Feb. 9, 1943. E. F. WHITCHURCH 2,310,723

ELECTRICAL COOKER

Filed Aug. 31, 1938

Fig. 1.

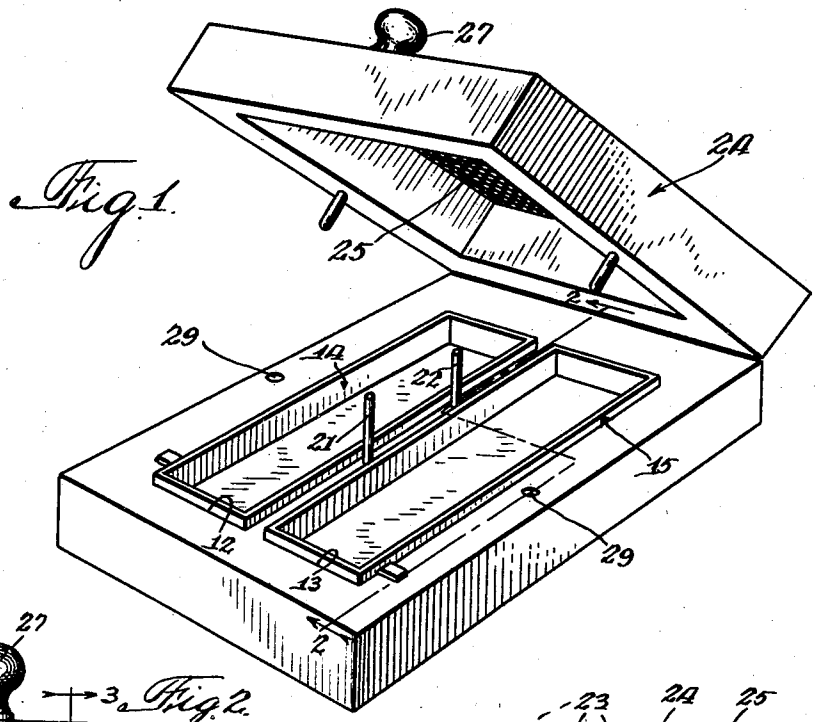


Fig. 2.

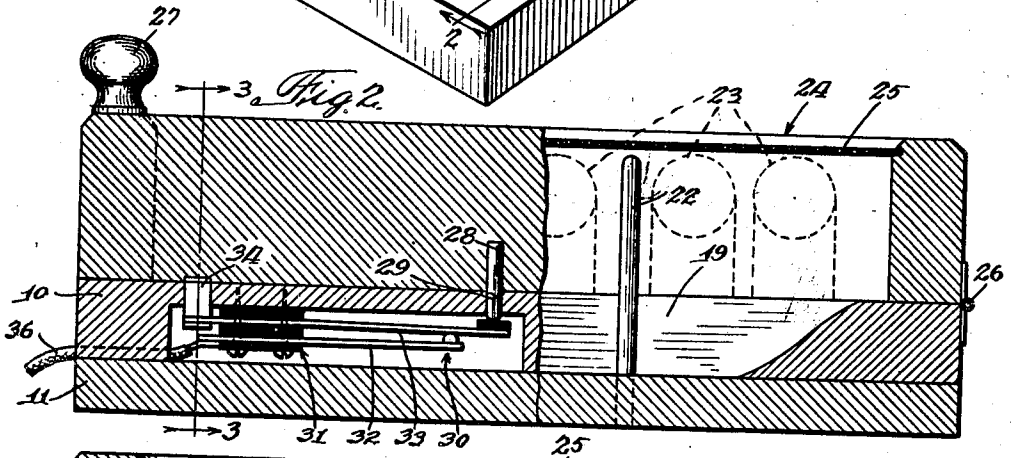
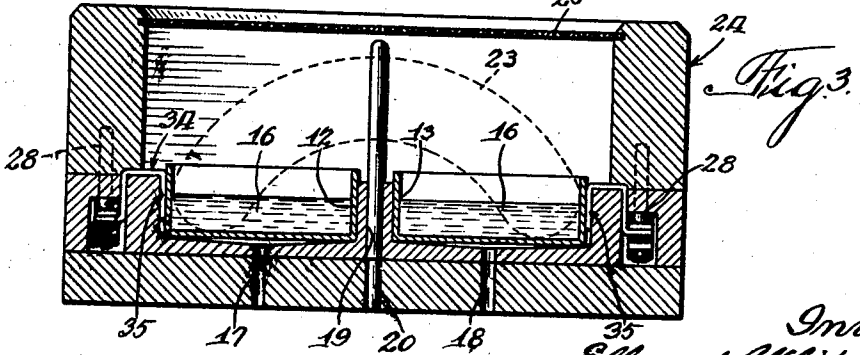


Fig. 3.



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ELECTRICAL COOKER

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3 Claims. (Cl. 219—19)

This invention relates to an electrical cooker and has special reference to a device for preparing or treating frankfurters or the like by the action induced by passing an electrical current through the frankfurter or the like from spaced electrodes connected in an electrical circuit.

More particularly, this invention relates to an electrical cooker for frankfurters or the like comprising a base and a pair of open top receptacles supported on the base and insulated from each other for containing a current-conducting fluid, there being an electrical circuit one side of which is connected to one of the receptacles and the other side of which is connected to the other of the receptacles with the receptacles being formed of a current-conducting material having the cooperating walls thereof forming electrodes for contacting, beneath the surface of the current-conducting fluid in the receptacles, opposed ends of the frankfurters bridged thereacross.

Electrical cookers of the type above referred to have not attained a universal use owing greatly to the fact that this general class of cookers are provided with electrodes in which arcing occurs thus producing a very objectionable odor. The burnt frankfurter or the like supported on the electrodes not only is objectionable from the standpoint of smell, but is also unsightly and therefore unappetizing. The present invention contemplates the substantial elimination of arcing and thus avoids the unappetizing and unsightly appearance occasioned thereby as well as the objectionable odor therefrom. The contact with the frankfurter or the like by the electrodes is effected beneath the surface of a current-conducting fluid in the receptacle and the fluid prevents any arcing at the contacting areas.

It has been difficult in the prior art to maintain a proper contact between the frankfurter and the electrodes. Ordinarily, the frankfurter is pierced by an electrode of fixed diameter at the ends thereof, the frankfurter bridging the electrodes and being used as a resistance to the flow of electrical current therebetween. It is the tendency for the frankfurter to open or spread apart at the portions thereof pierced by the electrodes during the heating or cooking operation and the desired intimate contact of the electrodes with the frankfurter is thereby at least partially destroyed. Means heretofore have been contemplated to overcome this objectionable feature in the provision of contacts formed of resilient fingers which may follow the spread portions of the frankfurter to retain electrical contact therewith. However, in all of the constructions of the prior art of which applicant has knowledge, arcing has not been eliminated and contact in any desired substantial degree of efficiency has not been maintained.

In the present application, the walls of the receptacles for containing a current-conducting fluid form electrodes for contacting the ends of the frankfurters bridged thereacross beneath the surface of the current-conducting fluid in the receptacles, the bridging of the frankfurters through a short arc maintaining efficient contact throughout the treating operation which contact is prevented from arcing by the bath of current-conducting fluid. That this contact is more efficient than the contact provided by pins piercing the frankfurter has been determined through actual experiment. The frankfurter is treated or prepared more quickly in the present construction than that of the constructions of which applicant has knowledge and, further, the elimination of the unappetizing odor and unsightly burnt portions of the frankfurter have made the present construction infinitely more desirable.

One of the objects of this invention is to provide an electrical cooker of the type hereinabove described in which the objectionable characteristics due to arcing are substantially if not wholly overcome.

Another object of this invention is to provide an electrical cooker of the type hereinabove mentioned wherein an efficient contact is made between the frankfurter or the like and the electrodes.

It is also an object of this invention to provide an electrical cooker of the character indicated above which is comparatively inexpensive to manufacture, is simple in construction and operation, and is durable.

Other objects and advantages of this invention will hereinafter be more particularly pointed out and for a more complete understanding of the characteristic features of this invention, reference may now be had to the following description when taken together with the accompanying drawing, in which latter:

Figure 1 is a perspective view of the electrical cooker embodying the features of this invention, the cover being elevated from the base;

Fig. 2 is an enlarged sectional view taken on the line 2—2 of Fig. 1, with the cover shown in a lowered position; and

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Referring now more particularly to the drawing, the electrical cooker embodying the features of this invention is shown as comprising a two-part base having an upper portion 10 secured to a lower portion 11. The base is preferably formed of an insulating material such as wood, fiber, composition material or the like, and is of substantial mass and weight so as to be stable on a supporting surface in use. Of course, the base may be formed of a single molded member, light in weight, to be secured by screws or the like to a supporting surface as desired and the present showing is for illustrative purposes only. The upper surface of the base portion 10 is provided with spaced recesses 12 and 13, each of the recesses being preferably elongated and of substantially rectangular shape to receive therein open top receptacles 14 and 15, respectively.

Each of the receptacles 14 and 15 are formed of a current-conducting material preferably of pure tin, the tin being of sheet material having side and end walls formed upwardly from a bottom wall for containing a current-conducting fluid 16. The current-conducting fluid is preferably a brine solution although any other fluid having similar characteristics may be employed.

The bottoms of the recesses 12 and 13 are connected to drains 17 and 18, respectively, with the recesses tapering in the direction of the drains in order to direct liquid thereto. It is possible that the brine solution during the handling of the receptacles in filling or while being filled in position in the recesses may overflow or be spilled into the recesses and the drain prevents accumulation of the liquid therein. Also, in order to avoid an accumulation of liquid on the top of the base portion 10, a slot 19 is disposed between the receptacles and extends substantially the length thereof, the slot being connected to a drain 20.

Spaced uprights 21 and 22 are fixedly secured within the slot 19 in order to align the frankfurters 23 in their bridged relation across the receptacles 14 and 15. In the use of the term "align" it is meant that the frankfurters are prevented from leaning in one direction or the other to contact the adjacent walls of the electrode or receptacles intermediate the ends of the frankfurter. Thus, if the frankfurter had a tendency to fall from the position shown in dotted lines in Fig. 3 over onto the side walls of the receptacles not in contact with the ends of the frankfurter, the uprights would prevent their so doing and hold them in a substantially vertical position in alignment. The spacing of the uprights 21 and 22 as disclosed in the drawing permit the disposition of two frankfurters therebetween and two frankfurters at each end thereof between the uprights and the end walls of a cover 24.

The cover 24 comprises a frame of substantially the size and shape of the base having side walls connected by end walls, the top and bottom being open. A grille 25 is disposed between the side and end walls in a fixed relation therewith adjacent the upper end thereof, the grille being preferably formed of reticulated metal in order that the condition of the frankfurters may be observed at all times during the treating operation. The cover is preferably hinged as at 27 or is otherwise movably secured to the base in order that access may be had to the receptacles of the base, a handle 27 or other means being provided for effecting the movement thereof. A pair of pins 28 are supported on the cover and project outwardly therefrom, the pins being glued in apertures in the side walls of the cover with the extending portions thereof being received in apertures 29 in the base.

A recess 30 is provided in the base portion 10 adjacent each side thereof, the recesses being enclosed by the base portion 11. A jack switch 31 is disposed in each of the recesses and comprises a pair of normally vertically spaced parallel arms 32 and 33 insulated from each other when the device is in an inoperative condition with the cover lifted. When the cover is moved to an operative condition on the base to enclose the receptacles and contents thereof, the pin 29 moves the arm 33 into contact with the arm 32 to close an electrical circuit, the lifting of the cover carrying therewith the pins 28, breaking the circuit by the movement of the arms 32 and 33 into a parallel spaced relation.

A connection 34 in the form of a strip of current-conducting material forms a spring finger 35 at one end thereof extending into the recess, the other end of the connection being fixed to the arm 33 in electrical contact therewith. A wire 36 is connected to the arm 32 at one end, the other end being connected to a source of electrical current.

One side of the electrical circuit is connected through the arms 32 and 33 of one of the jack switches, when in contacting engagement, to one of the receptacles and the other side of the line is connected through the arms 32 and 33 of the other jack switch, when in contacting engagement, to the other receptacle. The receptacles, being in themselves electrodes, complete the circuit through the bridged frankfurter, the ends of the frankfurter engaging co-operating walls of the receptacles. The resistance formed by the frankfurter to the flow of electrical current therethrough produces the desired heat to prepare or treat the frankfurter.

It will be noted that each end of the frankfurter contacts a portion of the side wall and bottom of a receptacle and that such contact is made beneath the surface of the current-conducting fluid 16 thereof. This prevents the usual arcing accompanying the treating in a like manner of a frankfurter or the like disposed on a dry electrode. Should the brine solution not actually be high enough in the receptacle to cover the contacting surface of the frankfurter on the side of the receptacle, a capillary action is had between the frankfurter and the wall so that in any event the brine solution extends over the contacting surfaces and substantially therebeyond to the end of the capillary dimension between the frankfurter and the side walls.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the prior art and the appended claims.

I claim:

1. In an electrical cooker for frankfurters and the like, a base of insulating material having spaced recesses therein, a pair of open-top receptacles removably supported in the recesses of said base for containing a current-conducting fluid, drains in said base communicating with said recesses, an electrical circuit, one side of which is connected to one of said receptacles and the other side of which is connected to the other

of said receptacles, a switch in said circuit for each of said receptacles, and a cover for enclosing said receptacles, said cover being movably supported on said base and operating to close said switches when in a lowered position on said base and to break the circuit through said switches when raised above said base, and said receptacles being formed of a current-conducting material with co-operating walls thereof forming electrodes for contacting frankfurters bridged thereacross at opposed ends of the frankfurters beneath the surface of the current-conducting fluid in the receptacles.

2. In an electrical cooker for frankfurters and the like, a base of insulating material having spaced recesses therein and a slot between said recesses, a pair of open-top receptacles removably supported in the recesses of said base for containing a current-conducting fluid, said slot extending substantially the length of said receptacles, drains in said base communicating with said recesses and said slot, an electrical circuit, one side of which is connected to one of said receptacles and the other side of which is connected to the other of said receptacles, a switch in said circuit for each of said receptacles, and a cover for enclosing said receptacles, said cover being movably supported on said base and operating to close said switches when in a lowered position on said base and to break the circuit through said switches when raised above said base, and said receptacles being formed of a current-conducting material with co-operating walls thereof forming electrodes for contacting frankfurters bridged thereacross at opposed ends of the frankfurters beneath the surface of the current-conducting fluid in the receptacles.

3. In an electrical cooker for frankfurters and the like, a base of insulating material having spaced recesses therein, a pair of open-top receptacles removably supported in the recesses, said base in a spaced relation for containing a current-conducting fluid, a resilient current-conducting finger extending into each of said recesses for contacting the receptacles therein, an electrical circuit, one side of which is connected to one of said fingers and the other side of which is connected to the other of said fingers, a switch in said circuit for each of said receptacles, and a cover for enclosing said receptacles, said cover being movably supported on said base and operating to close said switches when in a lowered position on said base and to break the circuit through said switches when raised above said base, and said receptacles being formed of a current-conducting material with cooperating walls thereof forming electrodes for contacting frankfurters bridged thereacross at opposed ends of the frankfurters beneath the surface of the current-conducting fluid in the receptacles.

ELLWOOD F. WHITCHURCH.