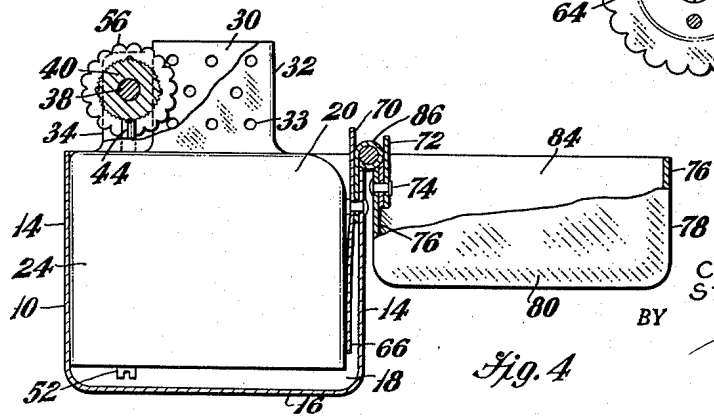
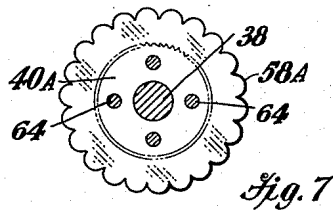
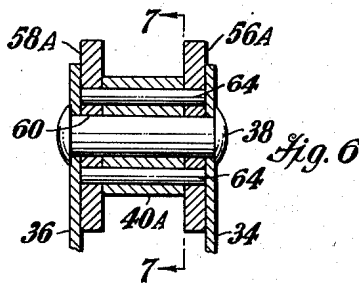
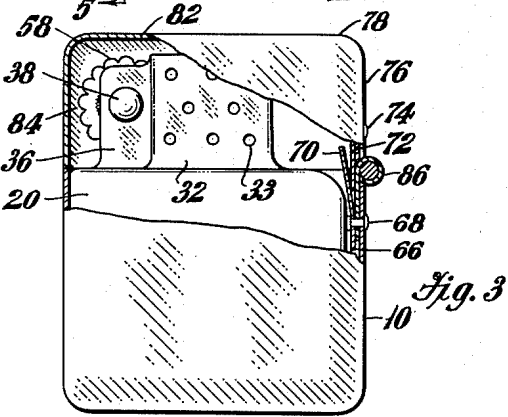
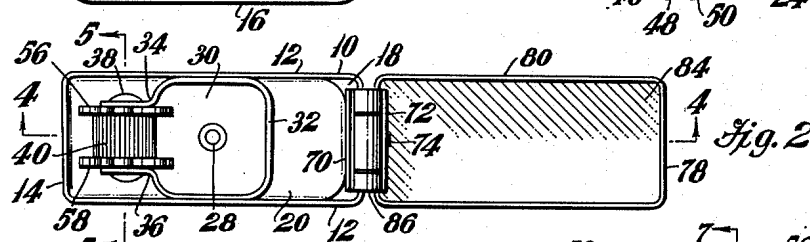
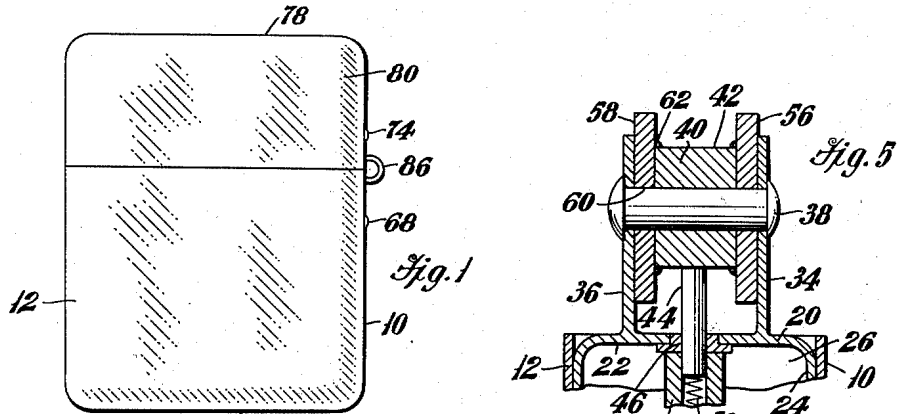


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CIGARETTE LIGHTER

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# UNITED STATES PATENT OFFICE

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## CIGARETTE LIGHTER

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2 Claims. (Cl. 67—7.1)

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This invention relates to lighters for cigars and the like.

An object of the invention is to provide an improved form of cigarette and cigar lighter having means for actuating the spark wheel with increased leverage, thus resulting in more efficient operation and in obtaining a greater amount of spark than heretofore.

Another object of the invention is to provide an improved form of lighter having improved spark wheel actuating means whereby the thumb of the user is not required to come into contact with the serrations of the spark wheel itself, thereby avoiding injury to the skin.

A further object of the invention is to provide an improved form of lighter which is simple in design, inexpensive to manufacture, and which is attractive in appearance while at the same time of considerably enhanced efficiency.

Other objects and advantages of the invention will become apparent from the following description of a preferred embodiment thereof as illustrated in the accompanying drawings, and in which,

Fig. 1 is a side elevational view of a cigar lighter including our invention, the case being closed,

Fig. 2 is a top plan view of the lighter of Fig. 1, with the case open,

Fig. 3 is an elevational view similar to that of Fig. 1, but showing the lighter case partly broken out to illustrate the construction thereof,

Fig. 4 is a sectional elevation taken on line 4—4 of Fig. 2, the cover of the case being shown as partly sectioned only,

Fig. 5 is a transverse fragmentary sectional elevation taken on line 5—5 of Fig. 2, showing the parts in enlarged detail,

Fig. 6 is a fragmentary view similar to that of Fig. 5, but showing a modified form of the invention, and

Fig. 7 is a sectional elevation taken on line 7—7 of Fig. 6.

In order to understand clearly the nature of the invention, and the best means for carrying it out, reference may now be had to the drawings, in which like numerals denote similar parts throughout the several views. As shown, there is a cigar lighter outer case having a main body portion 10 with side walls 12, end walls 14 and bottom 16 defining an upwardly open chamber 18 for the reception of a lighter element body 20.

The body 20 includes a top 22 from which depend end and side walls 24 defining a downwardly open chamber 26 adapted to receive a mass of

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cotton batting or the like which may be soaked with inflammable lighter fluid, a wick extending through an opening 28 formed in top 22 downwards into the cotton batting so as to draw lighter fluid upwards by capillary action. The wick extends into the upwardly open wind-shield recess 30 enclosed by upstanding walls 32, the latter being preferably perforated at 33 and formed integral with the body walls 24 or the top 20 if desired.

The wind-shield walls are open at one side, as seen best in Fig. 2, being bent outwardly to form spaced ears 34 and 36 having axially aligned apertures formed therein to receive a bearing shaft or pin 38, the outer ends of the pin being peened over to retain it against dislodgement from the position shown, as in Fig. 5. A spark wheel 40 having a plurality of longitudinal serrations formed on its outer cylindrical surface 42, has the shaft 38 extending through an axial bore formed therein, as best shown in Fig. 5, so as to be rotatable upon the shaft. The serrations on the spark wheel are adapted to engage frictionally against the upper surface of a flint element 44 extending slidably through an aperture 46 formed in the top 22 of the element body 20.

The flint element also extends through a tube 48 extending through the chamber 26 in the element body 20, being biased in an upward direction against the serrations on the spark wheel 40 by means of a spring 50 extending through the tube 48. The spring pressure is regulated by means of a plug 52 which is threaded into the lower end of the tube 48, the plug being turned further into the tube to increase the spring pressure, or to maintain it as the flint 44 is worn away.

Rotation of the spark wheel in a counterclockwise direction as seen in Fig. 4, will cause sparks to be formed and thrown off against the wick inside the windshield chamber 30, igniting it to form a flame for lighting a cigar or the like. However, the serrations of the spark wheel 40 must be made quite sharp for efficient spark formation, and contact of these against the skin of the user which has heretofore been necessary to turn the spark wheel, has frequently been a source of irritation to the sensitive skin of the thumb, and even caused injury thereto.

To avoid this difficulty, and at the same time enhance the efficiency of the lighter, we provide thumb wheels 56 and 58 having axial bores 60 formed therein to receive the shaft 38, the thumb wheels being mounted one on each end of the

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spark wheel 40. The thumb wheels are secured to the spark wheel so as to be rotatable therewith, this being easily accomplished by welding them together as at 62 in Fig. 5.

Or, as shown in Figs. 6 and 7, this may also be accomplished by providing a number of fastening rods 64 extending through axially aligned bores formed in both the spark wheel and the thumb wheels, there being several such rods 64 which are thus pressed into the bores to securely interconnect the thumb wheels and spark wheel. The thumb wheels are peripherally scalloped as shown best in Figs. 2, 3 and 7, the scallops on the edges being sufficiently rounded in contour as to avoid cutting into the skin of the user's fingers. In operation, the thumb is placed against the scalloped thumb wheels 56 and 58, which are turned in a counterclockwise direction as seen in Fig. 4, carrying with them the spark wheel and thus forming sparks to ignite the wick.

It will be seen that the diameters of the thumb wheels are considerably greater than that of the spark wheel, so that less thumb pressure is required to turn the wheel due to the increased leverage provided in this manner, or that application of normal thumb pressure will result in transmission of greater force to the flint surface, with an enhanced spark production. And in addition, there are no sharp edges on the thumb wheels to irritate the skin.

The lighter element body is frictionally retained inside the casing 10 by means of a resilient leaf spring 66 secured to the inner wall surface thereof by means of a rivet 68. The leaf spring extends upwards at 70 to yieldingly engage against the stub projection 72 which is secured by rivet 74 to the inner surface of the end wall 76 of the top closure cap 78. The latter cap is formed of end and side walls 76 and 80, which, with top 82 define a downwardly open chamber 84 which is adapted to receive those parts of the lighter body element 20 which extend above the casing 10, when the cap is in closed position as in Figs. 1 and 3.

The cap is secured to the casing 10 by means of a hinge 86, the parts of which are carried jointly by both the cap and the casing. It will be observed that as the cap is moved from the open position shown in Fig. 4 to the closed position shown in Fig. 3, the stub extension 72 bears against the upper end 70 of the spring, causing it to yield in a counterclockwise direction, and that then the spring returns to initial position when the cap is closed. In this manner the spring end 70 also serves as a cap lock, keeping the cap closed when not in use.

Although we have described a preferred embodiment of our invention in specific terms, it is to be understood that various changes may be made in size, shape, materials and arrangement without departing from the spirit and scope of the invention as claimed.

Having described our invention, what we claim and desire to secure by Letters Patent is:

1. A lighter comprising a casing having a chamber formed therein, a top closure cap hinged to said casing, a stub portion on the inner surface of the wall of said closure cap, said stub portion comprising an independent member fixed to the inside surface of said cap and projecting there-

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beyond, a lighter element body receivable in said chamber, and having a first recess formed therein, a mass of fibrous material receivable in said recess and adapted for being impregnated with an inflammable lighter fluid, a wind-shield formed by extending upwardly the material of said lighter element body to provide a second open recess in said lighter element body, said lighter element body having means communicating between said first and second recesses, a wick extending from the first recess into the second to conduct said inflammable lighter fluid into the second recess, one wall of said windshield being opened outward to form opposed spaced ears, a shaft extending between said ears and secured thereto, a spark wheel rotatably carried on said shaft, a tube carried by said lighter element body with its axis intersecting the axis of the spark wheel, a flint extending out of said tube, a spring in said tube for biasing said flint against the spark wheel surface, a pair of thumb wheels having axially aligned bores for receiving said shaft and secured to said spark wheel on each side thereof for rotation therewith, said thumb wheels having a plurality of rounded scallops formed on their peripheral edges and being of substantially greater diameter than the thumb wheel, whereby, upon rotation of the thumb wheels and consequent rotation of the spark wheel, the frictional engagement therewith of the flint forms sparks for igniting said wick to form a flame and means comprising a resilient leaf spring fixed to the inner wall surface of said casing for frictionally retaining said lighter element body in said casing, the upper free end of said leaf spring extending upwardly beyond said casing and adapted to yieldingly engage said stub projection on said closure cap to form a resilient lock for maintaining said closure cap in closed position.

2. The construction according to claim 1 characterized further in that said thumb wheels and said spark wheel have axially aligned bores formed therein, connecting pins receivable in said bores for holding said thumb wheels and spark wheel securely together, the axes of said bores being substantially parallel to each other and to the axes of the thumb wheels and main body portion.

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