April 1, 1947. I. FLORMAN 2,418,295

CIGARETTE LIGHTER OR THE LIKE

Filed March 17, 1944

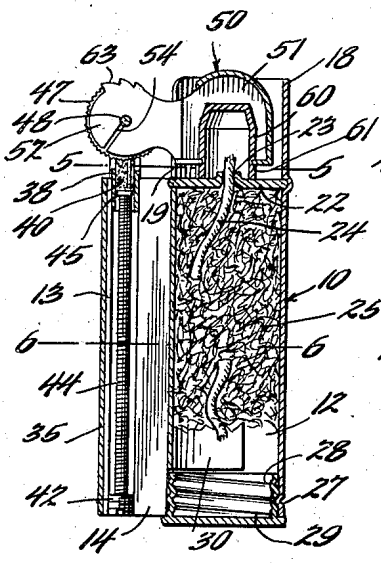

FIG. 2.

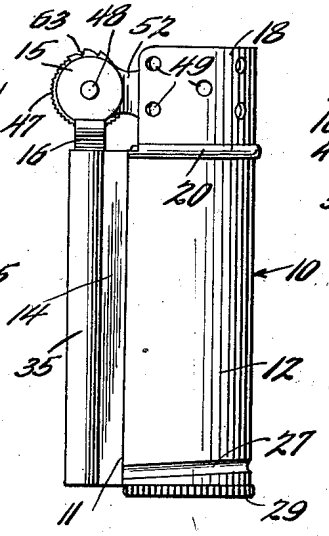

FIG. 1.

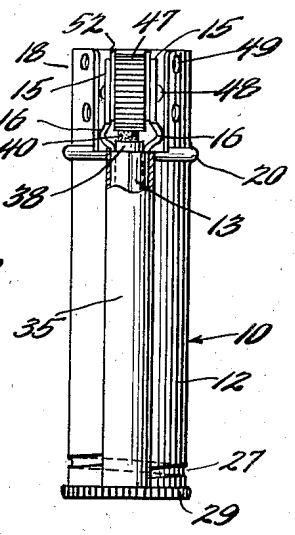

FIG. 3.

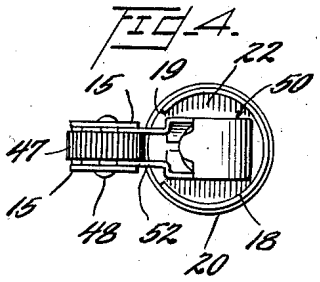

FIG. 4.

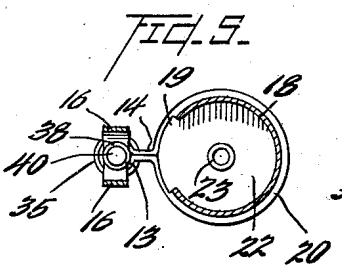

FIG. 5.

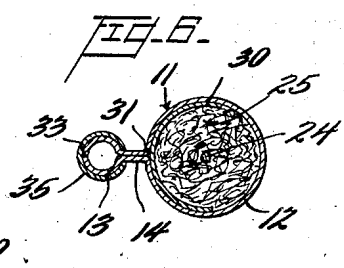

FIG. 6.

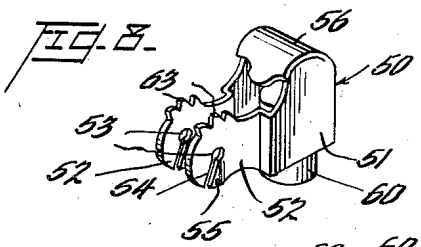

FIG. 8.

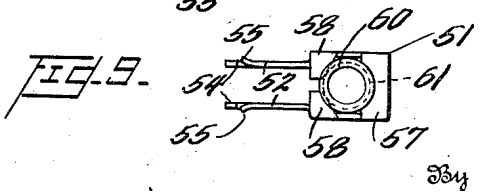

FIG. 9.

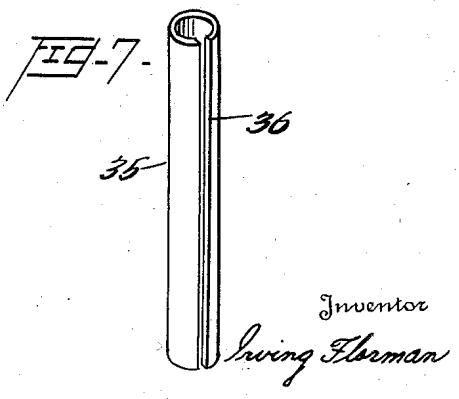

FIG. 7.

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CIGARETTE LIGHTER OR THE LIKE

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Application March 17, 1944, Serial No. 526,912

5 Claims. (Cl. 67—7.1)

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This invention relates to lighters and more particularly to pocket lighters of the pyrophoric igniter, liquid fuel type.

The general object of the invention is the provision of a novel and improved lighter of this class which is of simple inexpensive construction, requiring a minimum quantity of metal, but nevertheless capable of performing its required function regularly and efficiently.

In its preferred embodiment, the invention contemplates the provision of a lighter comprising a substantially one-piece body frame of a cross section approximating the shape of a figure 8, one tubular part defining the fuel tank or container and the other comprising the flint tube surmounted by bearings for the flint wheel. Novel clamping and closure devices are employed to retain the frame in proper shape and to seal off the fuel container while providing a support and passageway for the protruding end of the wick of the lighter.

Another feature of the invention is the provision of a pivoted cap or snuffer for extinguishing the flame, this snuffer being pivoted concentrically with the flint wheel and having novel frictional means for retaining it in open and closed positions and a novel and improved thumb contacting portion disposed adjacent the flint wheel whereby the wheel and the snuffer-closure may be easily and simultaneously actuated.

Other objects and features of novelty will be apparent from the following specification when read in connection with the accompanying drawings in which one embodiment of the invention is illustrated by way of example.

In the drawings,

Figure 1 is a view in side elevation of a lighter embodying the principles of the invention;

Figure 2 is a vertical sectional view through the lighter;

Figure 3 is a view in elevation taken substantially at right angles to Figure 1, and with a portion of the flint tube shown in section;

Figure 4 is a top plan view of the lighter;

Figure 5 is a view in horizontal cross section taken substantially on lines 5—5 of Figure 2;

Figure 6 is a similar view taken on line 6—6 of Figure 2;

Figure 7 is a view in perspective of a clamping clip to be applied to the flint tube;

Figure 8 is a perspective view of the pivoted closure cap snuffer member; and

Figure 9 is a bottom plan view of the snuffer cap shown in Figure 8.

The lighter, designated generally by the reference numeral 10, is characterized by a one-piece frame or body structure which is denoted by the numeral 11 and comprises a double barrelled construction of the general cross sectional configuration of a figure eight. This is most clearly shown in Figure 6 of the drawings. The frame 11 may conveniently be made from a single approximately rectangular sheet of metal bent to form the larger tubular portion 12 and the smaller tubular part 13, these portions being connected by the two-ply web construction 14. The tubular element 12 forms the side walls of the fuel tank or container and the part 13 provides the tubular well for the flint and spring projector.

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As most clearly shown in Figures 1, 3, and 5 of the drawings, the flint tube 13 is provided with upwardly extending ears 15 which are spaced apart in parallel relationship and connected to the main portion of the tubular part 13 by means of the bent neck portions 16. The ears 15 form bearing supports for the flint wheel and the snuffer member which will presently be described.

The larger tubular portion 12 of the body frame 11 is provided with an upward extension 18 which is not completely cylindrical but is cut away to provide a rather wide gap as at 19 (Figures 4 and 5) to accommodate the movement of the snuffer cap. In forming the frame 11, the metal is stamped as at 20 between the portions 12 and 18 to provide an internal groove into which is fitted a circular disc or platform 22 forming the upper wall of the fuel chamber. The disc 22 is provided with a central opening 23 through which the upper end of the wick 24 projects. The disc may also be soldered in place, if desired. The chamber is filled with cotton batting or other absorbent material 25 as in the usual lighter of the liquid fuel type.

The tubular portion 12 is also creased near its lower end but in this case the pressure is inwardly directed to form a bulge or rib 27 on the inner wall of the container. This crease is helical in shape although it comprises but a single turn, and this feature serves to provide engaging means for the threads 28 on the cap or plug 29 which forms the bottom closure of the fuel tank.

The container portion 12 is also provided internally with a liner sheet 30 which is arcuate in cross section being of a peripheral extent of somewhat more than half of the circumference of the portion 12. The central portion of this liner plate 30 covers the seam 31 where the webs 14 overlap.

In bending the sheet metal blank from which the body frame 11 is formed, the ends of the sheet are brought together in abutting relationship

along the vertical element 33 of the cylindrical portion 13, and in lieu of soldering, in the illustrated embodiment of the device the parts of the frame are held together at this point by means of the substantially circular or tubular clip 35. This clip is most clearly shown in Figure 7 of the drawings and is provided with a slot 36 which is adapted to receive the web portion 14 when the clip is slid on to the tubular member 13.

Within the upper end of the flint tube portion 13, there may be inserted a short cylindrical collar or bushing 38 of an internal diameter substantially equal to the external diameter of the flint 40. This insert or bushing 38 is gripped firmly in place when the frame is assembled and the clip 35 applied. The lower end of the flint tube 13 is internally threaded to receive the threaded and kerfed plug 42. Between the plug 42 and the flint 40 there is disposed a helical spring 44 which may contain a headed pin 45 adapted to press against the lower end of the flint and urge it upwardly toward the flint wheel.

The flint wheel is indicated at 47 and is adapted to rotate upon an axle pin 48 which passes through the wheel and also through aligned openings in the parallel ears 15. The wheel 47 is peripherally serrated and made of suitable material to strike sparks from the flint 40 when the wheel is rotated in a counterclockwise direction as viewed in Figures 1 and 2. It will be readily understood that the sparks pass through the opening 19 in the windshield portion 18 and ignite the wick 24. Draft openings 49 also may be formed in the windshield 18 if desired.

A snuffer cap or closure indicated generally at 50 in the drawings is made of sheet metal and comprises a hollow boxlike body portion 51. From the side walls of the portion 51 there are projected a pair of spaced parallel ears 52 which are perforated as at 53 to be pivotally mounted upon the axle pin 48 between the side faces of the flint wheel 47 and the inner walls of the supporting or bearing ears 15. In order to provide sufficient friction between the ears 52 of the snuffer-closure member and the flint wheel and bearing ears, the first named ears 52 are radially slit as at 54 and the metal at at least one of the edges of the slits 54 flared laterally as indicated at 55 in Figures 8 and 9 of the drawings.

The upper portion of the front wall of the sheet metal snuffer member 50 is curved rearwardly in somewhat cylindrical fashion to conform to the curved upper portions of the side walls, all as clearly shown at 56 in Figure 8 of the drawings. Bottom flanges 57 and 58 are bent from the front and side walls respectively of the member 50. These flanges serve to grip the cylindrical snuffer element 60 and retain it securely within the closure member 50. The snuffer 60 is provided with a groove 61 within which the edges of the flanges 57 and 58 are received.

The upper edges of the ears 52 of the closure member 50 are provided with the serrations 63, these serrations taking the form of rearwardly curved or inclined projections of graduated height with which the thumb is adapted to contact and press when the lighter is actuated.

The operation of the device will be clearly understood from an inspection of the drawings, more particularly Figures 1 and 2 thereof. The entire device 10 is grasped within the hand, the thumb resting upon the serrations 63 and not only contacting these portions of the snuffer-closure 50 but also bearing upon the serrations of the flint wheel 47. As the thumb is suddenly pressed rearwardly and downwardly, the closure 50 carrying the snuffer cap 60 flies open, rotating in a counterclockwise direction as viewed in these figures of the drawings. Simultaneously with the opening of the snuffer-closure, the flint wheel is rotated and sparks are directed upon the wick 24 which ignites and burns until the purpose of the lighter has been accomplished. Then by pressure upon the top wall 56 of the snuffer-closure member 50, the closure may be rotated in a clockwise direction until the snuffer element 60 again surrounds the protruding end of the wick 24 and comes into contact with the head or platform 22 of the fuel container, whereupon the flame is extinguished.

It will be understood that various changes and alterations may be made in the embodiment illustrated and described herein without departing from the scope of the invention as defined by the subjoined claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A lighter for cigarettes or the like which comprises a unitary housing member formed from a substantially rectangular blank of sheet material bent to provide two spaced tubular portions, and flattened centrally to provide two adjacent parallel webs for connecting the tubular portions and rigidifying the construction, the end edges of the blank abutting, a clamping member applied to the last mentioned tubular portion to hold the housing together and maintain said edges in abutting relationship, one of said tubular portions enclosing the flint and flint projecting mechanism and the other containing the fuel and wick, a threaded closure cap at one end of the latter portion, a partition disc clamped in position at a point spaced from the other end and having a wick opening therethrough, and a lining sheet within the fuel container portion and covering the joint therein formed where the walls thereof merge with said webs.

2. A lighter for cigarettes or the like which comprises a unitary housing member formed from a substantially rectangular blank of sheet material bent to provide two spaced tubular portions, and flattened centrally to provide two adjacent parallel webs for connecting the tubular portions and rigidifying the construction, one of said tubular portions enclosing the flint and flint projecting mechanism and the other containing the fuel and wick, transverse partitions in the fuel containing portion providing upper and lower end closures for a fuel reservoir, the inner walls of the fuel containing portion being scored to provide interlocking means for the edges of said partitions, and a liner sheet of resilient material sprung into the fuel containing portion to cover the joint in the wall thereof adjacent the web portion.

3. A lighter for cigarettes or the like which comprises a unitary housing member formed from a substantially rectangular blank of sheet material bent to provide two spaced tubular portions, and flattened centrally to provide two adjacent parallel webs for connecting the tubular portions and rigidifying the construction, the end edges of the blank abutting, one of said tubular portions enclosing the flint and flint projecting mechanism and the other containing the fuel and wick, a threaded closure cap at one end of the latter portion, a removable partition disc clamped in

position near the other end and having a wick opening therethrough, and removable clamping means applied to the housing member to maintain said edges in abutting relationship, to hold the housing together, and to clamp the partition disc in place.

4. A lighter for cigarettes and the like which comprises a body containing a fuel reservoir through one end of which projects a wick, a flint spaced from said wick, a pair of bearing ears projecting outwardly from said body adjacent said flint, a pin passing through said ears, a flint wheel on said pin and rotatably mounted with respect to said ears, a snuffer member adapted to cover and uncover the wick end, said snuffer member provided with a pair of spaced parallel arms, the ends of which are carried by said pin and rotatably mounted with respect to said ears, the arms being received between the respective ears and adjacent side faces of the flint wheel, the ends of at least one of said arms being radially slit adjacent the pivotal center and the material adjacent the slit being bent out of the plane of said arm, said ears, arms and flint wheel being so closely spaced that pressure applied to said bent out material causes the same to resiliently bear against the inner face of said ears, whereby the snuffer member will be retained in any position to which it is moved.

5. A lighter for cigarettes or the like which comprises a body containing a fuel reservoir through one end of which projects a wick, a flint spaced from said wick and a flint wheel rotatably mounted above said flint to throw sparks upon

said wick when rotated, a sheet metal hood-like closure member pivotally mounted adjacent the flint wheel and adapted to be swung to and from a position above the wick respectively to snuff the flame and free the wick for ignition, said closure member having inwardly bent flanges at the lower edges of its side walls, which when so bent define an approximately circular opening, a dome-like snuffer element disposed in said opening and having an external peripheral groove therein to receive said inwardly directed flanges to retain said snuffer element, said snuffer element adapted to enclose said wick end when the closure member is in snuffing position.

IRVING FLORMAN.

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