Feb. 7, 1950 S. BACHRACH 2,496,257

TORCH IGNITER

Filed Aug. 11, 1948

FIG. 1.

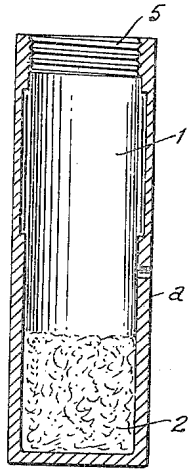


FIG. 2.

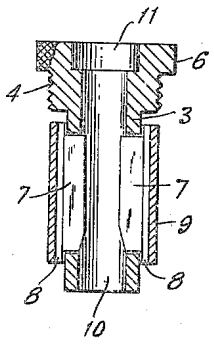


FIG. 3.

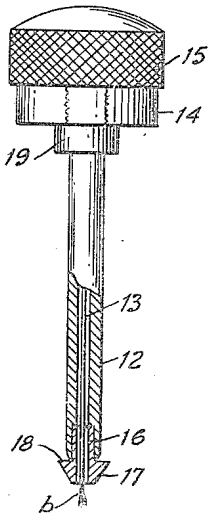
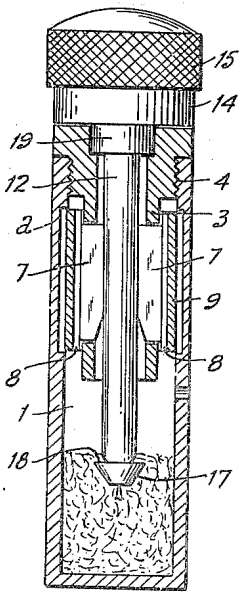


FIG. 4.



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TORCH IGNITER

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4 Claims. (Cl. 67—7.1)

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The present invention relates to a new industrial product, namely, in a spark igniter adaptable for being carried in the pockets, said igniter being of the type which comprises a generator for the spark that ignites a textile wick saturated with an inflammable fuel, the said generator causing the spark by frictional contact with a flint rod or with any other suitable material.

The new igniter is characterized by the fact that it comprises a tubular member carrying the wick that extends longitudinally along its entire length, the said tubular member carrying at one end a bush whose depending end presents a surface for frictional contact with the members cooperating for producing the spark. The same tubular member has its other end threaded for securing to a cap turned by hand, serving at the same time as a container for the wick that extends outside the tubular member, a distance enough for being ignited.

The said tubular member, together with the cap, constitute an adjustable unit within a case formed by a cylindrical body at whose bottom is secured a wad which may be saturated with the burning fuel, and the mouth of the case is provided with a closing means for the said tubular member carrying the wick, the said means carrying, at the same time, the flint rods or other rods of similar material that produces the sparks.

In order that the present invention may be well understood and readily carried into realization, reference is had to the following description and drawing in which:

Fig. 1 is a view showing a section of the exterior casing that contains the elements that comprise the igniter;

Fig. 2 is a view showing a section of the cooperating elements with the igniting end for producing a spark;

Fig. 3 is a view showing a partial section of the bearing elements and of the spark generating end; and

Fig. 4 is a sectional view illustrating the device mounted in operating position.

In the foregoing views, the same reference numerals indicate those equal or corresponding parts that are visible in the various figures.

The igniter comprises the following arrangement of elements: a cylindrical member constituting a case *a* (Fig. 1), within which are located the elements that form the device. In the bottom of the said casing, there is located a wad of saturated material 2, which is able to maintain itself impregnated with an easily burning fuel.

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A bush 3 (Fig. 2) which has an upper threaded portion as at 4, for being coupled by threading to the internally threaded portion 5 of the mouth of casing *a*, terminates in an enlarged head formation 6, whose outer surface is roughened for facilitating its manipulation. The said bush is provided with two or more side openings that form a securing means for small flint rods or rods of similar material 7, which are secured to longer plates 8 that extend beyond both ends of the slots. The said plates thus secure the rods 7 to the outer periphery of the bush, under the pressure exerted by an expansible sleeve 9. The small rods 7 extend into the axial passage 10 of said bush, the said passage terminating in an enlarged recess 11 at its upper end, the said recess being located in head portion 6 and extending through the top wall thereof.

A tubular member 12, Fig. 3, having a wick 13 located therein, extends into a recess formed in cap 14, to which is secured the upper end of the tubular member 12 by threading. The said cap is formed with an enlarged head 15, having its outer surface roughened for facilitating its handling. Member 12 carries, held therein by frictional fit, at its lower end, a bush 16 that overlaps the mouth of the said tubular member. This bush has a depending conical head 17, whose base is of larger diameter 18 which constitutes the friction zone for engagement with the small rods 7, for producing the spark required for ignition.

The device comprised by the elements just described in relation to Figures 1–3 inclusive, after being assembled, present the appearance shown in Figure 4. The said figure shows how the bush is secured by threading to the threaded portion 5 of casing *a*. Collar 19 of cap 14 is secured with slight pressure within recess 11 of bush 3. In the assembled position of Fig. 4 everything is ready for causing the ignition by pulling tubular member 12 by means of cap 14. This causes, owing to the effects of friction of portion 18 of head 17 with the small rods 7, the production of a spark which instantaneously produces the ignition of the projecting end *b* of wick 13, said end being saturated with the fuel that impregnates the wad 2 located at the bottom of casing *a*, for its ignition.

From what has been described and shown in the accompanying drawings, the advantages of the present invention are clearly apparent, as also the functional relation amongst the component elements of the device, it being unnecessary to go into other details herein, except to clearly

establish the right of the inventor to introduce subsequent modifications in the constitutive embodiment of the device, without thereby departing from the scope and limits of the following claims.

What is claimed is:

1. A pocket lighter assembly comprising a container, a flint-bearing unit threadedly connected to and extending into said container, and an actuator and torch unit axially movable relative to the container and flint-bearing unit to thereby produce a lighted torch activity of the torch unit by bodily withdrawal of the actuator and torch unit from the assembly, said container having a closed lower end and an open upper end with the latter threaded, the lower interior zone of the container containing an absorbent filling for inflammable fluid, said flint-bearing unit having its body formed with an open-ended axial bore the wall of which includes spaced parallel longitudinally extending and closed-end slots radiating from the bore with the wall periphery above the slotted zone formed with a thread zone for removable connection with the container and a head zone above the thread zone and having a bore enlargement therein, each slot having an individual flint member mounted therein with the member carried by an external mounting individual to the member with the latter having a radial thickness greater than the bore wall thickness to thereby extend into exposed position within the bore, said unit including an expansible sleeve overlying the member mounts within the container and with the sleeve expansible within and relative to the container wall, said actuator unit including a body portion having an axial bore and having an enlarged head zone with the latter including a portion fitting the enlarged bore zone of the flint-bearing unit, said body portion having its lower end equipped with a conical actuator head, said bore containing a wick element leading from the head zone with its free end projecting beyond the conical head, the length of the body portion being such that when the unit is in assembled position the conical head and projected wick portion will extend into the container absorbent filling to thereby impregnate the exposed wick with the inflammable fluid, said assembly being rendered active to light the wick by rapid withdrawal of the actuating unit to thereby produce the lighting sparks by the movement of the conical head over the flint member zone in presence of the pressure provided by the sleeve of the flint-bearing unit.

2. An assembly as in claim 1 characterized in that the mounts of individual flint members are in the form of individual rod-like elements each having a length greater than the length of the members to project beyond the ends of the members, each element being firmly secured relative to the outer face of its member, the width of the expansible sleeve approximately equalling the length of the elements to thereby fixedly position a member against longitudinal movement while permitting yielding movement of the member through sleeve expansion.

3. An assembly as in claim 1 characterized in that the conical head of the actuator and torch unit is of greater major diameter than the distance between the inner faces of opposing flint members of the flint-bearing unit when inactive, said head and members having complemental means rendered active by movement of the actuator unit for causing outward movement of the members in opposition to the yielding expansible sleeve to thereby permit conical head movement through the member zone with the movement in the withdrawal direction active to produce spark generation.

4. An assembly as in claim 3 characterized in that the major diameter of the head is at the top of the conical configuration, with said diameter extending in a plane normal to the axis of the unit and with the outer zones of such diameters providing an annular face extending in such plane to thereby provide a scraping edge for activity on the flint members during such withdrawal movement, the tapering sides of the head rendering said scraping edge inactive for spark generation during movement of the head through the members in the opposite direction of movement of the unit for unit housing purposes.

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