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COMBINED PENCIL AND LIGHTER

Filed Nov. 22, 1929

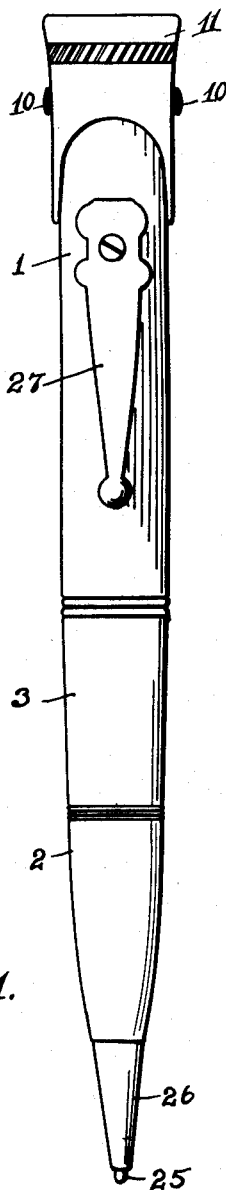


FIG. 1.

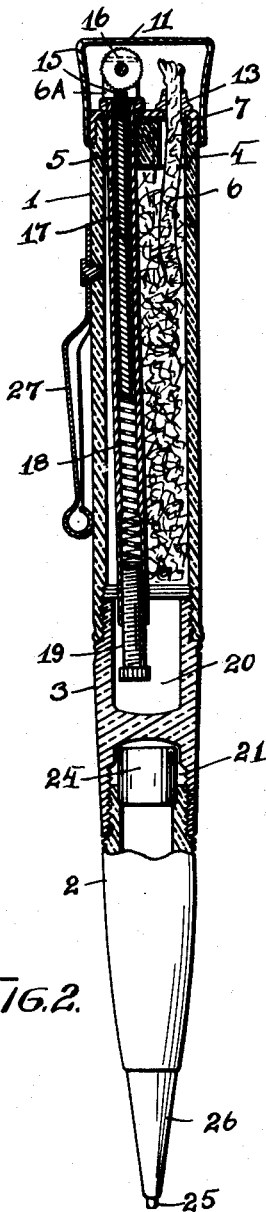


FIG. 2.

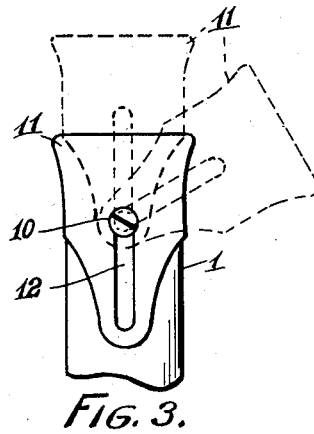


FIG. 3.

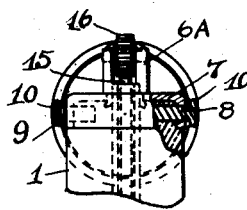


FIG. 4.

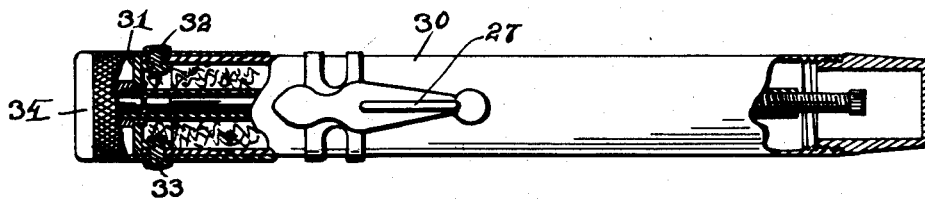


FIG. 5.

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COMBINED PENCIL AND LIGHTER

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This invention relates to a combined pencil and lighter construction and has for its various objects:

To provide an improved sectional barrel for the lighter and pencil so that the operation or use of either cannot interfere with the operation and use of the other.

To provide a sectional barrel for the combined pencil and lighter which is constructed so that the fuel contained in the lighter section cannot possibly leak into the pencil section.

To provide a sectional barrel construction which makes it possible to readily fuel the lighter section.

To provide the lighter with a cover that also serves as a protector against the wind when the lighter is lighted.

All these and other objects of this invention will be apparent from the drawing, the specification and the appended claims forming a part thereof.

In the accompanying drawing:

Figure 1 is an enlarged view of the combined pencil and lighter.

Figure 2 is an enlarged longitudinal sectional view of the lighter and a portion of the pencil.

Figure 3 is an enlarged detail view of the upper end of the lighter section and the cover therefor illustrating the positions the cover occupies when covering and uncovering the lighter.

Figure 4 is a detail view of the upper end of the lighter with the cover of the lighter swung back to expose the flint and wick.

Figure 5 is an enlarged partial section and elevation of a modified form of the lighter without the pencil.

In the several figures of the drawing like reference numerals indicate like parts.

The combined pencil and lighter forming the subject matter of my present invention is constructed so as to combine these two devices in such a manner that the function of either the one or the other is not impaired by the irrespective uses and either the lighter or the pencil can be used as if the other were really no part of the construction. The eraser

included in the pencil portion of the device is another part of the device which may be used independently and without interference from either the pencil or the lighter. Furthermore the construction of the device as a whole is such that the fuel for the lighter, during the filling operation and after it is filled, cannot in any way spill over or leak into the pencil section of the device.

As illustrated in the figures, the barrel of the combined pencil and lighter comprises three sections, the lighter section 1, the pencil section 2 and the intermediate dividing section 3. In Figures 1 to 4 inclusive these sections are illustrated as being made of casein, bakelite or other similar non-metallic material which is not porous. Of course it is understood however that either one or all of the barrel sections may be made of metal; in fact the modification illustrated in Figure 5 is illustrated as being made of metal.

The lighter section of the barrel indicated by reference numeral 1 is closed at the top but has two small openings 4 and 5 provided therein thru which the wick 6 and flint holder 6A respectively can pass. Both the wick and flint holder are mounted on an inverted cup shaped metal cap 7 and the extreme upper end of the lighter barrel is slightly reduced in diameter to have this cap telescope over it so that the sides of the cap are flush with the sides of the barrel. As illustrated in Figure 4 the cap 7 is fastened to the closed end of the lighter barrel by means of two pins 8 and 9 which are preferably knurled at their inner ends and are driven thru suitable holes in the cap into holes provided in the barrel. A driving fit provided for the pins in the holes of the barrel firmly anchors them in place therein. The outer ends of the pins 8 and 9 are provided with the heads 10, 10 and the pins project sufficiently from the cap 7 to form the pivots for the combined removable cap and wind protector 11. This cap is formed up of sheet metal and at two diametrically opposite points the sides are lengthened and provided with the elongated slots 12. The portion of the pins 8 and 9 which project from the side of the cap 7 serve as a pivot for the wind protector 11 and pass thru the slots 12 with the

heads 10 located on the outside of the slot to hold the slotted sides of the wind protector in engagement with the pins. The slots in the sides of the wind protector permit the
 5 endwise movement of the protector free from the end of the lighter so that it can be swung to one side of the end of the lighter to completely uncover it. This is illustrated in dotted lines in Figure 3.

10 The cap 7 which is fixed to the end of the barrel section 1 has a short upwardly projecting sleeve 13 provided thereon and in this sleeve is held the wick 6. The upper end of this wick slightly projects above the sleeve
 15 to be lighted by the flint 15. From the sleeve 13 the wick passes thru the opening 4 in the end of the barrel 1 into the hollow inside of the barrel where the wick makes contact with the cotton or other absorbent material which
 20 is placed within the barrel 1 and is saturated with the fuel. The fuel is thus absorbed by the wick from the cotton and by capillary attraction carried to the outside of the barrel.

At a point opposite to the wick 6 is located
 25 the flint 15 which is mounted in the tubular holder 6A. This holder is also fastened to the cap and the outer end is bifurcated to have the flint operating wheel 16 mounted to rotate therein above the flint 15. Within the
 30 tubular flint holder and behind the flint 15 is located the push rod 17 which is forced against the flint by the expansion spring 18. An adjusting screw 19 closes the inner end of
 35 which supports the expansion spring 18.

The expansion spring forces the flint 15 against the serrated perimeter of the flint operating wheel and on the rotation of this
 40 wheel and the flint causes sparks from the flint to fly toward the wick which is thus ignited thereby. When the cover or wind protector is removed from the end of the lighter it is swung to one side over the wick
 45 so as to be located in close proximity to the wick and may even partially cover the wick in order to protect the flame from the wind.

The open end of the barrel section is closed by the dividing section 3. For this purpose
 50 the end of the barrel section is provided with a female thread into which is threaded the male thread provided on the dividing section 1. The dividing section has the pockets 20 and 21 provided at the upper and lower end
 55 respectively and these pockets are separated by the partition 22. The pocket 20 in the upper end of the dividing section is adapted to receive the end of the adjusting screw 19 which protrudes from the end of the hollow
 60 barrel section 1 so that it can be readily adjusted therein or withdrawn therefrom to renew the flint when necessary. The pocket 21 in the lower end of the dividing section of
 65 the barrel is threaded to receive the pencil section 2. The end of the pencil section which

is threaded into the pocket 21 carries the eraser 24 so that the eraser is completely en-
 70 cased in the dividing section when the pencil section is attached thereto. When it is desired to use the eraser the pencil section is unscrewed from the dividing section and separated entirely from the dividing section and lighter barrel. The rear of the pencil section then carries only the eraser so that it
 75 can be used the same as the eraser of any ordinary pencil.

The pencil lead proper 25 is mounted in the tip 26. This tip is the same as that of an ordinary mechanical pencil which when rotated
 80 in one direction moves the lead 25 out of the tip and when rotated in the opposite direction draws it back in again. As the mechanical features of the pencil mechanism do not form any part of this invention the detail construction thereof is not illustrated.
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In Figure 5 I have illustrated the lighter barrel 30 made up of sheet metal. In this construction the cap 31 carrying the wick and flint telescopes into the open end of the barrel 30 and is fastened into the barrel by
 90 the rivets 32 and 33. These rivets pass thru holes in the wall of the barrel and the cap and the inner ends, which are of slightly reduced diameter, are peened over on the
 95 inside of the cap to fasten the rivets in place and at the same time clamp the cap to the barrel. On the outside the rivets have heads formed thereon in order to hold the cap in place on the barrel. The flint and wick mounting are the same in this construction as
 100 that illustrated in Figures 1 to 4 inclusive.

Both forms of the lighter are provided with spring clips 27 which are either permanently fastened to the lighter barrel or
 105 are held by frictional contact in place thereon.

As will be seen from an inspection of Figures 1, 2 and 3 the cap 11 has an outwardly flaring upper end. This makes it easier to hold the cap between the fingers as it prevents
 110 the cap from sliding out between the fingers as it is pulled off the end of the lighter.

I claim:

1. In a device of the character described, a container element, a reinforcing cap engaged over the end of said container element and
 115 inclusive of a skirt portion overlying the side of said element, a pair of pin fasteners extending through opposite sides of the skirt portion of the cap into the container element, portions of said pins projecting outwardly beyond the skirt portion of the cap, and a closure cap mounted on the container element by means of the projecting ends of
 120 said pins for movement between covering and uncovering positions with respect to the end of the container element.

2. In a device of the character described, a container element, a reinforcing cap at one
 125 end of the container element, a pair of fasten-

- ers disposed at diametrically opposite points relative to the container element and the cap for fastening the cap to the container element, said fasteners having outwardly projecting ends, and a closure cap mounted by means of the projecting ends of said pins for longitudinal and pivotal movements between covering and uncovering positions with respect to the end of the container element.
3. In a device of the character described, a container element, a reinforcing cap at one end of the container element inclusive of a skirt portion surrounding the container element, a pair of pin fasteners extending through opposite sides of the skirt portion of the cap and the wall of the container element for fastening the cap to the container element, end portions of said pins projecting outwardly beyond the sides of the container element, and a closure cap having longitudinally extending slots receiving the projecting ends of said pins whereby the same is retained in assembly with the container element for longitudinal and pivotal movements between covering and uncovering positions with respect to the end of the container element.
4. In a pyrophoric lighter, a fuel barrel, a wick having an exposed end at one end of the barrel, wick igniting means inclusive of a sparking wheel mounted on the end of the barrel, a cap to fit over the end of the barrel to normally enclose said wick and said sparking wheel, said cap having longitudinally extending slots in opposite sides thereof, pins carried by the barrel and engaged in said slots whereby the cap is connected with the barrel for longitudinal movements, the sides of the cap between the slots therein being cut away so that when the cap is moved longitudinally outward it may be swung to an angular position relative to the barrel to expose the wick and the sparking wheel for use and to constitute a wind shield partially surrounding the wick.
5. In a pyrophoric lighter, a fuel barrel, a wick having an exposed end at one end of the barrel, wick igniting means inclusive of a sparking wheel mounted on the end of the barrel, a cap to fit over the end of the barrel to normally enclose said wick and said sparking wheel, means connecting said cap to said barrel for limited longitudinal movement in an outward direction relative to the barrel and for pivotal movement relative to the barrel when in its outermost position of longitudinal movement relative thereto, the sides of said cap being cut away to permit pivotal movement thereof to an angular position relative to the barrel when moved outwardly relative thereto to expose the wick and the sparking wheel for use and to constitute a wind shield for the wick.
6. In a pyrophoric lighter, the combina-
- tion of a hollow barrel, a lighter head comprising an inverted cup, said hollow barrel nested with one end into said inverted cup, a cap adapted to telescope over said lighter head, and means passing through the wall of said cap and said hollow barrel to anchor said cap to the outside of said inverted cup and said hollow barrel to the inside thereof.
- In testimony whereof I affix my signature.
- ARTHUR G. STEVENSON.

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