March 17, 1942. H. U. HEDEBY 2,276,773

ELECTRICALLY HEATED IRON

Filed May 27, 1939

FIG 1.

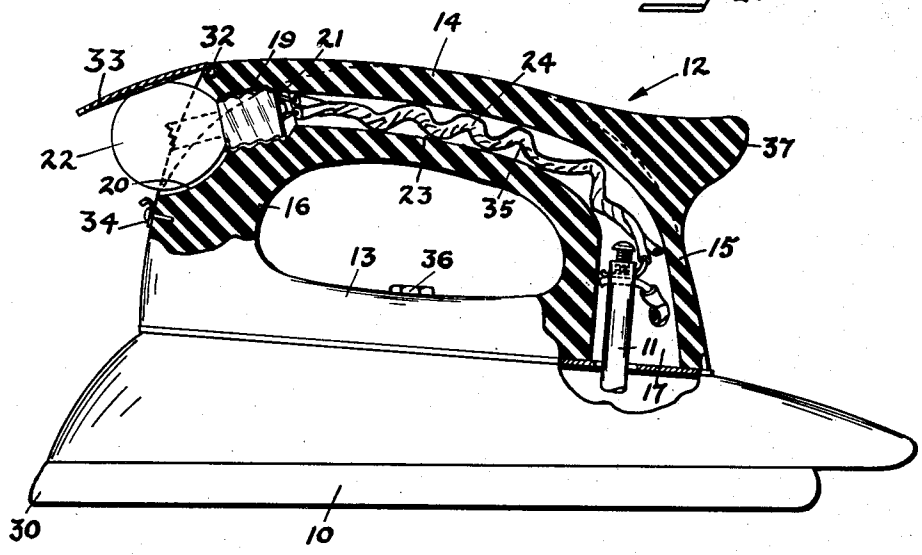


FIG 2.

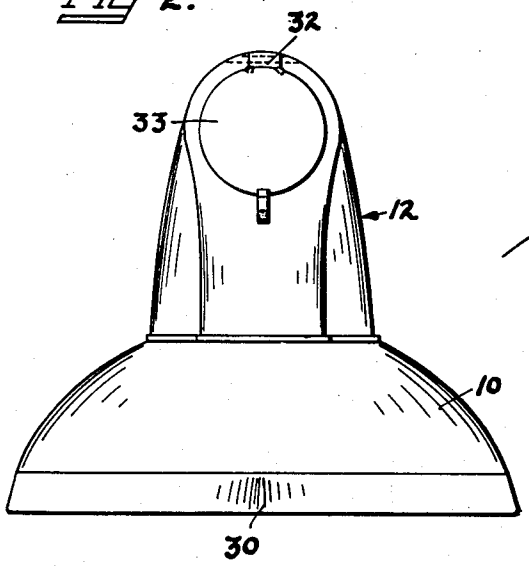
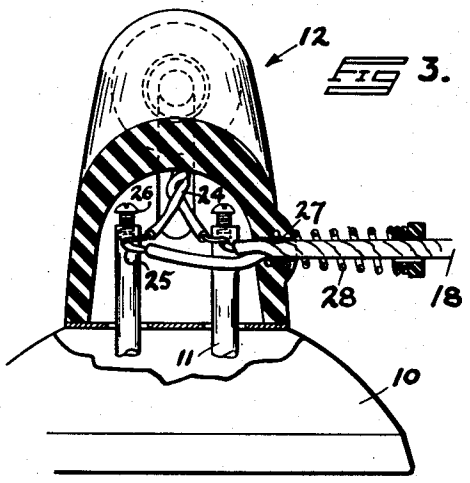


FIG 3.



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Patented Mar. 17, 1942

2,276,773

UNITED STATES PATENT OFFICE

2,276,773

ELECTRICALLY HEATED IRON

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Application May 27, 1939, Serial No. 276,143

3 Claims. (Cl. 240—2)

This invention relates to an electrically heated iron and more particularly to an improved handle structure for the iron. The primary object of the invention is the incorporation of a lighting apparatus within the improved handle structure which lighting apparatus will be operative to illuminate that portion of a surface on which the iron may be supported which is adjacent the leading tip or edge of the iron.

While heretofore various attempts have been made to incorporate illuminating apparatus for the purpose specified with the handle structure of the iron and various designs and arrangements therefor have been proposed, none have been satisfactory or practical in use, within my knowledge, and an analysis of the analogous devices of the prior art will readily show the deficiencies inherent in such prior devices. A practical difficulty has been the conducting of the current from the conductor cord supplying current to the iron to the lighting bulb. In the construction of the irons it has been common practice to provide a pair of terminal connectors extending upwardly and outwardly of the body of the iron at the rear of the handle structure, the connectors being connected with the heating element of the iron at their lower ends and being adapted to be engaged by a sliding plug connector at their upper ends. The plug was connected with the conductor cord aforementioned thereby providing a completed path for the current through the heating element. Since the plug was readily detachable from the iron it was necessary that the conductors suplying current to the light bulb be connected either from within the iron itself or to the terminal connectors adjacent the upper surface of the iron between such surface and the lower end of the plug. In either event, the heat of the iron resulted in rapid deterioration of a portion of the conductors and consequent early failure of the lighting apparatus. Aside from the above, the extension of the conductors from within or adjacent the iron proper to the bulb socket positioned at the forward end of the handle necessitated a complicated design for the handle and additional elements for the support and passage of the conductors.

It has also been proposed to position a lamp socket in the forward end of an iron handle structure and to run the current supplying conductors from the socket back through the handle and to connect the rear termini of the conductors with the conductor cord supplying current to the iron within the upper portion of the connector plug, but this is impractical since then the plug can not be detached from the iron as it is intended to be.

The present invention seeks to obviate the deficiencies of the prior art structures and it is accordingly a more specific object of the invention to provide an inexpensive arrangement for electrically connecting a light bulb socket incorporated in the handle structure of an electrically heated iron with the conductor cord supplying current to the heating element of the iron, which arrangement enables the conductors providing such connection to be positioned entirely within the handle and outside of the highly heated zone immediately surrounding the iron proper.

Another object of the invention is the provision of an improved handle structure for an electrically heated iron which structure is adapted to receive and inherently retain a light bulb socket, whereby the design and construction of the combined structure is simplified and facilitated.

A further object of the invention is the provision in a handle structure for an electrically heated iron of a recess to receive a light bulb socket and a portion of a light bulb and a hinged cover for said recess providing a closure for the same when no bulb is secured in the socket and a reflector for a bulb when the latter is secured in the socket.

Yet another object of the invention is the provision of a recess in a handle structure for an electrically heated iron to receive a lamp bulb socket and a portion of a lamp bulb secured in said socket, which recess is so oriented and positioned in the handle structure that the bulb protrudes a minimum extent from said structure while enabling substantially all of the light rays issuing from said bulb to be directed onto that region of the surface supporting the iron which is immediately adjacent a forward edge or tip of the iron.

These and other objects and advantages of the invention will become apparent from a consideration of the following detailed specification in connection with the accompanying drawing wherein there is specifically disclosed a preferred embodiment of the invention.

In the drawing:

Figure 1 is a side view of an electrically heated iron constructed in accordance with the principles of my invention, the major portion of the handle structure of the iron being shown in section:

Figure 2 is a front end view of the iron of Fig-

ure 1 showing the combined reflector and closure of the invention in closed position; and

Figure 3 is a rear end view of the iron of Figure 1, a portion of the handle therefor being broken away to illustrate the manner in which the electrical connections for the light bulb and the electric heating element is made within the handle structure.

Referring to the drawings, reference numeral 10 indicates the body of an electrically heated iron which may be of more or less conventional construction, being provided with an electric heating element, not shown, and a thermostatically controlled switch, not shown, for controlling the flow of current to the heating element. Electric current is conducted to the heating element through conducting posts 11 which are secured at their lower ends within the body 10 of the iron in any suitable manner and which extend upwardly a substantial distance above the upper end of the body. As shown in Figure 1, posts 11 extend upwardly from the rear end portion of the iron body 10 in order that they might coincide with the rear vertical support of a handle structure now to be described.

The handle for the iron body 10, indicated generally by the reference numeral 12, may conveniently consist of a lower horizontal web or base 13, a hand grip portion 14, an enlarged rear vertical web or support 15 and a front portion 16 interconnecting the front ends of the hand grip portion 14 and the lower base or web 13. Handle structure 12 is preferably of unitary construction, being molded from suitable plastic or resinous material in any manner well understood in the art. A cavity 17, extending upwardly from the lower wall of the handle structure, is provided in the rear section 15 to accommodate the conductor posts 11 and the terminal ends of the conductor cord 18 when the handle is applied to the iron body. A recess having an integral cyindrical portion 19 and an outer concave portion 20 is provided in the forward end of the hand grip portion 14 and the upper end of the front vertical web 16 to receive a lamp bulb socket 21 and a lamp bulb 22, the socket being positioned in the cylindrically shaped portion 19, and a portion of the bulb 22 fitting within the concave portion 20 of the recess.

Interconnecting recess 19—20 and cavity 17 is a bore 23 extending substantially centrally of the hand grip portion 14 of the handle structure. A conductor cord 24 connected at one end with the light bulb socket 21 is located in bore 23 and is adapted to be connected at its other end with the terminals of the conductor cord 18 which, as explained above, are located in the cavity 17. This may conveniently be accomplished, in accordance with the preferred embodiment of the invention, by providing a transverse bore 25 in each of the posts 11 adjacent the upper ends thereof to receive the ends of the cords 18 and 24. These ends may be clamped to each other and secured within the bores and screws 26, screw-threadedly received in threaded bores extending from the outer ends of the posts 11 to the transverse bores 25. Conductor cord 18 extends into cavity 17 through an aperture 27 provided in the side wall of the cavity and, in accordance with usual practice, conductor cord 18 is encased in a coil spring 28 for a portion of its extent outwardly of the side wall mentioned to maintain the cord in outwardly extending position.

The longitudinal axis of the cylindrically shaped recess 19 is inclined downwardly, as shown in Figure 1, to lower the outer bulbous glass portion of the light bulb 22, further recessing the same into the handle structure and minimizing the protuberance of the lamp bulb. Recesses 19 and 20 are of such depth that a line drawn from any point of the filament of the bulb 22 to the tip 30 of the iron body 10 will pass closely outside of the outer edge 31 of the recess 20, thereby enabling substantially all of the rays issuing from the light bulb to be available for illumination of the desired area while the extent of projection of the bulb 22 outside of the general peripheral contour of the handle structure is kept to a minimum.

Extending transversely of the outer edge of recess 20 at the upper end thereof is a hinge pin 32 on which is swingably mounted a concaved reflector and closure plate 33. A suitable spring, not shown, may be associated with the pin 32 and plate 33 to bias the latter to downward position and when a bulb, as 22, is inserted in the socket 21 the plate 33 will rest on the upper outer surface of the bulb to provide, in effect, an effective reflector for directing rays of light issuing from the filament of the bulb onto the area in front of the front tip 30 of the iron body 10 and a shield preventing the upward travel of the rays into the eyes of the user of the iron. A spring clip 34 is secured to the handle structure at a point diametrically opposite the outer edge of the recess 20 from the hinge pin 32 and is adapted, when no bulb is positioned in the socket, to engage the outer extremity of the plate 33 to secure the plate in position, closing the outer end of the recess 20. It should be apparent, however, that if the spring aforementioned is operative to yieldingly maintain the plate 33 in closed position the spring clip 34 would not be required. It should now be apparent that I have provided improved handle structure for an electrically heated iron incorporating a lighting apparatus which may or may not be used at the will of the user of the iron and which, when not in use, provides means sealing the opened outer end of the recess normally receiving the lamp bulb. In the latter situation plate 33 appears merely as a decorative insert for the handle and its obvious utility is that it prevents the entrance of the fingers of the user or of other objects into the socket 21, which socket is electrically connected at all times when the iron is in use.

Recess 19 may be provided with a screw-threadedly shaped wall to screw-threadedly receive the socket 21 with a tight binding fit and in assembling the apparatus it is only necessary to screw thread the socket 21 into the recess so provided with the aid of any tool available for the purpose. It should, of course, be obvious that the conductors 24 are first attached to the socket 21 and threaded through the bore 23 before the socket is positioned within its recess 19. Bore 23 is of sufficient volume to accommodate a length of conductor cord 24 sufficient to allow the connections to be made with the posts 11 when the handle 12 is removed from the posts. For this latter purpose, conductor cord 18 is threaded inwardly through the spring 28 and aperture 27. With the handle in such detached upper position the connection between the cords 18 and 24 and the posts 11 may very readily be made in the manner indicated above and as the handle is dropped to proper position on the iron body 10 the excess length of cord 24 will simply loop within the rear portion of the bore 23 as

indicated at 35. When the connections are once made and the handle is positioned on the body 10 the excess length of cord 18 within cavity 17 is removed by threading cord 18 outwardly through aperture 17 and spring 28. It should, of course, be obvious that, if desired, a large aperture having a removable closure might be provided in any of the side walls of the cavity 17 to facilitate the making of the electrical connections above described.

Handle 12 is fastened to the iron body 10 by any suitable expedient, as the bolt 36, and it is preferably provided with a rearwardly extending lug 37 to retain the loops of the conductor cord 18 when the latter is wound about the handle and at the front end of the handle the light bulb 22 will perform a similar function, i. e., the retaining of the loops of the conductor cord.

It should now be apparent that I have provided an improved construction for a handle for an electrically heated iron, which handle incorporates therein a lighting apparatus including reflecting and electric connecting means which fully accomplishes the objects initially set out, since the whole of the conductor cords 24 and 18 are removed a substantial distance from the highly heated zone immediately surrounding the iron proper. The deficiency inherent in the prior devices regarding the rapid deterioration of the electric connecting means for the light is obviated. The lighting apparatus is incorporated in such manner that the usefulness or appearance of the iron is not detracted from. The identical handle structure is adapted to be employed either with or without the lighting apparatus depending on the desires of the user. The embodiment specifically described above should be considered as illustrative only as obviously many changes, aside from those indicated, may be made therein without departing from the spirit or scope of the invention.

What I claim is:

1. In combination with an electrically heated sad iron, a handle therefor comprising a body portion having a generally horizontal hand grip portion and vertically extending portions depending downwardly from the ends of said hand grip portion, a recess extending rearwardly from an end wall of said body and being provided with a concaved portion for the partial reception of the bulbous glass part of a light bulb and an inwardly extending portion for the reception of a light bulb socket, a light bulb in said socket, the filament of said bulb being so located that any line interconnecting the forward tip of said iron and any part of said filament passes closely outside the lower outer edge of said recess, a second recess extending upwardly from a lower surface of said handle to receive portions of current conducting members extending upwardly from the heating body of said iron, and a passageway for a current conductor interconnecting said recesses.

2. In combination with an electrically heated sad iron, a handle therefor comprising a body having a hand grip portion and a vertically extending portion depending downwardly from the rear end of said hand grip portion, a recess in said body extending rearwardly from the front end of said hand grip portion and provided with a concaved portion for the reception of a substantial part of the bulbous glass part of a light bulb and an inwardly extending portion for the reception of a light bulb socket, a second recess in said body extending upwardly from a lower surface, of said downwardly extending portion thereof and adapted to receive portions of current conducting members extending upwardly from the heating body of said iron, and a current conductor housed entirely within the outer surface of said body and extending from said socket to said second mentioned recess.

3. A device according to claim 2 further including a cover hinged on said body above said first mentioned recess and adapted to close said first mentioned recess, said cover being provided with a reflecting inner surface.

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