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L. L. DRITZ

2,403,589

POCKET LIGHTER

Filed April 14, 1945

Fig. 1.

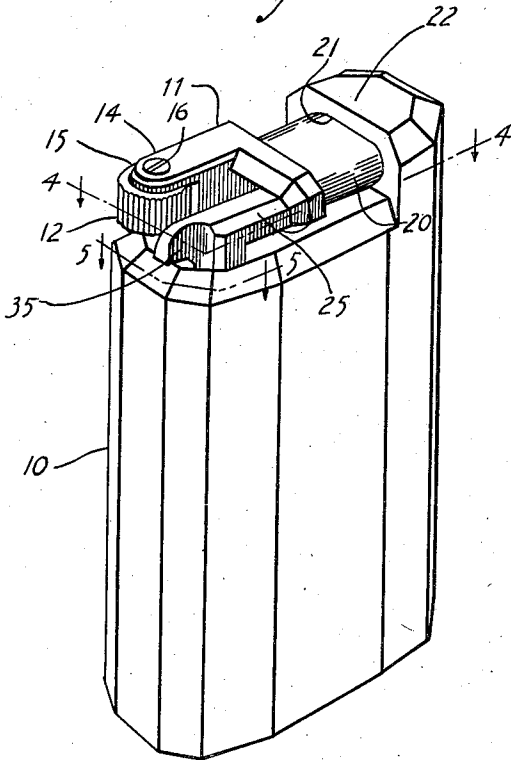


Fig. 2.

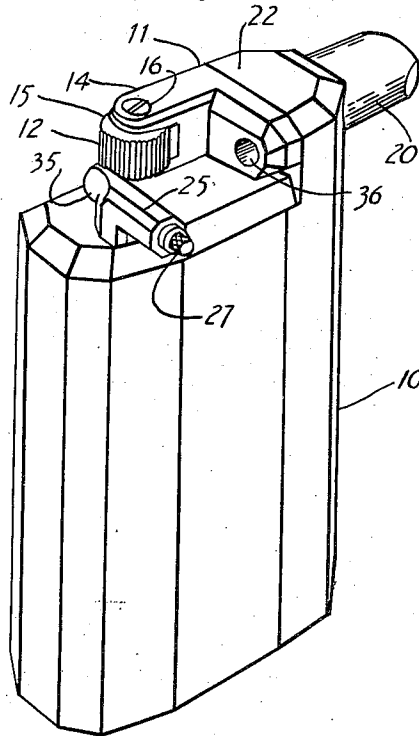


Fig. 3.

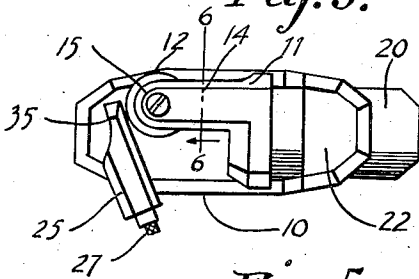


Fig. 4.

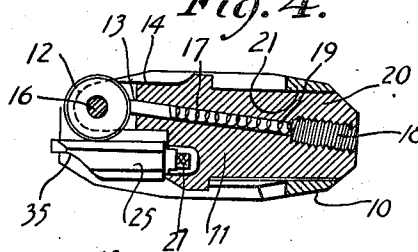


Fig. 5.

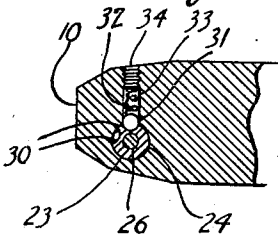
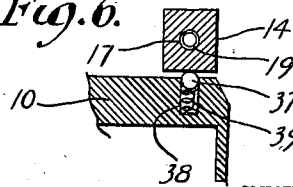


Fig. 6.



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POCKET LIGHTER

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6 Claims. (Cl. 67-7.1)

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This invention relates to pocket lighters of the type employing a hand actuated abrasive wheel disposed in abrading relation with a piece of pyrophoric material for emitting sparks to thereby ignite a wick protruding from the lighter and the invention has particular reference to a lighter of said character in which the wick is mounted for pivotal movement to dispose the same either in a position extending longitudinally of the top of the lighter or in a position at right angle thereto and in which the abrasive wheel is mounted for reciprocatory movement thereon so as to dispose the wheel adjacent to the wick for igniting the same and for engagement with the wick tube for swinging the wick from said right angular position to said longitudinal relation.

The invention further comprehends a pyrophoric holder rotatably carrying the abrasive wheel at the inner end thereof and having a socket located in alignment with the wick tube when the same is arranged in its longitudinal position with reference to the lighter and which holder is mounted on the lighter for reciprocatory movement toward and away from the wick so as to permit of the engagement of the end of the wick tube in the socket for covering the wick and provide a snuffer therefor.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawing in which is illustrated the preferred form of the invention.

In the drawing:

Fig. 1 is an enlarged perspective view of a pocket lighter constructed in accordance with the invention and illustrating the holder in inactive position and in covering relation with the end of the wick tube.

Fig. 2 is a similar view thereof illustrating the holder retracted and the abrasive wheel in active position and the wick swung into angular position.

Fig. 3 is top plan view of the lighter showing the holder moved partially inward and in engagement with wick tube for swinging the same from angular position to longitudinal relation.

Fig. 4 is a horizontal sectional view taken approximately on line 4-4 of Fig. 1.

Fig. 5 is a fragmentary sectional view taken approximately on line 5-5 of Figure 1.

Fig. 6 is a fragmentary sectional view taken approximately on line 6-6 of Figure 3.

Referring to the drawing by characters of reference, the pocket lighter includes a container 10 of any preferred size and shape which is adapted to contain wadding in the hollow inte-

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rior thereof for absorbing an inflammatory and volatile liquid which is fed into the container through an opening in the bottom thereof, the opening being normally closed by a screw plug.

The container 10 is provided with a holder 11 which constitutes a support for an abrasive wheel 12 of steel or other suitable material and which contains a length of pyrophoric material 13. The holder 11 is formed with an angulated head including a forwardly projecting portion 14 at one side thereof having a bifurcated free end 15 in which is journaled the abrasive wheel 12 for rotation on bearings 16 arranged on an axis extending outwardly of the upper face or top of the lighter. The holder 11 is also formed with a longitudinally extending bore 17 opening between the furcations at the free end 15 thereof and normally closed at the opposite end by a screw plug 18. Protruding from the inner end of the bore 17 in engagement with the abrasive wheel 12 is the length of pyrophoric material 13 and between the pyrophoric material and the screw plug 18 is an expansion spring 19 which functions to resiliently maintain the protruding end of the pyrophoric material in abrading engagement with the abrasive wheel 12. Rearwardly of the forward portion 14, the holder 11 is provided with a reduced shank 20 which is slidably disposed in an opening 21 extending through a lug 22 located at one side of the top of the lighter and projecting above the upper face thereof so as to guidedly mount the holder 11 for movement in a plane parallel with the upper face of the lighter.

A wick tube having a shank 23 extending through an opening 24 in the top wall of the lighter, is provided with an angulated terminal 25 disposed parallel with the upper face or top of the lighter. The shank 23 communicates at its inner end with the interior of the lighter and extending through the tube is a wick 26 which has its inner end portion in contact with the wadding within the lighter and its outer end 27 protruding from the reduced free end of the angulated terminal 25 of the tube. The tube is mounted for swinging movement in the opening 24 so as to dispose the angulated terminal 25 thereof either in longitudinal alignment with the top of the lighter as illustrated in Figures 1 and 4 of the drawing or at right angle thereto with the free end thereof and the protruding end of the wick projecting outwardly beyond the side wall of the lighter, as illustrated in Figure 2 of the drawing. The shank 23 of the wick tube is provided with circumferentially spaced depres-

sions 30 in which a metallic ball 31 is urged into engagement therewith by an expansion spring 32 located in a bore 33 in the side wall of the lighter adjacent the top thereof which bore is closed by a plug 34, the spring pressed ball functioning as a detent to resiliently retain the wick tube in said longitudinal alignment or at right angle thereto against accidental or unintentional swinging movement.

The wick tube is adapted to be swung from the right angular position shown in full lines in Figure 2 of the drawing to the position extending longitudinally of the top of the lighter by movement of the holder 11 from the retracted position shown in Figure 2 of the drawing to the forward position shown in Figure 1 thereof. When moved as aforesaid by pressure applied by the thumb against the end of the shank 20, the abrasive wheel 12 abuts against the tail piece 35 of the tube so as to rotate the shank of the tube in the opening 24 and swing the terminal 25 thereof into parallel relation with the forwardly extending portion 14 of the holder in which position further movement of the holder causes the reduced end of the terminal 25 and the protruding end of the wick to engage in the recess or socket 36 to thereby cover the end of the wick and prevent evaporation of the volatile inflammatory liquid from the wick and to provide a snuffer therefor.

When the holder 11 is retracted and the terminal 25 of the wick tube disposed in said longitudinal relation and parallel with the forwardly extending portion 14 of the holder, as indicated in Figure 1 of the drawing, the protruding end 27 of the wick is located in position to receive the sparks emitted by the pyrophoric material 13 upon rotation of the abrasive wheel 12 for igniting the wick. When in this position, the lighted wick may be utilized for lighting cigarettes and the like and by turning the wick tube by pressure applied against the tail piece 35, the terminal 25 of the wick tube may be swung to the right angular position for lighting a pipe and the like.

The forwardly extending portion 14 of the holder 11 is resiliently supported for sliding movement in the opening 21 of the lug 22 upon a metallic ball 37 projecting through an opening 38 in the top wall of the lighter which ball is urged into engagement with the underside of the extension 14 by a coiled expansion spring 39 disposed in said opening 38 between the ball 37 and the bottom of the opening, the pressure against the extending portion 14 being such as to maintain the holder 11 in adjusted position and when the lighter is not in use to maintain the head of the holder 11 in engagement with the lug 22, against accidental or unintentional movement thereof.

It will be understood that when the shank 23 of the wick tube is rotated to dispose the angulated terminal 25 in longitudinal relation with the holder 11 or in projecting relation the metallic ball 31 engages the depressions 30 respectively for preventing accidental or unintentional swinging of the wick tube.

What is claimed is:

1. In a pocket lighter, a container, a holder, means mounting said holder for sliding movement in a plane parallel with and upon the top of said container, said holder having an opening there-through, a pyrophoric element disposed therein and protruding from one end thereof, an abrasive wheel mounted on one end of said holder to rotate in a plane located parallel with the top

of the container, a spring disposed in said opening and urging said pyrophoric element into contact with said abrasive wheel, a wick tube swingably mounted in the top of the container and having an angulated terminal adapted to be disposed in a plane longitudinally of the length of the top wall of the lighter and to be turned into angular relation therewith to dispose the end of the terminal in projecting relation beyond a side wall of the container, a wick arranged in said tube and protruding from one end of the terminal portion thereof and said terminal portion of the wick tube having a tail piece at the opposite end thereof adapted to be engaged by said abrasive wheel for turning the tube from said angular relation to said longitudinal position by the sliding movement of said holder in one direction.

2. In a pocket lighter, a container, a holder, means on said container mounting said holder for sliding movement in a plane parallel with and above the top wall of the container, said holder having an opening therein, a pyrophoric element disposed in said opening and protruding therefrom, an abrasive wheel mounted on one end of said holder to rotate in a plane parallel with the top of the container, a spring disposed in said opening resiliently engaging said pyrophoric element to thereby urge the same into contact with said wheel, a wick tube swingably mounted in the top wall of the container and having an angulated terminal portion disposed in a plane parallel with the top wall of the container and adapted to be turned to and from a longitudinal relation with the top wall of the container and to and from a right angular relation therewith, a wick arranged in said tube and protruding from one end of the terminal portion thereof and said terminal portion having a projecting portion adapted to be engaged by said abrasive wheel for turning the tube from said right angular relation to said longitudinal relation by manually sliding the holder in one direction.

3. In a pocket lighter, a container, a holder, means on said container mounting said holder for sliding movement in a plane above the top of the container, said holder having an opening therein, a pyrophoric element disposed in said opening and protruding therefrom, and an abrasive wheel rotatably mounted on one end of said holder, a spring disposed in said opening resiliently engaging said pyrophoric element to thereby urge the same into contact with the wheel, a wick tube swingably mounted in the top wall of the container and having an angulated terminal portion adapted to be turned to and from the path of movement of said holder and to and from a relation projecting outwardly beyond one side of the lighter, and a wick arranged in said tube and protruding from one end thereof and said terminal portion of the wick tube being engageable by said holder for manually swinging said terminal portion from said projecting relation into longitudinal relation with the holder.

4. In a pocket lighter, a container, a holder, means on said container mounting said holder for sliding movement in a plane above the top of the container, said holder having an opening therein, a pyrophoric element disposed in said opening and protruding therefrom, and an abrasive wheel rotatably mounted on one end of said holder, a spring disposed in said opening resiliently engaging said pyrophoric element to thereby urge the same into contact with the wheel, a wick tube swingably mounted in the top wall of the container and having an angulated ter-

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minal portion adapted to be turned to and from the path of movement of said holder and to and from a relation projecting outwardly beyond one side of the lighter, a wick arranged in said tube and protruding from one end thereof and said terminal portion of the wick tube being engageable by said holder for manually swinging said terminal portion from said projecting relation into longitudinal relation with the holder, and said holder having an opening engageable over the end of said terminal portion and said wick providing a snuffer therefor.

5. In a pocket lighter, a container, a holder, means on said container mounting said holder for sliding movement above the top thereof, said holder having an opening therein, a pyrophoric element disposed in said opening and protruding therefrom, an abrasive wheel rotatably mounted on one end of said holder and engaging said pyrophoric element, a wick tube swingably mounted on said container and having an angulated terminal portion adapted to be turned to and from

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a position longitudinally of said holder and to and from a relation projecting outwardly beyond one side of the lighter, and a wick arranged in said tube and protruding from one end thereof and said wick tube being engageable by said holder for swinging said terminal portion from said projecting relation into said longitudinal relation with the holder.

6. In a pocket lighter, a container, a holder, means on said container mounting said holder for sliding movement thereon, a pyrophoric sparking device mounted on said holder, a wick tube swingably mounted on said container for movement to and from a position adjacent said sparking device and to and from a position projecting outwardly of an edge of the lighter, and a wick arranged in said wick tube and projecting from the outer end thereof and said wick tube being engageable by said holder for swinging the tube from said projecting relation into said position adjacent the sparking device.

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