May 18, 1948. E. O. MORTON 2,441,586

STEAM IRON

Filed Feb. 10, 1945 2 Sheets-Sheet 1

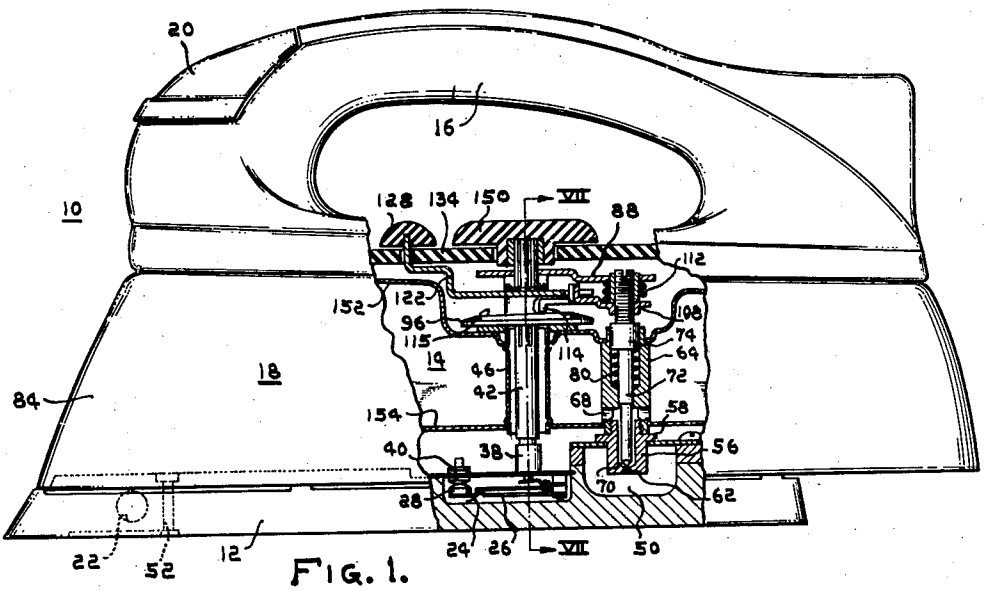

FIG. 1.

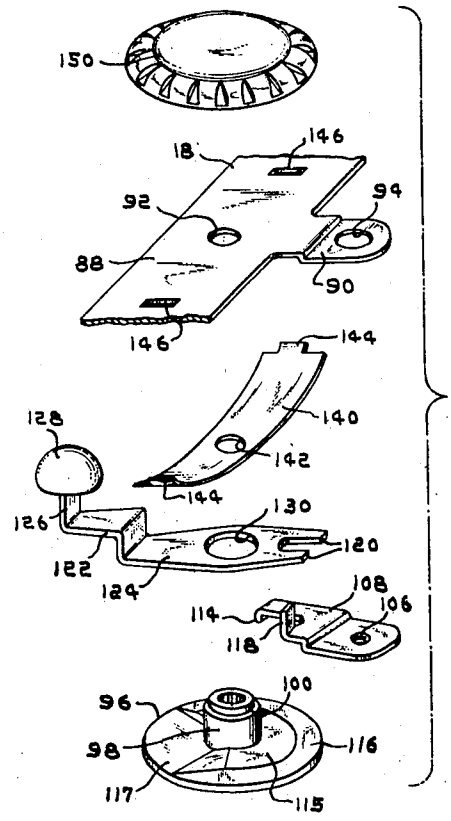

FIG. 2.

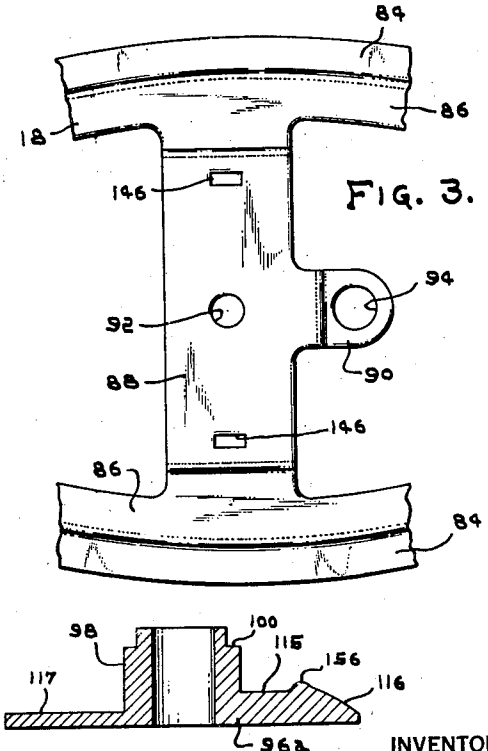

FIG. 3.

FIG. 8

INVENTOR

ELDRED O. MORTON.

BY R. J. Eisinger

ATTORNEY

May 18, 1948. E. O. MORTON 2,441,586

STEAM IRON

Filed Feb. 10, 1945 2 Sheets-Sheet 2

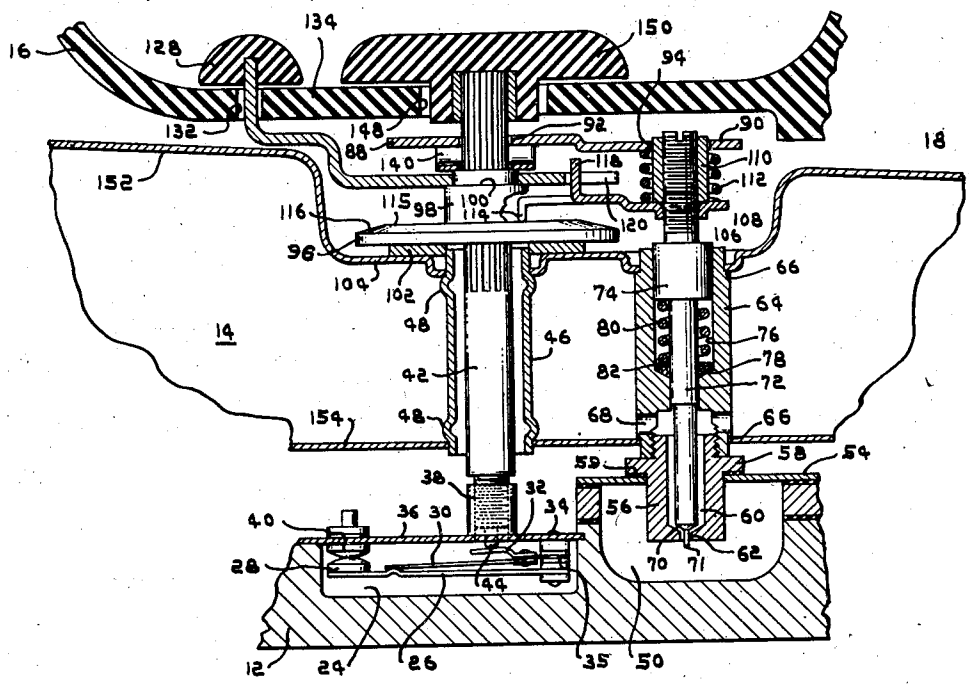

FIG. 4.

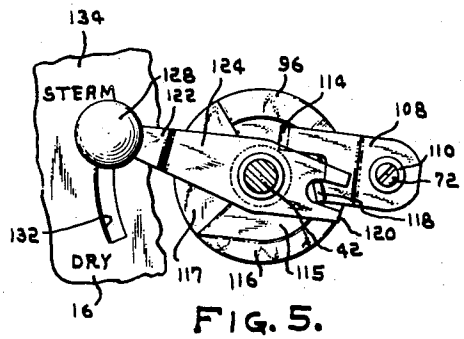

FIG. 5.

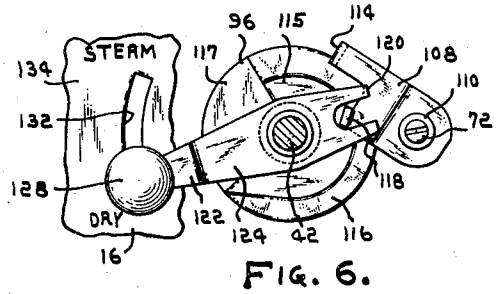

FIG. 6.

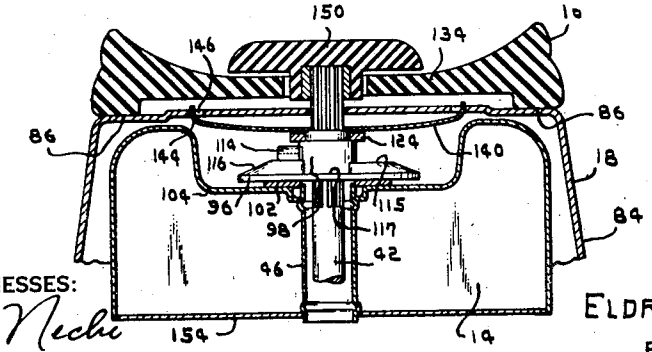

FIG. 7.

WITNESSES:

Louis Neche

E. H. Lutz

INVENTOR

ELDRED O. MORTON.

BY P. J. Eisinger

ATTORNEY

Patented May 18, 1948 2,441,586

UNITED STATES PATENT OFFICE

2,441,586

STEAM IRON

Eldred O. Morton, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Application February 10, 1945, Serial No. 577,277

8 Claims. (Cl. 38—77)

1

My invention relates to a steam iron of the type which includes means for supplying water to a steam generator provided within the iron and communicating with the ironing surface thereof, and means for regulating the temperature of said iron and the rate of flow of water to said steam generator.

One object of my invention is to produce an improved iron of the type set forth.

In ironing different kinds of fabrics, the iron must be maintained at different degrees of heat and the amount of steam supplied to the fabrics being ironed should preferably be varied with different types of fabric. Other things being equal, the amount of steam required varies in accordance with the degree of heat.

It is, therefore, a further object of my invention to produce improved control means for correlating the adjustment of the heat of the iron and the supply of steam according to the requirements of the fabrics being ironed.

A further object of my invention is to produce an improved control means by which the generation and supply of steam may be interrupted or resumed without varying the adjustment to which said control means may have been set.

A still further object of my invention is to produce an improved structure in which the means for regulating the heat of the iron may be calibrated before it is assembled in the iron.

A still further object is to produce an improved assembly whereby all parts of the iron may be dismantled for cleaning or servicing without affecting the calibration of the means regulating the heat of the iron and whereby most parts of the iron can be dismantled without affecting the calibration of means regulating the supply of steam.

A still further object is to produce a compact structure which is inexpensive to manufacture and assemble.

These and other objects are effected by my invention as will be apparent from the following description and claims taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is a view, partly in side elevation and partly in vertical section, of a steam iron provided with control means embodying my invention;

Fig. 2 is a composite perspective view of the principal parts of the control means;

Fig. 3 is a fragmentary top plan view of the iron shown in Fig. 1 with the handle and control means removed;

2

Fig. 4 is an enlarged view of the central portion of Fig. 1;

Fig. 5 is a fragmentary top plan view showing the position of the steam supply control when the iron is used as a steam iron;

Fig. 6 is a view similar to Fig. 5, showing the position of the same parts when the iron is used as a dry iron;

Fig. 7 is an enlarged section on line VII—VII of Fig. 1; and

Fig. 8 is an enlarged vertical sectional view of a modified form of construction of the cam shown at the bottom of Fig. 2.

Referring to Figs. 1 to 7 of the drawings in detail, there is shown an electric iron 10 having a soleplate 12, a liquid reservoir or tank 14 and handle 16 which are secured to each other and to the soleplate 12 in a manner which does not form a part of the present invention and is hence neither shown nor described. A finished cover 18, which will hereinafter be further referred to, encloses the tank 14 and is secured in position in a manner which also forms no part of the present invention and is, therefore, not shown nor described. The tank 14 is filled with liquid through a tube, not shown, the inlet end of which is accessible upon movement of a plug 20 upwardly from the handle 16.

The soleplate is heated by a conventional heating element 22 which is energized by suitable electrical conductors, not shown. The energization of the heating element is controlled by a thermostat seated in a well 24 formed in the soleplate 12.

The thermostat is of the unit type in which all component parts are assembled in an integrated structure which can be applied to or removed from the soleplate of the iron as a whole, or without dismantling any of its parts. As shown, the thermostat includes a spring switch arm 26 carrying a movable contact 28, a bimetal element 30, and an adjusting lever 32. The switch arm, bimetal element and adjusting lever are carried by a rivet or the like 34. The bimetal elements 30 and 32 are connected to the rivet 34 by means of a spring hinge member 35. The rivet 34 is carried by a supporting plate 36 which also carries a bushing 38 and a fixed contact 40. The structure of the thermostat is also such that it may be calibrated before it is assembled to the soleplate of the iron.

The thermostat is regulated by an adjusting stem 42 which threadedly engages the bushing 38 and which carries an insulated pin 44 adapted to act on the lever 32 to vary the position of the

bimetal element 30 with respect to the switch arm 26. The stem 42 passes through a sleeve 46 which extends through the tank 14. The upper and lower ends of the sleeve 46 pass through openings in the upper and lower walls of the tank, and are brazed or otherwise secured to the rims of said openings in fluidtight manner. If desired, the sleeve 46 may be provided with beads 48 which form abutments for the top and bottom walls of the tank, so that the sleeve acts as a stay bolt to keep the top and bottom walls of the tank properly spaced and to strengthen the tank construction.

The soleplate 12 is also provided with a steam generating chamber 50 which is adapted to receive liquid from the tank 14 to be changed into steam. The steam generated in the chamber 50 flows through passages, not shown, to ports 52 through which it is discharged onto the fabric being ironed. The top of the chamber 50 is closed or bridged by a plate 54 which has an opening through which a bushing 56 may be inserted. The bushing 56 is provided with a flange 58 which rests on the plate 54. If desired, a gasket 59 is used to produce a seal between the flange 58 and the plate 54. The bushing 56 has a bore 60 which terminates in a valve opening or orifice 62. The upper end of the bushing 56 threadedly engages the lower end of a sleeve 64 which extends through the tank 14. The upper and lower ends of the sleeve 64 passes through openings in the top and bottom of the tank and are secured to the rims of said openings in fluidtight manner. The upper and lower ends of the sleeve 64 are shouldered as at 66 so that the sleeve acts as a stay bolt with reference to the walls of the tank.

Liquid from the tank 14 flows into the steam generator 50 through openings 68 formed in the sleeve 64 adjacent the bottom of the tank, through the bore 60 in the bushing 56, and out through the orifice 62.

The orifice 62 is controlled by a valve 70 carried by a valve stem 72 extending through the sleeve 64 and into the bushing 56. The lower end of the valve 70 is preferably provided with a reduced extension 71 which is adapted to move into and through the orifice 62 with the movement of the valve 70 so as to eject salt deposits and other foreign matter from the orifice. The upper portion of the valve stem 72 is provided with an enlarged head or collar 74 disposed in the upper portion of an enlarged bore 76 formed in the sleeve 64. The lower end of the bore 76 is tapered and forms a conical seat for packing 78. A spring 80, confined between the collar 74 and a washer 82, compresses the packing 78 to prevent leakage of liquid from the tank past the valve stem.

As will be seen from Figs. 1, 3 and 7, the cover 18 includes a continuous, substantially vertical skirt portion 84, the bottom edge of which rests upon a margin of the soleplate, a horizontal ledge 86 forming a support for the handle 16, and a top, horizontally-disposed bridge or interconnecting portion 88 which extends transversely of the center of the iron and which is provided with a lateral tab 90. The remainder of the top of the cover is preferably cut out for lightness and economy. The bridge portion 88 and the tap 90 are provided with openings 92 and 94, respectively, through which the thermostat adjusting stem 42 and the valve stem 72, respectively, extend.

The thermostat adjusting stem 42 is longitudinally knurled and carries and engages a correspondingly knurled cam 96 so that the cam rotates with the stem but does not move vertically therewith. The cam 96 includes a hub 98 having a reduced upper end whereby a shoulder 100 is produced. If desired, a thrust washer 102 is interposed between the cam and the top of the tank 14. In order to accommodate the washer 102 and the cam 96, without spacing the handle from the top of the cover 18, the top of the tank is preferably dished or recessed, as at 104.

The valve stem 72 threadedly engages an opening 106 in an adjusting follower arm 108, said arm being locked in position on said stem by a threaded sleeve or nut 110. A spring 112 confined between the tab 90 and the arm 108, biases the valve stem downwardly, or in a direction to close the orifice 62. The arm 108 is provided with a downturned lug 114 adapted, in one position of the arm, to ride on a progressively rising surface 115 of the cam 96 so as to raise or lower the valve stem 72 and needle valve 70 in accordance with the position of the cam. The surface 115 is connected to the vertical periphery of the cam by an inclined surface 116, and the cam 96 is also provided with a flat, depressed portion 117. The inclined surface 116 and the flat portion 117 will hereinafter be further referred to.

The arm 108 is further provided with an upturned lug 118 adapted to be engaged by the forked end 120 of an actuating lever 122. The lever 122 comprises a body portion 124 and a handle extension 126 adapted to receive a manipulating knob 128. The body portion of the lever has an opening 130 through which the reduced upper end of the cam hub 98 passes, so that lever 122, when assembled pivotally rests on the shoulder 100 of the cam hub. The handle extension 126 passes through an arcuate slot 132 provided in the bottom portion 134 of the handle 16.

The lever 122 and cam 96 are biased downwardly against the thrust washer 102 by a flat spring 140 having an opening 142 through which the upper end of the thermostat stem 42 passes. The flat spring 140 is provided with reduced, deflected ends 144 which engage openings 146 in cover portion 88. The upper end of the thermostat stem extends through an opening 148 in the bottom portion 134 of the handle and carries a manipulating knob 150. The tank 14 is preferably made of an upper, inverted, cup-shaped member 152 and a flat bottom closure 154.

Assembly

The upper and lower parts of the tank and the sleeves 46 and 64 are assembled as shown, and the upper and lower parts of the tank are welded or otherwise suitably secured, in fluidtight relation, to each other and to the adjacent portions of the sleeves 46 and 64. The bushing 56 is then threaded to the lower end of the sleeve 64 and the packing 78, washer 82, spring 80 and collar 74 are assembled on the stem 72. The arm 108 is next threaded onto the valve stem 72, and the valve stem is inserted into the sleeve 64 with the lower end thereof extending into the bushing 56.

The unitary, previously calibrated thermostat and its adjusting stem are assembled to the soleplate, and the tank, carrying the assembled water valve, is lowered onto the soleplate so as to cause the thermostat adjusting stem to pass upwardly through the sleeve 46. In this position, the flange 58 of the bushing 56 rests upon the gasket 59 and the closure plate 54 of the steam generator 50, as clearly shown in Fig. 4.

With the tank thus assembled to the soleplate, the washer 102 and the cam 96 are slipped over the upper end of the thermostat adjusting stem and the arm 108 is moved to the "Steam" position as shown in Fig. 5. The cam 96 is preferably so positioned on the thermostat adjusting stem that the flat, low portion 117 of the cam registers with the downwardly deflected lug 114 of the arm 108. In order to facilitate the assembly and insure proper positioning of the cam, the cam and the thermostat adjusting stem may be indexed in any suitable manner.

The arm 108 is now vertically adjusted with respect to the valve stem 72, until the lug 114 clears the low portion 117 of the cam, even after the lower end 76 of the valve has moved downwardly far enough completely to close the orifice 62. By this construction, the cam may be moved in either direction, through a range equal to the length of the low portion 117 of the cam, without affecting the position of the arm 108 and the valve 70. The cam may, therefore, be moved to an "off" position, in which the heating element of the iron is not energized, or it may be moved to an "on" position in which the heating element is energized, while the orifice 62 remains closed. It will be noted that if the heating element is energized while the lug 114 registers with the low portion 117 of the cam, the iron will be maintained at a relatively low temperature at which no water need be admitted to the steam generating chamber. It will thus be seen that the supply of water to the steam generating chamber is completely shut off as long as the heating element remains deenergized or as long as the iron is maintained at a predetermined low temperature.

With the arm 108 adjusted to the position marked "Steam" as shown in Fig. 5, the cam is adjusted to a position in which the temperature of the iron will be suitable for ironing a certain class of fabrics such, for example, as wool. The arm 108 is now adjusted on the valve stem 72 so that engagement of the lug 114 with the adjacent portion of the cam will open the orifice 62 and permit water to flow into the steam generating chamber at a rate which will insure vaporization of such water by the heat at which the iron is maintained by the particular setting of the cam. The locking sleeve 110 is next threaded onto the upper end of the valve stem to retain the arm 108 in the position to which it has been adjusted.

The surface of the cam is such that, with the arm 108 adjusted as described, rotation of the cam in one direction or the other will cause the valve stem to move up or down, to increase or decrease the flow of water through the orifice 62 according to the rise or fall of the temperature of the iron. For example, if the cam is turned to the position marked "Linen," the temperature of the iron will be raised, the lug 114 of the arm 108 will ride on a higher portion of the cam, and the flow of water through the orifice will be correspondingly increased. If the cam is turned to the position marked "Rayon," the temperature of the iron will be decreased, the lug 114 will ride on a lower portion of the cam, and the flow of water through the orifice 62 will be accordingly decreased.

After the cam 96 and arm 108 have been assembled and adjusted, the actuating arm 122 is slipped over the thermostat adjusting stem 42, with the upper end of the stem projecting loosely through the opening 130 and the body portion 124 of the arm resting on the shoulder 106 of the cam hub 98. The arm 122 is so positioned that the forked end 120 thereof engages the upwardly deflected lug 118 of the arm 108. The pivotally mounted arm 122 is thus movable arcuately about the axis of the thermostat adjusting stem and is operative to move the arm 108 to engage the lug 114 thereof with, or disengage it from, the surface 115 of the cam 96. If desired, spring or other positioning means may be used to bias the arm 122 to, and to retain said arm in, either of its positions.

To complete the assembly, the spring 112 is slipped over the locking sleeve 110, and the flat spring 140 is placed on the body portion 124 of the actuating arm 122 with the thermostat adjusting stem extending through the opening 142 in the spring 140. The finished cover 18 is next lowered over the assembled tank and soleplate with the upper ends of the valve stem 72 and the thermostat adjusting stem 42, passing through the openings 94 and 92, respectively, with the ends of the spring 140 engaging the openings 146 in the bridge portion 88 of the cover, and with the spring 112 confined between the body portion of the arm 108 and the tab 90 of the cover. In this position, the spring 112 biases the valve stem downwardly, and the spring 140 biases the actuating lever 122 and cam 96 downwardly.

Operation

When it is desired to use the iron as a dry iron, the arm 122 is moved to the position marked "Dry," in which the lug 114 of the arm 108 rides off the cam surface 115 to permit the spring 112 to bias the needle valve 70 downwardly until the needle valve completely closes the orifice 62. The thermostat may now be turned by means of the knob 150 from its "off" to its "on" position and may be adjusted to maintain the iron at the desired degree of heat. In this position no water is delivered to the steam generating chamber regardless of any adjustment of the thermostat.

If, while the iron is sufficiently hot and the thermostat is in its "on" position, it is desired to supply steam to the iron, the arm 122 is moved to the position marked "Steam" in which the lug 114 of the arm 108 rides on the adjacent portion of the cam surface 115, so as to raise the valve 70 and open the orifice 62 to an extent determined by the height of the particular cam surface portion on which the lug 114 happens to ride. If the thermostat adjusting stem is turned in a direction to increase the heat at which it is desired to maintain the iron, a higher portion of the cam surface will be presented to the lug 114 so as to increase the opening of the orifice 62 and increase the delivery of water to the steam generator. If the thermostat adjusting stem is turned in the opposite direction, the opposite effect will be produced. The structure of the cam and the adjustment of the water valve are such that when the cam is adjusted to maintain the iron at a very low temperature at which water will not be readily changed into steam, the valve 70 will close the orifice 62 even though the lug 114 may be in engagement with a low portion of the cam face 115. Also, as above pointed out, when the low portion 117 of the cam registers with the lug 114, the thermostat may be either in its "off" position in which the heating element is not energized, or in a position in which the heating element is energized but the iron is maintained at a relatively low temperature. In this position of the parts, the orifice 62 will be com-

pletely closed by the valve 70. It will thus be seen that no water can be delivered to the steam generating chamber when the iron is cold, or is at a relatively low temperature, and that the amount of water delivered to the steam generator is varied according to the increase or decrease in the temperature at which the iron is maintained.

When it is desired to use the iron as a steam iron, and if the iron is cold, as for example, after a long period of non-use, the arm 108 is moved to the "Dry" position shown in Fig. 6 in which the orifice 62 is closed. The knob 150 is then turned to adjust the thermostat to the position in which the iron brought up to and maintained at a predetermined degree of heat. When the iron has been sufficiently heated the arm 122 is moved to the "Steam" position shown in Fig. 5 in which the lug 114 rides on the corresponding portion of the cam surface 115 to open the orifice in accordance with the degree of heat at which the iron is maintained.

It will be noted that the supply of steam may be cut off altogether or may be turned on and automatically adjusted, during any ironing operation, by merely moving the arm 122 from one of its positions to the other, without disturbing the adjustment of the thermostat. It will be also noted that in both positions of the arm 108, the forked end 120 of the actuating lever 122 continues to engage the upturned lug 118 of the arm 108.

It will also be seen from the foregoing that the handle 16, the cover 18 and the tank 14 may all be dismantled one from the other and from the soleplate 12 without affecting the calibration of the water valve or of the thermostat. For example, the stem 72 can be completely withdrawn from the sleeve 64 and returned into position therein, without varying the calibration or adjustment of the valve, as long as the relation of the arm 108 and the locking sleeve 110 to the valve stem 72 remains the same. Also by indexing the adjusted position of the bushing 56, the bushing can be disconnected, cleaned and replaced in its indexed position without affecting the adjustment of the valve.

Similarly, the handle 16, the knobs 150 and 128, the cover 18, the spring 140, the cam 96, the washer 102, and the tank 14 may all be removed and the unitary thermostat assembly may be entirely disconnected from the soleplate, and all of the parts mentioned may be reassembled without affecting the calibration of the thermostat, it being understood that care must be taken to prevent particles of dirt from getting under the cam 96 or under the washer 102.

While in the embodiment illustrated a tank 14 is shown for containing the water or other fluid, it is pointed out that the invention is equally applicable to an iron in which the tank is omitted and water or other fluid is supplied to the interior of the bushing 56 from an external source. In the event that the tank 14 is omitted, a strap or the like can be used for supporting the washer 102 and the cam 96.

In Fig. 8 there is shown a modified form of cam 96*a* which may be used interchangeably with the cam 96 forming part of the embodiment illustrated in Figs. 1 to 7.

The cam 96*a* is identical with the cam 96 except that it is provided with a ridge or raised portion 156 disposed between the slanting surface 116 and the gradually rising face 115 of the cam. The ridge 156 is preferably circumferentially co-

extensive with the cam face 115 and is of a constant height measured from the flat lower surface of the cam. The upper surface of the ridge 156 is preferably as high or somewhat higher than the highest point of the cam face 115.

As will be seen from Fig. 8, the ridge 156 is in the path of movement of the lug 114 of the arm 108, so that as the lug is moved onto or off the cam surface 115, the lug 114 must move across the upper surface of the ridge 156. The momentary engagement of the lug 114 with the ridge 156 raises the valve stem 72 to a maximum valve opening position, thus permitting momentary and sudden increased flow of water through the orifice 62 regardless of the setting of the cam 96*a*. It will be understood that after the lug 114 has cleared the ridge 156, it will ride on the adjacent portion of the cam surface 115 so that the opening of the orifice will be regulated according to the setting of the cam as explained in connection with the cam 96.

The momentary and sudden increase of flow of water through the orifice 62 serves to flush the orifice, thus dislodging relatively loose particles of salts or other foreign matter that may have lodged in the orifice and which would not have been dislodged by the gradual and slow flow of water through the orifice which takes place when the orifice is opened gradually to the extent dictated by the portion of the cam surface on which the lug 114 happens to ride at any given adjustment of the cam. This is particularly true when the cam is set to maintain the iron at a relatively low temperature and the orifice is opened to a relatively limited extent. The amount of water which will flow through the orifice while the lug 114 is moving across the ridge 156, especially when the thermostat is set for a low temperature, will be in excess of the amount of water required by the iron temperature, but since the increased flow of water is only momentary, the excess amount of water so delivered will be too small to interfere with proper operation of the iron.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof.

What I claim is:

1. An electric iron comprising a soleplate, a heating element therefor, a thermostat for controlling the energization of said element, means providing a steam generating chamber, means providing an orifice for delivering water to said chamber, a valve for controlling said orifice, a stem for adjusting said valve, means biasing said valve to close said orifice, a stem for adjusting said thermostat, a cam carried by said thermostat adjusting stem and having an aperture through which said thermostat adjusting stem passes, said cam being slidable longitudinally of said thermostat adjusting stem but being locked for joint rotation therewith, the surface of said cam having a gradually rising portion, and a follower arm carried by said valve adjusting stem and adapted to ride on said portion to move said valve to open said orifice to an extent determined by the rise of said portion.

2. The structure recited in claim 1 in which the surface of said cam includes a peripheral slanting portion to facilitate movement of said follower arm onto and off said rising portion, together with actuating means for moving said follower arm onto and off said rising portion.

3. The structure recited in claim 1 in which

the surface of said cam includes a flat recessed portion so arranged that, when said arm registers with said flat portion, said valve closes said orifice.

4. The structure recited in claim 1 together with a pivotally mounted actuating lever engaging said follower arm and operable to move said arm onto, or off, the rising portion of said cam without affecting the adjustment of said thermostat or the relation of said follower arm to said cam or said valve adjusting stem.

5. An electric iron comprising a soleplate, a heating element therefor, a thermostat for controlling the energization of said element, means providing a steam generating chamber, a reservoir adapted to contain water to be converted into steam in said chamber, a wall structure defining an orifice for delivering water from said reservoir to said chamber, a valve for controlling said orifice, a stem for adjusting said valve, means biasing said valve adjusting stem to close said orifice, said stem projecting through a passage extending through said reservoir, a stem for adjusting said thermostat, said stem projecting through a passage extending through said reservoir, a cam disposed above said reservoir and having an aperture through which said thermostat adjusting stem extends, said cam being slidable longitudinally of said thermostat adjusting stem, means for locking said cam for joint rotation with said thermostat adjusting stem, and a follower arm secured to said valve adjusting stem and adapted to ride on said cam to vary the position of said valve relative to said orifice with the rotation of said thermostat adjusting stem and said cam.

6. An electric iron including a soleplate, a heating element therefor, means providing a steam generating chamber, means providing an orifice for delivering water to said chamber, a thermostat for controlling energization of said element and incldng an adjusting stem for varying the temperature setting of the thermostat, a valve assembly for said orifice including a valve, a valve adjusting stem and a follower arm carried by said valve adjusting stem, a cam having a low surface portion and a progressively rising surface portion, said cam being rotatable with said thermostat adjusting stem, said follower arm being so adjusted relative to said valve adjusting stem that, when said follower arm registers with the low portion of said cam said valve closes said orifice and when said arm rides on the progressively rising portion of said cam, said valve is moved correspondingly to open said orifice, said cam including a raised portion, the upper surface of which is at least as high as the highest point of said progressively rising surface portion, said raised portion being so disposed that said follower arm must ride on said raised portion when it is moved into or out of engagement with said progressively rising portion to move said valve adjusting stem upwardly to increase the opening of said orifice and permit momentary increased flow of water through said orifice.

7. An electric iron including a soleplate, a heating element therefor, means providing a steam generating chamber, means providing an orifice for delivering water to said chamber, a thermostat for controlling energization of said element and including an adjusting stem for varying the temperature setting of the thermostat, a valve assembly for said orifice including a valve, a valve adjusting stem and a follower arm carried by said valve adjusting stem, a cam having a low surface portion and a progressively rising surface portion, said cam being rotatable with said thermostat adjusting stem, said follower arm being so adjusted relative to said valve adjusting stem that, when said follower arm registers with the low portion of said cam said valve closes said orifice and when said arm rides on the progressively rising portion of said cam, said valve is moved correspondingly to open said orifice, said cam including a raised portion, the upper surface of which is at least as high as the highest point of said progressively rising surface portion, said raised portion being circumferentially coextensive and disposed adjacent the outer marginal portion of said progressively rising surface portion so that when said follower arm is moved into or out of engagement with said progressively rising surface portion, said arm rides across the upper surface of said raised portion to raise said valve adjusting stem upwardly to permit increased flow of water through said orifice during the movement of said follower arm across the uppper surface of said raised portion.

8. An electric iron comprising a soleplate, a heating element therefor, a thermostat for controlling the energization of said element, means providing a steam generating chamber, means providing an orifice for delivering water to said chamber, a valve for controlling said orifice, a stem for adjusting said valve, means biasing said valve to close said orifice, a stem for adjusting said thermostat, a cam carried by said thermostat adjusting stem, said cam having a gradually rising surface portion and a raised marginal portion of constant height, the upper surface of said raised portion being at least as high as the highest point of said gradually rising portion and a follower arm carried by said valve adjusting stem and adapted to be moved into and out of engagement with said gradually rising surface portion to move said valve in orifice opening direction to an extent determined by the height of the gradually rising surface portion engaged by said arm, said raised portion being so disposed adjacent said gradually rising portion that when said follower arm is moved into or out of engagement with said gradually rising portion, said follower arm will ride on the upper surface of said raised portion to move said valve adjusting stem upwardly and open said orifice accordingly to permit increased flow of water through said orifice.

ELDRED O. MORTON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,342,653	Edwards	Feb. 29, 1944
2,342,716	Woodman	Feb. 29, 1944