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J. C. SPECK
MECHANICAL LIGHTER
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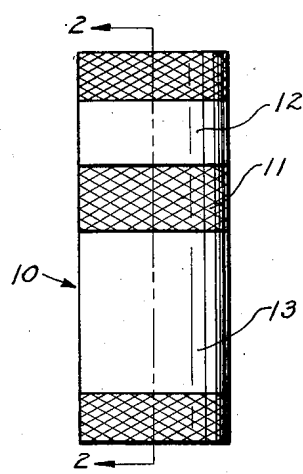


Fig 1

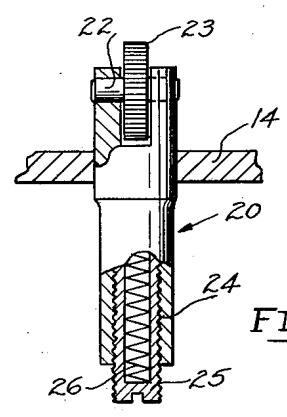


Fig 3

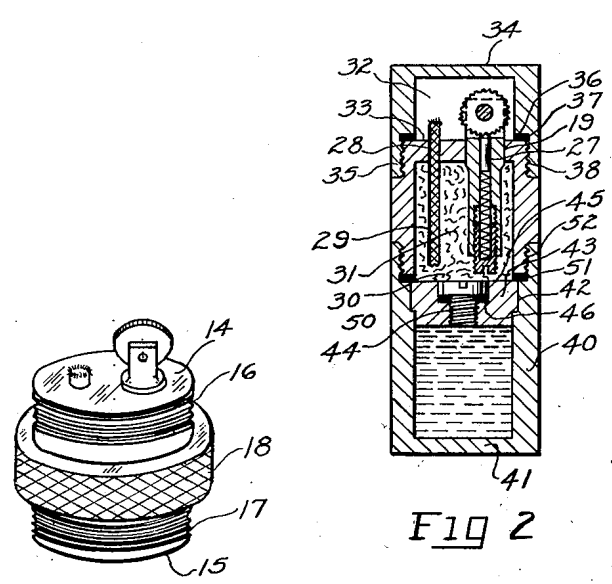


Fig 2

Fig 4

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MECHANICAL LIGHTER

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3 Claims. (Cl. 67-7.1)

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My invention relates to a lighter or mechanical device for producing a flame.

Although various types of mechanical lighters have been provided heretofore, all such with which I am familiar embody characteristics which make them unsuitable when subject to certain operating conditions, for example, such lighters due to their inherent construction readily fail to operate if they become wet or damp as a result of having been immersed in a fluid or exposed for extended periods of time to moist atmospheric conditions.

It is among the objects of the present invention to provide a mechanical lighter of new and novel construction which is simple and compact, is relatively economical to manufacture and wherein, when assembled, the operating parts thereof are protected from adverse atmospheric conditions or fluids to which the device may be exposed.

Another object of my invention is to provide a mechanical lighter in which reserve fluid for the lighter will be embodied in a simple and convenient manner.

A further object of the invention is to provide a novel efficient mechanical lighter having a reserve fluid container or tank embodied therein which also has moistureproof joints between the elements of the lighter.

Other objects and advantageous features of the invention not at this time more particularly pointed out will become more apparent as the nature of the invention is better understood from the following detailed description taken in conjunction with the accompanying drawings wherein like reference characters designate corresponding parts and wherein:

Figure 1 is a side elevational view of a mechanical lighter embodying the present invention,

Figure 2 a vertical sectional view taken on the line 2-2 of Figure 1,

Figure 3 is an enlarged fragmentary detail partly in section of the spark producing assembly, and

Figure 4 is a perspective view of the body portion of the lighter.

With reference to the drawing and particularly Figure 1, the mechanical lighter of the present invention is indicated generally by the numeral 10 and is composed of three main parts or sections, being a middle or main body section generally indicated by the numeral 11, a top or upper cap section generally indicated by the numeral 12 and a lower or bottom cap section generally being indicated by the numeral 13. The body section 11 comprises a hollow cylindrical

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member having a closed top 14 and an open bottom 15. The body section 11 adjacent its respective ends is provided with external threads 16 and 17 between which is disposed knurled portion 18.

The closed top 14 of the body section 11 is provided with a bore 19 which is adapted to receive the spark producing assembly generally indicated by the numeral 20. The assembly 20 comprises a flint tube 21 having a bifurcated upper end which supports a shaft 22 upon which is rotatably mounted a knurled spark producing wheel 23. The lower portion 24 of the flint tube is screw-threaded and a regulating and adjusting screw 25 is arranged therein. A helical spring 26 is placed over said screw and the spark-producing flint 27 is pressed by said spring against the spark wheel 23, as it is well known in the art.

Extending through a suitable opening 28 in the closed top 14 in juxtaposition with the spark producing assembly 20 is a wick 29. The hollow space 30 within the body section 11 is filled with an appropriate wadding material 31, said material being the carrier of the combustion vapor producing liquid, for example gasoline, ether or some appropriate specific composition, used in this art for such purpose, a small quantity of said liquid being dropped over and on the material 31 and being absorbed thereby when filling the lighter.

The top or upper section 12 comprises a hollow cylinder 32, open at the bottom 33 and closed at the top 34. A counterbore 35 is provided adjacent the open bottom of the cylinder, terminating in a shoulder 36 upon which is seated a suitable gasket 37. The wall of the counterbore 35 is screw-threaded as at 38 to receive the threaded portion 16 of the body 11. When the top section 12 is threaded on the body 11 the peripheral edge of the closed end surface 14 on the body 11 engages the gasket 37 and compresses the same against the shoulder 36 forming an effective waterproof seal between the body and top section of the lighter. In addition to precluding moisture and the like from the operating elements of the lighter the structure serves to prevent the dissipation of lighter fluid through evaporation from the end of the wick.

The bottom cap section 13 also comprises a hollow cylinder 40 open at the top and having a closed bottom 41. The open end of the cylinder is counterbored as at 42 into which counterbore there is press-fitted a closure member 43. The inner wall of the cylinder 40, bottom 41 and

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closure member 43 define a reservoir adapted to contain a reserve supply of fluid for the lighter. The closure member 43 is provided with a central bore 44 having a counterbore 45 defining a shoulder 46 upon which is arranged a suitable gasket. The bore 44 is threaded to receive the threaded shank of a closure stud 47.

Above the counterbore 42 the inner wall of the cylinder 40 is offset to define a shoulder 50 upon which is seated a suitable gasket 51. Between the shoulder 50 and the open end of the cylinder are provided screw threads 52 which receive the threads 17 on the lower end of the main body section 11. When the bottom cap section is assembled upon the body section 11 the lower edge surface of the latter is adapted to engage the gasket 51 and effect a tight waterproof joint therebetween.

Having thus described my invention so that those skilled in the art may be able to understand and practice the same, what I desire to obtain by Letters Patent is defined in the appended claims.

I claim:

1. A mechanical lighter comprising a hollow cylindrical body portion having a closed top wall and an open bottom, threaded portions formed on opposite ends of said body, a wick and spark producing elements projecting upwardly from said top wall, a wad of absorbent material in said body, a cylindrical cap member threaded onto the closed end of the body portion and encasing the said wick and spark producing elements and forming the top of the lighter, a hollow cylindrical cap member threaded onto the open end of the body portion and forming the bottom of the lighter and sealing means between said cap members and said body portion serving to prevent the entry of moisture into the interior of the lighter.

2. A mechanical lighter comprising a hollow cylindrical body portion having a top end wall and an open bottom, said body being provided with threaded exterior wall portions adjacent the opposite ends thereof, a wick and spark producing elements projecting outwardly from said end wall, a wad of absorbent material in said body, a cylindrical cap member threaded onto the closed end of the body portion enclosing the said wick

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and spark producing elements and forming the top of the lighter, a cylindrical cap member threaded onto the open end of the body portion and forming the bottom of the lighter, and sealing members disposed between the respective cap members and the said body portion whereby the flame producing elements of the lighter are maintained dry when the lighter is exposed to moist conditions.

3. A mechanical lighter comprising a hollow cylindrical body having a top end wall and an open bottom, said body being provided with threaded exterior wall portions adjacent the opposite ends thereof, a wick and spark producing elements projecting from said end wall, a wad of absorbent material in said body, a cylindrical cap member threaded onto the closed end of the body portion enclosing the said wick and spark producing elements, a second cylindrical cap member threaded onto the open end of the body portion and forming the bottom of the lighter, said second cap member defining a chamber for receiving a reserve supply of fluid, said chamber being independent of said body portion, and sealing members disposed between the respective cap members and the said body portion whereby the flame producing elements of the lighter are maintained free from moisture upon exposure of the lighter thereto.

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