(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 869 214 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
07.10.1998 Bulletin 1998/41

(51) Int Cl.[6]: **D06F 75/08**

(21) Application number: **98500082.7**

(22) Date of filing: **01.04.1998**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **02.04.1997 ES 9700834 U**

(71) Applicant: **OFICINA DE INVESTIGACION AGRUPADA, S.A.**
20600 Eibar (Guipuzcoa) (ES)

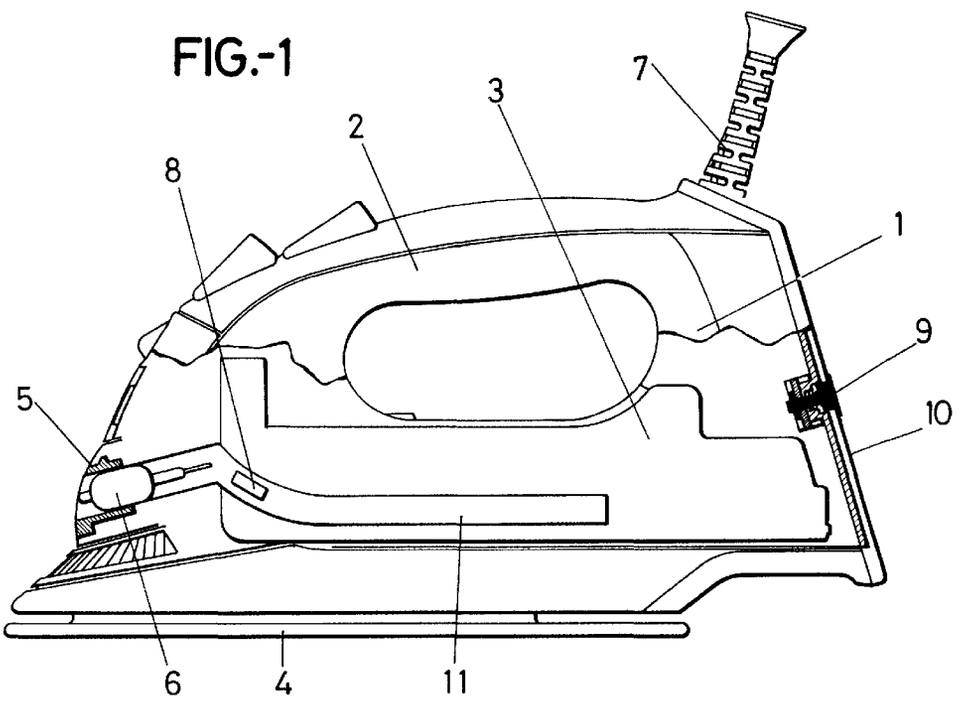
(72) Inventor: **Bastida Vildosola, Tomas**
Matxaria, 1 - 1o, 20600 Eibar Guipuzcoa (ES)

(74) Representative: **Carpintero Lopez, Francisco**
HERRERO & ASOCIADOS, S.L.
Alcalá, 21
28014 Madrid (ES)

(54) Improved iron

(57) The iron of the invention is provided with a housing established at its front for the illumination lamp, the housing being arranged slightly inclined forwards and downwards. In addition to said lamp, two heat dissipating plates are adapted to the sides in order to prevent the lamp from overheating, said plates extending backwards considerably and further adapting snugly to the wall of the water tank in order for the water mass initially designed to generate steam to act as a cooler. Another characteristic of the invention provides the inclusion of a heat limiter in the circuit supplying the lamp, to switch it off in the event of an excessive temperature. A push-button type switch located on the rear of the iron is established for the lamp, and therefore when the lamp is placed in such position of rest, the illumination lamp will be automatically switched off.

FIG.-1



EP 0 869 214 A2

Description

OBJECT OF THE INVENTION

The present invention relates to an iron of the kind used to iron clothes, preferably within the household, which has been significantly improved in order to enhance its standard of performance, specifically by including a front light which allows a supplementary illumination when ironing delicate or difficult areas of the fabric.

BACKGROUND OF THE INVENTION

Besides their inevitable heating resistor and, as the case may be, a steam generating mechanism, current irons for household use, viz. those acting upon the iron being slid over the fabric to be ironed, are provided with pilot lights or lamps the function of which is exclusively to signal whether their mechanisms are switched on, the pilots being by nature and arrangement devoid of an illuminating function.

And yet it would in certain circumstances be desirable to have a light located over the area being ironed to improve viewing conditions, where such are delicate areas of the fabric, areas difficult to iron, etc.

DESCRIPTION OF THE INVENTION

The improvements disclosed herein are devised to achieve such an ancillary performance, and essentially lie in establishing a housing for an illumination lamp at the front of the iron, the housing being arranged slightly inclined forwards and downwards in order for the light beam to be suitably directed towards the working area of the iron.

Additionally, and in accordance with another characteristic of the invention, two heat dissipating plates are adapted to the sides of said lamp to prevent if from overheating, extending its useful life, said plates extending backwards considerably and snugly adapting to the wall of the water tank water, thereby for the water mass initially designed to generate steam to act as a cooler.

In accordance with another characteristic of the invention, a heat limiter, in order for the lamp to be switched off automatically when it exceeds a pre-set temperature, and a voluntary lamp on/off switch, can be established in the circuit supplying said lamp.

In accordance with another characteristic of the invention, said switch is of the push-button type and lies on the rear of the iron, which usually constitutes its supporting base when at rest, and therefore by merely placing the iron in such a position of rest, the illumination lamp is automatically switched off, and will only be on when the iron is in a working position.

The switch, temperature limiter and lamp are connected in series.

DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, in accordance with a preferred practical embodiment thereof, a set of drawings is attached to the specification as an integral part thereof which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1.- Is a side elevation view of an iron made in accordance with the object of the present invention, which is partially cut away in order to show in greater detail the mechanisms of the iron on which said improvements are focused.

Figure 2.- Is a schematic plan representation of the same iron, cut away at the height of the illumination lamp and the heat dissipating plates.

Figure 3.- Is a front elevation view of the switch included in the circuit supplying the illumination lamp.

Figure 4.- Is a side elevation and diametric sectional view of the same switch, in the off position.

Figure 5.- Is a close view similar to that of figure 4, albeit with the switch in the on position.

PREFERRED EMBODIMENT OF THE INVENTION

With reference to these figures, and starting from the standard construction of any conventional iron of this kind, with a body (1) defining a manually-driven handle (2) within which a water tank (3) is established, to supply the steam generating mechanism, and moreover the similarly standard bottom sole or plate (4) constituting the ironing element proper, the characteristics of the iron subject of the invention can be seen to lie in the provision at the bottom front of such body (1) of a small housing (5), open at the front, within which an illumination lamp (6) is housed which, due to the arrangement of said housing (5), and as shown particularly in figure 1, lets off a light beam inclined downwards and forwards, its position being optimal to impinge straight on the area of the fabric to be ironed which is thereupon to be impinged on by the iron when the latter is used in a normal fashion.

This illumination lamp (6), directly connected to the iron lead (7) in order for it to work irrespective of whether or not the heating resistor is connected, is so connected through a temperature limiter (8) and a switch (9) in order for the limiter (8) to switch the lamp (6) off when its temperature exceeds a pre-set value, whereas the switch (9) cuts the supply to the lamp (6) when the iron is at rest, particularly when the lamp is lying on its heel or rear base (10).

In order for the illumination lamp (6) to be kept suitably cooled, same is designed to have adapted to its sides two plates (11) which extend backwards considerably, adapting laterally to the tank (3), and therefore said plates (11) take in the heat generated by the lamp (6) and release it to the water contained in the tank (3). If there should however be no water in the tank (3) and

hence no water-cooling effect, said heat limiter (8) will prevent the lamp (6) from overheating.

The heat limiter (8) will obviously be rated in accordance with the type of materials surrounding the lamp (6).

The reason why the lamp (6) is automatically switched off by the switch (9) when the lamp is in a position of rest, at which time no illumination is obviously required, is because said switch (9), as shown particularly in figures 3 to 5, is constructed on the basis of two static metal connections (12-12') between which passes a mobile insulating core (13) provided at its inner end with a metal pin (14) which may lie against said metal contacts (12) simultaneously, bridging the same, specifically when the insulating core (13) is pushed outwards by action of a spring (15) working with it, said insulating core (13) ending in a drive front (16) which projects from the heel or rear base (10) of the iron body (1), and therefore when the iron lies on such base, it does so specifically through such front (16) and the insulating core (13) retracts against the spring (15), causing the metal pin (14) to move away from the similarly metal connections (12-12'), i.e. causing the circuit to be disconnected, connection to take place automatically upon the position of the iron as a whole being changed, losing its support through the heel (10).

In order to prevent an accidental and unintentional rotation of the mobile insulating core (13), the metal pin (14) has been designed to play within a channel (17) operatively provided in the insulating part (18) on which the fixed metal connections (12-12') are arranged.

Claims

1. An improved iron, preferably of the household type and of the kind having a steam generating water tank, characterised in that the lower front area of its body includes a housing, open at the front, within which an illumination lamp is established, said housing and hence the light beam let off by said lamp being designed to be directed forwards and downwards in order to impinge on the fabric to be ironed, right in front of the point of the iron sole.

2. An improved iron, as in claim 1, characterised in that at least a metal plate acting as a heat dissipater is in addition to said lamp established within said housing at the front end of the body, the plate extending on both sides of the water tank and snugly adapting thereto in order for the water to act as a lamp cooler.

3. An improved iron, as in preceding claims, characterised in that a temperature limiter, which causes the lamp to be automatically switched off when its temperature exceeds a pre-set value, and a lamp on/off switch are established in series in the electric circuit supplying the lamp.

4. An improved iron, as in preceding claims, characterised in that said lamp on/off switch is located on the heel or rear base of the lamp and is of a push-button type, wherein a mobile, electrically-insulating core thereof is biased outwards by a spring, dragging with it a metal pin which may simultaneously lie against two fixed metal connections, making the respective circuit, the foregoing such that in the normal position of rest of the iron, in which no illumination is required and in which the iron lies on the rear heel, the weight of the actual iron causes the mobile core of the switch to retract and hence disconnect the same.

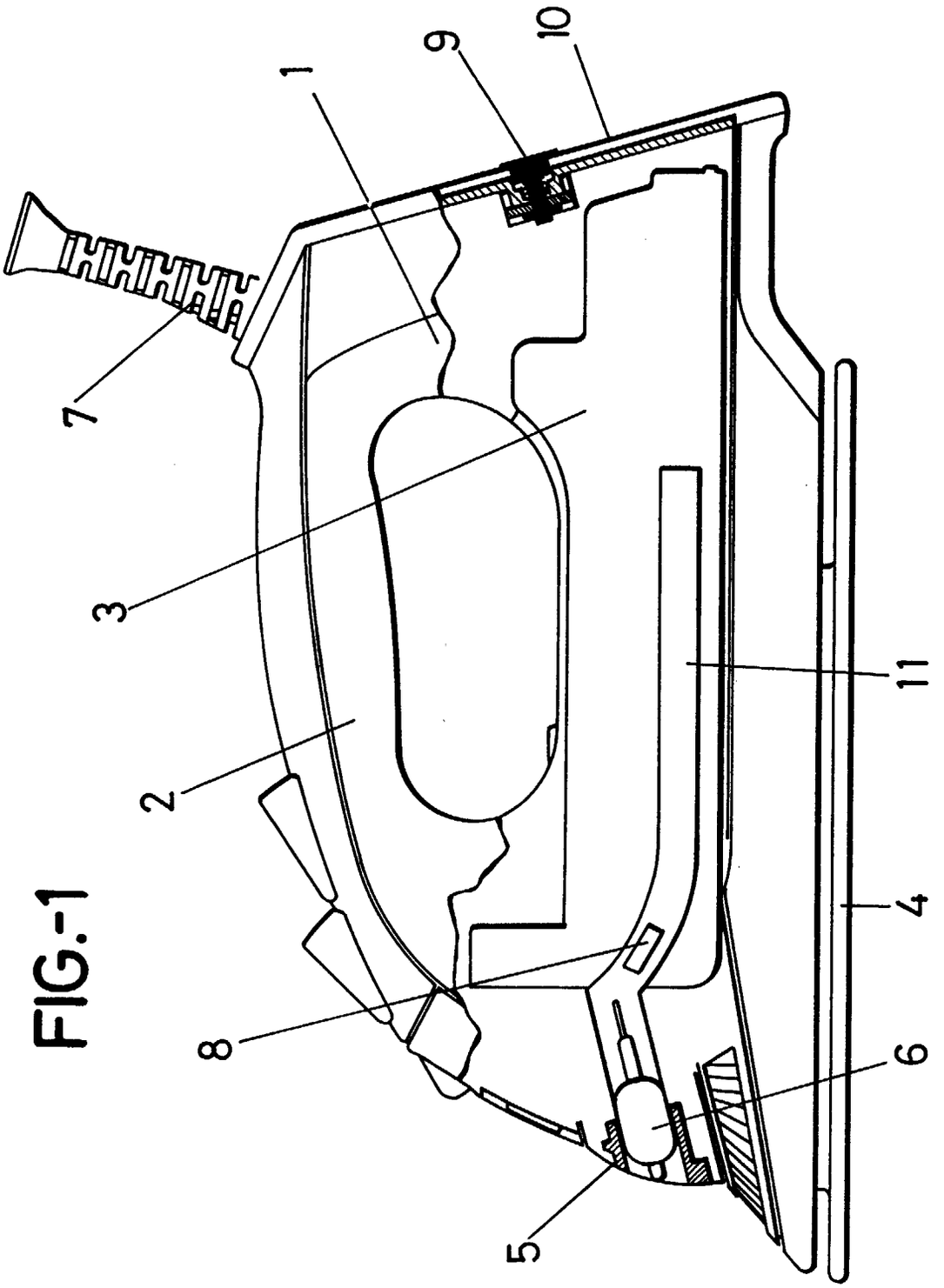


FIG.-1

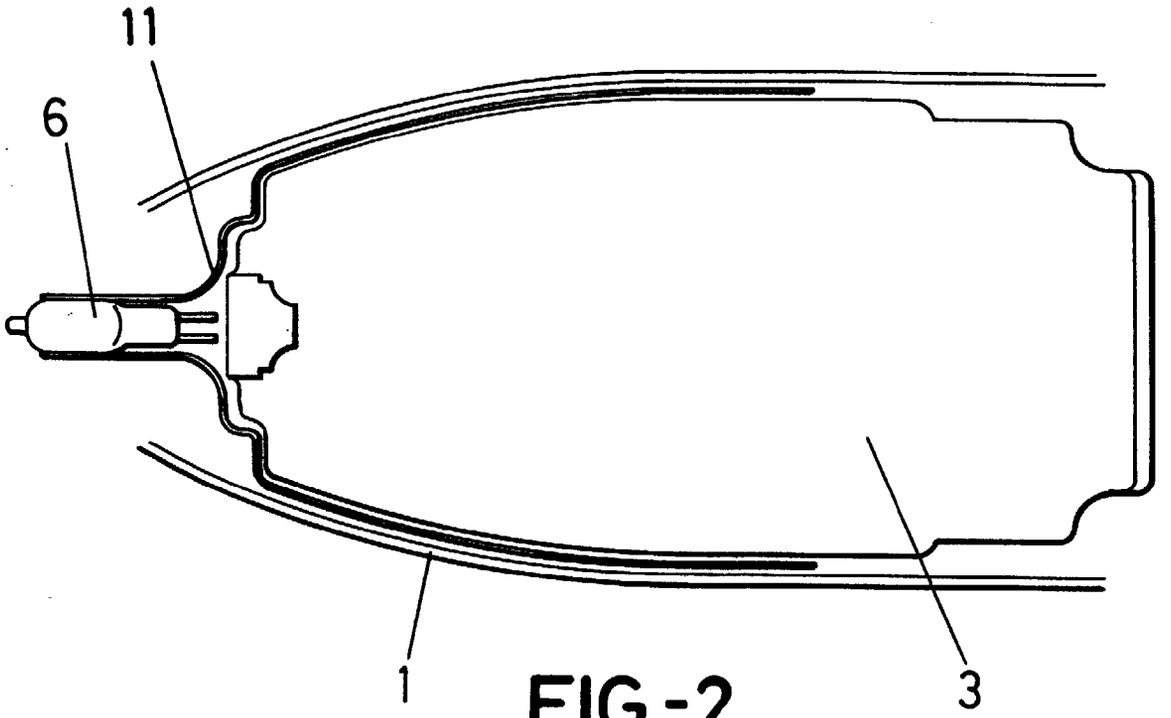


FIG.-2

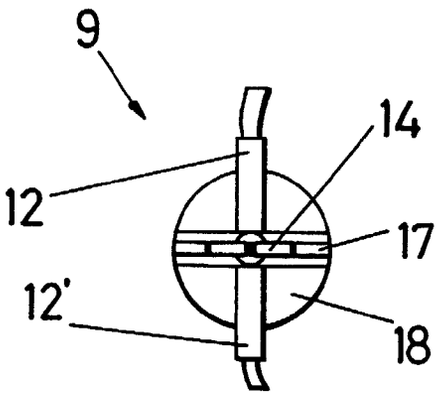


FIG.-3

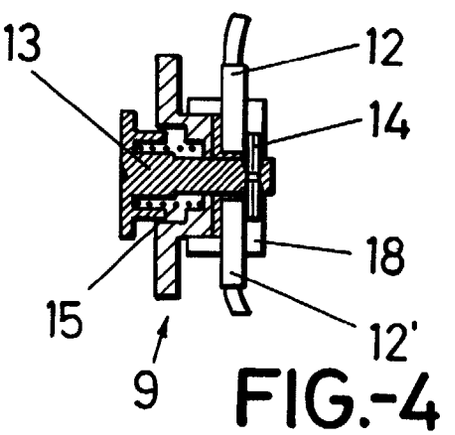


FIG.-4

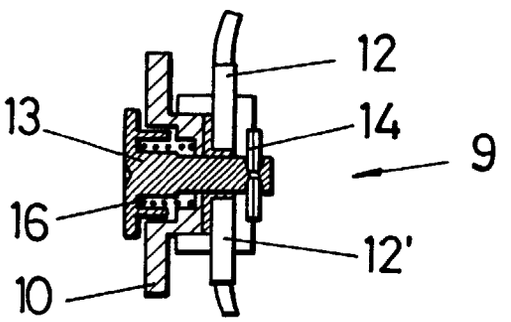


FIG.-5