No. 856,807. PATENTED JUNE 11, 1907.

J. S. REYNOLDS.

ELECTRIC HEATER.

APPLICATION FILED JAN. 30, 1907.

2 SHEETS—SHEET 1.

Fig. 2.

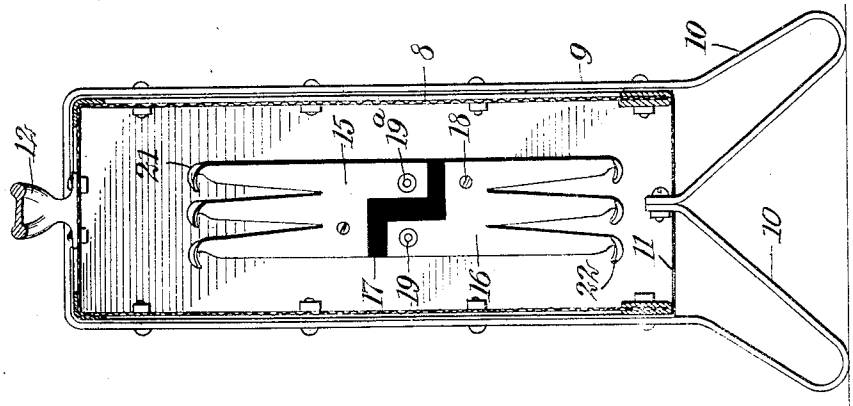
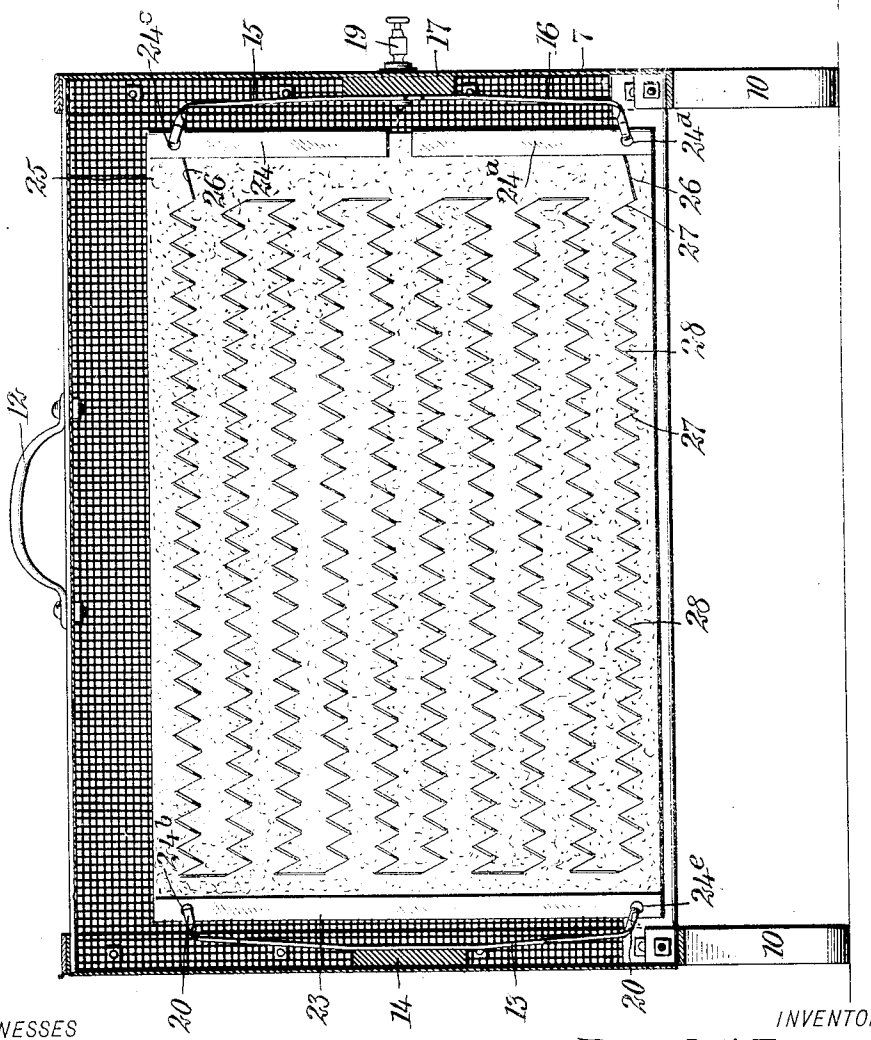


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 5.

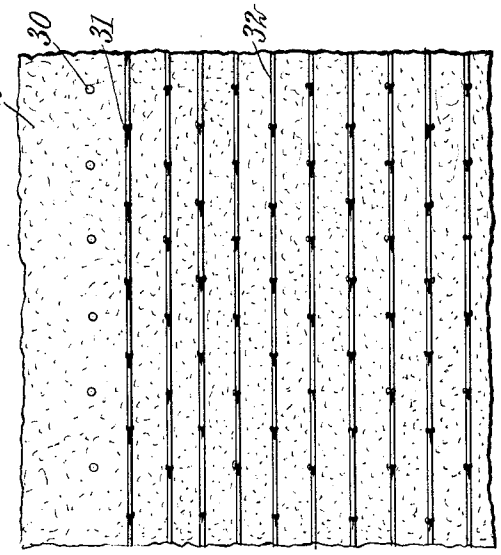


Fig. 6.

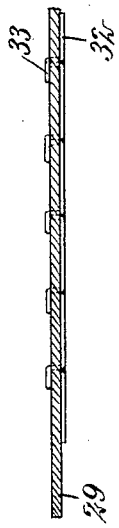


Fig. 3.

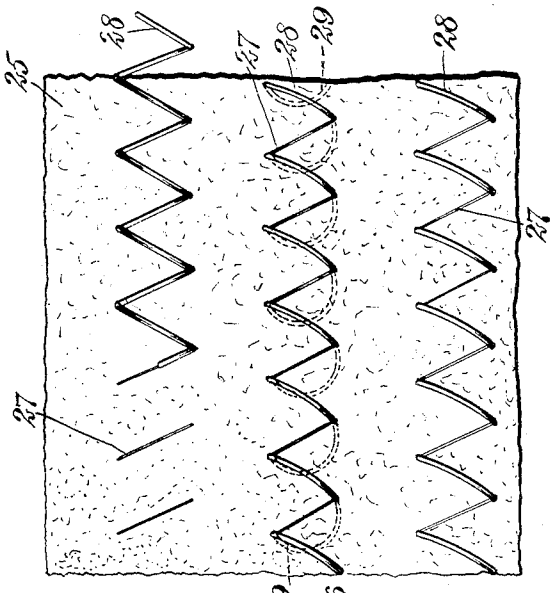


Fig. 7.

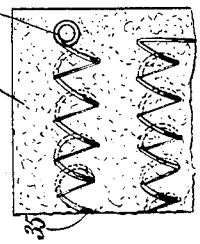
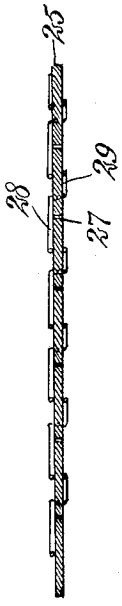


Fig. 4.



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JOSEPH SHERIDAN REYNOLDS, OF SANTA BARBARA, CALIFORNIA.

ELECTRIC HEATER.

No. 856,807 Specification of Letters Patent. Patented June 11, 1907.

Application filed January 30, 1907. Serial No. 354,853.

To all whom it may concern:

Be it known that I, JOSEPH SHERIDAN REYNOLDS, a citizen of the United States, and a resident of Santa Barbara, in the county of Santa Barbara and State of California, have invented a new and Improved Electric Heater, of which the following is a full, clear, and exact description.

My invention relates to electric heaters, my more particular object being to improve the general construction of the heater and more particularly to provide an improved manner for mounting the heating wire.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section through one form of heater embodying my invention, the figure showing one of the heat-resisting plates and its wiring, together with means for supporting this plate; Fig. 2 is a central vertical section through the heater and showing the two supporting brackets used for sustaining the heat-resisting plates; Fig. 3 is a fragmentary plan showing one form of heat-resisting plate and the heating wire being applied thereto, the figure showing different stages employed in attaching the wire; Fig. 4 is a longitudinal section through the mechanism shown in Fig. 3; Fig. 5 is a fragmentary plan of another form of heat-resisting plate in which the wire is secured by aid of holes rather than by aid of slots, as in Fig. 3; Fig. 6 is a central longitudinal section through the mechanism shown in Fig. 5; Fig. 7 is a fragmentary plan showing the upper right-hand corner of a heat-resisting plate in which the heating wire engages an eyelet used for supporting the plate.

The body of the heater is shown at 7 and is provided with screen walls 8 to facilitate the circulation of air. The body portion is supported upon legs 10 and is opened at its bottom portions 11. A handle 12 is provided for convenience in lifting the heater around by hand. A plate supporter 13 having the form of a bracket, is mounted upon a block 14 preferably of insulating material, the latter being connected directly with the body portion of the heater. Two other brackets 15, 16 are mounted upon a plate 17 of insulating material and are out of engagement with each other, being secured upon the plate by screws 18. These brackets 15, 16 are each provided with a binding post 19, 19^a, the latter being insulated from the body portion 7 of the heater. The bracket 13 is provided with spirally disposed hooks 20 integral therewith. The brackets 15, 16 are provided with spirally disposed hooks 21, 22 of the form shown in Fig. 2. A sheet 25 of heat-resisting material, such as asbestos, is provided at one of its edges with a strip 23 of metal bent back upon itself for the purpose of clamping and supporting one end of the sheet; the other end of the sheet is provided with strips 24, 24^a of metal separated from each other. The strips 23, 24, 24^a are provided with holes 24^b, 24^c, 24^d. The holes 24^b receive the hooks 20 and the holes 24^c, 24^d receive the hooks 21, 22.

The heating wire is shown at 26 and may be connected, as indicated in Fig. 1, with its ends secured to the respective strips 24, 24^a. The sheet 25 is provided with slots 27 cut parallel with each other and disposed obliquely in relation to the general position of the sheet. The heating wire 28 is first formed into a spiral, as shown in the upper portion of Fig. 3 and this spiral is forced against the sheet in such a manner that portions of the wire project above the sheet, whereas other portions of it pass through and project from the opposite side. These last mentioned portions 29 are then bent sidewise, as indicated by dotted lines in Fig. 3. In doing this all protruding portions of the wire 28 are flattened directly against the sheet so that the wire is held rigidly in position upon the latter.

In the form of heat-resisting plate shown in Fig. 5, the material of the sheet is shown at 29 and is provided with holes 30, 31 arranged in rows and staggered relatively to each other. A wire 32 is doubled so as to form loops 33 and these are passed through the holes 30, 31 and bent or clenched upon the opposite side, as indicated in Fig. 6, thus holding the wire firmly in position on the plate. In the form shown in Fig. 7 the heat-resisting plate appears at 34 and the wire at 35. The latter is connected with a metallic eyelet 36 which engages one of the hooks 21, so as to assist in supporting the heat-resisting plate.

The slots 27 may be formed merely by cutting the heat-resisting plate 25 by aid of a chisel or knife and the holes 30, 31 may be formed by means of a punch.

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

1. In an electric heater, the combination of a heat-resisting plate provided with apertures, and a wire provided with portions extending through said apertures and clenched so as to hold said wire in engagement with said plate.

2. In an electric heater, an electrical plate provided with heating members, a sheet of heat-resisting material provided at one of its ends with metallic strips separated from each other, said strips having holes for engaging the support, and an electric wire connected with said strips and secured to said plate.

3. In an electric heater, a heat-resisting plate, consisting of a sheet of heat-resisting material, a wire secured thereupon, and a metallic eyelet engaging said wire for the purpose of supporting said sheet.

4. In an electric heater, a support comprising a plate of insulating material, a pair of members of conducting material mounted thereupon and spaced apart, said members being provided with spiral hooks, and binding posts in electrical communication with said members.

5. In an electric heater, a heat-resisting plate of insulating material provided with mutilations, and a wire having its main portion disposed upon one side of said sheet, said wire being provided with portions projecting through the mutilations and clenched upon the opposite side of said sheet upon said main portion of said wire so as to hold said wire upon said sheet without sewing it thereto.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH SHERIDAN REYNOLDS.

Witnesses:
W. H. ARCHER,
CHAS. E. KENYON.