

Feb. 9, 1971

H. PICHL
ELECTRIC IRON

3,561,144

Filed July 9, 1969

6 Sheets-Sheet 1

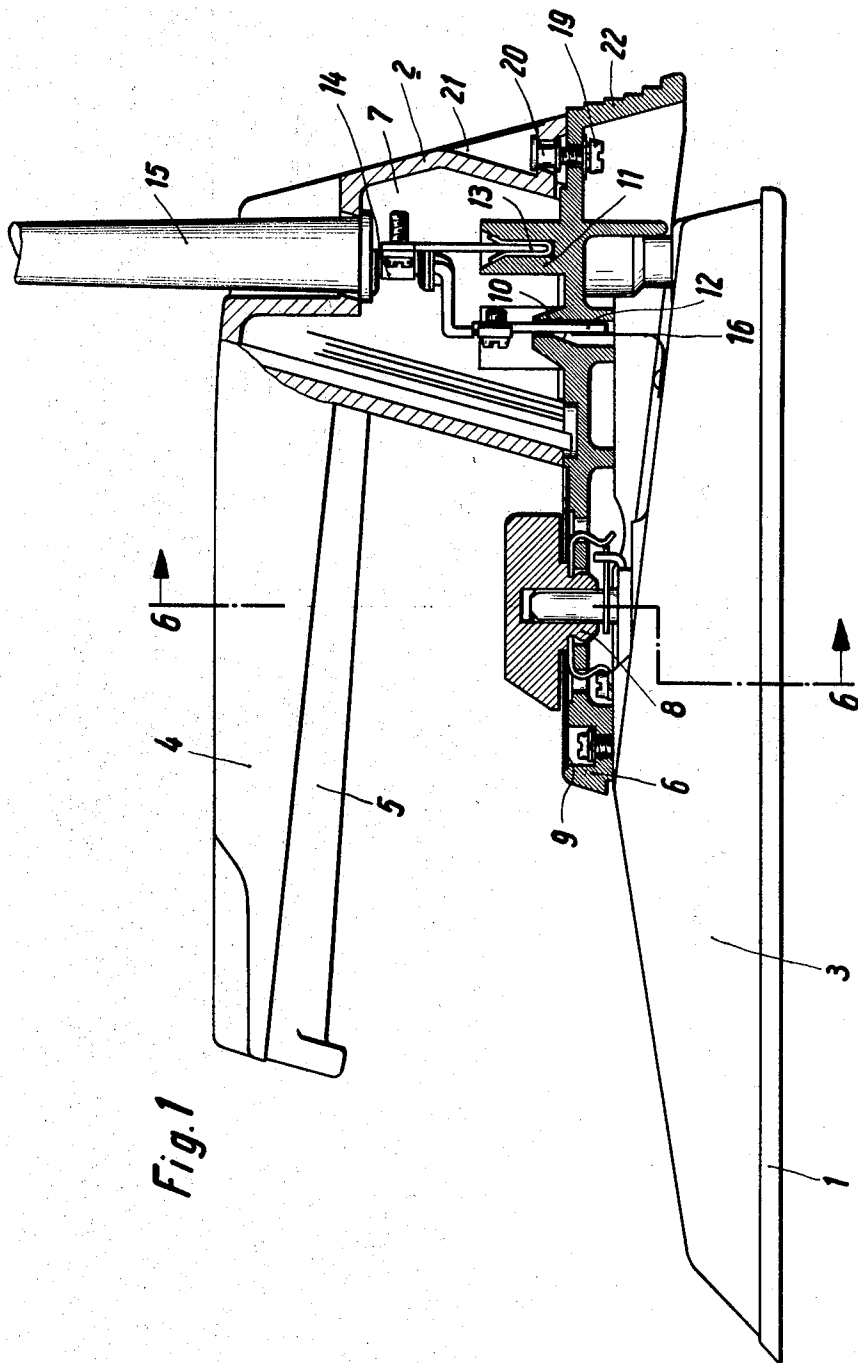


Fig. 1

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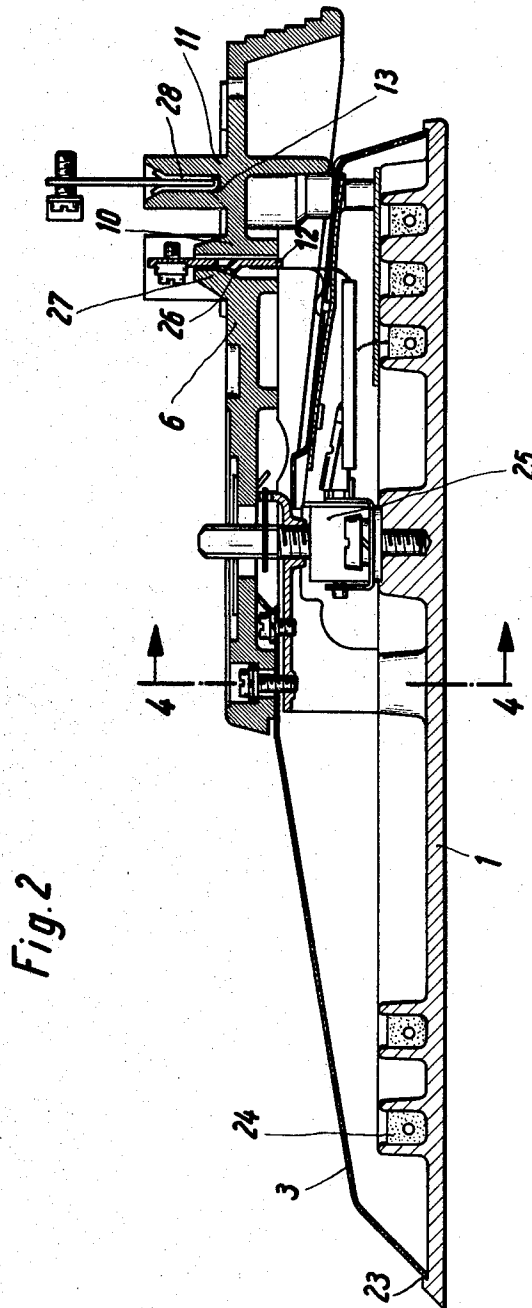
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6 Sheets-Sheet 2



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6 Sheets-Sheet 3

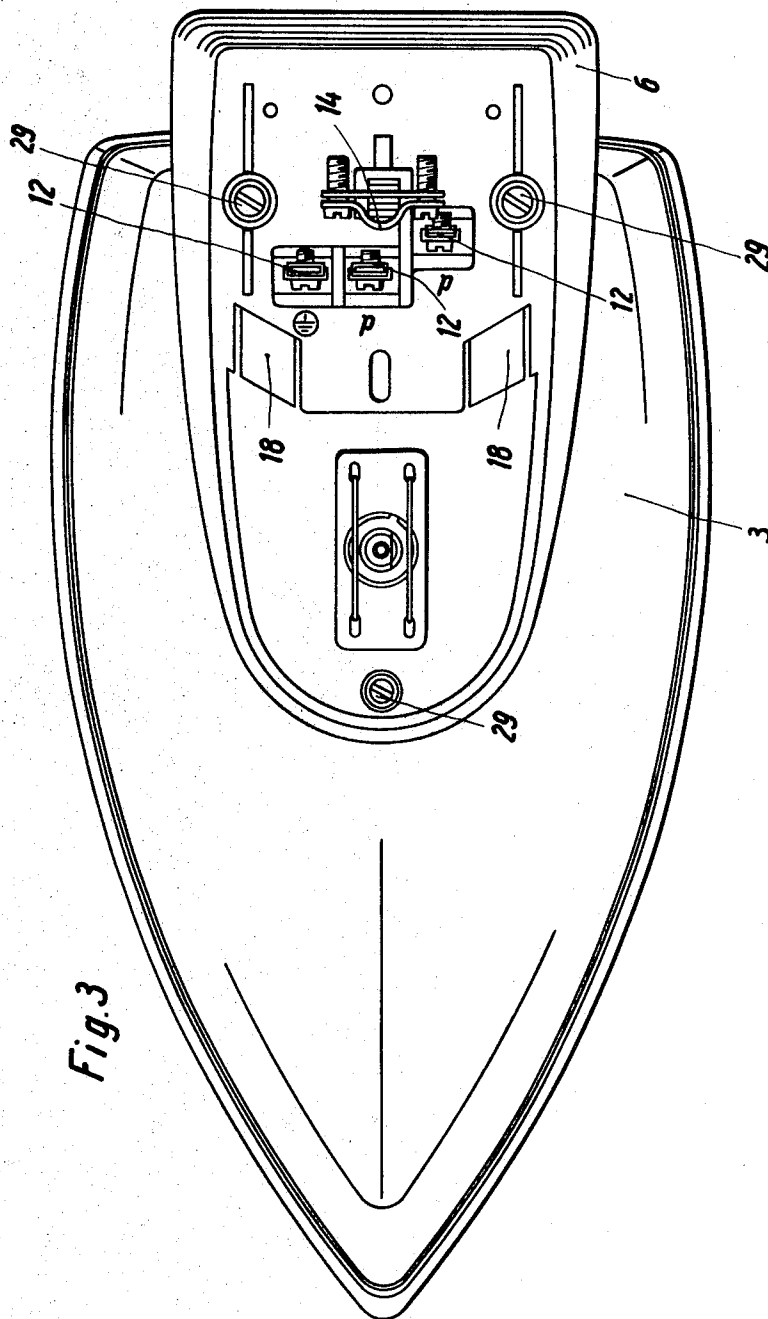


Fig. 3

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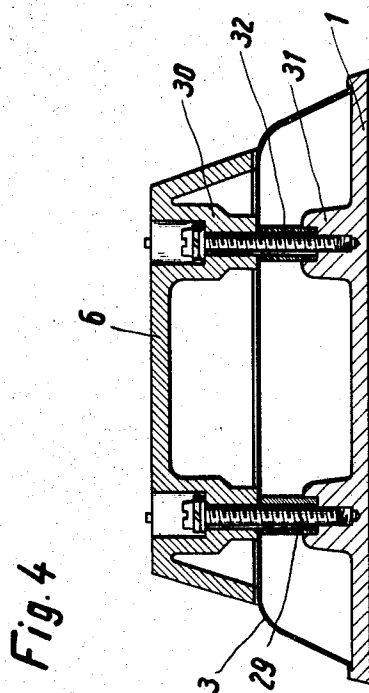
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6 Sheets-Sheet 4



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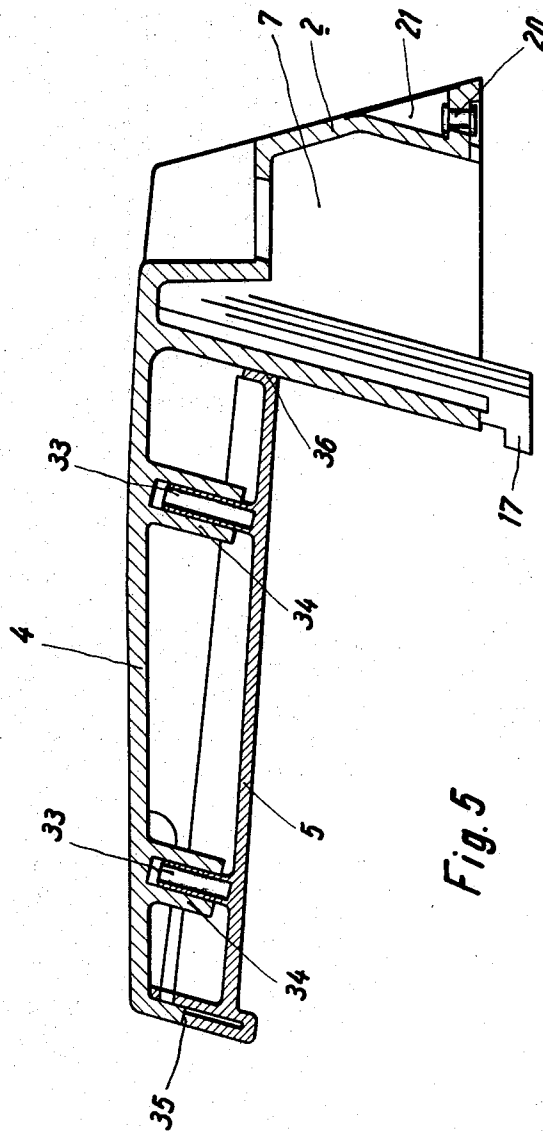
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6 Sheets-Sheet 5



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6 Sheets-Sheet 6

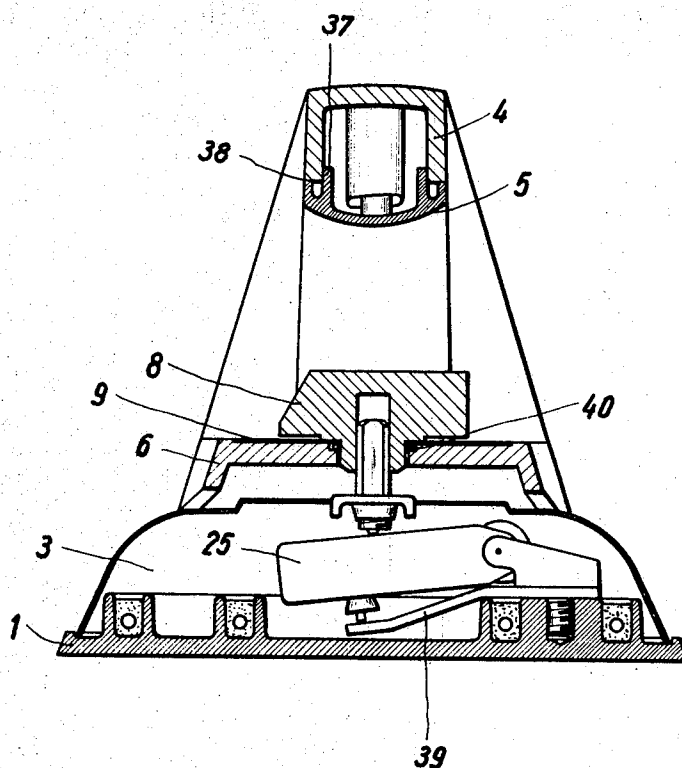


Fig. 6

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ELECTRIC IRON

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A 6,847/68

Int. Cl. D06f 75/34

U.S. Cl. 38—92

4 Claims

ABSTRACT OF THE DISCLOSURE

The invention is concerned with electric irons and is directed primarily to the handle which has upper and lower portions which fit one within the other and are secured to a cover plate by a single screw and mating projection and recesses. Cavities are provided in the handle for electrical connections, the cavities being closed at the base of the handle by the cover plate.

The invention relates to an electric iron with a multiple-part plastics handle in which cavities are provided for the electrical connections.

In known irons of this kind, relatively heavy expense is still necessary on individual parts. In addition, the plastics portions in particular of known irons are not always easy to manufacture and are therefore expensive. Furthermore, the known irons are expensive to assemble and dismantle which increases the cost of manufacture and repair.

It is the object of the invention to provide an electric iron which is simple and cheap to manufacture and to assemble. It is a further object of the invention to reduce the number of parts required.

The problem is solved according to the invention in that the individual handle portions in an iron of the abovementioned type, are adapted to fit one inside the other.

It is a further feature of the invention to mount the handle by projections provided, for example, at the front end of the base of the handle, in corresponding recesses in a plate covering the lower opening in the base of the handle.

It is a further feature of the invention that the handle is only secured to the above-mentioned plate by one screw. According to the invention, this plate is further provided with portions formed thereon to receive plug contacts.

The invention is described in detail below with reference to an exemplifying embodiment shown in the accompanying drawings, which are to some extent only diagrammatic. In the drawings:

FIG. 1 shows a general view of an iron according to the invention, partially in section;

FIG. 2 shows a longitudinal section through the lower portion of the iron according to the invention;

FIG. 3 shows a plan view corresponding to FIG. 2;

FIG. 4 shows a section on the line 4—4 in FIG. 2;

FIG. 5 shows a longitudinal section through the handle of the iron according to the invention; and

FIG. 6 shows a section on the line 6—6 in FIG. 1.

The iron shown in the drawings has purely by way of example an open handle. The invention is in no way restricted to this, however, but may equally well be applied to irons having a closed handle or to steam irons.

As can be seen from FIG. 1, this iron comprises three main parts, namely, sole-plate 1, handle 2 and shell or dome 3. The handle 2 in turn consists of a plurality of parts, namely an upper or main handle portion 4, a lower handle portion 5, and a cover plate 6 which covers not

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only a rear cavity 7 in the upper handle portion but also the dome 3, at least partially. Mounted on this plate is a knob 8 over a dial 9, which serve to set a thermostat. At its rear end, the cover plate 6 is provided with portions 10, 11 formed thereon which project into the cavity 7 in the handle 2 and serve to receive plug contacts 12, 13. These plug contacts are provided on the electric supply leads or serve to hold the cord grip 14 which is provided below the stiffening sleeve 15 for the electric supply cable. Below the cover plate 6, the leads 12 are electrically connected to an electrical heating element 24, preferably through springs 16 which are mounted on the dome 3. The portion 4 of the handle 2 is provided, at the base of the handle, at its front end, with projections 17 which engage in corresponding recesses 18 in the cover plate 6 and hook underneath it (see FIGS. 3 and 5). The rear securing of the handle portion 4 by only one screw 19 to the cover plate 6, can be seen from FIG. 1. This screw 19 is screwed into a corresponding threaded bush 20 which is mounted in a small recess 21, accessible from the outside, at the rear end of the handle portion 4. The cover plate 6 is secured direct to the sole-plate by means of a plurality of screws 29 (FIG. 3), preferably three. The dome 3 is merely inserted loose. At its rear end, the cover plate 6 comprises a rest 22 which gives the iron a reliable grip when it is stood on this resting face in the intervals between ironing.

As can be seen from FIG. 2, the dome 3 is inserted in a peripheral groove 23 on the sole-plate 1. FIG. 2 also shows the electrical heating element 24 and the thermostat 25. Both may be of any desired known kind. A heating element pressed into the thin aluminum sole-plate is preferred. If a steel sole-plate is used, a soldered-on tubular heating element may, of course, be used. In the example, the thermostat 25 is constructed in the form of an encased snap switch, actuated by a bimetallic strip. In order to save space, the switch is disposed transversely with respect to the longitudinal axis of the iron. The construction of the plug contacts 12 can also be seen clearly from FIG. 2, being provided with a stamped out, raised lug 26 which bears against a corresponding inclined face 27 provided on the inside of the cover plate 6 in the shaped portion 10. By this means, reliable holding is obtained in a very simple manner.

The mounting of the plug-in strap 13 in a spring 28 appropriately fitted into the recess in the shaped portion 11 can further be seen from FIG. 2. An adhesive connection or the like could also be used instead of the spring 28. How the holding strap 13 carries the cord grip 14 can best be seen from the plan view in FIG. 3. This figure also clearly shows the arrangement of the further plug contacts 12 in the corresponding portions formed on the plate 6. This figure further shows the three screws 29 whereby the cover plate 6 is secured to the sole-plate 1. Furthermore, this figure shows the recesses 18 in the cover plate 6 to receive the hooks 17 on the handle 3, 4 (FIG. 5).

As can be seen from FIG. 4, the screws 29 are disposed in appropriately shaped portions 30 and 31 on the cover plate 6 and on the sole-plate 1 respectively. The shaped portions 30 bear against the dome 3, which rests on bushes 32 held in bosses 31 formed on the sole-plate. These bushes 32 are preferably made of a material which is a poor conductor of heat. As can be seen from FIG. 4, the cover plate 6 is not in direct contact with the dome except for the points at the shaped portions 30. All these means serve to reduce the heat transfer from the sole-plate to the handle.

FIG. 5 shows the plug-in connection of the handle portions. The upper handle portion 4 and the lower handle portion 5 are connected to one another by means of two sockets 33 and 34 which to fit one inside the other. The

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sockets on the one portion have a relatively thin wall in order to ensure adequate resilience in the plastics material. The lower portion 5 comprises fitting surfaces 35 and 36 which provide the necessary support for this mode of securing the lower handle portion and ensure adequate stability. The sockets 33, 34 which are made integral with the handle portions may also be replaced by resilient sleeves separate therefrom. In addition, the hook connection to the cover plate, already described, can be seen from FIG. 5.

FIG. 6 shows that the two handle portions 4 and 5 comprise, in addition to the plug-in connection to the sockets 34 and 35, further portions engaging one over the other, particularly a web 37 which is formed on the lower handle portion 5 and extends round it and which bears against the inner wall of the portion 4. In the assembled state, the two halves of the handle form a uniform whole; only a dividing groove 38 can still be seen from the outside. FIG. 6 further shows the arrangement of the thermostat 25 on the sole-plate together with the bimetallic strip 39 as well as the plug-in connection 40 for the setting knob 8 for the thermostat.

The assembly of the iron is explained below:

On the sole-plate 1 with embedded heating element 24, the thermostat 25 is provided with the appropriate leads and connected to the dome 3 which is inserted into the peripheral groove 23 in the sole-plate 1. Thereupon the screws 29 are screwed into the sole-plate 1 to secure the cover plate 6. The cover plate 6 has previously been provided with the plug contacts 12. Then the handle portion 4 is equipped with the connecting cable, that is to say this is passed through the aperture provided for it in the cavity 7 in the handle. The connecting cable is provided with the cord grip 14 which is secured to the plug-in strap 13. The individual leads are screwed to the plug contacts 12 and then the handle portion is hooked by means of the hooks 17 (FIG. 5) into the recess 18 in the cover plate 6 (FIG. 3). Then the bush 20 and the screws 19 are screwed one inside the other from below, at the rear end of the handle. After this, the lower handle portion 5 is inserted into the upper handle portion 4, and the knob 5 and the setting dial 9 are secured to the cover plate 6. The knob 8 must naturally be placed on the thermostat spindle in such a manner that a correct setting is ensured.

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What is claimed is:

1. An electric iron comprising in combination:

a sole plate;

a shell mounted upon the sole plate;

a cover plate overlying part of the top surface of the shell releasably secured thereto;

a handle including a grip portion and a hollow support portion open at its ends, said support portion resting with its hollow end upon said cover plate and including an opening in its wall;

releasable fastening means for securing the handle to the cover plate, said fastening means including a hook element extending from said support portion and a recess in the cover plate engaged by said hook element and a screw connection securing the support portion to the cover plate, said cover plate having protrusions on its part underlying the open end of the support portion of the handle;

a connecting cord extending into the support portion through said opening therein;

jack means supported by said protrusions for connecting cord within the hollow support portion.

2. The electric iron according to claim 1 wherein said cover plate overhangs the shell at one end thereof, said screw connection being provided in said overhanging plate portion for convenient access thereto.

3. The electric iron according to claim 1 wherein said grip portion of the handle is composed of a top part and a bottom part, said parts mounting socket and pin elements fittable into each other for releasably joining said parts.

4. The electric iron according to claim 3 wherein the top part of the grip portion is continued into the hollow support portion and integral therewith.

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