

April 24, 1934.

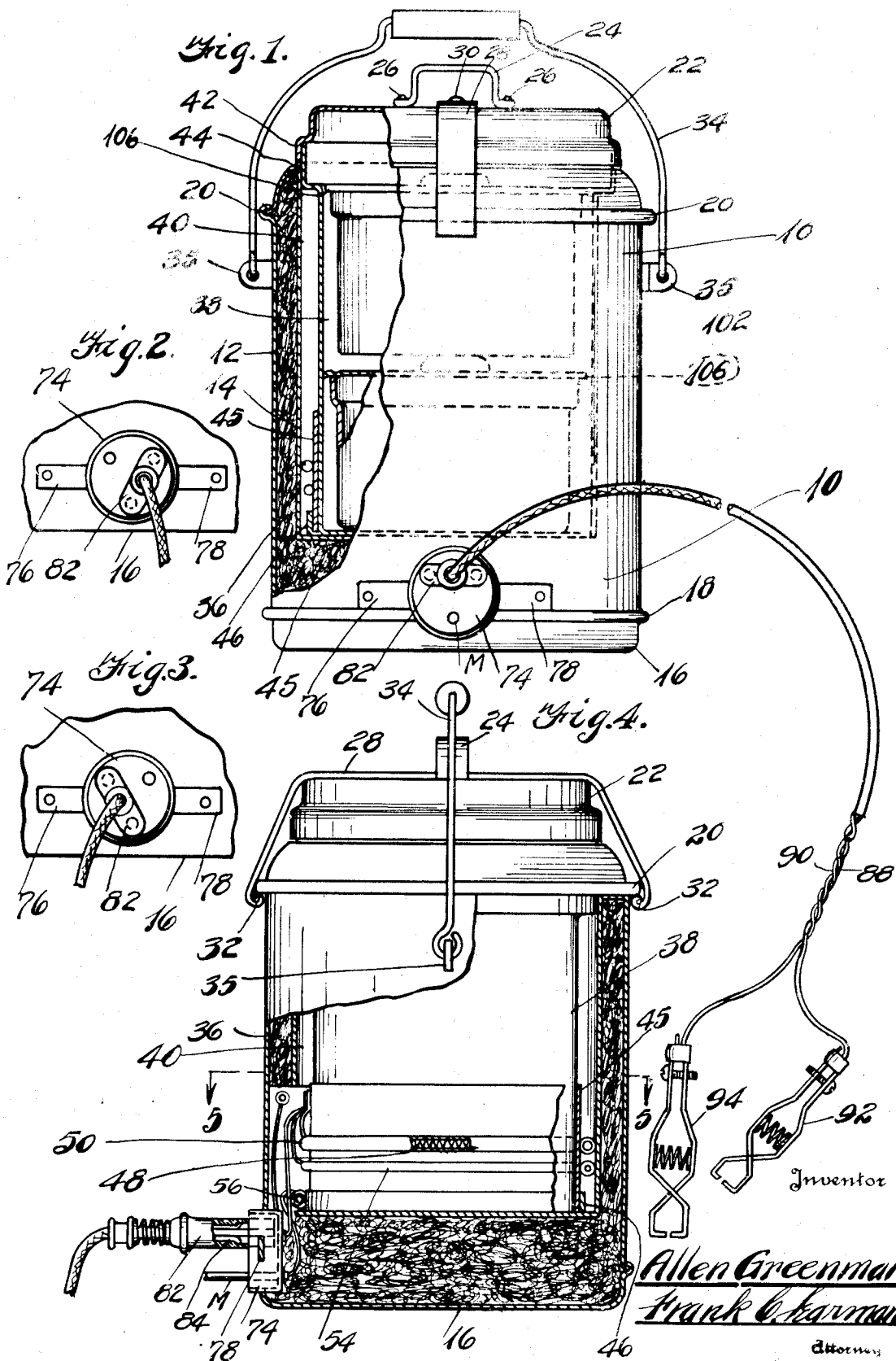
A. GREENMAN

1,956,283

ELECTRICAL COOKING DEVICE

Filed Oct. 8, 1931

2 Sheets-Sheet 1



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Fig. 5.

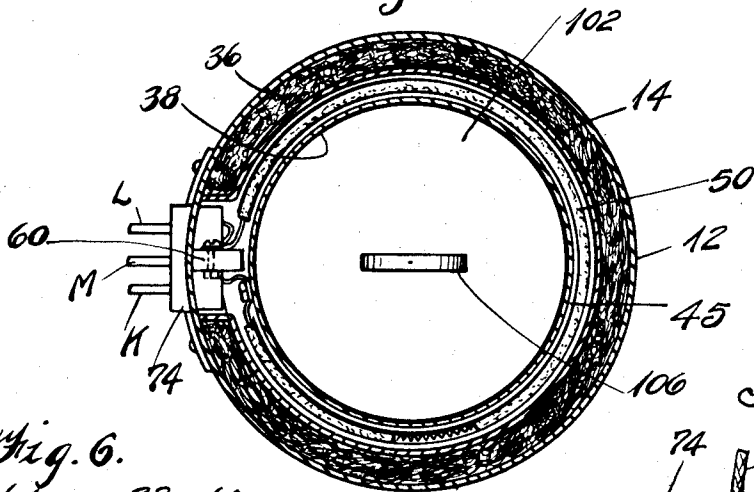


Fig. 6.

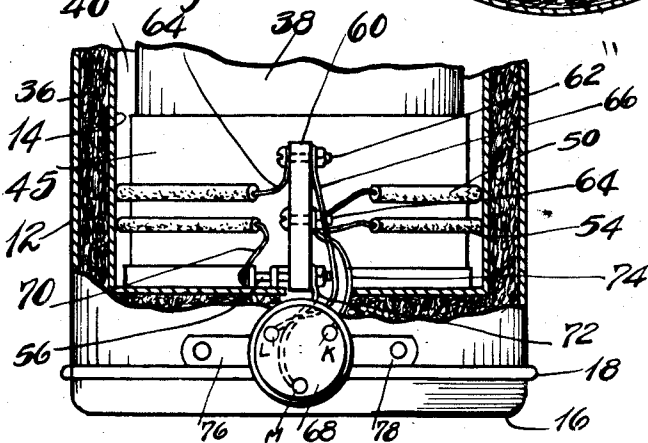


Fig. 7.

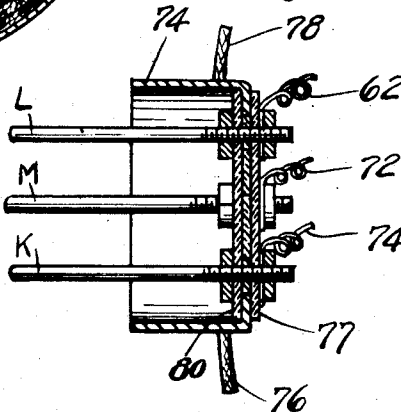
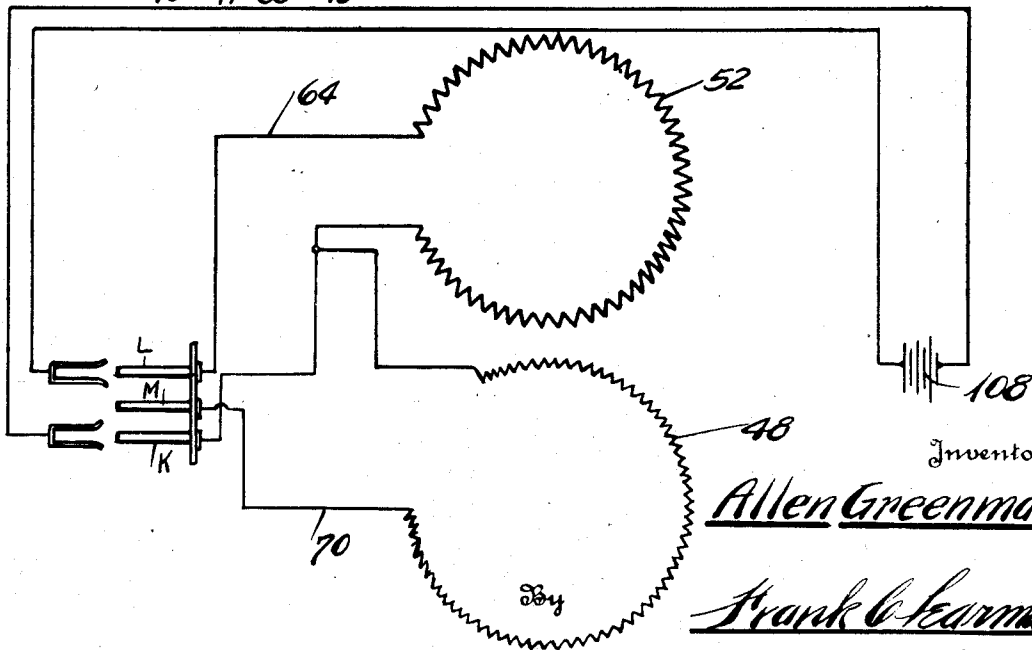


Fig. 8.



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UNITED STATES PATENT OFFICE

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ELECTRICAL COOKING DEVICE

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2 Claims. (Cl. 219—35)

This invention relates to a portable electrical heating or cooking device and more particularly to an electrical cooking device which is especially adapted to be connected to the storage battery of an automobile or motor vehicle.

One of the objects of this invention is to provide an electrical cooking device which may be carried in a motor vehicle and while touring or motoring may be supplied with electrical energy from the storage battery of the motor vehicle.

Another important object of the invention is to provide an electrical cooking device which may not only be easily transported in a motor vehicle, but which may be quickly connected to the storage battery of the motor vehicle without the necessity of removing any of the electrical connections therefrom.

A still further important object of the invention resides in the variability of the temperatures of the cooking device, there being provided electrical connections which enable the user to obtain a low, medium or a relatively high temperature according to the desire of the user.

A still further object of the invention is to provide a cooking device of the character described, which is constructed in such a manner that it will effectively retain a high temperature for a considerable period after the electrical energy is disconnected from the heating unit of the device.

With the above and numerous other objects in view that will appear as the description thereof proceeds, the invention resides in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a front elevational view of the cooking device shown partly in section.

Fig. 2 is a detailed view of the electrical switch showing the plug in one position.

Fig. 3 is a similar view showing the plug in another position.

Fig. 4 is a side elevational view partly in section.

Fig. 5 is a sectional view of Fig. 4, taken on line 5—5.

Fig. 6 is a vertical sectional view of the lower portion of the device illustrating the manner in which the electrical unit is constructed.

Fig. 7 is a cross-sectional view of the switch plug.

Fig. 8 is a view illustrating the manner in which the electrical units are connected in circuit with the source of electrical supply.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 generally designates the main cylinder of the cooker, which is provided with an outer wall 12 and an inner wall 14 spaced therefrom. A bottom 16 is secured to the outer wall 12 by means of a beaded joint 18 or the like and the inner wall is likewise provided with a bottom portion which is spaced from that of the outer wall. The inner wall may be formed integral with the top wall, but as illustrated in Fig. 1, it is more preferably constructed by means of a beaded joint 20, which forms an external annular rib for fastening the cover of the cooker in position.

The cover of the cooker 22 which is constructed of steel or any other material, is provided with a handle 24 secured thereto by means of rivets 26. The cover is securely held in position on the cooker by means of a strap 28 which is riveted to the upper portion of the cover by means of a rivet 30 and is provided with a curved edge portion 32 which is adapted to engage the annular external rib 20. The band is constructed of steel and is adapted to normally extend inwardly to engage the external rib so that when it is desired to remove the cover, it is only necessary to pull one of the end portions of the same outward so that it disengages the annular rib.

The cooker is provided with a bail handle 34 which is rotatable in the ears 35 secured to the outside of the main cylindrical portion of the cooker.

The space between the outer steel wall 12, the inner wall 14 and the respective bottom portions thereof is filled with heat insulating material 36 such as asbestos or the like to retain the heat in the chamber defined by the inner wall of the cooker. A cooking well 38 constructed of aluminum or any other material which freely conducts the heat, rests on the bottom of the inner portion of the cooker and is provided at its upper edge with an annular flange 42 which snugly engages the inner wall of the upper portion of the cooker and provides a space 40 between the two walls. The annular flange 42 of the cooking well extends a short distance beyond the upper edge 44 of the container forming an annular rim on which the cover snugly fits.

Around the lower portion of the cooking well, there is arranged a sheet of asbestos 45 of such a thickness as to provide a proper insulation.

The asbestos sheeting is firmly held in position by an annular rim 46 secured at its ends by a bolt 56 and nut 58. In the space between the inner wall of the container and the heat insulating material 45 there is arranged a heating unit which consists of an annular coil of wire of low resistance, 52, arranged in an asbestos tubing 50 and a second annular coil of wire 48 disposed around the heat insulating material 45 and arranged similarly in an asbestos tubing 54. The resistance wires 48 and 52 may be nichrome or any other material and the resistance 48 has a higher resistance than the resistance of the heating element 52 as for example, the heating element 48 may be constructed of nichrome of number 19 gauge and the element 52 of number 14 gauge. The two heating elements may have any desired resistance, depending upon the temperature range desired, but I find that 96 watts and 16 amperes produce excellent cooking results.

The band 46 has its free ends secured by a threaded bolt 56 on which there is threaded a nut 58. This bolt not only provides a means for adjustably securing the band in position around the insulating material on the outer portion of the cooking well, but also secures the terminal post 60 in position. The terminal post 60 is constructed of electrical insulating material and is provided with binding posts 62 and 64. One free end terminal of the heating element 52 is connected by conductor 64 to the binding post 62, and the binding post 62 is connected by conductor 66 to the terminal pole L of the electrical plug 68. The corresponding free end terminal of the other resistance element 48 is connected by conductor 70, bolt 56, and electrical conductor 72 to terminal pole M. The other two end terminals of the resistance elements are connected together by the binding post 64 and in turn are connected to terminal post K through conductor 74.

The socket 68 as clearly illustrated in Figure 7, consists of a metallic cylindrical member 74 having oppositely disposed straps 76 and 78 for securing the socket in the cooker. The terminal poles L, M and K pass through apertures in the socket and are insulated therefrom by mica strips 77 and 80 and firmly secured in place by the usual nuts.

As illustrated in Figure 5, the electrical cylindrical socket fits in an aperture in the outer wall of the cooker and is securely held in position by the straps 76 and 78 with a small portion protruding.

The terminal poles L, M and K are equally spaced as clearly illustrated in the drawings. A female switch plug 82 is provided with a pair of spaced apertured sockets 84 and 86 for engagement with any pairs of the terminal poles L, M and K. These sockets are connected to the 6 volt vehicle storage battery 108 or other source of electrical supply through the conductors 88 and 90 and a pair of spring clip connectors 92 and 94. The provision of the spring clip connectors enables the user to connect the cooker to the usual storage battery of a motor vehicle or the like, without the necessity of removing any of the permanent connections.

The novel manner in which the high resistance heating element 48 and the low resistance heating element 52 are connected provides the cooker with

a temperature range of low, medium, and high temperatures.

When the switch plug 82 is connected to the terminal posts M and L, the resistance elements 48 and 52 are connected in series, resulting in a relatively low heating temperature. Across posts K and L the electric current is supplied to the low resistance heating element 52, resulting in a relatively high heating temperature, and when connected to terminal posts K and M, the electrical current is supplied to the high resistance heating element 48, resulting in a medium temperature.

In operation, the food may, if so desired, be placed in the cooking well, but it is believed more desirable to use the food containers 100 and 102 which are of such a size as to easily fit into the cooking well one on top of the other. They are each provided with removable covers 104 and 106.

The provision of the variable temperatures enables the user to connect the plug so as to obtain a high temperature and after the food is cooked to change the plug to the medium or low temperature terminals to maintain the food warm until it is desired to consume it.

The particular construction of the cooking well and its associated snugly fitting cover, prevents the dripping of the contents into the space in which the heating elements are located, it being noted in this connection, that such is prevented whether the cover is on the cooker or not.

While there is shown only one embodiment of the invention in the accompanying drawings, it is capable of various changes and modifications, without departing from the spirit thereof, and it is intended therefore that only such limitations shall be imposed thereon as are indicated in the prior art or in the appended claims.

What I claim is:

1. An electrical cooker comprising a heat insulated container, a cooking well in said container and spaced therefrom, a sheet of insulating material around the cooking well, a pair of spaced electrical heating elements formed of 14 gauge and 19 gauge wire respectively around said insulating material, an electrical switching plug having three equally spaced terminal posts, one of the ends of each heating element being connected to an individual terminal post the opposite ends of said heating elements being connected together and to the third terminal post, an electrical connecting plug and a conductor formed of #10 wire for connecting any two of said terminal posts to a vehicle storage battery.

2. An electrical cooker comprising a heat insulated container, a cooking well in said container and spaced therefrom, a sheet of insulating material around the cooking well, a pair of spaced nichrome wire heating elements formed of 14 gauge and 19 gauge wire respectively around said insulating material, an electrical switch plug having three equally spaced terminal posts, one of the ends of each heating element being connected to an individual terminal post, the opposite ends of said heating elements being connected together and to the third terminal post, an electrical plug adapted to make electrical contact with any two of said terminal posts, #10 wire conductors connected to said plug, and spring contact clips on said conductors for connection to the storage battery of an automobile.

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