F. W. MOFFAT.

ELECTRIC HEATING ELEMENT.

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1,188,972.

Patented June 27, 1916.

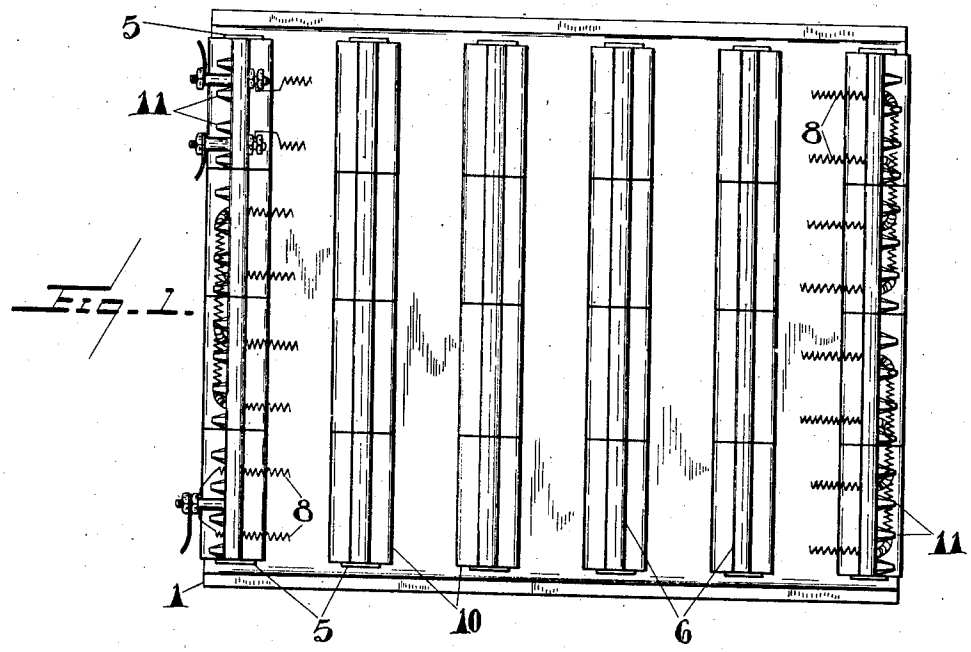

Fig. 1.

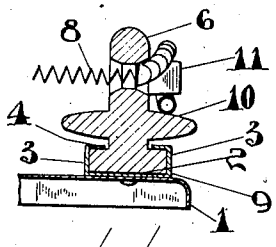

Fig. 3.

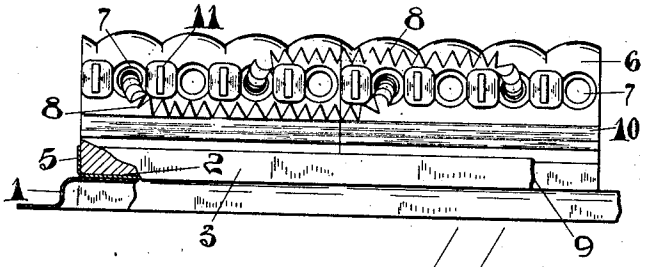

Fig. 2.

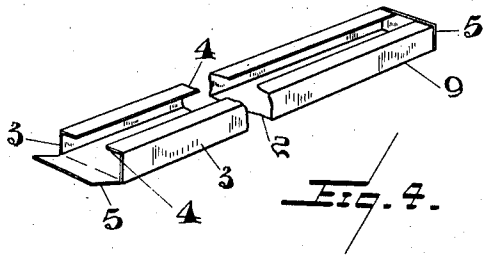

Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATING ELEMENT.

1,188,972. Specification of Letters Patent. Patented June 27, 1916.

Application filed April 20, 1916. Serial No. 92,455.

To all whom it may concern:

Be it known that I, FREDERICK W. MOFFAT, of the town of Weston, in the county of York, Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Electric Heating Elements, of which the following is a specification.

This invention relates to heating elements specially adapted for use in the broiling oven of an electric stove, and my object is to devise a cheap, easily constructed and assembled element, which is easily repaired.

I attain my object by means of the constructions hereinafter described and as illustrated in the accompanying drawings in which—

Figure 1 is a plan view of the improved element; Fig. 2 an end elevation of part of the same; Fig. 3 a sectional detail of part of the base plate and one of the supporting bars; and Fig. 4 a perspective detail of one of the guide ways or sockets for holding the supporting bars.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a metallic base plate which may be of any suitable shape for use in or connection with an oven, though it is understood, of course, that the element may be used in the open as a hot plate if desired. To this base plate are secured a plurality of guide ways. These guide ways are preferably formed of sheet metal and are each provided with the bottom 2, upwardly extending sides 3 and inwardly turned flanges 4 on the sides. Ends 5 are also formed integral with the bottom, which ends are adapted to be turned up as indicated at the far end of Fig. 4. These guide ways are secured to the base plate, preferably by electric spot welding.

6 are supporting bars for the electrical resistance. These supporting bars, it will be noted, are sectional, each bar comprising preferably four sections. These bars are preferably formed of porcelain or other insulating material. Each bar has a series of holes 7 formed therein through which the resistance 8 is threaded. The lower edge of the bar is laterally projected preferably in T form to fit the guide way 9 on to which the bar is fitted. It is evident, of course, that any undercut form of guide way might be used, the supporting bar being correspondingly shaped.

A sufficient number of sections are slid into each guide way and the ends 5 of the guide way turned up. The sections will then be securely held in place. It is evident that it is easy if any section is broken or damaged to slide out the sections after removing the resistance, and replace the broken or damaged section.

For the purpose of more perfectly insulating the resistance and preventing it contacting in any way with the base of the guide way, I preferably form on each supporting bar between the holes and the T-shaped bottom the laterally extending flanges 10. The outer guide ways are also provided with outwardly directed fingers 11 between the holes. The resistance wire at the ends can be passed alternately above and below these fingers, which keep the wires where they overlap entirely separated. This arrangement is both simple and effective.

In the drawings the resistance is shown as wound for three heats, but of course any desired form of winding may be adopted.

What I claim as my invention is:

1. In an electric heating element, the combination of a metallic base plate; a plurality of undercut guideways on said base plate; and supporting bars for an electric resistance adapted to slide into and engage said guideways.

2. In an electric heating element, the combination of a metallic base plate; a plurality of undercut guideways on said base plate; and sectional supporting bars for an electric resistance adapted to slide into and engage said guideways.

3. In an electric heating element, the combination of a sheet metal base plate; sheet metal guideways each formed of a bottom secured to the base plate and sides formed with inwardly projecting flanges; and supporting bars for an electric resistance provided with T-projections adapted to slide into said guideways.

4. In an electric heating element, the combination of a sheet metal base plate; sheet metal guideways each formed of a bottom secured to the base plate, ends adapted to be bent up, and sides formed with inwardly projecting flanges; and supporting bars for an electric resistance provided with

T-projections adapted to slide into said guideways and to be held therein by the said ends when the latter are bent up.

5. In an electric heating element, the combination of a metallic base plate; a plurality of undercut guideways on said base plate; and insulating supporting bars for an electric resistance adapted to slide into and engage said guideways, each bar having a series of holes formed therein for the passage of the resistance and being provided with laterally projecting flanges between said holes and the part engaging the guideway.

6. In an electric heating element, the combination of a sheet metal base plate; sheet metal guideways each formed of a bottom secured to the base plate, ends adapted to be bent up, and sides formed with inwardly projecting flanges; and sectional supporting bars for an electric resistance provided with T-projections adapted to slide into said guideways and to be held therein by the said ends when the latter are bent up.

7. In an electric heating element, the combination of a metallic base plate; a plurality of undercut guideways on said base plate; and insulating supporting bars for an electric resistance adapted to slide into and engage said guideways, each bar having a series of holes formed therein for the passage of the resistance and the ouside bars having laterally and outwardly projecting fingers between the holes.

8. In an electric heating element, a resistance supporting bar of insulating material having toward one edge a series of holes therein for the passage of the resistance, provided with lateral enlargements adjacent the other edge for engagement with an undercut guideway, and provided with a laterally projecting flange at each side below the holes.

9. In an electric heating element, a resistance supporting bar of insulating material having toward one edge a series of holes therein for the passage of the resistance, provided with lateral enlargements adjacent the other edge for engagement with an undercut guideway, and provided with a laterally projecting flange at each side below the holes and laterally projecting fingers at one side between the holes.

10. In an electric heating element, a resistance supporting bar of insulating material having toward one edge a series of holes therein for the passage of the resistance, provided with lateral enlargements adjacent the other edge for engagement with an undercut guideway and laterally projecting fingers at one side between the holes.

Signed at Toronto this 10th day of April A. D. 1916, in the presence of the two undersigned witnesses.

FREDERICK W. MOFFAT.

Witnesses:
J. Edw. Maybee,
E. P. Hall.