

(No Model.)

C. E. JONES.
ELECTRICAL HEATER.

No. 502,494.

Patented Aug. 1, 1893.

Fig. 1.

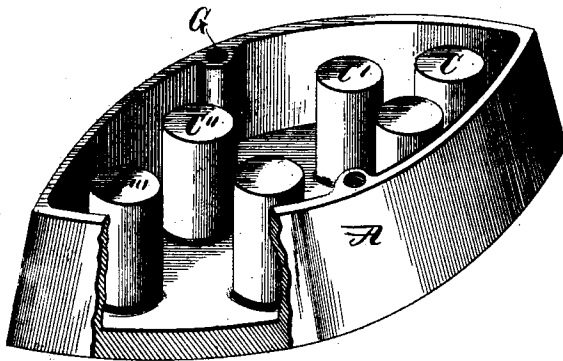


Fig. 2.

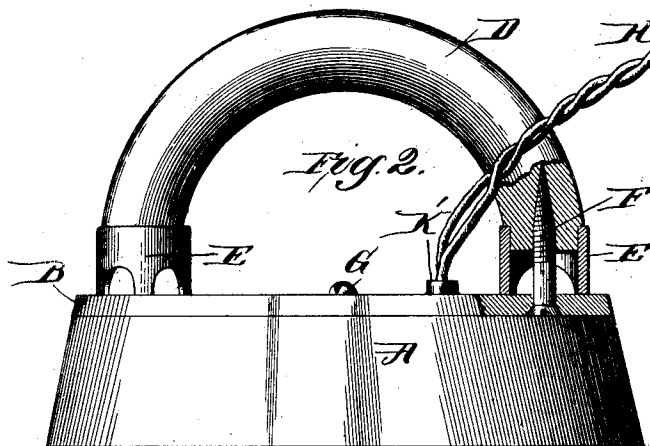


Fig. 3.

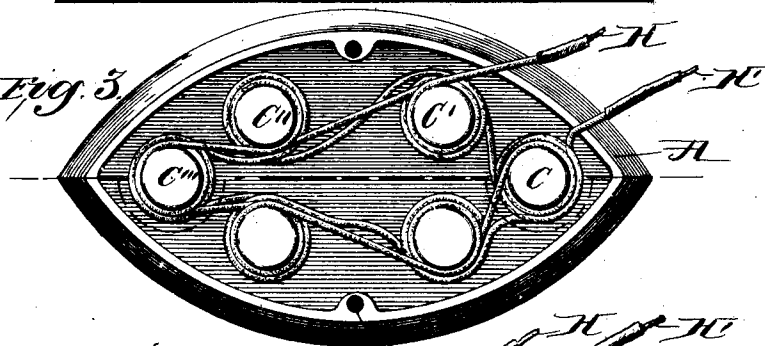


Fig. 4.



Witnesses:

Wm. M. Rheem

J. M. Jeffers

Inventor:

Charles E. Jones

Du Hall & Brown Attys

UNITED STATES PATENT OFFICE.

CHARLES E. JONES, OF ELGIN, ILLINOIS.

ELECTRICAL HEATER.

SPECIFICATION forming part of Letters Patent No. 502,494, dated August 1, 1893.

Application filed August 1, 1891. Serial No. 401,348. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. JONES, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Electric Heaters, of which the following is a specification.

My invention relates to an improvement in electrical generators of heat, and its object is, by induced or secondary electrical currents, to create conflicting molecular action in a body or mass of material subject to magnetic influence and capable of electrical conductivity. I attain this object by means of the apparatus shown in the accompanying drawings, in which like letters are used to refer to the same parts throughout.

Figure 1, is a perspective view of the lower body of a flat iron with the top removed, and a section cut away to show the projections therein. Fig. 2, is a side elevation of my invention with a portion of the handle and thimble cut away, showing the mode of attachment. Fig. 3, is a top view of the lower part of my invention showing the winding and arrangement of the wire or electric circuit around the projections. Fig. 4, is a side elevation of the lower portion of the iron with one half its wall removed to show the projections and the wire or electric circuit wound thereon.

A represents the hollow body of a flat iron with a series of projections, C, C', C'', &c., therein, made integral with the bottom thereof.

B represents a plate or cover or closely fitting top provided with openings to admit the screws G which are screwed into the openings G in the opposite sides of the base or lower part of the iron. Said plate or cover is also provided with opening K', to admit the insulated wire or electric circuit, H, H', as shown. The insulated wire or electric circuit is wrapped around the projections, C, C', &c., continuously but alternately in opposite directions. Thus, as shown in Fig. 4, the portion of the wire H' is wound from right to left around C, from left to right around C' and from right to left around C'' and so on until it passes out at H. The wrapping may be continued around the projections indefinitely

so long as there is room between them for the increased size of the coil. The number of projections is immaterial except that the greater the number proportioned to the mass of material to be heated the better the results.

The wire constituting the electric circuit must be insulated and that portion of H and H' that passes into the iron or metal should be insulated with a noncombustible material such as asbestos, to prevent the destruction of the insulation by combustion.

The cover or plate B is provided with two openings at its ends to admit the screws F which are screwed into the handle D, Fig. 2. The thimble E with openings in its lower edge to admit the air, rests upon the cover or plate and receives the shouldered ends of the handle D and the screws F hold the parts firmly together and the hollow thimble E prevents the ends of the handle from carbonizing.

The wires constituting the electric circuit are connected with the electric generator, and an electric current passing along and over it, excites induced electric currents and probably magnetic conditions in the projections and surrounding mass of material. In Fig. 2 I have shown the wires connected with the ordinary cap used for incandescent lights, L representing the terminal of one wire and M the other; to be screwed into the socket or receiver so as to complete the circuit with the generator.

In operation, when the parts are all put together and the electrical circuit is turned on, induced electric currents are caused in each of the several projections and in the parts of the entire mass of the material to which they are attached; but these induced currents are induced in opposite directions and are supposed to conflict, whereby excited molecular action is caused and heat rapidly generated, the entire mass rapidly becoming heated.

I do not in any manner limit the claims of my invention by the above philosophical explanation of the causes of the phenomenon.

It is evident that there may be many modifications of the apparatus by means of which conflicting induced electrical currents may generate heat, without in any manner departing from the spirit of my invention. The

projections C, C', need not necessarily be made integral with the base or bottom, but may be bolted, riveted or screwed thereto. So also in like manner they may be attached
5 to the top plate; thus uniting the top plate and base or bottom; and they will perform the same function under the influence of the electric current.

I have illustrated my invention with a flat
10 iron, but I do not limit myself to that form of device for it is evident that the particular form and shape of the mass to be heated are immaterial, so long as there is present a series of projections or arms proceeding from the plate
15 or mass, capable of having induced electric currents caused by a direct current, in opposite directions.

Having thus described my invention, what I claim as new, and desire to secure by Letters
20 Patent of the United States, is—

1. The combination of a body of iron or other metal possessing electrical conductivity, an insulated electric circuit coiled around two or more portions of said body in opposite di-
25 rections and an electric generator connected with said circuit, whereby conflicting molecular action may be excited in said body and heat generated; all substantially as shown.

2. The combination of a hollow base, pro-
30 vided within its chamber with a series of projections connected therewith, an electric circuit a portion of which is insulated and coiled around said projections in opposite directions; a top plate or cover having a handle and open-
35 ings for the introduction of said circuit; means

for firmly attaching said top plate or cover to and upon said hollow base, and an electric generator connected with said circuit; all substantially as described.

3. The combination of a hollow base, pro- 40
vided within its chamber with a series of projections connected therewith, an electric circuit a portion of which is insulated with a nonelectric and nonheat conducting material and coiled around said projections in opposite 45
directions; a top plate or cover having a handle and openings for the introduction of said circuit; means for firmly attaching said top plate or cover to and upon said hollow base, and an electric generator connected with said 50
circuit; all substantially as described.

4. The combination of a hollow base provided within its chamber with a series of projections connected therewith; an electric circuit a portion of which is insulated and coiled 55
around said projections respectively in opposite directions; a top plate or cover having openings for introducing said circuit and provided with a handle whose ends are supported in hollow thimbles having openings in their 60
lower edges and attached to said top plate or cover; means for firmly attaching said top plate or cover to and upon said hollow base; and an electric generator connected with said circuit; all substantially as shown.

CHARLES E. JONES.

Witnesses:

J. L. GERRY,

WM. S. CAMERON.