

Aug. 29, 1933.

A. T. SMITH

1,924,699

HEAT INSULATED COOKING VESSEL

Filed Nov. 18. 1931

2 Sheets-Sheet 1

Fig. 1.

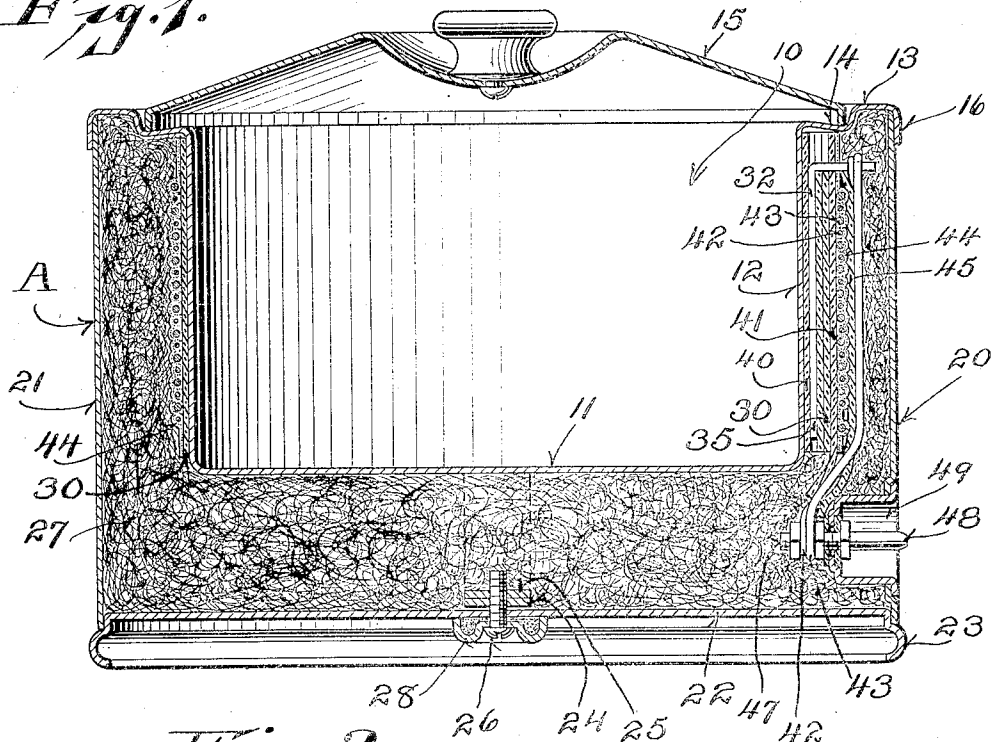


Fig. 2.

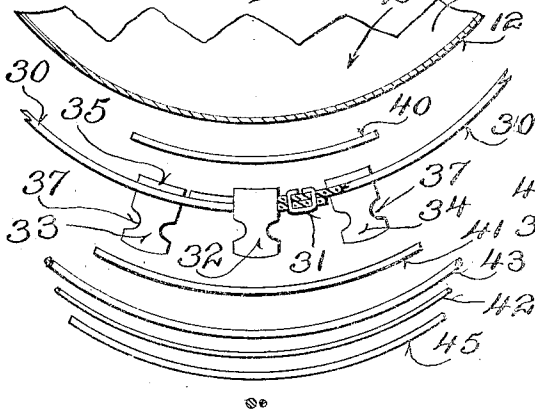
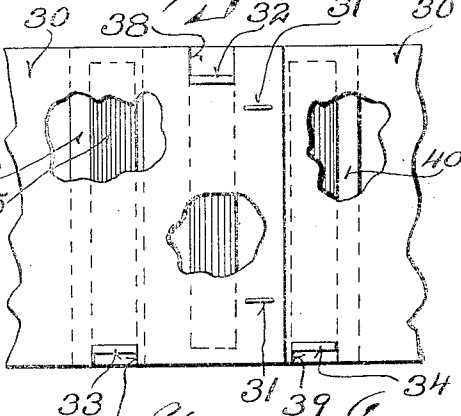


Fig. 3.



39 Invention
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2 Sheets-Sheet 2

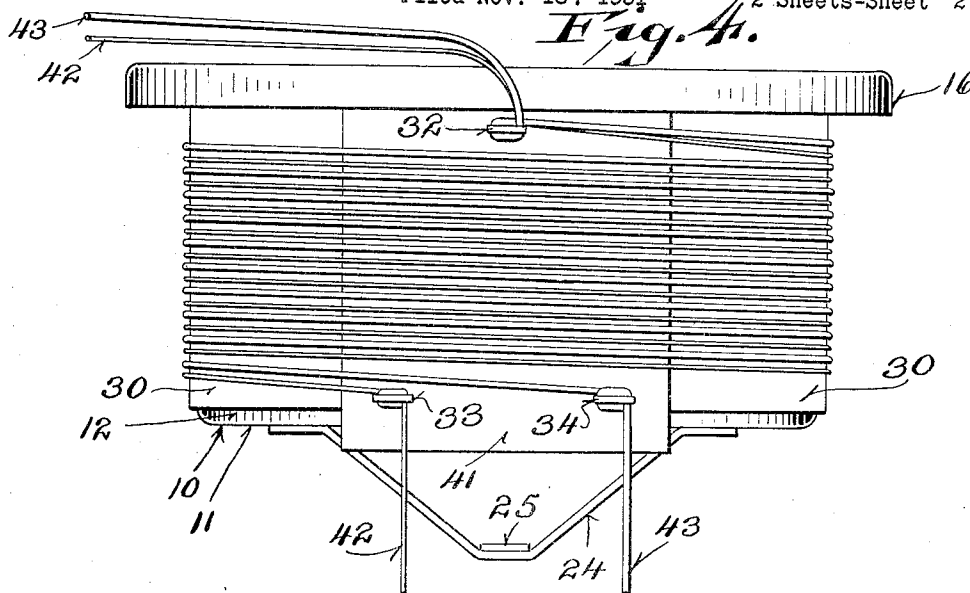


Fig. 5.

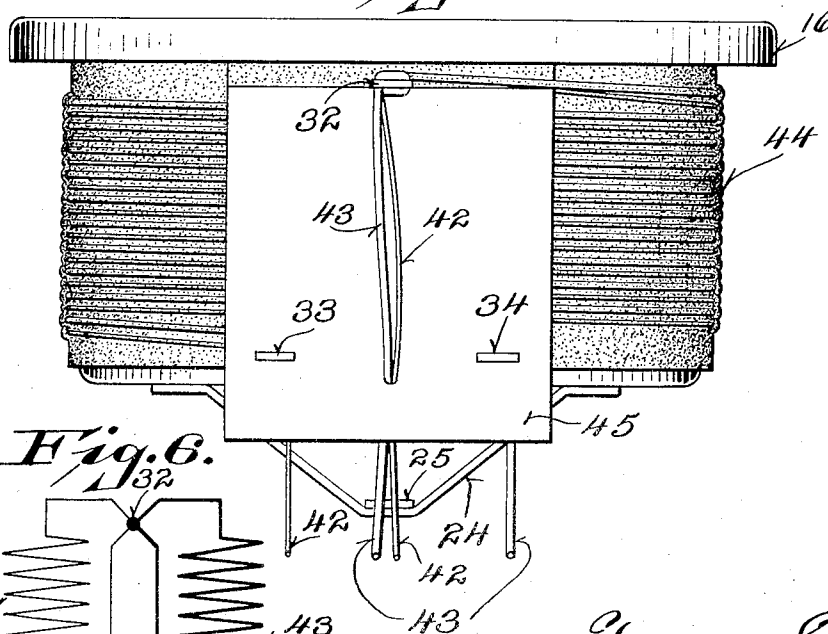
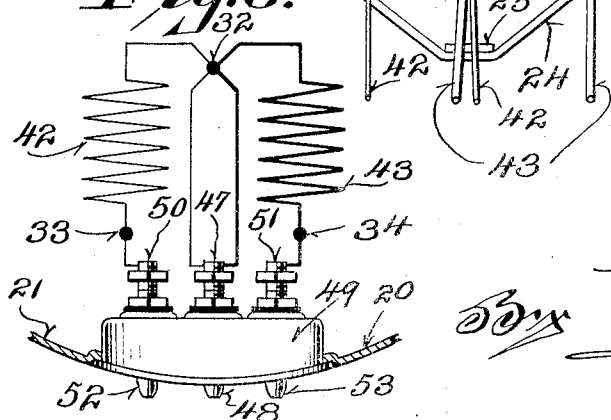


Fig. 6.



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UNITED STATES PATENT OFFICE

1,924,699

HEAT INSULATED COOKING VESSEL

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Application November 18, 1931
Serial No. 575,832

5 Claims. (Cl. 219—44)

This invention relates to electrical cooking vessels of the type illustrated in my pending application, Serial No. 563,329, filed September 17, 1931.

5 In electrical cooking vessels of the type mentioned, considerable difficulty has been experienced in correctly anchoring the binding terminals for the resistance wires, in place, possibly due to the small size of the cooking vessel.

10 It is, therefore, one of the primary objects of my invention to provide novel means for securing the terminal prongs in position, and for effectively holding the same in place against displacement by the resistance wires themselves, novel means being employed for insulating the terminal prongs from themselves, and from the cooking vessel and the windings of the resistance wires.

15 Another prime object of my invention is the provision of the use of terminal prongs in the nature of metal strips extending transversely of the cooking vessel and arranged between the insulating sheets, with resistance wires coiled about the insulating sheets at right angles to the metal strips, whereby the metal strips will be effectively anchored in place, the insulating sheets also acting as means for holding the metal strips in proper position.

20 A further object of my invention is the provision of novel means for arranging certain of the insulating sheets, so as to effectively space the terminals of the resistance wires from one another and from the terminal prongs and receptacle for the removable plug carrying the line wires.

25 A still further object of my invention is to provide novel means for forming the terminal prongs for the resistance wires and for arranging and securing the same in position, whereby the entire cooking vessel will be easy to assemble, and, whereby shorting of the resistance units is reduced to a minimum.

30 With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which:

35 Figure 1 is a diametric section through the electric cooking vessel, constructed in accordance with my present invention;

40 Figure 2 is a fragmentary horizontal sectional view through the interior cooking pot, showing the various parts spaced from one another to illustrate the method of anchoring and placing the terminal prongs in position;

Figure 3 is a fragmentary side elevation of the asbestos band with the asbestos backing sheet in position in rear thereof, and the terminal prongs placed between the band and backing, parts of the band being shown broken away to illustrate the arrangement of the terminal prongs;

Figure 4 is a side elevation of the interior cooking vessel, showing the terminal prongs correctly anchored in position and the resistance wires secured in place;

Figure 5 is a view similar to Figure 4, illustrating the final treatment of the resistance wires, with the outer protecting asbestos sheet in position for insulating the terminals of the resistance wires from one another and from the interior vessel and the outer casing and socket receptacle.

Figure 6 is a detailed horizontal section showing the receptacle for the terminal fingers, illustrating diagrammatically the wiring arrangement for the cooker.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates an electric cooking vessel constructed in accordance with my invention. As shown, the electric cooking vessel A embodies an inner cooking pot or receptacle 10 and an outer protecting housing or casing 20. The inner cooking pot or receptacle 10 embodies a bottom wall 11 and an annular side wall 12. The annular side wall 12 is folded or bent laterally to provide the annular top wall or flange 13, which is offset intermediate its edges to provide the annular depression 14 for receiving the removable top 15. The extreme outer edge of the top wall 13 is provided with a depending annular strengthening flange 16, which is arranged in spaced parallel concentric relation to the side wall 12 of the pot or receptacle 10. Obviously, a removable receptacle can be utilized within the pot 10 without departing from the spirit or the scope of this invention.

The outer protecting housing or casing 20 includes an annular side wall 21 which is received within the depending flange 16 of the top wall 13 of the pot 10. A removable bottom wall 22 is provided for the housing or casing 20 and this bottom wall is provided with an annular bead 23 which forms a shoulder, against which the lower edge of the side wall 21 of the protecting housing fits.

A V-shaped strap bracket 24 is spot welded or otherwise secured to the bottom wall 11 of the pot 10, and the bight portion of this strap has

secured thereto, a nut 25 or the like, the purpose of which will now be described.

A screw 26 is inserted through the bottom wall 22 of the casing or housing 20, and is threaded into the bight portion of the bracket 24 and the nut 25, and serves to unite the various parts of the cooker together. Obviously, the tightening of the screw 26 draws the bottom wall 22 of the casing 20 and the bottom wall 11 of the pot 10 toward one another. This firmly clamps the top wall 13 of the pot on the side wall 21 of the casing, and the bottom wall 22 of the casing on the lower edge of the side wall. Any desired type of heat insulating packing 27 is arranged between the pot 10 and the outer protecting housing or casing 20. As shown in Figure 1 of the drawings, a washer 28 can be interposed between the bottom wall 22 of the casing and the screw 26.

The important feature of my present invention is the provision of the novel means employed for anchoring the terminal prongs for the resistance wires in place on the pot 10. In this connection, particular attention is invited to Figures 2 to 5 inclusive.

The first step in my invention resides in the placing of an asbestos paper band 30 about the side wall 12 of the pot 10, and the edges of the band are brought in overlapping relation and secured to one another in any desired way, such as by the use of wire staples 31, as shown in Figures 2 and 3. This asbestos paper band 30 snugly receives the outer face of the side wall 10 of the cooker and a sheet of asbestos paper 40 is interposed between the side wall of the pot and the band 30. The pot is now ready for the reception of the terminal prongs 32, 33 and 34.

Particular attention is invited to the construction of these terminal prongs, as I am the first in this art to utilize terminal prongs of this character. As shown, each of the terminal prongs embodies a metal strip 35 and one end of each strip is bent outwardly at right angles to the body of the strip, defining an attaching post, the opposite side edges of which are notched as at 37, for the resistance wire, as will be later set forth. The upper edge of the band 30 is notched as at 38, and the lower edge of the band on each side of the notch 38 is provided with cutout or notched portions 39.

The metal strips are inserted between the band and the back sheet of asbestos 40 and the right angular post of the stationary terminal prongs 32 is fitted within the notch 38, while the bent portions of the strips of the side prongs 33 and 34 are received within the notches 39. By this arrangement, the terminal prongs are obviously insulated from the cooking pot and the windings.

In order to further safe-guard against short circuiting, a second sheet of asbestos paper 41 is placed over the band 30 and this sheet 41 is provided with slits through which are inserted the right angular portions of the terminal prongs 32, 33 and 34, as clearly shown in Figure 4 of the drawings. The two resistance wires 42 and 43 are now wound about the outer face of the insulating band 30 and the asbestos sheet 41 in proper spaced relation. These wires are wound relatively tight and the windings serve as means for holding the asbestos band and the asbestos sheets on the cooking pot and the terminal prongs in place. The wires 42 and 43 are of different size, so as to permit the use of one for a low heat and the use of the other for a high heat. These two wires initially are coiled about the

right angular portion of the central prong 32 and the end of the wire 42 is coiled about the right angular portion of one side prong 33, while the other wire 43 is coiled about the right angular portion of the other side prong 34.

An outer coating of plastic material 44 is preferably placed about the asbestos band and sheet 41, and this coating is preferably baked on the resistance wires and serves as a further means for holding the convolutions of the wires in proper spaced relation so as to prevent short circuiting.

After the plastic coating 44 has been baked on, an outer sheet of asbestos paper 45 is placed over the convolutions of the resistance wires and the heads of the prongs 32, 33 and 34 can be slipped through the said sheet 45. It is to be noted at this time, that the intermediate sheet 41 and the outer sheet 44 extends below the cooking pot and these edges serve as tabs for insuring the proper insulation of the ends of the resistance wires from the pot and the casing, as can be seen by referring to Figure 1 of the drawings. The inner terminals of the resistance wires 42 and 43, after being coiled about the projecting portion of the central terminal prong 32 are brought over the outer asbestos sheet 45, until the same passes the various windings of the resistance coils, after which the same are threaded through a slit 46 formed in the asbestos sheet 45.

The inner cooking pot is now ready to be assembled with the outer projecting housing or casing, as previously described, and the outer wall 21 is placed within the flange 16 of the pot, after which the inner terminals of the resistance wires which have been threaded through the slit 46 are connected to the binding post 47 of the central terminal finger 48 of the plug receptacle 49.

The outer ends of the wires 42 and 43 are now connected to the binding posts 50 and 51 of the fingers 52 and 53 of the socket receptacle 49. The depending flaps formed by the intermediate asbestos sheet 41 and the outer asbestos sheet 45 serve as an effective means for insulating the terminals of the resistance wires from the inner pot 10, and the socket receptacle 49 of the outer casing 20 as can be readily seen from Figure 1 of the drawings.

The device can now be packed with the insulation 27 and the bottom wall 22 and the outer wall protecting housing or casing is then placed in position and secured in place by the screw 26, as previously brought out.

Obviously when a low heat is required, the socket carrying the line wires (not shown) is connected with the fingers 48 and 52 and when a high heat is required, the socket is connected with the fingers 48 and 53.

From the foregoing description, it can be seen that I have provided an exceptionally simple and novel method of anchoring the terminal prongs for the resistance wires in place, and that the means utilized can be easily assembled and effectively prevents short circuiting of the apparatus.

Changes in details may be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. In a cooking vessel, an inner receptacle, an insulating band placed about the outer face of the receptacle, an insulating sheet arranged between the band and the receptacle terminal prongs including elongated body strips and right angular ends interposed between the band and the asbes-

tos sheet and arranged one from the other, and an electric resistance wire coiled about the band with its convolutions spaced one from the other, one end of the wire being anchored to one terminal prong and the other end of the wire being anchored to the other terminal prong, the windings of the wire holding the prongs against shifting movement.

2. In an electric cooking device, an inner vessel, an insulating band about the vessel, an insulating sheet arranged between the band and the vessel, an intermediate and side terminal prongs arranged in spaced relation between the band and the sheet, each of said terminals embodying elongated strips extending transversely of the vessel and having a right angular binding knob on one end thereof, the knobs of the side strips being arranged opposite to the knob on the intermediate strip, a second insulating sheet placed over the band and having slits therein for receiving the knobs, and electric resistance wires coiled in spaced relation about the band and second sheet, the convolutions of the wires holding the strips in position, the inner ends of the wires being coiled about the knob of the intermediate strip and the outer terminals of the wires being coiled respectively about the knobs of the side strips.

3. In an electric cooking device, an inner vessel, an insulating band about the vessel, an insulating sheet arranged between the band and the vessel, an intermediate and side terminal prongs arranged in spaced relation between the band and the sheet, each of said terminals embodying elongated strips extending transversely of the vessel and having a right angular binding knob on one end thereof, the knobs of the side strips being arranged opposite to the knob of the intermediate strip, a second insulating sheet placed over the band and having slits therein for receiving the knobs, and electric resistance wires coiled in spaced relation about the band and the second sheet, the convolutions of the wires holding the strips in position, the inner ends of the wires being coiled about the knob of the intermediate strip and the outer terminals of the wires being coiled respectively about the knobs of the side strips, and an outer asbestos sheet placed over the windings of the wires receiving the knobs of the side strips, the inner terminals of the wires being brought over the last mentioned sheet and threaded through an opening formed therein adjacent to the lower edge thereof.

4. In an electric cooking device, an inner vessel, an insulating band about the vessel, an insulating sheet arranged between the band and the vessel, an intermediate and side terminal

prongs arranged in spaced relation between the band and the sheet, each of said terminals embodying elongated strips extending transversely of the vessel and having a right angular binding knob on one end thereof, the knob of the intermediate strip being arranged opposite to the knobs of the side strips, a second insulating sheet placed over the band and having slits therein for receiving the knobs, and electric resistance wires coiled in spaced relation about the band and second sheet, the convolutions of the wires holding the strips in position, the inner ends of the wires being coiled about the knob of the intermediate strip and the outer terminals of the wires being coiled respectively about the knobs of the side strips, an outer asbestos sheet placed over the windings of the wires receiving the knobs of the side terminals, the inner terminals of the wires being brought over the last mentioned sheet and threaded through an opening formed therein adjacent to the lower edge thereof, the lower ends of the second and third mentioned sheets extending below the vessel as and for the purpose specified.

5. In an electric cooking device, an inner receptacle, an asbestos band placed about the outer face of the receptacle, a sheet of asbestos interposed between the band and the receptacle, an intermediate and side terminal prongs arranged between the band and the sheet, each of said prongs including an elongated strip and an anchoring knob on one end thereof, the knob on the intermediate strip being arranged opposite to the knob on the side strips, the edges of the band being notched for receiving the knobs, a sheet of asbestos placed over the outer face of the band and provided with slits for receiving the knobs, a pair of resistance wires of different properties coiled about the band and the sheet in spaced relation with the convolutions thereof extending substantially at right angles to the strips, the inner ends of the resistance wires being coiled about the knob of the intermediate strip, the outer ends of the resistance wires being coiled respectively about the knobs of the side strips, a baked plastic covering on the convolutions, and an outer sheet of insulating material arranged over the face of the convolutions having slits therein receiving the knobs of the outer strips, and having an opening therein adjacent to its lower end, the inner terminals of the resistance wires being brought over the outer face of the outer sheet and threaded through said opening, the lower edge of the second and last mentioned sheets being extended beyond the lower edge of the receptacle.

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