

H. C. NEWMAN.
ELECTRIC LAUNDRY IRON.
APPLICATION FILED JULY 20, 1908.

936.556.

Patented Oct. 12, 1909.

Fig. 1.

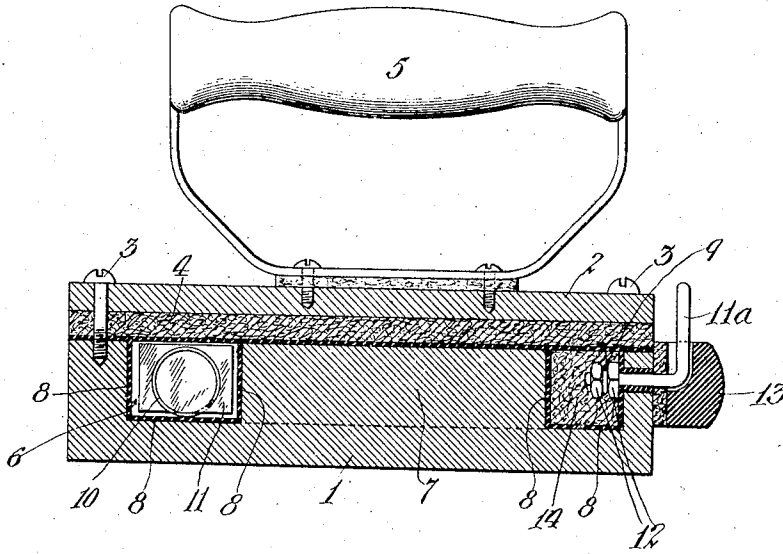


Fig. 2.

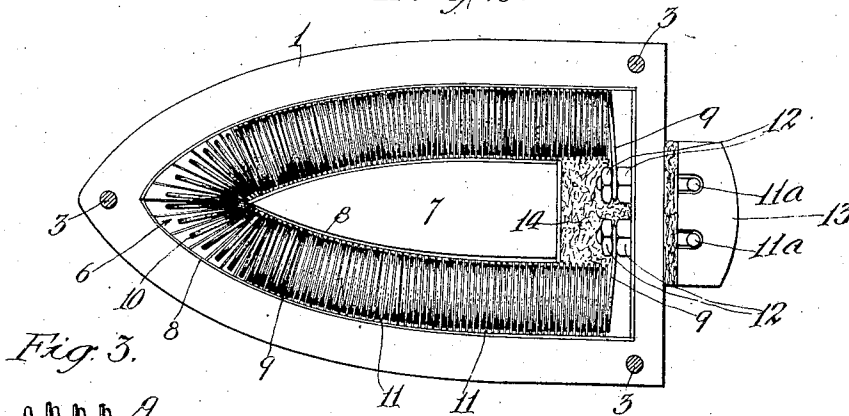


Fig. 3.

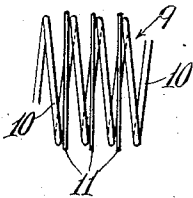
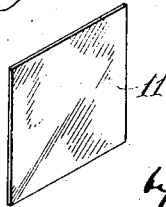


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRY C. NEWMAN, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF FIFTY-ONE ONE-HUNDREDTHS TO J. J. JENKINS, OF LOS ANGELES, CALIFORNIA.

ELECTRIC LAUNDRY-IRON.

936,556.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed July 20, 1908. Serial No. 444,554.

To all whom it may concern:

Be it known that I, HARRY C. NEWMAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Electric Laundry-Iron, of which the following is a specification.

This invention relates to electric laundry irons and the main object of the invention is to so construct the heating element that if part of it becomes over heated and fuses the heating element as a whole will not be short circuited but will continue to operate, the fused part still serving to conduct the current so that the current will continue to pass through the circuit of the heating element and the resistance of that part which has not fused will supply the heat.

Another very important object is to enable the heating element to be readily removed without tools from the body of the iron after the cover has been removed.

Referring to the drawings:—Figure 1 is a vertical longitudinal section through the laundry iron, the handle being in elevation. Fig. 2 is a plan view with the cover removed. Fig. 3 is an enlarged detail, in plan, of a few coils of the heating element, showing the insulating coil spacers between the coils. Fig. 4 is a perspective view of a coil spacer.

The laundry iron comprises a body 1 to which a cover 2 is detachably fastened by screws 3, there being an intervening layer of asbestos 4 between the cover and body. A handle 5 is attached to the cover. The body 1 has a continuous channel 6 forming a wedge shaped core 7 in the center of the iron, which core being a considerable mass of metal helps to retain heat in the iron for a considerable time after the iron is disconnected from the circuit.

The bottom and side walls of the channel 6 are lined with suitable insulation such as mica 8. Arranged in the channel 6 is the heating element 9 which consists of a single resistance wire formed with coils 10. The coils of wire are bare but are insulated from the body of the iron by the insulating linings 8. The respective coils 10 of the wire are insulated from each other by coil spacers 11 which are inserted flatwise between the coils as clearly shown in Figs. 2 and 3. The coil spacers 11 are rectangular sheets of mica or other insulating material and substantially fit the cross section of the channel 6.

The coil spacers 11 and coils 10 fairly fill the channel 6 but fit rather loosely so that the coil may easily be raised out of the channel by the fingers. By referring to Fig. 3 it will be noted that the lower runs of the coils 10 cross under the lower edges of the coil spacers 11 so that in lifting the coils out of the channel the coil spacers are also necessarily lifted. The two rear ends of the wire heating element 9 are respectively attached to terminals 11^a and secured by nuts 12, the terminals 11^a passing through the rear wall of the body 1 and being bent upwardly to receive the connection plug not shown. A protector 13 secured to the back end of the body partially houses the terminals 11^a and protects them, also serving as a stop for the switch plug not shown. Asbestos 14 is packed in the channel 6 to fill the space between the rear ends of the heating element.

If in use the coils should over heat and fuse at any point I have found in practice that the molten metal runs together and still keeps the unfused coils electrically connected. The greatest heat will generally be developed at the side portions of the coil where the turns of wire are closest together, and least opportunity is given for carrying away the heat so that fusing of the coil will take place at these portions, if at all, and the turns being close together and in contact with the mica at these portions, it follows that the turns of wire will contact and fuse together immediately on burning out by overheating. If the fused metal were allowed to contact with the body of the iron it would of course short circuit the heating element, but the fused metal is prevented from this by the insulating lining 8.

By removing the cover the heating element may easily be lifted out of the channel for examination, and by detaching its ends from terminals 11^a it may be entirely removed and a new heating element quickly substituted.

What I claim is:—

1. In an electric heating utensil, a body, a heating element in said body comprising a coiled wire, and coil spacers of insulating material removably inserted between the respective coils of the wire, each spacer resting on the lower run of the coil, and the lower runs of the coils crossing under the lower edges of the coil spacers.

2. In an electric heating utensil, a body having a channel forming a wedge shaped core, insulating material lining the walls of the channel, a heating element removably fitting in said channel comprising a coiled wire, and insulating coil spacers between the respective coils of wire, the turns of the coil of wire and the insulating spacers substantially fitting within the lining in the afore-said channel and retained in place by said lining, and terminals at the rear end of the body, the respective ends of the coiled wire being attached to the terminals.

3. In an electric heating utensil, a body having a channel, insulating material lining the walls of the channel, a heating element removably fitting in said channel comprising a coiled wire, and insulating coil spacers between the respective coils of wire, said coil spacers being rectangular sheets of insulating material substantially fitting transversely in the channel, and resting on the lower runs of the coils, said lower runs crossing under the insulating spacers.

4. In an electric heating utensil, a body having a channel forming a wedge shaped core, insulating material lining the walls

of the channel, a heating element removably fitting in said channel comprising a coiled wire, insulating coil spacers between the respective coils of wire, terminals at the rear end of the body, the respective ends of the coiled wire being attached to the terminals, and insulation filling the channel between the rear ends of the coiled wire.

5. In an electric heating utensil, a body having a channel, insulating material lining the walls of the channel, a heating element removably fitting in said channel comprising a coiled wire, insulating coil spacers between the respective coils of wire, terminals at the rear end of the body, the respective ends of the coiled wire being attached to the terminals, and a protector attached outside the body for protecting and housing the terminals.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 13th day of July 1908.

HARRY C. NEWMAN.

In presence of—

G. T. HACKLEY,

FRANK L. A. GRAHAM.