ABSTRACT OF THE DISCLOSURE

The bottom of a lighter housing is formed with at least one opening. A slider is capitively mounted and guided on the housing bottom for movement between first and second end positions. The slider is arranged to at least partly cover the opening in the first position and to expose at least a portion of the opening in moving from the first position to the second position.

This invention relates to a housing for pyrophoric lighters, which housing comprises a bottom, on which a slider is capitively mounted, which in its outer end position exposes all openings formed in the housing bottom whereas in its other, inner end position the slider at least partly covers said openings. This arrangement eliminates the need for the usual screw plugs for the flint tubes and for any openings for filling the fuel tank.

According to another feature of the invention, the slider is guided in a dovetail groove, known per se, and the pressure of the stressed flint spring acts on the slider at least at its inner end position.

As a result, the slider is forced into its guide and cannot come loose after prolonged use. According to the invention, the slider is formed in its surface confronting the housing bottom with recesses, which are adapted to receive the free end of a pin, which carries a collar that supports the flint spring. This arrangement has the advantage that the slider can be moved only in steps.

According to another feature of the invention the slider has at one end a substantially T-shaped incision slot or, the flange portion of said incision extending substantially at right angles to the longitudinal axis of the slider and the web portion of the incision lies in the longitudinal axis of the slider. As a result, the openings in the housing are exposed only to the extent which is required.

The smallest width of the incision in the slider is slightly larger than the diameter of the free end of the pin which supports the flint spring. The largest width of the incision is as large as or larger than the diameter of the largest opening in the bottom of the housing. As a result, an opening movement of the slider will initially relieve and only subsequently release the flint spring.

According to another feature of the invention, a fuel tank, which is removable disposed in the housing, in known manner, may be locked in the housing by the slider, which may engage the fuel tank from below or behind.

Further details, features and advantages of the invention will be explained hereinafter with reference to embodiments shown by way of example in the drawing, wherein:

FIG. 1 is a side elevation view, partly broken away and in section, showing a gas-fired lighter having a housing according to the invention;

FIGS. 2 and 3, respectively, are corresponding bottom plan views with the slider in closed and open positions, FIG. 4 shows a pyrophoric lighter having a removable fuel tank and a housing according to the invention, partly broken away and in section;

FIG. 5 is a corresponding bottom plan view, and

FIG. 6 illustrates an embodiment of the slider in a lighter different from that according to FIG. 4.

A slider 3 is capitively mounted on the bottom 2 of the housing 1 of a pyrophoric lighter, e.g., a gas-fired lighter, shown in FIG. 1. In its outer end position, shown in FIG. 3, the slider 3 exposes all openings which are formed in the housing bottom 2. These openings may comprise an opening 4 for filling the fuel tank 5, a magazine 6, which may contain spare flints, and an opening 7 of a flint tube 8. The filling opening 4 and the opening 7 are usually closed by screw plugs, which can easily be lost. The need for using such screws is eliminated by the features of the invention. The slider 3 is guided in a manner known per se in a dovetail groove 9 and at least in its inner end position, shown in FIG. 2, is subjected to the pressure of the stressed flint spring 10. The flint spring 10 bears on a collar 11 of a pin 12, which transmits the pressure of the spring 10 to the slider 3. The free end 13 of the pin 12 is adapted to be received in recesses 15 (only one of which is shown), which are formed in the slider 3 on the surface 14 thereof which confronts the housing bottom 2. As a result of this arrangement, the slider 3 can be extended only in steps. The distances between the recesses 15 are suitably selected so that only the filling opening 4 is exposed when the pin 12 is received by the slider, and the magazine 6 is opened when the pin is received by the second recess, and the flint tube 8 is opened only when the pin 12 is received by the third recess.

In the embodiment shown by way of example, the slider 3 is formed at one end 16 with a substantially T-shaped incision 17. The flange portion 18 of the T extends at right angles to the longitudinal axis of the slider. The web portion 20 of the incision lies in the longitudinal axis of the slider. The smallest width of the incision 17 in the web portion 20 is suitably slightly smaller than the diameter of the free end of the pin 12. The force of the flint spring 10 moves the pin 12 into the portion 20 of the incision 17 and the collar 11 prevents a loss of the flint spring 10. The stress of the spring 10 may be selected so that the spring 10 is entirely relaxed when the pin 12 has passed out through the portion 20 of the incision whereas the collar 11 does not yet contact the slider 3. When the slider 3 is now moved to its outermost end position (FIG. 3), the flint spring 10 can be removed from the flint tube 8 and a new flint can be inserted.

In FIGS. 4 to 6, like reference characters have been used for those parts of the lighter which have been described hereinbefore so that these parts need not be discussed again.

In the embodiment shown by way of example in FIGS. 4 to 6, the fuel tank 21 is removable mounted in the lighter housing 22 in known manner. The slider 23 can be used to lock the fuel tank in that the slider 23 engages the tank 21 from behind (FIG. 5) or from below (FIG. 6).

What is claimed is:

1. A lighter comprising a housing, a slider mounted on said housing for restricted movement between a first end position and a second end position, said housing having a cavity to receive a flint spring, said cavity being open towards said slider, and engagement of the cavity for engaging said spring and said slider, said pin having a flange for engagement with an end of the spring, said slider being provided with an opening larger than the pin but smaller than the flange, said slider in the first end position entirely obstructing the cavity, the opening of the cavity being accessible in the first end position of the slider for removal of the spring, the opening of the cavity registering with the opening in the slider in an intermediate position of the slider so that the pin will
enter the opening in the slider to be moved therewith as the slider travels from the intermediate position to the second end position, the spring being relaxed when the pin has entered the opening of the slider with the flange abutting against said slider.

2. A lighter according to claim 1 in which said housing includes a portion adapted to receive a fuel tank which has a closable refill opening which in the first end position is covered by the slider, whereas in an intermediate position of the slider the refill opening is accessible.

3. A lighter according to claim 1 in which said housing includes a portion adapted to removably receive a fuel tank, said cover in said first end position co-acting with said tank for locking same against removal in the housing, whereas in said second end position the slider is free of the tank enabling its removal from the housing.

4. A lighter according to claim 1 comprising a receptacle to receive at least one flint, said receptacle being open towards the movable slider, said slider obturating said receptacle in said first end position and having an opening which is aligned with the opening of the receptacle in at least one intermediate position of the said slider.

5. A lighter according to claim 4 in which the openings in the slider which coact with the opening of the receptacle and the opening of the cavity are formed as portions of a common opening in the form of a substantially T-shaped slot which is open on one side, the broader portion of the slot being wide enough to provide accessibility to the receptacle, the narrower portion being arranged to receive the pin and to hold the flame of the pin.

6. A lighter according to claim 1 wherein said slider is provided with a plurality of spaced recesses in which the pin is received as the slider is moved, the recesses serving as stops which resiliently resist displacement of the slider by the action of said spring.