Dec. 24, 1957 H. H. SCHOTT 2,817,169

DOUBLE TANK SPRAY IRON

Filed Sept. 3, 1954 3 Sheets-Sheet 1

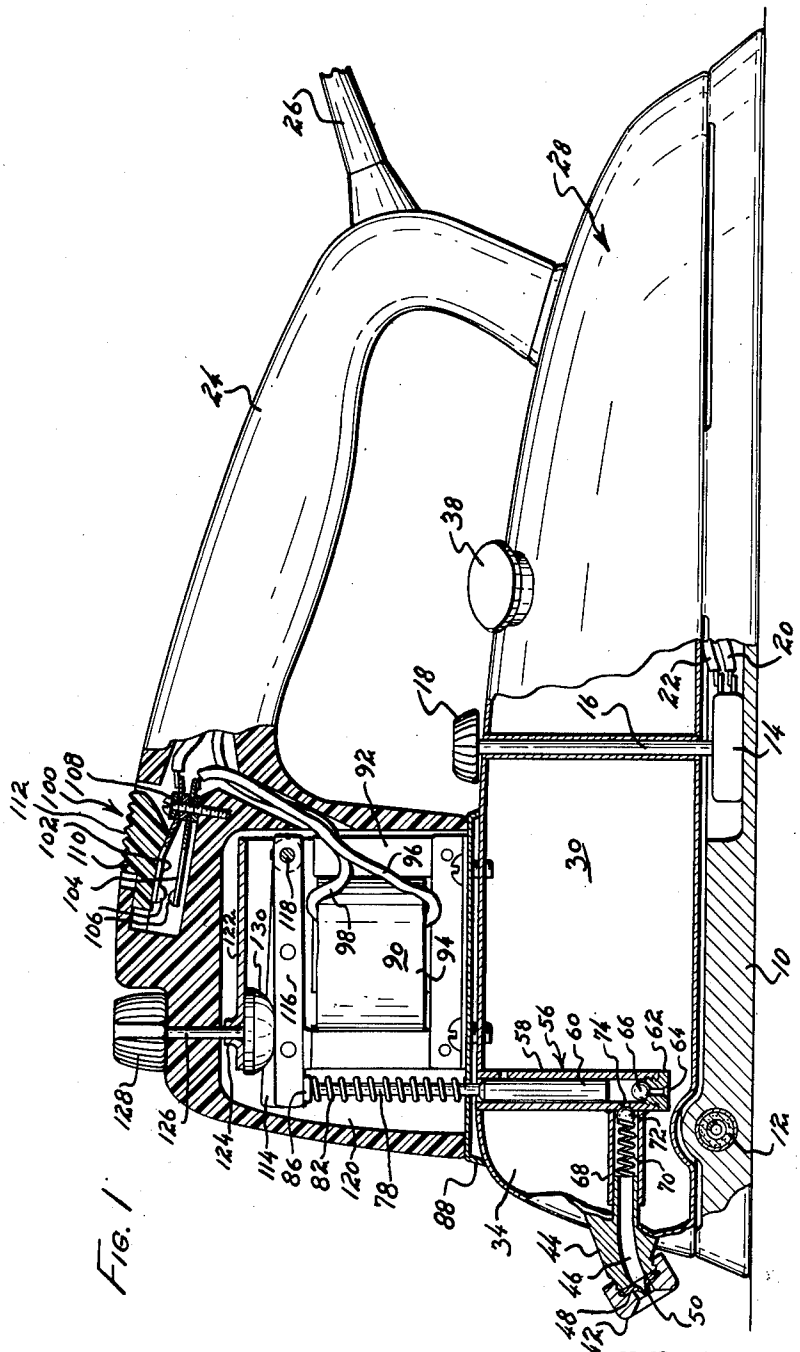


FIG. 1

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Dec. 24, 1957 H. H. SCHOTT 2,817,169

DOUBLE TANK SPRAY IRON

Filed Sept. 3, 1954 3 Sheets-Sheet 2

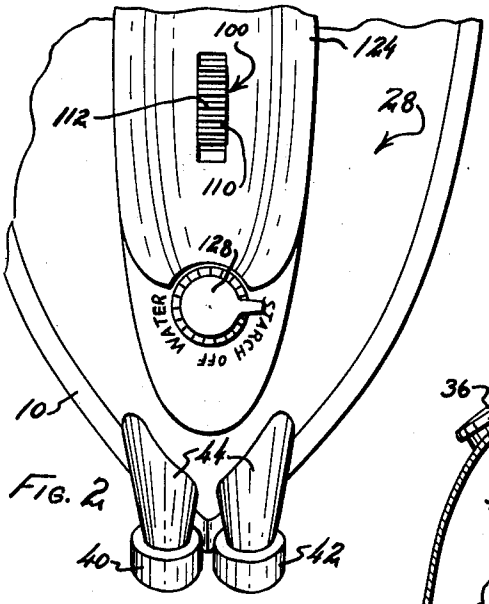


FIG. 2

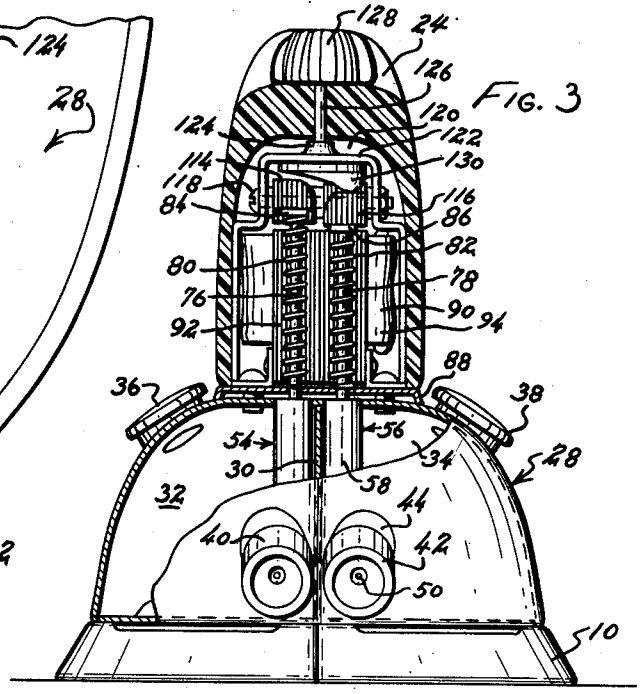


FIG. 3

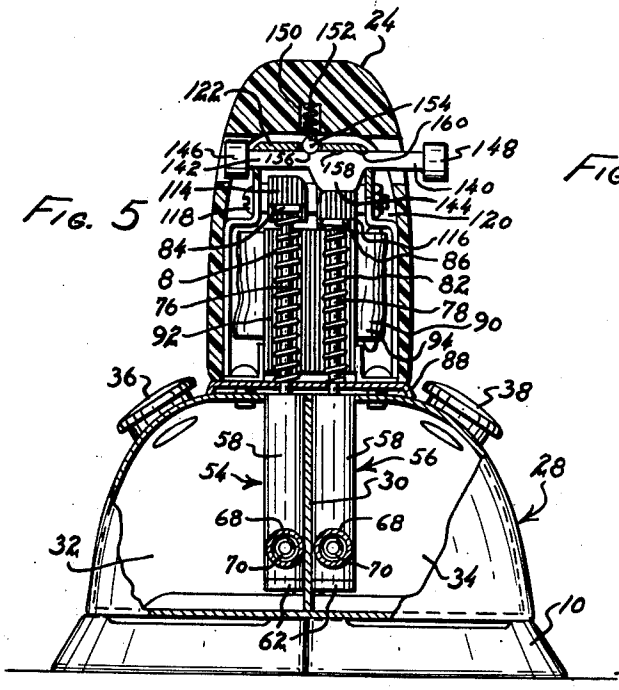


FIG. 5

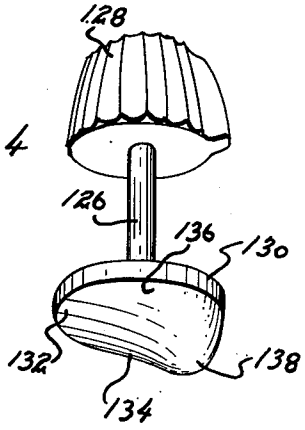


FIG 4

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Dec. 24, 1957 H. H. SCHOTT 2,817,169

DOUBLE TANK SPRAY IRON

Filed Sept. 3, 1954 3 Sheets-Sheet 3

FIG. 6

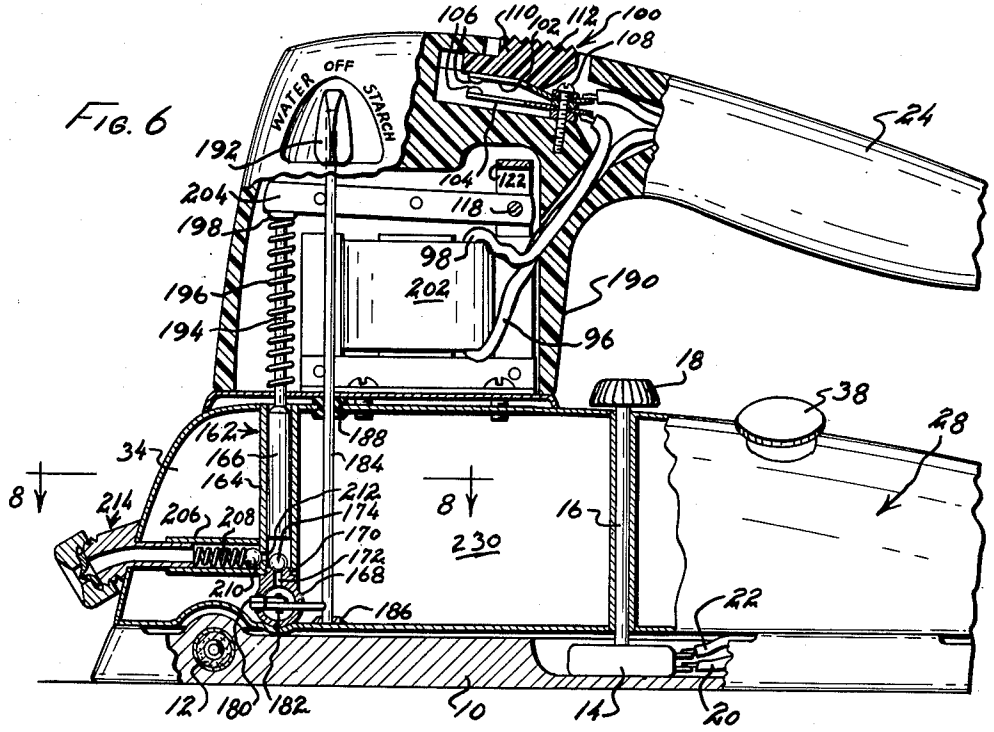


FIG. 7

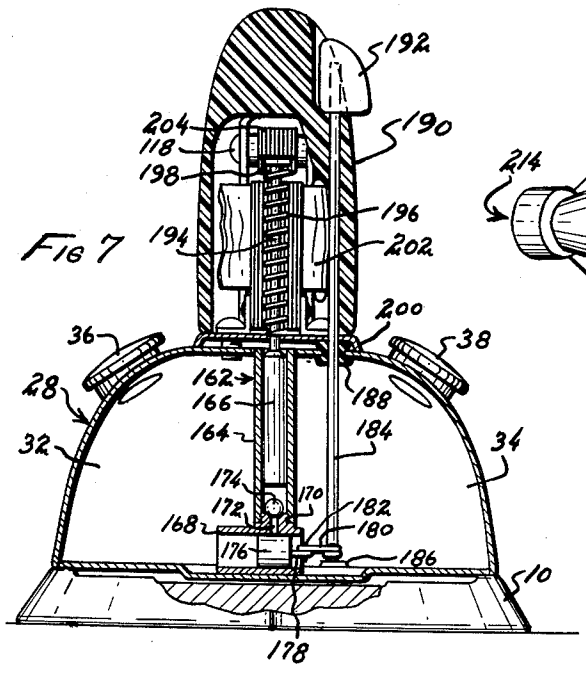
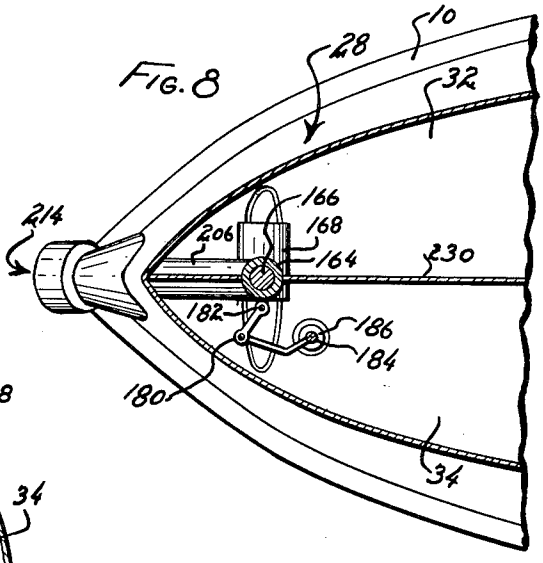


FIG. 8



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United States Patent Office 2,817,169
Patented Dec. 24, 1957

2,817,169

DOUBLE TANK SPRAY IRON

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Application September 3, 1954, Serial No. 454,131

20 Claims. (Cl. 38—78)

This invention relates in general to flatirons of the domestic variety, and pertains more particularly to an iron capable of spraying the fabric undergoing a pressing operation with either of two separate and distinct liquids.

One object of the invention is to provide an electric iron equipped with a reservoir divided into two compartments, together with associated pumping mechanism by which liquid from either of the two compartments can be readily atomized and sprayed onto the material being ironed. In its more specific aspects the invention has in view the dual utilization of the iron for spraying plain water onto the fabric or for spraying a prepared starch solution thereon. For example, in the ironing of men's shirts, it is frequently desirably that the collars and cuffs be starched, whereas the remainder of the shirt need be only damp ironed.

With the above object in mind it will be recognized that there is a need for a double reservoir iron that may be quickly shifted from one liquid to another, and the instant invention has for an aim the provision of pumping structure whereby this end may be rapidly and effectively accomplished.

Another object of the iron is to permit the spraying of either of two liquids at controlled or selected rates of flow.

Another feature of the invention resides in the employment of a reservoir and pump arrangement that will not materially increase the over-all weight of the iron.

A further object of the invention is to produce a double purpose moistening iron that will not require any heat for the application of moisture to the fabric, thereby leaving the heat generated by the heating element for the raising of the soleplate temperature. Stated otherwise, it is a desideratum of the invention to refrain from withdrawing heat from the soleplate for conversion of the different liquids to a modified state by temperature change, the entire heat supply instead being made available for the pressing operation itself.

Further, another object of the invention is to permit the use of the iron as a dry type of iron whenever desired.

Other objects will be in part obvious, and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application which will be indicated in the appended claims.

In the drawings,

Figure 1 is a side elevational view, parts being broken away to show the internal construction that one embodiment of the invention may assume;

Fig. 2 is a fragmentary plan view corresponding to the forward portion of Fig. 1;

Fig. 3 is a front elevational view, parts again being broken away to illustrate the embodiment of Fig. 1;

Fig. 4 is a detailed perspective view of the rotary cam structure which is utilized in the construction of Fig. 1;

Fig. 5 is a front elevational view with portions thereof broken away to show a modification of the invention;

Fig. 6 is a side elevational view similar to Fig. 1 but showing a still different embodiment that the invention may take;

Fig. 7 is a view similar to Figs. 3 and 5 but showing the modification of Fig. 6; and

Fig. 8 is a sectional view taken substantially in the direction of line 8—8 of Fig. 6.

Referring first to the embodiment forming the subject matter of Figs. 1–4, it will be observed that the iron selected for the purpose of exemplifying this particular embodiment comprises a soleplate **10** having embedded therein a conventional encased heating element **12**, the heating element being in circuit with a thermostatic switch bearing the reference numeral **14**. The switch **14** is equipped with an upstanding shaft **16** having at its upper end a manipulating knob **18** providing a facile way by which the switch may be adjusted for various ironing temperatures. Shown in circuit relationship with the heating element **12** and the switch **14** is a pair of electrical conductors **20** and **22**, these conductors passing upwardly through a portion of a handle member **24** and continuing in the form of a flexible connector **26** by virtue of which the iron may be connected to the customary 60 cycle household electrical outlet.

Surmounting the soleplate **10** is a reservoir designated in its entirety by the numeral **28**, the reservoir having a longitudinally directed partition **30** which divides the reservoir into two compartments **32** and **34**. However, the partition need not in every instance be entirely located, for it will be appreciated that in some situations it will be desirable to have the compartments **32** and **34** of unequal volumetric capacities, depending chiefly on the respective demands for a given liquid. While it is possible for these compartments **32** and **34** to accommodate any particular liquid that may be desired in dampening the fabric undergoing a pressing operation, it is within the specific contemplation of the invention to utilize one of the compartments for the containing of a starch solution whereas the other compartment will be utilized for the storage of plain water. Therefore it will be assumed in the course of the ensuing description that the compartment **32** contains the starch solution and that the compartment **34** contains only water. Providing access to the compartment **32** is a filler plug **36**, the removal of which permits the introduction of the starch solution to this particular compartment. A similar filler plug **38** is employed in conjunction with the compartment **34** for permitting the introduction of water to this particular compartment.

For the purpose of spraying the contents of the compartment **32** upon the fabric material there is a first nozzle assembly **40**, this nozzle assembly being capable of atomizing the liquid starch into a fine spray or mist. A similar nozzle assembly **42** is utilized in the atomization of the water contained in the compartment **34**. From an inspection of Fig. 1 it will be discerned that the nozzle assembly **42** consists of a tubular boss **44** affixed, as by brazing, to the shell of the reservoir **28**, the tubular boss **44** having a passage **46** extending therethrough for the purpose of conducting the water under pressure to a disk **48** having a small orifice **50** therein. The disk **48** is retained in place by reason of a threaded nut **52** having engagement with the forward end of the tubular boss **44**. As hereinbefore indicated, the nozzle assemblies **40** and **42** are of like construction and therefore it is not felt necessary to describe the assembly **40** in detail. However in passing it might be mentioned that the orifice in the disk of the assembly **40** which would correspond to the disk **48** in the assembly **42** might be in certain situations of larger size than that actually shown in the cross sectional make-up of the nozzle assembly **42** inasmuch as

the starch solution would normally be of greater density and viscosity than plain water. Also, depending upon the specific liquids to be pumped, various disks **48** might be supplied with the iron, each equipped with an orifice of preferred dimensions to facilitate the discharge of any of certain liquids that may be desired.

Up to this point nothing has been said with regard to the means by which the particular liquids confined in the compartments **32** and **34** are transmitted to the nozzle assemblies **40** and **42**. In this regard it is planned that a pair of pump mechanisms **54** and **56** be employed and here again these mechanisms may be of similar construction. Therefore, returning to Fig. 1 where the pump mechanism **56** is shown in sectional detail, it will be observed that this particular mechanism includes a vertically directed cylinder **58** in which there is disposed a reciprocal piston **60**. The lower end of the cylinder is equipped with a threaded plug **62** having an aperture **64** passing therethrough. The lower end of the aperture **64** is in direct communication with the compartment **34** and the upper end of this aperture is slightly beveled for the accommodation of a ball check valve **66**. Actually by exercising care in the design of the dimensions of the aperture **64** the ball check valve **66** may be dispensed with but for the purpose of facilitating an understanding of just how the pump mechanism **56** functions, it is felt desirable to illustrate the ball check **66**. Further included as a part of the pump mechanism **56** is a forwardly directed tubular boss **68** circumferentially engaging the inner end of the first-mentioned tubular boss **44**. Held captive within the bore of the tubular boss **68** is a coiled spring **70** which bears against a second ball check **72**. As can be seen from the drawings, the ball check **72** in turn bears against a seat formed by an aperture **74** leading into the cylinder **58**.

As can be seen from Fig. 3, each of the pump mechanisms **54** and **56** have piston rods **76** and **78**, these piston rods being integral with their respective pistons such as the piston designated by the numeral **60** in Fig. 1. Circumscribing the piston rods **76** and **78** are coil springs **80** and **82**, these coil springs bearing against the under side of enlarged heads **84** and **86** at the upper ends of the two piston rods **76** and **78**. By having the lower ends of the springs **80** and **82** abut the upper side of a platform or floor member **88**, it will be appreciated that these springs **80** and **82** may be kept under slight compression and in this way are instrumental in helping to elevate the piston rods **76** and **78**.

For the purpose of rapidly and repeatedly overcoming the biasing action of the springs **80** and **82** there is provided an electromagnetic motor unit **90**. The electromagnetic motor includes a stack of E-shaped laminations forming a core **92**, the core having its central leg encircled by a coil **94** which may be energized by reason of a pair of conductors **96** and **98** in circuit with a switch generally designated by the numeral **100**. As with the conductors **20** and **22**, these last mentioned conductors **96** and **98** receive power via the connector **26**, being in parallel with said conductors **20** and **22**. In this connection it will be discerned that the switch **100** includes a pair of switch arms **102** and **104** each having a contact **106** at its free end. The switch unit **100** is retained in place within a recessed portion of the handle **24** as by a bolt member **108**. In riding relationship with the switch arm **102**, which is a resilient arm, is a slidable button or cam **110** having its upper surface serrated at **112** to facilitate the sliding manipulation of this button. Due to the cam action of the slidable button **110** it will be understood that the switch arm **102** is deflected downwardly so that the contacts **106** are brought into engagement whenever the button **110** is moved forwardly.

Also constituting part of the electromagnetic motor **90** is a pair of twin armatures **114** and **116**, preferably laminated as is the core **92**, which are pivotally connected with the core **94** by a transverse pivot pin **118**. The ends of the armatures **114** and **116** lying opposite their pivotally connected ends serve as actuators for the pump mechanisms **54** and **56**, inasmuch as the under side of these armature ends bear directly against the upper surfaces of the heads **84** and **86**. Thus it will be seen that the armatures **114** and **116** when vibrated or oscillated about their pivot pin **118** force the piston rods **76** and **78** downwardly due to the magnetic attraction of the core **92** with the two armatures **114** and **116**. The springs **80** and **82**, of course, aid in raising the armatures **114** and **116** and in this way it will be seen that the armatures move both upwardly and downwardly in an oscillatory fashion.

In order to accommodate the electromagnetic motor **90**, the handle member **24** is recessed at **120**, the platform or floor **88** serving as the bottom wall for this particular recess **120**. A yoke **122** serves the function of providing a journal **124** for a control shaft **126**. A knob **128** is mounted at the upper end of the control shaft which is also journalled within a forward portion of the handle member **24** and at the lower end of this shaft there is carried a rotary cam **130**. The purpose of the cam **130** is to control or govern the amount of vibration that the armatures **114** and **116** can be subjected to by the electromagnetic action of the core **92**. With this aim in mind, specific reference should now be had to Fig. 4 where the rotary cam is pictured in perspective detail. In this particular figure it can be discerned that the rotary cam **130** is configured so as to provide a segmental promontory **132** which is of sufficient width so that it will overlie both of the armatures **114** and **116** and when so overlying both of the armatures will preclude the armatures from vibrating upwardly and downwardly due to the blocking action of this promontory **132**. Since it is desired at times to control the flow or rate of atomization of either of the liquids being pumped from the compartments **32** and **34** out through the nozzle assemblies **40** and **42**, it is within the purview of the invention to form the rotary cam with inclined segmental surfaces **134** and **136**. In this way, when the surface **134** is overlying one of the armatures **114** or **116**, this particular armature will be permitted to vibrate through only a portion of its total possible angular travel. Consequently the displacement of the particular pump **54** or **56** with which the partially blocked armature is associated will be lessened with the consequence that its volumetric discharge or output is correspondingly reduced. As can be seen from Fig. 4, the combined segmental areas **132**, **134**, and **136** total approximately 180°, leaving a dwell portion **138** which is of adequate elevation so that when this dwell portion **138** is overlying either of the armatures **114** or **116**, then the particular armature which is subjacent the dwell portion **138** will be permitted to vibrate without impediment and the full capacity of the particular pump mechanism associated with the unhampered armature will be realized.

As illustrated in Fig. 2, the knob **128** has been rotated through an angle of substantially 90° so that the armature **116** is blocked by the promontory **132** (see Fig. 3), leaving armature **114** free to vibrate to its fullest extent. By blocking the armature **116** it will be understood that the pump mechanism is inactivated and that no liquid will be forced from the compartment **34**. Stated otherwise, when the knob **128** is in the position shown in Fig. 2, the iron is being used to apply the starch solution from the compartment **32** to the fabric undergoing the ironing operation, this taking place via the nozzle assembly **40**. Of course, in actual practice, the armatures vibrate at a rate of 120 times per second (when connected to a 60 cycle source) and the total displacement of each of these armatures is only a fraction of an inch; hence it will be appreciated that the slope or inclination of the areas **134** and **136** is somewhat exaggerated and that the promontory **132** does not have to depend downwardly to the extent shown in order to fully block either of the armatures **114** and **116**. However, this exaggerated condition pic-

tured in Fig. 4 is believed helpful to a facile understanding of the invention.

Passing now to a discussion of the second embodiment, the same reference numerals have been applied to identical parts, and the salient difference between the embodiment pictured in Fig. 5 from that in the earlier referred to figures resides in the use of a reciprocable cam means designated generally by the reference numeral **140**. As will be seen from Fig. 5 this reciprocable cam means includes a bar **142** journalled for transverse sliding movement in the yoke **122**. To enable the user of the iron to quickly bring into effective blocking operation a promontory **144** formed integral with the bar **142** is a pair of push buttons **146** and **148**. As indicated in Fig. 5, the push button **146** has been pressed so as to move the promontory **144** into blocking relationship with the armature **116**, thereby conditioning the iron for a starch applying operation. For the purpose of maintaining the cam means **140** in its shifted position, there is provided a recess **150** housing a coil spring **152**, the lower end of the coil spring bearing against a ball **154**. The ball **154** in turn is engageable in any one of three notches **156**, **158**, **160**, the notch **156** currently being in use to maintain the cam means **140** in its pictured position. However, depression of the push button **148** will result in the promontory **144** being moved to the left and when the ball **154** rests in the notch **158**, then the promontory will straddle both the armatures **114** and **116** to prevent the operation of either and of course when the button **148** is fully pressed to the left then the ball **154** rests in the notch **160** to hold the promontory **144** in superimposed relation with the armature **114**, thereby blocking the vibratory movement of said armature **114**.

From the preceding paragraph it will be discerned that the embodiment of Fig. 5 differs in its function by reason of the reciprocable cam means **140** in contradistinction to the rotary type of cam means **130** described in the earlier embodiment.

In some instances it will be desirable to utilize only a single pump mechanism **54** or **56** together with a single armature **114** or **116**. Consequently the modification of Figs. 6–8 concerns the utilization of only a single pump mechanism which has been given the reference numeral **162** in order to distinguish it from the pump mechanisms **54** and **56** although, in general, as will presently be recognized, there is appreciable similarity between the pump mechanism **162** and the earlier referred to ones **54** and **56**. The pump mechanism **162** comprises a vertically directed cylinder **164** in which a piston **166** is mounted for reciprocable movement. The lower end of the cylinder **164** is of a T-shaped configuration inasmuch as a horizontal cylinder **168** is employed, the horizontal clyinder **168** establishing communication between the compartment **32** and the compartment **34**. Communication between the vertical cylinder **164** and the horizontal cylinder **168** is effected by means of a threaded boss **170** integral with the cylinder **168**, which boss is received in the lower end of the cylinder **164**. The boss **170** corresponds to the plug **62** having therein an aperture **172** at the upper end of which is disposed a ball check **174**.

The cylinder **168**, as already indicated, provides a means of conducting liquid from either of the compartments **32** or **34** and to control selective withdrawal of liquid from either of these two compartments it is envisaged that a reciprocable piston **176** be slidably disposed within the bore of the cylinder **168**. As best seen from Fig. 7, the piston is equipped with a piston rod **178** extending in the direction of the compartment **34**. To the free end of the piston rod **178** is pivotally attached a crank element **180** by means of a pin **182**. The crank **180** is secured to the lower end of an upstanding shaft **184** having its lower end journalled in a cup bearing **186**. The shaft **184** extends upwardly through a grommet **188** in the shell of the reservoir **28**, continuing upwardly through a portion of a somewhat modified handle member **190** and terminating in a knob **192** by which the shaft **184** may be rotated to shift the piston **176** to either side of the aperture **172** and thereby determine from which compartment **32** or **34** liquid is to be withdrawn. When the shaft **184** is viewed from above, it will be recognized that the clockwise rotation of the shaft is instrumental in moving the piston **176** to the left in Fig. 7, thereby establishing communication with the compartment **34**, and counterclockwise rotation moves the piston to the right to connect the compartment **32**.

The upper end of the piston **166** has integral therewith a piston rod **194** corresponding to the piston rods **76** and **78** and encircling this piston rod is a coil spring **196** bearing against the under side of an enlarged head **198**. Here again, the spring **196** has its lower end abutting a platform or floor **200** so that when the spring **196** is under a slight compression, the piston **166** is urged upwardly. An electromagnetic motor **202** provides the actuating force for causing the piston **166** to reciprocate rapidly within the cylinder **164**, this motor **202** being generally similar to the earlier described motor **90**. However, the salient difference between the two motors resides in the fact that the matter motor **202** is equipped with only a single armature **204** instead of the twin armatures **114** and **116**. Returning to a more complete description of the pump mechanism **162**, it will be seen from Fig. 6 that this pump mechanism is provided with a forwardly extending tubular portion **206** having contained therein a coil spring **208**, one end of which bears against a ball check **210** for the purpose of sealing an aperture **212** formed in the vertical cylinder **164**.

The opposite end of the tubular portion **206** has communication with a nozzle assembly designated in its entirety by the numeral **214**. Inasmuch as this nozzle assembly is identical in construction with either of the nozzle assemblies **40** and **42**, the duplication of parts contained therein has been denoted by the same specific reference numerals applied to Fig. 1. However, owing to the fact that a single mechanism **162** is employed in the currently described embodiment only a single nozzle assembly **214** is required for the shifting of the piston **176** determines from which tank the liquid is to be withdrawn, the nozzle assembly **214** serving to spray either the starch solution from the compartment **32** or the water from the compartment **34**, these liquids having been suggested hereinbefore.

Reference to Fig. 8 will show that a longitudinally disposed partition **230** is utilized in forming the compartments **32** and **34**, this partition **230** having been differentiated from the partition **30** inasmuch as it consists in the exemplified embodiment of several sections or panels to permit the pump mechanism **162** to be centrally located. Other than the particular construction mentioned, it will be appreciated that the partition **230** serves the same office as the one referred to earlier.

With the foregoing details in mind, it is believed that the operation of the several embodiments herein disclosed will be manifest. However, to assure a thorough understanding of the operation associated with each embodiment, a brief sequence will be given and in this connection reference should again be had to Figs. 1–4. It will be recalled that this embodiment utilizes a pair of nozzle assemblies **40** and **42**, the selection of liquid from either the compartment **32** or **34** being made by rotation of the knob **128**. For instance, when the knob **128** is moved counterclockwise to the position of Fig. 2, then the iron is conditioned for the spraying of the starch solution from the compartment **32** by way of the nozzle assembly **40** inasmuch as the promontory **132** then blocks the vibration of the armature **116**. If a lesser amount of starch solution is desired then a reduced flow of starch solution may be brought about by rotating the knob **128** through a lesser angle than the 90° depicted in Fig. 2, for then

a portion of the surface **134** will lie above the armature **114** instead of the dwell portion **138**. Thus movement of the armature **114** is limited to a certain extent and the full pumping capacity of the pump mechanism **54** is not achieved. However, the promontory **132** will overlie the armature **116** just as before although not to the full angular extent brought about when in the position of Fig. 2.

From Fig. 1 it can be seen that the pumping action is effected rapidly, the upward stroke of the piston, due to the vibratory action of the motor **90**, tending to evacuate the cylinder **58**. The evacuation, of course, need not be complete to draw liquid upwardly past the check valve **66**. On the downward or reverse stroke, the entrapped liquid will be forced through the aperture **74** past the check **72** through the nozzle assembly **44**, said assembly acting to atomize the liquid into a fine mist or spray which is directed at a downward angle onto the fabric being pressed.

As already indicated, the embodiment of Fig. 5 is similar to that of Figs. 1–4 and in this particular situation the pressing of the push button **146** is responsible for having the promontory **144** moved into a superimposed relationship with the armature **116** thereby blocking the vibration of this particular armature. As illustrated in Fig. 5, the iron is conditioned for the pumping of the starch solution from compartment **32**. When a plain water spray is desired, then the operator presses the button **148** to move the cam means **140** in an opposite direction and to bring the promontory **144** in juxtaposition with the armature **114**. A central positioning of the cam means **140** will cause both armatures **114** and **116** to be blocked and no pumping of liquid from either compartment is then accomplished.

It might be explained at this time that in the embodiment of Figs. 1–4 and Fig. 5, the movement of either the promontory **132** or the promontory **144**, respectively, to a central position blocks the reciprocatory movement of both of the armatures and in this way the iron serves the function of a dry type of iron just as though the switch button **112** has been moved to an off position. Hence, it will be appreciated that there is made available to the user of the iron two courses of action conditioning the iron for dry operation: either the user may deenergize the electromagnetic motor **90** or he may block the movement of the armatures **114** and **116** constituting a part thereof.

In operating the embodiment of Figs. 6–8 substantially the same manipulation is undertaken as in the embodiment of Figs. 1–4 but instead the knob **192** is responsible for moving the piston **176** to either side of the aperture **172** to physically block the entrance of liquid from either the compartment **32** or **34** to the single pump mechanism designated by the numeral **162**. When the valve mechanism, which includes the piston **176**, is actuated in a direction to move the piston to the right as viewed in Fig. 7 then the pumping of a starch solution from the compartment **32** is effected whereas movement of the piston **176** in an opposite direction is responsible for conditioning the iron for the pumping of plain water. The point to be appreciated here is that only a single nozzle assembly **214** is incorporated into the iron in contradistinction to the twin nozzle assemblies **40** and **42** employed in the two earlier referred to embodiments.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for storing different liquids, nozzle means, and means for pumping liquid from either of said compartments through said nozzle means.

2. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for storing different liquids, nozzle means, reciprocable pump means for pumping liquid from either of said compartments through said nozzle means, and vibratory electric motor means for driving said reciprocable pump means.

3. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a nozzle, a pump mechanism for pumping liquid from said reservoir means through said nozzle, and valve means for selecting the liquid to be pumped.

4. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a handle disposed above the reservoir means, a nozzle, a pump mechanism for pumping liquid from said reservoir means through said nozzle, valve means for selecting the liquid to be pumped, and control means extending upwardly from said valve means to operational juxtaposition with said handle for manipulation of said valve means.

5. A spray iron comprising a soleplate, reservoir means surmounting the soleplate having a longitudinal partition forming a pair of compartments for containing different liquids, a nozzle, a pump mechanism for pumping liquid from said reservoir means through said nozzle, a T-shaped connection connecting said pump mechanism to each compartment, and valve means for selectively blocking communication from one of said compartments, whereby liquid can be pumped through said nozzle from the other compartment.

6. A spray iron comprising a soleplate, reservoir means surmounting the soleplate having a longitudinal partition forming a pair of compartments for containing different liquids, a nozzle, a pump mechanism for pumping liquid from said reservoir means through said nozzle, a laterally directed cylindrical member extending between compartments having a take-off intermediate its ends leading to the intake of said pump mechanism, and a piston member slidable within said cylindrical member for selectively establishing communication between either compartment and said pump intake.

7. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a nozzle mounted near the forward end of said reservoir means for directing an atomized stream against fabric being pressed by said soleplate, a cylinder and piston reciprocable therein forming a pump for pumping liquid under pressure to said nozzle, electromagnetic means including an armature for oscillating said piston, and valve means for selectively connecting said pump to either of said compartments.

8. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a pair of nozzles, a first pump mechanism associated with one compartment for pumping liquid from one compartment through one nozzle, and a second pump mechanism associated with the other compartment for pumping liquid from the other compartment through the other nozzle.

9. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a pair of nozzles, a first pump mechanism associated with one compartment for pumping liquid from one compartment through one nozzle, a second pump mechanism associated with the

other compartment for pumping liquid from the other compartment through the other nozzle, and motor means for selectively operating said pump mechanisms.

10. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a pair of nozzles, a first pump mechanism associated with one compartment for pumping liquid from one compartment through one nozzle, a second pump mechanism associated with the other compartment for pumping liquid from the other compartment through the other nozzle, and electromagnetic means including a pair of armatures for selectively operating said pump mechanisms.

11. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a pair of nozzles, a first reciprocable pump mechanism for pumping liquid from one compartment through one nozzle, a second reciprocable pump mechanism for pumping liquid from the other compartment through the other nozzle, electromagnetic means including a pair of armatures for oscillating said pump mechanisms, and means for blocking the movement of either of said armatures to render inactive the pump mechanism with which the blocked armature is associated.

12. A spray iron in accordance with claim 11 in which said blocking means includes a rotary cam.

13. A spray iron in accordance with claim 11 in which said blocking means includes a reciprocable cam.

14. A spray iron comprising a soleplate, reservoir means surmounting the soleplate having a longitudinal partition forming a pair of compartments for containing different liquids, a pair of nozzles, a first cylinder and piston reciprocable therein forming a first pump for pumping liquid under pressure from one compartment to one of said nozzles, a second cylinder and piston reciprocable therein forming a second pump for pumping liquid under pressure from the other compartment to the other of said nozzles, electromagnetic means including a pair of armatures for respectively oscillating said pistons, and cam means overlying both of said armatures provided with a promontory capable of selectively blocking the movement of either armature and thereby render inactive the pump with which that particular armature is associated.

15. A spray iron in accordance with claim 14 in which said cam means includes a rotary cam member and said promontory is of sufficient width to straddle both of said armatures when in one position, said rotary cam member having sloping surfaces adjoining said promontory for partially blocking either armature whereby the displacement of either said first or second pump may be varied.

16. A spray iron in accordance with claim 14 in which said cam means includes a reciprocable cam having lateral extensions thereof equipped with push buttons.

17. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments for containing different liquids, a handle disposed above the reservoir means, a pair of nozzles, a first pump mechanism for pumping liquid from one compartment to one nozzle, a second pump mechanism for pumping liquid from the other compartment to the other nozzle, electromagnetic means including a pair of armatures for respectively actuating said pump mechanisms, and cam means carried by said handle for selectively inactivating either of said armatures and its associated pump mechanism.

18. A spray iron in accordance with claim 17 in which said cam means includes a rotary cam member, a shaft extending upwardly therefrom through the handle and a manipulating knob on the upper end of said shaft.

19. A spray iron in accordance with claim 17 in which said cam means includes a slidable cam member mounted for transverse reciprocatory movement with respect to said handle, said cam member being equipped with laterally extending push buttons by which said cam member may be moved.

20. A spray iron comprising a soleplate, reservoir means surmounting the soleplate including a pair of compartments disposed in a side-by-side relationship for storing different liquids, nozzle means, and means depending into both of said compartments for pumping liquid from either of said compartments through said nozzle means.

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U. S. DEPARTMENT OF COMMERCE

PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,817,169

December 24, 1957

Howard H. Schott

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 28, for "desirably" read --desirable--; column 2, line 31, for "entirely" read --centrally--; column 6, line 25, for "matter" read --latter--.

Signed and sealed this 25th day of February 1958.

(SEAL)

Attest:

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