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R. M. MOFFITT

ELECTRICAL HEATING DEVICE

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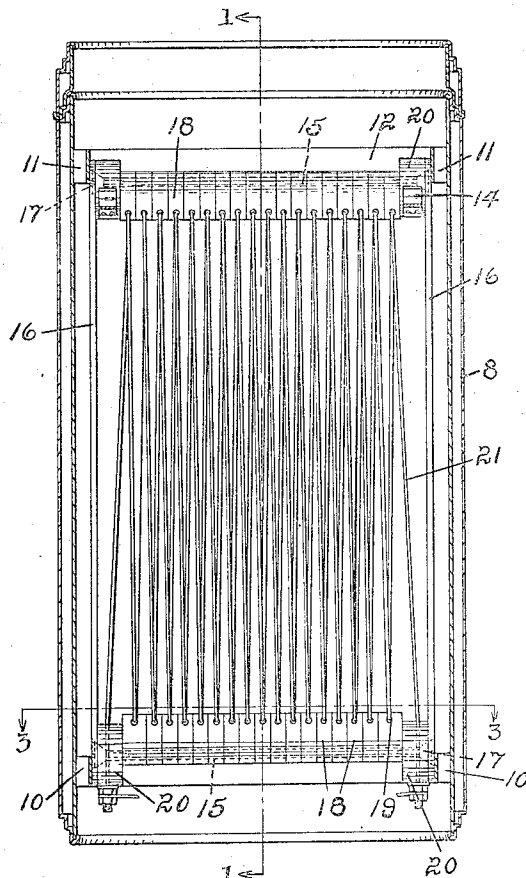


Fig. 2.

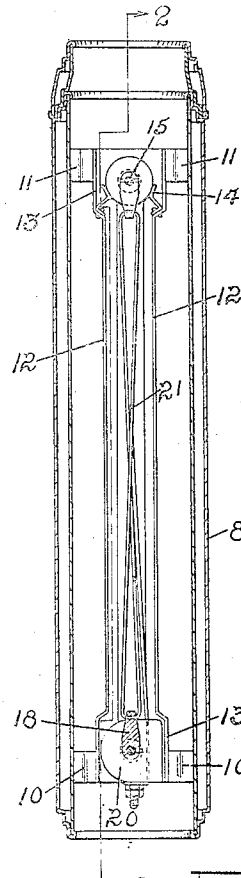


Fig. 1.

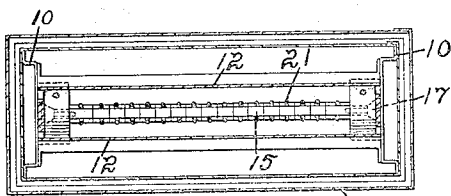


Fig. 3.

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ELECTRICAL HEATING DEVICE.

Application filed December 10, 1925. Serial No. 74,455.

This invention relates to heating devices but more particularly to electrical heating devices for heating a room by convection currents.

5 Objects of this invention are to provide a simple and efficient heating system utilizing an electrical heating unit and embodying the principle of convection currents, and to provide a new and improved electrical heating unit having the unique features of construction and arrangement hereinafter more particularly described.

10 The invention is shown by way of illustration in the accompanying drawings, in which,

15 Fig. 1 is a longitudinal sectional elevation on the line 1—1 of Fig. 2 showing the heating unit; Fig. 2 is a section on the line 2—2 of Fig. 1 showing another portion of the heating unit; and Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

20 The present invention is especially designed for use in the heating of a single room and is designed to be secured in a pipe, not shown, which communicates with the room and embodies a heating unit 8 for securement in such pipe.

25 Connected to the inside of the unit are two pairs of U-shaped brackets 10 and 11 which may be held in position by any suitable means, as by riveting. Connecting the pairs of brackets 10 and 11 is a pair of heat radiating plates 12, the end portions 13 of which are bent outwardly and extend in planes parallel to the planes of the plates 12. Connected to the upper outwardly bent portion 13 of the heat radiating plates 12 are inwardly extending spring catches 14 which retain the heating unit in place, as will hereinafter be described.

30 The heating unit comprises a frame having parallel end rods 15 which are connected to longitudinally extending side bars 16 by screws 17. Mounted on the rods 15 are a plurality of insulating blocks 18 arranged in abutting relation, and each block is formed with a hole 19 in the inner side thereof substantially as shown. Also mounted on the rods 15 adjacent the side bars 15 are larger insulating blocks 20. A wire 21 which is wound from one end of the frame to the other through the openings 19 in the insulating blocks 18 and the lower insulating blocks 20 serve as terminals for the ends of the wire. It will be noted that the lengths of wire 21 are arranged closely

together so that considerable number of lengths may be employed in a single unit.

In assembling the heating device, the brackets 10 and 11 and heat radiating plates 12 are arranged in their proper relative positions. Thereafter the heating unit is inserted between the plates 12 until the upper pair of insulating blocks 20 pass over the spring catches 14 which prevent the unit from being accidentally displaced and serve as a support for suspending the unit.

It will be observed that the lengths of wire 21, upon becoming heated, radiate heat to the plates 12, which in turn become heated and the air contacts with both the plates and the lengths of wire so that the maximum radiation area is provided.

While I have shown and described an embodiment of my invention as required by the statute, it is to be understood that the above is given merely by way of illustration and not of limitation, and numerous modifications and changes in details of construction and arrangement may be effected without departing from the spirit of my invention, especially as defined in the appended claims.

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

1. In an electrical heating device, a housing, a pair of spaced opposed heat radiating plates in the housing having their ends offset outwardly of the major portions of the plates, a heating unit composed of a frame having end and side rods, a series of abutting insulating blocks mounted on the end rods and having perforations, large insulating blocks engaging the ends of the respective series and abutting the side rods, a wire alternately threaded through the perforations of the respective series of blocks and having its ends threaded through the large blocks of one series to provide terminals, and catches on the offset parts at the upper ends of the plates engageable with the large blocks at the top of the frame to support the latter in position and against downward movement.

2. In an electrical heating device, a housing, a pair of spaced opposed heat radiating plates in the housing, a heating unit in the housing composed of an open frame, insulators on opposed members of the frame, a wire alternately secured to the insulators, and spring catches carried by the plates, the catches being movable to permit an end of

the frame to move past same whereby to enable the catches to support the frame against downward movement upon return movement of the catches to normal position.

3. A device of the character described, comprising a pipe, a pair of heat radiating plates inside said pipe, means for supporting said plates away from the wall of said pipe and in spaced parallel relation to each other, an electrical heating unit consisting of a frame having wires strung back and forth thereon, and means for detachably supporting said heating unit between said plates.

4. In an electric heating device, a housing, a frame in the housing, electric heat radiating means carried by the frame, and catches in the housing, the catches being movable to permit an end of the frame to move past same whereby to enable the

catches to support the frame against downward movement upon return movement of the catches to normal position.

5. In an electric heating device, a housing, a frame in the housing, electric heat radiating means carried by the frame, and means in the housing movable to permit an end of the frame to move therepast and to then move into engagement with the frame whereby to effect suspension of the frame.

6. A device of the character described comprising a conduit, a pair of heat elements having radiating surfaces, means for attaching said elements to the conduit in spaced substantially parallel relation, and a removable heating unit inserted between said elements.

In testimony whereof I have hereunto signed my name to this specification.

ROY M. MOFFITT.