J. E. C. HOLMES.

ELECTRIC HEATER.

APPLICATION FILED SEPT. 22, 1920.

1,401,472. Patented Dec. 27, 1921.

Fig-1.

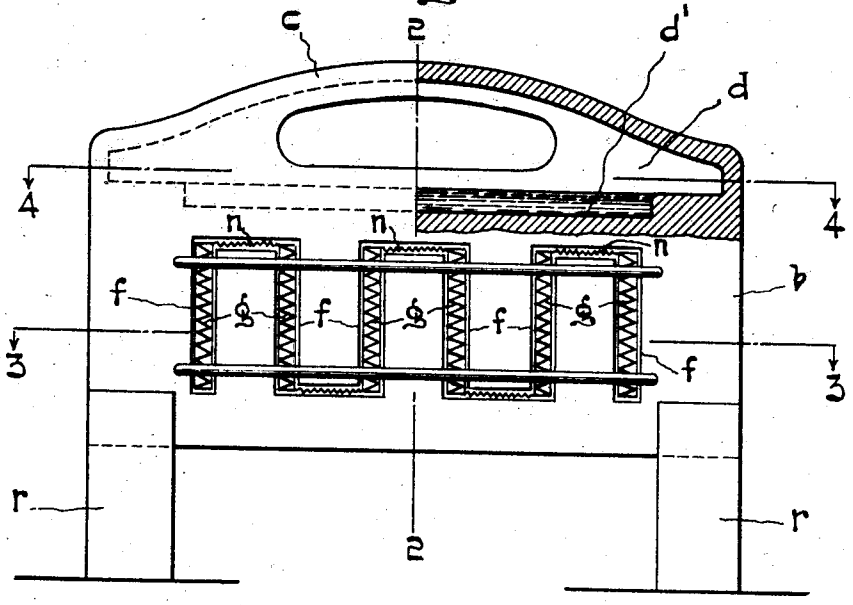


Fig-2

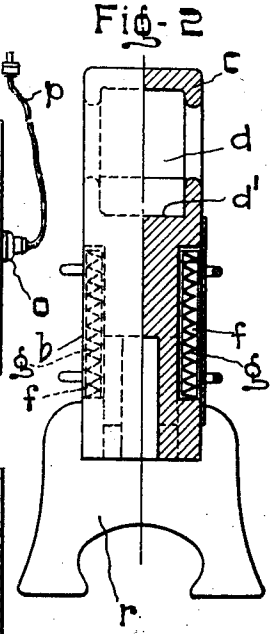


Fig-3

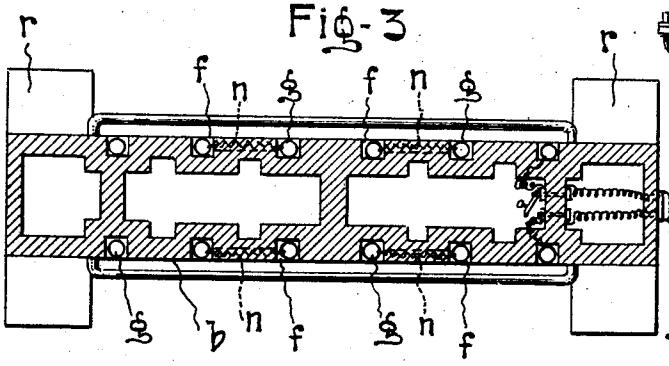
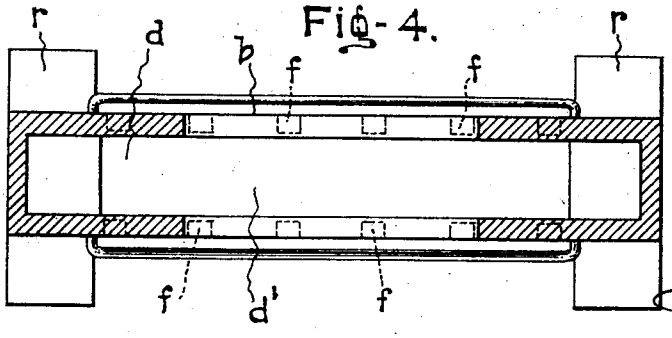


Fig-4.



J. Eyre. C. Holmes.
Inventor.

Attorney.

UNITED STATES PATENT OFFICE.

JOHN EYRE C. HOLMES, OF OTTAWA, ONTARIO, CANADA.

ELECTRIC HEATER.

1,401,472. Specification of Letters Patent. Patented Dec. 27, 1921.

Application filed September 22, 1920. Serial No. 411,892.

To all whom it may concern:

Be it known that I, JOHN EYRE COOTE HOLMES, of the city of Ottawa, Province of Ontario, Dominion of Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Electric Heaters; and I do hereby declare that the following is a full, clear, and exact description thereof.

Heretofore in electric heating apparatus it has been extremely difficult to obtain an efficient heat radiation and at the same time diffuse humidity; such a heater moreover has never to my knowledge been obtained wherein one material provided at the same time the body, the support and insulation for the wires and the moisture container, and my invention has for its object to provide such an apparatus possessing also beauty due to the material used, its fashioning and to the effect of the incandescent heating elements upon it. To this end my invention consists of a heat radiating body having electric resistant elements housed therein, the body while being capable of heat radiation being also a non-conductor of electricity and substantial enough to carry alone the heating element. In order to provide the qualities of a humidifier a receptacle for containing water is formed in the body, and in order to impart to the structure the quality of a radiator and at the same time adapt it to have its beauty enhanced by the incandescence of the heating elements I construct the body of a clay compound molded and fired. The material I use for my heat radiator consists of fire clay mixed with fire brick and oxids or other clays for giving the desired color or colors and the proportion of fire clay and fire brick is twenty per cent. of fire brick to eighty per cent. fire clay for comparatively heavy articles and the proportions are varied with the size and thickness of the article. The mixture is molded and fired in the usual way.

For full comprehension, however, of my invention reference must be had to the accompanying drawings in which similar reference characters indicate the same parts, and wherein:

Figure 1 is a side elevation of my improved heater partly broken away for purpose of illustration;

Fig. 2 is a part end elevation part vertical sectional view, the section being taken on line 2—2 Fig. 1;

Fig. 3 is a horizontal sectional view taken on line 3—3 Fig. 1; and

Fig. 4 is a horizontal sectional view taken on line 4—4 Fig. 1.

As before mentioned it is extremely difficult to obtain an electric heater which will be efficient and at the same time ornamental. In order to obtain efficiency I construct a body of any desired form, of a clay compound fired. The preferred embodiment of my invention consists of a substantial rectangular horizontal oblong body *b*, the upper portion of which is made in the form of a handle *c* and cored so as to form a chamber *d*, the bottom of which presents a pan d^1 for containing water for evaporation. The body at either or both sides is formed with chambers *f* for containing the heat-radiating-incandescent elements in the form of helical coils *g* of high resistance wire, the coils being housed in the clay and connected together alternately at the top and bottom, thus forming series connection. The wires *n* for connecting the coils together are embedded in the clay as shown particularly in Fig. 1. A socket *o* similar to those usually set in the wall may be employed for connection with an ordinary lamp socket by an extension *p* of any desired type. This body is supported on legs *r* which may be of the same material as the body or other material. These legs are preferably comparatively wide in order to afford stability and may be rigidly attached to the body.

The foregoing sets forth a heater constructed according to my invention which because of its formation from the particular clay mentioned provides a structure on which to carry the heating elements, presents effective insulation between the electric conductors and radiates the heat of the incandescent coils, which heat permeates the entire body. Further when it is provided with a water pan the water insures a flow of humidity with the radiant heat waves and although in dwellings where the atmosphere has the desired complement of moisture the water receptacle within the body is not required and consequently the heater may be made without it, without departing from the spirit of my invention, I consider it an important feature with certain atmospheric conditions. Another feature of my invention is the construction of the body in such a manner that while being self-supporting it is also humid-heat radiant. It has been common practice

in the past to employ porcelain or other like products for insulating purposes and in a measure as a support for wires but according to my invention the fired clay performs both these functions and is at the same time a heat radiator and humidity diffuser.

In order to impart to the heater translucent properties the body may be molded or cast relatively thin or walls or a veneer of the same material may cover the cavities as shown at the right in Fig. 2. If desired this thin and consequently translucent wall construction may be followed throughout the entire body without departing from the spirit of my invention.

What I claim is as follows:

1. An electric heater consisting of a heat radiating clay body having electric heating coils.

2. An electric heater consisting of a heat radiating clay body with chambers, coils of high resistance wire housed within the chambers, and means electrically connecting the coils in series.

3. An electrically operative humid-heat radiating body with a water receptacle and electrical heating coils for the purpose of generating and radiating the humid heat.

4. In an electric heater a self-supporting body consisting of a clay insulator having an integral handle and chambers in which electrical heating elements are housed.

5. In an electric heater a self-supporting oblong-upstanding body consisting of a translucent clay having an integral handle and chambers in the opposite sides thereof.

6. In an electric heater a self-supporting oblong-upstanding body consisting of a fired clay compound being an electric insulator having an integral handle and chambers in the opposite sides thereof.

7. In an electric heater a self supporting oblong-upstanding body consisting of a fired clay compound being an electric insulator.

8. In an electric heater a self-supporting body consisting of a fired clay having an integral handle and chambers in which electrical heating elements are housed and providing insulation for them, the said body containing a water receptacle communicating with the opening of the handle.

9. In an electric heater a self-supporting oblong-upstanding body consisting of a fired clay having an integral handle and chambers in the opposite sides thereof, the said body containing a water receptacle communicating with the opening of the handle.

10. An electrical insulated heat radiator consisting of a mixture of fire clay and fire brick with color matter.

11. An electrical insulated heat radiator consisting of a mixture of fire clay and fire brick with color matter, fire clay eighty per cent. fire brick twenty per cent. and color matter.

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

J. EYRE C. HOLMES.

Witnesses:

R. M. MACDONALD,

H. M. SANFORD.