

G. H. MANSFIELD & C. W. WILD.
ELECTRIC HEATER.

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1,107,333.

Patented Aug. 18, 1914.

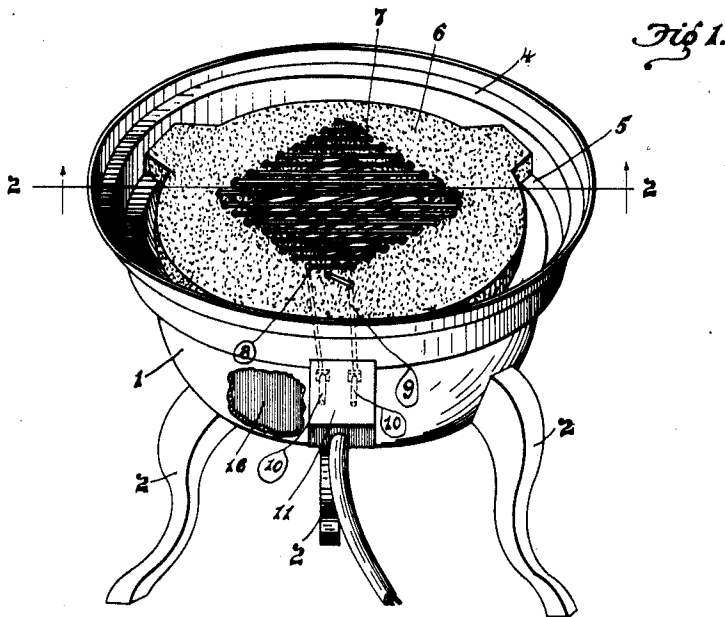


Fig 2.

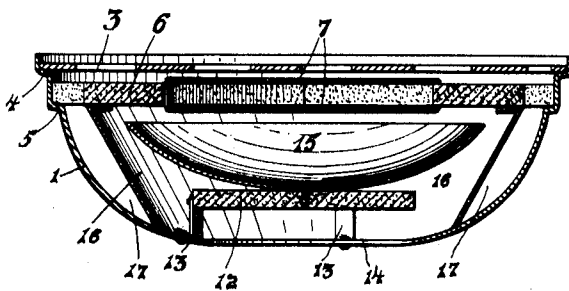


Fig 3.

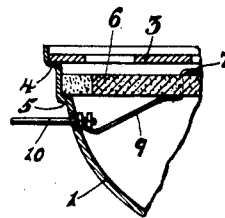
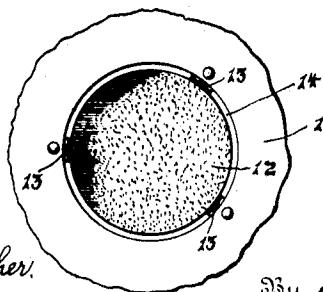


Fig 4.



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UNITED STATES PATENT OFFICE.

GEORGE H. MANSFIELD AND CHARLES W. WILD, OF CANTON, OHIO.

ELECTRIC HEATER.

1,107,333.

Specification of Letters Patent.

Patented Aug. 18, 1914.

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To all whom it may concern:

Be it known that we, GEORGE H. MANSFIELD and CHARLES W. WILD, citizens of the United States, residing at Canton, in the county of Stark and State of Ohio, have jointly invented certain new and useful Improvements in Electric Heaters, of which the following is a specification.

Our invention relates to electric heaters and has for its object to provide a device of simple construction and economical in use.

A further object of the invention is to provide a heating device which may be and can be operated at little expense and without any disagreeable odors.

A further object of the invention is to provide means whereby a draft or suction of atmospheric air is taken in below the resistance element and at the same time means are provided whereby an air space is produced, by which arrangement the shell or casing of the heater is maintained at a low degree of temperature.

These objects, together with other objects readily apparent to those skilled in the art, we attain by the construction illustrated in the accompanying drawing; although our invention may be embodied in a variety of other mechanical forms, the construction illustrated being chosen by way of example.

In the accompanying drawing: Figure 1 is a perspective view showing the top plate removed and a portion of the shell or casing broken away. Fig. 2 is a vertical section showing the location and arrangement of the different parts, including the top plate not shown in Fig. 1. Fig. 3 is a view showing a portion of the shell or casing illustrating a portion of the top plate and a portion of the insulating plate illustrating one of the resistance wires extended to be properly connected. Fig. 4 is a bottom or underside view showing a portion of the casing or shell and also showing the heat resisting plate in proper position with reference to the shell or casing.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the shell or casing, which may be formed of any size and shape reference being had to the size of the heater designed to be constructed. In the drawings we have shown the casing circular in form, but other forms may be employed without departing

from the nature of our invention. The shell or casing 1 is designed to rest upon suitable supports 2, which may be attached in any convenient manner.

For the purpose of holding in proper relative position the top plate 3, the shell or casing 1 is provided with an inwardly extending flange 4 or its equivalent, which forms a support for said plate. Below the flange 4 is located the flange 5, which is for the purpose of holding the insulating plate 6, said insulating plate being preferably formed of asbestos or the like. The purpose of the insulating plate 6 is to provide means for carrying and holding in proper relative position the resistance element 7, which resistance element may be arranged substantially as shown in the drawing, or they may be differently arranged, but should be so arranged as to form a continuous circuit and the ends extended to form positive and negative contacts. In the drawings we have designated these points 8 and 9 and have illustrated the same in a conventional way as it will be understood that it is immaterial as to the exact arrangement and location of the ends, the only object being to provide means for properly closing the circuit.

For the purpose of providing a means for supplying the current, the positive and negative ends may be extended as shown in Fig. 3 and provided with the contact bars 10, which extend beyond the outer surface of the shell or casing 1, which receive the connecting head 11, to which head are attached the ordinary supply wires, which lead to any desired point of contact, whereby a current is conveyed to the heater proper.

In the lower portion of the shell or casing 1 is located the heat resisting plate 12, which is supported by the posts 13 or their equivalents, which posts are connected to the shell or casing. Below the heat resisting plate 12 is located the air intake opening 14, which is formed of such a size to allow a sufficient amount of atmospheric air to enter to create the proper draft. Above the heat resisting plate 12 is located the air deflector 15, which is preferably formed saucer shape, or convexo-concave, which deflector is for the purpose of deflecting the air upward toward the resistance element and heat generating elements. To allow for the proper passage of air after it has entered the intake opening 14, the deflector plate 15 is sufficiently spaced from the resistance or heating element to

provide suitable air space. For the purpose of assisting in directing the atmospheric air upward and toward the heating elements 7, the apron 16 is provided, which apron is disposed preferably between the insulating plate 6 and the sides or bottom of the shell or casing 1, the arrangement being such as to cause a continuity of the draft entering the opening and emerging at the top through the heating element. The apron 16 is spaced a short distance from the inner surface of the shell 1, best illustrated in Fig. 2, whereby an air chamber is provided between said apron and shell or casing 1, to act as a safeguard against any heated air which through any means may find its way to the inside of the shell or casing, whereby the shell or casing is maintained in a cool condition.

By locating the heat resisting plate 12 as shown or substantially as shown, the heat will be prevented from moving in a downward direction, or in other words cutting off the heat so that the heater proper can be placed upon a table or other object without danger of injuring or scorching the table or other object upon which the heater may be placed.

Having fully described our invention what we claim as new and desire to secure by Letters Patent, is—

1. In an electric heater, a casing provided with an air intake opening, the top portion thereof provided with flanges spaced from each other and its bottom provided with an air intake opening, a heating plate adapted to be supported by one of the inward extending flanges, an insulating plate located below the heating plate and provided with resistance elements arranged to form a continuous circuit, an air deflector located below the insulating plate and the resistance elements, said deflector plate spaced from the heating elements and a heat resistance plate located between the air deflector and the intake opening.

2. In an electric heater, a casing provided

with an air intake opening, the top portion thereof provided with flanges spaced from each other and its bottom provided with an air intake opening, a heating plate adapted to be supported by one of the inward extending flanges, an insulating plate located below the heating plate and provided with resistance elements arranged to form a continuous circuit, an air deflector located below the insulating plate and the resistance elements, said deflector plate spaced from the heating elements and a heat resistance plate located between the air deflector and the intake opening, and an apron connected to and carried by the insulating plate, said apron located around the deflector and heat resisting plate.

3. In an electric heater, the combination of a casing, said casing provided with an air intake opening, an insulating plate, resistance elements carried by said insulating plate, an air deflector located below the insulating plate and resistance elements, said deflector plate spaced from said insulating plate and an apron located below the insulating plate, a heat resisting plate located below the deflector and spaced from the air intake opening.

4. In an electric heater a casing provided with an air intake opening, a heat resisting plate spaced from the air intake opening in the casing, an insulating plate adapted to be supported by the casing, said insulating plate having connected thereto a heating element and a reflector plate located intermediate the insulating plate and heat resisting plate.

In testimony that we claim the above, we have hereunto subscribed our names in the presence of two witnesses.

GEORGE H. MANSFIELD.
CHARLES W. WILD.

Witnesses:

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F. W. BOND.