Jan. 27, 1925.

1,524,211

A. PRITZKER

ELECTRICALLY HEATED SADIRON

Filed May 23, 1924

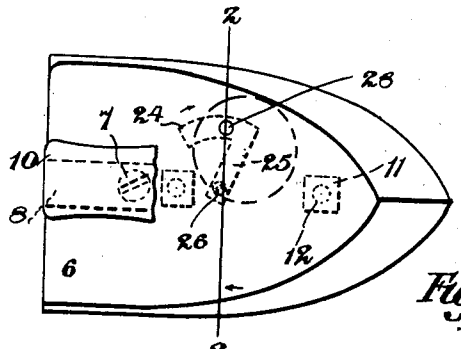


Fig. 1.

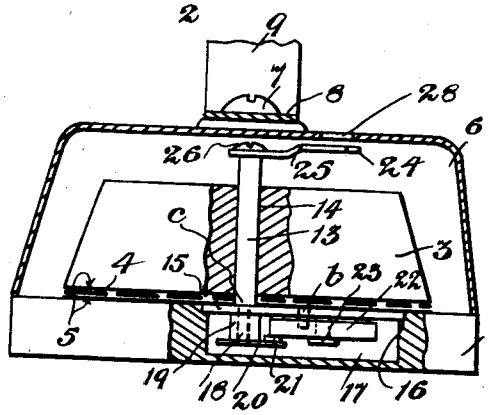


Fig. 2.

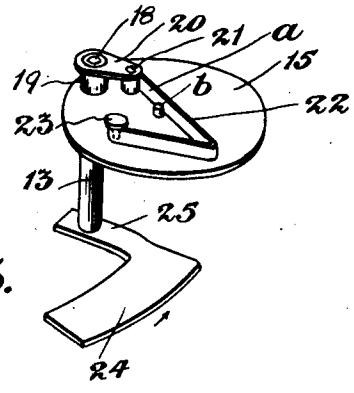


Fig. 3.

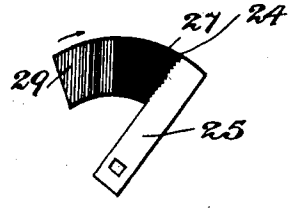


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ELECTRICALLY-HEATED SADIRON.

Application filed May 23, 1924. Serial No. 715,478.

To all whom it may concern:

Be it known that I, ASHER PRITZKER, a subject of the King of Great Britain, residing in the city of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Electrically-Heated Sadirons, of which the following is a specification.

My invention relates to improvements in electrically heated sad irons, and has for its principal object to associate with this type of iron means that will automatically visually indicate to the operator different stages of the temperature of the base of the iron so as to permit the operator to have wide flexibility of control of said temperature thereby absolutely insuring the safe and efficient ironing of various classes of material. Another object of the invention is to provide for constant visibility of the temperature-indicator on the part of the user of the iron, and in the following specification I shall describe the preferred construction illustrated in the drawings forming part thereof, of means I have developed to put said objects into practice, and what I claim as new will be set forth in the claims forming part of this specification.

Fig. 1 is a plan view of a conventional type of electrically heated sad iron with the temperature-indicator in dotted position, and showing the relative position of the same in respect of the handle of the iron, portion of which only is shown. Fig. 2 is a vertical cross section on the line 2—2, Fig. 1, on an enlarged scale. Fig. 3 is a perspective view of the thermostatically influenced device used, in inverted position, and Fig. 4 is a plan view of the temperature-indicator showing the upper surface thereof, portion of which surface is black, and the remaining portion thereof red in colour.

In the drawings, like characters of reference refer to the same parts.

Obviously to accurately determine the temperature of that portion of the sad iron which comes directly in contact with he goods being ironed, means to indicate the temperature of the said portion, commonly known, as the base, must be housed within said base in such manner as to be below the heating unit. Clearly the heating unit is the source of heat, and if the temperature-indicating device be located intermediate said source of heat and said base, the temperature of the base itself can be quite accurately determined to effect the principal object in view of this invention.

Although I illustrate and describe a given form of sad iron, it must be understood that the underlying idea of my invention may be embodied in numerous types of electrically heated sad irons, and my particular reference to the construction illustrated is not intended to be limiting in scope of protection desired, in any manner.

2 is the base of the iron; 3 the core, and 4 the heating unit which is located between layers of insulating material 5, such as mica.

6 is the cap or housing which is secured to the core 3 after any suitable manner as by means of screws 7 which screws pass through the horizontal part 8 of the handle. Arms 9 are associated with said horizontal part 8, and support the hand grip 10.

The core 3 is attached to the base 2 in any suitable manner as by means of bolts 11 which pass through holes 12 formed in said core and screw into internally-threaded holes (not shown) formed in the base 2.

13 is a spindle freely extending through a hole 14 formed in the core 3, and this spindle passes through a disc 15 which is countersunk in the top of the base 2 and rests against a flange 16. 17 is a chamber formed in the base 2, and the disc 15 closes the top of this chamber.

The lower end of this spindle 13 is preferably reduced as shown at 18, and passes through the disc 15, and through a sleeve 19 which sleeve passes through a lever 20. The lower end 18 also passes through the lever 20, and these parts are riveted or otherwise fixedly secured to said lever.

Carried by the free end of the lever 20 and projecting thereabove is a pin 21 around which one end of the thermostatic element 22 is bent to form an eye. The other end of this element 22 is bent around a pin 23 fixedly secured to the disc 15 and eccentrically thereof.

In the normal position of the parts shown in Figs. 2 and 3, the arm *a* of the element 22 will rest in contact with the pin *b* located centrally of the disc 15 and projecting therebelow.

24 is a segmental-shaped temperature-indicator which is provided with an arm 25,

which arm is suitably coupled to the upper end of the spindle 13. A screw or other removable means 26 is held by said spindle and will permit of the placing and removal of said temperature-indicator as required.

Portion of the upper surface of the temperature-indicator 24 is black as shown at 27, and when the parts are in the position shown in Figs. 1 and 2, the black area will be clearly visible through the aperture 28 formed in the top of the cap or housing 6. As the temperature of the base 2 rises, the element 22 (which is constructed of metal thermostatically influenced) will function and with the result that the arm *a* will move away from the pin *b* and effect movement of the lever 20, which movement will be transmitted through the spindle 13 to the arm 25 and finally to the temperature-indicator 24 carried thereby. When the area of the aperture 28 is substantially half black and half red, the operator will know that the temperature of the base 2 is such that the ordinary lighter classes of article will not be scorched, but should more red be visible through the aperture 28 than black, the operator will know that the temperature of the base 2 is reaching the danger point, and the current should be turned off.

Obviously as the temperature of the base 2 lowers, the thermostatically influenced device will in due course move the temperature-indicator 24 so that black only will be visible through the aperture 28.

Obviously the safe temperature of the base 2 will depend upon the condition and character of the goods undergoing ironing, and therefore the operator must exercise considerable judgment in using a sad iron equipped with this device.

The spindle 13 of course passes through the heating unit 4.

The formation of the reduced end 18 of the spindle 13 produces a shoulder *c*, and therefore the spindle 13 will be supported against vertical movement by the disc 15, and since the sleeve 19 and lever 20 are fixedly coupled to said spindle, the end of the thermostatic element associated with the pin 21 will not be allowed to sag below the outer end of the element and consequently no strains will be brought into action which will in any wise interfere with the sensitiveness of said element.

It will be observed particularly upon reference to Figs. 1 and 3 that the spindle 13 is pivotally mounted in the disc 15 eccentrically thereof, and it is through this manner of mounting said spindle that the desired location thereof is had in order that the aperture 28 may be located preferably at the left-hand side of the hand grip 10 so that the temperature-indicator 24 may be at all times visible.

Because of the desired location of the aperture 28, the chamber 17 is located principally to one side of the longitudinal centre of the base 2.

Frequently, specially in warm weather, ironing operations are carried on where currents of air are common, and therefore since the thermostatically influenced device is housed within that portion of the iron which comes directly in contact with the goods, no extraneous influences to affect the temperature of said device can have any effect thereon. This is most important because the device in question must only function according to the variation in temperature of the base 2.

It is self-evident that in order to maintain the sensibility of the device in question solely in relation to fluctuation in temperature of the base 2, the chamber 17 must be located in some portion of the base 2 so that said chamber will be underneath the heating element 4 and the core 3.

It must be borne in mind that since sad irons of the character set forth are relatively small articles, the space within which to mount a thermostatically influenced device is quite restricted, bearing in mind at all times the fact that said device must be completely housed against influence from extraneous conditions.

What I claim is:

1. In an electrically heated sad iron in combination a chambered base; a thermostatically influenced device located in said chamber; a core, a heating unit located between said core and said base, and means to indicate the temperature of said base projecting through said heating unit and said core and connected with and operated by said device.

2. In an electrically heated sad iron in combination a chambered base; a thermostatically influenced device located in said chamber; a core; a heating unit located between said core and said base; a spindle projecting through said heating unit and said core, and at its lower end associated with said device; a housing for said core and spindle, and a temperature-indicator associated with the upper end of said spindle and moved therewith, and adapted to visually indicate through an aperture formed in the top of said housing different stages of the temperature of said base.

3. In an electrically heated sad iron in combination a base having a flanged chamber formed therein and opening through its top; a disc closing the top of said chamber and resting upon said flange; a spindle pivotally mounted in said disc eccentrically thereof; a thermostatically influenced device associated with said disc and with the lower end of said spindle and within said chamber; the heating unit; the core above said heating unit, the said spindle freely

passing through said two last-mentioned elements, and a temperature-indicator associated with the upper end of said spindle and moved therewith.

4. In an electrically heated sad iron in combination a base having a flanged chamber formed therein and opening through its top; a disc closing the top of said chamber and resting upon said flange; a spindle pivotally mounted in said disc eccentrically thereof and projecting therethrough; a lever coupled to the lower end of said spindle; a thermostatic element pivotally coupled at one end to the outer end of said lever; a pin carried by said disc to which the other end of said element is coupled; a pin centrally carried by said disc and against which portion of said element contacts in normal position, and a temperature-indicator carried by the upper end of said spindle.

5. In an electrically heated sad iron in combination a base provided with an open chamber principally located to one side of the longitudinal axis thereof, said chamber opening through the upper side of said base; a thermostatically influenced device located in said chamber; a spindle associated at its lower end with said device, and located eccentrically of said chamber; a heating unit above said chamber; a core upon said heating unit, the said spindle freely passing through said heating unit and core; a housing for said core and spindle, and a temperature-indicator projecting laterally of said spindle and removably associated with the upper end thereof, and adapted to visually indicate through an aperture formed in the top of said housing, near one side thereof, the fluctuations in temperature of said base.

ASHER PRITZKER.