March 4, 1958 M. M. KISTNER 2,825,157

STEAM IRON

Filed March 23, 1954 3 Sheets-Sheet 1

FIG. 1

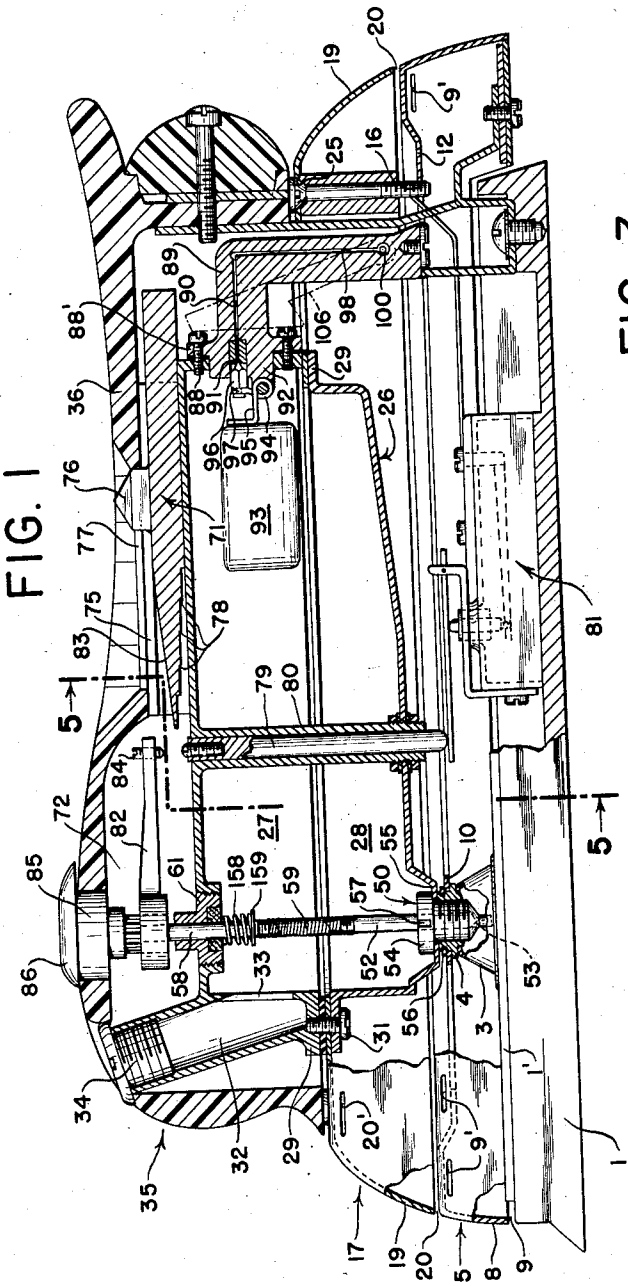


FIG. 3

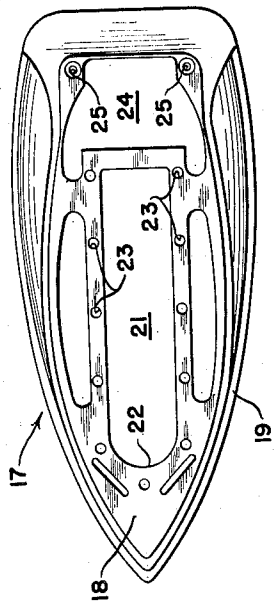
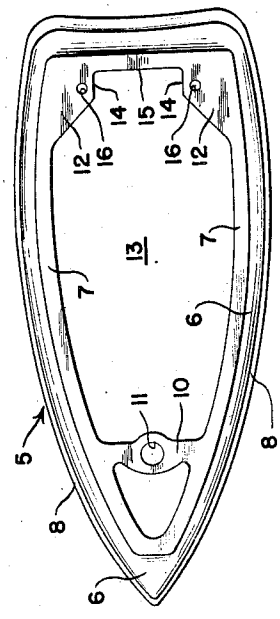


FIG. 2



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March 4, 1958 M. M. KISTNER 2,825,157

STEAM IRON

Filed March 23, 1954 3 Sheets-Sheet 2

FIG. 4

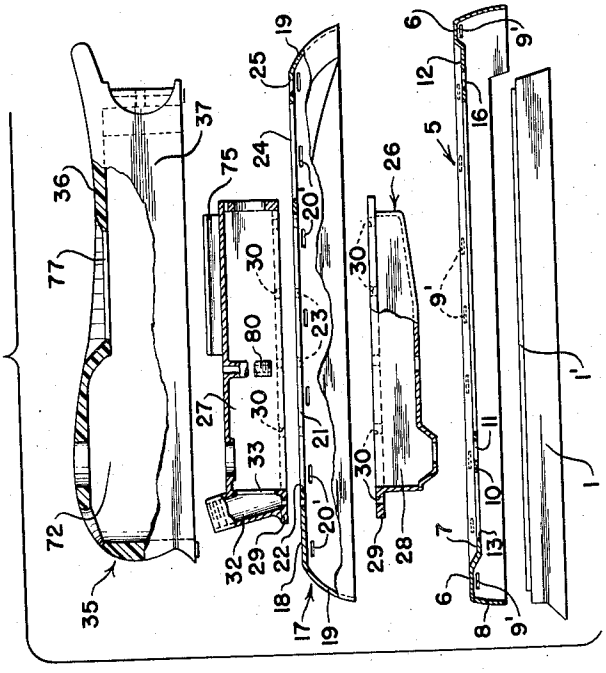


FIG. 5

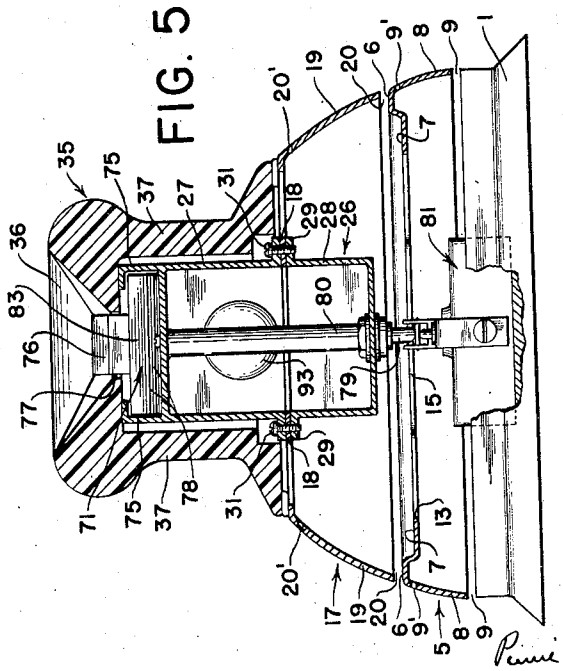
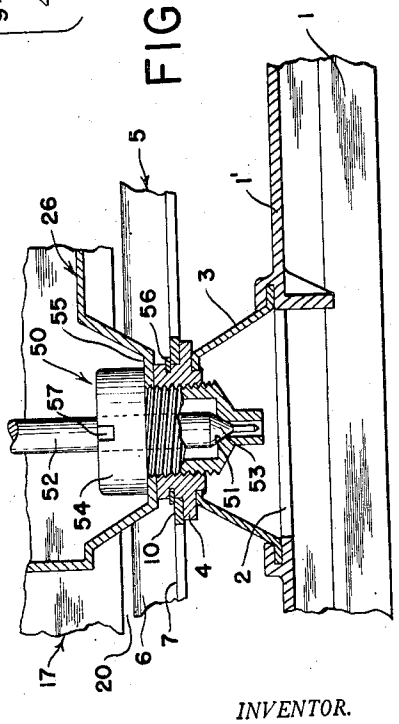


FIG. 6



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STEAM IRON

Filed March 23, 1954 3 Sheets-Sheet 3

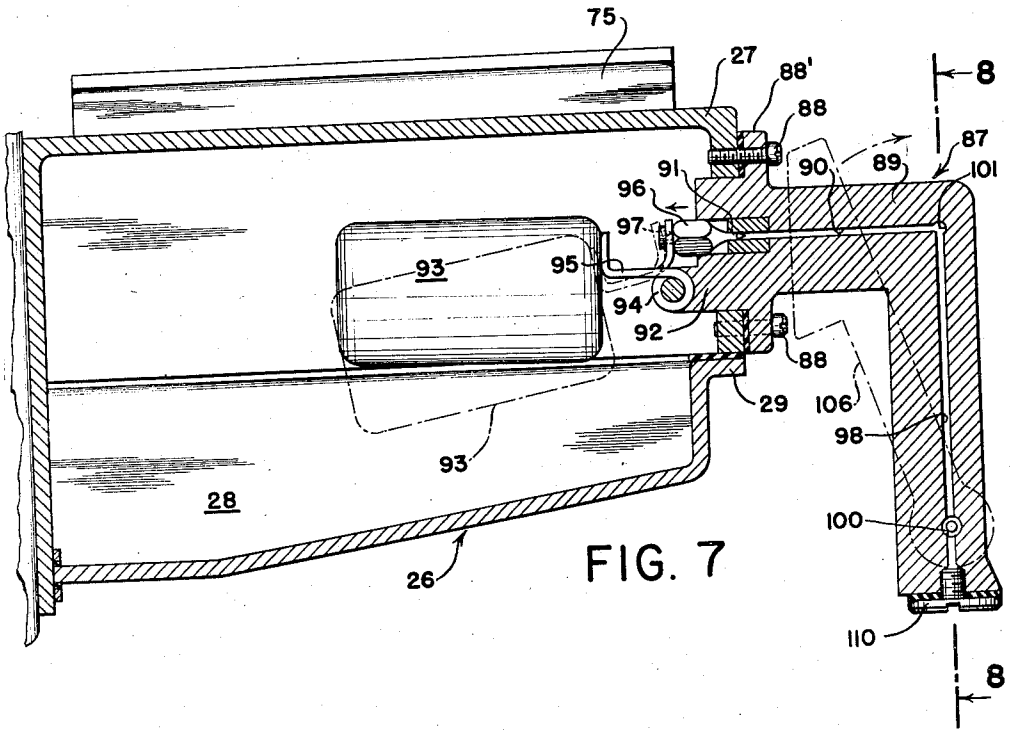


FIG. 7

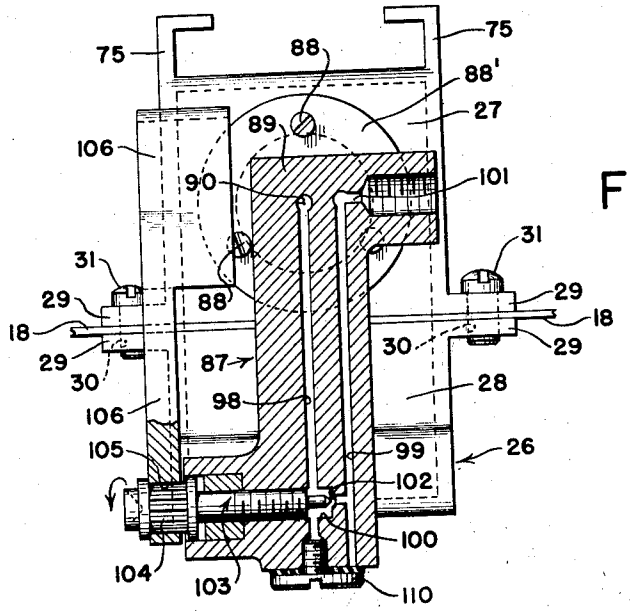


FIG. 8

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United States Patent Office 2,825,157 Patented Mar. 4, 1958

2,825,157

STEAM IRON

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Application March 23, 1954, Serial No. 418,068

13 Claims. (Cl. 38—77)

This invention relates to steam irons and more particularly to improved means for supplying water to a domestic steam iron.

In steam irons of the type described and claimed in my prior Patent 2,384,839 granted September 18, 1945, the water supply is contained in a reservoir from which it is delivered, drop by drop, to a steam generating chamber in the sole plate when the iron is in use. Although such irons have many advantages over other known types of steam irons, the reservoir does require periodic filling and this is objectionable to some users. Utilization of steam irons to the fullest extent has thus been prevented by this objection to the necessity of refilling the reservoir.

In another type of steam iron, the device is connected to a source of water or steam by a flexible conduit. Where water is supplied, it is delivered directly to that portion of the iron in which it is vaporized. Such constructions are used principally in irons for tailor shops, pressing establishments and the like as distinguished from domestic irons. The necessity of opening or closing a valve every time the iron is put in use, or when ironing is discontinued, even temporarily, has kept such devices from becoming popular in the domestic field.

In the present invention the iron is provided with a reservoir from which water is fed to the steam generating chamber as in the iron of my prior patent. However, instead of periodically filling this reservoir, it is filled from a tap or other source by means of a flexible conduit. The iron thus has the advantages of the iron of my prior patent without the objection most frequently voiced by domestic users of steam irons.

Furthermore, the substantially constant supply of water in the reservoir assures more even flow of water from the reservoir to the steam generating chamber in the sole-plate. In an iron in which the reservoir is periodically filled the amount of water contained in the reservoir varies while the iron is in use, and the water is being fed to the steam generating chamber to be converted into steam. This causes variations in the amount of water fed to the steam generating chamber. When the water supply is nearly depleted, the flow is less in quantity and has a tendency to be irregular. However, with water constantly supplied to the reservoir to maintain a substantially constant amount of water in the reservoir, the delivery of water to the steam generating chamber is constant and even in flow.

The above described features, while illustrated and described herein, are not claimed but form the subject matter of a divisional application, Serial No. 677,990, filed August 13, 1957.

Another feature of the present invention, by means of which the advantages of the constant supply of water may be utilized to their greatest extent, is the provision of interconnected means for setting the thermostat and regulating the valve which controls the supply of water from the reservoir to the steam generating chamber in the sole-plate. In ironing, different temperatures are used for different fabrics. As a general rule, the heavier fabrics,

which require higher temperatures, also require a greater amount of steam for proper ironing.

Quite frequently, however, the user will adjust the thermostatic control for a higher or lower temperature without changing the rate of delivery of water to the steam generating chamber. By interconnecting the controls, I provide an iron in which the setting of the thermostat automatically adjusts the control valve of the reservoir to supply the proper amount of steam at the selected temperature. I also provide means whereby the valve control may be coupled to the thermostat control to operate as a unit, or either one may be adjusted independently of the other.

In the accompanying drawings I have shown one embodiment of the invention. In this showing:

Fig. 1 is a vertical, longitudinal sectional view of a steam iron embodying the invention;

Fig. 2 is a plan view of a lower, spacer shell;

Fig. 3 is a similar view of an upper spacer shell;

Fig. 4 is an exploded, side elevation of the sole-plate, spacer shells, reservoir and handle, parts being shown in section;

Fig. 5 is a vertical, transverse, sectional view on line 5—5 of Fig. 1;

Fig. 6 is a detailed, sectional view of the valve assembly, on an enlarged scale;

Fig. 7 is an enlarged, vertical, sectional view of the rear of the reservoir showing the float, and float controlled valve; and

Fig. 8 is a sectional view on line 8—8 of Fig. 7.

Referring to the drawings, the iron comprises a sole-plate 1, which may be of any suitable construction including a steam generating chamber (not shown), for vaporizing water fed to it, and means for delivering the steam thus formed through outlets (not shown) in the bottom of the sole-plate to the material being ironed. The sole-plate may advantageously be of the construction shown in my prior patent, referred to above. A cover plate 1' is arranged over that portion of the sole-plate in which the grooves are formed. This cover plate and grooves in the sole-plate form interconnected channels through which steam flows from the steam generating chamber to the steam outlets or discharge ports in the face of the sole-plate. The cover plate is provided with an opening 2 which is positioned over the steam generating chamber of the sole-plate when the iron is assembled. A dome 3 surrounds this opening, the dome being cast with the cover plate, or secured to it by brazing, or in any other suitable manner. A nut 4 is secured to dome 3 by brazing or in any other suitable way.

Immediately over the sole-plate, I provide a spacer shell 5 (se.e Fig. 2). This shell consists of a plate 6, a portion of which is depressed, as indicated at 7. The plate is shaped to conform to the contour of the sole-plate and it is provided with a flange 8 extending downwardly toward the sole-plate. As shown, this flange terminates above the sole-plate providing a space 9 through which air enters the area between the sole-plate and the spacer plate. Adjacent the top of the flange 8, I provide a plurality of spaced slits 9'. Air entering the area over the sole-plate through the space 9 may escape through these slits, and thus dissipate heat which would otherwise flow from the sole-plate to the reservoir of the iron.

As shown, the portion 6 of the plate extends inwardly a slight distance from flange 8 around the entire periphery of the shell. In alignment with the nut 4 and the steam generating chamber, opposite sides of depressed portion 7 are connected by a transverse section 10. This section has an opening 11 through which the nut 4 passes. Adjacent the heel depressed portion 7 is provided with sections 12. This provides a relatively large opening 13

through which a portion of the reservoir extends, as hereinafter described. At the center of the rear of opening 13, the sides 14 of the opening are parallel to each other and perpendicular to the edge 15 to form a rectangular space. Openings 16 are provided at the rear of the shell to receive fastening elements in the assembling of the iron.

A second spacer shell 17 is arranged over spacer shell 5 (see Fig. 3). The two shells are generally similar, the second shell consisting of a plate 18 having a peripheral flange 19 which conforms to the contour of the assembled iron. The bottom of flange 17 is spaced from shell 5, as shown at 20, to permit entrance of air, and this shell is provided with openings or slits 20' near the top through which the air is exhausted.

The top of this shell has a series of openings for reception of the reservoir and for passage of fastening elements. A generally rectangular opening 21 having a curved front edge 22 receives the reservoir and this opening is surrounded by a plurality of openings 23 for the reception of fastening elements. It is also provided with an opening 24 at the rear which aligns with the opening in the lower shell formed by edges 14 and 15 when the iron is assembled. Openings 25 likewise align with openings 16.

A reservoir 26 is arranged partly within the shells and partially above them, the reservoir being substantially rectangular in transverse cross section. As shown, the reservoir consists of an upper section 27 and a lower section 28. These sections are provided with flanges 29 having openings 30. In assembly, these flanges are arranged on opposite sides of plate 18 of the upper shell with openings 23 and 30 in alignment. Bolts or other suitable fastening elements 31 are passed through the aligned openings and secure the two halves of the reservoir to each other and to the shell 17. Suitable gaskets may be placed between the flanges and the plate 18 to prevent leakage of water from the reservoir. While I contemplate maintaining a substantially constant amount of water in reservoir 26 by means of a connection to a faucet or other source of supply as hereinafter described, I also provide means for manually filling the reservoir if the iron is used in a place where a faucet is not available. For this purpose an internally threaded sleeve 32 is arranged in one wall of the reservoir. As shown, it projects upwardly at an angle from the front wall 33. A cap 34 is received in this sleeve.

As shown, the upper section 27 of the reservoir is preferably rectangular in cross-section. It is received within the lower portion of a handle 35 of the eraser-type. By that I mean that the handle consists of a hand-engaging upper portion 36 and portions 37 which extend downwardly on each side and at the front and back of the reservoir to a point slightly above upper shell 17. The hand-engaging portion 36 is wider than the depending portions 37 forming indentations for the reception of the thumb on one side and the fingers on the other, with the palm of the hand in engagement with the upper surface.

An externally threaded valve member 50 is received in nut 4. As shown, this member is hollow and is provided with a reduced lower end 51 forming a valve seat. A valve rod 52 extends through the reservoir and has a valve 53 at its lower end which cooperates with the valve seat 51 to control the flow of water from the reservoir through the tubular valve member 50 to the steam generating chamber in the sole-plate. The valve assembly also serves to secure the reservoir and spacer shells to the sole-plate at the front of the iron. As shown, the valve member has a head 54 which engages a depressed portion 55 in the bottom of the reservoir surrounding the opening through which the valve member passes. A suitable gasket may be arranged between head 54 and the bottom of the reservoir to prevent leakage. The exterior of the valve member is provided with a groove which receives a split ring 56. This ring engages transverse section 10 of the

lower shell 5 to hold it in position against the upper face of nut 4. Head 54 is provided with a slot 57 for the reception of a screw driver or other tool in assembling and disassembling the parts.

Access to the interior of the reservoir is obtained through an opening in the top which opening receives a threaded cap 61. The cap is provided with an opening through which a rod 58 extends. This rod is connected to valve rod 52 by a coil spring 59, preferably formed of stainless steel.

Above the reservoir the rod 58 is connected to a suitable valve control mechanism. Provision of the two rods 52 and 58 connected by the flexible member 59 provides a structure in which the valve aligns with the valve seat much better than in prior constructions in which a single, rigid member extends from the control and has a valve formed on its lower end.

As shown, the top of the reservoir may be provided with a pair of guides 75 to receive the thermostat control member 71. This member is provided with a knob or button 76 which extends through a slot 77 in the upper surface of the handle to permit the control member to be adjusted. The lower face of the control member is provided with a series of steps 78 forming a cam. This cam engages thermostat rod 79 which extends through a sleeve 80 in the reservoir to a thermostat 81 in the sole-plate. Raising or depressing rod 79 by movement of control 71 thus sets the temperature at which the thermostat operates as is usual in the construction of domestic irons. Suitable indicia on the handle adjacent slot 77 indicates the temperature settings corresponding to various positions of the knob 76.

In using a steam iron, it is advantageous to increase the amount of water delivered to the sole-plate as the temperature of the iron is increased. In ironing heavier fabrics both higher temperatures and a greater supply of water is necessary than with the thinner fabrics, particularly the synthetics. At the present time, the user is not generally able to regulate the quantity of steam, because the irons in use provide only an "on" or "off" setting. With a valve of the type shown in my copending application Serial No. 346,590 the flow of water can be regulated. By using a valve of such construction in the iron of this application, I cannot only regulate the flow of water, but I also provide means to correlate it to the temperature setting. As shown, an arm 82 is secured to rod 58. This arm, when it is in the position shown in Fig. 1 of the drawings, is in alignment with thermostat control member 71. The thermostat control member has a cam 83 on its upper surface. As this cam member engages arm 82 by forward movement of control member 71, the arm and the valve mechanism is raised thus raising valve 53 from its seat. A screw 84 may be arranged in arm 82 to be engaged by the cam. This permits initial adjustment of the valve operating mechanism to obtain proper valve openings for various temperature settings. Above arm 82, rod 58 is received in a plastic member 85. This plastic member is arranged in an opening in the upper surface of the handle. Above the handle it forms a knob 86. At times the user wishes to use the iron as a dry iron. At such times the knob 86 is turned to rotate the valve mechanism. This in turn rotates arm 82 in recess 72 to bring the arm out of the path of the control member 71. Movement of control member with the arm in such position has no effect on the valve mechanism. The surface of the handle adjacent knob 86 is provided with suitable indicia, such as the words "Wet" and "Dry" to indicate when arm 82 is in position to cause opening of the valve by the control member 71.

Rod 58 is surrounded by spring 158 arranged between cap 61 and a collar 159 on the rod. When the rod is raised to open the valve, the spring is placed under compression. When arm 82 is out of the path of thermostat control 71, this spring maintains the valve in closed position.

As stated, the iron is not only capable of manually filling through tubular opening 32 but it is also provided with means for maintaining a constant supply of water in the reservoir when a source of water is available and it is intended primarily to be used in this manner. The rear wall of the reservoir has an opening which is closed by a fitting 87. The fitting may be secured to the rear wall to close the opening by screws or bolts 88. The bolts pass through openings in a plate 88' of the fitting and aligned openings in the rear wall of the reservoir. The fitting is in the form of an inverted L. The horizontal arm 89 has a bore 90 communicating with the interior of the reservoir. A valve seat 91 is formed in the end of this bore. A bracket 92 is mounted on the face of the fitting adjacent the valve seat. Float 93 in the reservoir is pivotally mounted in the bracket, a suitable pivot pin passing through an opening in the bracket and through a sleeve 94 formed in an arm 95 which is connected to the float. The other end of arm 95 is connected to valve 96. The valve may be provided with a groove 97 to receive arm 95. Valve 96 cooperates with seat 91. As shown, when the float moves upwardly, the valve moves toward a closed position and when the water level in the reservoir reaches a predetermined level, the valve is closed to cut off the supply of water.

Bore 90 in the horizontal leg of fitting 87 communicates with a bore 98 in the vertical leg of the fitting. The lower end of bore 98 is connected to a bore 99, which is parallel to bore 98. These bores are connected by a cross passage 100 at the bottom of the fitting. Upper end of bore 99 is connected to a bore 101 which extends toward one side, and is enlarged and threaded to receive the hose connection (not shown) by means of which water is delivered from the faucet.

In the use of steam irons of this type, the flow of water from the reservoir to the sole-plate is automatically cut off when the iron is placed on its heel, as when the user is replacing the article on the ironing board, turning it, or interrupts the actual ironing operation for any other reason. It is, therefore, necessary to provide means for cutting off the supply of water not only when it reaches a predetermined level with the iron in the normal ironing position, but also when the iron is up-ended and no water is being delivered from the reservoir. For this purpose cross bore 100 is reduced adjacent its end to form a valve seat 102. The bore is also threaded with relatively coarse threads. A valve member 103 is mounted in this bore and is threaded to engage the threads in the bore. Member 103 extends beyond the fitting and is provided with a knurled portion 104. This knurled portion is received in a knurled opening 105 in a weighted pendulum 106. Normally the pendulum is in the inclined position shown in Fig. 7 of the drawings and valve 103 is open. When the iron is up-ended, the pendulum swings in a clock-wise direction. Engagement of the threads on valve member 103 with the threads of bore 100 causes the valve to move far enough to bring the valve into position on seat 102 which cuts off the flow of water. The position of the weighted pendulum is such that when the iron is moved to ironing position, it will swing back to the position shown in Fig. 7 and open valve 103. Then while ironing continues, the flow of water is controlled by valve 96.

The iron may be used as a steam iron or a dry iron and it is not necessary to empty the reservoir when it is to be used as a dry iron. It may also be manually filled through tubular sleeve 32 when no source of water is available, or through the hose connection, which is the preferred way, when a faucet or other source of supply is available. The interconnected thermostat and valve control results in a proper supply of steam for the temperature setting that is being used and better ironing of different fabrics results. The two piece reservoir may be die cast or otherwise fabricated, and is much simpler to produce than the reservoir heretofore used in which

the bottom is a separate piece and has to be secured to the body of the reservoir.

The bores 98 and 99 are drilled from the bottom of the fitting 87. A screw 110 is placed in the end of bore 98 which is enlarged and threaded to receive the screw. The head of the screw seals the ends of these bores. A gasket may be arranged under the head of the screw as shown.

I claim:

1. An electric steam iron comprising a thin sole-plate within which is embedded an electric heating element, the sole-plate being further provided with baffle walls defining a steam-generating explosion chamber and steam delivery channels substantially completely surrounding the heating element whereby the steam generated in the explosion chamber is heated in the course of its delivery to steam outlet openings adjacent the periphery of the sole-plate, a seal plate positioned adjacent the top of the sole-plate and defining a top wall for said explosion chamber and steam-delivery channels, a heat insulating shell secured to the sole-plate and positioned above the seal plate, the lower edge of the shell being spaced from the sole-plate to provide a space for the admission of air to the space between the shell and the sole-plate and the shell being provided adjacent its upper edge with openings forming air outlets so as to permit thermal convection circulation of air through the shell, a second heat insulating shell mounted over said first shell, the lower edge of the second shell being spaced from the first shell to provide a space for the admission of air to the space between the two shells, the second shell being provided adjacent its upper edge with openings forming air outlets to permit thermal convection circulation of air through the second shell, a reservoir positioned over said first shell and partially within the second shell, the second shell being secured to the reservoir and the reservoir being secured to the sole-plate and a handle arranged over and enclosing at least a portion of the reservoir, the handle being secured to the assembled sole-plate and reservoir, the handle being provided with a relatively wide top surface for support of the palm of a user's hand and being provided with side wall surfaces each having a finger-grip indentation laterally adjacent the portion of the water-supply chamber enclosed by the handle shell.

2. An electric steam iron comprising a sole-plate, an electric heating element within the sole-plate, a seal plate positioned adjacent the top of the sole-plate and defining a top wall for a steam explosion chamber within the sole-plate and steam-delivery channels, a heat insulating shell secured to the sole-plate and positioned above the seal plate, the lower edge of the shell being spaced from the sole-plate to provide a space for the admission of air to the space between the shell and the sole-plate and the shell being provided adjacent its upper edge with openings forming air outlets so as to permit thermal convection circulation of air through the shell, a second heat insulating shell mounted over said first shell, the lower edge of the second shell being spaced from the first shell, and the second shell being provided adjacent its upper edge with openings forming air outlets to permit thermal convection circulation of air through the second shell, a reservoir positioned over said first shell, and partially within the second shell, the lower edge of the second shell being spaced from the first shell to provide a space for the admission of air to the space between the two shells and a handle arranged over and enclosing at least a portion of the reservoir, the handle being secured to the assembled sole-plate and reservoir, the handle being provided with a relatively wide top surface for support of the palm of a user's hand and being provided with side wall surfaces each having a finger-grip indentation.

3. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a spacer shell over the sole-plate and secured thereto,

the spacer shell comprising a plate and a flange at the edges of the plate, the flange following the contour of the sole-plate, the spacer shell being supported above the sole-plate to space the lower edge of the flange above the sole-plate to provide a space for admission of air to the space between the sole-plate and the spacer shell, the flange being provided with openings near its upper edge serving as air outlets, a second spacer shell mounted over said first shell, the lower edge of the second shell being spaced from the first shell, said second shell being provided with air outlets adjacent its upper edges, a reservoir positioned over said first shell and partially within said second shell, the second shell being secured to the reservoir and the reservoir being secured to the sole-plate, a handle arranged over and enclosing at least a portion of the reservoir, the handle being secured to the assembled sole-plate and reservoir, and valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate.

4. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a spacer shell over the sole-plate and secured thereto, the spacer shell comprising a plate and a flange at the edges of the plate, the flange following the contour of the sole-plate, the spacer shell being supported above the sole-plate, a second shell mounted over the first shell, the second shell comprising a plate and a flange at the edges of the plate, a reservoir comprising upper and lower sections, the sections being secured to each other with the plate of the second shell arranged between them, the reservoir being secured to the sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, and a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate.

5. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a spacer shell over the sole-plate and secured thereto, the spacer shell comprising a plate and a flange at the edges of the plate, the flange following the contour of the sole-plate, a second shell mounted over the first shell, the second shell comprising a plate and a flange at the edges of the plate, a reservoir comprising upper and lower sections, the sections being provided with flanges, the plate of the second shell being received between the flanges of the reservoir sections, the reservoir being secured to the sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, and a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate.

6. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a spacer shell over the sole-plate and secured thereto, the spacer shell comprising a plate and a flange at the edges of the plate, the flange following the contour of the sole-plate, a second shell mounted over the first shell, the second shell comprising a plate and a flange at the edges of the plate, a reservoir comprising upper and lower sections, the sections being secured to each other with the plate of the second shell arranged between them, the reservoir being secured to the sole plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, and a handle arranged over and enclosing at least a portion of the reservoir and secured to the assembled reservoir and sole-plate, the handle being provided with a relatively wide top portion for support of the palm of a user's hand.

7. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a water reservoir arranged over the sole-plate and secured thereto, a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, said means including a valve seat and a valve member, the valve member comprising a valve cooperating with said seat, and control means extending upwardly through the reservoir and handle, said control means including a pair of aligned rods and a coil spring connecting the two rods to permit the lower part of the rod to center the valve on the seat.

8. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a water reservoir arranged over the sole-plate and secured thereto, a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, said means including a valve seat and a valve member, the valve member comprising a valve cooperating with said seat, and control means extending upwardly through the reservoir and handle, a thermostat arranged adjacent the sole-plate to control the temperature thereof, a control rod connected to the thermostat and extending through the reservoir, the gripping portion of the handle being provided with a recess in its upper face into which the upper end of the rod extends, and a control member movable longitudinally in the recess, the control member being adapted to depress said control rod to regulate the thermostat.

9. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam-generating chamber, steam delivery channels and outlet openings in its lower face, a water reservoir arranged over the sole-plate and secured thereto, a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, said means including a valve seat and a valve member, the valve member comprising a valve cooperating with said seat, and control means extending upwardly through the reservoir and handle, a thermostat arranged adjacent the sole-plate to control the temperature thereof, a control rod connected to the thermostat and extending through the reservoir, the gripping portion of the handle being provided with a recess in its upper face into which the upper end of the rod extends, and a control member movable longitudinally in the recess, the control member having a cam surface engaging the upper end of the control rod to depress the rod when the member is moved in one direction in the recess.

10. An electric steam iron comprising a sole-plate, a heating element embedded in the sole-plate, the sole-plate being provided with a steam generating chamber, steam delivery channels and outlet openings in its lower face, a water reservoir arranged over the sole-plate and secured thereto, a handle arranged over the reservoir and secured to the assembled reservoir and sole-plate, valve controlled means for delivering water from the reservoir to the steam-generating chamber of the sole-plate, said means including a valve seat and a valve member, the valve member comprising a valve cooperating with said seat, and a valve stem extending upwardly through the reservoir and handle, a thermostat arranged adjacent the sole-plate to control the temperature thereof, a control rod connected to the thermostat and extending through the reservoir, the gripping portion of the handle being provided with a recess in its upper face into which the upper

end of the rod extends, and a control member longitudinally movable in the recess, the control member having a cam surface engaging the upper end of the thermostat control rod to depress the rod when the member is moved in one direction in the recess, and means carried by the valve stem to be engaged by said control member to open the valve.

11. Apparatus in accordance with claim 10 in which the control member engages an arm carried by the valve stem to raise the valve stem and open the valve when the control member is moved forwardly.

12. Apparatus in accordance with claim 10 in which the control member engages an arm carried by the valve stem to raise the valve stem and open the valve when the control member is moved forwardly and in which said arm may be rotated out of the path of the control member to permit regulation of the thermostat with the valve closed when the iron is used as a dry iron.

13. In a steam iron comprising a sole-plate having a steam-generating chamber, a reservoir over the sole plate and secured thereto, valve controlled means for delivering water from the reservoir to the steam-generating chamber, said means including a valve seat in the reservoir, and a valve cooperating therewith, and a handle arranged partially over the reservoir, the improvement which comprises a valve control rod extending upwardly from the valve through the reservoir and handle to the upper surface of the handle, the valve control rod comprising a pair of aligned rods and a coil spring connecting the aligned rods to assure alignment of the valve with the valve seat when the valve is closed.

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2,342,716	Woodman	Feb. 29, 1944
2,411,199	Felver	Nov. 19, 1946
2,437,571	Waage	Mar. 9, 1948
2,512,054	Dafform et al.	June 20, 1950
2,573,174	Bate	Oct. 30, 1951