Feb. 16, 1954 A. F. REILLY 2,669,108

WICK FOR LIGHTERS

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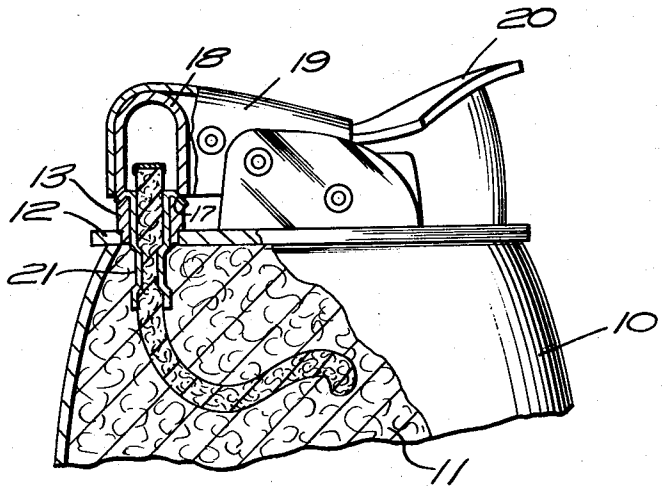


FIG. 1

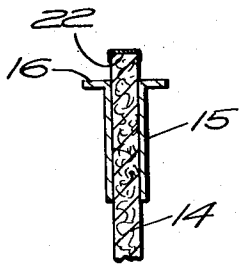


FIG.2

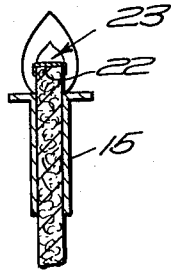


FIG.3

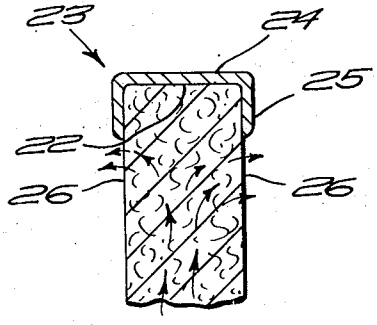


FIG.4

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WICK FOR LIGHTERS

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4 Claims. (Cl. 67—70)

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This invention relates to a wick such as may be variously used but in particular is adapted for use in a lighter where sparks are thrown from a friction wheel to the wick for ignition of the same.

Wicks in cigarette lighters are frequently formed of abraded glass tubing which has capillary properties to transmit fluid fuel from a tank in which the wick is placed to a location where burning is desired. The fuel is of a character which readily gasifies so that when this gas and air are mixed, the mixture will be ignited by a spark thrown toward the wick. In wicks of this character, although the glass is not combustible, it frequently frays when the flame is allowed to recede and the glass is allowed to become heated to an extent that it crystallizes and falls away.

One of the objects of this invention is to prevent the wick from crystallizing at its end, which occurs especially when the fuel is low in the supply tank.

Another object of the invention is to provide a wick which will cause the fuel to emanate from the sides of the wick rather than the top end of the wick so that it will burn in a low, blue, hot flame.

Another object of the invention is to provide a better wick in a simple and efficient manner.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a sectional view of a fragmental portion of a lighter, illustrating a wick formed in accordance with this invention;

Figure 2 is a sectional view of the wick alone as positioned in a tubular support;

Figure 3 is a view similar to Figure 2 but illustrating the flame as it would occur in connection with the wick shown; and

Figure 4 is an enlarged view of the wick alone, showing the passage of the fluid fuel out of the sides of the wick as the fuel is transmitted by capillary action.

With reference to the drawings 10 designates a fuel casing in which there is provided some absorbent material 11 such as cotton, ground corn cobs, or the like. The case has a top wall 12 with a boss 13 extending through the top wall and providing a support for a wick 14 and its tubular sleeve 15, which sleeve is provided with a flange 16 to engage the upper end of the boss and be deflected to provide a beveled sealing

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surface 17 for a snuffer cap 18 carried by arm 19 which is actuated by the finger piece 20. This sleeve 15 may be deflected inwardly as at 21 so as to restrict the flow of fluid fuel by capillary action along the wick.

In order to restrict the flow of fluid out of the end 22 of the wick, I have provided a coating 23 over the end of the wick as shown at 24, Figure 4, and slightly down the sides of the wick as at 25. This coating is of a character to prevent the flow of fluid fuel out of the end 22 of the wick and thus cause the fuel to pass out of the sides 26 of the wick as shown by the arrows in Figure 4.

The coating which is provided will be of some material which will be infusible at a heat which will be developed by the flame. A high baking synthetic lacquer or high baking cement as a binder in which zirconium dioxide has been mixed has been found suitable for this purpose. The amount of zirconium dioxide will be present in the binder in a range of up to 50 percentage by weight, but this is not important, as the binder burns off, leaving the zirconium dioxide. The end of the wick is dipped into this composition to a depth of substantially $\frac{1}{16}$ of an inch and then is baked according to regular enamel baking schedules.

By this procedure a hardened tip is provided which seals the end of the wick and holds the ends together so as to prevent fraying and by the sealing of the end of the wick in this manner, the fuel will be prevented from passing through the end of the wick and will accordingly pass through the sides of the wick adjacent the end. This control of the fuel co-operates with the control of the fuel by the deflection 21 and retards the fuel to such an extent that flooding is prevented.

Other compositions such as lacquers, or silicon enamels, or most any refracting material may be utilized in place of the zirconium dioxide. This zirconium dioxide has a property of being incandescent and infusible and is found to serve very well in this connection, but other rare earths such as titanium, lithium, and so forth, may be used in the mixture of the bonding material with some one of the heat resisting elements used in the coating.

I claim:

1. A wick for a lighter or the like comprising an elongated element having capillary properties for the conveying of fluid fuel therethrough, a coating of heat resistant refracting material over the end of the element, said coating being

impervious to the passage of fuel out of the end of the element and bonded to the end of the element causing passage of the fuel out of the sides of the element adjacent the coated end.

2. A wick as in claim 1 wherein the coating is a high baking heat resistant material.

3. A wick as in claim 1 wherein the coating contains an infusible compound.

4. A wick as in claim 1 wherein the coating contains zirconium dioxide.

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