

No. 825,211.

PATENTED JULY 3, 1906.

H. E. HEATH.
RESISTANCE UNIT.
APPLICATION FILED JULY 13, 1905.

Fig. 1.

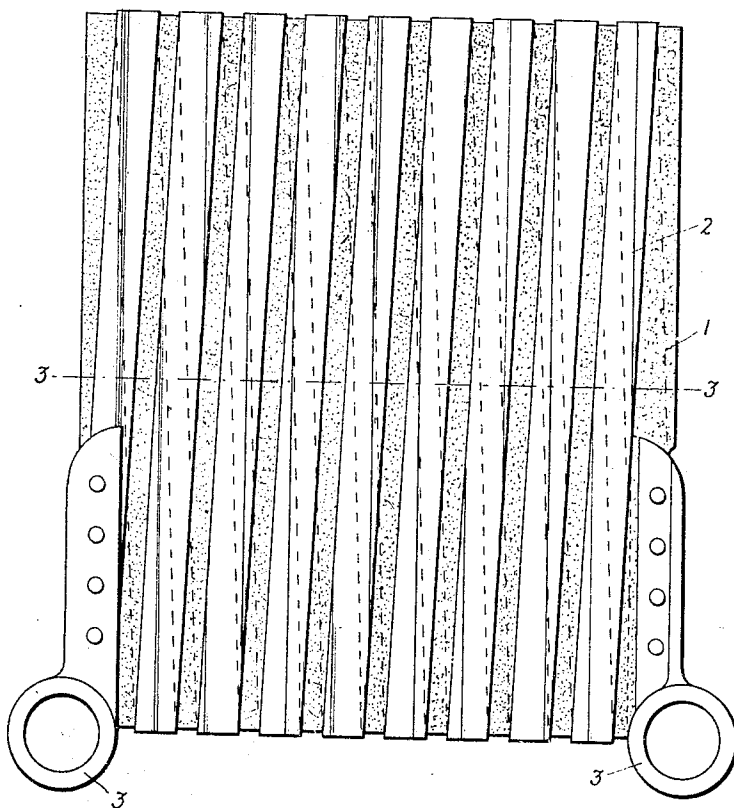


Fig. 2.

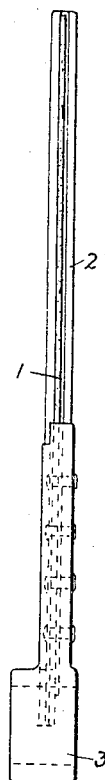
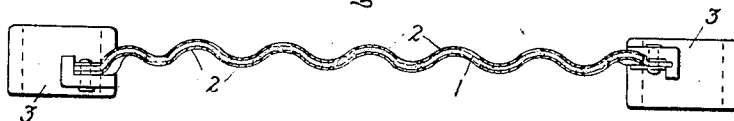


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

HARRY E. HEATH, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

RESISTANCE UNIT.

No. 225,211.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed July 13, 1905. Serial No. 269,507.

To all whom it may concern:

Be it known that I, HARRY E. HEATH, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Resistance Units, of which the following is a specification.

This invention relates to resistance units for electric circuits, and has for its object the provision of a device of this character which is light, cheap to construct, and at the same time is thoroughly efficient and durable.

Many forms of resistance units are known to the electric art, one of the principal forms being what is known as the "resistance grid." This form of unit is objectionable by reason of its excessive weight and for many other reasons well known to those skilled in the art.

The object of my invention is to construct a unit which will take the place of the grid by overcoming the objections thereto, although its uses are not limited to those of the grid, since it is well adapted to any of the ordinary uses to which a resistance unit may be subjected.

In carrying out my invention I provide an insulating material, such as micanite or asbestos, of the size and shape desired. Upon this material as a core I wind a strip of resistance material, such as sheet-iron, the winding being of course in an open spiral, so as not to short-circuit the turns. In order to lock the conductor in place on the insulating material, I corrugate the sheet preferably in the direction of the length of the strips. This not only secures the strips to the core, but gives rigidity in the direction of the corrugations to the unit as a whole.

My invention further consists in the details of construction and in the arrangement and combination of elements hereinafter set forth, and particularly pointed out in the claims annexed to and forming a part of this application.

In the drawings, in which is illustrated one form of my invention, Figure 1 is a plan view of my resistance unit. Fig. 2 is a side elevation thereof, and Fig. 3 is a section taken on the line 3 3 of Fig. 1.

Referring to the drawings, 1 is a sheet of insulating material, such as micanite or asbestos, the latter being preferable, due to its cheapness and flexibility.

2 is a resistance-conductor, such as sheet

iron in the form of a strip spirally wound upon the insulating material, as shown in the drawings. I now corrugate the sheet, so as to securely lock the turns in place. These corrugations also increase the stiffness or rigidity of the unit and they may run in any direction or in more than one direction, if desired. The terminals 3 are secured to the ends of the conductor by rivet or any other well-known manner.

It will thus be seen that I have provided a resistance unit which is exceedingly cheap and light and can be subjected to the roughest usage without injury. The conducting-strips are secured to the insulating material without the aid of any rivets or any kindred devices, and the method of production is of the simplest. The strip is simply wound upon the insulating-sheet and passed through rollers to form corrugations. The unit, moreover, will stand high temperatures and will not crack when subjected to sudden changes in temperature.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A flexible corrugated resistance unit comprising an insulating material having a resistance-conductor wound thereon.

2. A corrugated resistance unit comprising a flexible insulating material having a resistance-conductor wound thereon.

3. A resistance unit comprising an insulating material having a resistance-conductor wound thereon and secured thereto by indentations.

4. A resistance unit comprising a sheet of flexible insulating material having a resistance-conductor spirally wound thereon and locked thereto by corrugations.

5. A resistance unit comprising a web of flexible insulating material traversed by a resistance-conductor and stiffened by corrugations.

6. A resistance unit comprising a sheet of asbestos, a resistance-conductor wound thereon and secured thereto by corrugations.

7. A resistance unit comprising a sheet of asbestos having an iron strip wound thereon and provided with terminals, said sheet being corrugated throughout.

8. A resistance unit comprising a sheet of insulating material having a resistance-strip wound thereon, said unit being provided with grooves running in a substantially lon-

gitudinal direction of said strip and engaging each turn thereof.

5 9. A resistance unit comprising a sheet of asbestos, an iron strip spirally wound thereon, said unit being provided with grooves running in a substantially longitudinal direction of said strip and engaging each turn thereof.

In witness whereof I have hereunto set my hand this 11th day of July, 1905.

HARRY E. HEATH.

Witnesses:

JOHN A. McMANUS, Jr.,
JOHN G. CALLAN