W. S. HADAWAY, Jr.

PRESS PLATE.

APPLICATION FILED NOV. 20, 1909.

1,036,612. Patented Aug. 27, 1912.

Fig. 1.

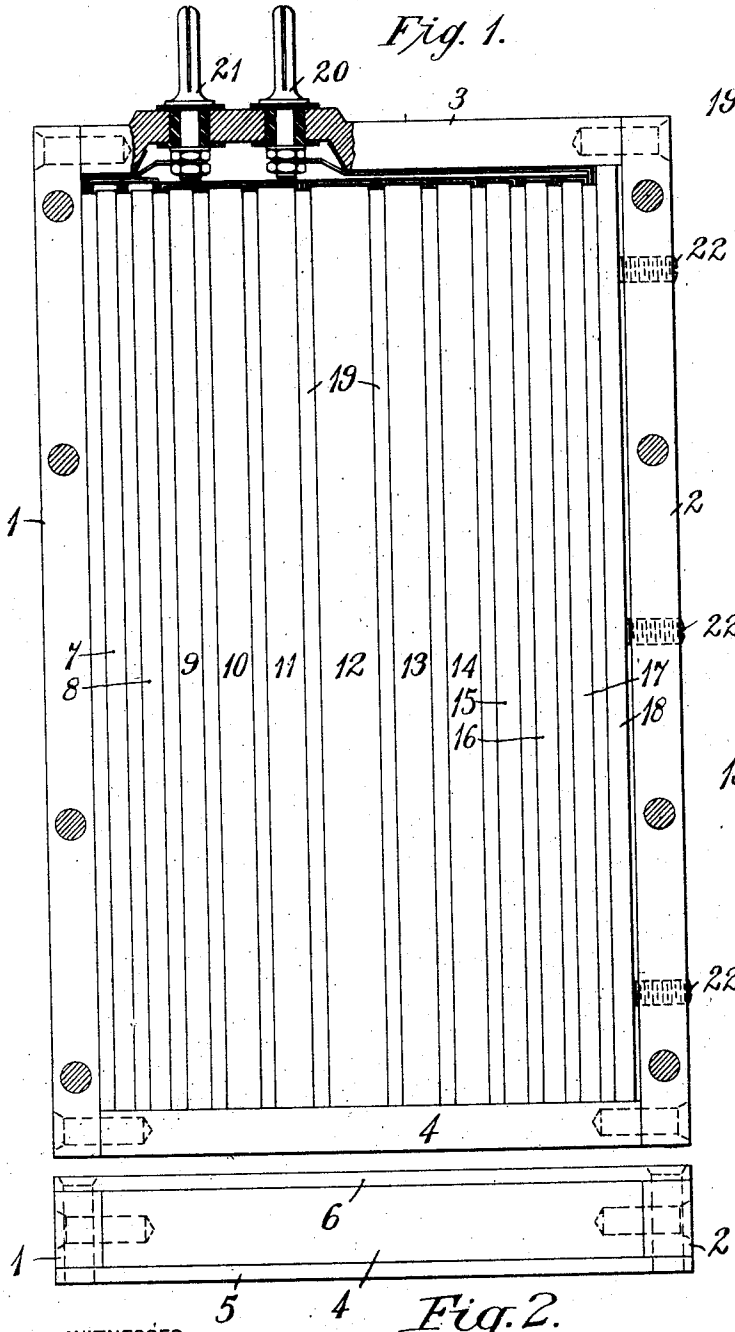


Fig. 2.

Fig. 3.

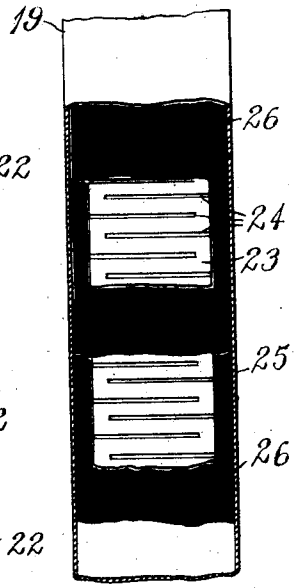


Fig. 4.

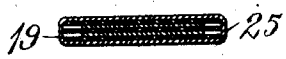


Fig. 5.

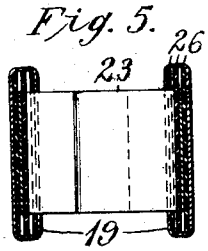
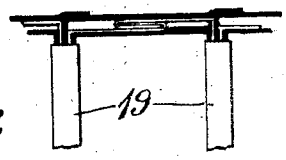


Fig. 6.



WITNESSES:

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WILLIAM S. HADAWAY, JR., OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

PRESS-PLATE.

1,036,612. Specification of Letters Patent. Patented Aug. 27, 1912.

Application filed November 20, 1905. Serial No. 529,090.

To all whom it may concern:

Be it known that I, WILLIAM S. HADAWAY, Jr., a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Press-Plates, of which the following is a specification.

My invention relates to electric heaters and it has for its object to provide a device of this character which is adapted for use with embossing presses and other similar mechanisms where it is subjected to heavy pressure and shock.

The heating device of my present invention comprises a plurality of rods of heat-conducting material assembled side by side and spaced apart by electrical resistance units which serve to heat them to the desired temperature.

The resistance units are interchangeable and each of them is provided with a metal covering which renders the construction very compact and rigid. The assembled heater is therefore specially adapted for use in connection with stamping and embossing press machinery and may form the working surfaces of matrix drying presses. The heater may also be used as a stove for heating small tools, such as are used by finishers and bookbinders, and for various other purposes.

The general arrangement of the heating device is similar to that shown and described in Patent No. 890,358, granted June 16, 1908, to the Hadaway Electric Heating & Engineering Company, but a material advantage is gained, as hereinafter indicated, by substituting a plurality of interchangeable resistance units, which are specially protected from mechanical injury, in lieu of the continuous resistance ribbon shown in the patent referred to.

Figure 1 of the accompanying drawings is a plan view, with the cover removed, and Fig. 2 is an end elevation of an electrically heated press plate or small tool heater constructed in accordance with my invention. Figs. 3, 4, 5 and 6 are detail views of the resistance units and the connections between the units of the structure shown in Figs. 1 and 2.

Referring to the drawings, the structure here shown comprises a frame or box having side pieces 1 and 2, end pieces 3 and 4, a bottom plate 5 and a top plate 6, a plurality of rods or bars 7 to 18, inclusive, a plurality of similar resistance units 19, and terminal members 20 and 21.

The rods or bars 7 to 18 are preferably of the same thickness or depth but are of different widths and are assembled side by side between the side pieces 1 and 2 of the box or frame and are spaced apart by resistance units 19, the middle rod or bar 12 being the widest and those at the sides being successively narrower. A plurality of set screws 22 are mounted in the side piece 2 to engage the rod 18 for the purpose of forcing the rods or bars and the resistance units into close contact with each other.

The resistance units 19 are interchangeable, each of them comprising a resistance strip or ribbon 23, which is preferably provided with lateral slots 24 cut alternately from opposite edges to provide a zigzag path for the electric current, an outer casing or envelop 25 of sheet metal and suitable insulating material 26 located between the ribbon and the casing or envelop. The resistance ribbon is preferably made in the form of a loop, so that both terminals are brought out at the same end of the unit, and its two parts are separated from each other and from the walls of the metal envelop by strips 26 of insulating ribbon. The strips 26 are preferably composed of mica and shellac in order that they may be fused together by the application of heat, to form a homogeneous insulating mass which is not injured by high temperatures. The several units may be interconnected in any suitable manner, and the terminals of the resistance circuit are connected to the terminal members 20 and 21.

Structural modifications may be effected within the spirit and scope of my invention.

I claim as my invention:

1. An electric heating device comprising a plurality of rods or bars disposed side by side, a plurality of resistance units clamped between the bars, each of said units comprising a resistance strip or ribbon and a metal covering or envelop in which the ribbon is located and from which it is insulated.

2. An electric heating device comprising a relatively flat frame or box of heat-conducting material, a plurality of rods substantially uniform in thickness assembled side by side between the cover plates of the

box, and a plurality of interchangeable metal-clad resistance units clamped between the rods.

3. An electric heating device comprising a box or frame having cover plates of heat-conducting material, and terminal members secured to one end, a plurality of rods of substantially uniform thickness and of different widths disposed within the box between the cover plates, the wider rods being located near the center of the box, and a plurality of interchangeable resistance units clamped between the rods, each of said units comprising a loop of resistance ribbon, a metal covering therefor and insulation disposed between said ribbon and said cover.

In testimony whereof, I have hereunto subscribed my name this 2nd day of Nov., 1909.

WILLIAM S. HADAWAY, JR.

Witnesses:
MARY YOUNG,
B. B. HINES.