July 9, 1940. R. I. HUFFMAN 2,207,669

SADIRON STRUCTURE

Filed Sept. 6, 1938

Fig. 1

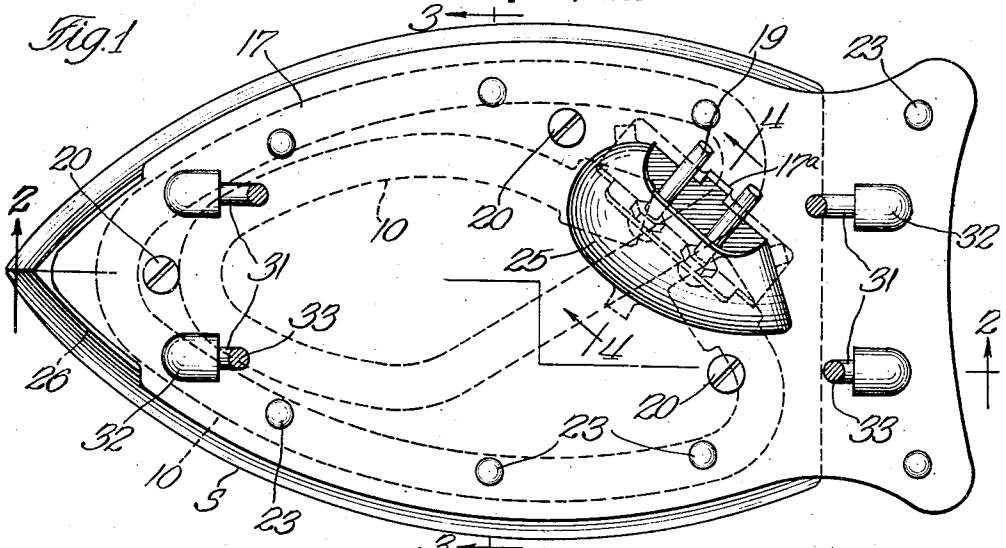


Fig. 2

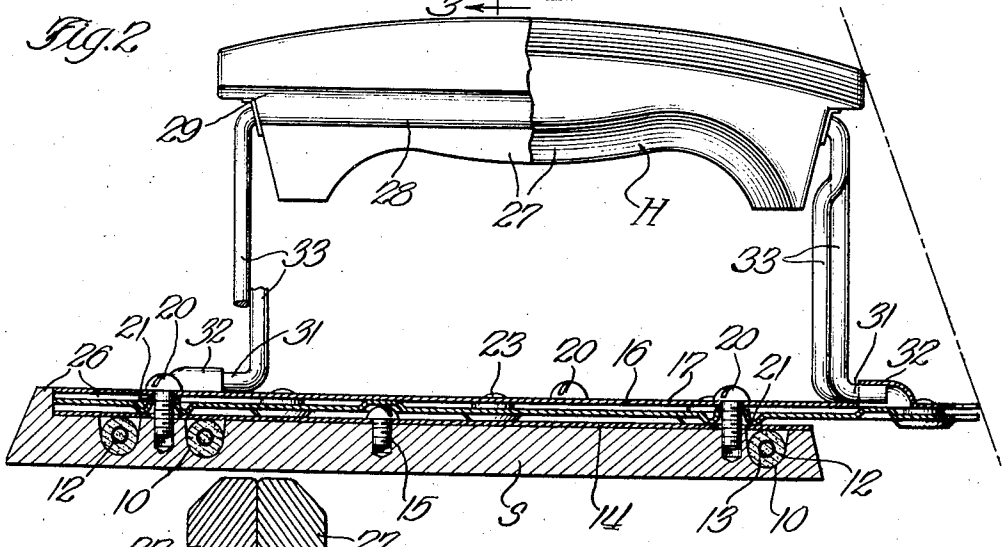


Fig. 3

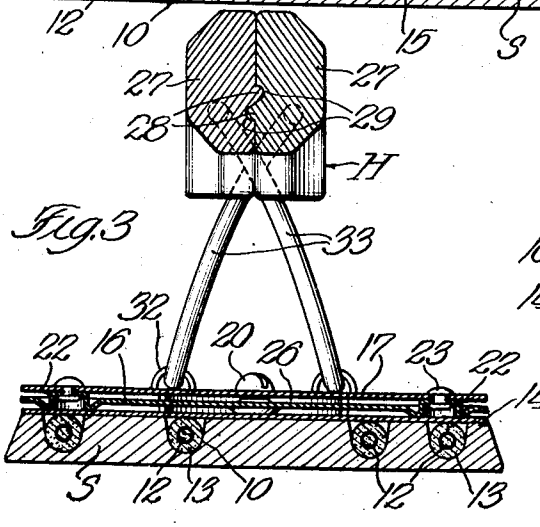
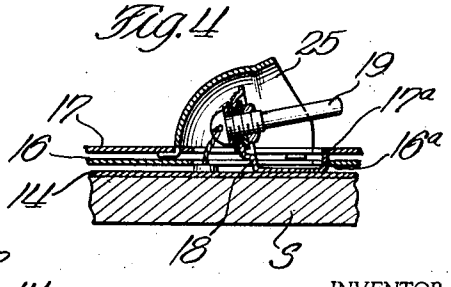


Fig. 4



INVENTOR.
Russell I. Huffman
BY Bair & Freeman
ATTORNEYS

Patented July 9, 1940 2,207,669

UNITED STATES PATENT OFFICE

2,207,669

SADIRON STRUCTURE

Russell I. Huffman, Dover, Ohio, assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Missouri

Application September 6, 1938, Serial No. 228,611

7 Claims. (Cl. 219—25)

As one of the objects of my present invention I provide a sadiron structure having handles and handle supports of comparatively inexpensive, simple construction so arranged that the handles can be folded down against the iron itself when storing the iron, the iron being so constructed that it is relatively flat instead of having the usually arched dome-like shell covering the sole plate.

My present application is a continuation in part of my co-pending application Serial No. 195,517, filed March 12, 1938 which became Patent No. 2,147,036, on February 14, 1939.

A further object of the present invention is to provide a relatively flat sadiron which can be conveniently folded to a compact position and yet in which the dissipation of heat rising from the sadiron is effectively taken care of by a plurality of spaced cover plates which provide a relatively flat cover means for the sole plate and heating element.

Another object is to provide a sole plate having in it a heating element and to provide a cover plate for the heating element and cover means for the cover plate consisting of additional plates spaced from each other and from the cover plate so as to provide between them air spaces to prevent excessive heating of the additional plates and in turn excessive radiation of heat to the user's hand, my construction being such that these objects are accomplished without the necessity of using a relatively high casing or shell over the sole plate as in usual constructions.

A further object is to provide means formed in the outermost additional plate to receive ends of a handle for the sadiron.

Still another object is to provide a nose piece on the sole plate designed to cover the space front edges of the additional plates to prevent catching of the edges thereof on fabrics being ironed.

Still a further object is to provide the additional plates extending rearwardly to act as a heel rest and thereby in conjunction with the rear end of the handle to serve as a means to support the iron in up-ended position.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawing.

Although the invention is susceptible of a variety of embodiments, it is unnecessary to fully describe and illustrate more than one in order to give a full understanding of the invention both from its structural and functional standpoints. Accordingly, I have illustrated a preferred and desirable embodiment of the invention in the accompanying drawing, in which:

Figure 1 is a plan view of a sadiron structure embodying my invention and showing the handle thereof removed with the handle supports extending up from the iron shown in section and the heating element of the sadiron shown dotted.

Figure 2 is a longitudinal sectional view on the line 2—2 of Figure 1.

Figure 3 is a vertical sectional view on the line 3—3 of Figure 1; and

Figure 4 is a vertical sectional view on the line 4—4 of Figure 1 showing the heating element terminals and their relation to cover plates of the iron.

On the accompanying drawing I have used the reference character S to indicate a sole plate and H a handle for the sadiron structure. The sole plate S is provided with a heating element groove 10 which may be of any desired or conventional shape to accommodate the heating element for the sole plate. By way of illustration I show the heating element consisting of a coiled resistance wire 12 embedded in insulating material 13 and insulated from the sole plate thereby.

The heating element is retained in position by a cover plate 14 secured to the sole plate as by a screw 15. Additional plates 16 and 17 constitute a substitute for the shell usually provided in connection with sadirons.

The terminal ends of the heating element 12 are connected in any suitable manner with terminal prongs 19 which are partially housed by a guard 25. The terminals 19 are supported by a bracket 18 resting on the cover plate 14. The bracket 18 is positioned relative to the cover plate 14 by openings 16a and 17a in the plates 16 and 17. The usual iron cord plug (not shown) is adapted to be associated with the terminals 19 for conducting electricity to the heating element of the iron.

The additional plate 16 is provided with three downwardly projecting formations 21 which serve to space the plate 16 from the plate 14. Screws 20 extend through perforations in the plate 17 and in the formations 21 and into the sole plate S for retaining the plates 16 and 17 assembled relative to the sole plate.

The plates 16 and 17 are spaced from each other by formations 22 (see Figure 3) on the plate 16. Rivets 23 extend through these formations and through the plate 17 for retaining the plates 16 and 17 assembled as a unit relative to each other. The spacing means between the plates 14, 16 and 17 provides for air circulation between the plates thus effectively dissipating heat from the sole plate to atmosphere and resulting in reduction of the radiation of the heating from the sole plate to the hand of the user during use of the sadiron.

The sole plate S has at its front end upwardly projecting flanges 26 which serve as a guard over the front ends of plates 16 and 17 to eliminate the possibility of fabrics being ironed catching thereon.

The handle H comprises a pair of handle elements 27 normally alined with each other by tongues 28 and grooves 29. Rod elements 33 extend from the ends of the handle H downwardly toward the sole plate S. The terminal ends 31 thereof are received in semi-socket like projections or formations 32 formed in the outer most or upper plate 17.

The terminal ends 31 of the rod 33 are pivoted so that the handle elements 27 can be separated and the handle swung down against the sadiron as disclosed and claimed in my patent above referred to.

The relatively flat character of the sole plate S and its cover means 14, 16 and 17 is a feature which contributes to compactness of the iron when folded. Due to the space between the plates however, heat is readily dissipated and excessive radiation to the handle H is thereby eliminated. As the iron is passed over the fabric being ironed, the air circulated over the plates carries the heat away instead of permitting it to radiate toward the handle, whereas most of the heat is reflected toward the ironing surface of the sole plate by the cover plate 14 which is preferably polished on its lower surface to aid in its heat reflecting properties. Dissipation of the heat before it reaches the handle rods 33 is also facilitated by the air space between the plates 14, 16 and 17. Since the bracket 18 and the terminal wires 12*a* of the resistance element 12 as shown in Figure 4 are located in these spaces, the dissipation of heat at this point is also facilitated. It is therefore obvious that I have provided a relatively flat cover means which approaches in efficiency the heat dissipating quality of a relatively thick hollow shell.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element, means for securing said cover means to said sole plate, a handle for said sadiron, said cover means comprising a plurality of horizontally arranged plates spaced from each other and extending throughout substantially the entire area of said sole plate to provide for air circulation between them, said sole plate having an integral, smooth faced nose piece extending upwardly to cover the front portions of said plates and said plates being notched to fit therein to thereby guard them against catching on fabrics being ironed by said sadiron structure, said cover means extending rearwardly from said sole plate to serve as a heel rest and thereby act in conjunction with the rear end of said handle as a support for the iron in upended position.

2. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element, said cover means comprising a plurality of horizontally arranged plates and extending substantially across the entire top and spaced from each other to provide for air circulation between them, and a handle connected with at least one of said plates, said cover means extending rearwardly from said sole plate to serve as a heel rest and thereby act in conjunction with the rear end of said handle as a support for the iron in upended position.

3. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element, said cover means comprising a plurality of horizontally arranged flat plates spaced from each other and open at their edges to provide for air circulation between them, said sole plate having an integral nose piece extending upwardly to cover the front portions of said plates to thereby guard them against catching on fabrics being ironed by said sadiron structure and a handle for said sadiron.

4. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element, said cover means comprising a plurality of horizontally arranged plates spaced from each other to provide for air circulation between them, inverted U-shaped depressed portions in the uppermost of said spaced plates and a handle having substantially horizontally extending projections entering said depressed portions to mount said handle on said plates.

5. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element, a handle for said sadiron structure, said cover means comprising a plurality of flat, horizontally arranged plates spaced from each other and open at their edges to provide for air circulation between them, openings in said plates and terminals from said heating element extending upwardly through said openings and exposed to the air circulated in the space between the plates.

6. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element and a handle for said iron structure, said cover means comprising three horizontally arranged plates spaced from each other to provide for air circulation between them, and means for effecting such spacing comprising projections upwardly and downwardly from the center plate of said three plates.

7. In a sadiron structure, a sole plate, a heating element therein, relatively flat cover means for said heating element and a handle for said iron structure, said cover means comprising three horizontally arranged plates spaced from each other to provide for air circulation between them, and means for effecting such spacing comprising projections upwardly and downwardly from the center plate of said three plates, said projections each comprising an annular depression formed of the plate material in one face of the center plate to provide a projection from the other face thereof, the plate material terminating in a sleeve-like projection from said first-mentioned face of said center plate and a fastening element through said sleeve-like projection and secured in said sole plate, the other two plates of said cover means each having a perforation through which said fastening element extends.

RUSSELL I. HUFFMAN.