G. H. WATERS.

SELF HEATING SAD IRON.

APPLICATION FILED OCT. 26, 1911.

1,033,641.

Patented July 23, 1912.

2 SHEETS—SHEET 1.

Fig 1

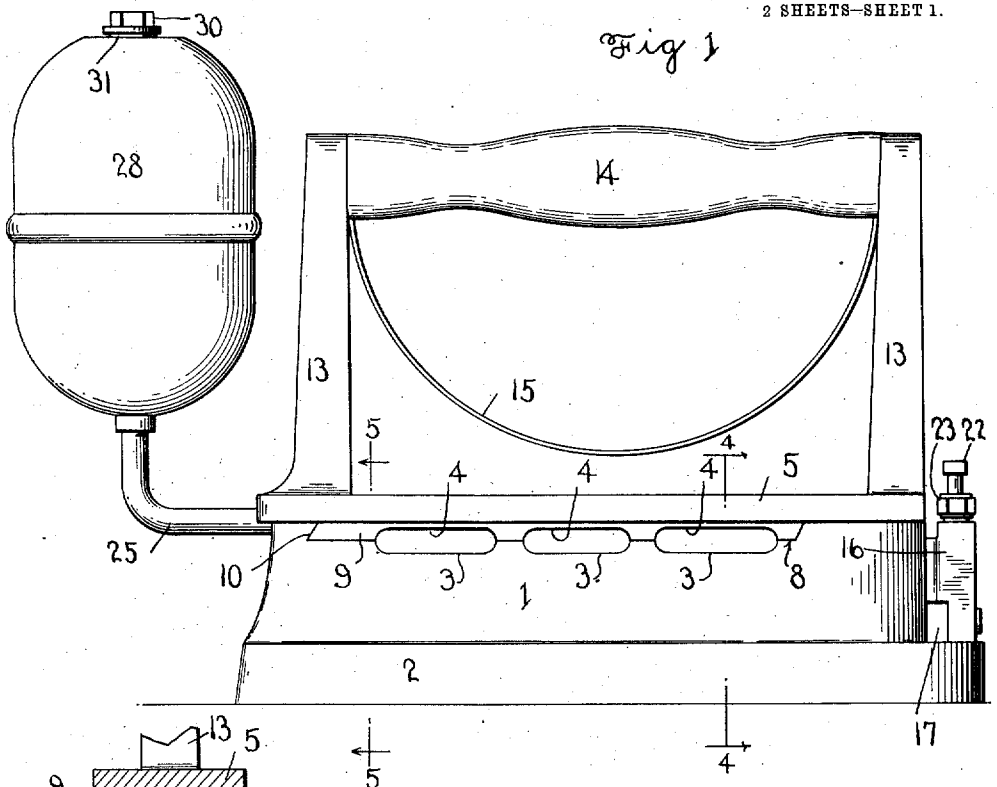


Fig 5

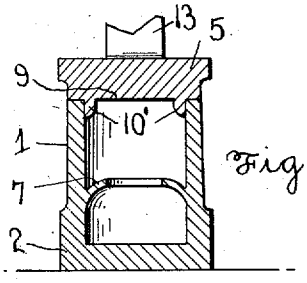
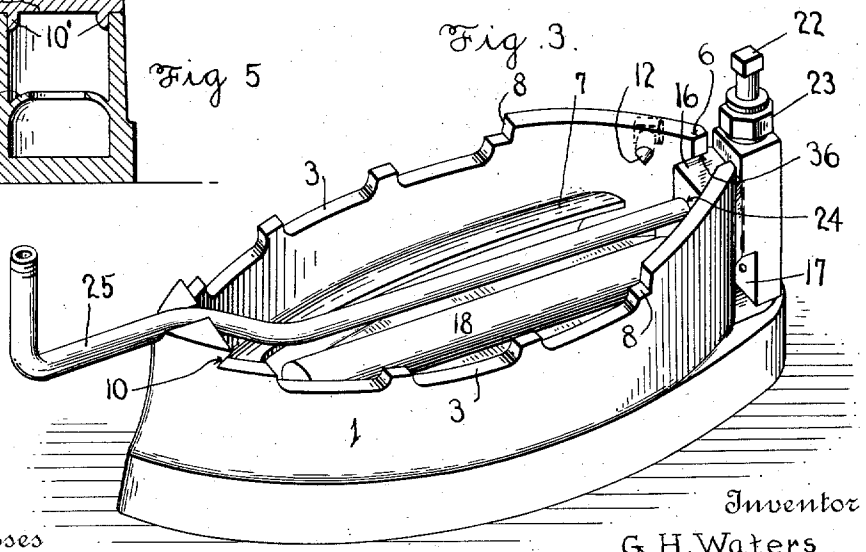


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

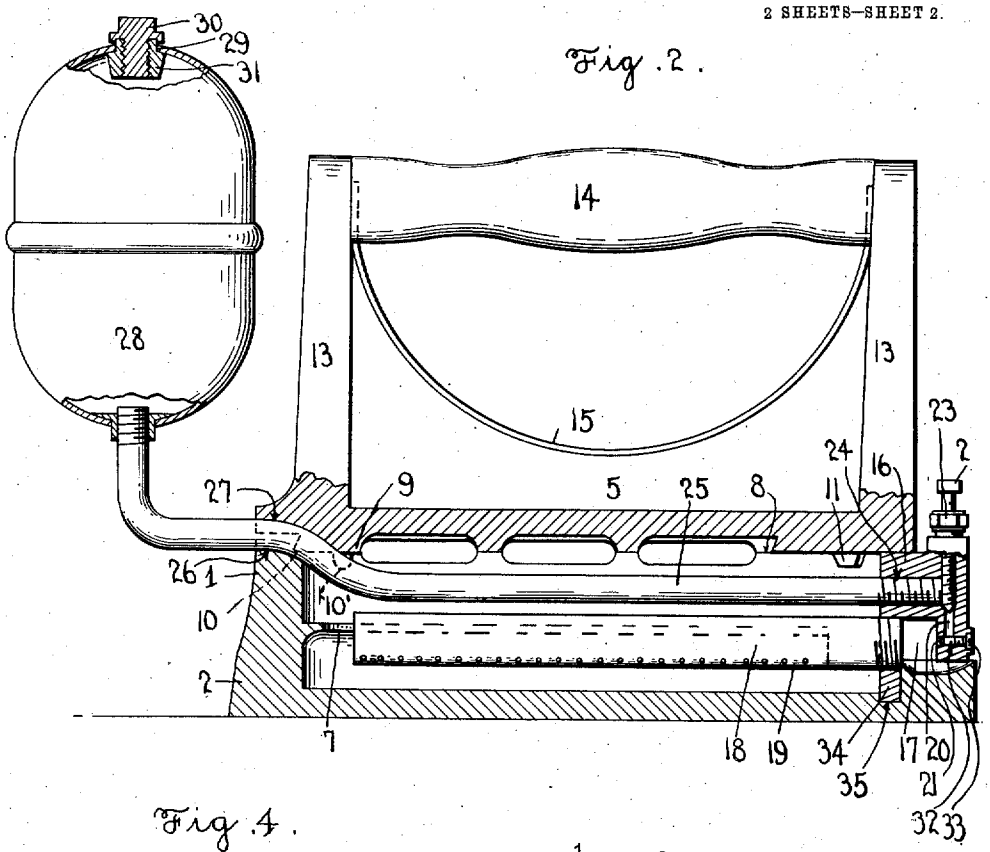


Fig. 4.

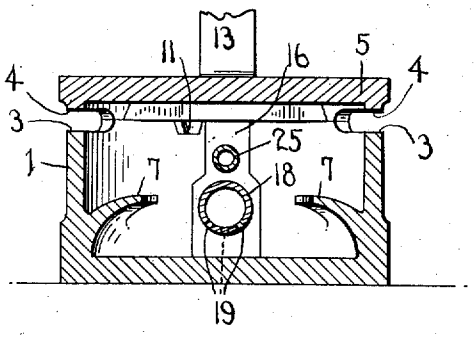
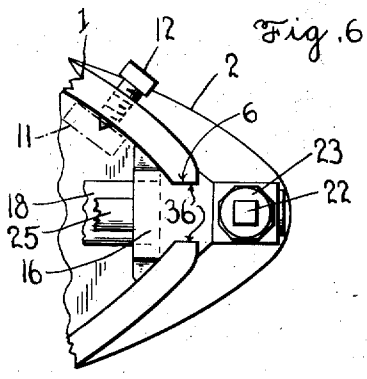


Fig. 6.



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UNITED STATES PATENT OFFICE.

GABE H. WATERS, OF GREER, SOUTH CAROLINA.

SELF-HEATING SAD-IRON.

1,033,641. Specification of Letters Patent. Patented July 23, 1912.

Application filed October 26, 1911. Serial No. 656,875.

To all whom it may concern:

Be it known that I, GABE H. WATERS, a citizen of the United States, residing at Greer, in the county of Greenville and State of South Carolina, have invented certain new and useful Improvements in Self-Heating Sad-Irons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in self heating sad irons.

One object of the invention is to provide a sad iron of this character having a simple and improved construction of body and cover plate and improved means for securing the cover plate to the body.

Another object of the invention is to provide a self heating sad iron having an improved construction and arrangement of burner and fuel generating and feeding mechanism.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings; Figure 1 is a side view of my improved self heating iron; Fig. 2 is a central vertical longitudinal sectional view thereof; Fig. 3 is a perspective view of the hollow body of the iron; Fig. 4 is a cross sectional view on the line 4—4 of Fig. 1; Fig. 5 is a similar view on the line 5—5 of Fig. 1. Fig. 6 is a plan view of the rear or heel end of the body of the iron and the fuel generating and feeding mechanism.

Referring more particularly to the drawing, 1 denotes the hollow body of the iron, said body being by preference of substantially elliptical form and having a heavy base or bottom plate 2. In the upper edges of the curved sides of the body 1 are formed notches 3 which, together with coincident notches 4 in the cover plate 5 form air or ventilating spaces. The ends of the sides of the body 1 terminate a suitable distance apart at the rear or heel end of the iron to form a space 6, the purpose of which will be hereinafter described. On the inner surface of the sides of the body are formed inwardly projecting heat deflecting flanges 7 which deflect the heat from the sides of the iron down onto the bottom or base plate thereof. The portion of the upper sides of the body 1 in which the notches 3 are formed is cut out to form recesses 8 which are provided to receive the projecting or thickened central portion 9 of the cover plate 5. The forward end of said projecting or thickened portion is inclined or formed on a bevel to engage a similarly shaped notch 10 formed in the forward end of the recessed upper sides of the iron whereby the forward end of the cover plate 5 is fastened to the body of the iron. The rear end of the thickened or projecting portion of the cover has formed on one side thereof a depending lug 11 with which is engaged the inner end of a set screw 12 arranged in a threaded aperture in the adjacent side of the body of the iron whereby the rear end of the cover plate is secured to the body 1. In addition to the notched engagement of the front end of the cover plate with the body of the iron, said end of the plate is further fastened and held against lateral movement by guide lugs 10′ formed on the thickened portion of the plate near the forward end thereof as clearly shown in Figs. 2 and 5 of the drawings.

The upper portion of the cover plate 5 projects beyond the sides of the body of the iron to a slight extent and on the upper side of the cover plate near the front and rear ends thereof are formed upwardly extending handle supporting posts or standards 13 between which is secured a handle 14 formed of wood or other poor heat conducting material. Arranged above the cover plate 5 and having its ends secured between the handle 14 and the upper ends of the posts 13 is a curved heat deflecting plate 15 whereby the hand is protected from the heat radiating from the iron.

Removably fitting in the space 6 between the rear ends of the sides of the body of the iron is a block 16, in the lower portion of which is formed an air mixing space 17. In the front side of the block is screwed the inner end of a burner tube 18 which projects forwardly into the lower portion of the body of the iron and is provided on its under side with a plurality of perforations 19 through which the gas escapes and is burned in the body of the iron. The outer end of the burner tube 18 communicates with the mixing space 17 formed in the block. Also formed in the outer portion of the block 16 is a vertically disposed passage 20 the lower end of which communicates with the mixing

space 17 through a port 21. The upper portion of the passage 20 is threaded and into said threaded portion is screwed a needle valve 22 the upper portion of which passes through a stuffing box 23 arranged on the upper end of the block as shown. In the upper portion of the block above the connection of the burner tube 18 is formed a threaded socket 24 the inner end of which communicates with the passage 20.

Into the socket 24 is adapted to be screwed the inner end of a gasolene conducting pipe 25 the outer end of which extends through the passage formed by recesses 26 and 27 in the adjoining surfaces of the front ends of the body and cover plate of the iron as shown. The outer end of the pipe is turned upwardly adjacent to the forward end of the iron and on said end of the pipe is arranged a gasolene supply tank or reservoir 28, having in its upper end a filling opening 29 which is normally closed by a plug 30 screwed into a bushing 31 arranged in the opening as clearly shown in Fig. 2 of the drawing. In the outer side of the lower portion of the block 16 in line with the port 21 is formed a threaded passage 32 which is normally closed by a screw 33 and is provided to permit the cleaning of the port 21.

The lower end of the inner side of the block 16 is extended downwardly to form a stop lug 34 which fits into a socket or recess 35 formed in the bottom of the body of the iron as clearly shown in Fig. 2 of the drawings. In the sides of the block 16 are formed vertical grooves or recesses 36 with which the ends of the sides are engaged when the block is placed in position in the space 6 between said ends as clearly shown in Fig. 6 of the drawings. By thus constructing and arranging the block 16 the latter will be firmly held in position in the end of the iron after the cover has been secured thereto. When the cover is removed the generator together with the burner tube and the fuel reservoir may be readily removed from the body of the iron. When the generator is arranged in the manner described the feeding of the fuel may be readily controlled by the valve 22 which, when open will permit the vapor generated therein to flow from the pipe or generator 25 through the port 21 into the mixing space 17 where it mixes with the air and passes on into the burner tube in proper condition to be burned after issuing from the perforations 19 in said tube.

From the foregoing description taken in connection with the accompanying drawings the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is;

1. A sad iron of the character described comprising a hollow body, a cover plate having a detachable connection with said body, said body and cover plate having formed therein notches, which when the cover is engaged with the body form ventilating passages, heat deflecting flanges formed on the inner sides of the body of the iron, a chambered block having an air mixing space and removably connected with the rear end of the body, a burner tube and a fuel supply pipe connected with said block, said fuel supply pipe being disposed over the burner tube and forming a vaporizer, a valve to control the flow of the fuel through the block, and a fuel reservoir secured to the outer end of said fuel supply pipe.

2. In a sad iron of the character described, a hollow body having the upper edges of its sides recessed to form a notch on the forward end of the iron, a cover plate having a central thickened portion to fit the recessed upper edges of the sides of the iron and beveled at its forward end to engage the notched front end of the body, a lug formed on the rear end of the cover plate, a set screw arranged in the adjacent portion of the body of the iron and adapted to be engaged with said lug whereby the rear end of the cover plate is held in engagement with the body, guide lugs formed on the front end of the cover plate and adapted to engage the adjacent inner sides of the body of the iron, a handle arranged on said cover and a heating mechanism detachably engaged with the body of the iron and held in engagement therewith by said cover.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GABE H. WATERS.

Witnesses:
A. H. MILLER,
J. A. MAHAFFEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."