H. J. WIEGAND.

RESISTANCE GRID.

APPLICATION FILED JUNE 6, 1910. RENEWED FEB. 3, 1913.

1,071,843. Patented Sept. 2, 1913.

Fig. 1.

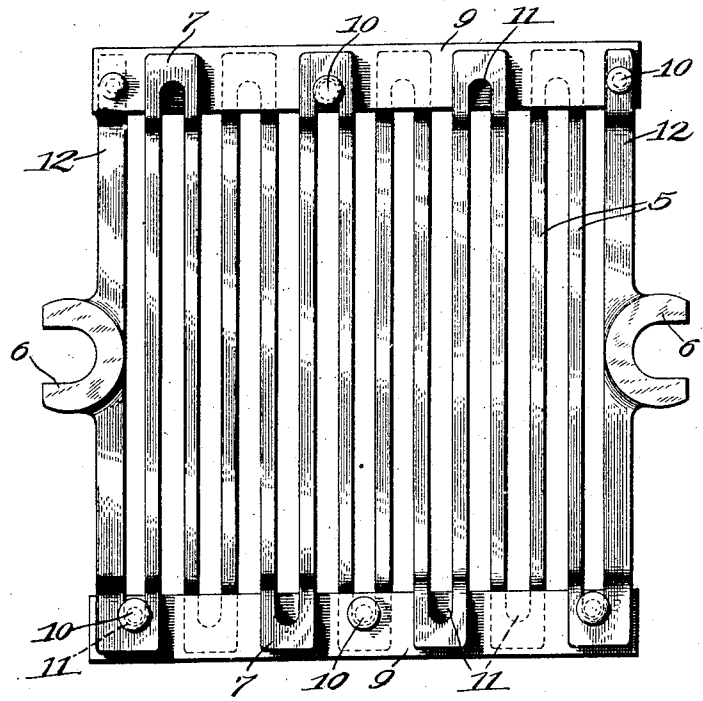


Fig. 2.

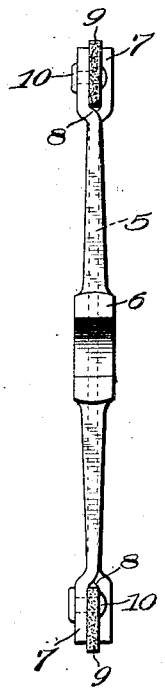


Fig. 3.

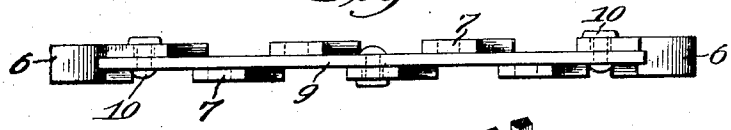
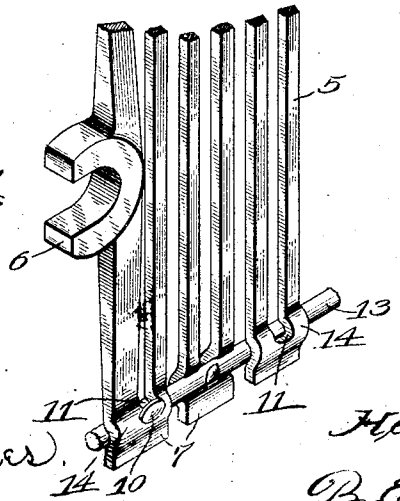


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY J. WIEGAND, OF MILWAUKEE, WISCONSIN.

RESISTANCE-GRID.

1,071,843. Specification of Letters Patent. Patented Sept. 2, 1913.

Application filed June 6, 1910, Serial No. 565,231. Renewed February 3, 1913. Serial No. 746,041.

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 Resistance-Grids, 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 improvements in the construction of resistance units, and more particularly to that class of resistance units commonly known as grid resistance.

The principal object of my invention is to provide simple and efficient means for maintaining the various convolutions of the resistance grid in alinement, and at the same time effectually reinforce and strengthen the grid in a substantial manner.

Various other objects and advantages will be hereinafter disclosed.

In order to more fully and clearly set forth the characteristic features of my invention, I shall describe the same, reference being had to the drawing which illustrates certain embodiments thereof, that I have worked out in practice. It should be understood, however, that my invention is not limited to the specific forms illustrated in the drawing.

In the drawing Figure 1 is a side elevation of the grid, Fig. 2 is an end view thereof, Fig. 3 is a bottom view of Fig. 1 and Fig. 4 is a fragmental perspective view of a modification of Fig. 1.

The resistance proper consists of a plurality of convolutions 5, composed of any suitable resistance material, the more common being cast iron or any alloy thereof. On the end convolutions of the grid are located the terminals 6 in the form of notched lugs. The extremities 7 of the convolutions, as illustrated, are alternately offset in opposite directions or staggered, thereby forming a series of shoulders 8 in alinement throughout the width of the grid. Interposed between the extremities 7 and adapted to abut against the shoulders 8 of the grid are the reinforcing members 9.

The reinforcing members 9 are preferably formed of some rigid and heat resisting material, such as fiber or transite, or any insulating element possessing the necessary strength. The reinforcing members are adapted to be firmly secured in place by any suitable means such as rivets 10, which as illustrated, pass through the slots 11 adjacent to the closed ends of the convolutions. It is, therefore, unnecessary to provide any special apertures in the grid, with the exception of the inactive ends 12 which are shown as having rivets passing through them.

In my improved construction, when the members of the grid are assembled and secured in place, the structure becomes practically unitary, thereby forming a grid of great strength and at the same time eliminating the liability of short-circuiting some of the convolutions, which is apt to occur where insulated metal is used for reinforcing the grid.

The modified structure, disclosed in Fig. 4, is practically the same as that disclosed in Fig. 1, with the exception, that the rectangular reinforcing members 9 in Fig. 1, are replaced by insulating rods or members 13 substantially circular in cross section, and serving the same purpose. Where cylindrical reinforcing members are used, I prefer to provide the convolutions of the grid with curved extremities 14, the same being staggered in a similar manner to that described in connection with Figs. 1, 2 and 3. However, the grid and the reinforcing members might assume various different forms without departing from the scope of my present invention and I, therefore, do not wish to limit myself to the specific structures shown.

Having thus described my invention what I wish to claim and secure by Letters Patent is:

1. A resistance grid provided with an insulating reinforcing member and a device passing through portions of the grid and said reinforcing member to firmly secure said reinforcing member in place.

2. A resistance grid provided with offset portions forming shoulders, a reinforcing member abutting said shoulders and a device passing through one of the slots in said grid to hold said reinforcing member against displacement from said shoulders and against longitudinal slippage.

3. A resistance grid provided at the extremities of its convolutions with staggered offset portions providing shoulders, a rein-

forcing member arranged between said staggered offset portions and resting upon said shoulders and a device passing through one of the slots in said grid to hold said reinforcing member against displacement from said shoulders and against longitudinal displacement.

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

HENRY J. WIEGAND.

Witnesses:
EDW. J. MEAD,
M. R. FENNO.

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