

H. G. LEVY.
ELECTRIC SAD IRON.
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962,768.

Patented June 28, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

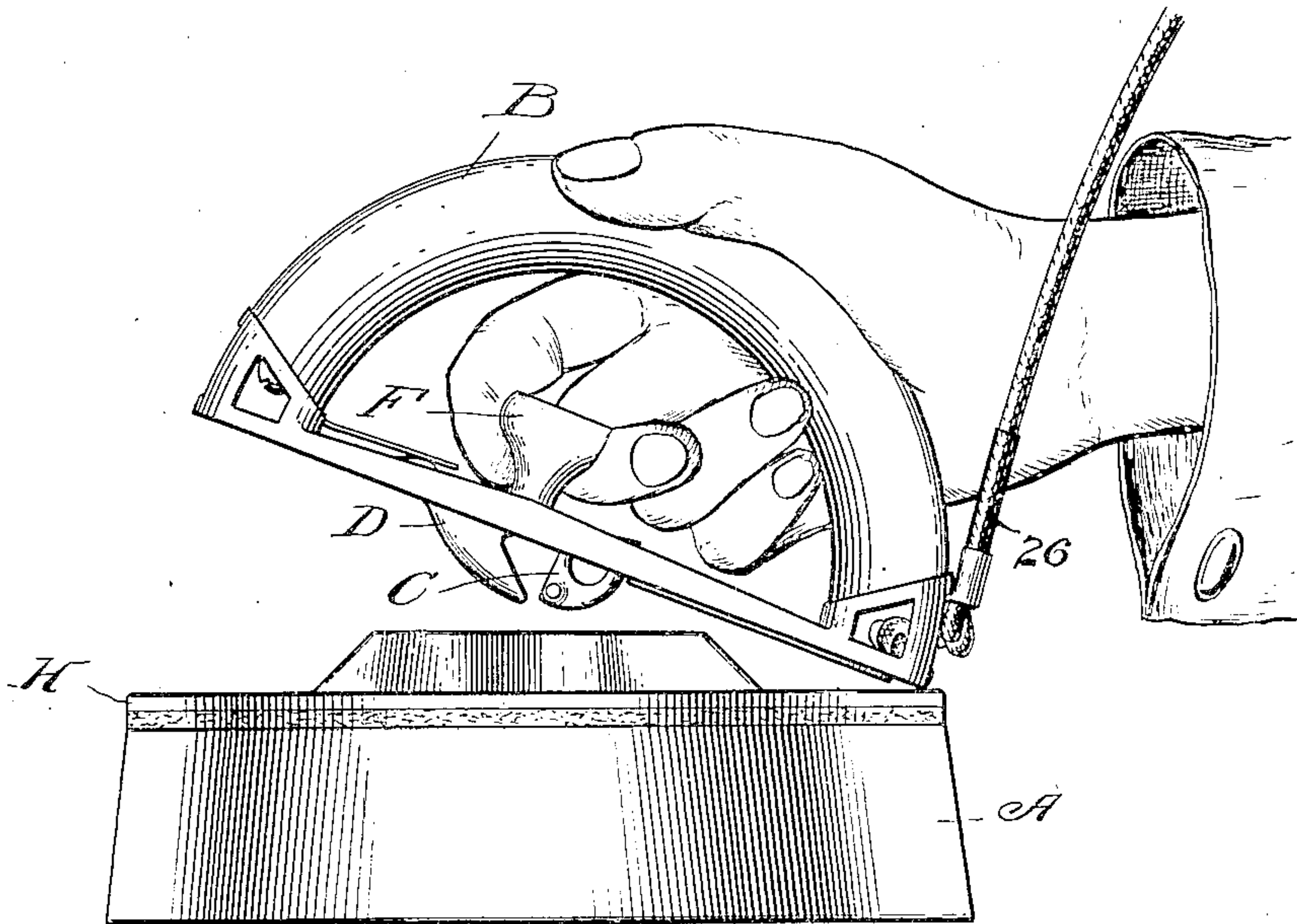
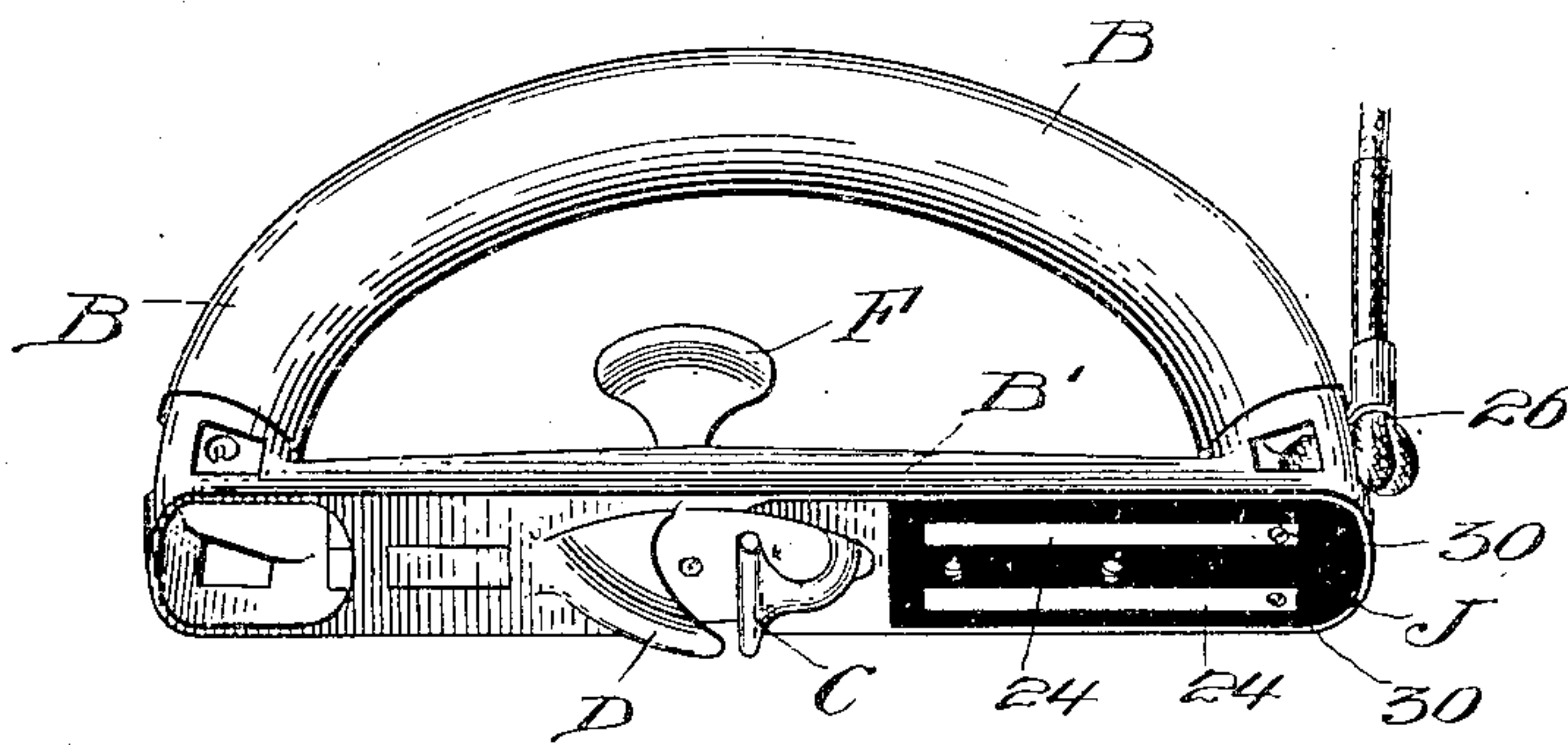


Fig. 3.



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ELECTRIC SAD-IRON.

962,768.

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To all whom it may concern:

Be it known that I, HENRI G. LEVY, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Electric Sad-Irons, of which the following is a specification.

This invention relates to certain new and useful improvements in electrically-heated sad-irons and particularly to irons of the type having a removable handle with mechanism for attaching the handle to the body of the iron, said handle and its attaching means being so constructed that the handle may be properly united to the body of the iron in any position in which the handle is applied; in other words the handle is of a reversible character and may be turned end for end and securely and at the same time removably attached to the body of the iron whichever way the handle may be turned.

An essential object of the present invention is to provide an iron of the character specified with a heating unit or other means by which when a current of electricity is passed through said unit or heater, the body of the iron will be heated effectively and be capable of performing the functions for which an iron of this character is designed; also in providing the removable and reversible handle of said iron with contacts and in providing the body of the iron with co-acting contacts whereby when the handle is applied to lock it to the body of the iron, a circuit is at once established through the body and the handle and the heating unit with which the body is supplied whereby the current is established during the application of the handle to the body, and is broken when the handle is detached from said body.

A further object is to enable the handle, before mentioned, to be reversed end for end and attached to the handle so that the contacts between the handle and the body are not in register and accordingly no current will flow through the iron and its contained heating unit, and the iron may now be heated by applying it to an ordinary stove and be operated in the same manner as the ordinary iron of this type. In other words I provide a sad iron with a detachable handle and means whereby when the handle is lifted from the body, the electrical circuit is broken and the current is cut off from the heater

which the body incloses; and when the handle is applied to the body portion of the iron, the circuit is established through the handle and body and the heater to impart the desired degree of heat to the body of the iron; also, in permitting the handle to be so attached that the electrical contacts are not engaged thereby allowing the iron to cool until it is ready to be again heated for further operation, to effect which latter operation the handle will be removed and again reversed end for end and the contacts engaged, and the circuit established through the iron to heat the body portion thereof.

With the above and other desirable objects in view, my invention consists of the parts, and the constructions, arrangements and combinations of parts, which I will hereinafter describe and claim.

In the accompanying drawings forming part of this specification and in which similar reference characters indicate like parts in the several views, Figure 1 is a side view of a sad iron embodying the salient features of my invention and showing the handle in the act of being applied to the body of the iron. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a perspective view looking toward the bottom of the handle removed. Fig. 4 is a top plan view of the body of the iron with the cover plate and interposed non-conducting piece removed. Fig. 5 is a detail of one of the spring contacts.

In carrying out my invention I have shown the novel features associated with a type of sad irons which is well known and which is commercially recognized under the title of "Mrs. Pott's sad iron," such iron being composed of a body portion, A, and a handle portion, B, the handle portion being removable as in irons of this character; this removal is effected by providing the handle with a spring-pressed latch member, C, and co-acting hook member, D, adapted to embrace and detachably engage a cross-bar, E, extending across a central opening formed in the top of the body of the iron. This construction is well known to the type of iron above mentioned, and it is understood that in applying the handle the latch is lifted by means of the finger piece or knob, F, and the hook portion, D, slipped under the cross-bar on the body portion of the iron, and the spring latch, C, released to enable

it to positively and securely engage the cross-bar and thereby removably attach the handle to said body portion.

In the present instance the body of the iron is formed with a chamber or recess, G, and a removable cover plate, or top, H, between which and the body is placed a sheet of asbestos or other non-heat conducting material, I, the cover being secured to the body by means of appropriate screws, as shown, or in any manner suitable for the purpose. In the bottom of the recess or chamber, G, formed in the body of the iron I secure an electric heater, K, which may be of any suitable character, but which I prefer to make in the form of a heating unit of the type shown and described in a prior Patent No. 939,605, dated Nov. 9/09, and granted to me jointly with Geo. N. Blanchard. A heater of this character is peculiarly adapted for operation in connection with a sad iron, and said heater comprises a heating coil, 10, wound in the form of a flat spiral of naked wire and with the various turns of the coil suitably insulated from each other by appropriate means, as the asbestos string, 11, the coil being laid between two sheets of mica, 12, or other suitable thin material, which will afford appropriate electrical insulation, but which will not be too much of a detriment to the transmission of heat from the coil to the body of the iron. The insulating or mica sheets, 12, with the intervening coil of uncovered wire, and the insulating strip or string, 11, are suitably secured or held together by some appropriate bonding material, as shellac, and the terminals, 5 and 6, of the coil are brought out through suitable perforations in one of the insulating or mica sheets and through porcelain or other insulating tubes, 3, which are fixed in a metal plate, 15, between which and the top of the heating unit there is placed a sheet of asbestos or other non-heat-conducting material, said metal plate being clamped or otherwise secured to the body of the iron by one or more appropriate screws, 16, or other fastenings, which are accessible from the top of the iron when the cover plate, H, and its underlying non-conducting sheet are removed, thus exposing the chamber formed in the body of the iron and permitting the heating unit and other parts to be appropriately assembled, and to be removed and replaced with other parts when occasion demands.

Suitably secured to the plate, 15, which clamps the heating unit against the bottom of the chamber formed in the iron is a block of porcelain or other non-conducting material, 4, in which is mounted the metallic sleeves, 17, there being preferably two of these sleeves arranged transversely in line and spaced apart an appropriate distance,

said sleeves having slidably mounted within them the spring-pressed pin contacts, 18, each of which is normally projected above the surface of the cover plate, and passes through the porcelain or insulating block, 4, and through the metallic sleeve, which it contains, said block carrying a screw, 19, the point of which bears against the spring pin or contact, 18, said screw being connected with one of the terminals of the heating coil, as shown in Fig. 2. It will be understood that there are two contacts spaced from each other and both mounted in the insulating block, 4, and that the terminals of the heating unit will connect with these contacts through the screws, 19, and that there are corresponding contacts on the handle to complete the circuit when it is desired to heat the iron.

The heating unit may possess either a round or other shape and it is preferably in the form of a thin flat sheet-like member; the thickness of this member varies, of course, with the size of the heating wire employed, and the heater may assume some other form than that herein shown and described without departing from the real feature of my invention.

By reference to Fig. 3 it will be seen that on the underside of one end of the metal portion, B', of the handle I secure an insulating block, J, of porcelain or of other well known insulating material and that to this block I secure the longitudinally extending brass or other metallic strips, 24, which are spaced apart and insulated from each other and which form the contacts on the handle, through which the current flows to the contacts in the body of the iron, when the handle is connected to the said body, the contacts on the handle being adapted to register with the spring contacts before described as being contained in the insulating block on the body portion. The conductor, 26, from a suitable supply of electric energy enters an opening in the metal portion of the handle and the feed wires of this conductor connect with the binding screws, 30, which fasten the spring contacts to the underside of the handle.

From the foregoing description it will be understood that when the handle is in place on the iron the electric current will flow through the contacts and connections and will energize the heating unit and thus heat the body of metal of which the body of the iron is composed. When the handle is detached by unlatching it from the cross-bar, E, the contacts between the handle and the body portion are separated and accordingly the current is broken and by now reversing the handle end for end, the handle may be again attached and locked to the body portion without danger of the contacts being brought together to establish a current of electricity through them and the body por-

tion; this will allow the iron to cool until it is ready to be again heated for subsequent operation. By again removing the handle and reversing it end for end to bring it to the first position, above mentioned, when the handle is united to the body, the contacts will be engaged and the current will flow to the heating unit and the metal of the body of the iron will be heated for working purposes. By thus controlling the current by the removal and replacement of the handle, the operator is assured of perfect safety and of no danger of fire, a result which is quite common with the ordinary electrically heated iron, and which objectionable and often disastrous result is the result of a failure of the operator to forget to turn off the current by the usual key socket.

An important difference between the present construction and other electrically heated irons lies in the fact that most of the prior devices heat only a flat thin plate, which is fastened on the bottom of the iron, and then screw or otherwise fasten about five pounds of metal on the top to make a six-pound iron. This is not believed to be a direct method of heating nor an efficient one because as the plate is heated very fast, it cools correspondingly fast and makes the user keep switching the current on and off at frequent intervals. I am permitted to heat six pounds of metal, the bottom being so thick, that although my heating unit does not cover the entire bottom surface, its use will result in a more even heat-distribution because by the time the heat has radiated through to the bottom it has also reached the points of the iron. The construction of my iron also admits of the iron being placed on an ordinary heating stove and heated directly therefrom in the event that there should be a bright fire in the stove, or where the current is cut off in the power house due to some trouble and thus eliminating for the time being the use of electricity as the heating agent. Heating on the stove in the manner described will not damage the heating unit and the position of the contacts under the handle make it impossible to get a short circuit or shock, as these contacts are well inside the end surface of the porcelain block, which insulates these contacts.

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

1. In a device of the character described, the combination of a body portion and a removable handle therefor, said body portion having an electric-heater within it, and provided with contacts, and said handle portion having contacts adapted to establish an electrical circuit through the first-named contacts and heater coördinately with the application of the handle to the body portion.

2. In a device of the character described,

the combination with a body portion, an electric-heater therein, and a separable handle, of means carried respectively by the body portion and handle and adapted to establish a circuit through the heater coördinately with the placing of the handle in working position on said body portion.

3. In an iron of the character described, the combination with a body portion, an electric-heater therein, and a separable handle, of means carried respectively by the body portion and handle and adapted to establish a circuit through the heater coördinately with the placing of the handle in working position on said body portion, said circuit being broken by the disengagement of the handle from the body portion.

4. In a sad-iron, the combination with a body portion and an electric-heater housed therein, of a handle portion and means detachably securing it to the body portion, said handle and body portion having engaging contacts adapted to establish an electric circuit through the heater coördinately with the application of the handle to the body portion of the iron.

5. A sad-iron having a body portion and a contained electric-heater, and a handle portion having means for latching it to the body portion, said handle and body portion having engaging contacts for establishing an electric circuit through the heater when the handle is applied to the body, and interrupting the circuit when the handle is removed from the body.

6. A sad-iron having a body portion with a contained electric-heater, and a handle portion having means for latching it to the body portion, said handle portion and body portion having registering contacts at corresponding ends adapted to establish an electric circuit through the heater when the handle is latched to the body portion, said handle being reversible end for end to enable it to be latched to the body portion with the contacts out of register and without establishing a circuit through the heater.

7. In a sad-iron, the combination with a body portion recessed to form an internal chamber, and a heating unit secured in said chamber, of a handle portion having means for detachably latching it to the body portion, said handle portion having electrical contacts, and said body portion having electrical contacts connected with the heating unit and adapted to register with the contacts on the handle whereby the act of applying the handle to the body portion automatically establishes an electrical circuit through the heater, said circuit being broken when the handle is detached from the body portion.

8. A sad-iron comprising a body portion recessed to form an internal chamber, and a heating unit fixedly secured in said cham-

ber in contact with said body portion, and a removable handle having means for detachably engaging the body portion, said handle having electric contacts, and said body having contacts adapted to register with those on the handle whereby an electric circuit is established through the heater during the act of applying the handle to the body portion, said handle portion being capable of reversal end for end to enable it to be engaged with the body portion and the iron to be used independent of the heating unit.

9. A sad-iron comprising a body portion and a removable handle, said body portion containing an electric-heater, and means whereby an electric circuit is established through the handle and heater during the act of attaching the handle to the body portion, said circuit being interrupted and the body portion allowed to cool, when the handle is detached.

10. A sad-iron including a body portion having a recess forming an internal chamber, an electric heater fixed within said chamber, and a cover plate fixed to the body portion and insulated therefrom, and having a cross-bar, and a handle portion having a latch to detachably engage said cross-bar, said handle portion and body portion having cooperating electrical contacts adapted to establish a circuit through the heater during the act of latching the handle to the cover plate, said circuit being broken when the handle is detached from the cover portion.

11. In a sad-iron, a body portion having a recess in its upper side forming an inclosed chamber, an electric-heater fixed within said chamber in contact with the body portion, a cover plate fixed to the body portion and

insulated therefrom and having a centrally disposed cross-bar, and an insulating block within said chamber carrying spring-pressed contacts which are normally projected above the cover plate; and a handle portion having a latch to engage the cross-bar of the cover plate, and having electrical contacts adapted to engage the spring-pressed contacts carried by the body portion to thereby establish a circuit through the heater during the act of applying the handle to the cover plate.

12. In a sad-iron, a body portion having a recess in its upper side forming an inclosed chamber, an electric-heater fixed within said chamber in contact with the body portion, a cover plate fixed to the body portion and insulated therefrom and having a centrally-disposed cross-bar, and an insulating block within said chamber carrying spring-pressed contacts which are normally projected above the cover plate; and a handle portion having a latch to engage the cross-bar of the cover plate, and having electrical contacts adapted to engage the spring-pressed contacts carried by the body portion to thereby establish a circuit through the heater during the act of applying the handle to the cover plate, said handle being reversible end for end to enable it to be latched to the cover plate with the contacts out of register to enable the iron to be used with the heater cut-out.

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

HENRI G. LEVY.

Witnesses:

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F. W. HUNT.