an upper longitudinal slot 9 and a lower longitudinal slot 12 of the wall of the flint holder. Pin 10 has at its upper end a knob 11 by means of which the slide piece 6 may be pushed back or be withdrawn from the ignition wheel against the action of spring 8.

The other projecting end of pin 10 traverses the lower slot 12 and enters the guide groove 13 of plate 1.

The shape of this groove is shown in Fig. 2. The groove consists of two branches, a straight, axially extended branch 13*a*, directed parallel to the common axis of slide piece 6, spring 8, and bore 3, and a second branch 13*b* deviating laterally from the first branch. Pivot 14 of the flint holder is disposed exteriorly of the axis of the flint holder on the opposite side of the deviating branch 13*b*.

Figs. 1 and 3 show the different elements described in their working position.

Flint 4 may be taken out, put back or replaced in the following manner:

Knob 11 is pushed back and spring 8 thus compressed. As may be easily seen from the plan view of Fig. 3, this pressure will tend to cause the flint holder to turn about pivot 14 in the sense of arrow 15, owing to the eccentric position of the pivot. This movement, however, cannot take place as long as the lower end of pin 10 is guided in the straight branch 13*a* of the guide groove. But, as soon as the pin reaches branch 13*b*, the flint holder will be oscillated and will finally reach the position 2' indicated in dotted lines in Fig. 3. In this position, the holder will be held since the spring by means of the slide piece urges the lower end of pin 10 against the wall of the guide groove branch 13*b*, the resulting force being vertical or nearly vertical to the wall so that the slide piece cannot be pushed forward in the bore of the holder.

The flint may now be removed and put back or replaced by another one. To bring the flint back into its working position with respect to the ignition wheel, it suffices to push the holder in the direction opposite the arrow 15. When the pin reaches the straight branch 13*a* of the guide groove 13, the slide piece under the action of spring 8 will thrust back the flint against the ignition wheel.

The slide piece, when the flint is used up, can-

not be pressed against the wheel since it is held back as pin 10 reaches the end of groove 13.

Branch 13*b* of the guide groove has been illustrated as directed practically tangentially of a circle drawn about the axis of pivot 14. It could also form a right angle with the branch 13*a* or have any intermediary or different direction, excepted, of course, that with a more obtuse angle than that shown, the slide piece, under the action of spring 8, might slide out of branch 13*b* and the holder would not stay in position 2' but would prematurely return into its working position.

It should be noted, finally, that the axis *c*—*c* of the flint holder, in the working position of the holder, is slightly eccentric and to the rear of the axis of the ignition wheel with relation to the direction, arrow 16, in which the wheel projects the sparks.

This has the advantage that the sparks are projected in a direction nearer the perpendicular to the axis *c*—*c* than usually is the case with the conventional lighters and, consequently, the wick of the lighter is more reliably reached. Moreover, any catching between wheel and flint may thus be avoided.

What I claim is:

1. In a pocket lighter having a body and an ignition wheel, a flint holder oscillatably mounted on said lighter, said flint holder having an axially extended bore opening towards the ignition wheel of the lighter and closed at its farther end for housing therein a flint and a spring; said holder further provided with a slide piece slidably arranged in said bore between said spring and said flint, a guide groove in the wall of said lighter adjacent to said flint holder, said slide piece adapted for cooperating with said guide groove whereby to oscillate said flint holder respectively in and out of alignment with said ignition wheel.

2. In a pocket lighter having a body and an ignition wheel, a flint holder, a pivot secured to a wall of said lighter for pivotally mounting

thereon said flint holder, said flint holder having an axially extended bore opening towards the ignition wheel of the lighter and closed at its farther end for housing therein a flint and a spring; said holder further provided with a slide piece slidably arranged in said bore, said spring adapted to bear against the closed end of said bore and to urge said slide piece against said flint; said flint holder having, extended axially towards said ignition wheel, slots in its upper and lower wall, a guide groove provided in said lighter wall and in juxtaposition with said slot in the lower wall of said flint holder; said slide piece having a pin projecting from its upper and lower sides and penetrating through said slots, with a knob at the upper of its projecting ends and with its lower projecting end entering said guide groove; said groove having a straight branch axially extended towards said ignition wheel for movement of said pin therein and alignment of the holder with said ignition wheel at normal operation of the lighter, and, at the farther end of said straight branch, a branch deviating laterally therefrom for guiding, when said slide piece is withdrawn by means of said knob against the action of said spring, said slide piece and oscillating said flint holder about said pivot out of alignment with said ignition wheel and rendering accessible said flint for replacement.

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