

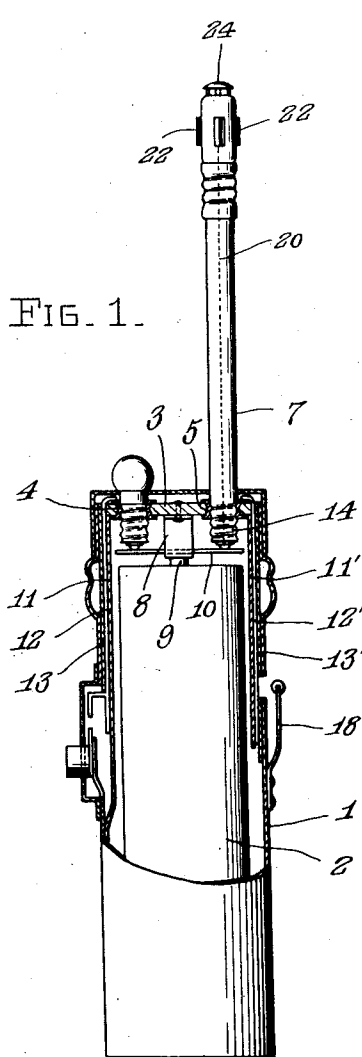
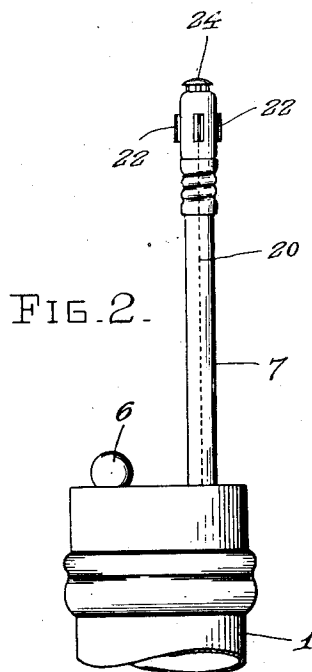
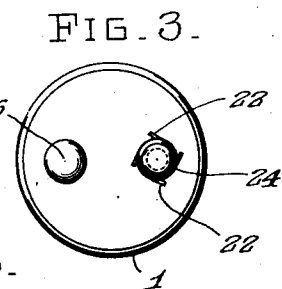
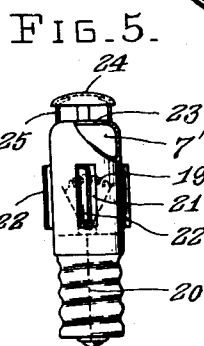
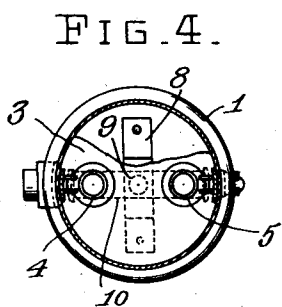
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PORTABLE ELECTRIC LAMP WITH IGNITER

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PORTABLE ELECTRIC LAMP WITH IGNITER

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3 Claims. (Cl. 219—32)

This invention relates to a portable electric lamp equipped with an igniter for use in igniting a gas burner, or for like purposes. One object of the invention is to provide a new portable lamp with a gas igniter which is durable and adapted for an accurate function. Another object of the invention is to provide an igniter which is protected against unintentional overuse of the ignition filament.

According to this invention, the device comprises a cylinder containing a source of current, a lamp bulb detachably mounted on top end plate of said cylinder, an igniter unit tube detachably mounted on said top end plate and having at its upper end an ignition chamber containing an ignition filament, said filament being connected to said source of current, lamp circuit and igniter circuit connected to said source of current, means for opening or closing one or both of said circuits, and means for permitting ingress of a limited amount of gas and air into said ignition chamber containing the ignition filament.

According to another aspect of the invention, a switch is inserted in said igniter circuit, which switch can not be unintentionally left permanently closed, unless the depression by finger is so continued.

In the accompanying drawing in which one embodiment of the invention is shown by way of example:—

Figure 1 is a view partly in section showing a portable electric lamp with igniter according to this invention,

Figure 2 is an elevation of the upper portion thereof,

Figure 3 is a plan thereof,

Figure 4 is a plan partly in section, the lamp bulb, the igniter unit and the cover being removed, and

Figure 5 is an enlarged detail view showing the top of the igniter unit.

Similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawing, 1 designates a metallic cylinder or barrel containing a dry battery 2. At the top of said cylinder 1 is mounted an insulating top plate 3 which is formed with two sockets 4 and 5 designed for receiving the base of a lamp bulb 6 and the base of an igniter unit 7 respectively. To the top plate 3 is fixed a supporting conductor 8 which is in contact with the positive pole 9 of the battery 2. Said supporting conductor 8 carries a common contact 10 which comes in contact with the central leading-in wire tip of the bulb 6 at one end, and at the

other end with the central leading-in wire tip of the igniter unit 7, as shown in Figure 1. A conductor 11 is inserted between insulating walls 12 and 13, and the bent top portion thereof comes in contact with the base of the bulb 6. Similarly, a conductor 11' is inserted between insulating walls 12' and 13', and the bent top portion thereof comes into contact with the base portion 14 of the igniter unit. A switch 15 for the lamp 6 comprises a bridging piece 16 mounted on a spring conductor 17 connected to a conductive portion of the cylinder which is in contact with the negative pole of the battery 2. Said bridging piece 16 is slidably mounted in such manner that it can be depressed and pushed forward so that it can be permanently maintained in contact with the conductor 11, as is usual in the existing portable lamps. On the other hand, a switch for the igniter unit 7 comprises a spring contact 18 which is secured to a metal portion of the cylinder 1 which is connected to the negative pole of the battery 2. The insulating wall 13' is formed with an opening, through which the free end of the spring contact 18 moves to come into contact with the conductor 11'. While the switch 15 for the lamp is adapted to be maintained in closed position for desired length of time with the depressing finger released, the spring switch 18 is always opened whenever the depressing finger is released, so that the igniter circuit is prevented from being unintentionally left closed for a long time.

The igniter unit 7 consists of a metal tube having at its upper end an ignition chamber 7' containing an ignition filament 19. This filament is connected at one end to the center of the base by means of leading-in wire 20, and at the other end to the tube as shown in Figure 1. The ignition filament 19 preferably consists of nichrome filament. As shown in Figures 3 and 5, the upper portion of the igniter unit tube forming the ignition chamber is provided with a plurality of circumferential windows 21, each having a tangentially arranged baffle plate 22. The open top end 23 is covered by a spaced top baffle disc 24 which is supported by a plurality of legs 25.

The lamp circuit includes the dry battery 2, the common contact 10, the bulb 6, the conductor 11, the usual switch piece 16, and the conductive cylinder wall 1 connected to said battery 2. The igniter circuit includes the dry battery 2, the common contact 10, the igniter filament 19, the igniter unit tube 7, the conductor 11', the spring contact 18, the conductive cylinder wall 1 connected to said battery 2.

According to this invention, the lamp 6 and the igniter unit 7 may be operated alternately or simultaneously by manipulating the switch 15 and/or the switch comprising the spring contact 16. The switch 15 is constructed just same as that of the usual portable or pocket lamp, and can be left closed for desired period of time without continuing the depression by finger. On the other hand, the switch 16 for the igniter is of such construction that it is always opened whenever the depressing finger is released, and it can not be left closed unless the depression by finger is continued. Thus, it is possible to prevent the user from unintentionally operating the igniter for undesired length of time, thereby protecting the ignition filament from overwork.

The provision of baffle plates 22 and top baffle disc 24 serves to limit the amount of gas and air which may enter the ignition chamber 7', with the result that rapid igniting action is obtained, for the reason that the temperature of the incandescent filament is not unduly lowered by the entrance of gas and air. Furthermore, according to this invention, since ingress of an unduly large amount of gas and air is prevented by said baffle, it is possible to prevent breaking of the

ignition filament caused by the explosion of gas when ignited.

What I claim is:—

1. In the combination of a portable electric lamp and an igniter wherein said lamp and said igniter both derive current from a cylinder containing a source of current and having a top plate, an igniter detachably mounted on said top plate and having at its upper end an ignition chamber containing an ignition filament, said ignition chamber being provided with a plurality of windows, each of said windows having a tangentially arranged baffle plate, said filament being connected with said source of current, an igniter circuit also connected to said source of current, means for opening and closing said igniter circuit, said baffle plates serving to permit the ingress of a limited amount of gas and air into said ignition chamber.

2. The construction defined in claim 1 wherein the open upper end of said igniter is closed by a baffle disc supported by spaced legs.

3. The construction defined in claim 1 and a switch inserted in the igniter circuit, which switch can not be permanently closed when the manipulating finger is released.

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