Sept. 29, 1953 J. O. THIBAULT 2,653,398

STEAM ELECTRIC FLATIRON FOR DOMESTIC HOUSEHOLD USE

Filed July 7, 1949 3 Sheets-Sheet 1

Fig. 1

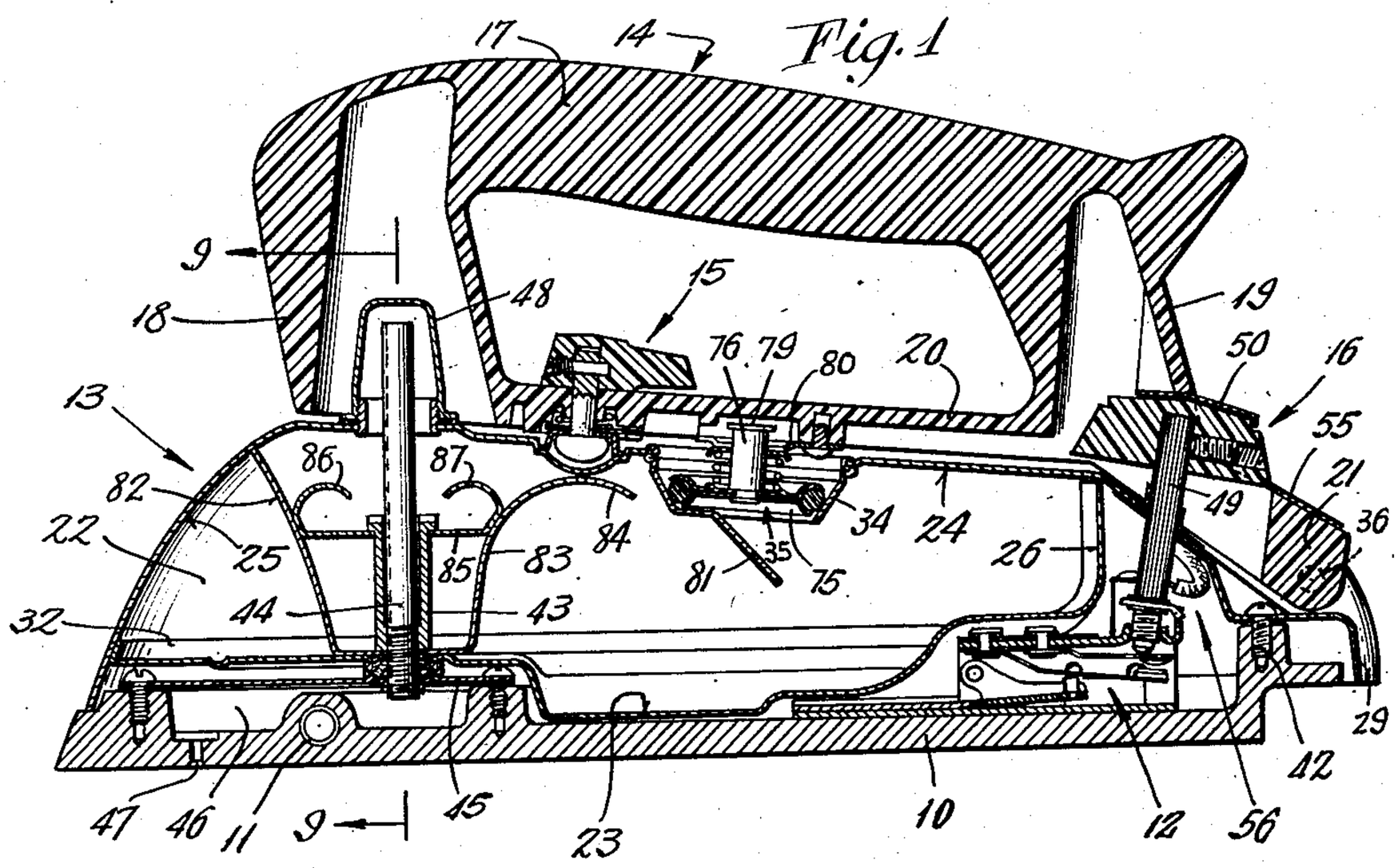

Fig. 2

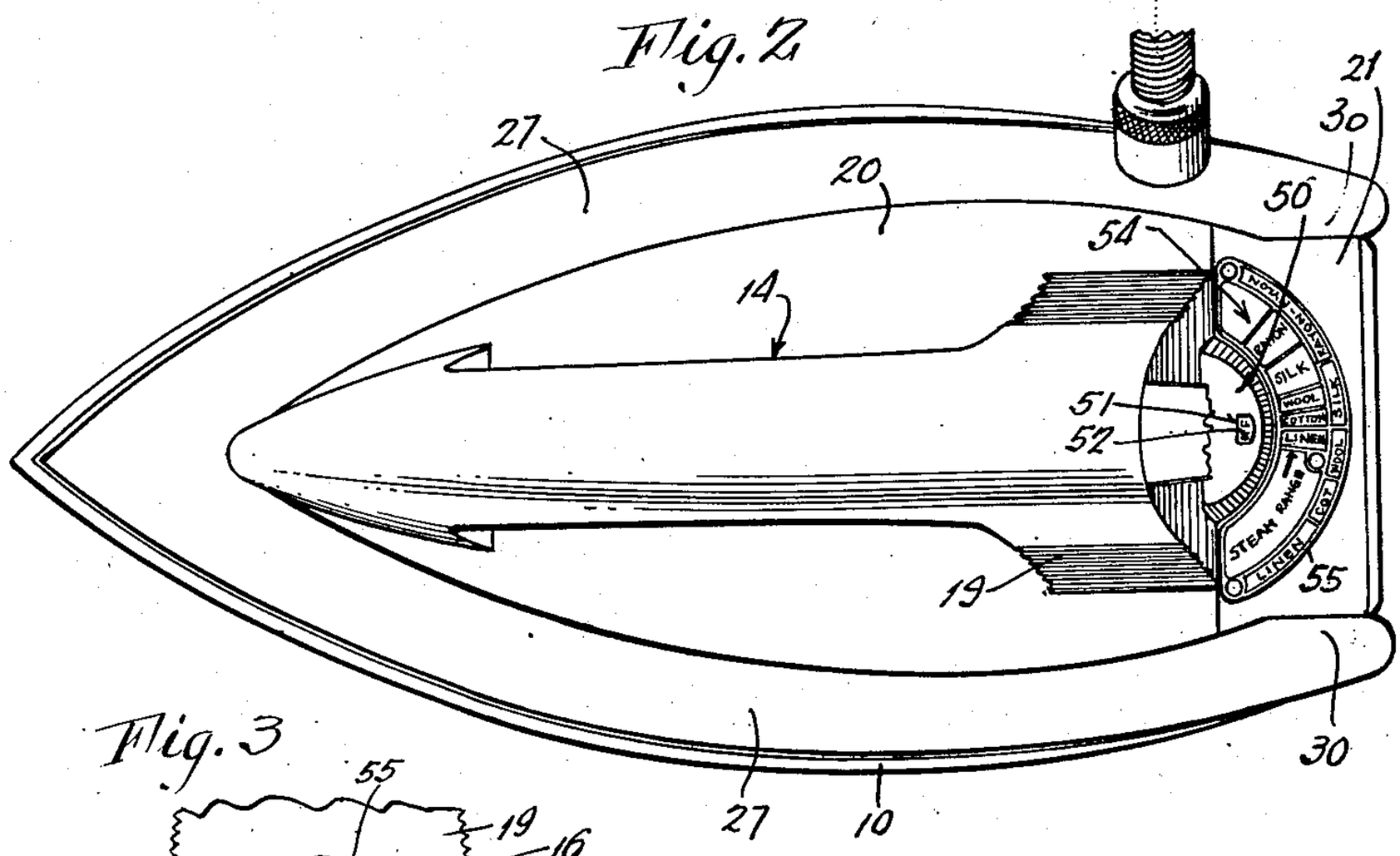

Fig. 3

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STEAM ELECTRIC FLATIRON FOR DOMESTIC HOUSEHOLD USE

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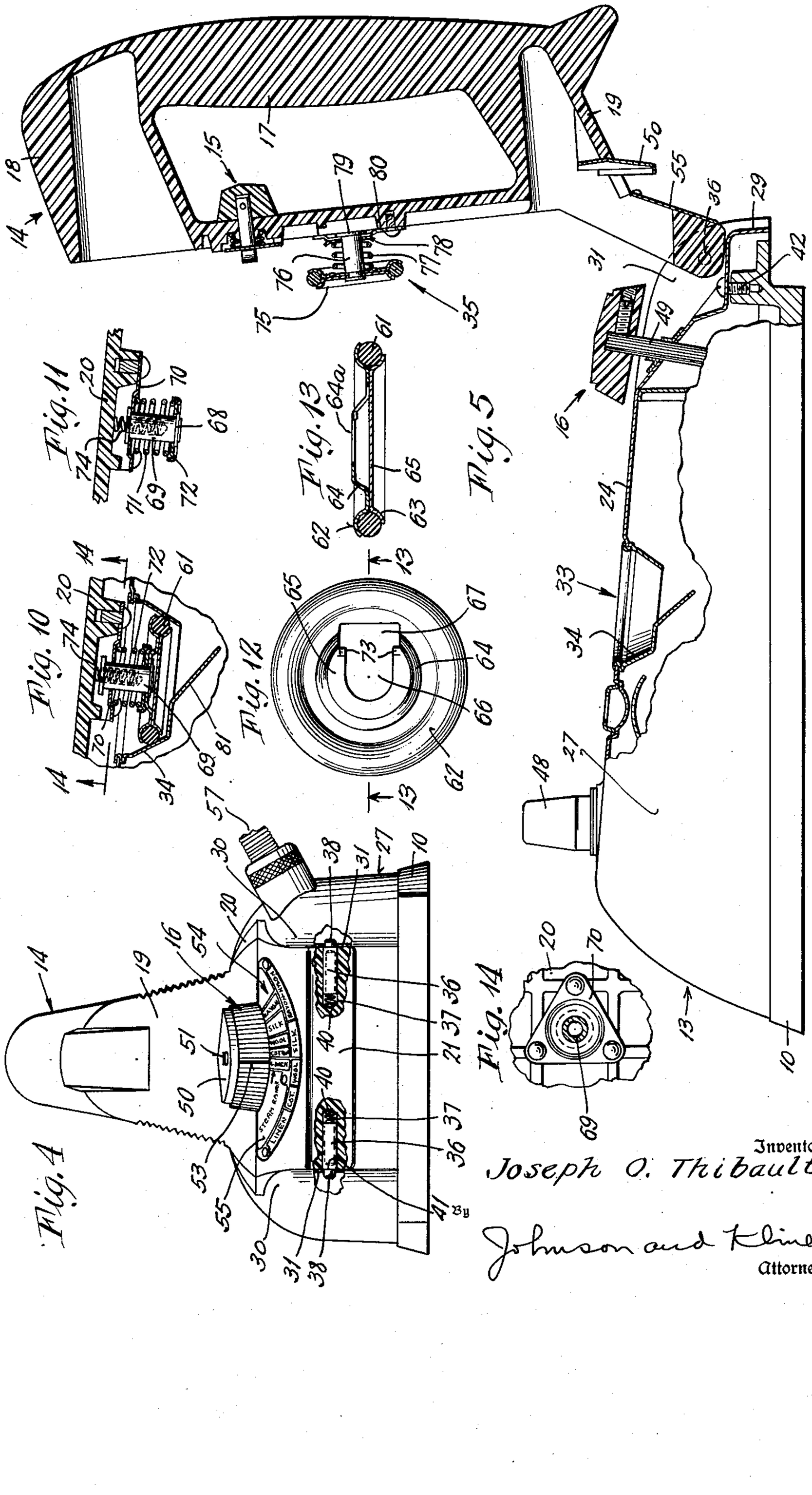

Fig. 11

Fig. 13

Fig. 5

Fig. 10

Fig. 12

Fig. 14

Fig. 4

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STEAM ELECTRIC FLATIRON FOR DOMESTIC HOUSEHOLD USE

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Fig. 6

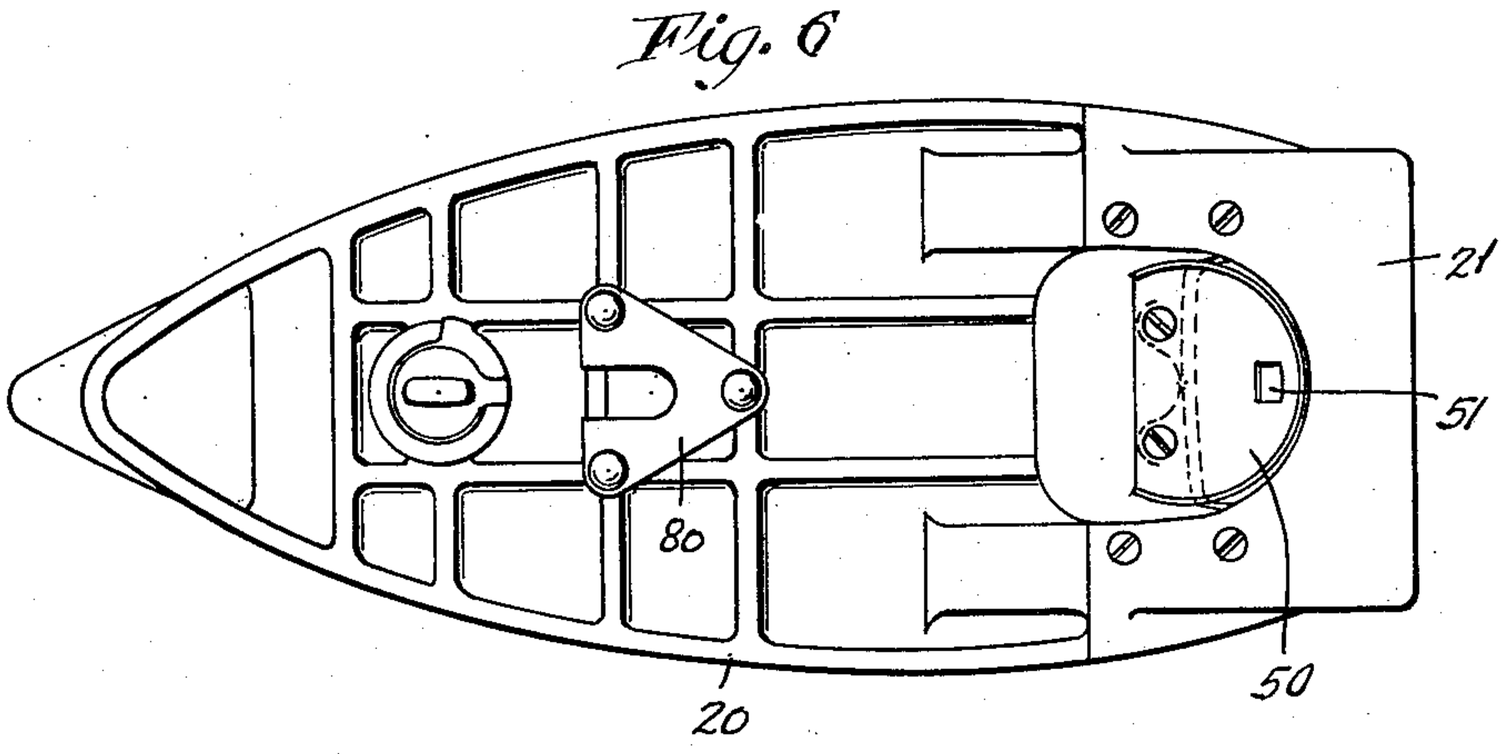


Fig. 7

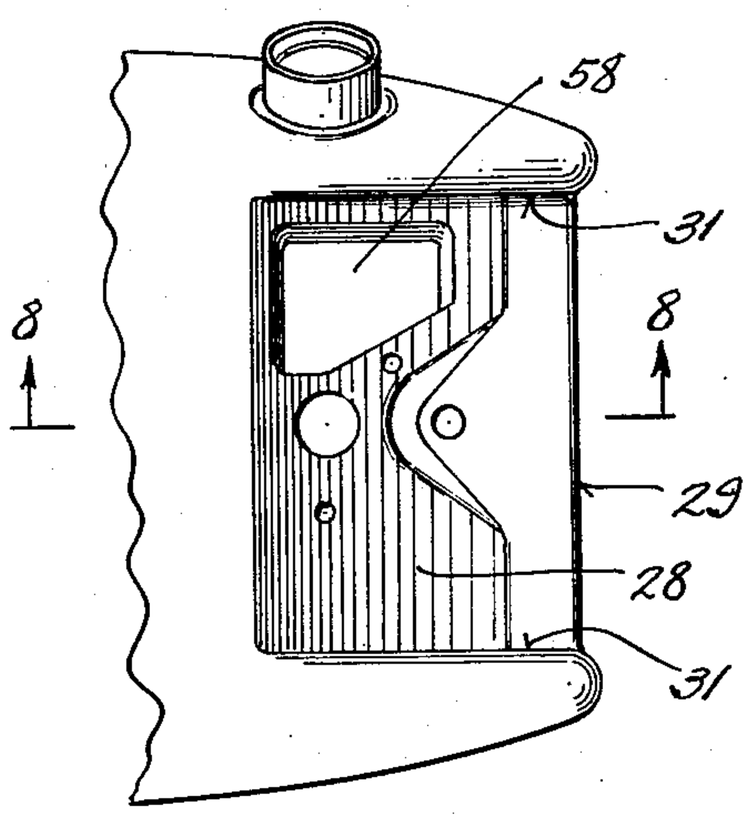


Fig. 9

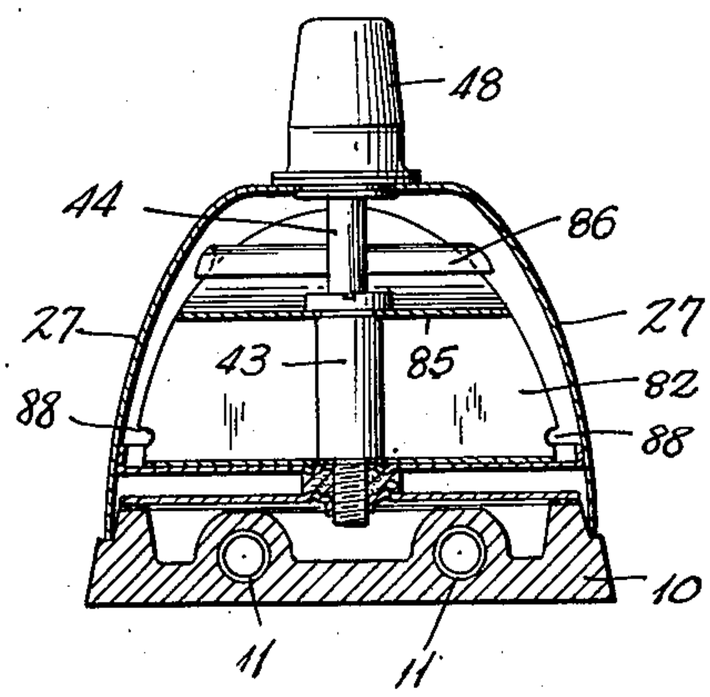
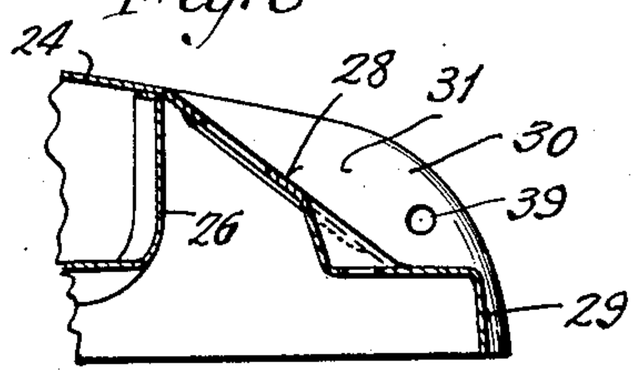


Fig. 8



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UNITED STATES PATENT OFFICE

2,653,398

STEAM ELECTRIC FLATIRON FOR DOMESTIC HOUSEHOLD USE

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Application July 7, 1949, Serial No. 103,437

18 Claims. (Cl. 38—77)

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This invention relates to steam-electric flat irons.

An object of the invention is to provide a steam-electric flat iron adaptable for either dry or steam ironing, which is of improved construction to provide for increased liquid capacity and at the same time reduced overall size and weight.

Another object of the invention is to provide an improved steam-electric iron according to the foregoing, which is extremely simple to operate and satisfactory and fool-proof in its operation, particularly with regard to prevention of eruptions when the iron is being refilled while hot, and prevention of discharge of water with the steam when the iron is being vigorously manipulated during the ironing.

Still another object of the invention is to provide an improved steam-electric iron of the type having a hingedly-mounted handle structure carrying a filler plug or closure, wherein the sealing part of the plug may be quickly and economically renewed or replaced.

Yet another object of the invention is to provide an improved steam-electric iron in accordance with the foregoing, which may be quickly and easily set or adjusted for the different heats desired, with little chance for error.

A still further object of the invention is to provide an improved flat iron characterized as above, which is extremely simple in construction and economical to fabricate and produce.

A feature of the invention is a provision of a steam-electric iron of the above type, which may be very easily and quickly dismantled for servicing or replacement of parts, if this should be necessary at any time.

In accomplishing the above objects I provide an improved iron structure comprising an electrically heated sole plate and a horizontal boiler secured above the sole plate in operative relation thereto, said boiler comprising a major part of a single unitary casing structure which forms the entire body of the iron, said casing structure being so arranged and extended as to completely cover the sole plate and provide a housing for the thermostatic control means of the iron, and to additionally provide a sturdy and effective mounting for the handle structure. The handle structure comprises essentially a single molded part consisting of a handle proper, upright posts supporting the handle proper, and a broad, generally horizontal base portion overlying the top of the casing, said base portion having an opening at the back of the rear post to enable a thermostatic regulator knob, which is carried by

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the casing, to be exposed through the opening for convenient manipulation.

At the rear of the flat iron the casing is recessed to provide oppositely disposed upstanding portions between which the rear part of the base portion of the handle structure extends. In conjunction with this arrangement a simple and advantageous pivot means is provided, hingedly connecting the handle structure to the casing. By virtue of the unitary construction of the casing, and of the handle structure, the parts which make up the flat iron are substantially reduced in number, and the cost and number of assembly operations also reduced, thereby enabling the iron to be very economically fabricated.

The casing encloses the electric terminals for the heating element, and is provided with an opening and a removable cover plate for said opening, both of which are accessible when the handle structure is swung back. Thus servicing operations involving the electric supply cord and terminals to which the cord is connected, may be readily performed without requiring any extensive dismantling of the iron.

The stopper structure by which the filler opening of the boiler is closed, includes an inexpensive, quickly and easily removable and replaceable valve consisting of two sheet metal disks and a ring formed of resilient sealing material, mounted between the peripheral portions of the disks. This assembly is readily removed from a yieldable support provided on the underside of the handle structure, being economical to fabricate because of the few parts which it has.

Improved and novel baffle means are provided within the boiler, arranged in spaced relation to the steam outlet pipe whereby any internal splashing of the liquid content of the boiler cannot cause a discharge of said liquid through the steam pipe. Thus the flat iron may be vigorously manipulated without danger of overwetting the garments being ironed.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is a vertical longitudinal sectional view taken through the center part of the improved steam-electric iron of this invention.

Fig. 2 is a top view of the iron, with the tail portion of the handle broken away to show the temperature adjustment knob more fully.

Fig. 3 is a fragmentary rear elevational view of the iron, the upper portion of the handle being omitted.

Fig. 4 is a view like Fig. 3 but with the handle complete and with part of the casing and handle structure broken away to reveal the pivot means between these parts.

Fig. 5 is a side view of the iron with the handle structure swung back and shown in section, and with part of the casing of the iron broken away and sectioned to reveal interior details.

Fig. 6 is a bottom view of the handle structure of the iron.

Fig. 7 is a fragmentary plan view of the rear part of the flat iron casing, with the temperature adjusting knob and shaft removed.

Fig. 8 is a fragmentary section taken on line 8—8 of Fig. 7.

Fig. 9 is a transverse view partly in section and partly in elevation, the section being taken on line 9—9 of Fig. 1.

Fig. 10 shows another embodiment of the invention, being a fragmentary sectional view of an improved and novel valve and closure assembly.

Fig. 11 is a view like Fig. 10 but with the valve and boiler funnel omitted.

Fig. 12 is an enlarged plan view of the valve member of Fig. 10.

Fig. 13 is a sectional view taken on line 13—13 of Fig. 12, and

Fig. 14 is a section taken on line 14—14 of Fig. 10, showing a part of the underside of the handle unit, and the mounting plate for the valve construction shown in Figs. 10 through 13.

Referring to Figs. 1 through 5, the improved steam-electric iron of this invention as shown therein includes a sole plate 10 having a heating element 11, the latter being controlled by the usual thermostatic switch 12 in a manner well known in the art.

In accordance with the invention, novel simplified casing, handle and boiler structures are provided whereby relatively small size and large liquid capacity are obtained in the iron, and whereby extreme simplicity in the construction and fabrication of the iron is achieved with corresponding economy in manufacture, all in an organization characterized by uncovering of the boiler filler opening by the simple operation of swinging the handle structure upward and back.

Specifically I provide an improved, combined metal boiler and casing structure 13 adapted to be secured above and to the sole plate 10, said structure having but very few parts which are permanently joined together into a single unit which constitutes not only the boiler of the iron but also the entire metal casing. The boiler and casing unit 13 carries a unitary handle structure 14, both of said units being shaped and arranged to interfit at their rear portions and to be pivotally connected together thereat. Except for the sole plate 10 and a latch knob 15 and thermostat knob 16, the units 13 and 14 constitute practically the entire iron structure which presents surfaces outwardly and determines the shape of the iron, its appearance and structural or frame characteristics. The handle unit is preferably of molded construction, being formed entirely in one piece and having a handle proper 17, front and rear upright posts 18 and 19 respectively, and a generally flat base portion 20 including a rearward, downward extension 21, said base portion overlying most of the top surfaces of the boiler and casing 13 and preventing inadvertent contact with the casing by an operator.

Referring to Figs. 1, 4, 5 and 7 through 9,

the casing and boiler unit 13 includes a boiler 22 having a lower or bottom wall 23, a top wall 24, and front and rear walls 25 and 26. The boiler 22 also has side walls 27, Fig. 9. According to this invention the top wall 24 is extended rearwardly and shaped to provide a generally sloping recessed portion defined by a wall extension 28 which terminates in a downturned flange 29. The side walls 27 of the casing and boiler are also extended rearwardly past the rear boiler wall 26, and together with the top wall 24 provide a pair of bulbous, raised portions or wings 30 on opposite sides of the recessed casing portion, or wall extension 28. As shown in Figs. 4, 7, and 8 the bulbous portions 30 present opposed walls 31 which border on the wall extension 28.

In constructing the casing and boiler unit 13 I preferably employ two formed sheet-metal pieces, one piece constituting the bottom wall 23 of the boiler and the rear wall 26 thereof, and the other piece constituting the remaining walls of the boiler those numbered 24, 25, 27, 28, 29, 30 and 31. The sheet-metal piece comprising the boiler walls 23 and 26 I preferably form with a flange 32 around its edge, adapted to be secured to the walls 24, 25 and 27 by brazing or by other suitable processes. The upper wall 24 of the boiler has a filler opening 33, Fig. 5, provided with a funnel member 34 adapted to cooperate with a disk-like valve assembly 35 which latter is carried by the underside of the base portion 20 of the handle structure. The valve 35 is thus conviently operated to close or open the boiler opening 33 by virtue of its being mounted on the pivoted handle unit 14.

By this invention, the rear extension 21 of the base portion 20 of the handle unit is shaped to be received and accommodated between the bulbous portions or wings 30 of the casing and novel simplified pivot means are provided between said portions and the extension 21 whereby the handle unit 14 may be swung upward and backward as shown in Fig. 5, to uncover the filler opening 33, or swung downward over the casing and locked thereto as shown in Figs. 1 and 2, to close the filler opening 33 and enable the iron to be put in use.

This pivot means, referring to Fig. 4, comprises pins 36 carried in recesses 37 in the rear extension 21 of the handle unit, said pins having reduced-diameter end portions 38 which extend into apertures 39, Fig. 8, in the walls 31 of the bulbous portions 30 of the casing. The pivot pins 36 are hollow and carry compression springs 40 by which they are normally yieldably urged outward of the recesses 37, thereby to maintain the shoulders 41 of the pins in engagement with the opposed walls 31 of the casing.

Referring to Fig. 4, it will be observed that the tips 38 of the pins 36 extend into the cavities of the bulbous portions 30 of the casing. When the casing is removed from the sole plate 10, the said cavities of the bulbous portions will be open at the bottom of the casing, so that a screw driver or like tool might be inserted and used to pry the pins 36 out of engagement with the casing by engaging the ends 38 of the pins and depressing said ends. Instead of a screw driver, a tool having a hook-shaped end might be used to more effectively shift the pins 36 out of engagement with the casing. In this manner, the handle structure may be easily and quickly separated from the casing.

I have thus, as clearly set forth above, pro-

vided an extremely simple and effective pivot means between the handle unit 14 and the casing structure 13 and have so formed said handle and casing units that they are extremely simple to fabricate and produce, and are at the same time sturdy and reliable for the purposes desired. Moreover, the construction is such that a relatively large capacity is had in the boiler 22, together with small overall size and weight of the iron.

The casing unit 13 may be secured to the sole plate 10 by a screw 42 at the rear of the iron, and by a sleeve nut 43 at the front of the iron, said nut being threaded on a steam pipe 44 which passes through the upper and lower boiler walls 24 and 23 and is threaded into a cover plate 45 secured over a superheater recess 46 in the sole plate 10.

As is well understood, the sole plate 10 is provided with a plurality of steam escape openings 47 communicating with the chamber 46 whereby steam which has entered the latter through the steam pipe 44 may be discharged at the bottom of the sole plate.

The upper wall 24 of the boiler 22 has a steam dome 48 into which the steam pipe 44 extends, and it will be understood that steam which is generated in the boiler 22 will pass into the steam dome and downward through the steam pipe 44, to be discharged from the bottom of the sole plate 10.

In accordance with this invention the handle unit 14 is recessed and apertured at the rear of the upright post 19 to enable a portion only of the adjusting knob 16 of the thermostat to project and to be accessible for manipulation. As shown in Fig. 1, this adjusting knob is carried on a shaft 49 which passes through the upper wall 24 of the casing and is connected with the thermostat 12 to adjust or set the latter. Referring to Figs. 1, 2 and 6, the handle unit 14 is provided with a circular shield or cover plate 50 having a window 51 therein, said plate being arranged and positioned to overlie the top of the adjusting knob 16 of the thermostat, whereby indicia 52 provided on the top of the knob may be viewed through the window of the shield. It will be noted that when the handle unit 14 is swung upward and backward, as shown in Fig. 5, the shield 50 is carried with the unit, and the adjusting knob 16 of the thermostat is completely exposed whereby it may be readily removed, if this should be found necessary.

The knob 16 may have a knurled periphery provided with an index mark 53 for reference with indicia 54 on a plate 55 carried by the rear extension 21 of the handle unit.

According to the invention, means are provided, positioned with particular reference to the improved handle unit 14, whereby access may be conveniently had to terminals 56 for a supply cord 57 of the iron, see Figs. 1 and 7. The terminals 56 are connected in the usual manner with the thermostat switch 12 and the heating element 11. To enable these terminals to be readily reached when the handle unit 14 is swung upward and backward, the wall extension 28 of the casing 13 is provided with an opening 58, Fig. 7, of a size and location such that a screwdriver may be readily brought into engagement with the terminals 56 for tightening or loosening the same. As shown in Fig. 3, a cover plate 59 is provided for closing over the opening 58, the cover plate being secured to the wall 28 by suitable screws which may be readily

reached when the knob 16 is removed from the adjusting shaft 49. The cover plate 59 has a bearing portion 60 for engagement with the shaft 49 to support the same for rotation in its upright position, the portion 60 being preferably formed by drifting the metal of the cover plate in the well known manner.

By the present invention an improved and simplified closure structure is provided for the filler opening 33 of the boiler 22, whereby an effective closing of said opening is accomplished when the handle unit 14 is in the operative position shown in Fig. 1, and whereby the valve proper may be quickly and conveniently removed and replaced at a minimum of cost.

Referring to Figs. 10, 11 and 12, this improved closure structure comprises a sealing ring or annulus 61 formed of resilient gasket material such as rubber or rubber-like substance, the said annulus being carried between the peripheral portions 62 and 63 of a pair of disks 64 and 65 which are secured together in broadside relation, as by spot welding. The peripheral portions 62 and 63 of the disks are in the form of flanges having partly circular cross sections, and the cross section of the sealing ring 61 is circular whereby a close fit is provided between these parts. The disk 64 has a raised central portion 64*a* provided with a slot 66 having an enlarged end 67 adapted to receive the head portion 68 of a stud 69 carried by a mounting plate 70 secured to the underside of the base portion 20 of the handle structure. The stud 69 carries a helical compression spring 71 and a flanged washer 72 which latter is engaged by said spring, the organization being such that the stud and washer are normally held in extended position, as shown in Fig. 11.

The valve assembly shown in Fig. 13, comprising the disks 64 and 65 and the sealing ring 61 may be mounted on the stud 69 by passing the head portion 68 of the stud through the large end 67 of the slot 66, and then shifting the valve structure edgewise until the stud 69 is centralized in the disk 64. Preferably tabs 73 are struck down adjacent the large end portion of the slot 66, thereby to engage the head portion 68 of the stud and prevent inadvertent dislodgement of the valve structure from the stud.

As shown in Fig. 10, when the handle unit 14 is in its operative position, the sealing ring 61 is made to engage the funnel 34 in the filler opening 33 under pressure provided by the coil spring 71, resulting in the filler opening of the boiler being effectively closed. The stud 69 is preferably provided with a bore to accommodate a second coil spring 74 which engages the base portion 20 of the handle structure and prevents looseness of the stud 69 when the handle structure is in closed position.

The novel valve structure shown in Figs. 10 through 14 is of extremely simple construction, and the valve assembly shown in Fig. 13 is simple and economical to fabricate, and is readily removable and replaceable on the stud 69. The sealing ring 61 is formed from a minimum amount of material; if it should become worn out after an extended period of use, the element and the disks 64 and 65 carrying the same may be discarded and replaced by a new assembly at very little cost.

Another closure structure is shown in Figs. 1 and 5. In this structure the valve assembly is indicated generally by the numeral 75, and is rigidly secured to the end of a stud 76 which

carries a compression spring 77 and washer 78 in back of a head 79. The stud 76 is removably carried by a mounting plate 80 having a slot with an enlarged end whereby the stud may be attached to or removed from said plate.

In accordance with the present invention means are provided for directing water which is poured into the filler opening 33 toward the cooler portions of the boiler whereby the likelihood of sputtering and eruptions is minimized and largely eliminated when the flat iron is being refilled while hot. Referring to Figs. 1, 5 and 10, this means comprises a deflector plate 81 which is preferably formed integral with the funnel 34, said plate extending angularly downward and rearward whereby it deflects water to the rear part of the boiler 22. This part of the boiler is cooler than the front and side parts which are directly over the heating element 11. Thus the water entering the filler opening 33 does not immediately strike the hotter portions of the boiler, and therefore steam is not quickly formed during the initial filling operation. As a consequence, the likelihood of eruptions occurring during the filling of the iron when hot has been largely eliminated.

In accordance with the invention, improved baffle means are provided within the boiler 22 whereby any discharge of water through the steam openings 47 of the sole plate 10 is eliminated even though the flat iron is vigorously manipulated during use. This baffle means comprises front and rear transverse upright baffles 82 and 83 extending across the boiler 22 as shown in Figs. 1 and 9, in spaced relation to the steam pipe 44. The side and top edges of the baffles 82 and 83 extend closely adjacent the inner side and top surfaces of the boiler, the rear baffle 83 at its top being curled backward at 84 as shown in Fig. 1.

Between the baffles 82 and 83 a horizontal baffle 85 is provided through which the steam pipe 44 passes, the baffle 85 being located approximately midway between the top and bottom walls of the boiler 22. The front and rear portions of the horizontal baffle 85 engage the front and rear baffles 82 and 83, and curled flanges 86 and 87 are provided on said portions, extending inward or towards each other and overlying the portions. The baffles 82, 83, and 85 are preferably secured in place by welding.

I have found that by this organization the water which is in the lower portions of the boiler 22 is effectively prevented from splashing up and into the top end of the steam pipe 44, since the upright transverse baffles 82 and 83 more or less confine the splashes to the areas removed from the steam pipe. Moreover, the horizontal baffle 85 divides the area surrounding the steam pipe 44 into lower and upper chambers, and water in the lower chamber will be prevented from splashing into the upper chamber by said horizontal baffle. Any water which is in the upper chamber, above the baffle 85, will tend to quickly flow into the lower chamber, and while in the upper chamber will be prevented from splashing and reaching the top end of the steam pipe 44 by virtue of the flanges 86 and 87 provided on the baffle 85.

As shown in Fig. 9, the transverse upright baffles 82 and 83 may be provided with notches 88 in their side edges to enable a circulation of water to be effected between the compartments of the boiler established by the said baffles. It will be understood that the side edges of the horizontal baffle 85 do not make a water-tight connection with the side walls 27 of the boiler 22; thus water may readily flow from the upper chamber, above the baffle 85, to the lower chamber underneath the baffle 85.

The flat-iron of the present invention may be operated as a dry iron if no water is placed in the boiler 22. For such operation, the indicia plate 54, see Fig. 2, has an outer zone provided at different locations with the words "linen," "cotton," "wool," "silk," "rayon-nylon," for use with the index mark 53.

When water is placed in the boiler 22, an inner zone on the plate 54 is used, this zone being labelled "steam range," and having the words "linen," "cotton," "wool," "silk" and "rayon" at different locations.

The arrangement of the plate 54 with the above indicia, in conjunction with the knob 16, provides for simplified and foolproof operation of the iron.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. In a steam-electric iron, a casing having a pair of spaced vertical, oppositely located outer walls facing each other adjacent the rear of the sole plate, and having oppositely located bearing apertures in said walls; a handle structure having a mounting portion interposed between said casing walls, provided with recesses aligned with and juxtaposed to the bearing apertures; bearing pins slidably carried in said recesses and extending into the said bearing apertures, said pins having shoulders engageable with the opposite walls of the casing, and being completely retractable into said recesses; and springs in said recesses, engaging the bearing pins and yieldably maintaining the shoulders thereof in engagement with said casing walls.

2. The invention as defined in claim 1, in which the casing has a second pair of outer walls located respectively in spaced relation to said first pair of walls, and is open at the bottom between said walls whereby a tool may be inserted through said bottom to retract the bearing pins and release the handle structure from the casing.

3. In a steam-electric iron, a casing having a pair of spaced vertical, oppositely located outer walls facing each other adjacent the rear of the sole plate, and having oppositely located bearing openings in said walls; a handle structure having a mounting portion interposed between said casing walls and provided with recesses aligned with and juxtoposed to the bearing openings; bearing pins slidably carried in said recesses and extending into said bearing openings, said pins being completely retractable into the recesses; and springs in said recesses, engaging the bearing pins and yieldably maintaining the same in projecting position wherein they extend into the bearing openings of the casing walls.

4. In a steam-electric iron of the type having a casing and a handle structure hinged to the casing and adapted to swing back to uncover a filler opening, the improvement which comprises: said handle structure having a broad, generally horizontal base portion carrying front and rear upright handle posts, said base portion having an opening therethrough at the back of the rear post, and said casing having a manually operable member projecting upward therefrom and through the opening of said base portion; and hinge means connecting together the casing and base portion of the handle structure, said means

being located to the rear of the opening of the base portion.

5. The invention as defined in claim 4, in which the manually operable member has indicia, and in which the handle structure has index means located at the opening in said base portion, for reference with said indicia when the handle structure is in operating position to enable readings to be had.

6. The invention as defined in claim 4, in which the manually operable member has indicia on its top surface and in which the handle structure has a shield having a window, said shield being located at the opening in said base portion to cover the top of the member whereby the window exposes a portion only of said member when the handle structure is in operating position, thereby to enable an operator to read said indicia through the window.

7. In a steam-electric iron of the type having a casing and a handle structure hinged to the casing and adapted to swing back to uncover a filler opening; the improvement which comprises: said handle structure having a broad generally horizontal base portion overlying the top of the casing and carrying front and rear upright handle posts, said base portion having an opening therethrough at the back of the rear post and said casing having an upwardly projecting shaft and a knob on said shaft disposed in the opening of said base portion; hinge means connecting together the casing and base portion of the handle structure, said means being located to the rear of the opening of the base portion; terminals within the casing adjacent the said shaft, said casing having an opening to provide for access to said terminals when the handle structure is swung back; and a removable cover plate carried by the casing, covering the opening thereof and enclosing said terminals.

8. In a steam-electric iron, a hinged handle structure; a valve mechanism for use with a filler opening to close the same, comprising a circular generally flat hollow body having in one side wall a slot with an enlarged end; a stud axially movable on said handle structure, for supporting said valve body, said stud having a head portion adapted to be inserted in said slot and retained in the body; sealing means carried by the body at the periphery thereof to provide sealing engagement between the body and the walls of the filler opening in said iron; yieldable means carried by said stud, engaging the body to continuously urge the latter to an extended position on the stud; and yieldable means engaging said stud and handle structure to continuously urge the stud to an extended position on said structure.

9. In a steam-electric iron having an electrically-heated sole plate and a horizontal boiler disposed over the sole plate, said boiler at its rear central portion being spaced away from the sole plate and being cooler thereby at said portion and having a filler opening in its top intermediate the front and rear, the improvement which comprises: a deflector in said boiler below said filler opening, extending angularly downward and rearward in a direction to deflect liquid, which is poured through said opening, to the rear, cooler part of the boiler, thereby to minimize the likelihood of eruptions when filling a hot iron.

10. In a steam-electric iron having an electrically-heated sole plate and a horizontal boiler disposed over the sole plate, said boiler at its

rear central portion being spaced away from the sole plate and being cooler thereby at said portion and having a filler opening in its top intermediate the front and rear, the improvement which comprises: a funnel in said boiler below said filler opening, and a deflector at the bottom of the funnel, extending angularly downward and rearward in a direction to deflect liquid, which is poured through said opening, to the rear, cooler part of the boiler, thereby to minimize the likelihood of eruptions when filling a hot iron.

11. In a steam-electric iron of the type having a horizontal boiler provided with a steam dome, and having an upright steam pipe located substantially midway between its sides and extending from the bottom of the boiler into said steam dome, the improvement which comprises: a pair of upstanding transverse baffles at the front and rear of said pipe, said baffles being spaced from the pipe and extending angularly away therefrom in opposite directions and upward close to the top of the boiler, and the side edges of said baffles being closely adjacent the inside walls of the boiler whereby a confined space is provided around the pipe, reducing the likelihood of liquid being splashed into the pipe.

12. In a steam-electric iron of the type having a horizontal boiler provided with a steam dome, and having an upright steam pipe located substantially midway between its sides and extending from the bottom of the boiler into said steam dome, the improvement which comprises: a pair of upstanding transverse baffles at the front and rear of said pipe, said baffles being spaced from the pipe and extending angularly away therefrom in opposite directions and upward close to the top of the boiler, and the side edges of said baffles being closely adjacent the inside walls of the boiler whereby a confined space is provided around the pipe, reducing the likelihood of liquid being splashed into the pipe; and a horizontal baffle in said confined space, dividing the space into communicating upper and lower chambers and preventing liquid in said lower chamber from splashing into the upper chamber.

13. The invention as defined in claim 12, in which there are substantially horizontal transverse baffle members disposed above the front and rear edges of said horizontal baffle and spaced therefrom, said members being connected to the upstanding baffles and preventing splashing of liquid in said upper chamber.

14. In a steam-electric iron having an electrically heated sole plate and a horizontal boiler disposed over the sole plate, said boiler having a filler opening with inwardly extended conical walls in its top intermediate the front and rear, the improvement which comprises: an intercepting plate in said boiler attached to said conical walls and having an end portion spaced below said filler opening and extending laterally across part of the space below the opening to intercept and distribute liquid, which is poured through said opening, in dispersed quantities generally to parts of the boiler removed from the opening, thereby to minimize the likelihood of eruptions when filling a hot iron.

15. In a steam-electric iron having an electrically-heated sole plate and a horizontal boiler disposed over the sole plate, said boiler having portions which are spaced away from the sole plate and are cooler thereby, and having a filler

opening in its top intermediate the front and rear, the improvement which comprises: a deflector plate within said boiler, disposed below said filler opening and extending across part of the area underlying the opening so as to distribute liquid which is poured through the opening in dispersed quantities over the bottom of the boiler including said cooler portions thereof, thereby to minimize the likelihood of eruptions when filling a hot iron.

16. In a steam-electric iron having an electrically heated sole plate and a horizontal boiler disposed over the sole plate, said boiler having a filler opening defined by a wall extending into the boiler in its top intermediate the front and rear, the improvement which comprises: a deflector plate integral with said wall within said boiler, disposed below said filler opening and extending across part of the area underlying the opening so as to distribute liquid which is poured through the opening in dispersed quantities over the bottom of the boiler, thereby to minimize the likelihood of eruptions when filling a hot iron.

17. In a steam-electric iron having an electrically-heated sole plate and a horizontal boiler disposed over the sole plate, said boiler having a filler opening in its top provided with a generally tapered seat, the improvement which comprises: a two-part sheet metal closure disk arranged to be received in said filler opening, said disk having central portions in intimate contact with each other and having a retaining groove around its edge; a ring formed of resilient gasket

material, carried in said retaining groove; and manually operable means holding the closure disk and ring either in a sealing position against the tapered seat or in a filling position removed from said seat and opening.

18. In a steam-electric iron having an eccentrically-heated sole plate and a horizontal boiler disposed over the sole plate, said boiler having a filler opening in its top provided with a generally conical seat, the improvement which comprises: a two-part sheet metal circular closure disk arranged to be received in said filler opening, said disk having central portions in intimate contact with each other and having a retaining groove around its edge; an O-ring formed of resilient gasket material, carried in said retaining groove, said ring having a cross-section substantially as wide as it is long; and manually operable means holding the closure disk and ring either in a sealing position against the tapered seat or in a filling position removed from said seat and opening.

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