

J. G. GOETSCH.
RESISTANCE UNIT AND MANUFACTURE THEREOF.
APPLICATION FILED AUG. 2, 1915.

1,175,433.

Patented Mar. 14, 1916.

Fig. 1.

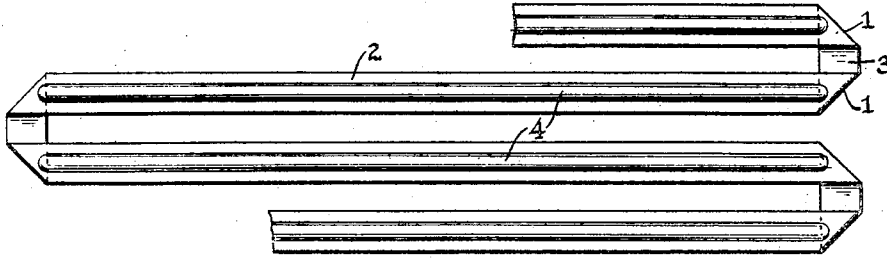


Fig. 2.

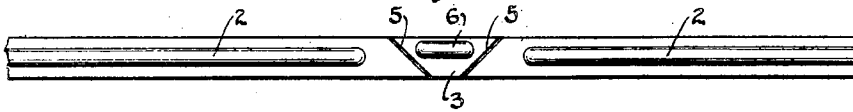


Fig. 3.

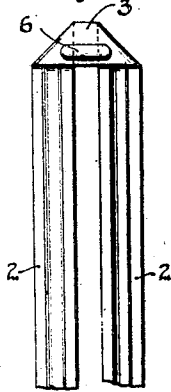
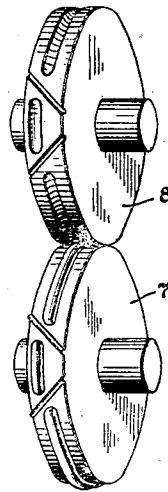


Fig. 4.



Inventor
John G. Goetsch
By Frank A. Hubbard
Attorney

UNITED STATES PATENT OFFICE.

JOHN G. GOETSCH, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE CUTLER-HAMMER MFG. CO., OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

RESISTANCE UNIT AND MANUFACTURE THEREOF.

1,175,433.

Specification of Letters Patent.

Patented Mar. 14, 1916.

Application filed August 2, 1915. Serial No. 43,294.

To all whom it may concern:

Be it known that I, JOHN G. GOETSCH, 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 Units and Manufacture Thereof, 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.

This invention relates to improvements in resistance units and the manufacture thereof.

More particularly the invention relates to the proposed type of unit employing a thin reflexed resistance ribbon and has among its objects to simplify and facilitate the reflexing of the resistor.

A further object is to provide for reinforcement of the ends of the convolutions of the resistor.

Other objects and advantages of the invention will hereinafter appear.

The invention will now be more specifically described in connection with the accompanying drawing in which—

Figure 1 shows a portion of a ribbon resistor grid heretofore proposed. Fig. 2 shows a section of resistor ribbon illustrative of the present invention; Fig. 3 shows the resistor ribbon of Fig. 2 folded to correspond with the reflexed resistor of Fig. 1, and, Fig. 4 shows a die for shaping the resistor as shown in Fig. 2.

Referring to Fig. 1, the resistor ribbon is folded at intervals on converging oblique lines 1 whereby it is formed into a series of substantially parallel convolutions 2, each convolution including an end section 3. The convolutions are provided with longitudinal beads or ribs 4 for strengthening the same and in practice the resistor is mounted in a suitable supporting and reinforcing frame.

Referring now to Fig. 2 the same shows a resistor ribbon so beaded as to greatly expedite and facilitate the reflexing thereof into the form shown in Fig. 1 at the same time providing for accuracy and uniformity of the convolutions of said resistor. This view shows two longitudinally beaded sec-

tions 2 and an end section 3 of the resistor before folding. The resistor is provided with converging transverse beads 5 corresponding with the folding lines 1 of Fig. 1 and with a stiffening bead 6 for the end section 3. In consequence, the resistor will fold as shown in Fig. 3 and as will be obvious the beads 5 will provide for natural folding of the resistor in the desired manner while the bead 6 will have a similar tendency and will also stiffen or reinforce the end section 3. In practice the resistor may be roughly reflexed and then finally shaped by merely pressing the ends of the convolutions by hand or machine to flatten the sections 2 against the sections 3, accurate folding being insured by the beads 5. The resistor may be formed as illustrated in Fig. 2 in various ways as by passing the same through die rollers 7 and 8 (Fig. 4), whereby the beads will be insured proper relation and whereby all bending of the resistor may be accomplished at a single operation.

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

1. A resistor provided with transverse beads providing folding lines therefor and longitudinal beads to resist folding of said resistor at other points.

2. A resistor ribbon provided at intervals with converging transverse beads providing folding lines for reflexing of the ribbon.

3. A resistor ribbon provided at intervals with converging transverse beads providing folding lines therefor and with a reinforcing bead for the section between said transverse beads.

4. A resistor ribbon provided with an interrupted longitudinal bead and with transverse beads, the latter providing folding lines and the former resisting folding of the ribbon at other points.

5. A resistor ribbon provided with an interrupted longitudinal bead, converging transverse beads between the sections of said longitudinal bead and a reinforcing bead for the portion of the ribbon between said transverse beads.

6. The method of preparing a resistance

ribbon for reflexing consisting in beading the same transversely.

7. The method of preparing a resistance ribbon for reflexing consisting in beading
5 the same transversely and reinforcing the same longitudinally.

8. The method of preparing a resistor rib-

bon for reflexing consisting in reinforcing the same longitudinally and at intervals grooving the same on lines corresponding with the desired folding lines.

In witness whereof, I have hereunto subscribed my name.

JOHN G. GOETSCH.