

(No Model.)

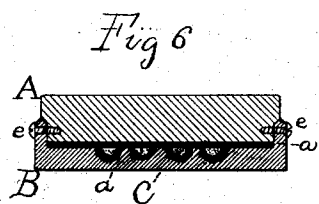
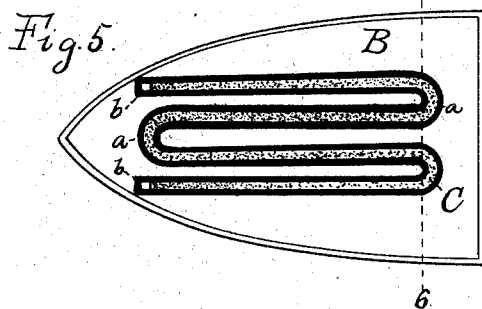
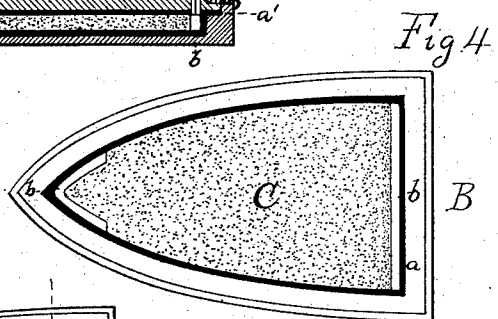
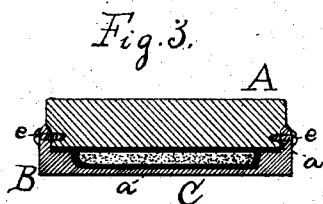
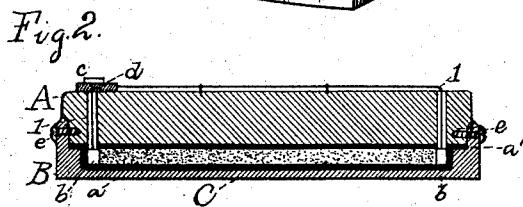
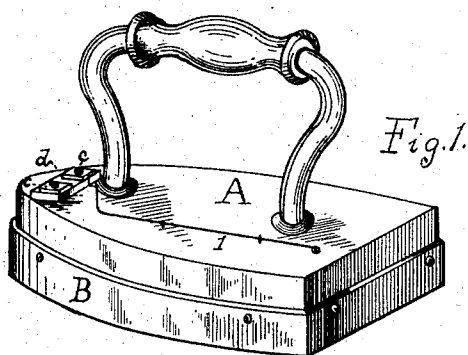
2 Sheets—Sheet 1.

R. N. DYER & H. W. SEELY.

ELECTRIC FLAT IRON.

No. 287,758.

Patented Oct. 30, 1883.



WITNESSES:

Edward H. Pyatt
Edward C. Rowland

INVENTORS:

Rich^d. A. Dyer
Henry W. Seely

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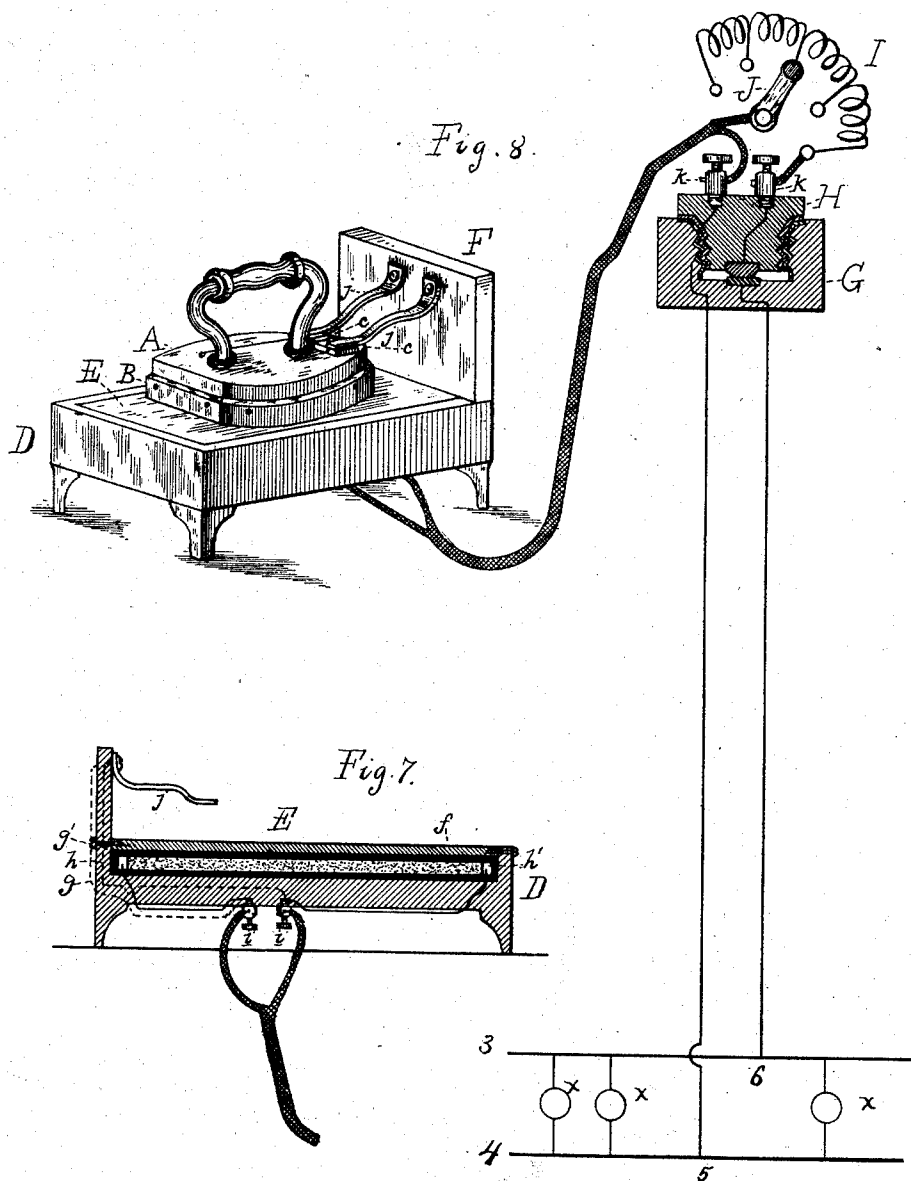
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UNITED STATES PATENT OFFICE.

RICHARD N. DYER AND HENRY W. SEELY, OF MENLO PARK, NEW JERSEY,
ASSIGNORS OF ONE-THIRD TO SAMUEL INSULL, OF NEW YORK, N. Y.

ELECTRIC FLAT-IRON.

SPECIFICATION forming part of Letters Patent No. 287,758, dated October 30, 1883.

Application filed September 15, 1882. (No model.)

To all whom it may concern:

Be it known that we, RICHARD N. DYER and HENRY W. SEELY, both of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a certain new and useful Improvement in Electric Flat-Irons, of which the following is a specification.

Our invention relates to certain improvements on that set forth in Patent No. 259,054, granted to the said Seely June 6, 1882, our object being to provide a more durable flat-iron, and one which can be more readily repaired than the old form, and also to provide means for heating such irons without connecting them permanently with the circuit, which may be inconvenient in some cases.

In carrying out our invention we use, as the heating-resistance contained in the base of the iron, instead of the carbon sticks of the patent referred to, a layer of some pulverized or finely-divided substance which is a high-resistance conductor of electricity. This may be lamp-black or powdered carbon of other character, or finely-divided metals or metalloids, or other element or compound capable of conducting electricity; or one of the metallic salts—for instance, the peroxide of lead—might be used. This powdered material is pressed between sheets of a suitable insulating substance, and metal plates are placed in contact with it, to which the circuit-wires are attached, so that circuit is completed through the resistance. The material may be placed in one continuous sheet or layer, with the contact-plates at opposite ends thereof; or it may be laid in zigzag, spiral, or other form. By the use of this powdered material instead of the sticks of carbon, the iron is made more durable, for the former is adapted to withstand the heavy shocks to which such utensils are often subjected in use, and which would perhaps cause the breakage of the latter.

The flat-iron is made in two parts, as in the patent mentioned; and another part of our invention consists in so uniting such parts that they may be readily separated, when necessary, in order to repair or replace the resistance, should this become worn or broken, or to make repairs on any portion of the structure.

This is done preferably by using screws to unite the parts, which may be readily withdrawn and replaced when necessary.

The third part of our invention relates to what we term a "heating-table." This consists, essentially, of a table on which one or more flat-irons may be placed, said table being provided with suitable contacts, and said irons having also contacts connected to the inclosed resistance, while the table-contacts are connected in the circuit which supplies the current, the whole being so arranged that when a flat-iron is set on the table circuit is immediately completed through the resistance and the iron is heated to the desired degree, when it may be removed, and the circuit thus broken. The table itself, however, may also be provided with a heating-resistance, by which its surface may be heated to assist in the heating of the iron. Except at its heating-surface, such a table should be entirely inclosed by a non-conductor of heat. It is evident that this, as well as the next preceding part of our invention, may be used as well with a flat-iron having a resistance similar to that shown in the patent of Seely as with that herein described, the only change necessary to adapt the former to use with the heating-table being to remove the binding-posts and substitute therefor suitable metal contact-plates. This part of the invention is also applicable to other utensils heated electrically—such as soldering-irons.

The above may be more readily understood by reference to the annexed drawings, in which—

Figure 1 is a perspective view of a flat-iron adapted for use with a heating-table, and containing the resistance of pulverized material arranged in a continuous sheet or layer; Fig. 2, a longitudinal vertical section of the same; Fig. 3, a transverse vertical section; Fig. 4, a plan view of the lower half of the iron; Fig. 5, a similar plan view of an iron in which the resistance is placed in zigzag form; Fig. 6, a transverse section of the same; Fig. 7, a longitudinal vertical section of the heating-table; and Fig. 8, a perspective view of the same, showing a flat-iron in position,

with a diagram of the connections to a multiple-arc system of incandescent electric lighting, this being the preferred source of electric energy for our purposes.

5 Referring to Figs. 1 to 4, inclusive, A and B are respectively the upper and lower parts of a flat-iron. The base B is hollowed out, and in the bottom of the hollow, as close as possible to the smoothing-surface, is laid a plate, *a*,
10 of suitable non-combustible insulating material, which lines the bottom and sides of the hollow. The hollow is then filled with the pulverized material C, which is covered with another insulating-plate, *a'*. Mica is a suitable insulating material for this purpose.
15 The upper part, A, of the iron is set directly upon this upper plate, and the resistance therefore is pressed between the plates and held firmly against displacement.
20 At each end of the hollow in the base, and in contact with the resistance, is placed a metal plate, *b*, and from each plate an insulated wire, 1 runs to a metal plate, *c*, the plates *c c* being secured to a slab of insulating material, *d*, attached to the top of the iron. Such plates *c c*
25 might, however, be affixed to the handle or placed in any other convenient position. The iron is provided with openings, through which the wires pass. In the form shown in Figs. 5 and 6 the pulverized material C is placed in a zigzag groove formed in the base of the iron, such groove being lined with the mica or other insulating material used, and the sheet *a'* laid over the whole as before. The parts A B are
30 attached together removably by means of screws *e e*, so that the iron may be separated should repairs or the renewal of the resistance become necessary.

Referring now to Figs. 7 and 8, D is a
40 frame of a non-heat conducting and electrically insulating material, in which is set and secured a plate, E, of metal or other material suitable to form a heating-surface. Beneath such heating-surface is placed a resistance, *f*, preferably one of a pulverized material, as
45 above described, but which may be similar to that shown in the patent referred to, or of any desired suitable form and material. This resistance is placed between layers *g g'* of a suitable insulating material, and is provided with
50 contact-plates *h h'*—one at each end—from which wires run to binding-posts *i i*. From said binding-posts wires run also to contact-springs *j j*, attached to the upwardly-projecting portion F of the table. Such contact-springs are
55 so placed as to bear on the plates *c c* of the iron A B when the latter is placed on the table.

3 4 represent floor or house mains of an incandescent electric lighting system, *x x* being

lamps placed in multiple arc. The wires 5 6 run to a lamp-socket, G, from which the lamp has been removed, and the plug H, having the proper contacts for completing circuit, inserted instead. Such plug contains binding-
65 posts *k k*, from which wires *l l* run to the binding-posts. It will thus be seen that when the connections are made and the iron placed in position, as in Fig. 8, both the heating-table resistance and that contained in the flat-iron
70 are included in circuit. A resistance, I, with a pivoted arm, J, for adjusting the same, may be placed in circuit, as shown, in order to regulate the heat applied to the iron.

It is evident that the resistance contained in the heating-table could be dispensed with and the iron placed in contact with the springs, and thus heated before using. If desired, a table
75 could be made adapted to hold two or several irons simultaneously.

It is evident that our invention is as well adapted for fluting-irons or other utensils of a similar character as to flat-irons.

What we claim is—

1. The combination, with a flat-iron or similar utensil, of an electrical heating resistance
85 located within the same, and surrounded by the metal of the iron, said resistance being formed of pulverized or divided material and the iron being heated by radiation therefrom,
90 substantially as set forth.

2. In an electric flat-iron or similar utensil, a heating-resistance located therein, and surrounded by the metal of the iron, consisting of a quantity of a divided material insulated from
95 the surrounding iron, and provided with connections to an external circuit, the iron being heated by radiation from said resistance, substantially as set forth.

3. The combination, with an electric flat-iron or similar utensil containing a heating-resistance connected to contacts attached to the exterior of the iron, of a support for said
100 iron, provided with corresponding contacts, which are connected with a source of electric energy, substantially as set forth.

4. The combination, with an electric flat-iron or similar utensil having exterior contacts connected with an inclosed resistance, of a heating-table having contacts corresponding
110 with those of the flat-iron, and provided also with a heating-surface and a resistance inclosed beneath said surface, said contacts and said resistance being connected with a source of electric energy, substantially as set forth.

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HENRY W. SEELY.

Witnesses:

EDWARD H. PYATT,
EDWARD C. ROWLAND.