

March 7, 1939.

G. CAMPANA

2,149,251

ELECTRIC PLATIRON WITH SELF-ACTING SAFETY DEVICE

Filed Aug. 22, 1936

3 Sheets-Sheet 1

Fig.2

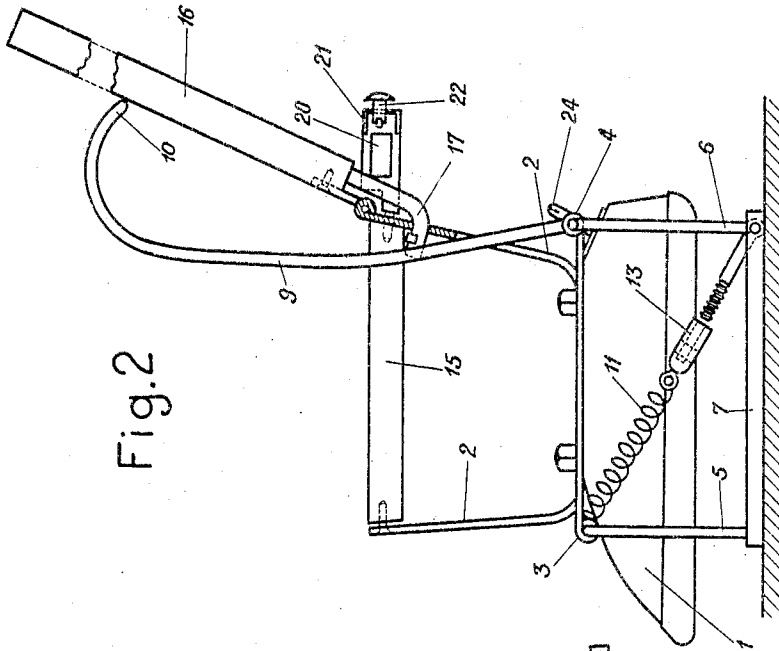
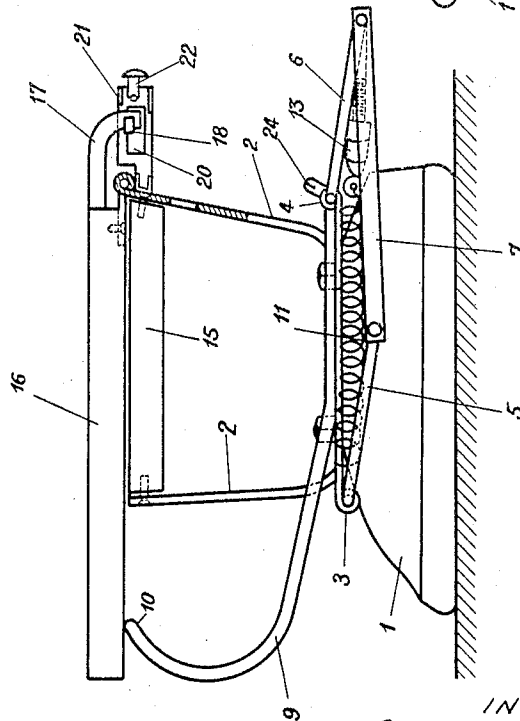


Fig.1



INVENTOR
GEORGES CAMPANA
BY
Richard & Seier
ATTORNEYS

March 7, 1939.

G. CAMPANA

2,149,251

ELECTRIC FLATIRON WITH SELF-ACTING SAFETY DEVICE

Filed Aug. 22, 1936

3 Sheets-Sheet 2

Fig. 3

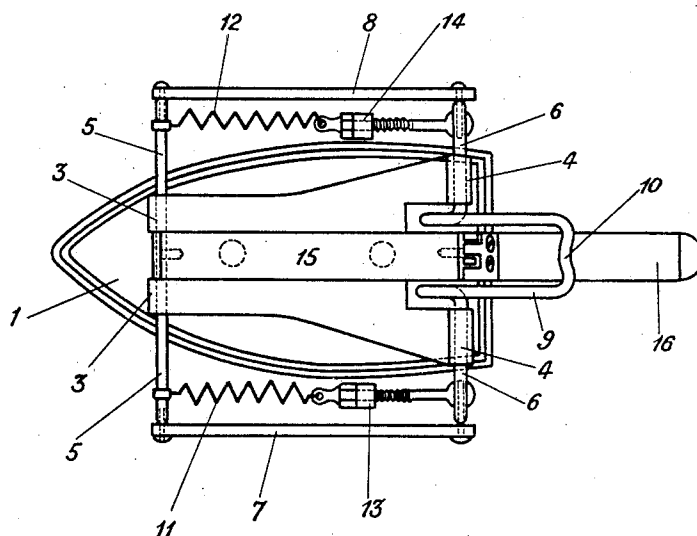
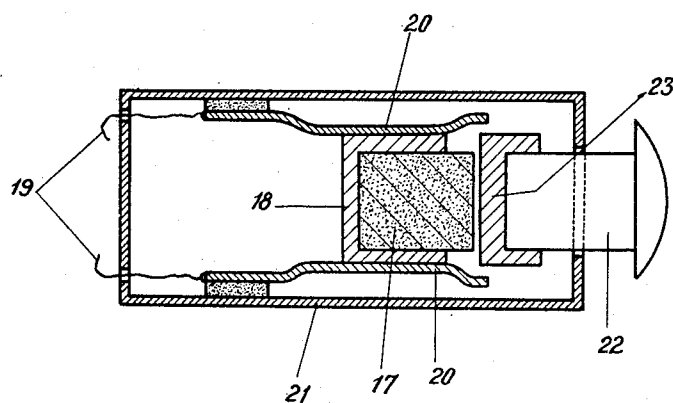


Fig. 4



INVENTOR
GEORGES CAMPANA
BY
Richards & Seiver
ATTORNEYS

March 7, 1939.

G. CAMPANA

2,149,251

ELECTRIC FLATIRON WITH SELF-ACTING SAFETY DEVICE

Filed Aug. 22, 1936

3 Sheets-Sheet 3

Fig. 6

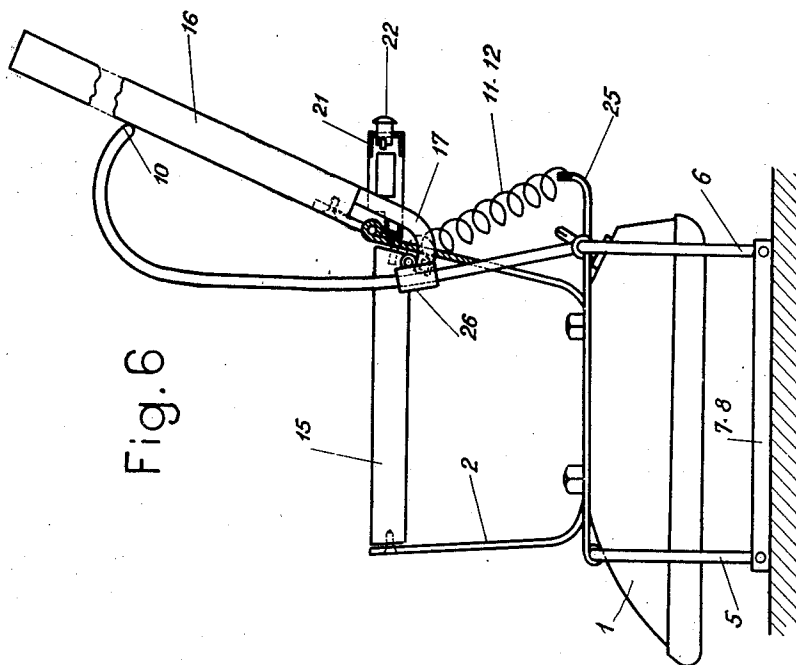
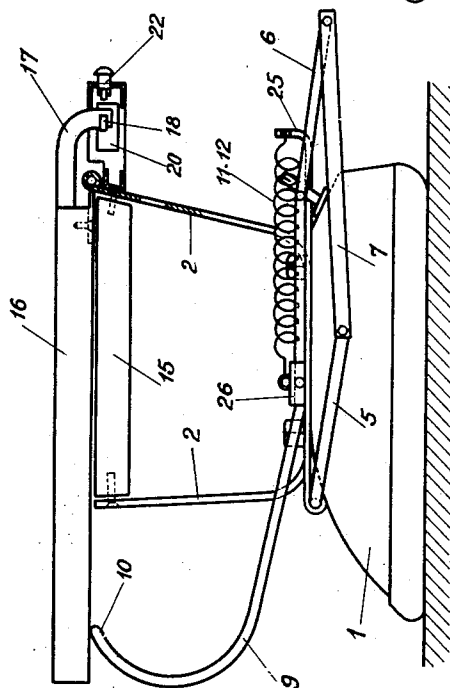


Fig. 5



INVENTOR
GEORGES CAMPANA
BY

Richard & Seier
ATTORNEYS

UNITED STATES PATENT OFFICE

2,149,251

ELECTRIC FLATIRON WITH SELF-ACTING
SAFETY DEVICE

Georges Campana, Paris, France

Application August 22, 1936, Serial No. 97,374

1 Claim. (Cl. 219—25)

This invention relates to an electric flat iron comprising a safety device which causes the iron to rise automatically above the ironing plane immediately when the user releases the handle of the iron, thus preventing the scorching accidents to the linen which are so frequent.

The apparatus comprises a semi-automatic switch which insures on the one part the automatic interruption of the heating circuit as soon as the iron is not in service and the automatic closing of same when the handle is again taken in the hand; it allows on the other part of manually controlling the heating circuit of the iron before the latter is put in use.

The safety device designed to operate the lifting of the flat iron above its bearing surface is essentially constituted by a movable frame, which is connected pivotally or in any other suitable manner to the flat iron; and is drawn down by means of one or a plurality of springs to the position in which the iron has been raised, said frame being automatically raised and put out of operation by the mere action of the hand upon the handle which may be to this end pivotally or slidably mounted and have any suitable shape.

Various arrangements may be adopted for the springs but they are preferably arranged in such a manner that the resultant of their action upon the handle held in the hand is as slight as possible in the position that corresponds to the lifting of the frame and to the utilization of the flat iron in order to avoid any useless fatigue of the hand when ironing.

The electric switching device is double acting, it allows on the one part the heating of the iron when inoperative before it is put in service and insures on the other part the continuous heating during the whole period of service as well as its instantaneous interruption as soon as the user stops holding the handle of the iron and the latter is no longer used. To this end the device closes a double switch comprising two combined switches one of which is operated manually and the other automatically by the movement of the handle.

The movable frame that operates the rising of the iron may be of any desired shape and arrangement; it may be pivotally connected to the iron and swing in the inoperative position; it may have a sliding movement and a vertical movement and it may also participate in both movements.

The appended drawings show by way of example two modes of execution of a flat iron which comprises the safety device constructed according to the present invention, the lifting frame being

in both cases a swinging pivotally mounted frame. Figs. 1 to 4 illustrate the first mode of construction.

Fig. 1 is a side view of the apparatus showing the iron in use;

Fig. 2 is a similar view of the iron in its inoperative position.

Fig. 3 is a plan view corresponding to the position shown in Fig. 2.

Fig. 4 is a detail view of the switch.

Figs. 5 and 6 illustrate the second mode of construction, showing the iron in operation and in its inoperative position.

As shown in the mode of construction represented in Figs. 1 to 4, the flat iron 1 is provided with a fitting 2 designed to support the handle and which is suitably constructed so as to form at 3 and 4 hinges for vertical pivoted arms 5 and 6 which are pivotally connected at their ends to horizontal bars 7, 8, the whole of the parts 5, 6 and 7, 8 constituting the double lifting frame. It is provided with an upper double extending arm 9 integral with the back fittings 6 and is closed at its upper end so as to form a bridge 10.

Side springs 11, 12, secured to the axes of the hinges 3 on the one part and on the other part to adjustable stretchers 13 and 14 connected in their turn to the lower pivotal connections of the parts 6—7 and 6—8, continuously tend to cause the frame 5—6—7—8—9 to swing in its high or safety position shown in Fig. 2. The stretchers 13, 14 allow of adjusting at will the initial tension of the springs 11 and 12.

The flat iron handle is constituted by an insulating part fixed upon the two uprights of the support 2 and at the back end of which another insulating part 16 is pivoted, said part 16 constituting the second member of the handle against which bears the bridge 10 situated at the end of the double arm 9 of the swinging frame. It will be evident that when both members 15, 16 are brought together by hand when the iron is being used, the frame 5, 6, 7, 8 is drawn up owing to the action of the folding portion 16 of the handle upon the bridge 10 of the double arm 9, as shown in Fig. 1. The springs 11, 12 then occupy a position which is approximately horizontal, so that the resultant of their action upon the movable handle member 16 is essentially nil or at least very slight, because the closing action of the handle is a vertical strain.

An insulating arm 17 is provided at the end of the pivoted portion 16 of the handle, said arm carrying a contact piece 18 which when the member 16 is moved downwards (see Fig. 1) creates a

contact between two spring blades 20 to which both wires 19 of the electric circuit are connected as shown in Fig. 4. The whole is mounted in a casing 21 placed at the rear of the handle 15, 16. A push-button 22 which is also provided at its end with a metal part 23 is located in said casing, the part 23 being also designed to insure the contact between the blades 20. The wires 19 are branched in series with the plugs 28 upon which the wall plug which connects the apparatus to the district current is connected.

The mode of operation of the apparatus above described is as follows:

When inoperative the various parts of the device are in the position shown in Fig. 2; in that position the springs 11, 12 retain the frame 5, 6, 7, 8, in its lower position, the iron thus being lifted and kept away from its bearing surface.

For heating the iron it will only be necessary to drive in the push button 22, which by means of its end piece 23, makes the contact between the blades 20 by means of which the circuit of electric current which energizes the iron is closed.

When the iron having thus been heated is ready for use, it will only be necessary to bring down the upper member 16 of the handle and to grasp the unity 15, 16 of the handle (this position being shown in Fig. 1). By this movement the member 16, acting upon the lever 9, 10 causes the supporting frame 5, 6, 7, 8 to move upwards without interfering in any way with the use of the iron. Owing to the horizontal position of the springs 11—12, the effort for holding the handle is very slight, so that there is no danger of causing in the long run an undue strain upon the hand. When the upper handle member 16 is brought down, its rear arm 17 presses back the push button 22 which thus frees itself from its contact with the blades 20, but the contact piece 18 of said arm has come in its turn between the blades 20 and thus acts to insure the closing of the circuit through said blades and consequently, the heating of the iron during all the time that it is in service.

When the iron is no longer needed, it is only necessary to release the handle 15—16, its member 16 then moving upwards under the action of the part 9—10 and of the springs 11—12, whereby the frame 5—6—7—8 raises automatically the iron which thus immediately moves away from its bearing surface. During this movement of the member 16, its arm 17 pushes away the contact piece 18 of the blades 20 and the electric heating circuit is automatically interrupted.

The mode of construction illustrated in Figs. 5 and 6 is similar to that indicated in Figs. 1, 2 and 3, the parts appearing in more than one figure being designated by like references, the only difference being that in the second mode of construction the springs 11 and 12 are secured

at one end to a rear extension 25 of the seat of the handle support 2 and at their other end to a slide which is movable upon both arms of the double swinging lever 9. The displacement of said slide allows of regulating at will the tension of said springs. It will be seen in Fig. 5 which represents the iron in its position ready for service that in said position the springs 11, 12 are approximately horizontal so as to minimize the resultant of the effort acting upon the handle, in the same manner as in the first mode of execution.

The mode of operation in the example shown in Figs. 5 and 6 is in all points similar to that of the first mode of construction.

It is obvious that various modifications may be made in the construction shown and above particularly described within the principle and scope of my invention. Furthermore the arrangement of the lifting frame, as well as that of the springs may vary and be executed in various manners. The frame could for instance move vertically and its vertical fittings be slidable; it could also be capable of oscillating and operated by a cam and lever system. The springs may also be arranged in any suitable manner and concealed either within the handle itself or in cylindrical parts connected to the handle support; said springs may also be torsional springs placed upon the pivotal axes of the frame or inert around the pivotal axis of the two handle members. Lastly, it is obvious that the arrangement of the electric contact pieces of the semi-automatic switch may be varied.

What I claim and desire to secure by Letters Patent of the United States is:

In an electric ironing device having a flat iron, a foldable frame connected with said flat iron and supporting said flat iron above ground in its unfolded position means connected with said frame and said flat iron and movable from an inoperative position to an operative position to move said frame from its unfolded position to its folded position, a spring connected with said frame and tending to unfold the same, and a pair of terminals carried by said flat iron and adapted to be connected to a source of electrical energy; a manually operable push button movable from an inoperative position to an operative position when said means are in their inoperative position to engage said terminals and thereby close their electrical circuit, and a contact piece movable along with said swingable means and engaging said terminals to close said circuit when said means are moved to their operative position, said contact piece being adapted to displace said push button if the latter is in its operative position in the course of the movement of said means from their inoperative position to their operative position.

GEORGES CAMPANA.