W. S. HADAWAY, Jr.

RESISTANCE ELEMENT.

APPLICATION FILED JUNE 25, 1910.

1,158,487. Patented Nov. 2, 1915.

Fig. 1.

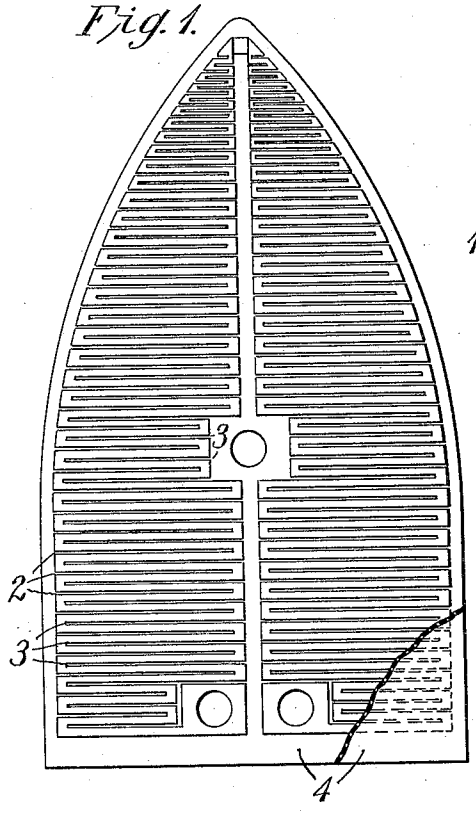
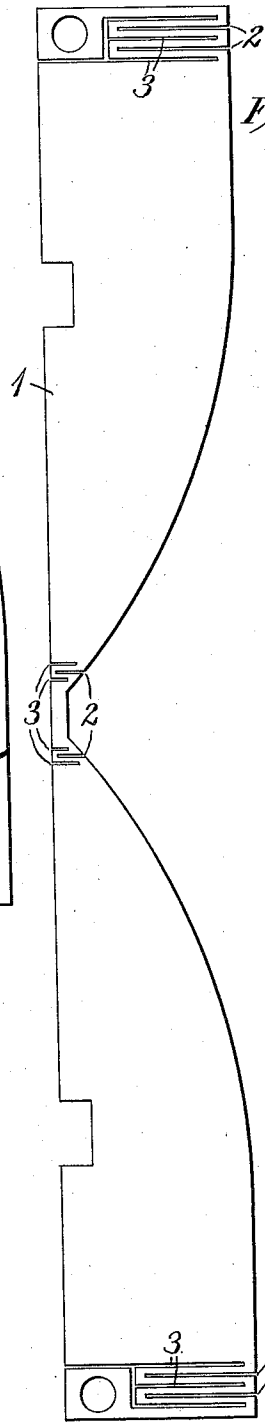


Fig. 2.



WITNESSES:

Lloyd H. Miller

R. J. Barbour

INVENTOR

William S. Hadaway Jr.

BY

Hadley & Barr

ATTORNEY

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM S. HADAWAY, JR., OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

RESISTANCE ELEMENT.

1,158,487. Specification of Letters Patent. Patented Nov. 2, 1915.

Application filed June 25, 1910. Serial No. 568,872.

To all whom it may concern:

Be it known that I, WILLIAM S. HADAWAY, Jr., a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Resistance Elements, of which the following is a specification.

My invention relates to resistance units and it has especial reference to devices in which it is desirable to maintain a substantially constant heat by the application of electric current.

The object of my invention is to provide an improved resistance unit that shall be simple and durable in construction and adapted for use with sad irons and other devices of the class above indicated.

In my co-pending application, Serial No. 382,395, filed July 5, 1907, I have illustrated and described an electrically heated sad iron having a resistance unit which constitutes, when assembled, a resistance ribbon and a plurality of flat insulating plates interposed between the two portions of a divided sad iron body.

According to my present invention, I provide a resistance unit which is adapted for use as a sad iron heater but which may be employed as the heating member of any one of various forms of heating devices.

My resistance unit is particularly advantageous by reason of the fact that it is a commercial article of manufacture in itself, apart from any heating device, and it may be manufactured with a very small expenditure for labor and tools.

Figure 1 of the accompanying drawings is a plan view of the resistance element assembled, ready to be mounted between insulating plates. Fig. 2 is a plan view of a blank for the resistance element shown in Fig. 1.

Referring to the drawings, the resistance element consists of a sheet metal strip 1 which may be produced by stamping or punching from sheet steel, or other resistance material. After the strip is so cut as to produce the general outline shown in Fig. 2, a plurality of slots 2 and 3 may be cut alternately from opposite edges by means of a comparatively simple punching machine, through which the strip is fed, to provide a zig-zag path for the electric current. The slots are spaced unequally to concentrate the heat at the point of the sad iron, the distances between the slots being approximately proportioned to their depths. While this arrangement is of advantage, on account of the improved heat distribution thus obtained, it will be observed that the result desired is accomplished without materially impairing the mechanical strength of the heater unit, since the deeper slots are sufficiently separated to give the necessary body to the unit. When the element is completely slotted it is folded into the form shown in Fig. 1. It is then mounted between insulating plates 4 which are preferably built up of sheet mica and shellac, or some suitable insulating varnish. Sufficient heat and very heavy pressure are then applied to the unit, thereby causing the insulating shellac or varnish to soften and to unite the insulating plates. The resistance element is thus embodied in a heat-resisting body of insulation and the unit is compact, durable and ready for service in a sad iron or other similar heating device.

My invention provides not only a simple unit, but also materially simplifies the process of making the same.

I claim as my invention:

1. An integral resistance unit for an electrically heated device comprising two similar half units, tapered into a relatively narrow strip at their point of connection and having a plurality of lateral slots cut alternately from opposite edges to provide a zig-zag path for the electric current, the distances between slots being substantially proportional to their depths.

2. An integral resistance unit for an electric sad iron comprising two half units tapering into a relatively narrow strip at their point of connection and having a plurality of lateral slots cut alternately from

opposite edges to provide a zig-zag path for the electric current, the slots in the body of the unit being equally spaced and those in the tapered portions of the unit being spaced relatively close together to concentrate the heat at the point of the iron.

In testimony whereof, I have hereunto subscribed my name this 20″ day of June, 1910.

WILLIAM S. HADAWAY, Jr.

Witnesses:
W. O. Peale,
B. B. Hines.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."