A. E. REIMERS.

ELECTRIC HEATING DEVICE.

APPLICATION FILED DEC. 26, 1907.

910,725.

Patented Jan. 26, 1909.

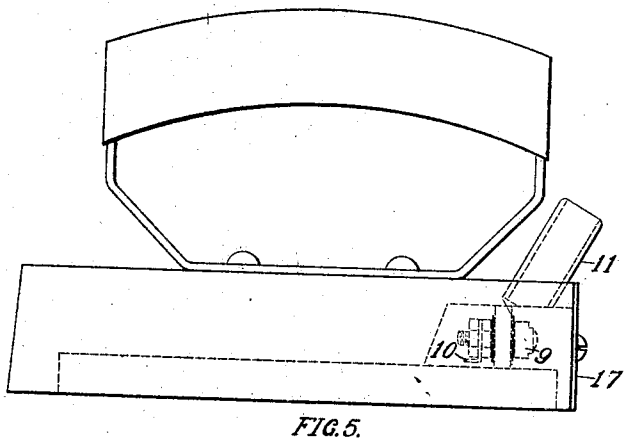


FIG. 5.

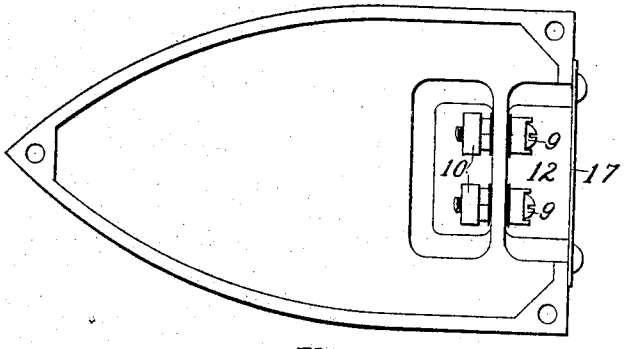
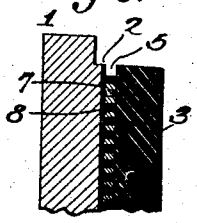


FIG. 4.

Fig. 6.



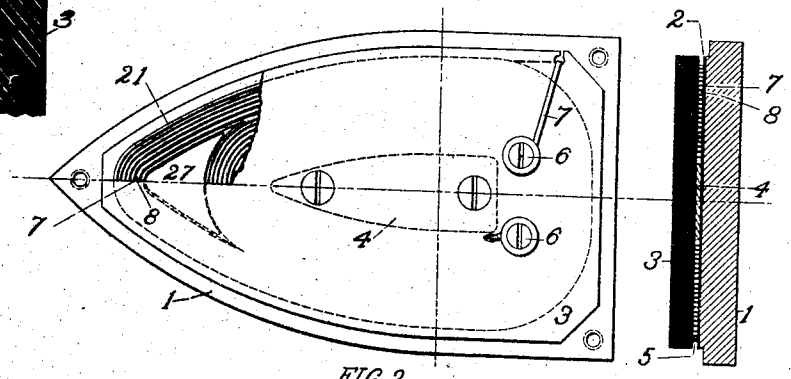


FIG. 2.

FIG. 3.

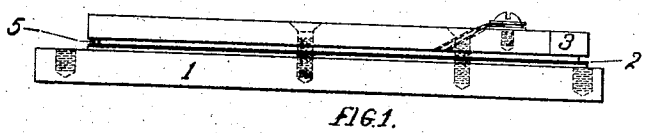


FIG. 1.

Witnesses:

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UNITED STATES PATENT OFFICE.

ALFRED E. REIMERS, OF NEW YORK, N. Y.

ELECTRIC HEATING DEVICE.

No. 910,725. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed December 26, 1907. Serial No. 408,211.

To all whom it may concern:

Be it known that I, ALFRED E. REIMERS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Electric Heating Device, of which the following is a specification.

The object of this invention is to provide a heating element for electrically heated apparatus and utensils, which (*a*) secures uniform distribution of heat over the surface to be heated, (*b*) may be readily replaced or renewed, (*c*) is economical in operation, and (*d*) may be manufactured at a minimum cost.

Although the accompanying drawing illustrates the application of the device to a sad-iron, it may be wound in any desired shape, it being adaptable to the shape of the surface to be heated.

The letters refer to the same parts throughout the several views.

Figure 1 is a side view of the base of the device and its heating element; Fig. 2 is a plan view thereof partly broken away; Fig. 3 is a cross section of the base of the device; Fig. 4, is an inverted plan view of a casing comprising the upper portion of the device; Fig. 5, is a side view of the said upper portion; and Fig. 6, is a fragmentary cross section of the base of the device drawn on an enlarged scale.

In Figs. 1, 2 and 3 the casting 1, insulated with a sheet of mica 2, and the pieces 3 and 4 are screwed together as shown, forming a slot 5. The form 4 serves to separate 1 and 3 and forms the bottom of the slot 5. In the insulated slot thus formed is wound the uninsulated resistance wire or ribbon 7, which as shown by Figs. 3 and 6 of the drawing, is rectangular in cross section, and asbestos yarn 8, the yarn and wire being wound on at the same time. Fig. 2 shows at 21 a view of the winding with a part of the piece 3 removed. The distance piece 27, is inserted in slot 5 after a part of the winding is in place and serves to carry the remaining turns into the point of the iron, thus obtaining a more equal distribution of heat. The ends of the wire 7 are secured by the terminal screws 6. The asbestos separates and insulates the layers of wire without separating the wire from the mica of the base, hence permitting the heat to pass from the wire through the mica to the iron. It is obvious that strips of mica or any other suitable insulation may be used instead of asbestos.

The piece 3 as shown in Figs. 1, 2 and 3, is made of "asbestos wood," or other suitable insulating material, on which the terminals may be fastened and which will check the passage of heat to the upper part of the iron. The piece 3 may be of metal insulated with mica or fire-proof enamel. Also, the mica insulation of 1 may be substituted by enamel or other suitable material.

Figs. 4 and 5 represent the upper portion of the iron, composing the bulk of the apparatus and containing the terminal studs 9, to the rear of which are fastened the contact springs 10 that make contact with the terminals of the resistance element. The supply conductors are led through the tube 11 and connected to the terminal screws, the whole being accessible through the aperture 12, which may be covered by a plate 17.

What I claim as my invention and desire to secure by Letters Patent is:

1. In an electric heating device, the combination with a frame comprising two insulated metallic plates, and a central form and a distance plate secured between them, and forming a narrow space between said insulated plates, of high resistance conductor wound in said space partly around said central form and partly on said distance plate, the coils of said conductor being insulated from each other.

2. In an electric heating device, the combination with a frame comprising two insulated metallic plates, and a central form and a distance plate secured between them and forming a narrow space between said insulated plates, the outer surface of one of the said plates being exposed, of high resistance conductor embodying wire having four flat sides, said wire wound in said space partly around said central form and partly on said distance plate, and insulating tape separating the coils of said conductor.

3. An electric heating device comprising a frame embodying two insulated metallic plates, and a central form and a distance plate between their insulated surfaces forming an insulated space, and a high resistance conductor embodying wire having four flat sides, and a strip of insulating material, spirally wound in said space, and on said central form and said distance plates so that the turns of said conductor are separated by the insulating material thus enabling the conductor to conform to the contour of the parts, and electric current to affect every

part of said conductor and afford facility for evenly distributing the heat throughout every part of the plate to be heated.

4. In an electric heating device, the combination with a metallic plate having an insulated surface, and a central form and a distance plate thereon, and high resistance conductor wound partly on said central form and partly on said distance plate, the coils of said conductor being insulated from each other, of an insulator embodying a plate covering said conductor.

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