June 14, 1932. M. A. ROLLMAN 1,863,284

ELECTRIC SADIRON

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Fig. 1.

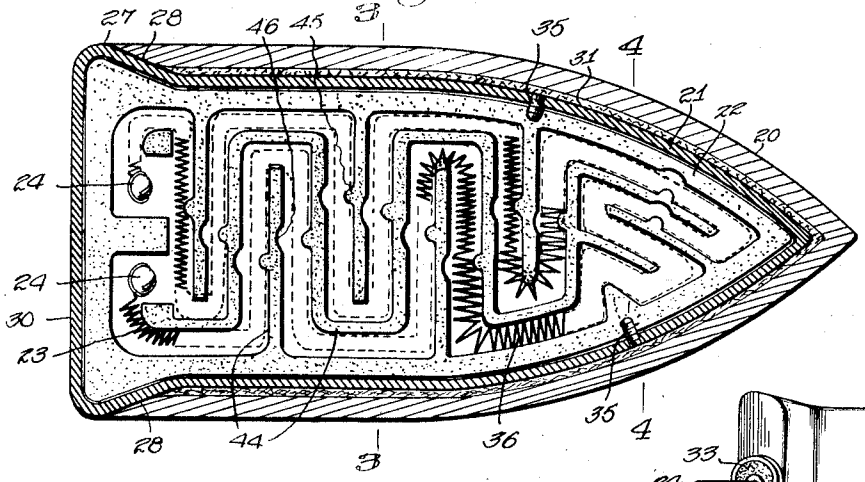


Fig. 2.

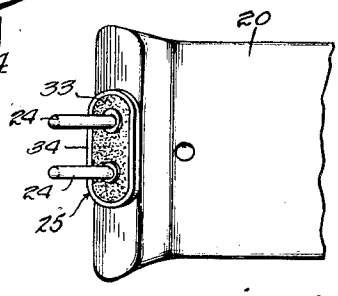


Fig. 7.

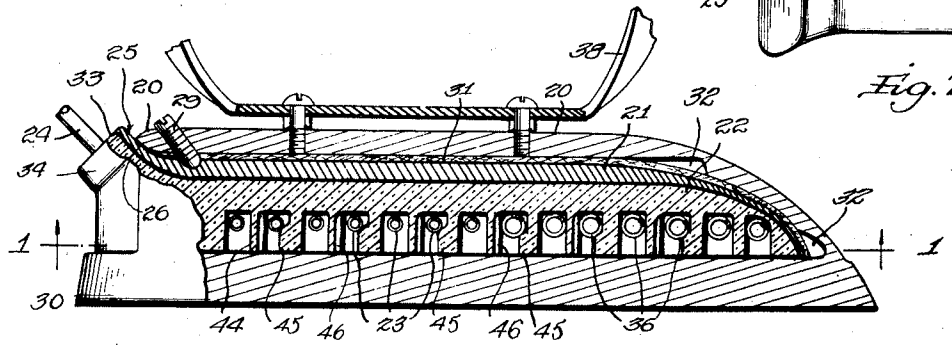


Fig. 3.

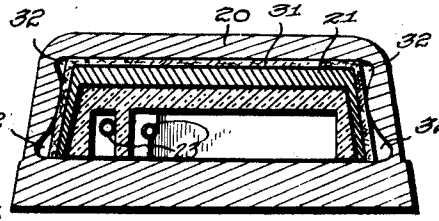


Fig. 4.

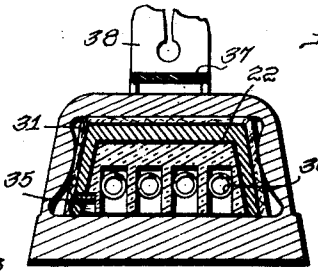


Fig. 5.



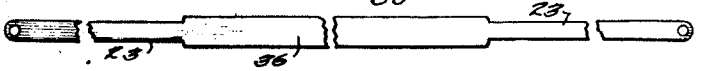


Fig. 6

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Fig. 8.

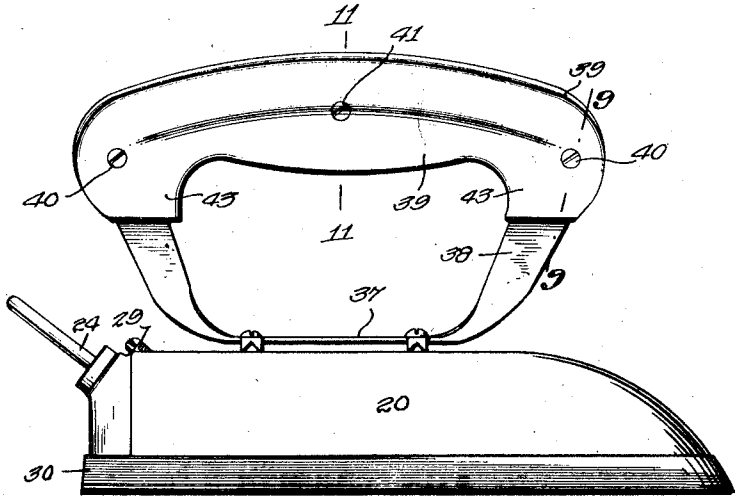


Fig. 9.

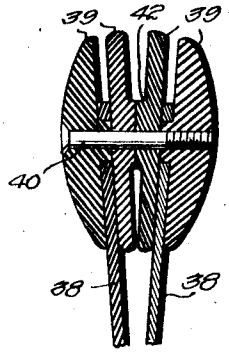


Fig. 10.

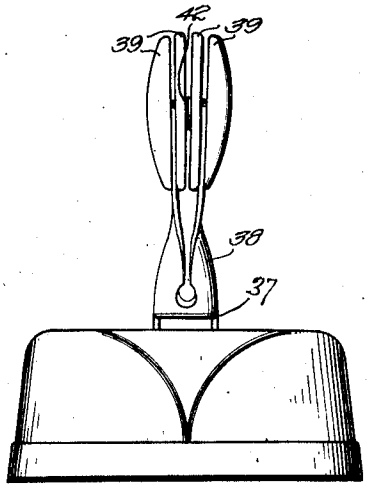


Fig. 11

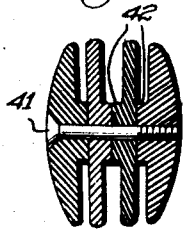
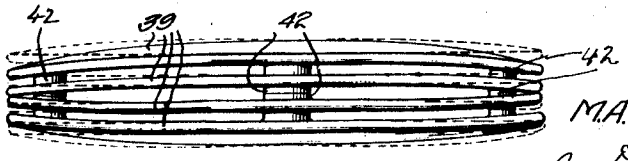


Fig. 12.



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Patented June 14, 1932

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UNITED STATES PATENT OFFICE

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ELECTRIC SADIRON

Application filed October 20, 1927. Serial No. 227,521.

The object of this invention is to improve and simplify the construction to the end that the expense of manufacture will be brought down to a minimum and the efficiency of the iron in use will be increased, as more fully hereinafter set forth.

A further object is to so construct the handle that it will at all times be at a sufficiently low temperature to be comfortably handled.

In the accompanying drawings—

Fig. 1 is a horizontal sectional view taken on the line 1—1 of Fig. 2;

Fig. 2 is a vertical longitudinal sectional view partly in side elevation;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a transverse vertical sectional view on the line 4—4 of Fig. 1;

Fig. 5 is a detail elevation of the heating-wire;

Fig. 6 is a detail elevation of a modified form of heating-wire;

Fig. 7 is a plan view of the head-end of the carrier-shell removed from the iron;

Fig. 8 is a side elevation of the iron;

Fig. 9 is a sectional view of the handle taken on the line 9—9 of Fig. 8;

Fig. 10 is a front elevation of the iron;

Fig. 11 is a transverse section on the line 11—11 of Fig. 8;

Fig. 12 is a plan view of the handle.

Referring to the drawings by reference-characters, 20 designates the shell of the iron, which is desirably cast in a single piece, with an opening at the rear end. Fitting into the shell is a metal heating-element-carrier 21, this carrier being in the form of an inverted shell having fastened in it a body of insulation 22 channelled to receive the electric heating-wire 23, which wire is connected in the usual manner, at the rear of the iron, to a pair of contact-pins 24.

The carrier 21 rests upon the bottom plate of the shell and extends to near the forward end thereof. The rear end of the carrier is bevelled outwardly and upwardly on its upper side, at 25, and adapted to wedge against a similarly-bevelled surface 26 formed on the inner top edge of the shell 20. The side edges of the carrier are provided with outwardly-bevelled surfaces 27 which wedge against similarly-bevelled surfaces 28 formed on the vertical edges of the shell 20. The carrier is removably held in the body-shell 20 by means of a screw 29 tapped through the top wall of the shell and having its lower end engaged in a depression in the top face of the carrier 21. This screw inclines downwardly and forwardly so as to force the carrier forwardly into the shell. In this way, the bevelled surfaces 25 and 27 are solidly wedged against the bevelled surfaces of the shell, thus tightly closing the opening in the shell to thereby prevent the escape of heat from the interior of the shell. At the rear end, the bottom-plate of the shell extends rearwardly to form a shelf 30 and the carrier extends rearwardly and rests upon this shelf, thereby insuring a tight closure and a substantial support for the carrier as well as the maximum ironing-surface at the heel of the iron.

For the purpose of preventing escape of heat, I interpose between the carrier-shell 21 and the body-shell 20 a sheet of asbestos 31, which extends over the entire top-wall of the shell and down the full width of the two side-walls of the shell. The forward edge of this sheet of asbestos extends to the forward edge of the body-shell so as to be clamped between the carrier-shell 21 and the body-shell 30 when the carrier-shell is forced inwardly by the screws 29. To further confine the heat to the ironing-surface of the body, I thin the side-walls of the body by forming interiorly thereof longitudinal grooves 32, one of these grooves being at the corner formed by the side-walls and the bottom-plate of the iron, and the other groove being in the corner formed between the top-edges of the side-walls and the top-wall of the body. These grooves extend all around the interior of the iron-shell. They reduce to a minimum the metal at these points, to thus interfere as much as possible with the conduction of heat upwardly away from the ironing-surface of the body. In this way, I prevent waste of

heat and also provide for keeping the top part of the iron cool, especially the handle.

For ease of assembling and also for repairing purposes, I make the porcelain insulation-body 22 detachable from the shell 20. This porcelain block snugly fits the shell 20 throughout the length thereof and at its forward end it is provided with an upward projection 33 which extends up into a neck 34 formed on the shell 21, and at two or more points I provide the shell 21 with inwardly-extending screws 35 which engage in notches formed in the porcelain body, to thus lock the body removably in the shell. By partly unscrewing the screws 35, the porcelain body will drop out of the shell, since the forward part of the porcelain body is supported entirely upon the inner ends of the screws.

It is desirable that the point of the iron shall be kept hotter than the back part of the iron, and, in order to accomplish this, I provide for the production of more heat at the point than at the rear part of the iron. I do this by enlarging the heating-wire 23 at 36, i. e., about midway its length, so that these enlarged coils will lie in grooves at the point when the wire is properly placed in the confining-channel in the porcelain block. In this way, the heating-wire (which is preferably nichrome) is caused to give out a greater degree of heat at the point than at the back part of the iron. Instead of a coiled-wire heating-element, I may of course use a heating-band or ribbon or wire of any other type; I illustrate a flat ribbon in Fig. 6.

The handle, as shown in Figs. 8 to 12, consists of a metal plate 37 fastened to the top of the shell and having its bifurcated ends bent upwardly to form a pair of upstanding flat-sided arms 38 at each end, these arms being separated. Connecting these upstanding arms is a series of plates 39 made of wood, bakelite or other heat-insulating material. The ends of these plates are fastened to the upstanding ends of the arms by means of horizontal screws 40 and they are also connected together, for structural strength, midway their ends by means of another screw 41. These plates are separated from each other by bosses 42 formed at the points where the screws pass through the plates. In this way, a rigid handle is provided and at the same time sufficient ventilation is secured to prevent the handle becoming too hot to comfortably manipulate. At each end, the plates are provided with down-turned ends 43 to form finger-guards, to thus prevent the fingers of the user touching the metal parts 38. The inner edges of these down-turned parts 43 extend inwardly beyond the adjacent edges of the metal parts 38, and these inner edges are concaved for comfort and appearance.

It will be understood that the bosses 42 are integral with the plates 39 and that they provide for supporting the plates to thus insure cooling ventilation. The bosses carried by the outer one of the plates 39, at the end-screws 40, extend through holes in the shank-plates 38, so that all danger of the metal screws 40 contacting with the plates 38 is avoided, thus preventing heat being directly conducted to the handle-plates from the metal plates 38. The outer plates 39 are made exactly alike, so that they will be interchangeable, thus contributing to inexpensiveness of manufacture and assembling. The plates are made of material which is more or less elastic—bakelite, for instance—so that, when the screws 40 and 41 are tightened, they will be somewhat under tension, thus tending to lock the screws against loosening.

It will be observed that a wide range of modifications of the iron proper as well as the handle is possible without departing from the spirit of my invention.

The channels in which the heating-wire is located are formed by ribs 44 formed integral with the porcelain body 22. To hold the heating-wire in the channels, I provide at suitable points along the ribs lugs 45 which project into the channels and form a lock to lock the wire in the channels. In the wall of the rib opposite each lug 45 is a curved depression 46; this is to permit the wire to be pressed down around the lug to get it underneath the same. In inserting the wire in the channels, the coil is temporarily bent at a point coincident with the lug so that it will pass down in the curved notch 46, and then, when the coil is beyond the inner end of the lug 45, it is released and it then straightens itself so as to lie under the lug. The wire can be removed from the channels in the same manner. In this way, I provide a secure means for locking the wire against accidental jarring out of the channels and at the same time enable it to be readily removed from the channels when desired. It is desirable that the diameter of the coil shall be greater than the distance between the face of the lug 45 and the straight face of the opposite wall, so that, when the wire-coil straightens out, it will be impossible to pass the lug.

What I claim as new is:

1. An electric sad iron consisting of a shell open at its rear end, the top as well as the vertical edges of said shell having edges which incline inwardly and forwardly, a heating-element-carrier adapted to be inserted in said shell and having at its rear end vertical as well as top bevelled surfaces adapted to wedge against said bevelled surfaces of the shell, and means carried by the shell for forcing said carrier downwardly and inwardly.

2. An electric sad iron consisting of a shell open at its rear end, the top as well as the

vertical edges of said shell having edges which incline inwardly and forwardly, a heating-element-carrier adapted to be inserted in said shell and having at its rear end vertical as well as top bevelled surfaces adapted to wedge against said bevelled surfaces of the shell, and means carried by the shell for forcing said carrier downwardly and inwardly, the bottom-plate of said shell being provided with a rearwardly-extending shelf and the carrier being provided with a rearward extension resting on said shelf.

3. An electric sad iron consisting of a metal body-shell, a metal carrier-shell fitting removably thereinto, a porcelain carrier for the heating-element fitting into said carrier-shell, and means for removably holding the porcelain carrier in said carrier-shell embodying an upward projection on the porcelain carrier fitting into an upward neck-like portion of the carrier-shell at the rear end thereof, and one or more removable screws extending through the carrier-shell and having their inner ends engaging said porcelain body.

4. An electric sad-iron consisting of an integral cast metal shell having a bottom plate, a top wall, and connecting side walls, said shell being grooved interiorly at the junction of the side walls with the base plate and also at the junction of the side walls with the top wall to thus thin these walls at these points to thus hinder the conduction of heat to the top wall of the shell.

In testimony whereof I hereunto affix my signature.

MICHAEL A. ROLLMAN.