

H. J. WIEGAND.
 REINFORCED GRID RESISTANCE.
 APPLICATION FILED MAY 4, 1908.

982,557.

Patented Jan. 24, 1911.

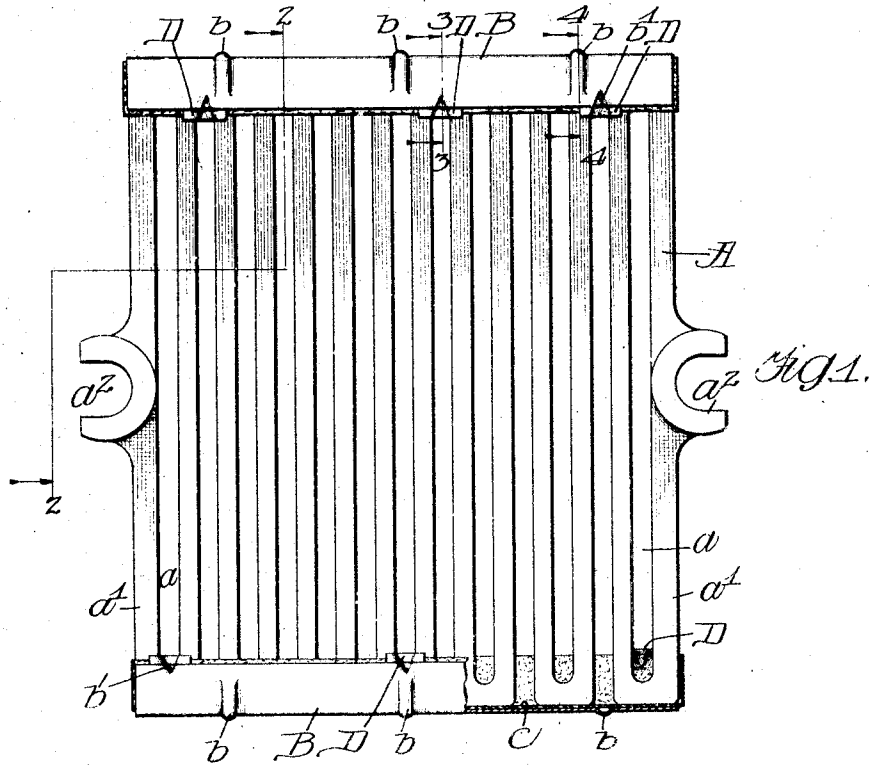


Fig. 3

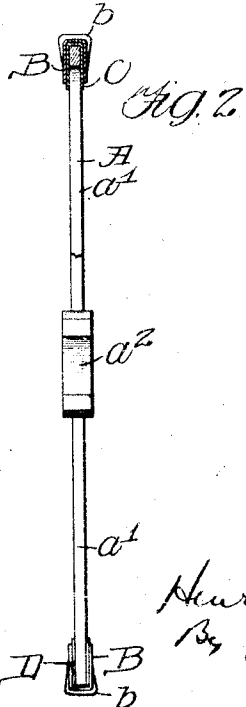
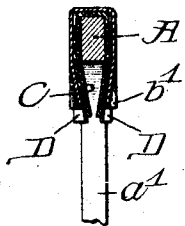
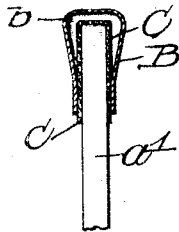


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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REINFORCED GRID RESISTANCE.

982,557.

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To all whom it may concern:

Be it known that I, HENRY J. WIEGAND, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Reinforced Grid Resistances, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to improvement in reinforced grid resistances and those of similar form.

One of the features of my invention is the peculiar construction of the reinforcing members.

Another feature of my invention resides in the manner of securing the reinforcing members to the resistance units.

Another feature resides in the manner of insulating the reinforcing members from the resistance units.

In order that my invention may be more thoroughly understood I have illustrated one embodiment thereof in the accompanying drawing.

In the accompanying drawing—Figure 1 is an elevation of a reinforced grid resistance embodying my invention. Fig. 2 is a sectional view taken on line 2—2, Fig. 1. Fig. 3 is an enlarged sectional view taken on line 3—3, Fig. 1, and Fig. 4 is an enlarged sectional view taken on line 4—4, Fig. 1.

My invention applies to resistances which consist more particularly of a reflexed strip or bar having a number of convolutions, as for instance, a grid resistance A, such as shown in the drawing. The grid resistance which is shown in the drawing is a type which is used extensively in practice. It is usually made of cast iron but may be made of other suitable material. Inasmuch as the grid consists of a long reflexed bar it is more or less flimsy and may be bent or distorted very easily.

My invention provides special reinforcing means for firmly holding the convolutions to strengthen the grid as a whole, and make it rigid, so as to prevent it from being bent or distorted. The outer bars a' of the grid are provided with suitable terminals a^2 , by means of which the grid may be fastened in position and electrically connected in circuit. The terminals a^2 are disposed at the

middle of the outer bars so as to support the grid at a central point. These terminals may, of course, be arranged in any suitable location and may be of other forms than that shown. I prefer to make the outer bars a' of the grid of the same length as the intermediate bars, for the purpose which will be hereinafter set forth. Over the edges of the grid on opposite sides, or in other words, over the ends of the bars or convolutions, I place reinforcing strips B, preferably substantially U-shaped in cross section. Each of the reinforcing members is provided with several ribs or beads b , which are preferably stamped up therefrom to strengthen it transversely. Between each of the reinforcing strips and the grid I interpose an insulating strip C, made of any suitable material, to insulate the reinforcing strips from the grid. Of course I may use any means for this purpose. It is preferable to bend the sides of the reinforcing strips inwardly so as to tightly grip the grid. Of course the reinforcing strips might be so formed that it would be necessary to spread the sides thereof apart in order to put them on the edges of the grid and then the tendency of the sides to spring inwardly would naturally cause them to firmly grip the grid. In order to hold the reinforcing strips firmly in place I preferably indent the sides thereof to form inward projections b' , which enter the spaces a between the bars at their looped ends. The reinforcing strips are thus firmly held in place and can only be removed after the projections b' have been pried out of the slots a . At the points where I indent the reinforcing strips I preferably interpose additional insulating material D, such as mica, between the reinforcing strips and the grid so as to insure perfect insulation between the same.

By making the outer bars of the grid the same length as the intermediate bars the same are held by the reinforcing strip and thus made rigid.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a grid resistance, of substantially U-shaped reinforcing strips placed over the edges of said grid and having transversely extending ribs formed thereon.

2. The combination with a grid resistance,

of substantially U-shaped reinforcing strips placed over the edges of said strips and having transversely extending strengthening ribs formed thereon and means for insulating said reinforcing strips from said grid.

3. The combination with a grid resistance, of substantially U-shaped reinforcing strips placed over the edges of said grid, said reinforcing strips having projections formed on the sides thereof and extending into the spaces between the looped ends of the bars of said grid.

4. The combination with a grid resistance, of substantially U-shaped reinforcing strips placed over the edges of said grid, said reinforcing strips having projections formed on the sides thereof and extending into the spaces between the looped ends of the bars of said grid, and means for insulating said reinforcing strips from said grid, said insulating means being reinforced contiguous to the projections on said reinforcing strips.

5. The combination with a grid resistance, of substantially U-shaped reinforcing strips placed over the edges thereof and having transversely extending ribs formed thereon,

a strip of insulating material interposed between each of said reinforcing strips and said grid, said reinforcing strips having projections formed on the sides thereof and extending into the spaces between the looped ends of the bars of said grid.

6. The combination with a grid resistance, of substantially U-shaped reinforcing strips placed over the edges of said grid and having transversely extending strengthening ribs formed thereon, a strip of insulating material interposed between each of said reinforcing strips and said grid, each of said reinforcing strips having inward projections formed on the sides thereof and extending into the spaces between the looped ends of the bars of said grid, and an additional strip of insulating material interposed between the grid and each of the projections on said reinforcing members.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HENRY J. WIEGAND.

Witnesses:

W. HOPKINS,
THEODORE LINCOLN.