

May 10, 1938.

K. RATLIFF

2,116,688

ELECTRIC WAFFLE IRON

Filed April 30, 1937

2 Sheets-Sheet 1

Fig. 1

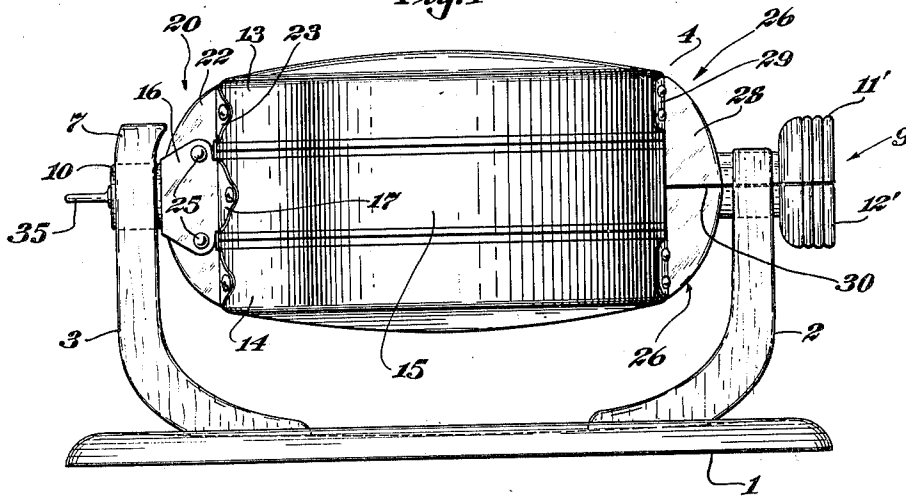
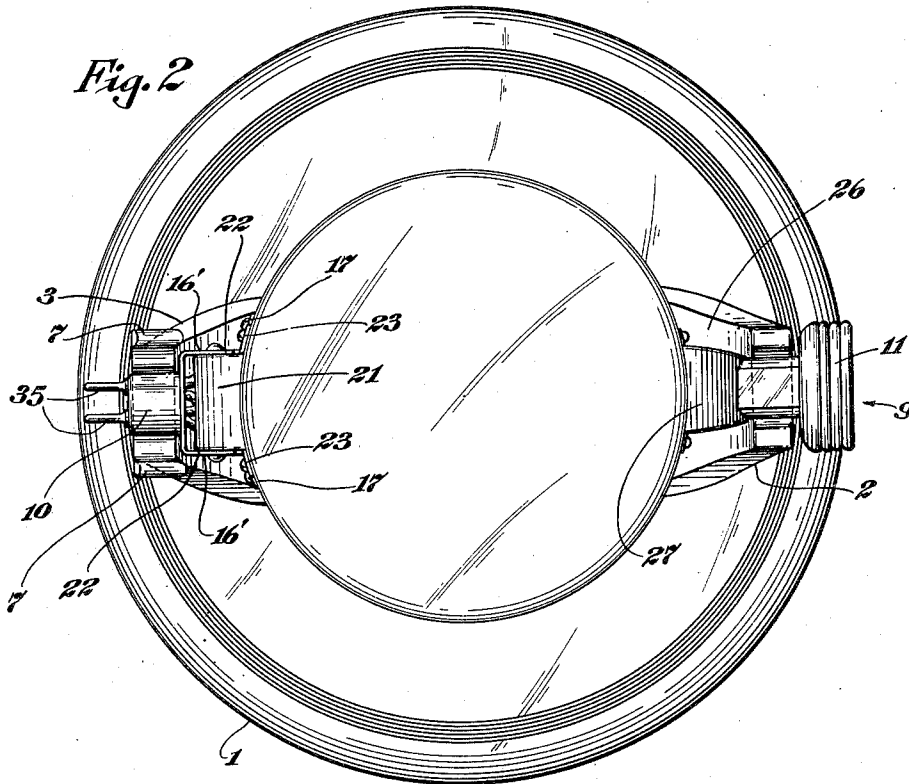


Fig. 2



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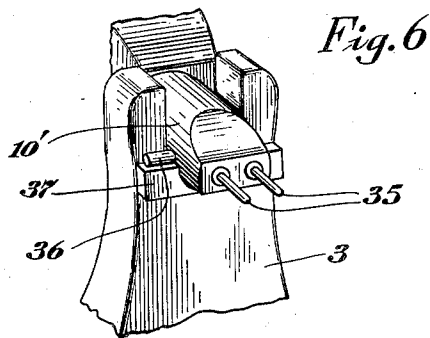
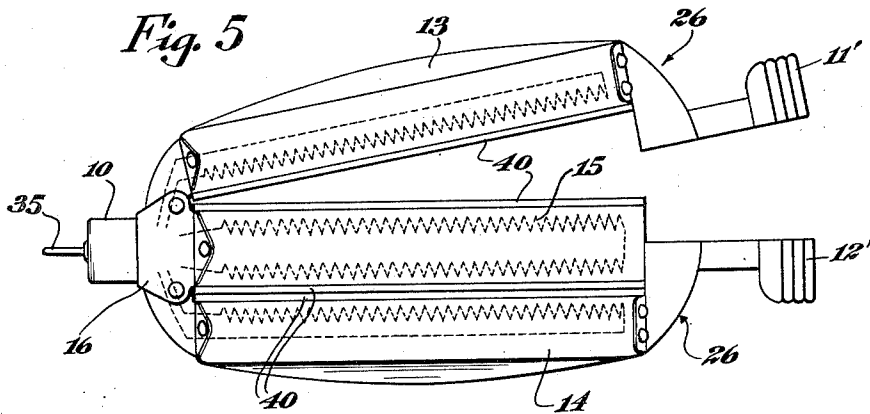
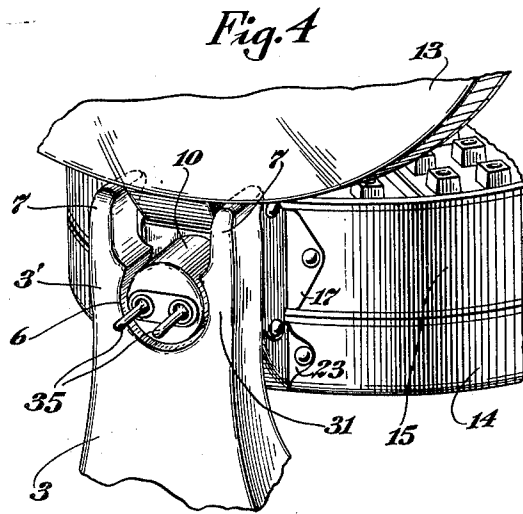
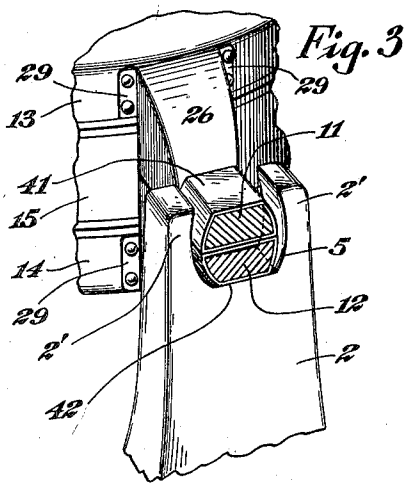
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2 Sheets-Sheet 2



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2,116,688

ELECTRIC WAFFLE IRON

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Application April 30, 1937, Serial No. 139,931

12 Claims. (Cl. 219—19)

This invention relates to electric waffle irons.

One object of the invention is a double electric waffle iron of novel construction whereby two waffles may be made simultaneously with the facility that single waffles may be made in conventional irons.

A further object is a double iron of superposed grids on which either one or two waffles may be optionally made at a time without overheating the grids at any time.

A further object of the invention is a double electric waffle iron comprising superposed grids forming a compact, rotary reversible unit of novel construction and assembly.

A further object is a double waffle iron of the above indicated character which is characterized by its simplicity in construction, assembly and operation.

Further objects of the invention will hereinafter appear.

For a better understanding of the invention reference may be had to the accompanying drawings wherein:

Fig. 1 is a side view of a waffle iron embodying the invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a perspective view of one side thereof with certain parts shown in section and broken away;

Fig. 4 is a perspective view of the opposite side with certain parts broken away;

Fig. 5 is a side view of the grid unit; and

Fig. 6 is a perspective view of one side of the iron showing a modification.

Referring to the drawings, the invention is illustrated as embodied in a waffle iron comprising a supporting base plate 1, a pair of standards 2 and 3 mounted upon and rigidly fastened to the base plate 1, and a multi-part rotary grid unit 4 rotatably mounted by means of trunnions 9 and 10 upon the standards 2 and 3 in spaced relation from the base plate 1. The standard 2 is forked and formed on its upper end with a bearing support 5 for the trunnion 9 formed as a part of the grid unit 4, this bearing support comprising two forks or side upstanding bearing parts 2'. The standard 3 is similarly provided on its upper end with a bearing support 6 for the opposite trunnion 10 of the grid unit, the forks or side members of this bearing support being indicated at 3'. The standard 3 is also provided with a pair of upstanding supports 7, being in the particular embodiment shown integral extensions of the forks or side parts 3', for a purpose hereinafter set forth. The trunnion 9 is formed of two

mating separable parts 11 and 12 resting on the bearing support 5.

The grid unit assembly comprises the three grid members 13, 14 and 15. The central grid member 15 is formed rigidly as a part of the trunnion 10, a fastening bracket 16 being utilized for fastening the trunnion to the central member 15. This bracket is a U-shaped sheet metal member having its main plate fastened in any suitable manner, as by soldering or welding, to the trunnion 10 and its leg members 16' are provided with attaching feet 17 which are fastened to the periphery of the central member 15 in any suitable manner, as by screws or riveting. Each of the grid members 13 and 14 is pivotally attached to the central grid 15 and the trunnion 10 and in the particular embodiment shown they are pivotally attached to the bracket 16. For this purpose each grid member 13 and 14 is provided with a bracket 20, the latter being formed of a sheet metal curved plate 21 extending inwardly to a point between the legs 16', a pair of ears 22 formed at right angles to the curved plate 21 and attaching feet 23 turned from the ears, which are fastened to the periphery of the grid member in any suitable manner. The brackets 20 are pivotally mounted between the legs 16' of the brackets 17 for pivotal movements about the pivotal connections 25 formed between the ears 22 and the legs 16' of the bracket 16. Thus each of the members 13 and 14, when uppermost, may be lifted to a position wherein the grid member rests upon the spaced supports 7, the grid member being thereby supported in the open position as indicated in Fig. 4, and the grid unit also thereby being held against rotation.

The trunnion part 11 is formed rigidly as a part of the grid member 13, while the trunnion mating part 12 is formed rigidly as a part of the other outer grid member 14. Each of the trunnion parts 11 and 12 is fastened to its corresponding grid member by means of a sheet metal bracket 26, comprising a curved plate 27 having a pair of side plates 28 formed therefrom, and on the side plates 28 are formed attaching feet 29 for suitably fastening the bracket to the periphery of the grid member. The trunnion parts 11 and 12 are fastened to the brackets 26 in any suitable manner, as for example by welding them to the inner ends of the curved plates 27. The brackets 26 extend toward each other to meet at the dividing line 30 of the separable trunnion parts 11 and 12, and in the embodiment shown the side plates 28 of brackets 26 closely approach

the periphery of the central grid member 15. The trunnion parts 11 and 12 are provided with suitable complementary handles 11' and 12' respectively, whereby the outer grid element 13, 14, which may at the time be uppermost, may be lifted to the open position indicated in Fig. 4, these handle parts 11' and 12' preferably being of insulated material or insulatedly carried by the grid elements.

Each of the grid members 13, 14 and 15 is provided with electric heater elements, as shown diagrammatically in Fig. 5, and these elements are all supplied by current through connections passing through the trunnion 10. In the particular embodiment shown, the trunnion 10 is provided with plug terminals 35 for the reception of a plug socket of conventional form. The electric heater elements of the members 13, 14 and 15 may be either connected in series or multiple as may be desired in practice.

In the embodiment of Fig. 6 the trunnion 10', through which pass the electrical connections and which carries the plug terminals 35 and is formed rigidly with the central grid member 15, is extended beyond the standard 3, and a limiting pin 36 is carried thereby for limiting the rotary movement of the grid member unit to a range of 180°. For this purpose a stop means 37 carried by the standard 3 co-operates with the pin 36 and in the particular embodiment shown the stop means 37 is in the form of an elongated piece traversing the width of the standard and having a portion cut out at the central portion to clear the extension of the trunnion. This means for limiting the range of rotary movement prevents the undue twisting of a flexible cord leading heating current to the device.

The grid members 13 and 14 are provided with grid surfaces 40 on their inner sides depending upon the heating, baking or frying surface desired, as for example the conventional waffle iron grid, and the central grid element 15 is also provided with similar grid surfaces on both sides, and the grid in detail is shown in Fig. 4. One of the trunnions is preferably provided with flat surfaces on the opposite sides thereof for the purpose of steadying the grid member unit in the cooking and baking position. For example, in the particular embodiment shown the mating parts 11 and 12 are provided with the flat outer surfaces 41 and the bottom of the bearing support 5 is provided with a complementary flat surface 42 for assisting in this steadying operation.

In operation the device is connected with any suitable supply of electrical current through the plug connections 35 and after the grids are heated to the desired extent the grid element 13, 14 which happens to be uppermost is lifted and batter is poured upon the exposed grid surface of the central element 15. The lifted grid element is then lowered into operative position and the grid member unit is then rotated through 180° by engaging the handle 11', 12'. The then uppermost grid element is lifted up and, if desired, the batter or other food product is placed upon the exposed surface 40 of the central element 15, whereupon the lifted grid element is lowered into position. If it is desired to make only one waffle or the like at a time, the last named lifted grid may be permitted to rest in the open position upon the anchoring supports 7 which assist in preventing rotary movement, notwithstanding the lifted position of the grid, and this promotes dissipation of heat from the exposed grid surfaces which are not in use. The electric heater

elements of all three grid members may, therefore, be kept in circuit notwithstanding one side of the heater is not being used, thereby simplifying the electrical connections and control.

The invention renders possible a construction wherein the uppermost grid member is supported by the bracket 16 on one side and through the brackets 26 on the other side so that the grid surface 40 of the intermediate member 15 does not bear the weight of the uppermost grid member. For example, if the spacing between the grid surfaces 40 of the upper and lower members is slightly greater than the depth of the intermediate element 15 with the brackets 26 and mating trunnion parts 11 and 12 in engagement, then only the weight of the central grid member rests upon the waffle or the like disposed on the lowermost grid element and, accordingly, the lower waffle needs to expand only against the weight of the central grid.

I claim:

1. In an electric iron of the character set forth, a base support having a pair of spaced bearings thereon, and a rotary multipart grid unit having trunnions supported in said bearings and including a central grid having heating surfaces on both sides thereof and being formed rigidly with one of said trunnions, a pair of complementary parts pivoted to said central member at points adjacent said last named trunnion, said complementary parts having mating trunnion parts forming the other trunnion, and electrical connections leading through said trunnion which is formed rigid with the central grid.

2. A double electric waffle iron comprising a base support and a three part superposed grid unit having trunnions mounted for rotation above the support for reversing the position of the unit, the central grid part having one trunnion formed rigidly therewith and the outer grid parts being pivotally fastened to the central grid part and carrying complementary elements forming the other trunnion.

3. In a waffle iron of the character set forth in claim 1 wherein one of the bearing supports is provided with a pair of rests engaged by a complementary grid element when lifted to the open position.

4. In a waffle iron of the character set forth in claim 1 wherein the complementary trunnion parts are provided with mating handle parts for lifting the complementary grid elements and rotating the unit.

5. In an electric double waffle iron, a base, a pair of standards rigidly fastened to and carried by said base, each of said standards being provided with a forked upper end forming a supporting bearing surface, and a multi-part grid unit having trunnions resting in said bearing supports and comprising a central double faced grid element formed rigidly with one of said trunnions and a pair of complementary grid elements pivotally fastened to the opposite sides of said central element at points adjacent said trunnion, said complementary grid elements having brackets at their free sides, said brackets being fastened to complementary parts forming one trunnion, the latter extending beyond the corresponding bearing support and provided with complementary handle means whereby either of the complementary grid elements when uppermost may be lifted and whereby the unit as a whole may be rotated, said grids embodying electrical heating elements, and said trunnion which is formed rigidly with the central grid element hav-

ing electrical connections passing therethrough, and carrying means whereby electrical connection may be readily made for supplying heating current to the device.

5 6. In a waffle iron of the character set forth in claim 5 wherein the forks of one of said standards are extended up to form a pair of supports for arresting the pivotal movement of a lifted grid element, supporting the same and preventing rotation of the unit.

10 7. In a waffle iron of the character set forth in claim 5 wherein the central grid element is attached to the trunnion formed therewith by means of a U-shaped bracket and the complementary grid elements are provided with brackets pivotally mounted upon said first named bracket.

15 8. In a waffle iron of the character set forth in claim 5 wherein the central grid element is attached to the trunnion formed therewith by means of a U-shaped bracket and the complementary grid elements are provided with brackets pivotally mounted upon said first named

bracket and fastened to one side to the grid elements, and brackets on the other side fastened to the complementary parts forming the trunnion.

9. In a waffle iron of the character set forth 5 in claim 2 wherein one of said trunnions is provided with flat surfaces on the upper and lower sides thereof.

10. In a waffle iron of the character set forth in claim 2 wherein means are provided for limiting the range of rotary movement to 180°.

11. In a waffle iron of the character set forth in claim 2 wherein said first named trunnion is provided with a radially disposed pin, and stops are disposed in the path of said pin at points 180° 15 apart.

12. In a waffle iron of the character set forth in claim 2 wherein one of said trunnions is provided with flat surfaces on the upper and lower sides thereof and the bottom of the bearing support is provided with a corresponding flat surface. 20

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