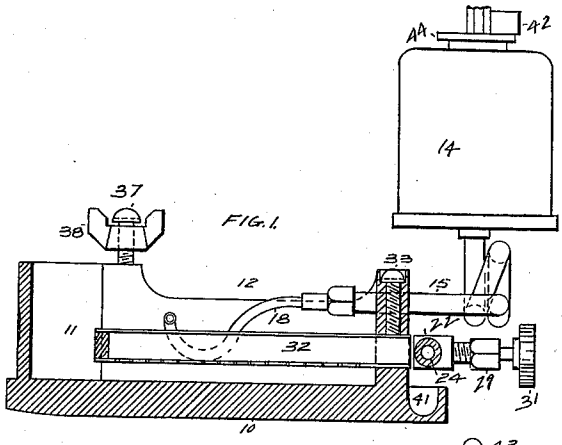
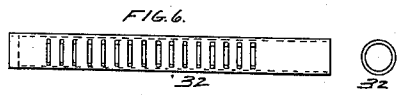
G. W. CANN.

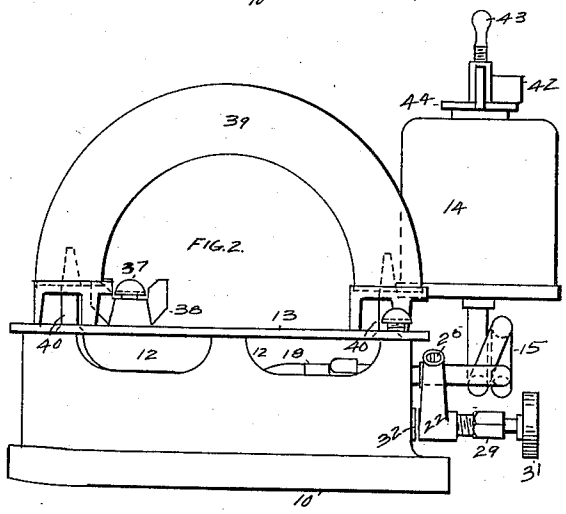
SAD IRON.

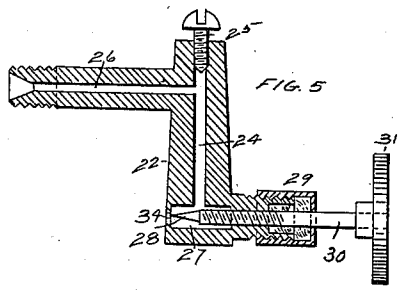
APPLICATION FILED NOV. 18, 1910.

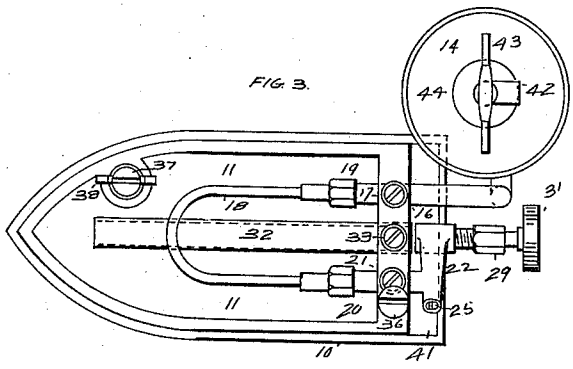
1,028,188. Patented June 4, 1912.

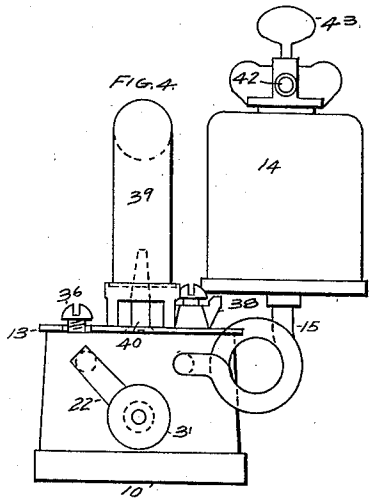












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SAD-IRON.

1,028,188. Specification of Letters Patent. Patented June 4, 1912.

Application filed November 18, 1910. Serial No. 593,098.

To all whom it may concern:

Be it known that I, GEORGE W. CANN, a citizen of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Sad-Irons, of which the following is a specification.

My invention relates to that class of sad irons which are self heating, and in which gasolene, alcohol, or a similar fluid is used.

I am aware that patents have been secured on improvements in sad irons which carry or supply their own fuel. I am not aware that the special feature as set forth in my invention has yet been patented.

The object of my invention is to provide a sad iron which will be readily detachable and accessible for cleaning, as this is often necessary on account of the tendency of different grades of fuel used to clog the pipes.

Another object is to provide means for perfect vaporization of the fuel used.

Another object is to provide a burner which is adjustable in order to regulate the amount of air taken into the burner.

In the accompanying drawing, Figure 1 is a side view of my sad iron which is shown mostly in longitudinal section. Fig. 2 is a side elevation. Fig. 3 is a plan view with the lid removed. Fig. 4 is a rear end view of the sad iron. Fig. 5 is a full size detail view of a cross section of the generator connection. Fig. 6 is a detail view of the mixer and burner.

In the construction of the device as shown, the numeral 10 designates the base formed with an interior flame chamber 11, the side and end walls of the base rising from and at right angles to the bottom, thus forming a flame chamber. The flame chamber 11 is provided with the openings 12 in order to provide ventilation when the lid 13 is in place. The tank 14 is connected with the flame chamber 11 by the supply pipe 15 and the latter enters the flame chamber through a hole 16 in the back of chamber 11. The supply pipe 15 is held rigidly in place by the screw 17. The vaporization pipe or generator 18 connects with the pipe 15 at 19 and extends pretty well forward toward the tapered end of the flame chamber, thence returns to the rear end where it connects with the connection 22 at 20, the connection extending into the flame chamber 11 at the hole 21.

The connection 22 embodies a diagonally disposed hole or well 24 the upper end of which is closed by a screw plug 25 located in the upper end. The connection 22 is also provided with a passage 26 of very small diameter leading from the generator 18 to the upper end of the connection 22. The lower end of the connection 22 is provided with a passageway 27 which is bored at right angles to the passageway 24. A needle valve 28 is screwed in the bore at right angles to bore 24, and the forward end of the needle valve 28 is cone shaped, fitting in the other end of bore 27 and reducing or cutting off, when desired, the flow of gasolene or other fuel from the tank.

The needle valve 28 is provided with packing gland 29 in order to prevent a leakage around the stem 30. The needle valve 28 is operated by the wheel 31. The needle valve 28 and valve seat 34 are directly opposite the burner 32. The burner 32 is located near the bottom of the flame chamber 11 and extends almost its entire length. One end of the burner 32, the forward end, is closed, and the other end is held in the rear wall of the flame chamber 11 by the screw 33. The burner 32 is perforated by a sufficient number of slots to allow the escape of the vapor. The burner 32 is located diametrically opposite the minute port 34 in the connection 22 and receives fuel therefrom. To regulate the flow of air into the burner 32, loosen screw 33 and move burner from or toward the generator as desired.

The lid 13 extends over the flame chamber 11 and is held in place by the screw 36 and the screw 37. The screw 37 is provided with a thumb nut 38. The lid 13 is provided with a handle 39 in order to facilitate the handling of the iron. The handle 39 is secured to the lid by screws 40.

It is to be noted that neither the valve casting, the burner nor the supply tube depends one upon the other for support, but each is supported and held in place by set screws in the back wall of the iron body, and any one of which may be removed or adjusted without interfering with the other. Furthermore, the burner is a brass tube, closed at front end, slotted on under side and inserted in hole in back wall of iron body, retained in place by set screw, making it possible and convenient to adjust the

mixture of air to suit any conditions that may demand adjustment, by sliding said burner near to, or farther from the valve opening, or fuel outlet. This will, in many cases, save the operator the expense of repair necessary where this feature is not present. The valve casting, burner, and the supply tube are secured rigidly in the back wall of the iron body by means of set screws. Therefore, no wear whatever takes place in these parts, causing any of said parts to become loose and rattle while in use. Furthermore, the burner is not dependent on the cover of the iron body to hold it in place. The supply tube being thus secured, and the reservoir suspended by the said tube makes it convenient to move the iron around, without having to put the cover in place to do this.

To use the sad iron, fill tank 14 two thirds full of gasolene, then replace filler plug 44 and screw down firmly with the hand. Next attach air pump at 42, loosen the valve 43, and pump in air, closing the valve 43 after about 15 or 20 strokes of the pump, thereby maintaining all the pressure possible in the tank 14. Remove the lid 13 and pour a teaspoonful or more of wood or grain alcohol into the flame chamber 11, also into the well 41. Light this with a match and when half consumed open vapor valve 28 enough to keep it burning inside the iron and light the gas inside, allowing it to burn both inside and outside until the alcohol is consumed. Allow the gas inside to burn tolerably strong till the iron is thoroughly hot and no spitting of vapor can be detected at needle port 34, then turn the flame down till it becomes a blue flame acting only on the bottom of the flame chamber. When you have this condition, replace the lid 13 and the iron is ready. The flame emitting from burner 32 heats the fuel in the detachable vaporization pipe or generator 18 so as to generate gas as the fuel passes through.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a sad iron, a base having an interior flame chamber, a burner tube adjustably secured therein and extending lengthwise of the base, a valve casting adjustably held in said base, a supply pipe adjustably secured in said base, and a generator extending lengthwise of the base on opposite sides of the burner tube and having its ends connected to the supply pipe and valve casting.

2. In a sad iron, a base having an interior flame chamber, a burner tube adjustably secured therein and extending lengthwise of the base, a valve casting adjustably held in said base, a supply pipe adjustably secured in said base, and a generator extending lengthwise of the base on opposite sides of the burner tube and having its ends connected to the supply pipe and valve casting, a reservoir supported by said supply tube, and a movable cover independent of said supply tube and burner and generator.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. CANN.

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