Aug. 13, 1935. L. K. LOEHR 2,011,322

CIGARETTE LIGHTER

Filed Dec. 14, 1931

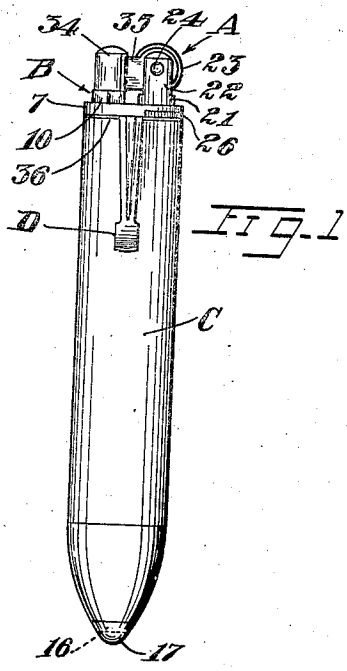

Fig. 1

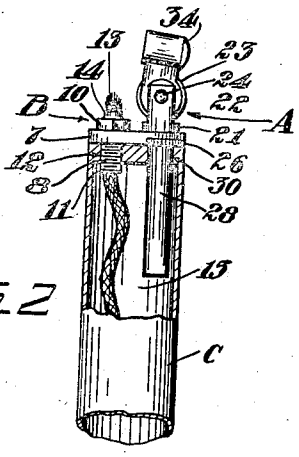

Fig. 2

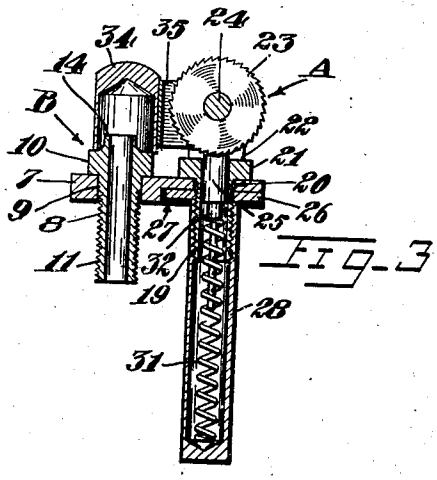

Fig. 3

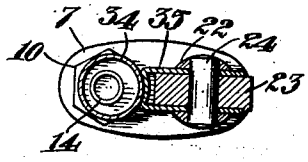

Fig. 4

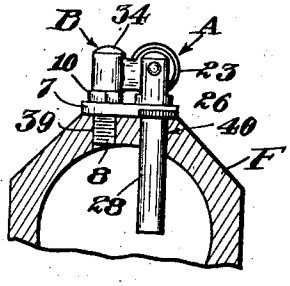

Fig. 5

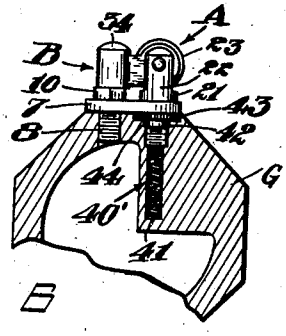

Fig. 6

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CIGARETTE LIGHTER

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Application December 14, 1931, Serial No. 580,842

8 Claims. (Cl. 67—7.1)

This invention relates to cigarette and cigar lighters and has particular reference to improvements in the construction, relative arrangement and combination of lighter parts which comprise the spark and flame producing means or what may be termed the lighter head.

An object of the invention is to provide a lighter head unit of the character described which owing to the simplicity, compactness and particular shape and design and completeness thereof is capable of application to lighter bodies of various kinds and shapes without necessitating variations in the construction of the head or special and expensive constructions in said bodies.

A further object of the invention is to provide a lighter head which is relatively small yet highly efficient and superior to other constructions by reason of its comparative strength, durability, inexpensiveness and reliability of operation, and also because of the ease with which it may be assembled and disassembled and serviced.

Yet another object of the invention is to provide a lighter of the character described wherein the spark and flame producing means forming a unitary part of the complete lighter head serve in a particularly efficient manner as a means for removably securing the lighter to a lighter body.

Another object is to provide a lighter unit such as described wherein the servicing thereof, such as the renewal of the flint, may be quickly and easily effected without completely disassembling the head or necessitating removal of the head from the lighter body, and also without exposing the fluid containing portions of the lighter to the atmosphere.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts, and in the combination, construction and arrangement of parts hereinafter described and claimed and illustrated by way of example in the accompanying drawing, in which:

Figure 1 is a side elevation of a lighter constructed in accordance with the invention;

Figure 2 is a side elevation of the lighter showing the snuffer raised, the lighter body being broken away to show the manner of securing the head to the body;

Figure 3 is a vertical section of the head removed from the body;

Figure 4 is a horizontal sectional view taken through the head of the lighter;

Figure 5 is a side elevation of a lighter head shown applied to a different type of body, the latter being broken away and shown in section;

Figure 6 is a view similar to Figure 5 of a modified form of the lighter head.

In one embodiment of this invention the lighter head, as shown in detail in the accompanying drawing, generally comprises a small rectangular base plate 7 supporting spark means A and wick holding means B, which means also provide for detachably securing the head to a lighter body such for example as the one C, here shown.

With this arrangement, it will be noted that a complete lighter unit of relatively small compass is provided with comparatively few and inexpensive parts. Such a unit, by reason of the use of the means A and B to secure the unit in place, may be applied to various kinds of lighter bodies without requiring special and expensive constructions and parts in the latter, inasmuch as it is only necessary for purposes of securing the unit, to provide in the lighter body a threaded opening and a space, for accommodation of those parts of said means A and B which anchor the head in place.

As here shown, the wick holding means B is employed to positively secure the head in place and comprises a tubular wick guide 8 extended through an opening 9 near one end of the base plate 7. A nut like enlargement 10 on the upper end of the guide 8 rests on the upper side of the plate 7, holds the guide in place and provides for turning the guide whereby the lower externally threaded end 11 thereof may be screwed into and out of securing engagement with the body C. The body C is provided in its upper end with a screw threaded opening 12 to receive the end 11 of the wick guide, and it is apparent that on screwing up said guide, the plate 7 is secured to said body. A suitable wick 13 is carried in the body C and extended through the guide 8 and a small boss 14 formed on the upper side of the nut 10.

The wick is arranged in the usual manner in the combustible fluid chamber 15 of the body C and it is seen that access to said chamber for the filling thereof with combustible fluid is had through an opening 16 which is normally closed by a screw plug 17.

It is now apparent that the wick tube or guide 8 is made to serve as a means for securing the head or lighter unit to a lighter body through the simple expediency of forming screw threads in the hole in the body through which the wick tube extends.

The spark producing means A comprises an externally screw threaded flint holding tube 19 in-

serted through an opening 20 in the plate 7 and provided at its upper end with an enlargement 21 resting on the upper side of said plate. Extending upwardly from said enlargement are posts 22 between which a steel spark wheel 23 is rotatably mounted on a pin 24 carried by said posts. This wheel has a serrated periphery disposed so as to contact with the flint piece 25 carried by the tube 19. A circular nut 26 is screwed onto the tube 19 and engages in a recess 27 cut in the under side of the base plate 7. It should be noted that the nut is of greater diameter than the width of the plate 7 whereby the knurled periphery thereof is readily accessible for tightening and loosening the nut. In assembling the means A, the nut is held in the recess and the tube 19 is inserted through opening 20 and screwed through the nut until the unit is substantially tight, then the nut may be turned to set the wheel in the proper position to direct sparks onto the wick 13.

The nut 26 has a preferably integral tubular extension 28 depended therefrom, said extension cooperating with the lighter body whereby to assist in holding the head unit on said body. As here shown, the upper end of the body C has an opening 30 therein through which the extension 28 projects into said body. A helical spring 31 is housed in and engages the lower closed end of the tubular extension 28 so as to extend through the nut 26 and into the flint tube 19. A pin 32 is urged upward by said spring and supports the flint 25 in yielding engagement with the periphery of the wheel 23.

Means is provided to readily extinguish the flame and to normally enclose the exposed portion of the wick 13. This means or snuffer is arranged so as to be automatically moved clear of the wick upon rotating the wheel to produce the wick igniting sparks. As here shown, this means comprises a snuffer cap 34 arranged to normally rest on the nut 10 so as to cover the upper end of the wick 13 and thereby prevent undue evaporation of the lighter fluid. A U-shaped member 35 is secured at its bight portion, being soldered or welded, to one side of the cap 34 and is pivoted adjacent its free ends on the pin 24. The opposed sides of this U-shaped member frictionally engage with opposite sides of the wheel 23 whereby on rotating said wheel in a clockwise direction, as in producing the spark, the U-shaped member will be moved by said wheel so as to swing the cap 34 upwardly clear of the wick. In this way, the wick is exposed substantially coincident with the direction of the wick igniting sparks onto said wick. To extinguish the flame the operator merely pushes the cap 34 with his finger, downward over the wick. It should be noted that as the snuffer is carried by the spark producing means A it is necessary to use the nut 26 to set the tube 19 in such position as will cause the snuffer to be properly aligned with the upper end of the wick whereby the cap 34 may be moved into and out of position to properly cover said wick.

It is now apparent that the lighter unit of this invention is subject to being easily and inexpensively combined with or applied to lighter bodies of various sizes and shapes. When combined with an elongated narrow body such as the one C, the head provides a lighter which can be easily handled and operated in one hand by using the thumb to actuate the spark wheel and snuffer. Such a lighter may be conveniently carried in the vest pocket in the manner of a pencil, a clip D being provided to hold the lighter in the pocket.

The clip D has an apertured lip 36 which lies between the top of body C and the plate 7 with the apertures thereof registering with openings 12 and 30 in the upper end of said body, whereby the downwardly projecting portions of parts 8 and 28 will extend through said apertures and hold the clip in place.

That the head or lighter unit may be readily and easily applied to lighter bodies of varying shapes is apparent on referring to Figure 5 of the drawing wherein the body F is flat, wide and disk-like in form. In this arrangement, a screw threaded opening 39 also a plain opening 40 provide for attaching the head to the body.

A variational form of the invention is shown in Figure 6 wherein the lighter body G is similar to the one F except that it provides a bore 40' for the spring 41 which corresponds to the spring 31 of the first described form of the invention. The head of this variational form is the same as the head of the first described form except that the tubular extension 42 of the nut 43 is short and open at its lower end. This short extension 42 seats in a counter bore 44 and aids in maintaining the head on the body and also serves as a guide for the spring 41.

It is important to note that in servicing the lighter, such as when renewing the flint, it is only necessary to hold the nut 26, raise the snuffer and then unscrew the flint tube 19, the snuffer then serving as a handle. The spring will remain in the tubular holder and the insertion of the new flint into the holder 19 may be easily effected following which the holder 19 is screwed as aforementioned back into place. Thus it is seen that it is unnecessary to remove the head from the body to replace the flint and that the head need only be partially dismantled. A further advantage is that the fluid containing portion of the lighter need not be exposed, and permit of evaporation of the fluid when replacing the flint.

I claim:

1. In a lighter, a lighter body having openings therein, one of said openings being screw threaded, an apertured base plate adapted to be removably secured to said body with the apertures thereof in registration with said openings, a screw threaded wick tube rotatably engaged in one of the apertures of said plate and threadedly engaged in said screw threaded opening, an enlargement on the upper end of said tube and engaged with the outer side of said plate, a spark producing means including a screw threaded tubular member rotatably engaged in the other aperture of said plate, and a nut disposed between said plate and said body and having threaded engagement with said tubular member.

2. In a lighter, a lighter body having openings therein, one of said openings being screw threaded, an apertured base plate adapted to be removably secured to said body with the apertures thereof in registration with said openings, a screw threaded wick tube rotatably engaged in one of the apertures of said plate and threadedly engaged in said screw threaded opening, an enlargement on the upper end of said tube and engaged with the outer side of said plate, a spark producing means including a screw threaded tubular member rotatably engaged in the other aperture of said plate, a nut disposed between said plate and said body and having threaded engagement with said tubular member, and a

tubular portion extending from said nut and rotatably engaging in the other opening of said body.

3. In a lighter, a lighter body having openings therein, one of said openings being screw threaded, an apertured base plate adapted to be removably secured to said body with the apertures thereof in registration with said openings, a screw threaded wick tube rotatably engaged in one of the apertures of said plate and threadedly engaged in said screw threaded opening, an enlargement on the upper end of said tube and engaged with the outer side of said plate, a spark producing means including a screw threaded tubular member rotatably engaged in the other aperture of said plate, and a nut disposed between said plate and said body and having threaded engagement with said tubular member, said nut having its periphery extended outwardly from between said body and plate.

4. In a lighter, a lighter body having openings therein, one of said openings being screw threaded, an apertured base plate adapted to be removably secured to said body with the apertures thereof in registration with said openings, a screw threaded wick tube rotatably engaged in one of the apertures of said plate and threadedly engaged in said screw threaded opening, an enlargement on the upper end of said tube and engaged with the outer side of said plate, a spark producing means including a screw threaded tubular member rotatably engaged in the other aperture of said plate, and a nut disposed between said plate and said body and having threaded engagement with said tubular member, said plate having a recess in which said nut is engaged.

5. In a lighter, a lighter body having openings therein, one of said openings being screw threaded, an apertured base plate adapted to be removably secured to said body with the apertures thereof in registration with said openings, a screw threaded wick tube rotatably engaged in one of the apertures of said plate and threadedly engaged in said screw threaded opening, an enlargement on the upper end of said tube and engaged with the outer side of said plate, a spark producing means including a screw threaded tubular member rotatably engaged in the other aperture of said plate, a nut disposed between said plate and said body and having threaded engagement with said tubular member, a tubular portion extending from said nut and engaging in the other opening of said body, said spark producing means also including a bifurcated member carried by said tubular member, a wheel rotatably mounted in said bifurcated member, a snuffing cap arranged to be moved into and out of position of engagement with said enlargement, and a supporting member for said cap pivoted on the axis of said wheel and being frictionally engaged with a side of said wheel.

6. In a lighter, a lighter body, having a portion with an aperture therein, a base plate on said portion and having an aperture therein, a spark producing means including a screw threaded tubular member rotatably engaged in said aperture, and a nut disposed between said body and said base plate and being threadedly engaged with and holding said tubular member on said portion, said nut having its periphery exposed at edges of said base plate.

7. A lighter head for a cigarette lighter including a base plate, spark producing means including a flint, an abrader therefor, unitary means for holding the flint and abrader, a spring for yieldingly pressing the flint against the abrader, and means for housing said spring, said housing means further constituting means to detachably secure said unitary means to the base plate.

8. A lighter comprising a fuel reservoir and a lighter head, said lighter head including spark producing means, operating means therefor, flame producing means to be ignited thereby and a holder for said flame producing means, means for detachably connecting the spark producing means and its operating means to the holder for the flame producing means, and means for detachably connecting the holder for the flame producing means to the reservoir, thereby forming the sole means for uniting the lighter head to the reservoir.

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