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2,414,162

ELECTRIC RANGE

Filed May 18, 1943

2 Sheets-Sheet 1

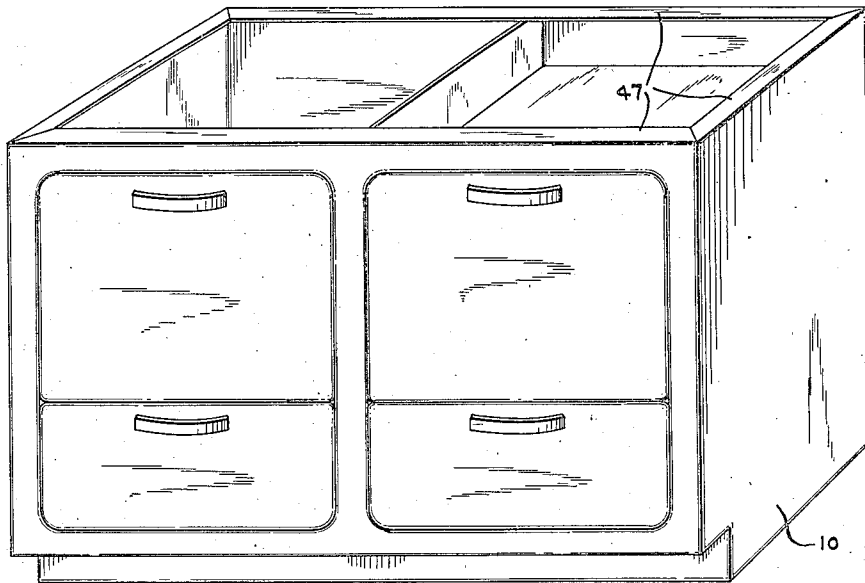
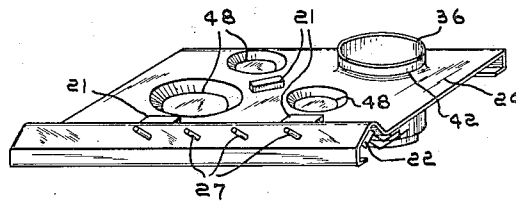
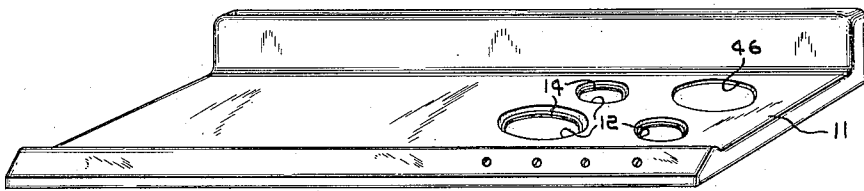


FIG. 1.

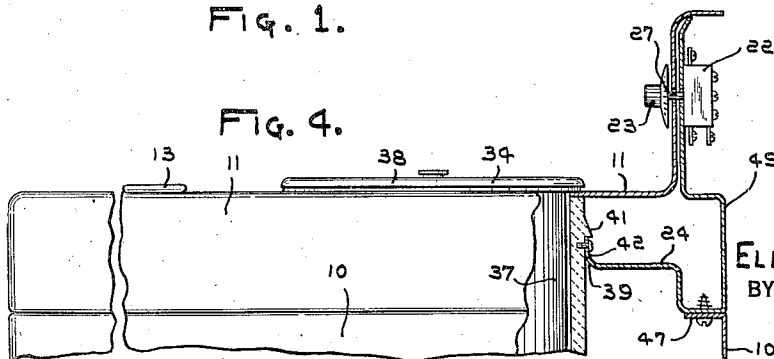


FIG. 4.

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Fig. 2.

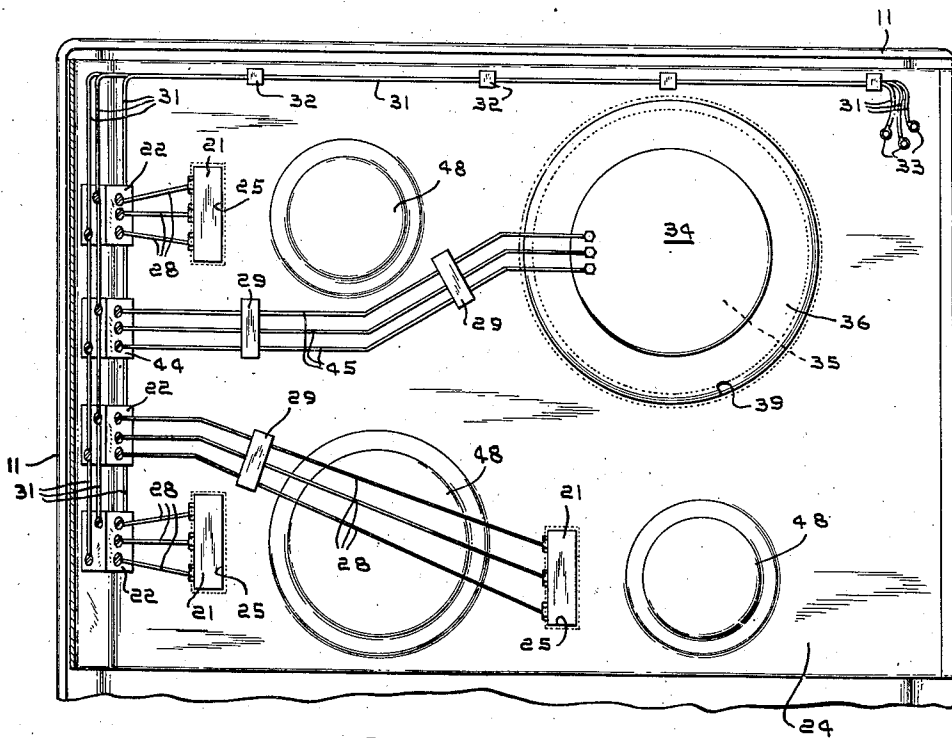
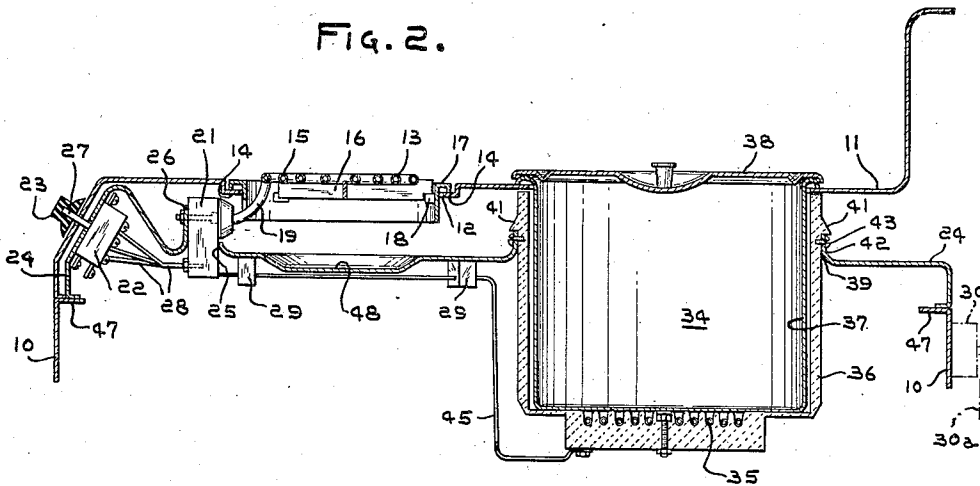


Fig. 3.

WITNESSES:

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ELECTRIC RANGE

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Application May 18, 1943, Serial No. 487,440

1 Claim. (Cl. 219—37)

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This invention relates to heating apparatus and particularly to an electric cooking range, and it has for an object to provide an improved device of the character set forth.

Electric cooking ranges, in addition to an oven, include a plurality of electric surface cooking units carried in the top or platform of the range for heating food in pots, pans and the like. The surface units are individually connected to a source of electricity by means of controls, such as switches, which are adjustable to vary the heat output of the surface units. The controls and the wiring therefor are usually installed on the range body while it is moving on an assembly conveyor, so that the time required to install the wiring and controls is a major factor in determining the maximum speed at which the conveyor can be operated.

It is an object of the present invention to provide an improved range which may be readily assembled and wired efficiently and in a minimum amount of time.

In accordance with the teaching of my invention, the assembly of the range is facilitated by installing the surface unit controls and the wiring therefor on a subplatform or supporting member at a station separate from the assembly conveyor, the platform with the controls and wiring thereon being placed on the range body as a complete unit. This arrangement has the advantage that the controls and wiring can be installed with ease on the supporting member at benches designed for the convenience of the workers, resulting in increased efficiency, and at the same time permitting the range conveyor to be speeded up since a minimum of time is required to complete wiring of the range while on the conveyor. This arrangement has the further advantage of facilitating servicing of the range when repair or replacement of the controls or wiring is needed, since the supporting member may be readily removed from the range providing ready access to all of the wiring and controls.

These and other objects are effected by my invention as will be apparent from the following description and claim taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is an exploded view, in perspective, of an electric range made in accordance with the present invention and illustrating the manner of assembling the range;

Fig. 2 is a vertical sectional view of the upper portion of the range in assembled condition;

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Fig. 3 is a bottom plan view of the supporting member which carries the controls and wiring for the surface cooking units; and

Fig. 4 is a view similar to Fig. 2, illustrating a modification of the invention.

The range illustrated in Fig. 1 includes a body 10 having the usual oven and service drawers and a top or platform 11 provided with holes 12 for the reception of surface cooking units 13. The range body 10 and platform 11 are preferably made of sheet metal, the exposed surfaces being provided with a protective coating of enamel to provide a pleasing appearance.

As shown particularly in Fig. 2, the margin of the platform at each of the holes 12 is offset downwardly, as indicated at 14, to provide a ledge on which the surface unit is supported. Each surface unit comprises one or more coiled metal sheathed heating elements 15 secured to a supporting spider 16 to provide a grid on which the cooking vessels are supported. The grid is supported in its platform opening by means of a flanged ring 17 having lugs 18 on which the spider 16 rests. The flange of the ring 17 rests on the ledge 14 of the platform to support the upper surface of the surface unit above the top surface of the platform 11.

The surface units are preferably of the plug-in type and may be like that disclosed in my co-pending application Serial No. 454,398, filed on August 11, 1942, and assigned to the assignee of the present invention. Ends 19 of the sheathed heating elements are bent outwardly, as shown in Fig. 2, and provided with suitable electrical contacts adapted to detachably engage electrical contacts mounted within a terminal block 21, supported beneath the platform, when the surface unit is disposed in operative position in the range platform. It will be understood that each surface unit is readily removable from the range for cleaning by merely swinging the unit upwardly out of the platform, the mentioned contacts being separated by this movement.

Energization of the surface units is controlled by any suitable means, such as switches 22, which are adjusted by means of knobs 23.

In accordance with my invention, I mount the switches and the wiring connecting the surface units to a source of electricity on a subplatform or panel 24 which is placed on the range body after the wiring and switches have been installed on the subplatform, thus substantially reducing the time required to wire the range on the assembly conveyor. The subplatform is substantially co-

extensive with the surface cooking area of the

range and is mounted on the range body in spaced relation beneath the platform 11.

The subplatform 24 is provided with openings 25 of a size to receive the terminal blocks 21 and located so that when the subplatform is installed on the range the terminal blocks are positioned to receive the terminal ends of the surface units. The blocks 21 are preferably supported by straps 26 struck out from the platform in forming the openings 25.

As shown particularly in Figs. 1 and 2, the front edge of the subplatform 24 and of the main platform 11 is inclined to the vertical to facilitate reading of indicia on the knobs 23. The switches 22 are mounted on the under surface of the inclined portion of the subplatform with their operating shafts 27 extending forwardly.

The terminal blocks 21 and switches 22 are mounted on the subplatform at a bench separate from the assembly conveyor and are connected by conductors 28 strung on the under surface of the subplatform by means of insulating blocks 29, bolted or otherwise secured to the platform. Supply conductors 31 extending from the switches to the rear of the range are strung on the subplatform by means of insulator blocks 32. The supply conductors 31 are preferably provided with suitable means, such as loops 33, for ready connection to terminal screws of a terminal block 30, shown by broken lines in Fig. 2, carried by the range body at a location convenient to the loops 33. Main electrical leads 30a for supplying electricity to the heating elements are carried on the back of the range body and connected to the terminal screws of this block.

The range may also be provided with a deep-well cooker 34 including a heating element 35 carried by casing structure 36 in which a removable pot 37 and cover 38 are received. The casing structure 36 is received in an opening 39 in the subplatform and is provided with a plurality of abutment lugs 41 adapted to rest on a flange 42 formed around the opening. Screws 43 extending through the flange secure the casing structure in place. A switch 44 and wiring 45 therefor are provided for the cooker 34 and are installed before assembling the subplatform to the range body. When assembled in the range, the cooker is accessible through an opening 46 in the main platform 11.

After the wiring, controls, terminal receptacles and cooker have been mounted on the subplatform, it is brought to the range body, which, as mentioned, is usually moving along a conveyor, and secured in the position shown in Fig. 2 to a flange 47 provided on the range body 10. The supply conductors 31 may then be connected to the terminal block 30. The main platform 11 is then placed over and conceals the subplatform being secured in place in any suitable manner to

the flange 47. The switch-operating shafts 27 extend through suitable openings provided in the inclined front of the main platform, the knobs 23 being secured thereto after the main platform has been secured to the range body.

While the surface units may be provided with removable reflector pans as shown in my mentioned copending application, in the embodiment herein illustrated, the subplatform is provided with shallow recesses 48 underlying the platform openings 12 to reflect heat from the units upwardly and also to catch any spillage falling through the grid-like surface units. These recesses may be readily cleaned by removing the surface units.

While in the preferred embodiment the switches 22 have been shown mounted on the front of the range, if desired, these switches may be mounted at the rear, as shown in Fig. 4. To this end, an extension 49 is formed along the rear edge of the subplatform and carries the switches 22 and 44 in a position so that their operating shafts 27 project through the backplasher on the range platform. Except for this difference and the necessary change in the location of the wiring, this form of the invention is identical with the first embodiment.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claim.

What I claim is:

An electric range comprising a range body, a top platform having a plurality of openings to receive surface heating units, a plurality of surface heating units mounted on said platform and disposed in said openings, a subplatform disposed beneath said top platform, a switch for each of said surface units mounted on said subplatform, a terminal block for each of said surface units mounted on said subplatform adjacent the surface unit in such position that the surface unit may be connected thereto as it is moved into position in its opening in the top platform, electrical conductors extending from each switch to the associated terminal block and mounted on said subplatform, and supply conductors mounted on said subplatform and extending from a common point to all of said switches, said subplatform, said switches, said terminal blocks, and the conductors carried by the subplatform being adapted to be assembled as a subassembly remote from the range body and then to be attached as a unit or subassembly on said range body.

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