July 20, 1926. 1,593,266

J. W. MYERS

FLATIRON

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Fig. 1.

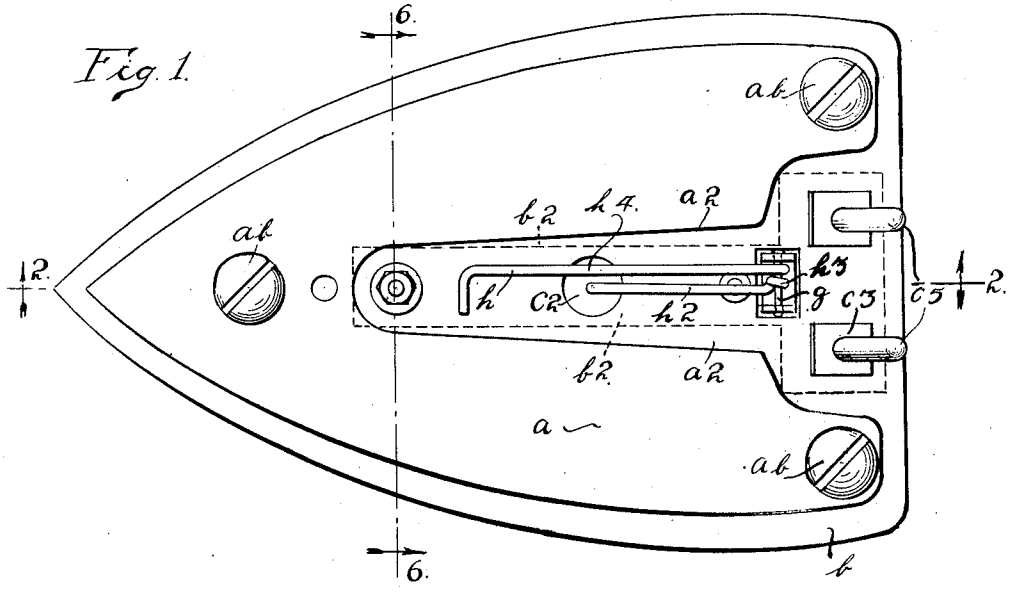
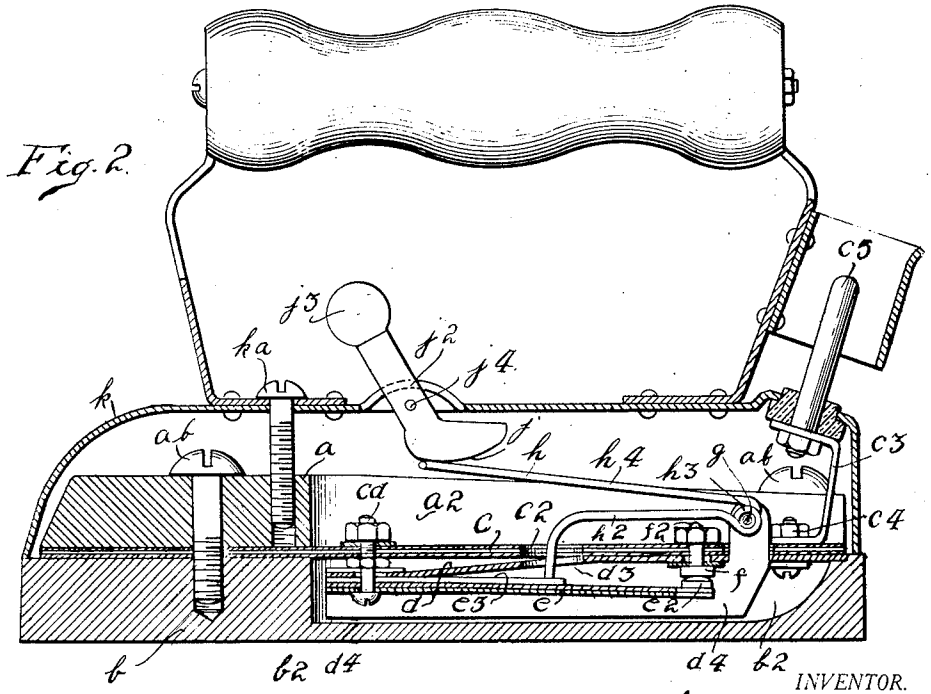


Fig. 2.



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Fig. 3

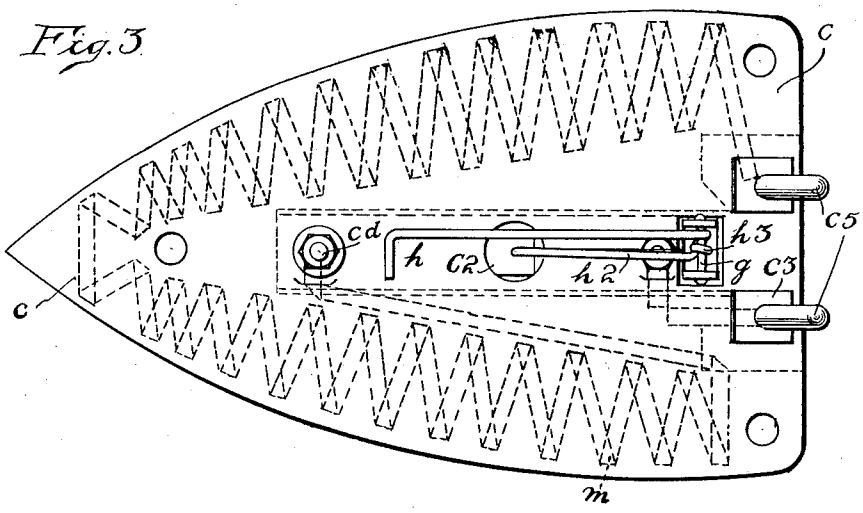


Fig. 4

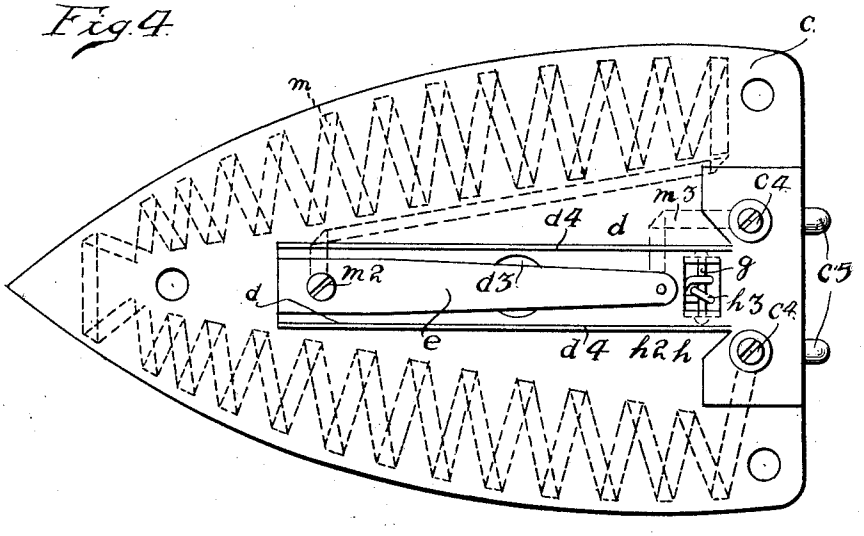
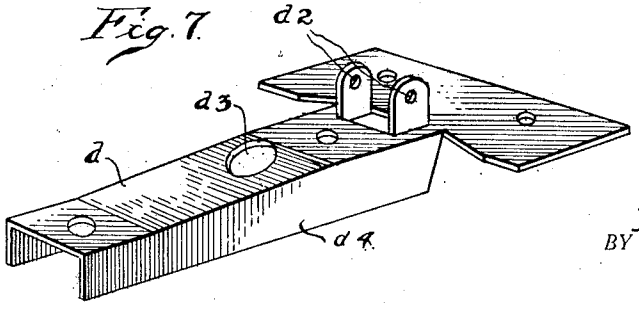


Fig. 7



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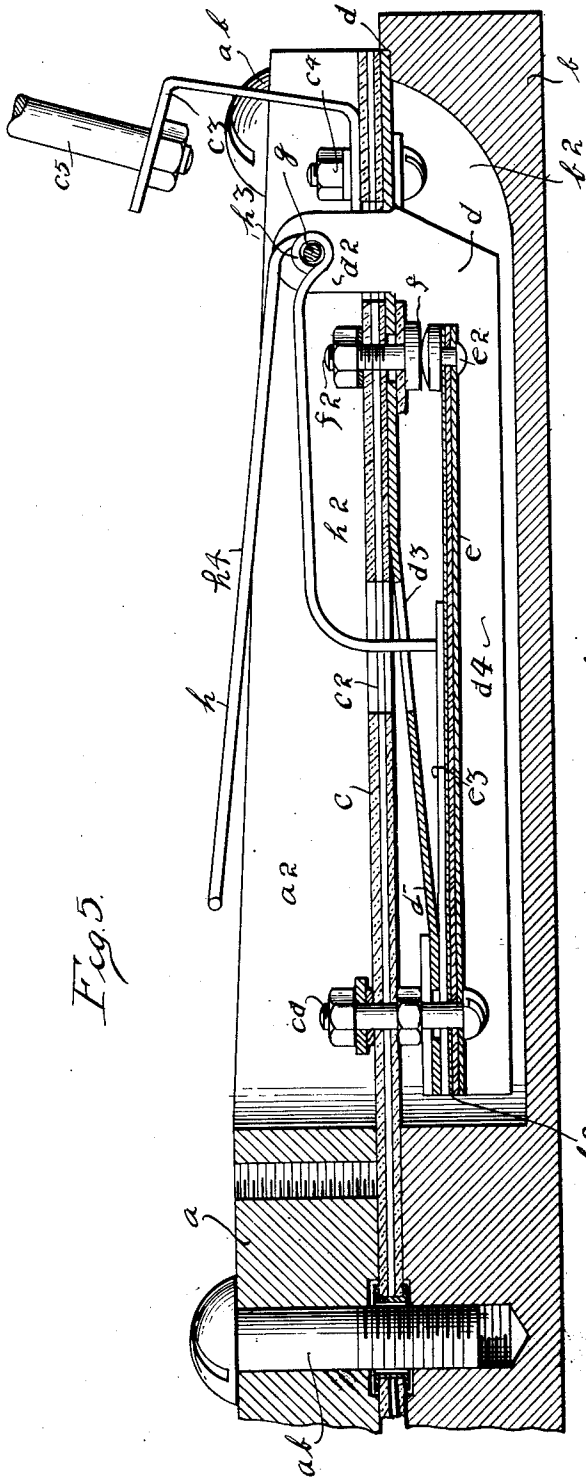


Fig. 5.

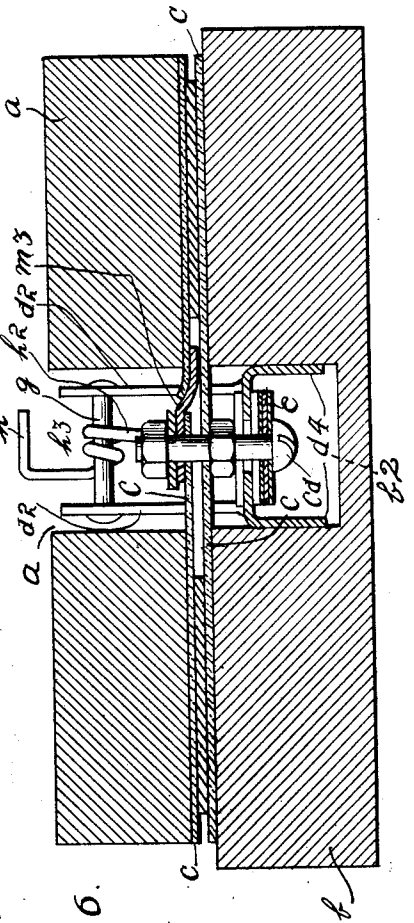


Fig. 6.

INVENTOR.

BY Joseph O. Myers

Edward Woodward

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Patented July 20, 1926. 1,593,266

UNITED STATES PATENT OFFICE.

JOSEPH W. MYERS, OF JACKSON, MICHIGAN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-THIRD TO JOSEPH H. MYERS, OF JACKSON, MICHIGAN; ONE-THIRD TO ARTHUR J. TUTTLE, OF DETROIT, MICHIGAN; AND ONE-THIRD TO AGNES W. MYERS AND JOSEPH W. MYERS, BOTH OF JACKSON, MICHIGAN.

FLATIRON.

Application filed April 13, 1925. Serial No. 22,555.

My invention relates to electrically heated flatirons and an object of my improvements is to provide a self regulating flatiron in which the thermostat is quickly responsive to temperature changes in the ironing surface and is not affected by higher temperatures which frequently exist elsewhere in the iron and to provide a construction which may be quickly adjusted to different temperatures by the operator and one which may be inexpensively manufactured and easily serviced by unskilled people.

I secure this object in the device illustrated in the accompanying drawing in which—

Figure 1 is a plan view of an apparatus embodying my invention, the cover being removed.

Figure 2 is a section on the line 2—2 of Figure 1, the cover being in place.

Figure 3 is a plan view of the heating element and attached parts separate from the iron.

Figure 4 is an inverted plan view of the parts shown in Figure 3.

Figure 5 is a longitudinal section to an enlarged scale, partially broken away to economize space.

Figure 6 is a section on the line 6—6 of Figure 1 looking in the direction of the arrows.

Figure 7 is a perspective view of the metal base plate separate from the other parts of the iron.

a is the upper and b, the lower plate. c, is the heating element consisting of two sheets of mica with the heating coils between them, the whole lying between the plates a and b and held in position by bolts or screws ab which connect said plates.

d, is a base plate made of sheet steel and secured to the heating element c beneath said element by bolts or nuts cd, and f^2 and c^4.

a^2, is a slot through the plate a and b^2 is a cavity extending inward from the upper surface of the lower plate b and forming an extension of the slot a^2. The base plate d is bent downward at its edges to form the vertically extending sides d^4. When the parts are assembled, the base plate d passes into the cavity b^2 with the wings or flanges d^4 closely adjacent or lying against the side walls of said cavity. (Fig. 6.) The heating element c extends over the mouth of the cavity b^2 except for a small opening c^2 therein for a purpose hereinafter described.

d^3, is an opening through the base plate d in line with the opening c^2 through the heating element. d^2, indicates lugs turned up from the base plate d and extending through the heating element c into the slot a^2.

e, is a thermostatic strip having a contact piece e^2 at its free end. The strip e is secured at one end to the inside of the base plate d between the flanges d^4 of said plate. e^3, is a sheet of insulating material lying upon the upper surface of the thermostatic arm e.

f, is a contact point forming part of the securing bolt f^2 joining the base plate d and the heating element c but insulated from said base plate.

g, is a pin engaging between the lugs d^2. h, is a spring wire having an arm h^2 bent downward and extending through the apertures c^2 and d^3 and resting upon the insulating sheet e^3, above the thermostatic arm e and having a series of coils h^3 surrounding the pin h and pivoting said wire upon said pin. h^4, is an arm forming part of the spring wire h extending from the coils h^3 above the arm h^2 and at its end bent at right angles, and extending horizontally as shown most distinctly in Figure 1.

j^2, is a lever pivoted at j^4 to the cover k and extending through an aperture in said cover and provided with a cam surface j at its lower end. j^3, is a handle at the upper end of the arm j^2 by which said lever may be manipulated.

c^3 are attaching lugs secured by nuts and bolts c^4 to the heating element c and base plate d and insulated from said base plate. c^5, are binding posts by which the electric cable may be attached to the iron.

The parts are assembled as shown and described so that the base plate d is located in the cavity b^2 with its side flanges d^4 contiguous or closely adjacent to the side walls of said cavity.

In this position, the heat radiated from the upper part of the iron only strikes the narrow horizontal portion of the base plate

d and does not strike the vertical flanges d^4, moreover, the base plate d is shielded from the heat of the upper part of the iron or upper plate a by the interposed insulating sheets of the heating element c. On the other hand, the flanges d^4 present a broad surface to the walls of the plate b so that the heat of said plate is quickly communicated to the base plate and therethrough to the thermostat e.

In ironing, the heat is withdrawn at a greater rate from the plate b than from any other part of the iron and the temperature of said plate is important to the operation of the iron. It is therefore desirable that the thermostat should correspond in its action closely to the temperature of the plate b which object is secured by this construction as above pointed out.

By turing the lever j^2 about its pivot j^4, the cam surface j will act to depress the arm h^4 and bring a greater pressure through the arm h^2 upon the thermostatic arm e tending to force said arm out of contact so that the thermostat will carry its contact point e^2 out of contact with the point f at the lower temperature. Thus if the lever arm j^2 is turned to the position indicated in broken lines, the temperature of the plate b will be maintained at a lower point than when said lever is turned to the position indicated in full lines. This adjustment is easily made and to which position the parts are adjusted may be easily observed even at a distance by noting the position of the arm j^2.

The base plate d acts as a strengthening and stiffening member for the heating element c and to make its effect in this regard more complete, it is extended to the rear edge of said heating element. This extension also provides a secure and permanent means by which the parts c^3 are attached to the heating element by the bolt c^4, the thermostat e being clamped closely to the base plate b.

The base plate also shields the thermostatic arm e which makes-and-breaks the circuit through the iron from radiant heat from the top part of the iron.

The base plate d bends gradually downward to the left as shown in Figure 2 to leave an air space between the heating element and said plate.

What I claim is:—

1. In an electrically heated flatiron, the combination of a working plate, a heating element having a circuit therethrough, a contact apparatus adapted to make and break said circuit, a bimetallic thermostat adapted to control said apparatus, and a base plate d of heat transmitting material, said thermostat being located upon said base plate so as to receive its heat mainly therefrom, said base plate being provided with a flange exposing a broad surface to receive heat from said working plate whereby said base plate is kept at a temperature proportional to said working plate.

2. In an apparatus of the kind described, a heating element and a circuit controlling apparatus forming a unitary construction with said heating element, said apparatus consisting in part of two contact points and a spring upon said unitary construction adapted to act variably and yieldingly upon one of said points to tend to separate it from the other of said points whereby the point at which said apparatus shall actuate the circuit is varied.

3. In an apparatus of the kind described, a thermostatically controlled part adapted to make-and-break the circuit, a U-shaped spring having one arm engaging said part to tend to break the circuit, and means for flexing the other arm to vary the pressure of the first named arm upon said part.

4. In an apparatus of the kind described, a heating element, a thermostatically controlled apparatus for controlling the circuit through said element, a cover and lever pivoted to and extending through said cover adapted to oscillate in a vertical plane, and means whereby the oscillation of said lever, shall vary the action of said thermostatic apparatus.

5. In an apparatus of the kind described, a heating element, a thermostatically controlled apparatus for controlling the circuit through said element, a cover and lever pivoted to and extending through said cover adapted to oscillate in a vertical plane, and means whereby the oscillation of said lever shall vary the action of said thermostatic apparatus, the lower end of said lever slidably engaging a portion of said thermostatic apparatus.

6. In an apparatus of the kind described, the combination of a heating element, a thermostatic apparatus adapted to control the circuit through said element, a cover and lever extending through said cover and adapted to be oscillated in a vertical plane, a spring adapted to vary the point of action of said thermostatic apparatus, said lever being adapted to act upon said spring so as to flex the same uniformly with a uniform movement of the lever.

7. In an apparatus of the kind described, a working plate, a cavity extending into said working plate, a thermostatic apparatus having a base plate parallel to said working plate, said base plate being turned down at one of its edges and fitting into said cavity with the said turned down edge adjacent to a wall of said cavity.

8. In an apparatus of the kind described, a working plate, a thermostatic control apparatus having a heat transmitting base plate the temperature of which determines the action of said apparatus, said base plate

having a vertically extending flange, said flange being exposed to a vertical surface of said working plate so as to permit heat to pass readily between said plate and flange.

9. In an apparatus of the kind described, a working plate, a thermostatic control apparatus having a heat transmitting base plate, the temperature of which determines the action of said apparatus, said base plate having a vertically extending flange, said flange being exposed to a vertical surface of said working plate so as to permit heat to pass readily between said plate and flange, a portion of said base plate extending above the heat-sensitive portion of said thermostatic apparatus so as to shield the same from radiant heat.

10. In an apparatus of the kind described, a working plate, a cavity extending into said working plate, a thermostatic apparatus having a base plate parallel to said working plate, said base plate being turned down at one of its edges and fitting into said cavity with the said turned down edge adjacent to a wall of said cavity, the heat-sensitive portion of said thermostat being secured below said plate so that it shall be protected from said radiant heat thereby.

11. In an apparatus of the kind described, a working plate, a cavity extending in from the upper surface of said working plate, a thermostatic apparatus having a base plate parallel to said working plate, said base plate being turned down at its edges and fitting into said cavity with its turned down edges adjacent to the walls of said cavity, the heat-sensitive part of said thermostatic apparatus being secured to said base plate between the down turned edges thereof.

12. In a flatiron, a working plate having a cavity in the upper surface thereof, means for heating said plate located above said plate, a base plate secured to said heating means at one end and extending downward so as to leave an air space between said base plate and heating means toward the other end of said base plate.

In testimony whereof, I sign this specification.

JOSEPH W. MYERS.