

H. B. TAYLOR.
ELECTRIC HEATING DEVICE AND METHOD OF CONSTRUCTING THE SAME.
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1,005,360.

Patented Oct. 10, 1911.

Fig. 1.

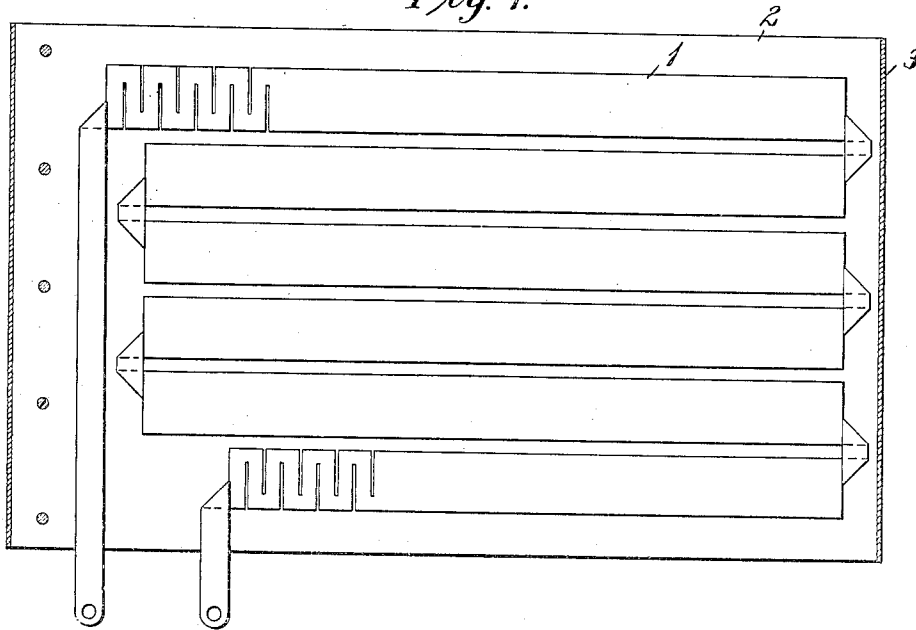


Fig. 2.

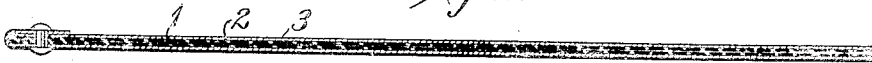
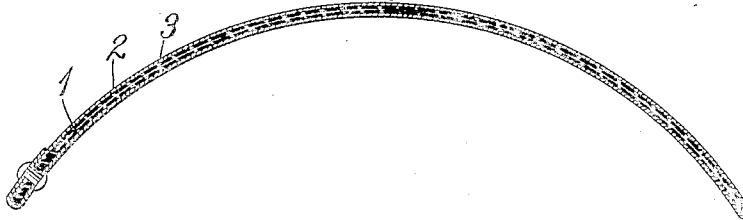


Fig. 3.



WITNESSES:

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ELECTRIC HEATING DEVICE AND METHOD OF CONSTRUCTING THE SAME.

1,005,360.

Specification of Letters Patent.

Patented Oct. 10, 1911.

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To all whom it may concern:

Be it known that I, HAROLD B. TAYLOR, a citizen of the United States, and a resident of Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electric Heating Devices and Methods of Constructing the Same, of which the following is a specification.

My invention relates to electric heaters and it has for its object to provide a simple and efficient heater which may be utilized for various purposes and a novel method of constructing the same whereby a relatively high pressure may be exerted on the resistance element and its insulating sheath when relatively thin metal plates or punchings constitute the outer shell or covering of the device.

According to my present invention, I dispose a suitable resistance element between flat plates of insulating material and assemble the structure thus formed between parallel plates of relatively thin sheet metal. The ends of the plates are then securely riveted together and a high pressure is brought to bear upon the resistance element and the insulation by finally bending the plates of conducting material into such form that one of the plates is subject to tensional strains and the other to strains in compression.

Figure 1 of the accompanying drawings is a sectional plan view of an electric heating device constructed in accordance with my invention, Fig. 2 is a sectional elevation of the structure in process of construction and Fig. 3 is a similar view of the completed device.

Referring to the drawings, a resistance element 1, preferably in ribbon form, is disposed as a zig zag grid between plates 2 of mica or other heat-resisting insulation, the flat element thus formed being assembled between a pair of relatively thin metal plates 3. A single plate 3, folded on itself, as shown in Figs. 2 and 3, may, of course, be employed in lieu of two distinct plates.

If it is desired to produce a curved heater or a heater of cylindrical form, the ends of the plates are riveted together, as shown in Fig. 2. The plates are then bent into the final form, as shown in Fig. 3, the bending process being relied upon to produce a high

pressure between the plates and to force the parts into close engagement with each other, as this relation is essential to a successful and efficient heater.

It will, of course, be understood that, if the final form of the heater is to be only slightly curved, the plates should be first bent in the opposite direction to impart curvature of large radius before they are riveted at their ends, and afterward they may be straightened and bent into the final form.

Where the general form of the heater is necessarily flat, the assembled plates may be riveted or otherwise secured together at their edges and in lines substantially parallel thereto, after which the device may be so bent as to have a corrugated or waved surface in order to obtain the desired pressure between the outer surfaces.

Since the form of the resistance element and the size and arrangement of the parts of which the heater is composed may be varied without departing from the spirit of my invention, I desire that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. An electric heater comprising a resistance element, insulating sheets or strips between which said element is located and relatively thin inclosing metal plates firmly secured together and bent to exert pressure upon the inclosed insulated resistance element.

2. An electric heater comprising an insulated resistance element and inclosing metal plates one of which is maintained under tension and the other under compression to exert pressure upon said resistance element.

3. An electric heater comprising a zig zag ribbon resistance element, insulating sheets or strips therefor and inclosing metal plates having corresponding edges rigidly secured together, said structure being bent to produce a high pressure upon the parts between the metal plates.

4. An electric heater comprising a zig zag resistance ribbon, sheets or strips of insulating material, and thin metal plates which are maintained under tension and compression, respectively, to clamp the resistance ribbon and the insulating material between them.

5. An electric heater comprising sheets or strips of insulating material, a resistance ribbon between said sheets or strips and thin metal plates, one of which is maintained under tension and the other under compression in order to clamp the resistance and insulation elements between them.

In testimony whereof, I have hereunto subscribed my name this 12th day of December, 1908.

HAROLD B. TAYLOR.

Witnesses:

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