Nov. 6, 1934. C. C. MAURER 1,979,631

FLATIRON

Filed Oct. 28, 1933

Fig. 1.

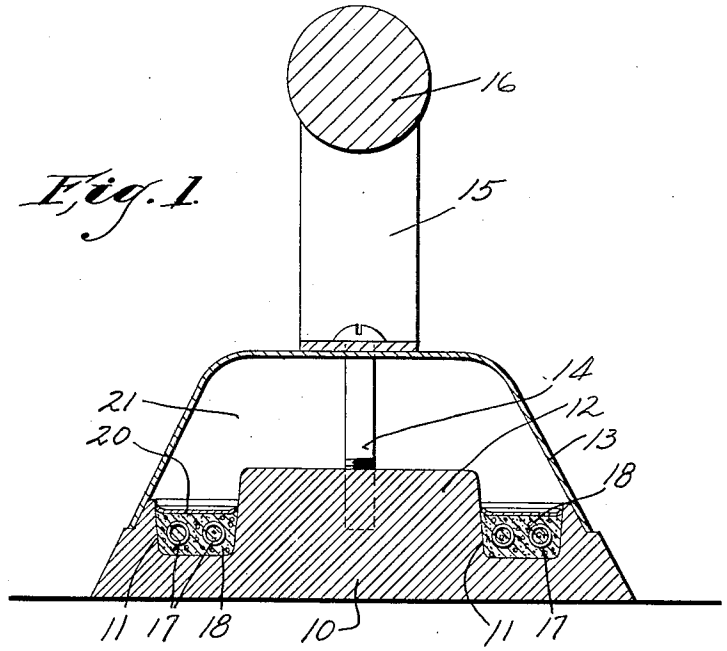
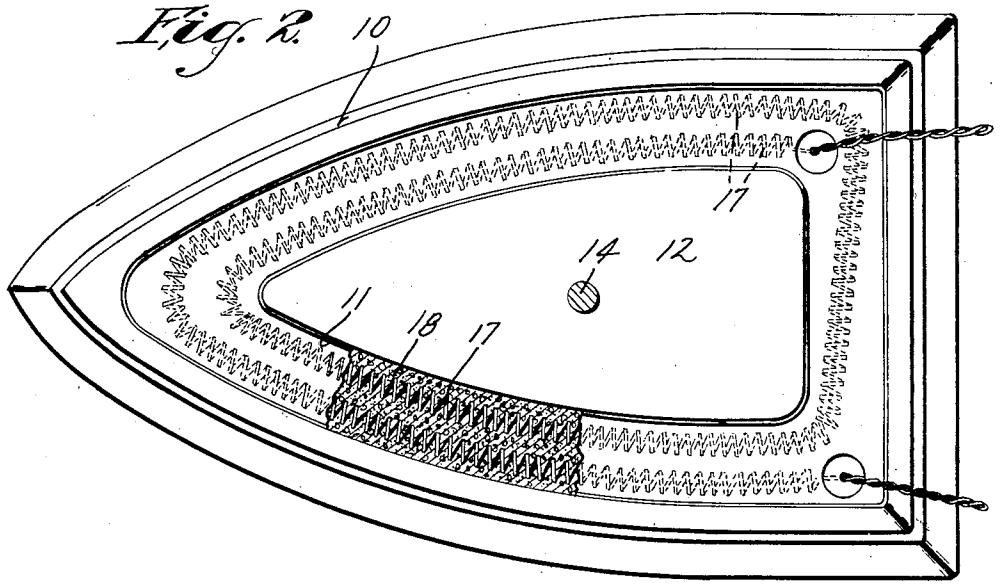


Fig. 2.



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FLATIRON

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Application October 28, 1933, Serial No. 695,661

5 Claims. (Cl. 219—25)

This invention relates to improvements in flat irons.

The object of my invention is to provide an improved construction in flat irons, whereby to provide a new application of heat to the working surface of the iron, and at the same time to protect the electrical resistance unit used to heat said surface.

More specifically stated, it is the object of my invention to provide in an electric flat iron a construction of a sole plate, wherein the electrical resistance is associated more directly with the working surface, and means are provided for deflecting the generated heat to the working surface of the iron rather than for storing up heat in the large mass of material of which the sole plate is made.

Another object of the invention is to provide an armor for an electrical resistance unit and its associated dielectric to protect these portions of the iron while it is in use.

In the drawing:

Figure 1 is a vertical lateral section through a flat iron constructed in accord with my invention.

Figure 2 is a plan view of the sole plate and the armor plate in my improved iron, with the portion of the armor and the dielectric broken away to exhibit the electrical resistance unit embedded in the dielectric.

Like parts are designated by the same reference characters throughout the several views.

In my improved flat iron, the amount of stock in the form of cast iron, cast aluminum, or other metal or suitable material is minimized, whereby to associate an electrical resistance element as close to the working surface of the flat iron as is possible, in keeping with the requirement that the entire working surface of the iron shall be as nearly uniformly heated as possible.

I, therefore, provide a sole plate 10, channeled deeply and somewhat tapered, as shown at 11, and I form this channel about a central raised core 12, which is integral with the sole plate, and which forms a portion for attachment of the superstructure of the iron, which comprises a clamp plate or cover 13, attached to the core 12 by means of clamp screw 14. This clamp screw 14 also forms an attaching means for handle bracket 15 and handle 16.

In the channel I provide electrical resistance unit 17, embedded in a dielectric 18, comprising a cementitious material, crystallization of which is initially promoted by the heating of the resistance unit 17 itself, according to practice well-known in the art.

The completely hardened and crystallized dielectric 18 is, of course, frangible and subject to possible abrasion while in use, unless special means for the protection thereof are provided, and I have found that my new construction for flat irons, including the channel 11, enables one to provide an armor 20 for the dielectric 18 and the resistance unit 17. This armor 20 performs the function of not only protecting the dielectric against abrasion and fracture, but it also acts as a deflecting plate for heat generated by the resistance unit 17, with the result that the armor plate 20 tends to concentrate the flow of heat downwardly rather than upwardly.

It will be noted that the cover 13 houses air within the space 21 above the sole plate and above the armor plate 20, so as to assist in the deflection of heat downwardly through the sole plate.

In addition to this function in the completed iron, it will also be noted that the armor plate 20, having been pressed into position before the cementitious dielectric has hardened or crystallized, the crystallizing process is slow with a consequent enhancement of the quality of the dielectric, and likewise the cementitious material is intimately bonded with the channel walls and the armor plate to produce a coherent unit not easily disorganized by shaking or vibration, and I have found that heating elements produced in this manner are longer lived probably by reason of the intimate bonding and confirmation of the various parts entering into my improved construction.

The armor 20 may comprise any suitable material which will deflect the heat from the resistance unit 17 downwardly and will also be sufficiently ductile and yet resilient so that the plate, when formed to fit the upper part of the channel 11 may be swaged into position as indicated most clearly in Figure 1, and remain there tightly wedged into the channel, despite changes in temperature and despite physical shocks to which the flat iron may be subjected.

I claim:

1. In a flat iron, the combination with a sole plate provided with a tapered channel and a central raised portion, of a cast dielectric and a resistance embedded therein in said channel, and an armor plate wedged in the channel contiguous to the dielectric.

2. In a flat iron, the combination with a sole plate provided with a tapered channel, of a cast dielectric and a resistance embedded therein in

said channel, and an armor plate wedged in the channel contiguous to the dielectric.

3. In a flat iron, the combination with a sole plate provided with a tapered channel and a central raised portion, of a cast dielectric and a resistance embedded therein in said channel, and an armor plate wedged in the channel.

4. In a flat iron, the combination with a sole plate provided with a channel, of an electrical resistance element in the channel provided with a dielectric material thereabout, and an armor for said resistance element and said dielectric comprising a deformable resilient plate initially wider than the channel and transversely deformed therein in pressure relationship to the side walls of the channel.

5. In a flat iron, the combination with a sole plate provided with a channel, of an electrical resistance element in the channel provided with a dielectric material thereabout, and an armor for said resistance element and said dielectric comprising a resilient plate initially wider than the channel in pressure relationship to the side walls of the channel by being transversely deformed therein under downward pressure.

CHARLES C. MAURER.