C. HUBERT.

PORTABLE LIGHTER.

APPLICATION FILED AUG. 17, 1909.

995,463.

Patented June 20, 1911.

Fig. 1.

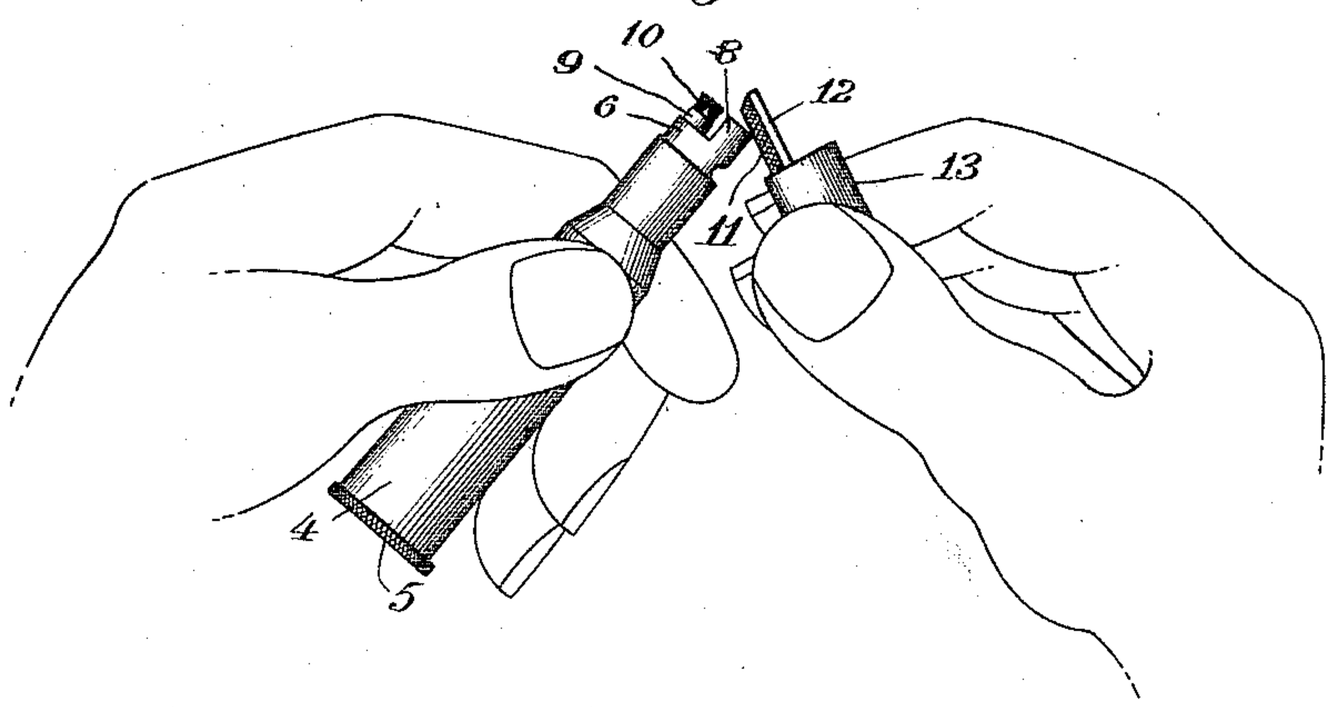


Fig. 2.

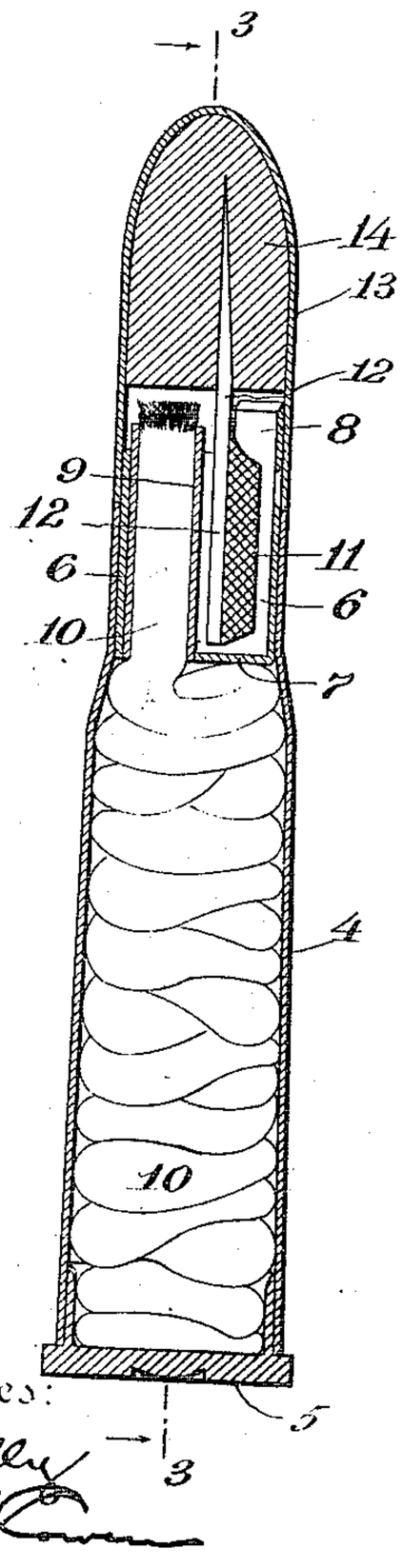
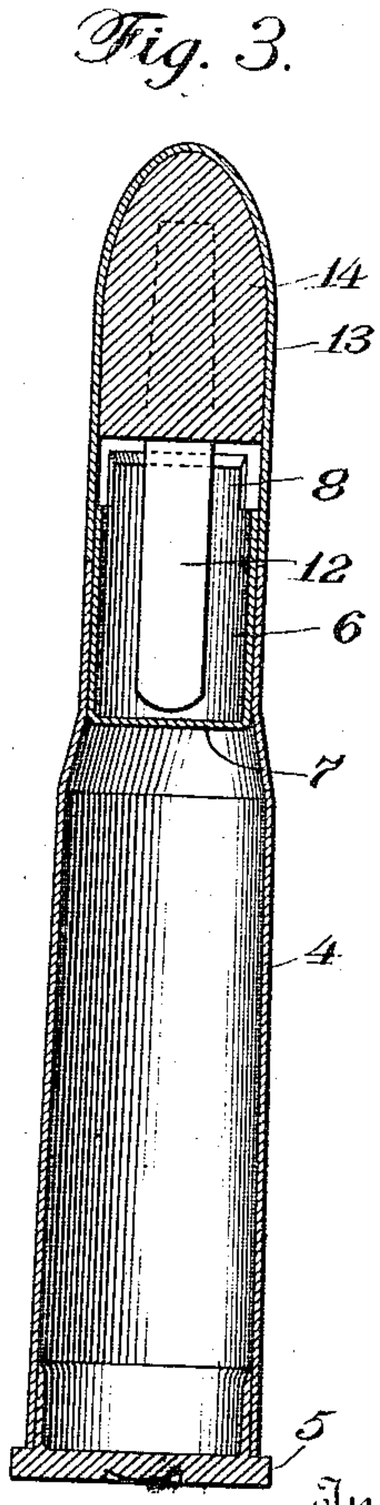


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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PORTABLE LIGHTER.

995,463. Specification of Letters Patent. Patented June 20, 1911.

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To all whom it may concern:

Be it known that I, CONRAD HUBERT, a citizen of the United States of America, residing in the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Portable Lighters, of which the following is a specification, reference being had therein to the accompanying drawings, forming part thereof.

My invention relates generally to portable or pocket lighters and particularly to that type of such lighters wherein a frictional sparking device is employed.

My invention has for its objects simplicity and economy of construction, ease of operation, compactness and durability.

I employ as a spark producing part a material known as a pyrophoric alloy, which, upon comparatively slight friction will emit a shower of sparks capable of igniting a tinder or wick. Such pyrophoric alloys are now known to the art and may constitute an alloy of some one or more of the rare earth metals, for example, an alloy containing cerium and iron has been found suitable for the purpose. However, it should be understood that my present invention is not directly concerned with the nature or composition of the pyrophoric alloy employed, but has to do with an ignition device adapted to employ such sparking material or pyrophoric alloy. The co-acting friction element is also of a metallic nature, but of considerably harder material, as for example, steel.

My invention includes a sparking element and a friction element, means being provided for holding one of such elements in proximity to an ignitible part or wick, the other element being carried by a cover for the wick holder.

My invention also includes a metallic sparking element and a metallic friction element combined with the wick holding device.

My invention also includes several details of construction and combinations of parts, as will hereinafter appear.

I shall now describe my invention with reference to the accompanying drawings and shall thereafter point out my invention in claims.

Figure 1 is an elevation on a reduced scale of the complete device as held in the hands and operated for ignition. Fig. 2 is a central vertical section of the complete device. Fig. 3 is a similar view on a plane indicated by the line 3—3 of Fig. 2 as viewed from the left.

In the embodiment of my invention illustrated in the drawings, a cartridge shaped shell or sheet-metal casing 4 is provided at its larger end with a bottom closure 5 fitting removably therein, and is provided at its smaller end with a lining 6 fixed therein. The lining 6 is provided with a bottom 7, shown as formed integral therewith and dividing the casing 4 into an upper and a lower compartment. The lining 6 projects beyond the casing 4 and at one side has a portion 8 projecting farther than the remainder and beveled outwardly substantially to a knife edge, as shown in the drawings, to form a friction element or scraper adapted to coact with the sparking material or sparking element. A wick tube 9 passes from the lower compartment through the wall 7 and extends through the upper compartment and terminates in a plane between the scraping edge or friction edge of the part 8 and the upper end of the rest of the lining 6. A wick 10 is coiled within the casing 4 and has an end projecting from the upper end of the wick tube 9 in proximity to the friction edge of the friction element 8. The wick 10 should be moistened with gasolene or other suitable liquid fuel. This may be effected from time to time, as required, by removing the bottom closure 5 and dropping in a few drops of gasolene, just sufficient to moisten the wick 10 without leaving any free gasolene not absorbed into the wick. The lining 6, embodying the friction element 8, should be of some hard metal, for example, steel, while the other above described parts may be of any suitable material, for example, brass.

To ignite the end of the wick 10 projecting from the upper end of the wick tube 9, a sparking element is provided coactive with the friction element 8. This sparking element is composed of a pyrophoric alloy, and is shown as supported on an arm 12 carried by a cover cap 13 for the casing 4, the upper end of the arm 12 being shown as inserted into a plug 14, of wood or other suitable material, in the cap 13. The cap 13 fits over the projecting portion of the lining 6 and abuts against the shoulder formed by the upper end of the casing 4, the projecting

portion of the arm 12 and the sparking element 11 being received into the upper compartment formed in the casing 4 above the partition wall 7. When the cap 13 is thus in place, a smooth outer contour is presented, the general appearance being that of a rifle cartridge, this effect being heightened by making the cap 13 of a bullet colored metal such as steel to give the proper color effect.

When the device is to be operated, the cap 13 is removed and held in one hand, while the casing 4 is held in the other hand, substantially as illustrated in Fig. 1, the sparking element 11 being drawn with slight pressure across the sharp beveled edge of the friction element 8 in a direction away from the wick 10 while inclined to the casing 4 at a slightly acute angle, as indicated in Fig. 1. This operation will produce a shower of sparks several of which will fall upon the projecting end of the wick 10 and will ignite it. After application to the cigar or other object to be lighted or ignited, the flame may be either blown out or extinguished by replacing the cap 13 on the casing 4, thereby excluding the air and smothering the flame.

It is obvious that various modifications may be made in the construction shown and above particularly described within the principle and scope of my invention.

I claim:

1. A portable lighter comprising a wick-containing casing, a lining projecting from the casing and forming a friction element, a separable cover for the casing fitting over the projecting portion of the lining, an arm projecting from within the cover, and a sparking element carried by the arm, the sparking element being received into the casing when the cover is in place on the casing and being adapted to be drawn across the friction element after the cover has been detached from the casing.

2. A portable lighter comprising a wick-containing casing provided with upper and lower compartments, a lining projecting from the upper compartment of the casing and forming a friction element, a wick tube extending from the lower compartment to the upper edge of the upper compartment, a separable cover for the upper compartment fitting over the projecting portion of the lining, an arm projecting from within the cover, and a sparking element carried by the arm, the sparking element being received into the upper compartment when the cover is in place on the casing and being adapted to be drawn across the friction element after the cover has been detached from the casing.

3. A portable lighter comprising a wick-containing casing including a bottom closure adapted to be opened to give access to the interior of the casing, a lining fitted in the upper portion of the casing, the lining being provided with a bottom forming in the casing an upper compartment, such lining projecting from the casing and being provided with a scraping edge, and a wick tube extending from the interior of the casing through the upper compartment and terminating in proximity to the scraping edge of the lining, in combination with a separable cover adapted to fit over the projecting portion of the lining, an arm projecting from the cover, and sparking material carried by the arm, the sparking material being received into said upper compartment of the casing when the cover is on and being adapted to be drawn across the scraping edge of the lining after the cover has been detached.

In testimony whereof I affix my signature in presence of two witnesses.

CONRAD HUBERT.

Witnesses:
WM. ASHLEY KELLY,
BERNARD COWEN.