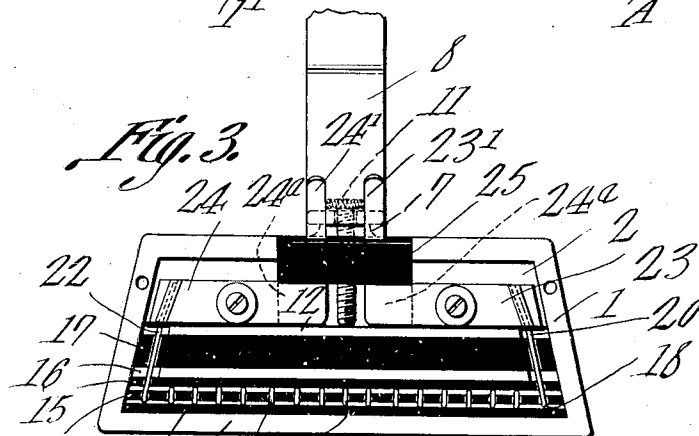
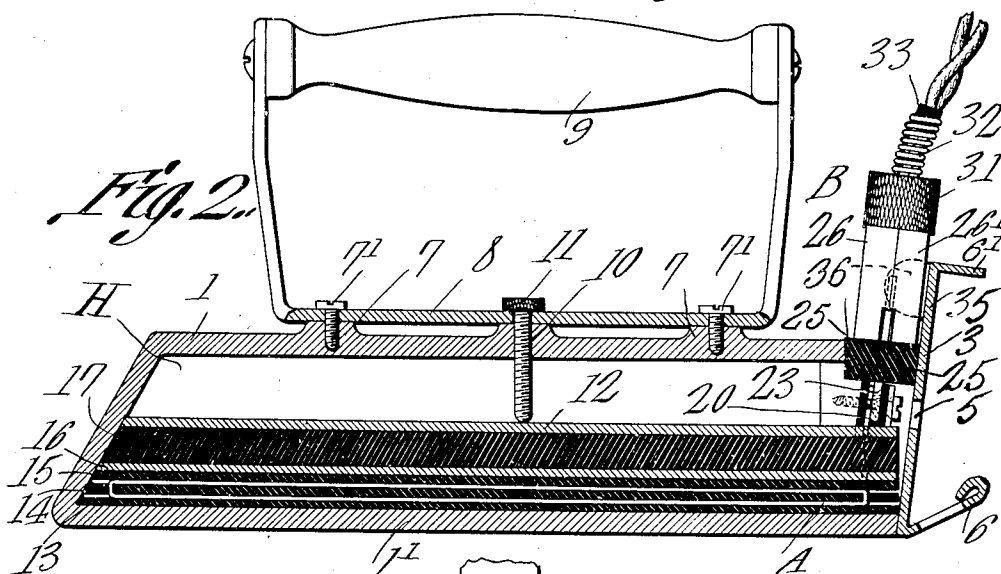
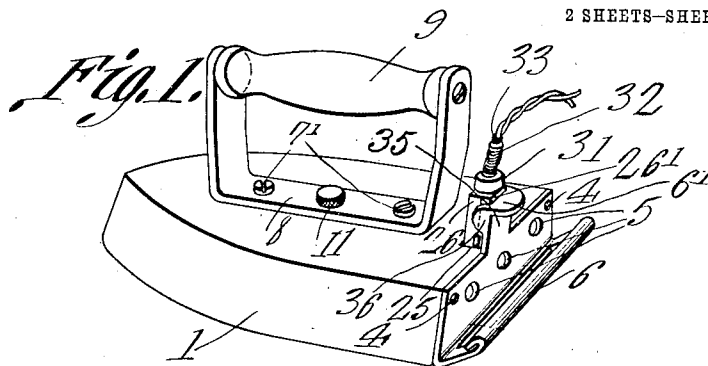


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ELECTRIC SAD IRON.
APPLICATION FILED JULY 17, 1911.

1,028,580.

Patented June 4, 1912.

2 SHEETS—SHEET 1.



Witnesses

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by

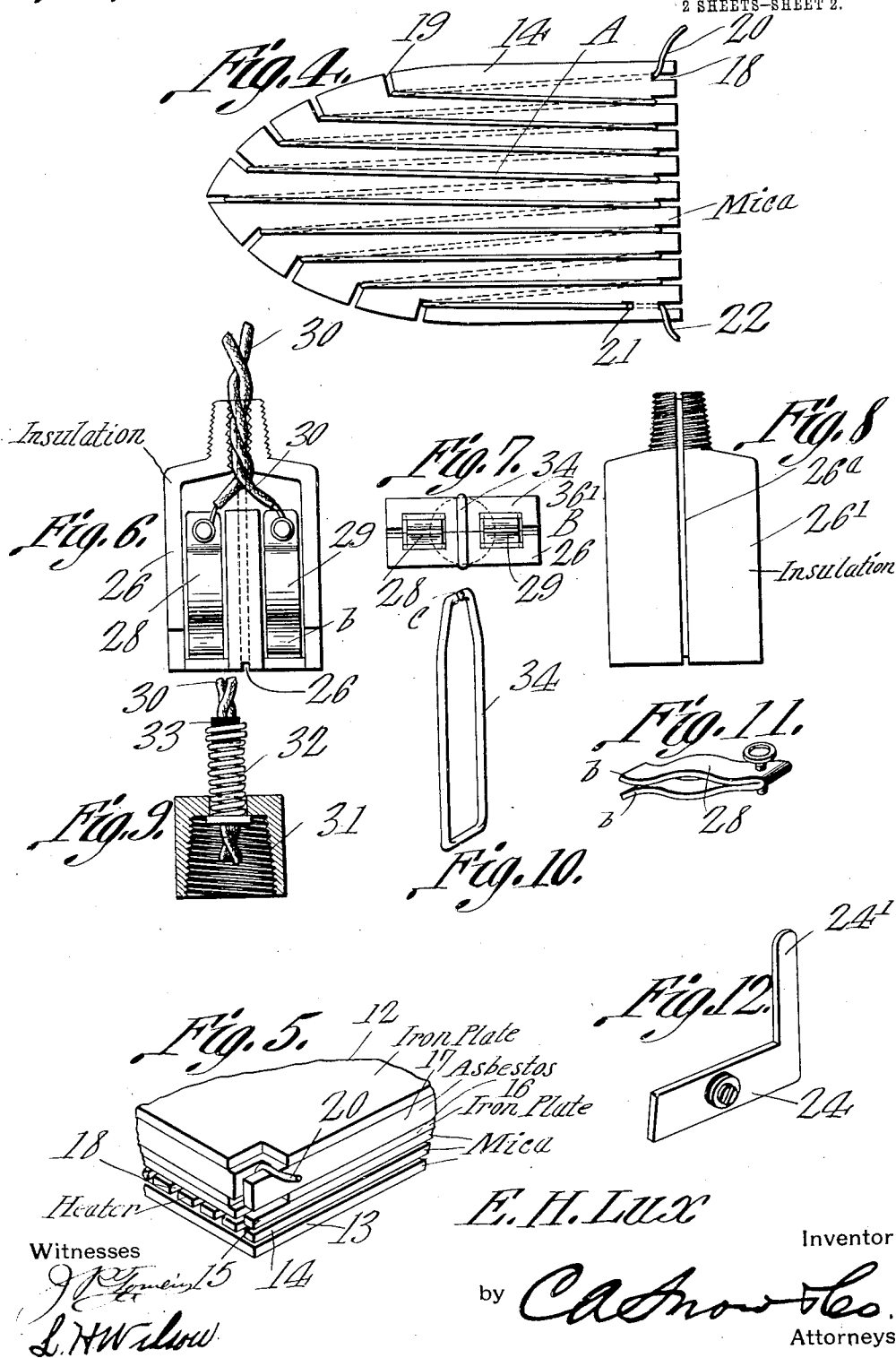
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Patented June 4, 1912.

1,028,580.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

EDWIN H. LUX, OF LOGANSFORT, INDIANA.

ELECTRIC SAD-IRON.

1,028,580.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed July 17, 1911. Serial No. 638,948.

To all whom it may concern:

Be it known that I, EDWIN H. LUX, a citizen of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented a new and useful Electric Sad-Iron, of which the following is a specification.

This invention relates to improvements in electric sad irons, and the primary object of the invention is the provision of a hollow casing provided with a detachable rear cover or door, for the removable reception of a heating unit composed of a series of three plates of insulation, the intermediate plate thereof forming a reel or bobbin upon which is wound a coil of wire which is operably connected to a source of electrical energy for producing the desired heating effect upon the lower face or surface of the iron, the heating unit being so constructed as to prevent the upward radiation of the heat generated by the coils and to direct the radiation downwardly for ironing purposes.

A further object of the invention is the provision of a sad iron having a removable heating unit in combination with a split clamping terminal holding plug adapted to be removably connected to the terminals of a heating coil carried by said unit within the iron, the unit being removable and detachable so that the same may be easily repaired in case of a burn out of the coil.

A still further object of this invention is the provision of a removable electric heating unit adapted to be inserted in the rear opening of a sad iron casing, a removable door to close the rear opening thereof in combination with a set screw which binds and holds the unit removably within the casing and down upon the lower ironing surface of the iron, said unit being so constructed as to permit the radiation toward the ironing surface and away from the upper portion of the iron, thus retaining the upper portion in a cooler condition for handling.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the

scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a perspective view of the complete iron. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a rear elevation of the iron with the door or closure and electrical terminal block removed. Fig. 4 is a plan view of the sheet of mica which carries the heating coils. Fig. 5 is a perspective of a rear corner of the heating unit. Figs. 6, 7, 8, 9 and 10 are detail views of the removable terminal or socket for carrying the electric conductors. Fig. 11 is a perspective view of one of the spring terminals thereof removed. Fig. 12 is a detailed perspective view of one of the contact plates carried by the heating unit.

Referring to the drawings, the numeral 1 designates the sad iron casing, which is hollow and is provided at its rear end with the opening 2 against which is attached the rear plate or cover 3 by means of the screws 4, said plate or closure being provided with a series of apertures 5 whereby the heat radiated within the iron which might effect the handle 9 is permitted to escape or radiate so that the upper portion of the iron remains at a lower temperature than the ironing surface 1' thereof, the door 3 being provided with an upturned rear lower edge 6 and the lip 6' to produce a rest to permit the iron to be tilted and rest thereon.

Provided in the upper central portion of the casing 1 of the sad iron, are the two threaded lugs 7 in which are mounted the set screws 7', which lock the plate 8 carrying the handle 9 in the proper relative position to the sad iron proper, and in order to hold the unit in the body of the iron and downwardly upon the upper surface of the ironing portion 1' thereof, the threaded opening or terminal 10 is provided for the removable reception of the set or binding screw 11, whose lower end is adapted to engage the upper metal plate 12 of the heating unit and clamp the unit rigidly within the casing of the iron, the single clamp or screw 11 not passing through the unit, but simply engaging the upper surface of the plate at a central point.

The heating unit consists of the lower three mica plates 13, 14 and 15, the intermediate metal plate 16, and the thick block or plate 17 of asbestos which is covered by the upper metal plate 12. As clearly shown

in Fig. 4 of the drawings, the coil or wire A is wound so as to form a zig-zag coil upon the body of the central mica plate 14, said plate being provided with the rear slots or interstices 18 and the forward slots 19, the coil of wire assuming the position as clearly shown in dotted and full lines in Fig. 4, the terminal 20 entering at the farther slot 18, while the terminal 22 passes through the aperture 21 at the opposite side of the mica plate 14, and upwardly to the metal terminal plates 23 and 24, which are secured to the rear portion of the lugs 24^a, as clearly shown in Figs. 2 and 3. These contact plates are provided with the upwardly projecting spring plate terminals 23' and 24', respectively which normally project through the mica or fiber plug 25', in the square aperture 25 formed in the upper rear portion of the casing of the sad iron.

It will be seen that the three mica plates which rest upon the bottom of the sad iron within the casing and the thick asbestos heat insulating block 17, that the heat radiated by the coil A is in reality deflected downwardly upon the ironing surface 1' of the iron and prevented from radiating upwardly into the space above the heating unit, any heat however radiating thereabove being conducted through the apertures 5 of the rear closure or plate 3. If so desired a series of ventilating apertures to cool the top of the iron may be provided in the front walls or side walls of the casing 1 without departing from the spirit of the invention.

As clearly shown in Figs. 6, 7, 8, 9 and 10, the plug B which carries the current conducting wires 30, is made in two sections or halves 26 and 26', and each one of said sections is provided with the central exterior slot or groove 26^a whereby the spring wire clip 34 may be snapped upon the two members or sections 26 and 26' and fit in the groove 26^a so as to clamp the two sections together, the opening or slot *c* provided at the upper end of the clip 34 being disposed to span the aperture or bore of the sectional plug through which the wires 30 pass. The section 26 of the plug as clearly shown in Fig. 6, has mounted therein the two spring terminal plates 28 and 29, respectively, each one of which is provided with the two spring terminals *b*, for the removable reception and spring gripping action of the terminals 23' and 24' of the contact plates carried by the heating unit of the iron, the plug when in operable position fitting snugly within the rectangular aperture 25 of the sad iron casing and assuming the position shown in Figs. 1 and 2.

Adapted to fit over the upper threaded portion of the sectional terminal plug is a cap 31 in which is mounted the coiled spring 32, which surrounds the conductor wires 30 as clearly shown in Fig. 9 and is held there-

from by means of the spool 33 of insulation thus preventing the spring from cutting the insulation of the wire and at the same time providing a means to prevent the kinking of the wire at its entrance to the cap 31 and the sectional terminal plug.

Projecting from the upper portion centrally of the door 3 is a lug 35 provided with the guiding projections 36 between which the body of the plug B is adapted to fit, thereby holding the same in the proper relative position to the sad iron casing and preventing any turning or twisting thereof.

Sheets of mica are placed upon the opposed flat sides of the plates 23 and 24, binding screws being employed to hold the plates 23 and 24 in place, said screws passing into lugs 24^a, so that the plates 23 and 24 are properly supported and insulated from the iron and prevented from being short circuited.

By positioning the heating unit within the iron, an upper air space H is provided above the plate 12 and below the top of the iron.

From the foregoing description taken in connection with the drawings, it is evident that by producing an electric sad iron as set forth and shown in the drawings, that the heating unit may be readily removed in case of a burn out and that the coil A is readily placed about the mica coil carrying plate or block 14 and by disposing the said plate within the two mica plates 13 and 15 and providing the heavy asbestos block 17 surrounded upon each side by the metal plates 16 and 12 respectively, that the heat radiated by the coil A is prevented to a great extent from radiating upwardly and toward the upper portion of the sad iron to have the undesirable effect of heating the handle 9 and making it uncomfortable for the operator. By means of the set screw 11 it is evident that the heating unit may be properly clamped within the casing of the iron and that no other connection is necessary for holding the respective members of the heating unit together.

What is claimed is:

1. An electric sad iron, having a heating unit conforming in contour to the shape of the iron, composed of three superposed plates of electrical insulating and noncombustible material, the intermediate plate being provided with parallel slots in the rear straight edge thereof with a straight central slot at the apex, and a plurality of outwardly and forwardly inclined slots in the two forward curved edges upon each side of the apex of the plate, and a resistance wire wound longitudinally of said plate from one side of the rear edge of the same, starting with the outer rear edge slot through the slots of the forward and rear edges alternately and terminating at the other outer slot of the rear edge of the plate.

2. An electric sad iron, having a casing open at its rear end, a heating unit insertible therein and providing an upper air space, a metal plate disposed upon the upper face
5 of said heating unit, a binding screw accessible from the exterior of the casing engaging said metal plate to lock the unit within the casing, a closure for the rear open end thereof, said closure being provided with an upturned lower edge and
10 with an upstanding stem, said stem being further provided with a rearwardly extending lug to coact with the lower edge to form a rest for the iron, a pair of lugs
15 formed upon the front face of the said stem to provide a receptacle for a plug, the said metal plate resting upon the unit being provided with upstanding binding posts at its rear edge forming a connection for the ter-
20 minals of the resistance wire of the unit, and a plate insulated from the terminals of the

metal plate for holding the said terminals of the resistance coil in place.

3. An electric sad iron, having a casing open at its rear end, a heating unit insertible
25 therein, a closure for the rear open end thereof, said closure being provided with an upturned lower edge and with an upstanding stem, said stem being further provided with a rearwardly extending lug to coact
30 with the lower edge to form a rest for the iron, and a pair of lugs formed upon the front face of said stem to provide a receptacle for a terminal plug.

In testimony that I claim the foregoing as
35 my own, I have hereto affixed my signature in the presence of two witnesses.

EDWIN H. LUX.

Witnesses:

A. C. NAYLOR,
J. L. LINVILL.