

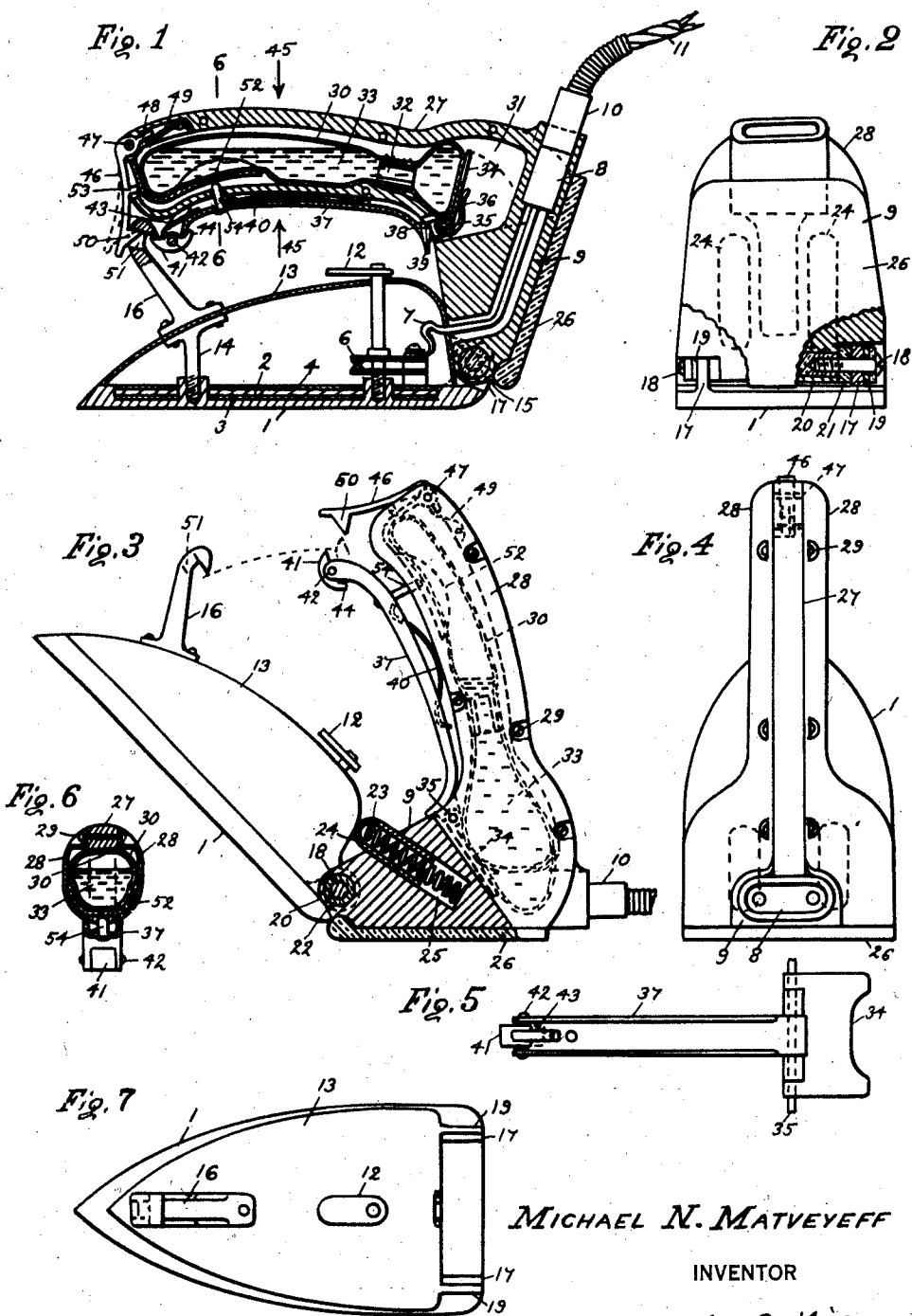
July 10, 1934.

M. N. MATVEYEFF

1,965,746

ELECTRIC SADIRON

Filed Jan. 25, 1934



MICHAEL N. MATVEYEFF

INVENTOR

BY John P. Mikonow

ATTORNEY

UNITED STATES PATENT OFFICE

1,965,746

ELECTRIC SADIRON

Michael N. Matveyeff, Stratford, Conn.

Application January 25, 1934, Serial No. 708,206

8 Claims. (Cl. 219—25)

My invention relates to electric sadirons used for ironing or pressing clothing and linen.

Ordinary electric sadirons, when connected with the electric current but not used for pressing, must be placed on a special stand in order to protect the goods from being burned if the iron is left on them. The users are instructed not to leave the iron on the work when under current, but there is always a possibility that the user may forget to disconnect the switch when leaving the work temporarily, and serious fires have been started through such neglect.

With my improved iron the work cannot be burned, the iron being in this respect foolproof. I provide my iron for this purpose with a heavy back rest at an angle with the ironing surface, and I also provide an additional movable weight in the handle. The latter is hooked to the iron and is retained in the operative position by the pressure on the handle from the user's hand. I arrange the movable weight so that when the iron is held in the operative position, the weight is automatically moved forward so as to distribute the weight more or less evenly over the pressing surface. If the hand is removed from the handle, however, then the hook on the handle is automatically released, a spring swings the back rest backward, thereby causing also the movable weight to shift back thereby causing the iron to tilt backward raising the hot portion in the air. In this position the iron, while remaining under current and hot, ready for use, cannot damage the work, resting on it with its cool back side.

The operation of my iron is therefore fully automatic, as it takes the safe tilted position immediately if the hand is removed from the handle. I also provide an arrangement that if the iron is tilted without releasing the grip on the handle, then it will remain in the operative position, with the handle hooked to the ironing portion, although tilted into the safe position.

My invention is more fully described in the accompanying specification and drawing in which—

Fig. 1 is a sectional elevation of my iron, Fig. 2 is a rear view of the same partly in section, Fig. 3 is an elevation partly in section in an operative position, Fig. 4 is a rear view of the same, Fig. 5 is a detail view of the hook on the handle, Fig. 6 is a sectional view of the handle taken on the line 6—6, and Fig. 7 is a top view of the ironing portion with the handle removed.

My sadiron consists of a bottom plate 1 which is polished on the outside being used for pressing

the work. It has a recess in its upper side for a heating element 2 of an ordinary construction. It may consist of a wire wound on an insulation plate made of some refractory material, for instance, mica or asbestos. The heating element is placed between refractory insulation sheets 3 and 4. One end of the heating wire is attached to a thermostatic switch 6 from which a flexible cord 7 extends to a socket 8 in a rear block 9. The other end of the heating wire is connected directly to the other terminal of the socket. A plug 10 of an ordinary construction engages the socket and has flexible leads 11. The switch 6 has a regulating handle 12 extending through a metal cover 13. A post 14 is supported on the plate 1, and the cover 13 is clamped between this post and a hook 16.

The plate 1 is curved at the rear to facilitate its rolling over and is provided with raised lugs 17 with holes for screws 18. The cover 13 also has similar lugs 19 for the screws 18. The block 9 has a central lug 20 fitting between the lugs with heat insulating washers 21 between them. A heat insulating bushing 22 is fitted inside of the lug 20 and is threaded inside for the screws 18. Any ordinary heat resisting material may be used for the washers and bushing, such as bakelite, micarta, asbestos composition, etc. The screws are adjusted so that the block 9 can swing freely, the lugs with the screws forming a hinge. A lug 15 on the block 9 limits the swinging or rotary movement of the block 9 by resting against the rear edge of the plate 1 in the extreme open position. Helical springs 23 tend to move the block 9 away from the plate 1. These springs are placed in metal tubes 24 closed at the end and slidably fitted in holes 25 in the block 9. A heat insulating plate 26 is attached to the rear surface of the block 9 forming a resting surface or base for the block when the latter is tilted backward and the iron 1 is raised as shown in Fig. 3. The block 9 has a handle frame 27 extending to the front of the iron. Metal shells 28 are attached to the sides of the frame with screws 29 forming a rounded handle. A rubber bag 30 is placed inside of the hollow space 31 in the handle. The bag consists of two halves joined together near the base block 9 by a short pipe or nipple 32. The bag is filled with mercury 33. The rear end of the bag rests against a plate 34 pivotally mounted on a pin 35 and provided with a spring 36 tending to keep the plate in a raised position as shown in Fig. 1.

A locking arm 37 is placed under the handle conforming to the latter with its curvature. It

has a lug 38 at the rear end extending inside and rotatively mounted on the pin 35. A lug 39 limits the outward movement of the arm. The arm 37 has a channel-shaped section supporting a spring 40 which tends to push the arm away from the handle. The front end of the handle has a pawl 41 pivoted on a pin 42. A spring 43 tends to turn it outward keeping the lug 44 resting against the edge of the arm. The pawl is adapted to engage the hook 16 when the arm 37 is held against the handle by the pressure of the user's hand in direction of arrows 45. The lower side of the pawl is curved so that when the handle is pushed down, the pawl, striking the hook, becomes deflected and passes under the hook. Then the pawl straightens out again under action of the spring 43 and engages the hook 16 (its rear portion). The pawl releases the hook, however, when the arm 37 is free and moved out by its spring 40 as shown in Fig. 3. The end of the pawl with the arm 37 closed is shown in Fig. 3 with dotted lines.

A latch 46 is rotatively mounted on a pin 47 in the front end of the handle frame 27 and has a lug 48 engaged by a spring 49 tending to keep the latch closed against the front end of the handle. The end of the latch has a hook 50 adapted to engage the front end of the hook 16 which is provided with a slot 51 for that purpose. A flat spoon-shaped lever 52 is placed in the front end of the handle under the mercury bag 30. Its free end has raised sides, and the front end is freely pivoted on the pin 47. The weight of the mercury tends to keep the lever 52 down and against the wall of the handle as shown with dotted lines in Fig. 3.

The latch or pawl 46 has a lug or pin 53 resting against the lever 52, so that when the latter lever is depressed by the weight of the mercury bag, the latch 46 is pushed out as shown in Fig. 3, the hook 50 disengaging the slot 51. The arm 37 has a lug or pin 54 resting against the lever 52 and tending to raise it when the arm is pressed against the handle. The latch 46 is released in this position and can engage the hook 16. The hook 50 has a tapered lower side and can slide over the hook 16.

The operation of my sadiron is as follows.

When the iron is in an operative position and the handle is held in the user's hand, then the arm 37 is pressed against the handle, and the pawl 41 engages the hook 16. The lever 52 is raised by the pin 54 releasing the latch 46 which engages therefore the slot 51 under action of the spring 49. The mercury (or a similar movable weight) 33 flows into the handle, being also pushed by the plate 34 under action of its spring 36. The mercury in this position (Fig. 1) distributes the weight over the ironing plate 1 thereby facilitating the operation of the iron. The iron in this position can be carried, the handle retaining its engagement with the hook 16 by the hooks 41 and 50. The iron can be also tilted backward and left to rest on its back plate 26 (on the block 9). The mercury then flows down into the rear portion of the handle, deflecting the plate 34 and releasing the pressure on the lever 52. The latter in turn releases the pressure on the pin 53 of the latch 46. The hooks 41 and 50 remain therefore engaged with the hook 16 even if the hand is subsequently removed from the handle leaving the iron to stand on its back plate and ready for use.

The iron tilts itself automatically, however, if the grip on the handle is released while the

iron still remains in its operative (horizontal) position. As soon as the grip is released, the spring 40 will push the arm 37 out, releasing the pressure on the lever 52 and permitting the latter to drop under the weight of the mercury bag. The lever 52 will then push the latch 46 out, releasing the hook 50 from the engagement with the hook 16. The handle with the block 9 will be then free to turn away from the plate 1 under action of the springs 23. With the arm 37 moved out, the hook 41 clears the end of the hook 16 as shown in Fig. 3, thereby permitting the block 9 to move away from the plate 1 to the limit determined by lug 15 resting against the rear edge of the plate 1 as shown in Fig. 3. The mercury will then flow into the rear end of the bag 30 pushing out the plate 34. The combined weight of the mercury and the block 9 will then overbalance the plate 1 and will force it up in the air. The iron will be then resting on the insulated back side of the block 9 without any danger of burning the supporting surface or the work.

If it is desired to use the iron again, then the handle must be taken in hand and pushed over until the released hooks 41 and 50 snap over the rear and front edges of the hook 16. The iron being then turned into the horizontal position, the mercury will return to the front portion of the bag.

I claim as my invention:

1. In an electric sadiron, the combination with a base plate, of a heating element in said plate, means to conduct the electric current to said element, a block hingedly connected with the rear portion of said plate, means to limit the relative rotation between said block and said plate, a handle extending from said block over said plate, means to releasably engage said handle with said plate in an operative position, means to render said engaging means operative by the pressure of the user's hand on said handle, and a movable weight in said handle, said weight being adapted to move forward in the handle when said handle is engaged with said plate and the sadiron is turned into its operative position, and being further adapted to move backward when said sadiron is turned over into its inoperative position, said plate being adapted to be raised in the air when said sadiron rests on the back of said block, said engaging means being adapted to be rendered inoperative when the user's hand is removed from said handle with the sadiron in the horizontal position, and being further adapted to remain in the operative position when the user's hand is removed after the sadiron has been turned over and placed to rest on the back of said block.

2. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block hingedly connected with said plate, said block forming a rear portion of said sadiron, means to limit the relative movement between said plate and said block so as to cause said plate to be raised in the air when said sadiron is turned over on its back, a handle extending from said block, a hook on said plate, means to detachably engage said handle by said hook, a movable weight in said handle adapted to move forward when said sadiron is in its operative position, means to render said engaging means inoperative by said weight in its forward position, and means to render said engaging means operative by the pressure from the user's hand against the action of said weight, said

weight being adapted to move into the rear portion of said handle when said sadiron is turned over and rests on the back of said block, said weight and said block being sufficiently heavy to hold said sadiron in the inoperative position on said block with said plate raised in the air.

3. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block forming a rear portion of said sadiron, hinges connecting said block with the rear portion of said plate, means to limit the opening movement between said plate and said block on said hinges, said sadiron being adapted to rest on the back of said block with said plate raised in the air both in the open and closed positions, a handle extending from said block, means to detachably connect said handle with said base when said sadiron is in the closed position, a gravity operated means for rendering said connecting means inoperative when said sadiron is in its operative position and adapted to render said connecting means operative when said sadiron rests on the back of said block, and means to render said gravity operated means inoperative by the pressure on said handle from the user's hand against the action of said gravity operated means.

4. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block forming a rear portion of said sadiron, hinges connecting said block with the rear end of said plate, means to limit the opening movement between said block and said plate, a handle extending from said block, a hook on said plate, means to detachably engage said handle by said hook when said plate and said block are closed together, a gravity operated means for rendering said engaging means inoperative when said sadiron is in its operative position, means to render said gravity operated means inoperative by the squeezing pressure on said handle from the user's hand, and springs adapted to open said sadiron when said handle is released from said plate, the combined weight of said handle and said block being sufficient to hold said sadiron in its inoperative position with said plate raised in the air, said handle being adapted to remain connected with said plate when the user's hand is removed from the handle after said sadiron has been turned over and placed on the back of said block.

5. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block forming a rear portion of said sadiron, hinges connecting said block with the rear end of said plate, means to limit the opening movement of said sadiron between the plate and the block, a handle extending from said block, said handle and said block being hollow, a flexible bag in said handle and in said block, a heavy flowing material in said bag, a hook on said plate, hooks on said handle adapted to engage said plate hook when said sadiron is closed, means to release said handle hooks from said plate hook by said heavy material when said sadiron is in its horizontal operative position, and means to render said releasing means inoperative and to hold said handle connected with said plate by the pressure on said handle by the user's hand, the combined weight of said material and said block being sufficient to keep said sadiron in the inoperative position when the user's hand is removed from said handle.

6. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block forming a rear portion of said sadiron and hingedly connected with the rear end of said plate, means to limit the opening movement between said plate and said block, a handle extending from said block, said handle and said block being hollow inside and forming a chamber for a heavy flowing material, a hook on said plate, a latch on said handle adapted to engage said hook when the sadiron is in the closed position, a lever in said handle adapted to release said latch by the action of said heavy material when said sadiron is in its operative horizontal position, and an arm movably supported on said handle and adapted to render said lever inoperative when said handle is held in the user's hand, said sadiron being adapted to turn backward when the user's hand is removed from said handle.

7. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block hingedly connected with said plate, means to limit the opening movement of said sadiron on said hinged connections, a handle extending from said block, a hook on said plate, a latch on said handle adapted to engage said hook when said sadiron is closed, springs adapted to open said sadiron, a bag in said handle, a heavy liquid in said bag, a resilient support for said bag in the rear of said handle, a lever in said handle under said bag adapted to release said engaging means when said sadiron is in its operative horizontal position, an arm movably supported under said handle and adapted to render said lever inoperative when said handle is held in the user's hand, said liquid being adapted to flow toward the rear of the handle when said springs open said sadiron after the user's hand has been removed from said handle, the combined weight of said liquid and said block being sufficient to cause said sadiron to turn over and to rest on the back of said block with said plate raised in the air.

8. In an electric sadiron, the combination with a base plate, of an electric heating element in said plate, a block hingedly connected with said plate and forming a rear portion of said sadiron, means to limit the opening movement between said plate and said block, springs tending to turn said block on said base plate, a hollow handle extending from said block, a hook on said plate, an arm pivotally mounted on said handle, a pawl on the end of said arm adapted to engage said hook when said block is turned into its operative position, a spring adapted to move said arm away from said handle, said pawl being adapted to release said hook when said arm is moved out, said arm being adapted to be pressed against said handle by the pressure of the user's hand, and a movable weight in said handle adapted to move forward when said sadiron is in its operative position and to move back when said springs move said block over, the combined weight of said block and said movable weight being sufficient to keep the sadiron resting on the back of the block with said plate raised in the air, said weight in its forward position being adapted to release said handle from said hook when the user's hand is removed from said handle.

MICHAEL N. MATVEYEFF.