(No Model.)

W. MITCHELL.

MEANS FOR ELECTRICALLY HEATING CRUCIBLES.

No. 494,585. Patented Apr. 4, 1893.

FIG. 1.

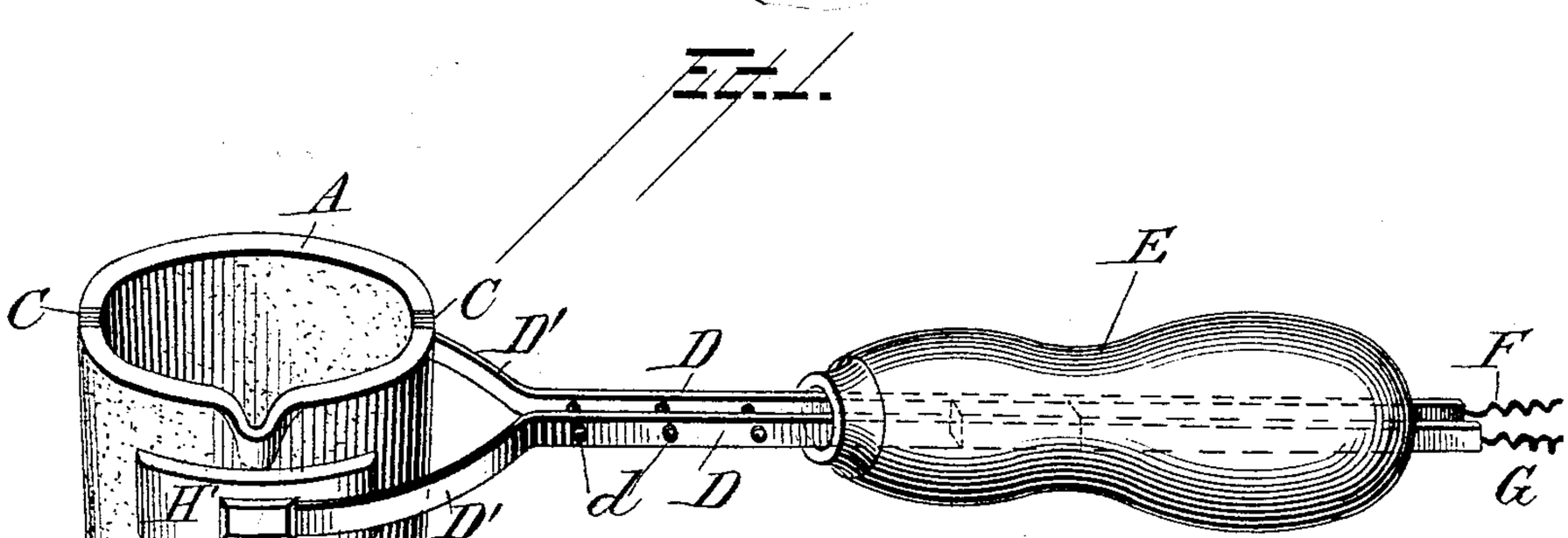


FIG. 2.

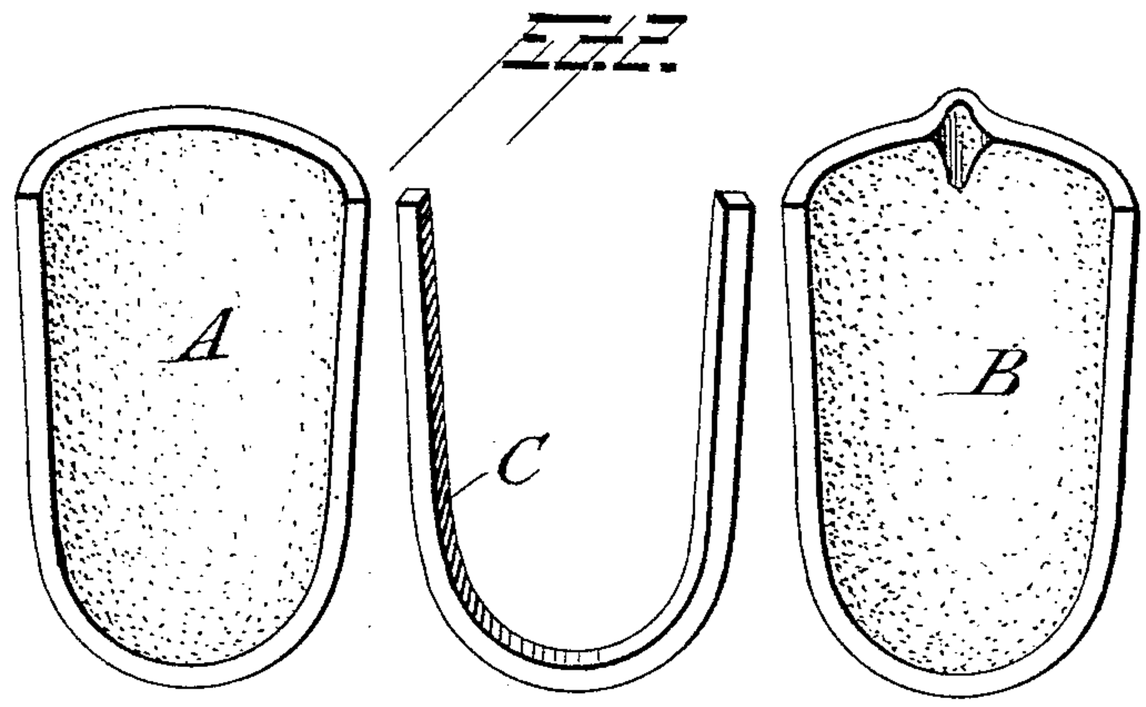
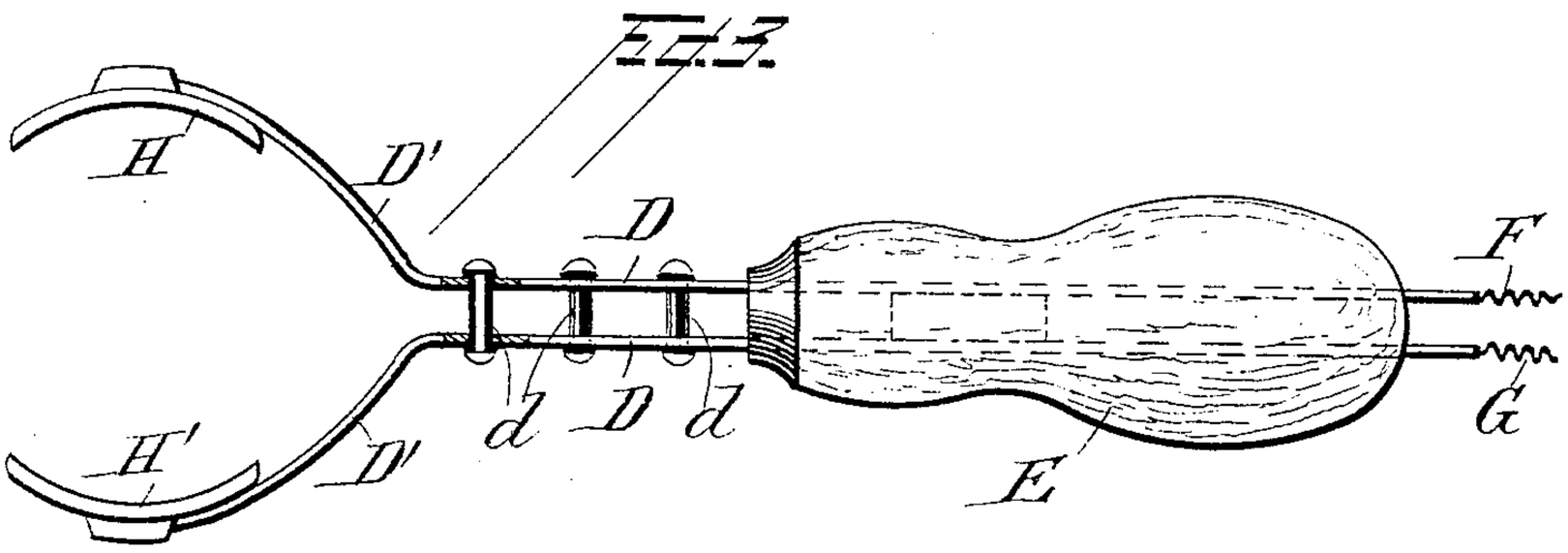


FIG. 3.



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UNITED STATES PATENT OFFICE.

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MEANS FOR ELECTRICALLY HEATING CRUCIBLES.

SPECIFICATION forming part of Letters Patent No. 494,585, dated April 4, 1893.

Application filed June 13, 1892. Serial No. 436,516. (No model.)

To all whom it may concern:

Be it known that I, WILLIS MITCHELL, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Electrically-Heated Crucibles and Holders Therefor; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide for heating a crucible by electricity and to especially adapt the crucible to this procedure.

The said invention consists partly in a crucible consisting of two insulated parts; and also in the combination therewith of a holder and connected circuit wires having terminals in contact with these parts respectively.

In the accompanying drawings Figure 1 represents a perspective view of a crucible and its holder embodying my invention. Fig. 2 represents the parts of the crucible and their insulating bar detached; and Fig. 3 represents a perspective view of the holder.

A and B designate the two equal longitudinal parts or sections of my crucible preferably formed by simply cutting through an ordinary plumbago crucible on the line of its axis. C designates a U-shaped bar or partition of asbestus or fire clay or a mixture of both or other insulating material, which is fitted between the edges of these parts and cemented or otherwise secured thereto completing the improved crucible. The latter may however be made in the first instance with this bar or partition embedded in it but separating the material on each side, to secure the same result.

The holder consists of two bars or rods D of electrically conducting material fastened by transverse insulated pins *d* and extending in parallel lines through a handle E beyond which they are connected to wires F G forming part of an electric circuit. The operating ends of these rods or bars are spread apart and curved at D′, to receive the crucible between them, being provided with terminal plates H H′ that fit the sides of it neatly. Plate H is in contact with crucible section A and plate H′ with crucible section B; and as these sections are insulated the electrical current must cross the intervening space, the hollow interior of the said crucible, through the ore or metal therein contained, exciting a high degree of heat in overcoming the resistance encountered, both from the plumbago of the crucible and from what it may contain.

Of course such crucibles may be of varying sizes according to the service desired; but this invention is particularly useful in the melting or softening of small quantities of metal and the like, as for dentists' and jewelers' use. The form of the crucible may of course vary, the word being intended to include any vessel thus constructed. Metal or other suitable material may be substituted for plumbago; but the latter is best.

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

1. A crucible consisting of the sections A and B of electrically conducting material and the U-shaped insulating bar or partition C substantially as set forth.

2. In combination with a crucible consisting of two insulated parts of electrically conducting material, a holder which is provided with a handle adapted to be held by the hand and with two terminal plates in contact with the said parts respectively, these plates being insulated from each other and forming part of an electric circuit substantially as set forth.

3. In combination with a crucible consisting of two insulated parts of conducting material a holder consisting of two bars in a handle, these bars being adapted to fit against the said parts respectively and connected to wires completing an electric circuit through them and through the said crucible substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIS MITCHELL.

Witnesses:

FRANKLIN L. PAINE,

J. R. PATERSON.