

M. I. GRIMES.
ELECTRICALLY HEATED FLAT IRON.
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1,083,534.

Patented Jan. 6, 1914.

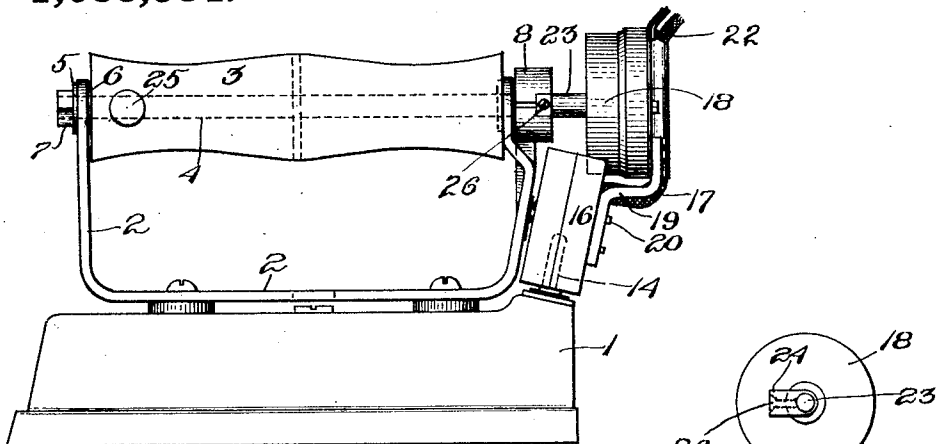


Fig. 1.

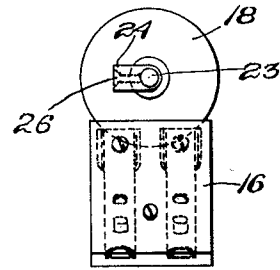


Fig. 4.

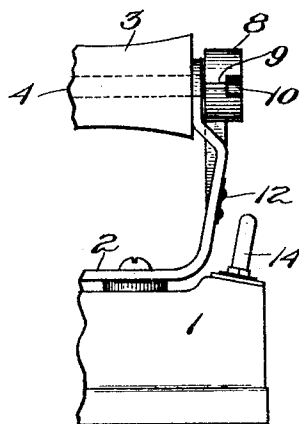


Fig. 2.

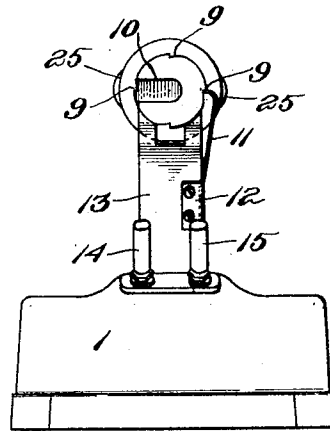


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRICALLY-HEATED FLAT-IRON.

1,083,534.

Specification of Letters Patent.

Patented Jan. 6, 1914.

Application filed May 3, 1913. Serial No. 765,253.

To all whom it may concern:

Be it known that I, MICHAEL I. GRIMES, a citizen of the United States, and resident of Winthrop, county of Suffolk, State of Massachusetts, have invented an Improvement in Electrically-Heated Flat-Irons, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to electrically heated flat irons and its object is to improve and perfect such irons.

In the practical use of electrically heated irons, it is desirable to have some provision for turning on or off the current supplied to such irons, and heretofore many attempts have been made to accomplish this result, but such prior devices have been impractical and unsatisfactory in use, either requiring a complex and specially constructed iron, or employing current regulating devices which did not permit a constant pressure to be applied to the iron handle, and therefore did not admit of use of the iron while the current was turned off.

An important feature of my present invention is that the supply of current is at all times readily under the control of the operator, during the constant and continuous use of the iron, and the working pressure may be applied to the handle of the iron while the current is either turned on or off.

A further feature of the invention is that the entire current supply apparatus may be readily attached to and detached from the flat iron, an ordinary and wellknown type of electrical connector being employed.

A still further feature of special importance from a practical standpoint is that my invention may be advantageously embodied in an electrically heated flat iron of any standard type, without the requirement of specially formed handles, switches, and the like, thus eliminating all such prior complex arrangements and producing an extremely simple, but efficient electrically heated flat iron, having the current supply under the control of the operator at all times during use.

Still other features of the invention are to provide a handle control for the current supply which will be most convenient to the operator during use, and which may shut

off current effectively or turn it on instantly, and which will remain set either on or off as desired while the operator is still constantly manipulating the iron under pressure; to provide an indicator which will show automatically when the current is on or off; and to produce an iron simple in construction, economical to build and which will afford a convenient detachable handle control for the supply of current.

Referring to the drawings, Figure 1 is a side view of an electrically heated flat iron, wherein a preferred form of the invention is embodied; Fig. 2 is a view of the rear portion of the iron with the electrical switch and connector detached; Fig. 3 being a rear view of the iron as shown without the connector and switch in Fig. 2; and Fig. 4 is a front view of the electrical connector and switch detached.

I have illustrated in Fig. 1 a conventional type of flat iron 1, adapted to be heated by electric current. This iron is provided with the usual U-shaped handle iron 2 carrying the wooden handle 3 secured to the shaft or spindle 4 arranged to pass loosely through the upper ends of the arms of the handle iron 2. Washers 5 and 6 and a nut 7 are provided to hold the spindle 4 in position on the member 2 at one end, and to the other end a member 8 is threaded on to the shaft 4, as clearly shown in Fig. 2. The drum or nut 8 is formed with a plurality of radial notches 9 and with a slot 10, and is threaded on to the spindle 4 with a right handed thread, so that rotation of the handle 3 and spindle 4 in a contra-clockwise direction will act to tighten the nut 8 and not to loosen it. Coöperating with the notches 9 and adapted to engage therewith is a pawl 11 in the shape of a spring secured at 12 to the rear member 13 of the U-shaped handle iron 2 by set screws, or in any other suitable manner. The construction just described constitutes a lock to prevent the handle being turned in a clockwise direction, and to insure that it shall be turned in the reverse direction and also so that it may be held when turned in partial rotations of a quarter turn each, four notches 9 being provided equidistant about the periphery of the nut 8.

Adapted to be fitted on to the usual connector pins 14 and 15 of the iron is an electrical connector 16 carrying wires 17, and a switch 18 is united thereto by means of a

bracket iron 19 joining the switch 18 and connector 16 in a rigid manner, as by bolts 20 (see Fig. 1). The wires being led from the switch at 22 to any suitable source of power and the switch being turned on, electric current will be supplied to the iron 1 and the iron heated as is customary. In order to enable the operator to automatically control the supply of current and to turn on or shut off said supply during the continuous ironing operation, or at any other time, by a simple partial rotative action of the handle 3, I provide a detachable switch control from the handle 3 to the switch 18. This switch control must be readily attachable and detachable at any time, and must be accurate, efficient, and instantaneous in its action. To this end, therefore, I provide the switch stem 23 with a short lever arm 24 adapted to fit into the slot 10 in the rear of the nut 8. The handle 3 is turned so that the slot 10 opens upwardly and is therefore extending in a vertical direction, and the connector 16 and its attached switch 18 are positioned upon the pins 14 and 15 the stem 23 being of appropriate length to register in said slot 10 and enable the lever 24 to be slid therein. The handle 3 then being given a rotative movement through a quarter revolution in a contra-clockwise direction, actuates the switch 18, disengages the pawl 11 from the notch 9 and allows it to register into the succeeding notch 9, and turns off the supply of current to the iron 1. A similar partial rotative movement in the same direction again actuates the switch 18 to shut off the supply of current and a still further similar rotative movement will again turn on the current. Thus the operator has constant control, at all times, and without releasing the pressure on the handle 3 necessary in the ironing operation, to regulate the supply of heat to the iron 1, I have found that the rotation of the handle 3 in a contra-clockwise direction is much more convenient to the operator than were the same necessarily actuated in the reverse direction. Also that this enables the operator to either turn on or shut off the current as the iron is lifted from its stand to the work, or vice versa, by an almost automatic and unconscious movement.

In order to enable the operator to know when the current is on or off, any suitable indicator may be employed, but preferably I affix to the handle 3 an indicator in the form of a button 25 at the front of the handle. Preferably also a similar button is affixed to the iron at a diametrically opposite point, as the operator can therefore more readily determine when the current is on or off by simply noting whether the button 25 is uppermost, or at the side, is indicated in Fig. 1. These indicators are arranged to register with the opposite end of a slot 10,

and therefore to be in uppermost position when said slot is in its vertical position opening either upwardly or downwardly.

It will be understood that it is within the scope of my invention to form the connector 16 and switch 18 as a single integral member, but for convenience of illustration and as herein shown, I have illustrated same as separate members connected by the bracket 19. It will also be readily understood that the stem 23 and lever 24 or equivalent means will be of appropriate length to properly reach and register with the nut 8 or equivalent device, so that the handle 3 may operate the switch and thus control the supply of current.

It will thus be seen that I have provided an extremely simple and efficient electrically heated flat iron with an attachable and detachable device for the supply of current, which current supply, although being easily removable, is nevertheless under the constant and effective control of the operator by a partial rotative movement of the handle, which rotative movement and consequently the turning on or off of the current can be instantly effected while pressure is still applied to the handle, and the operator is constantly engaged in the work of ironing. Furthermore, the supply of current will remain on or off as long as the operator may desire, and without any further exertion, a partial rotation of the handle in a continuous direction, and while the handle is under pressure and the iron is being constantly manipulated, serving to control the current supply. This feature is of particular importance from a practical standpoint, as in prior devices, so far as I am aware, the operator has been obliged to exert a tension or pressure upon the iron handle to maintain the supply of current to the iron, and such an extra exertion is, of course, very fatiguing in work of this kind.

In order to facilitate the adjustment of the lever 24 on the stem 23, I provide a set screw 26, as shown in dotted lines in Fig. 4, so that this lever may be radially adjusted about and secured to the stem 23, to properly position it with reference to the switch 18, drum 8, handle 4, and indicators 25. This feature is of particular importance from a practical standpoint, as it facilitates the adjustment and coöperation of the parts just mentioned, and furthermore permits a ready and efficient adjustment to be made during any wearing in the switch.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In an electrically heated flat iron, the combination of a detachable current supply device carrying a switch, means to attach said device to the flatiron, detachable means carried by the handle of the iron to operate

said switch, in combination with means to actuate said switch through a partial rotation of the flatiron handle.

5 2. An electrically heated flat iron, having a freely rotatable handle to operate the flatiron, in combination with a detachable current supply device carrying a switch, and detachable means connecting said switch and handle, whereby a partial rotative movement of the flatiron handle operates the switch during the constant application of pressure on the handle.

10 3. An electrically heated flat iron, having a freely rotatable handle, in combination

with a detachable current supply device 15 carrying a switch, detachable means connecting said switch and handle, whereby a partial rotative movement of the handle operates the switch, and means to adjust the connection between said switch and handle at any relative angular radial position. 20

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

MICHAEL I. GRIMES.

Witnesses:

MARY E. GRIMES,

JAMES R. HODDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."