M. M. BUCK.

ELECTRIC HEATER FOR CURLING IRONS.

APPLICATION FILED AUG. 12, 1908.

928,936. Patented July 27, 1909.

2 SHEETS—SHEET 1.

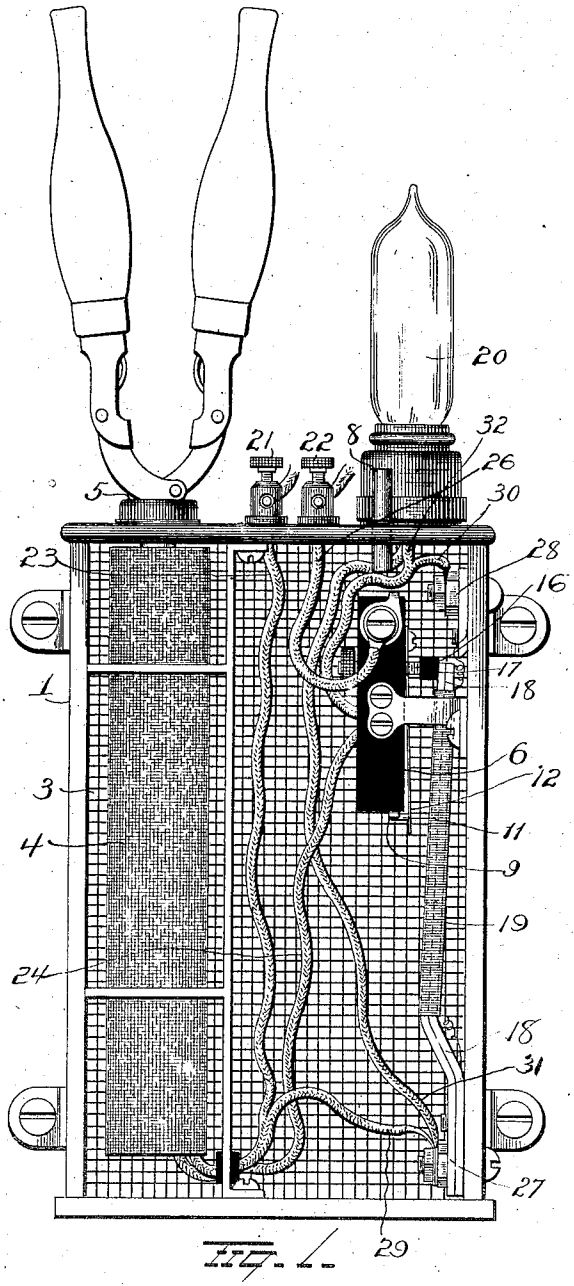


FIG. 1.

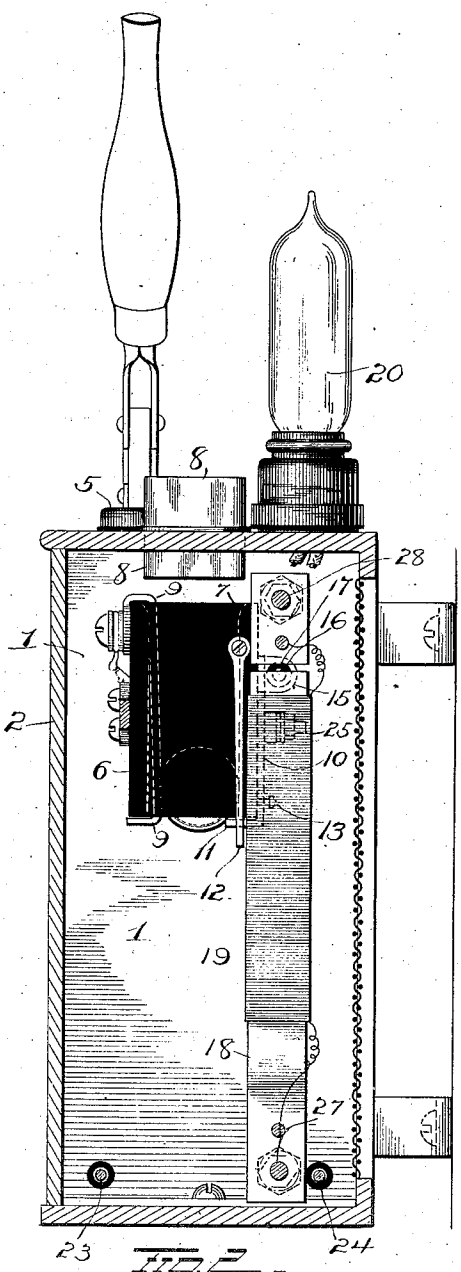


FIG. 2.

WITNESSES

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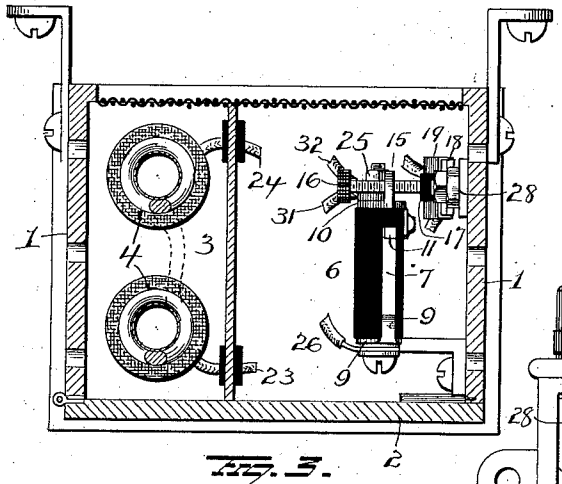


Fig. 3.

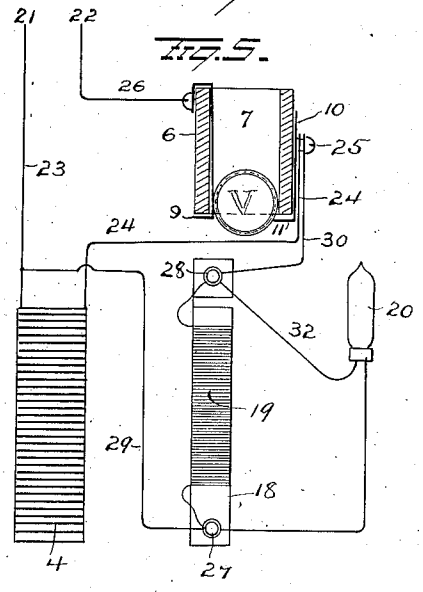


Fig. 5.

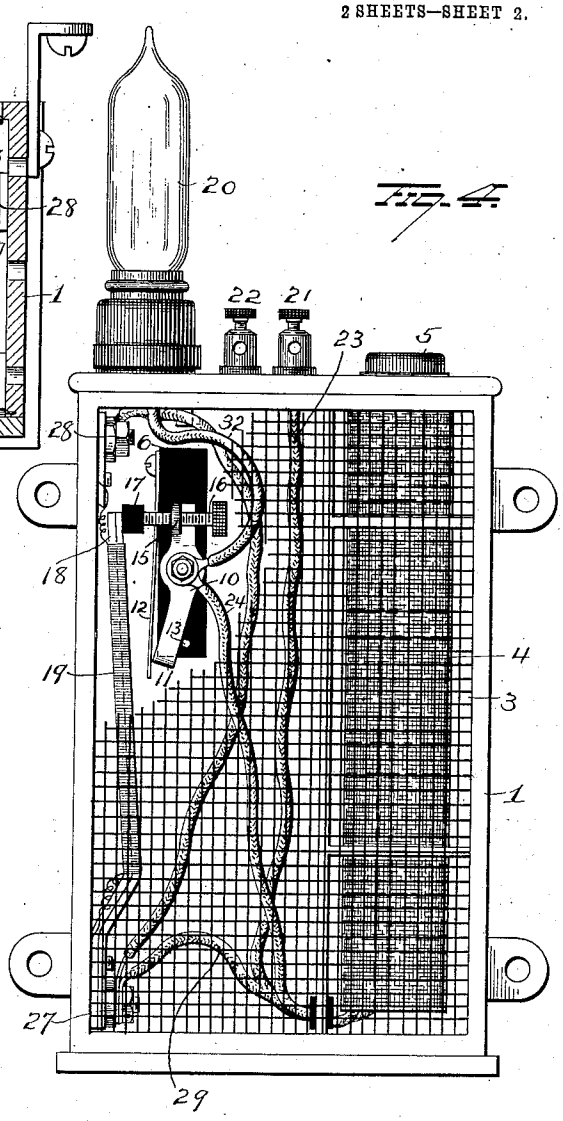


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATER FOR CURLING-IRONS.

No. 928,936. Specification of Letters Patent. Patented July 27, 1909.

Application filed August 12, 1908. Serial No. 448,204.

To all whom it may concern:

Be it known that I, MARY MYRTLE BUCK, of Machias, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Electric Heaters for Curling-Irons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in electric heaters for curling irons, and more particularly to such as are adapted to be controlled by the operation of a coin,—the object of the present invention being to simplify the construction of machines of this class and to render the operation of the machine efficient to properly heat curling irons without the waste of current.

A further object is to provide means for automatically breaking the electric circuit when a predetermined length of time shall have elapsed after the insertion of a coin into the machine.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of coin controlled curling iron heater embodying my improvements. Fig. 2 is a vertical sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a rear view with a portion of the casing broken away, and Fig. 5 is a diagram of the electric circuits.

1 represents a casing having its walls perforated to provide for suitable ventilation for the electrical devices contained therein. This casing may be provided with a suitable door 2 whereby access may be had to the interior for removing coins therefrom or for repairing the mechanism. A compartment 3 is provided within the casing for the reception and support of heating coils 4. These coils are made tubular and disposed so as to communicate with openings 5 in the top of the casing, through which openings curling irons are inserted and the heaters may be suitably lined to prevent the end portions thereof from coming into contact with the convolutions of the coils.

A block 6 of insulating material is secured within the casing and provided with a passage 7 adapted to communicate with and receive coins from an inlet chute 8 in the top of the casing. A contact strip or finger 9 extends downwardly through one side of the passage 7 and terminates at the lower end thereof. At the opposite side or edge of the block 6, a lever 10 is pivotally supported between its ends and at its lower end, said lever is provided with a finger 11 normally disposed under the passage 7 at the side or edge thereof opposite the strip or finger 9. When a coin passes through the block 6 it will engage the fingers 9 and 11 and close an electric circuit, as hereinafter explained. The finger 11 is pressed to its normal position under the passage in the block by means of a spring 12 and is prevented from being moved too far by means of a stop 13 projecting laterally from the block 6. The arm 14 of the lever 10 is provided with a lug 15 through which an adjustable screw 16 passes and the forward end of this screw is provided with a head 17 of insulating material adapted to be engaged by the free end of a thermostat 18 and the other end of said thermostat is secured to a fixed support within the casing. The thermostat comprises two metal bars having different qualities of expansion and contraction, secured together and these bars are inclosed throughout the greater portion of the length of the thermostat by a coil 19 of comparatively fine insulated wire, so that when said coil is included in an electric circuit it will serve to heat the thermostat and thereby cause the operation of the latter to turn the lever 10 and move the finger 11 at the lower end of said lever out of line with the passage 7 in the block 6, thus releasing a coin and simultaneously breaking the circuit of which said coin forms a part.

A small incandescent lamp 20 is mounted upon the casing and is connected in circuit in a manner presently explained, so that when a coin is inserted into the machine said lamp will be lighted and so that when the coin has been released from the circuit closing fingers 9 and 11 to open the circuit which includes the heating coils, said lamp will be extinguished and thus indicate that the current to the heating coils has ceased,—at which time the user will know that the curling iron has been properly heated.

Binding posts 21—22 may be provided on the casing for the leading-in wires from any convenient source of electrical energy, preferably from 110 volt circuit. From the

binding post 21 a conductor 23 extends to one end of one of the heating coils and the other end of this coil is connected with one end of the next heating coil. The other end of the latter is connected by a conductor 24 with a binding post 25 on the lever 10. A conductor 26 is connected at one end with the contact strip or finger 9 and at its other end with the binding post 22. It is apparent that when a coin has passed through the block 6 and engages the fingers 9—11 so as to electrically connect them, the electric circuit will be closed through the heating coils. One end of the coil 19 on thermostat is connected with a binding post 27 and the other end of said coil is connected with a binding post 28. The binding post 27 is connected by a conductor 29 with the conductor 23, while the binding post 28 is connected with the binding post 25 by means of a conductor 30, thus placing the coil 19 on the thermostat, in parallel to the circuit of the heating coils. The terminals of the lamp 20 are connected by conductors 31—32 respectively with the binding posts 27 and 28, thus placing said lamp in parallel with the coil 19.

When the circuit of the heating coils are closed by means of a coin, as above explained, the circuit which includes the coil 19 of the thermostat will also be closed and the heat generated by the passage of the current through said coil 19 will cause the thermostat to move and, through the medium of the adjustable screw 16, transmit motion to the lever 10 to cause the finger 11 to move laterally and release the coin. It is apparent that the heating of the thermostat and the consequent movement thereof will be comparatively slow and that the coin will not be released until said thermostat has moved the lever 10 a predetermined distance. The parts will preferably be so adjusted that approximately one and a half minutes will elapse between the time the circuit is closed by a coin until said coin shall be released and the circuit broken. The time of the maintenance of the current through the heating coil can be regulated by adjusting the screw 16. It is apparent that when the circuits of the heating coils and thermostat coil are closed, the circuit of the lamp 20 will also be closed and that when the coin shall have been released from the circuit closing fingers 9 and 11, all the parallel circuits will be opened, thus depriving the heating coils of current; extinguishing the lamp and permitting the thermostat to cool sufficiently to move back to its normal position and the finger 11 on the lever 10 to again assume its position to receive another coin.

Various slight changes might be made in the details of construction and the arrangement of the parts without departing from the spirit of my invention or limiting its scope and hence I do not wish to restrict myself to the precise details and arrangements of parts as herein shown and described.

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

1. In a machine of the character described, the combination with electrical heating means, of coin controlled circuit closing means, and means for automatically opening said circuit closing means.

2. In a machine of the character described, the combination with electrical heating means, of coin controlled circuit closing means, and thermostatic devices for opening said circuit closing means.

3. In a machine of the character described, the combination with electrical heating means, of circuit closing fingers, one of which is movable, means for directing a coin to said fingers for electrically connecting them, and thermostatic devices connected with said movable contact and operative to move the movable circuit closing finger to release the coin and open the circuit after the coin has rested on said contacts a length of time measured by the movement of said thermostatic devices.

4. In a machine of the character described, the combination with electrical heating means, of circuit closing contacts, one of which is movable, means for directing a coin to said contacts for electrically connecting them, a thermostat, devices between said thermostat and the movable contact for transmitting motion from said thermostat to the movable contact in one direction and a spring for moving said movable contact in the other direction.

5. In a machine of the character described, the combination with electrical heating means, of coin controlled circuit closing means, a thermostat for opening said coin-controlled circuit closing means, a heating coil on said thermostat, and electric circuits including said electrical heating means, the heating coil on the thermostat and the circuit closing means.

6. In a machine of the character described, the combination with electrical heating means, of coin controlled circuit closing means, a thermostat, connections between said thermostat and the circuit closing means for controlling the latter to release a coin, a heating coil on the thermostat, and electric circuits including said electrical heating means and the thermostat coil in parallel with each other and also including said circuit closing means.

7. In a machine of the character described, the combination with electrical heating means, of a block having a coin passage therein, a contact finger at one side of said coin passage, a pivoted lever having a contact finger at the other side of the coin pas-

sage, an electric circuit including the heating means and said contact fingers, and a thermostat for controlling the movement of said lever to release a coin from between the contact fingers.

8. In a machine of the character described, the combination with electrical heating means, of a block having a coin passage, a contact finger at one side of said coin passage, a pivoted lever having a contact finger at the other side of the coin passage, an electric circuit including said heating means and contact fingers, a thermostat, an adjustable screw between said thermostat and the lever for effecting the movement of the latter to release a coin from between the contact fingers, and a spring for moving said lever in the other direction.

9. In a machine of the character described, the combination with electrical heating means, of coin controlled circuit closing devices, an electric circuit including said heating means and circuit closing devices, a thermostat, and adjustable means between said thermostat and circuit closing devices for timing the operation of the latter to release a coin therefrom.

10. In a machine of the character described, the combination with electrical heating means, of a block having a coin passage, a fixed contact finger on one side of said coin passage, a pivoted lever provided with a contact finger at the other side of said coin passage, a spring for maintaining said finger in and returning it to its normal position, a thermostat, an adjustable screw carried by said lever and coöperating with the thermostat, means for heating the thermostat, and an electric circuit including the electrical heating means and the circuit closing fingers.

11. In a machine of the character described, the combination with electrical heating means, coin controlled circuit closing means, a thermostat for opening said circuit closing means, a heating coil on said thermostat, a lamp, and electric circuits including said electrical heating means, the heating coil and the thermostat and the lamp in parallel circuits and also including said circuit closing means.

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

MARY MYRTLE BUCK.

Witnesses:
RUBY R. NAPIER,
BERNIECE L. PRESCOTT.