March 4, 1941. W. R. LAMM 2,234,004

CHARCOAL LIGHTER

Filed June 13, 1939

Fig. 1.

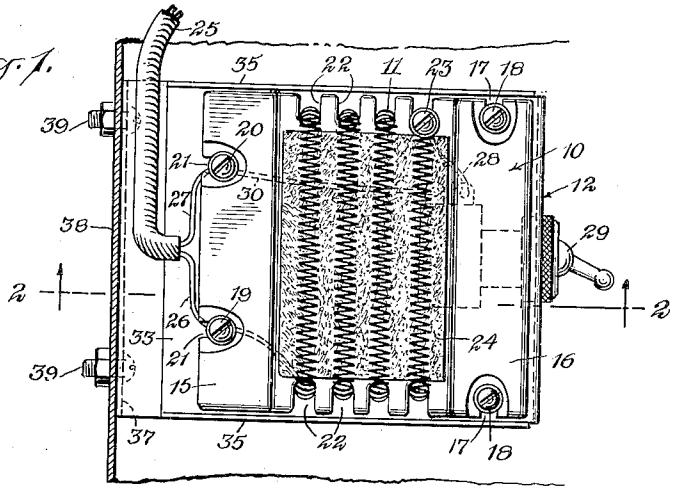


Fig. 2.

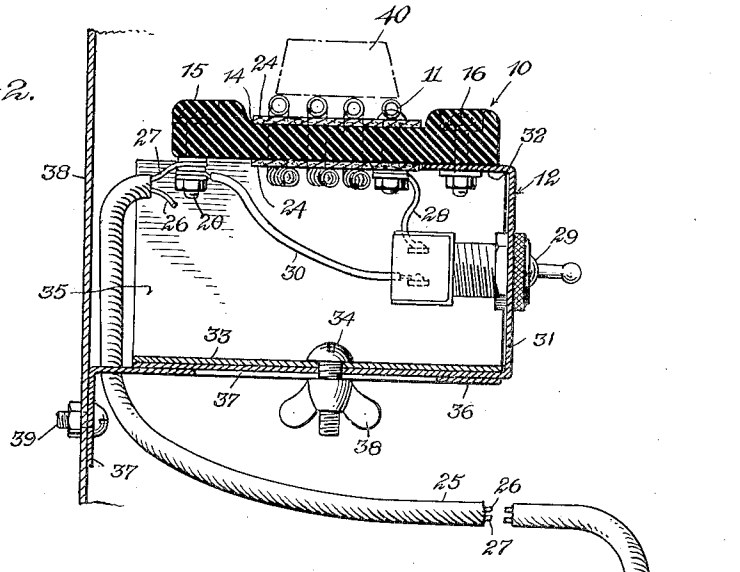
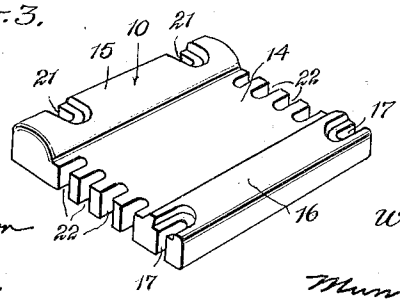
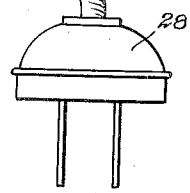


Fig. 3.





WITNESSES

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CHARCOAL LIGHTER

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1 Claim. (Cl. 219—32)

This invention relates to an improved charcoal lighter, particularly a charcoal lighter for igniting charcoal to be used in censers.

Considerable difficulty has been experienced in lighting charcoal for censers of the type employed in churches. It has been common practice to employ a flame, as from a candle or a match, to ignite the charcoal prior to placing it in the censer. This method is slow and troublesome and sometimes dangerous. Wind currents frequently extinguish the flame or at any rate divert the heat from the charcoal. Under the best of circumstances it takes a relatively long time to ignite the charcoal. Also, from time to time fires have been caused in churches through this method of lighting charcoal.

It is an object of the present invention to overcome the difficulties heretofore encountered in lighting charcoal for use in censers and to provide an improved charcoal lighter which is of relatively simple and inexpensive construction, which substantially eliminates the dangers heretofore encountered in igniting the charcoal, and which enables the operator to ignite the charcoal quickly and in a simple and efficient manner.

It is a further object of the invention to provide an improved charcoal lighter of the above character which will not be adversely affected by high temperatures or by rapid fluctuations in temperature.

For a fuller understanding of the invention reference should be had to the accompanying drawing, in which

Fig. 1 is a top plan view of a lighter embodying my invention;

Fig. 2 is a sectional view in the direction of the arrows on the line 2—2 of Fig. 1; and

Fig. 3 is a perspective view of the heating plate employed in my improved apparatus.

My improved lighter preferably comprises a heating plate 10 having a heating element 11 disposed therearound and supported in some suitable manner as by means of a bracket 12.

The heating plate employed in my device is of improved construction so as to withstand relatively high temperatures and also rapid fluctuation in temperature. For this purpose the heating plate is made of heat-resisting material, preferably fire clay and the central portion of the plate indicated at 14 around which the heating element is disposed is preferably somewhat thinner than the end portions thereof which are indicated at 15 and 16. I have found that by forming the heating plate in this fashion with the heating element surrounding the thinner portion thereof the plate is not fractured as readily by high temperatures or by rapid fluctuations in temperature.

For attaching the plate to the bracket the end portion 16 may be formed with suitable apertures in the form of notches 17 through which fastening means such as the bolts 18 may be extended. Terminals 19 and 20 for the electrical lead wires may be secured in similar apertures 21 formed in the opposite edge 15 of the plate. The central relatively thin portion 14 of the plate is provided with a plurality of notches 22 extending inwardly from the opposite sides thereof as shown, for the purpose of holding the heating element in proper position on the plate.

The heating element 11 is an electrical resistance in the form of a wire coil made of a suitable alloy which can withstand high temperatures and rapid fluctuations in temperature and it is wound around the central portion 14 of the plate with the several return bends thereof disposed in the notches 22. The coil is attached to the plate in some suitable manner as by connecting one end thereof to the terminal bolt 19 and the other end to another terminal bolt 23 attached in the notch 22 which is disposed nearest to the opposite side of the plate. As a further precaution, to prevent the plate from being damaged or fractured by the high temperature of the heating element or from the rapid fluctuations in temperature, I preferably interpose insulating pads in the form of asbestos sheets 24 between the two sides of the plate and the heating element.

In order to complete the electrical circuit for the heating element I provide suitable lead wires and preferably a switch whereby the circuit can be opened and closed. Thus it will be seen that in the accompanying drawing a cord 25 having two lead wires 26 and 27 extending therethrough is provided. At one end the cord is connected to a plug 28 of conventional type which may be inserted in a suitable outlet and at its opposite end the two lead wires 26 and 27 are connected to the terminals 19 and 20 respectively. As previously pointed out, the one end of heating element 11 is connected to terminal 19 and the opposite end is connected to the terminal bolt 23. The terminal 23 is connected in turn by a lead 28 to a suitable switch 29 which in turn is connected by another lead 30 to the terminal 20. The switch is of conventional character and by throwing the lever in one direction the electrical circuit extending through the heating element 11 can be completed and by moving the switch

in the opposite direction the circuit can be opened. It will be appreciated that other types of switches may be employed as for instance a push button type of switch in which the circuit will be closed only during the priod of time that pressure is applied thereto.

So as to facilitate the use of my improved charcoal lighter I preferably provide a suitable bracket 12 for holding the heating plate in horizontal position. In the present instance the bracket takes the form of a member 31 preferably formed of sheet metal and which has a horizontally disposed lip 32 underlying the end of the plate 10 and connected to the apertures 17 by means of the bolts 18. The member 31 also has a vertical portion in which the switch 29 is secure and a lower horizontal portion 33 having a central aperture through which the bolt 34 extends. Connected to the horizontal portion 33 of the member 31 by means of the bolt 34 is a U-shaped metal member 35 which also has a central aperture through which the bolt 34 extends. The U-shaped plate 35 together with the member 31 provides a housing for the lead wires, switch, and under-portion of the heating plate in the manner shown and in this way the operator is protected from contact with these portions of the device.

An attaching plate 36 is connected to the lower portion of the members 31 and 35 by means of the bolt 34 and for this purpose the attaching plate 36 is provided with an elongated slot 37 whereby its position with respect to the other members may be adjusted. To facilitate this adjustment the bolt 34 is preferably provided with a wing nut 38 which may be readily released or tightened. At one end of the plate 36 a depending flange 37 is provided which may be connected to a suitable upright or support 38 as by means of nuts and bolts 39.

While I have illustrated the preferred form of bracket it should be appreciated that other types of brackets may be employed and that the bracket may be assembled in different fashions so as to attach the charcoal lighter to different types of supports.

In using my device it is first suitably supported so that the plate is in horizontal position as by means of the bracket illustrated in the accompanying drawing and the plug 11 is inserted in a suitable electric outlet. The pieces of charcoal as indicated at 40 are then placed on top of the heating element and the circuit of the heating element is completed by turning on the switch 29. Within a comparatively brief space of time the charcoal will be ignited and it may be transferred as by means of tongs or tweezers to the censer in which it is to be used. The heating element is of such a character that it will heat rapidly and due to the fact that it is not countersunk in the surface of the plate and the charcoal rests directly on the element the charcoal is rapidly ignited. Due to the construction of the heating plate as heretofore described and as illustrated in the drawing the plate is not adversely affected by the high temperature of the heating element nor by rapid fluctuations in its temperature. It will thus be seen that by means of my invention I have provided an improved charcoal lighter which is of relatively simple and inexpensive construction, which substantially eliminates the danger of fires, and which will quickly and efficiently ignite charcoal which is placed in contact with the heating element.

It should be understood of course that modifications may be made in the illustrated and described embodiment of my invention without departing from the invention as set forth in the accompanying claim.

I claim:

A charcoal lighter comprising a heating plate formed of fire clay having a central portion of reduced thickness and end portions of greater thickness, the central portion being provided with notches extending inwardly from opposite edges, an electric heating element comprising a resistance coil wound around the central portion of reduced thickness of the plate and extending into the notches, said element being exposed on one side of the plate so that the charcoal to be ignited may be placed directly thereon, insulating pads formed of asbestos sheets disposed between the two surfaces of the heating plate and the heating element, a bracket for supporting the heating plate in substantially horizontal position, and means for connecting the heating element in an electric circuit.

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