Aug. 22, 1950 I. FLORMAN 2,519,641

CIGARETTE LIGHTER

Filed Feb. 16, 1949

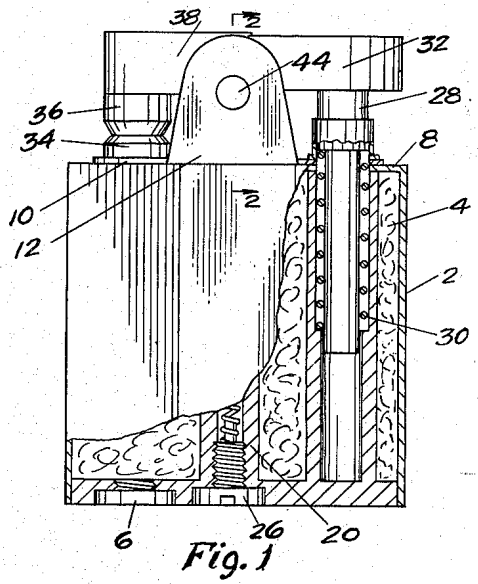


Fig. 1

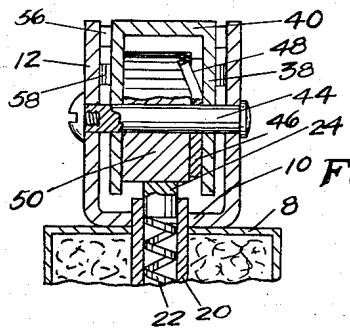


Fig. 2

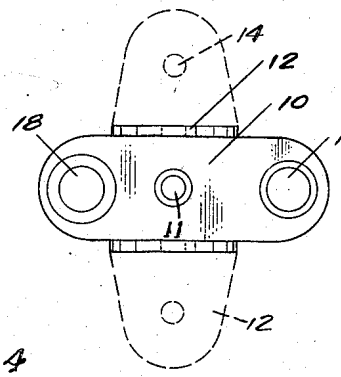
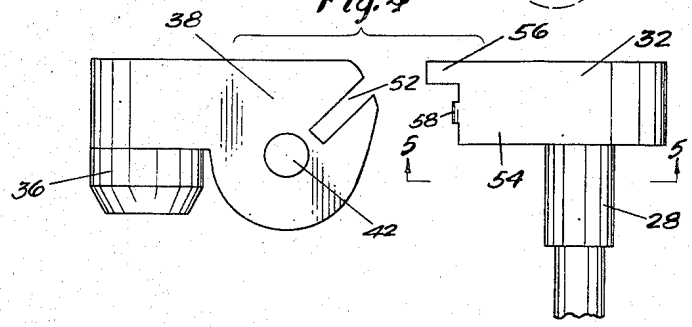


Fig. 3

Fig. 4



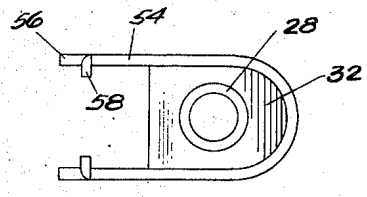


Fig. 5

INVENTOR.
Irving Florman
BY
Bailey, Stephens, & Huettig
ATTORNEYS

Patented Aug. 22, 1950

2,519,641

UNITED STATES PATENT OFFICE

2,519,641

CIGARETTE LIGHTER

Irving Florman, New York, N. Y.

Application February 16, 1949, Serial No. 76,818

4 Claims. (Cl. 67—7.1)

1

The invention relates to cigarette lighters, and more especially to lighters of the pyrophoric type.

The primary object of the invention is to provide a lighter of this type which is effective and certain in operation, but which can yet be manufactured economically and by relatively unskilled laborers.

Heretofore, lighters of the type in which a snuffer is raised and the flint wheel rotated by depression of a thumb piece, the parts being restored by spring action by the release of the thumb piece, have been quite expensive. One of the reasons for this has been that it has been necessary to assemble the parts, and especially the flint wheel and flint tube, in very exact alignment, extremely small deviations being enough to prevent satisfactory operation of the lighter. The assembly of such lighters has required a skill comparable to that of a watch maker, especially in the operation of mounting the ears which hold the flint wheel pivot pin on the body in which the flint tube is fixed.

The principal object of the present invention is to provide a novel structure by which the flint wheel pivot pin and flint tube can be assembled without undue care, and which nevertheless ensures proper alignment of these parts.

In this aspect, the invention contemplates the use of a separate integral unit formed of one piece arranged to be secured on the top wall of the lighter body, this unit having holes for positioning the flint tube and the flint wheel pivot pin, so that these are sure to be properly aligned despite slight errors in the position of the unit on the lighter body. Preferably this unit also has holes for the wick tube and the thumb piece plunger, so that these will also be properly positioned.

Another object of the invention is to provide a novel and simple operating connection between the thumb piece and the snuffer cap, this connection improving the operation of these parts and simplifying the manufacture of the lighter.

In this aspect, the invention contemplates the use of inwardly turned lugs on the thumb piece engaging in slots in the snuffer, these slots being substantially radial to the snuffer pivot and at an angle of 45° to the horizontal. The thumb piece also has projections above and extending well in front of the lugs and straddling the snuffer, thus acting to guide the relative movement between the thumb piece and the snuffer at all times.

Further objects and advantages of the invention will appear more fully from the following

2

description, especially when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

Figure 1 shows in side elevation, with parts in section, a lighter embodying my invention;

Figure 2 is a cross-section on the line 2—2 of Figure 1;

Figure 3 is a top plan view of the assembly unit showing in broken lines the outline before the ears are bent up;

Figure 4 is an enlarged view, in side elevation, of the snuffer and thumb piece, in separated relation; and

Figure 5 is a bottom view of the thumb piece.

The lighter includes a body 2 having a filler 4 for fuel and a filling plug 6. This body has a top wall 8.

The assembly unit hereinbefore referred to includes a plate 10 adapted to be secured, as by welding or brazing, on top of wall 8. This plate has a central flint tube receiving opening 11, and upstanding ears 12 containing flint wheel pivot pin receiving holes 14. The unit also has a thumb piece guiding hole 16 and a receiving hole 18 for a fuel tube such as a wick tube.

The unit may be formed from a plate, as by stamping, the ears 12 being then bent up from the broken line position shown in Figure 3; or it may be cast in one piece in the form shown. In either case, very exact alignment between the centers of holes 11 and 14 is obtained, and the parts mounted in these holes will be necessarily properly positioned with respect to one another.

A flint tube 20 has its upper end snugly fitted in hole 11. It contains a spring 22 pushing a flint 24 against the flint wheel, and is closed at its lower end by removable plug 26.

A plunger 28 is guided in a sleeve and extends downward through hole 16 into a well in casing 2. It is urged upward by a coil spring 30. The upper end of the plunger carries thumb piece 32.

Wick tube 34 is snugly mounted in the hole 18. It can be engaged by snuffer cap 36 on a snuffer having side walls 38 and a top wall 40. Holes 42 in side walls 38 engage pin 44 mounted in holes 14 in ears 12. Rigid with the side walls is a disc 46 having a struck out tongue 48 engageable in cam notches in the side face of flint wheel 50 turnably carried on pin 44, so as to turn the flint wheel only when the snuffer is turned clockwise (Figure 1).

Snuffer walls 38 have slots 52 therein, these slots being substantially radial to the centers of holes 42 and at an angle of 45° to the horizontal.

Thumb piece 32 has at its forward end projecting spaced side walls 54 ending in projections 56. Below and to the rear of these projections are inwardly turned integral lugs 58 engageable in slots 52. Projections 56 will thus straddle the snuffer and prevent undue twisting of the thumb piece. The inwardly turned lugs are sturdy and can be formed accurately and simply, so that a good operating connection between the snuffer and thumb piece is assured.

While I have described herein one embodiment of my invention, I wish it to be understood that I do not intend to limit myself thereby except within the scope of the claims hereto or hereinafter appended.

I claim:

1. In a cigarette lighter including a body having a top wall provided with an opening for a flint tube extending perpendicularly therethrough, a plate secured on top of the top wall, said plate having intermediate its length upstanding ears integral therewith and having a hole therein between said ears extending perpendicularly therethrough and vertically aligned with the opening in the top wall, a pin mounted in said ears, a flint wheel mounted on said pin, a flint tube snugly fitting in said hole and extending through said top wall opening for holding a flint in engagement with the flint wheel, said top wall having other openings therein extending perpendicularly therethrough on opposite sides of the flint tube opening for receiving a fuel tube and a thumb piece plunger, said plate having other holes extending perpendicularly therethrough and vertically aligned with said other openings, a fuel tube mounted in the first of said other holes and extending through said top wall, a thumb piece plunger slidable in the second of said other holes and extending through said top wall, a thumb piece carried by said plunger, and means operatively connecting said thumb piece to said flint wheel to turn said flint wheel when said thumb piece is depressed to throw a spark towards the fuel tube, a snuffer pivoted on said pin, a snuffer cap carried by said snuffer and normally overlying the fuel tube, said connecting means including a one-way connection between said snuffer and said flint wheel and a connection between the thumb piece and the snuffer whereby depression of the thumb piece raises the snuffer cap off the fuel tube and turns the flint wheel.

2. In a cigarette lighter including a body having a top wall provided with an opening for a flint tube extending perpendicularly therethrough, a plate secured on top of the top wall, said plate having intermediate its length upstanding ears integral therewith and having a hole therein between said ears extending perpendicularly therethrough and vertically aligned with the opening in the top wall, a pin mounted in said ears, a flint wheel mounted on said pin, a flint tube snugly fitting in said hole and extending through said top wall opening for holding a flint in engagement with the flint wheel, said top wall having other openings therein extending perpendicularly therethrough on opposite sides of the flint tube opening for receiving a fuel tube and a thumb piece plunger, said plate having other holes extending perpendicularly therethrough and vertically aligned with said other openings, a fuel tube mounted in the first of said other holes and extending through said top wall, a thumb piece plunger slidable in the second of said other holes and extending through said top wall, a thumb piece carried by said plunger, and means operatively connecting said thumb piece to said flint wheel to turn said flint wheel when said thumb piece is depressed to throw a spark towards the fuel tube, a snuffer pivoted on said pin, a snuffer cap carried by said snuffer and normally overlying the fuel tube, said connecting means including a one-way connection between said snuffer and said flint wheel and a connection between the thumb piece and the snuffer whereby depression of the thumb piece raises the snuffer cap off the fuel tube and turns the flint wheel, said snuffer having side walls provided with slots therein sloping upwardly away from the pin towards the thumb piece, said slots being radial to the axis of the pin and forming an angle of 45° with the horizontal, and said thumb piece having lugs thereon engaging in said slots, said slots and lugs constituting the connection between the thumb piece and the snuffer.

3. In a lighter as claimed in claim 2, said thumb piece having side walls lying outside the side walls of the snuffer, and said lugs comprising integral inwardly bent projections on the edges of the said thumb piece side walls nearest the pin.

4. In a lighter as claimed in claim 3, said thumb piece side walls having projections above said lugs extending forwardly of the lugs towards the pin and embracing the snuffer side walls.

IRVING FLORMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,760,933	Aronson	June 3, 1930
1,921,354	Florman	Aug. 8, 1933
1,943,505	Aronson	Jan. 16, 1934
2,038,048	Kilstrom	Apr. 21, 1936
2,242,906	Evans	May 20, 1941
2,445,513	Campos	July 20, 1948
2,474,973	Farmer	July 5, 1949

FOREIGN PATENTS

Number	Country	Date
137,021	Austria	Apr. 10, 1934
586,982	Great Britain	Apr. 9, 1947
792,270	France	Oct. 14, 1935
830,622	France	May 16, 1938