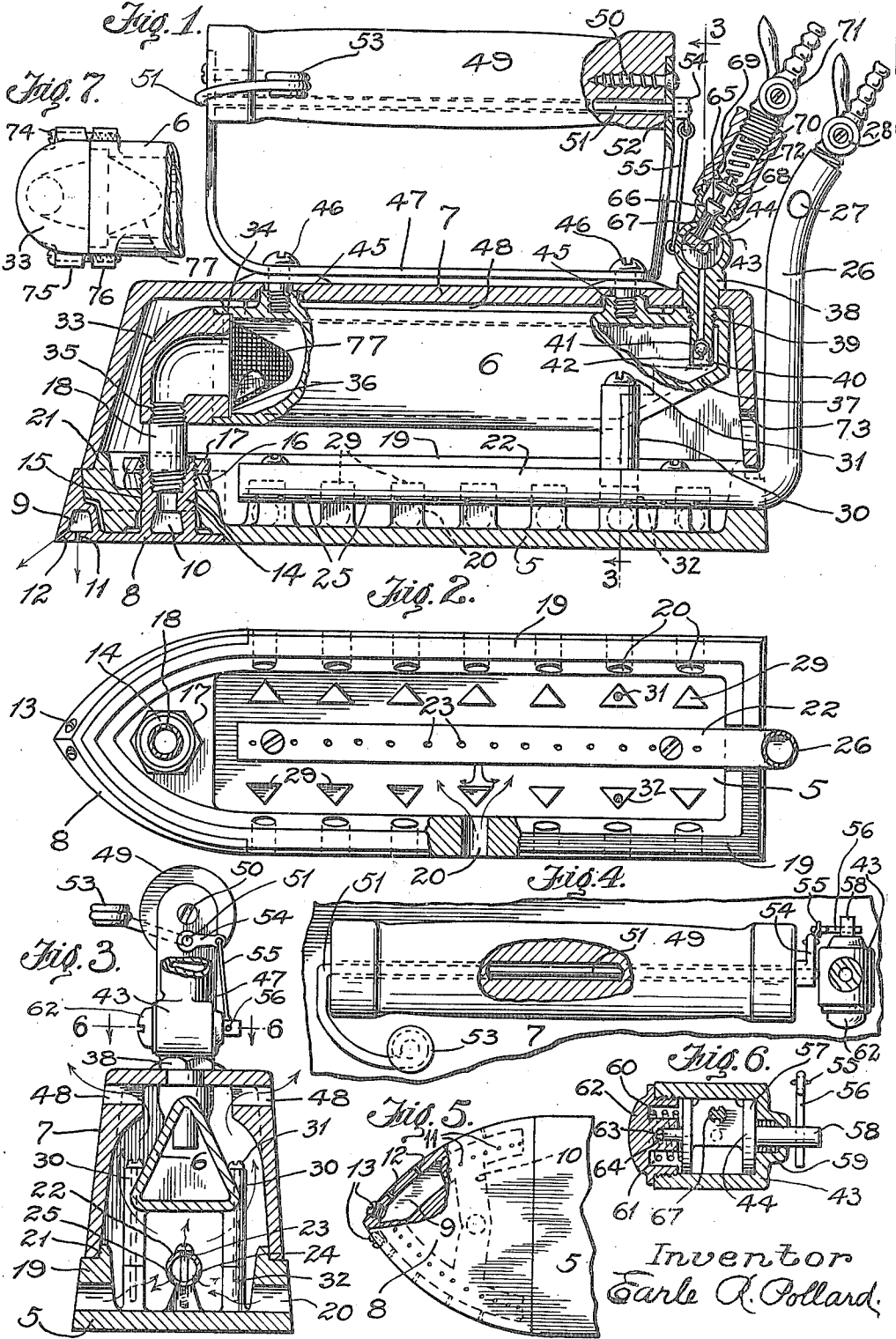


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SADIRON.
APPLICATION FILED JUNE 24, 1918.

1,431,419.

Patented Oct. 10, 1922.



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SADIRON.

Application filed June 24, 1918. Serial No. 241,473.

To all whom it may concern:

Be it known that I, EARLE R. POLLARD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Sad-irons, of which the following is a specification.

This invention relates to improvements in sad irons, and particularly to that class of irons which are self-heated, and which are capable of generating steam for moistening the goods which are to be pressed by the iron.

It is an object of the invention to provide an iron of the class mentioned, having a base portion provided with a separable steam distributing part adapted to deliver steam to the goods to be pressed, the iron also having a steam generator, which is connected with said steam distributing portion.

It is also an object of the invention to provide a sad iron with a flash boiler adapted to generate steam as fast as water is delivered into the same, the body portion of the iron being arranged to constitute a heating jacket for enclosing the said boiler, a heating space being arranged to extend entirely around the boiler within the iron, the iron also having a heating member mounted within the said space.

It is a further object of the invention to provide a sad iron having a base with a marginal edge formed thereon, the said base having a nose piece formed with steam passages therein, and having steam outlets, opening downwardly and laterally, the iron also having a steam generating boiler for supplying steam to the said nose piece, a jacket being arranged to surround and apply heat to the boiler, the said jacket being secured to the marginal edge of the base.

It is still a further object of the invention to provide a steam pressing sad iron, having a flash boiler therein, and a valve controlled water supply to the said boiler, the handle of the iron being provided with a rocking member under the control of the operator for controlling said valve member in regulating the water supply.

With these and other objects in view, the invention comprises certain novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and claimed.

In the accompanying drawing forming a part of this specification:

Fig. 1 is a longitudinal central sectional view taken vertically through a sad iron, constructed in accordance with this invention, some of the parts being shown in side elevation and broken away.

Fig. 2 is a plan view of the base portion of the sad iron, portions of connecting parts being shown in section, and a portion of the margin of the iron being broken away and shown in section.

Fig. 3 is a vertical transverse sectional view taken upon the line 3—3 of Fig. 1.

Fig. 4 is a top plan view of the handle of the iron, adjacent parts of the iron being broken away.

Fig. 5 is an inverted view of the toe portion of the base, a portion of the toe being broken away to show the steam passages therein.

Fig. 6 is a detail sectional view taken transversely through the valve operating mechanism which controls the water supply of the iron.

Fig. 7 is a fragmentary top plan view for the front end of the boiler.

The sad iron forming the subject matter of the present invention is designed to afford one which is capable of generating steam and of projecting the steam under the control of the operator, through as many layers of fabric as may be needed for facilitating the heating of the same.

The details of the invention will now be more specifically described, reference being had to the accompanying drawing, in which 5 indicates a base, 6 a boiler or steam generator therein, and 7 a jacket or casing. The base of the iron is made with a smooth flat bottom for almost its entire length, but is recessed and off-set at the front end to receive a nose piece or member 8. The said nose piece or member 8 is provided with steam passages at 9 extending around near the outer edges of the nose piece or member, and also with a transversely connecting passage 10. The said nose piece or member 8 is provided with discharge or jet openings 11 communicating with the passages 9 through the bottom thereof, and lateral or inclined apertures or jet openings 12 extending toward the front corner edges of the nose piece from said passages 9, whereby the steam escaping from the latter passages will

show sufficiently to act as an indicator, of the fact that the steam is being generated and properly delivered through the nose piece of the iron.

5 The said nose piece is preferably cast of a single piece of metal, usually brass, in order that the jet openings may not be liable to corrosion and clogging, as would happen if iron were employed. The passages 9 and 10
10 are cored out through apertures formed in the walls of the nose piece, and normally closed by plug screws 13, as clearly shown in Fig. 5 of the drawing. The said nose piece is shaped to fit the recessed or off-set
15 portion of the front end of the base 5. Rising from the central portion of the nose piece and so as to communicate with the transverse passage 10, is a hollow securing standard 14, as clearly shown in Fig. 1 of
20 the drawing. This hollow stem passes through the shouldered part of the base, an aperture 15 being provided therefor, and also projects above the same, its upper end being only threaded exteriorly to receive a
25 clamping nut 16 and a lock nut 17, by which the nose piece is directly secured to the said base. The upper end of the hollow standard 14 is also interiorly threaded to receive a short connecting pipe 18 by which it is con-
30 nected with the boiler 6, and through which the steam generated in the boiler passes into the passages of the nose piece. The base 5 is provided with a marginal edge portion 19, which extends substantially entirely
35 around the same, and rises to a suitable height to give ample room for air inlet passages 20, which enter the base just above the inner surface thereof, the said marginal edge or wall being preferably shouldered
40 at 21, entirely around its upper edge to receive the lower edge of the jacket 7, or casing proper of the iron. The iron is provided with any suitable heat producing device, a burner 22 being shown in the drawing.
45 The burner may be of any desired type, but is usually made of a tubular member extending from the end of the base 5 to a point near the off-set from end thereof. The portion 22 is provided with a series of
50 jet openings 23 along the top thereof, and rows of jet openings 24 and 25 along the lower and lateral portions of the said burner, the flames from the said openings thus issuing from the burner along three
55 substantially equidistant lines along the burner, whereby a proper volume of heat is developed within the jacket and beneath the boiler 6, in such a way that the products of combustion may pass upwardly and entirely
60 around the said boiler or steam generator. Outside the iron structure, the tubing forming the burner 22 is turned upwardly at 26, the upper end thereof being provided with lateral openings 27 to form a mixing device,
65 and having a controlling valve 28 adapted

to be connected with any suitable source of fuel supply. The base is also formed with a series of baffle projections 29, which extend upwardly from the floor of the base 5, so as to be opposite the air inlet openings 20. As
70 shown in the drawing, the said projections may be triangular in cross section, with one of the angular edges presented toward each of the said openings 20.

The arrangement is such that the said baffles from the double function of the dividing
75 and diffusing, the air rushing in through the openings 20, and preventing the jets of flame from the burner from passing out through said openings 20. The boiler 6 is a
80 tubular member forming a steam generating retort, and it is found advantageous to form the said boiler or generator with a substantially triangular cross section as clearly shown in Fig. 3 of the drawing. The tri-
85 angular boiler with one of its sides around at the bottom, facilitates the maintenance of hot air spaces between the sides of the boiler, and the walls of the jacket 7. One end of the boiler is formed with lateral sleeves 30
90 through which securing bolts 31 are passed, the lower end of said screw bolts engaging in short standards 32, which project upwardly from the floor of the base 5. The rear end of the boiler and generator is thus
95 firmly fastened in position above the base. The forward end of the boiler is provided with a removable end piece 33, having a flange extending into a shouldered recess 34 upon the body portion of the boiler 6. The
100 said end piece 33 has a screw threaded opening 35 adapted to be screwed upon the upper threaded end of the connecting pipe 18, whereby the front end of the boiler is securely fastened in place. A conical shaped
105 screen 77 having a peripheral flange 36, is clamped in place within the boiler between the body portion thereof, and the nose piece or front end portion 33.

The rear end of the boiler is also pro-
110 vided with an inclined floor 37, adapted to receive the small amount of water, which is dropped into the boiler from time to time, and thus ensuring that the water be directed in the boiler, so as to be converted into steam.
115 The water which is to be converted into steam in the boiler, is delivered into the said boiler through a valve carrying member 38, which has an elongated stem, having an exteriorly threaded portion adapted to be forced in a
120 threaded opening 39 in the rear of the boiler. The lower end of the said stem is recessed at 40 and receives a ball check valve 41, which is held in place by a transverse pin 42, which extends across the said recess 40. The ball
125 valve prevents the passage of steam from the boiler into the passage-way formed in the valve carrying member 38. The said valve carrying member 38 projects through an opening in the jacket 7, and above the said
130

jacket it is enlarged at 43 to receive a tumbler member 44, which is adapted to control a valve above the same, as will be hereinafter more fully described.

5 Rising from the upper surface of the boiler 6 are bosses 45, which have screw threaded recesses therein, and adapted to receive screw threaded bolts 46, which project through the yoke or frame 47 of the handle of the iron, and through the top of the jacket 7, for clamping the said handle and jacket to the said boiler 6. The jacket 7 is provided with a series of outlet or flue openings at 48, through which the products of combustion escape after heating the jacket. The handle yoke 47 has a non-heat conducting handle 49, usually of wood fastened between the upper ends of the said yoke, as shown in Fig. 1 of the drawing. The handle is screwed to the yoke by suitable screws 50. The said handle is perforated longitudinally, preferably in the lower part thereof, for receiving a rocking member or shaft 51. The said shaft finds suitable bearings at 52 in the upper ends of the leg portions of the handle or yoke 47. The shaft 51 projects from the forward end of the handle, and is turned longitudinally and somewhat upwardly with respect to the said forward end of the handle, and carries a thumbpiece 53. Pressure upon the said handle will rock the shaft 51 in its bearings. At the rear end of the handle 49, a crank arm 54 is secured to the shaft 51, and is converted by means of a link 55 with a valve operating pin or arm 56, which is connected with the tumbler member 44.

The water supply to the boiler or steam generator is thus under control of the operator of the iron, and water may be admitted to the said boiler by merely pressing upon the thumb or finger piece 53. A tumbler device in the water supply connection may be of any desired construction, but may as shown in the drawing, be formed with a plate portion carried by end disc pieces 57, which fit snugly, though movably within the flanged portion 43 of the valve carrying member.

50 An operating stem 58 projects from the thumb member 44, through a packing gland 59, formed in the enlargement 43. A spring 60 mounted in an annular recess 61 formed in a screw cap 62, bears upon the opposite end of the tumbler from the shaft or stem 58. A short centering stud 63 extends through an aperture 64 in the said cap piece 62 to keep the tumbler member properly centered, in connection with the said stem 58. Above the tumbler member 44, the valve carrying member 38 is enlarged to receive a valve 65, the said valve may be of any measuring type if desired, and engages a seat 66 for controlling the passage of water through the mechanism to the boiler. A

downward projecting stem 67 engages the tumbler 44, so that when the tumbler is rotated, the valve may be lifted from its seat. The valve also has an upward extension of its stem, which carries a second valve 68, which is adapted to engage a seat 69, formed in the coupling member 70, mounted upon the upper end of the valve carrying member 38. The coupling member 70 engages the screw threaded portion of the water cut-off valve 71. A spring 72 is mounted within the coupling 70 and bears the upper end of the valve 68, and normally operates the valve device to seat the lower valve 66 thereof. The cut-off valve device 71 is adapted to be connected by a flexible hose pipe with a water supply of any desired kind, and the cut-off valve 28 is adapted to be connected by a flexible hose or pipe with a fuel or gas supply, the said flexible connections being of ample length to permit the use of the iron. The rear end of the jacket 7 is provided with an opening 73 through which the burner may be readily lighted by the application of a match. The end piece 33 of the boiler 6 is preferably firmly held in place by connecting screw bolts 74, which pass through sleeves 75 upon the end piece 33, and screw into interiorly threaded sleeves 76, formed upon the adjacent end of the boiler 6.

It will be apparent that the different portions of the iron, while so constructed that they may be readily taken apart or put together, are however, formed so that strong non-heating connections may be had. It will also be evident that many of the minor details of construction may be somewhat altered within the spirit and scope of the invention, and that mechanical equivalents may be substituted for some of the parts, without altering the spirit of the invention. In using the iron, the operator grasps the handle 49, the burner having first been lighted and permitted to burn for four or five minutes. The iron will be hot enough for the pressing of goods by that time, and for generating steam within the boiler, whenever water is permitted to pass into the same.

The iron is then applied to the goods to be pressed, without sponging or previous wetting, and the operator moistens the materials by merely pressing upon the thumb piece 53, so as to operate the water controlling valve and permit a small quantity of water to be discharged into the generator. The water is immediately converted into steam, which will be forced through the passages of the nose piece and into the cloth or other fabrics treated, through the jet openings 11 and 12, since the steam cannot return through the valve mechanism, because of the ball check valve 41.

It is not necessary to keep the thumb con-

tinually upon the lever device, it only being required to press upon it occasionally, in order to supply an ample quantity of steam for the ironing process. It is found that the steam forced out from a retort portion, such as that shown and described, will penetrate many thicknesses of clothing. The issuing of steam from the inclined or lateral openings 12 permits of the seeing of the steam as it escapes, to indicate that the iron is working properly.

It will be noted that the lateral or diagonal jet openings 12 in the nose piece not only serve to make some of the steam visible, indicating that it is being properly supplied to the toe of the iron, but the steam at these jets also serves to moisten and affect the top or outer layer of goods to be pressed. While a triangular boiler has been shown in the drawing, it will be evident that boilers of other cross sectional shape will be very effective. Thus by rounding in a circular manner or similarly curving the top of the boiler, a very effective boiler will be produced. It will be further evident that in the place of the gas burner illustrated in the drawing, other kinds of burners may be used to advantage, as for instance, gasoline burners, or electric heater, all within the spirit and scope of the invention.

What is claimed is:

1. A sad iron having a base portion, a separable nose member detachably connected to said base, said nose member provided with steam distributing passages therein and vertical and lateral jet openings therefrom, a steam generating device communicating with said nose member within the body of the iron and adapted to supply steam thereto, and means for heating said generator.

2. A sad iron comprising a base having an off-set shouldered end portion, a separable nose piece adapted to fit upon said shouldered off-set portion of the base to complete the outer contour thereof, said piece having steam passages therein provided, and laterally arranged jet openings from said passages for directing the steam discharged from the edge of said nose piece, a boiler connected with said nose piece and adapted to deliver steam thereto, and a heating agent arranged between said base and said steam generating means.

3. A sad iron having a base, a portion of said base having steam passages therein and being provided with downwardly extending and inclined diagonal jet openings communicating with said passages, the issuance of steam from said diagonal openings acting as an indicator that the iron is operating properly, a flash boiler connected with the steam passages in the said base portion, and a heating device adjacent to said flash boiler.

4. A sad iron comprising an enclosing

jacket, a steam generator within said jacket, means for injecting water into said generator at the will of the operator, said iron having apertures adapted to discharge penetrating jets of steam into goods being pressed and outlets arranged to discharge steam over goods being pressed so as to be visible, the issuance of said visible steam indicating generated steam from said generator.

5. A sad iron having air intake and discharge openings, a steam generator, a burner adjacent said generator, a water supply device connected to said generator, means for controlling said burner and said water supply device, and means for preventing the flames from said burner blowing out through said intake openings.

6. A sad iron comprising a jacketed boiler, a handle mounted above the jacket of said boiler, a heat applying means encircling said boiler, a water supply for said boiler and a longitudinal rocking member having a side extension projecting therefrom for controlling said water supply.

7. An iron having a heating chamber therein, a detachable steam generator entirely enveloped by said chamber, a burner also in said chamber, the walls of the iron being provided with draft inlet openings near the base and draft openings near the crown thereof and means for preventing the flames of said burner from passing out of said inlet openings.

8. A steam generating sad iron comprising a base, a boiler, a heating agent adjacent to said base and said boiler, a jacket engaging said base and enveloping said boiler and said heating agent, a handle, a water supply connection for said boiler and a rocking thumb lever journaled in said handle for controlling said water connection at the will of the operator of the iron.

9. A sad iron comprising a base having a marginal wall, a jacket adapted to be fitted in said wall, a boiler positioned within said jacket, a heating member, a water valve, a stationary handle, a rotatable lever extending through said handle from front to rear, means for connecting said valve to said lever, whereby a restricted amount of water may be allowed to enter said boiler under the control of the operator.

10. A sad iron comprising a base, a jacketed boiler secured to said base, a heater lying adjacent said base and said boiler, a water connection to said boiler, a perforated handle, a rocking member received in the perforation of said handle, a water controlling device connected to said member and an operator's lever projecting from said member.

11. A steam generating sad iron comprising a base, a housing, a steam generator, a water valve and means for connecting a

source of water supply thereto, a heating unit, said base having steam distributing passageways therein and vertical jet openings therefrom adapted to allow steam to dampen goods being pressed and lateral jet openings therefrom adapted to indicate the generation of steam.

12. A steam generating sad iron comprising a steam generating unit, means adapted to heat said unit, a handle, a water valve, a shaft rotatably mounted in said handle longitudinally thereof, an operator's lever secured to said shaft and extending outwardly from the front of said handle, means for securing said shaft to said water valve whereby the movement of said lever will control the supply of water to said unit, and means to convey steam from said unit to goods to be pressed by said iron.

13. A sad iron comprising a steam generating unit, a handle frame, a perforated stationary handle, a water valve, a controlling shaft connected to said valve and journalled in said perforation of said handle, said shaft having an operator's hand contact portion positioned externally of said handle for conveying motion to the valve of said iron.

14. An internally heated steam pressing iron having a steam generating unit, a handle frame, a stationary handle, and an L shaped lever journalled in said handle and having one leg of said lever extending outwardly at the front of said handle beyond the limits thereof and adapted for controlling a water valve to said steam generator.

15. A steam generating sad iron comprising a base, a heating member, a steam generating boiler adjacent said heating member, means adapted to direct part of the issuing steam from said boiler to spread over the upper surface of goods being pressed, and means arranged to direct the remainder of the discharged steam entirely through goods being pressed.

16. A steam generating sad iron having a heating means adapted to heat the steam generator and the base of the iron, a source

of water supply to said generator, a valve adapted to be kept closed by the action of a spring and a rocking shaft having a side extension at the front of the handle of the said iron for opening said valve.

17. In a sad iron, a valve operating mechanism comprising the handle of the iron, a shaft journalled in said handle, a thumb lever extending outwardly from said shaft and means adapted to connect said shaft with the water valve of the said iron for operating the same.

18. In a sad iron, a valve operating mechanism comprising the handle of the iron, a shaft journalled in said handle, a thumb lever extending outwardly approximately at right angles to said shaft at the front of said handle, a crank formed at the rear end of said shaft, a water valve secured to said iron adjacent the rear of said handle and said shaft, whereby the rotations of said shaft operate said valve.

19. A steam generating sad iron having a boiler therein, a water supply connected with said boiler and a water measuring valve adapted to permit the introduction of a given quantity of water into the boiler at each operation of the valve.

20. A steam producing sad iron having a steam generator, said generator provided with inlet and outlet openings, the under surface of said generator opposite said inlet opening inclined towards said outlet opening and means for preventing foreign matter escaping through said outlet opening.

21. A fabric pressing device comprising a steam generator, a heating unit, a gripping member, a water valve, a valve operating device connected to said valve, and a rotating lever having a projecting extension lying outwardly from said gripping member and adapted to communicate motion to said valve operating device.

In testimony whereof, I have hereunto set my hand.

EARLE R. POLLARD.