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ELECTRIC HEATER.

APPLICATION FILED JULY 17, 1907.

929,901.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

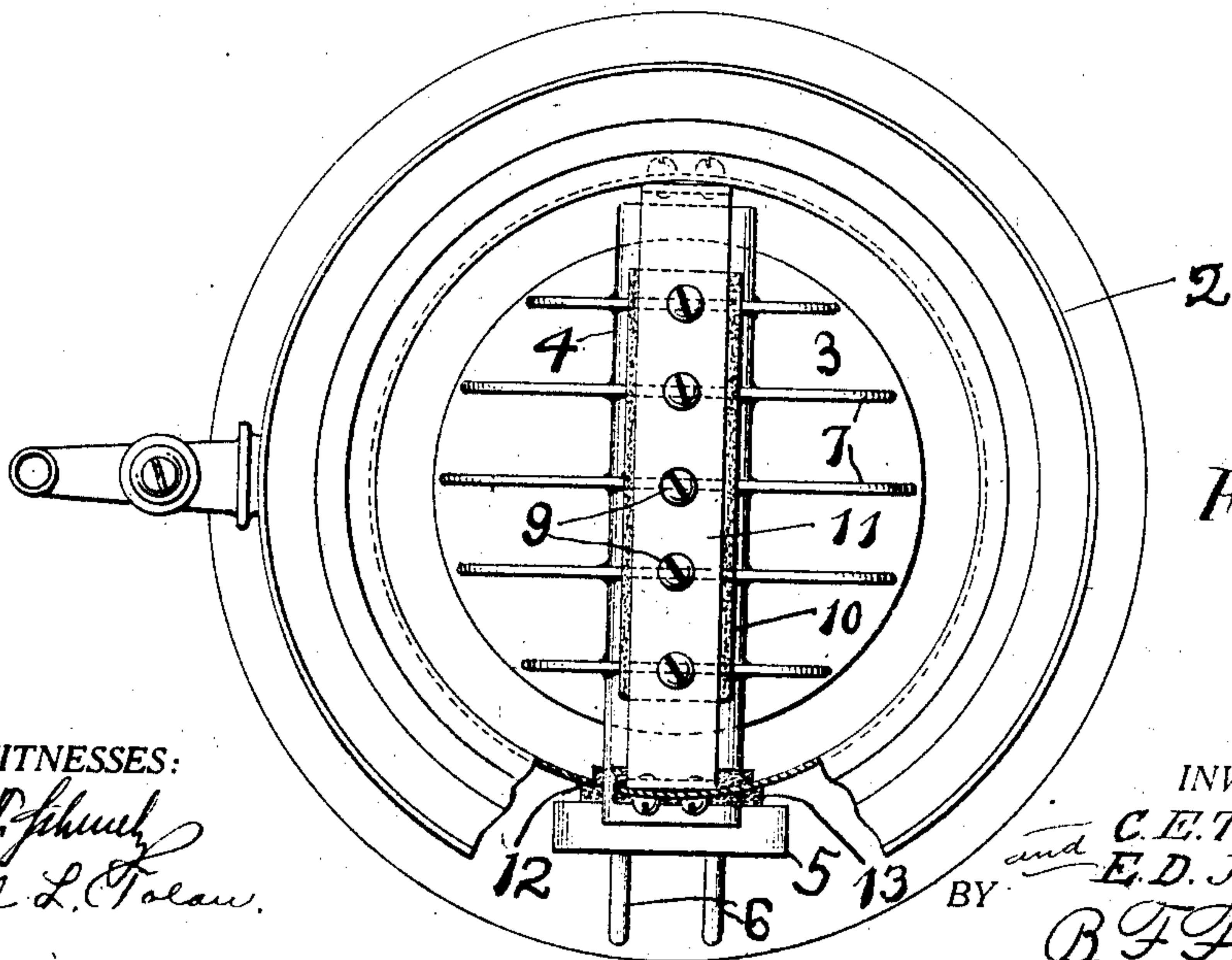
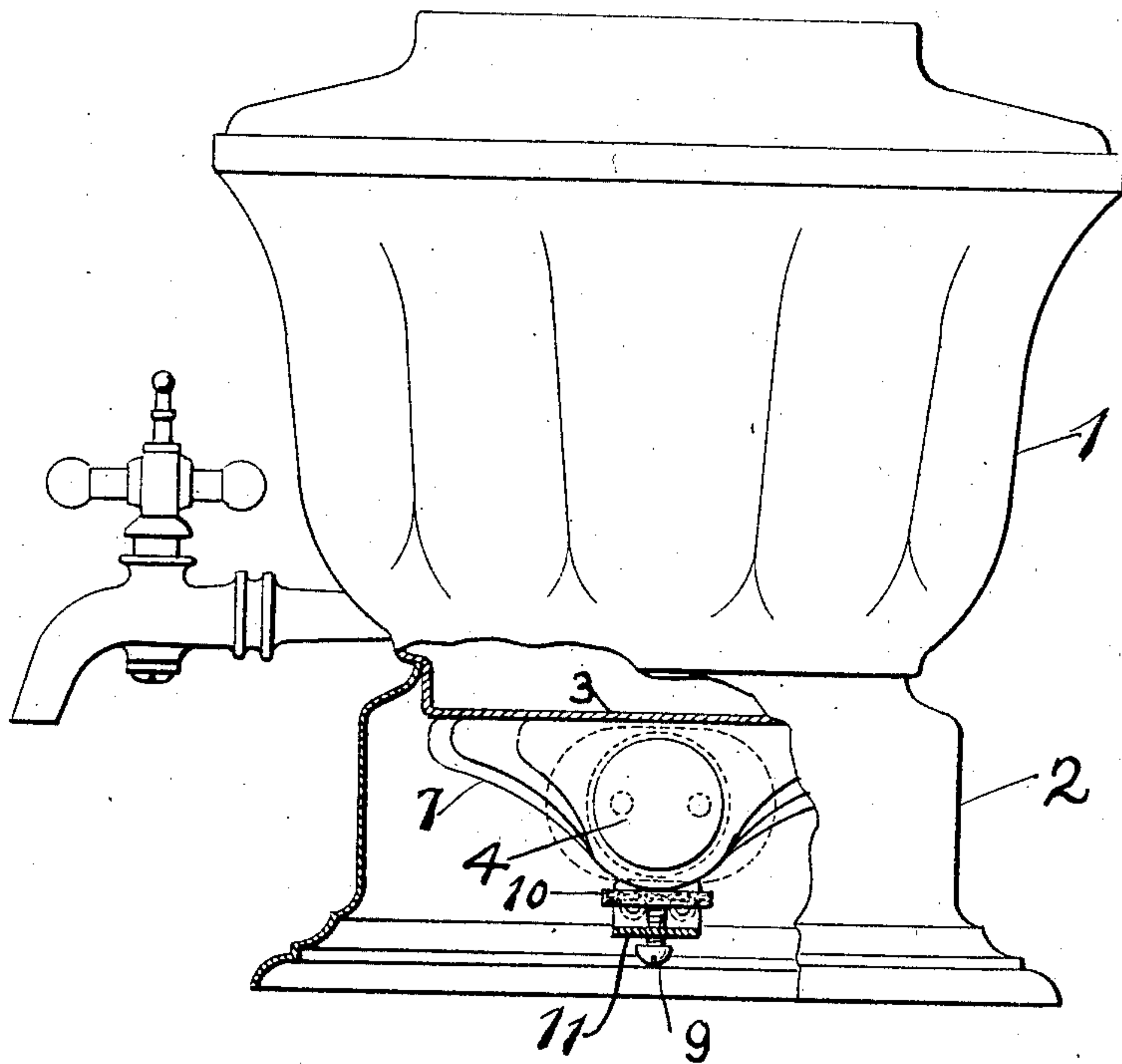


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

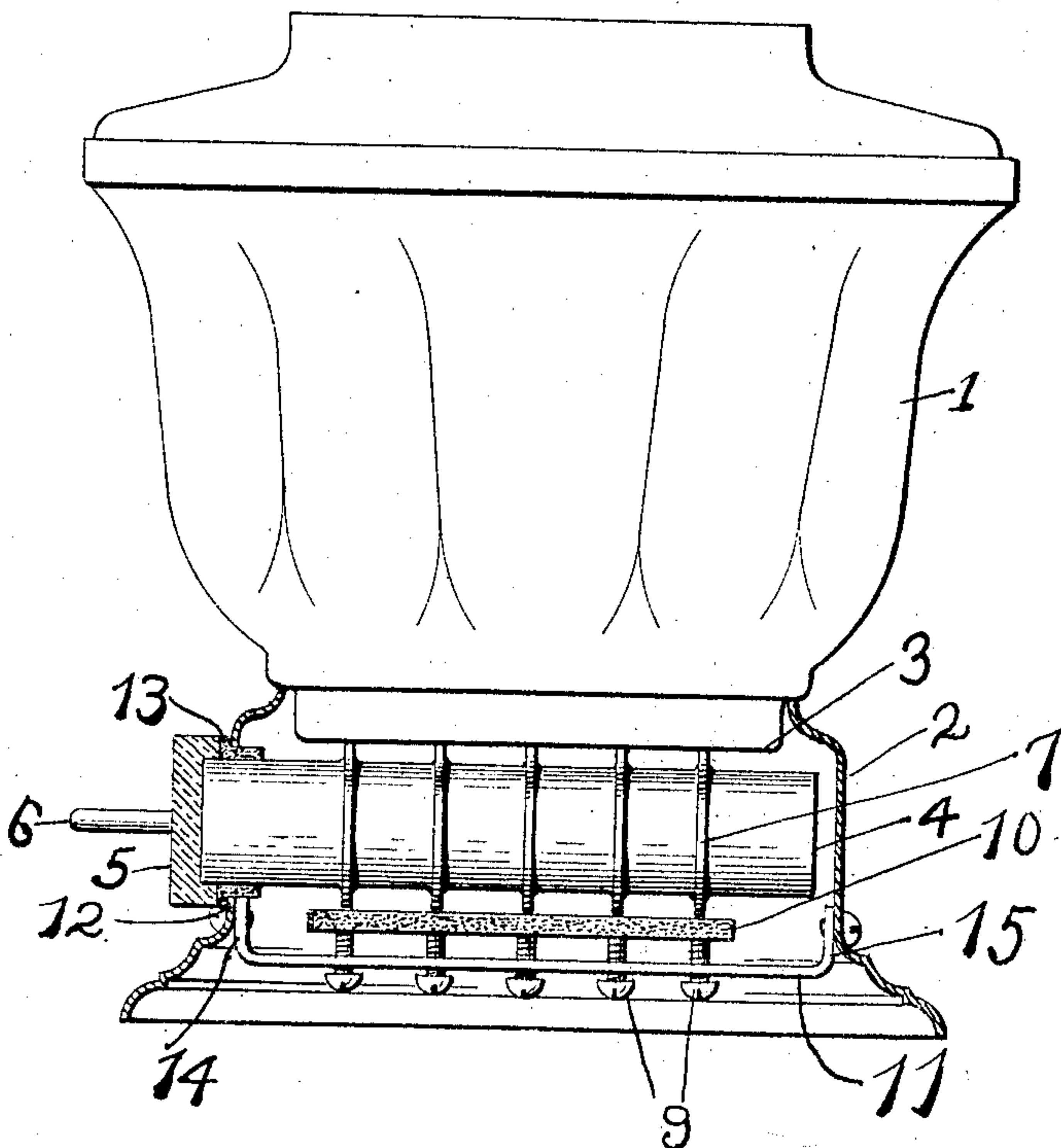
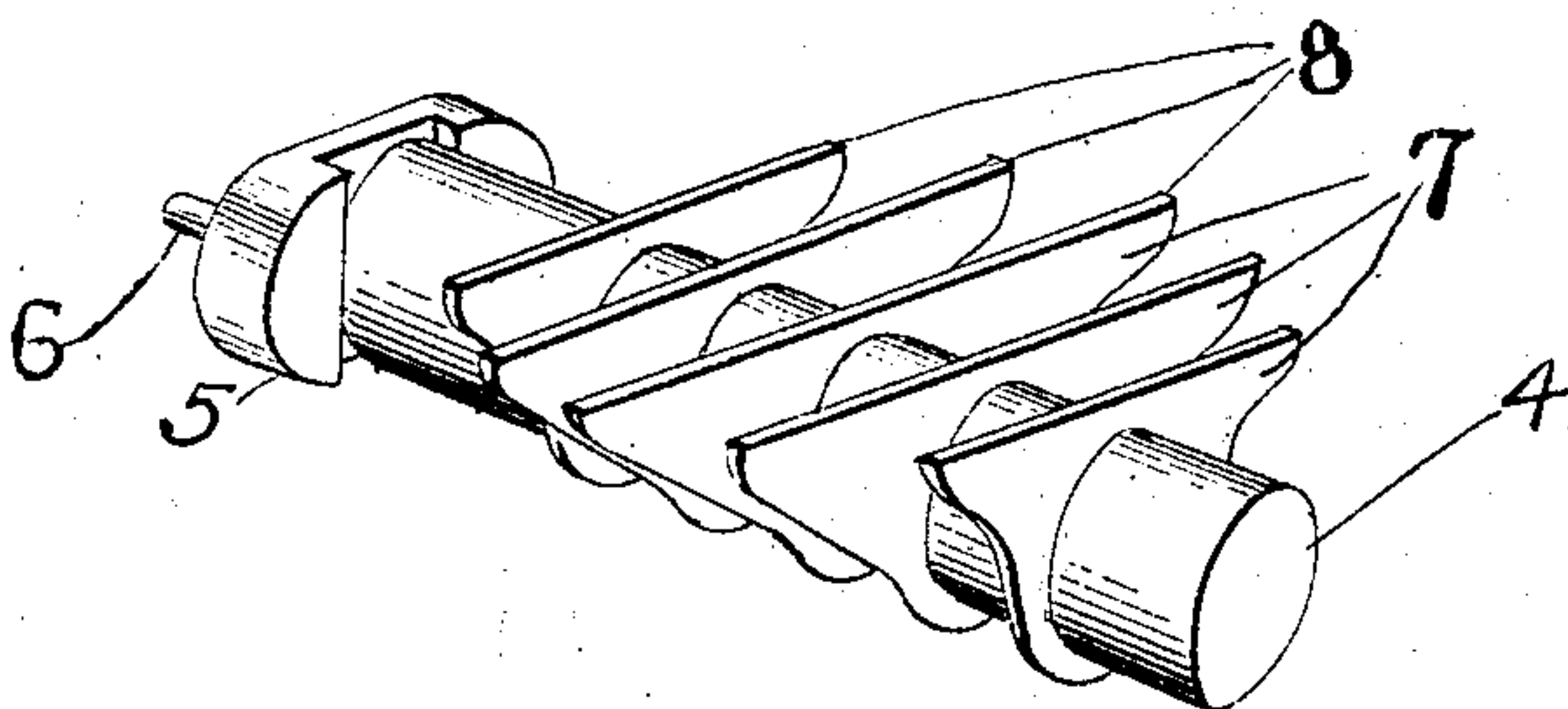


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES E. TREWHELLA AND EVERETT D. HOLLEY, OF FORESTVILLE, CONNECTICUT,
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ELECTRIC HEATER.

No. 929,901.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed July 17, 1907. Serial No. 384,221.

To all whom it may concern:

Be it known that we, CHARLES E. TREWHELLA and EVERETT D. HOLLEY, citizens of the United States, residing at Forestville, county of Hartford, State of Connecticut, have invented a certain new and useful Electric Heater, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to electric heaters, and one of the objects is to provide means for insuring the distribution of the heat from the heat unit to the part to be heated.

Another object of the invention is to provide means for distributing the heat over the surface to be heated and to provide for an efficient contact between the heat-distributing element and the surface to be heated.

Another object of the invention is to provide means whereby the heat will be conducted from the heat unit only to the part to be heated, and whereby liability of a loss of heat due to induction, or from the adjacent bodies not intended to receive heat, will be avoided.

Other objects and advantages as well as the novel details of this construction will be specifically described hereinafter, it being understood that changes in form, size and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings: Figure 1 is a view partly in elevation and partly in section of our invention applied; Fig. 2 is a bottom view of the same; Fig. 3 is a side elevational view; and Fig. 4 is a perspective view of the heat distributing and heat element receiving device.

The invention is illustrated as being applied to a liquid heater of which 1 designates the receptacle and 2 the base. The receptacle 1 is provided with a bottom 3 against which the heater is adapted to bear. This heater is illustrated in Fig. 4 as comprising a cylindrical body portion 4 closed at one end and open at the opposite end to receive a heat unit of any preferred construction and provided with an insulating block 5, and the usual contact 6. In order to efficiently and

expeditiously distribute the heat from the body portion 4, we provide a plurality of heat distributing wings 7 arranged in parallelism and having their ends projecting from opposite sides of the longitudinal center of the body portion 4, and arranged so that their upper edges 8 may lie snugly against the lower surface of the bottom 3. These wings 7 are illustrated as graduating in length, from the respective ends toward the center, and the purpose of this arrangement is to provide for a circular bottom, so that the heat will be distributed from the body portion 4 over the entire lower surface of the bottom 3 and, therefore, insure a perfect distribution of the heat.

In order to give the best results it is desirable that all parts of the wings 7 be kept in perfect contact with the bottom of the receptacle (or other element to be heated) and in order to provide for this perfect contact, we arrange adjusting devices, shown as screws 9, of which there may be any number, and between which and the heater is an insulating element 10 comprising a flat body which bears efficiently against the body of the heater 4, so that when the adjusting elements 9 are screwed through the support 11, the heater blades may be forced in intimate contact with the bottom 3, and any inequality in the bottom 3 may be provided for by regulating the adjusting devices.

The opening 12 in the base 2 of the heater is slightly elongated to provide for a vertical adjustment of said heater, but the heater is insulated away from the base by an insulating bushing 13, so that any heat which is communicated to the heater from the heat unit can pass only to the element to be heated, in this instance the bottom 3. It will also be observed that one end of the heater may be spaced away from the wall of the base 2 on account of its being supported by the element 10. The support 11 may be fastened in any convenient manner, as by the flanged ends 14 and 15, either riveted or screwed to the base, as practice may find most convenient.

The receptacle 1 is illustrated as being in effect an integral part of the base 2, so that the bottom 3 becomes in effect a heating plate, and the liquid or other material to be heated, as the case may be, therefore, comes in direct contact with the heating plate, and,

therefore, the necessity of heating another bottom or element above the heating plate is avoided. It will be seen that the heat will be conveyed from the heat unit through the heater direct to the element to be heated, and that the heating will be assured in an efficient and expeditious manner.

What we claim is—

1. In an electric heater, the combination with a heat unit receiving member a plurality of heat distributing wings extending from said heat unit receiving member, of a heat unit provided with an insulating block and a contact, said heat unit being constructed to enter said member.

2. In an electric heater, the combination with a cylindrical body portion closed at one end and open at its other end, a plurality of heat distributing members arranged in parallelism and projecting from opposite sides of said body portion, of a heat unit adapted to enter said body portion and provided with an insulating block and a contact.

3. In an electric heater, the combination with a hollow body portion and a heat unit and a heater constructed to enter said body portion, of means to adjust said body portion in to immediate contact with an element to be

heated, and insulation between the adjusting means and said body portion.

4. The combination with a receptacle having a base, of a heat unit receiving member carried by said base, heat distributing means carried by said member, and an insulation between the base and said member.

5. The combination with a member having a base, of a heater carried by said base, a heater support carried by the base, and adjusting means carried by said support and adapted to force said heater into intimate contact with said first named member.

6. The combination with a device to be heated, of an electric heater below said device, an insulating member below said heater, and adjusting means below the insulation, said adjusting means being effective for forcing the heater into contact with the device to be heated.

In testimony whereof, we hereunto affix our signatures, in the presence of two witnesses.

CHARLES E. TREWHELLA.
EVERETT D. HOLLEY.

Witnesses:

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