H. W. SCHOFF.

SELF HEATING SAD IRON.

APPLICATION FILED JUNE 16, 1909.

985,290. Patented Feb. 28, 1911.

Fig. 1.

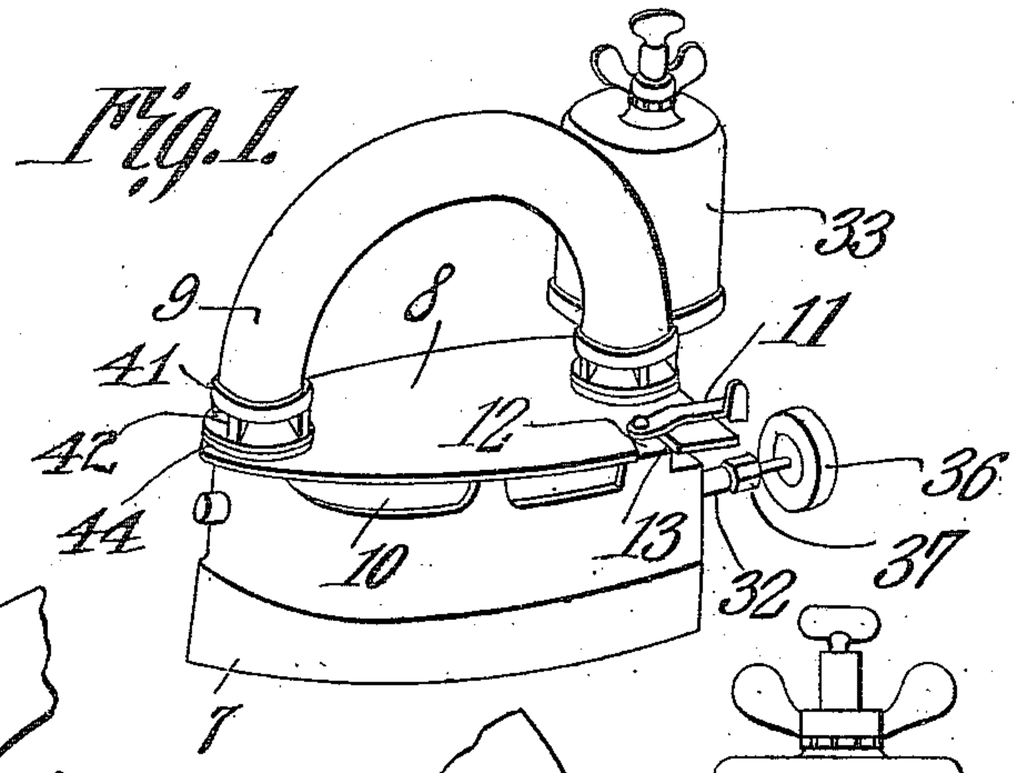
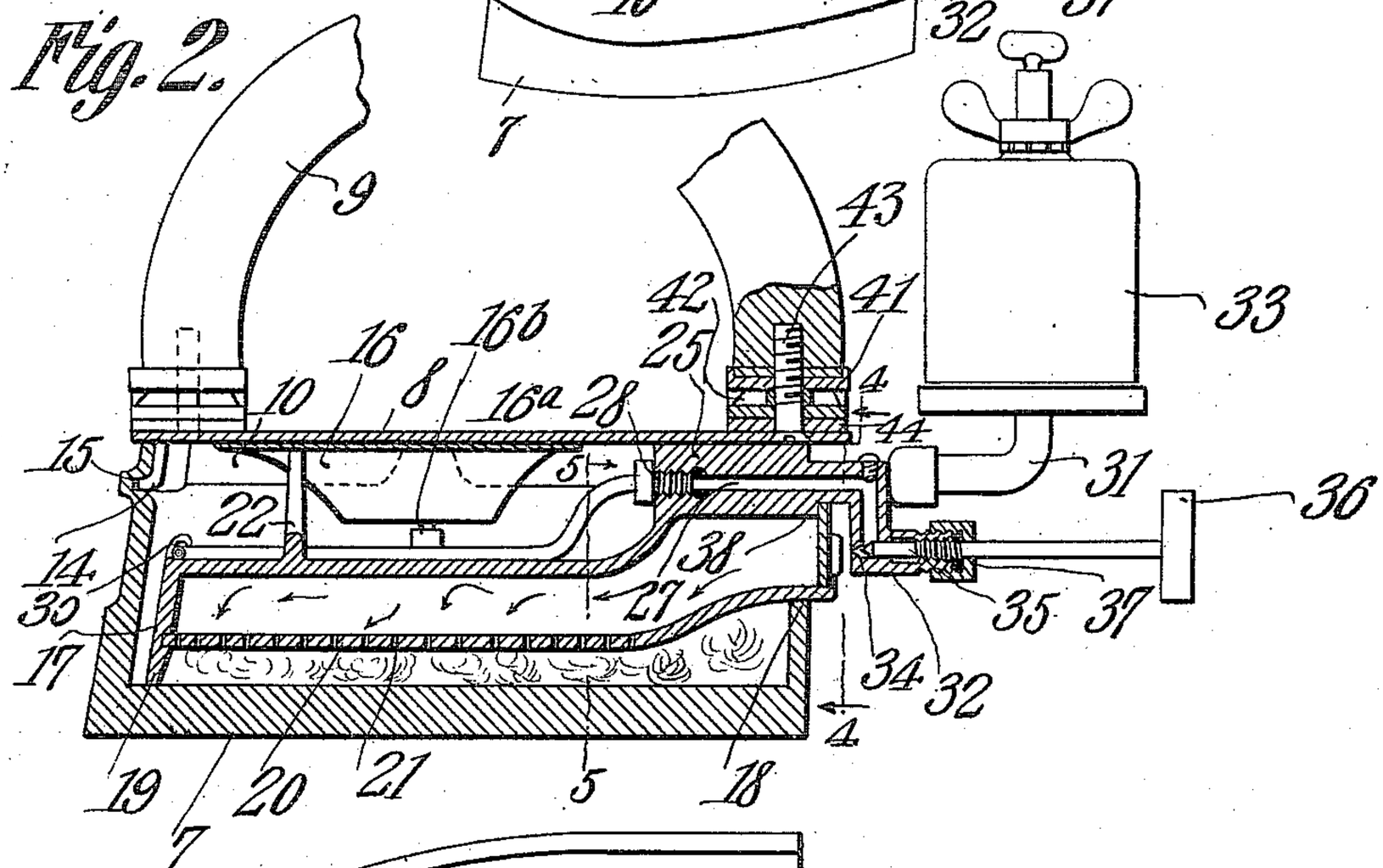


Fig. 2.



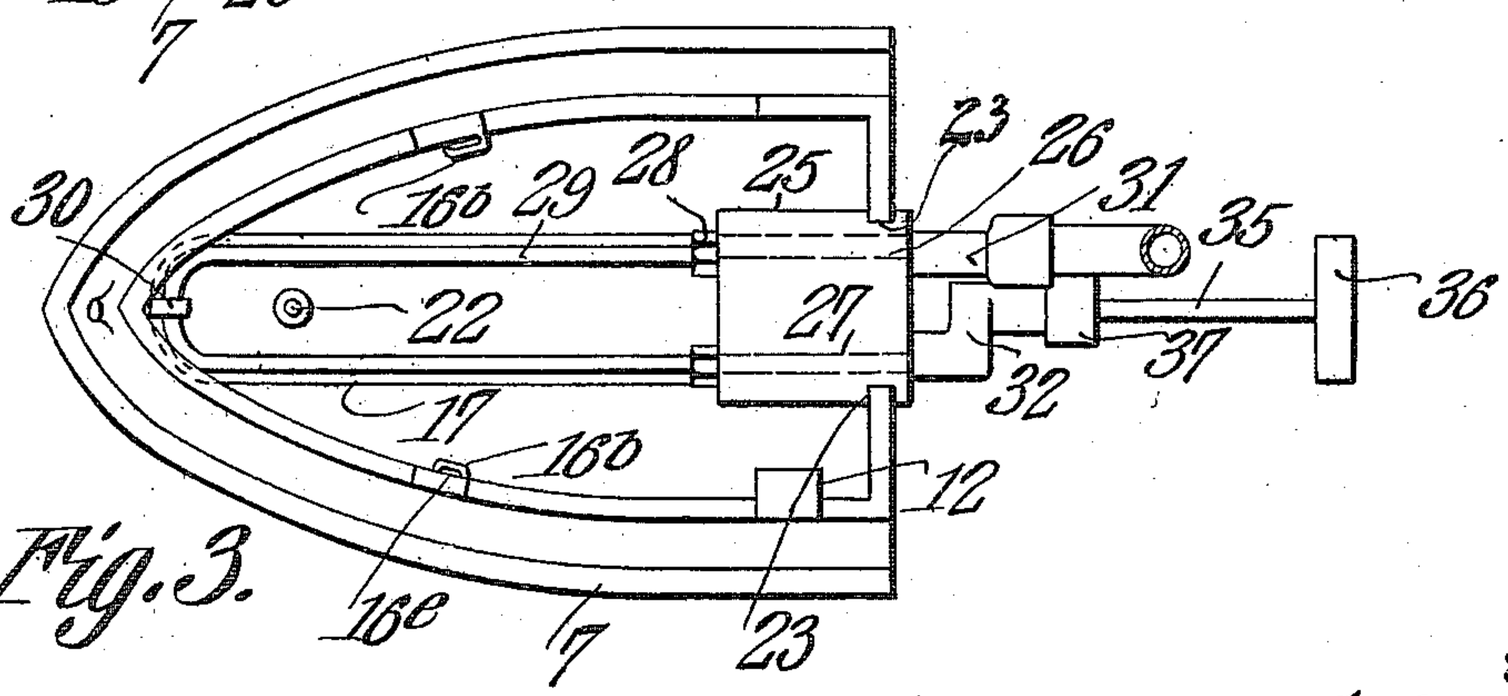


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY W. SCHOFF, OF RIVER FOREST, ILLINOIS.

SELF-HEATING SAD-IRON.

985,290. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed June 16, 1909. Serial No. 502,572.

To all whom it may concern:

Be it known that I, HENRY W. SCHOFF, a citizen of the United States, residing at River Forest, in the county of Cook and State of Illinois, have invented a new and useful Self-Heating Sad-Iron, of which the following is a specification.

This invention relates to self-heating sad irons in which liquid fuel is used as a heating medium.

It is the object of the present invention to provide an improved burner structure which is adapted for hydrocarbons, as well as alcohol, and also to provide a burner which can be easily removed from the body of the iron, and all parts of which are readily accessible for cleaning purposes.

With the foregoing objects in view the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawing hereto annexed in which—

Figure 1 is a perspective view of the iron. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a plan view of the iron with the cover removed.

In the drawings, 7 denotes the body of the iron, it being made hollow to receive the burner. The iron body has an open top which receives a removable cover 8 fitted with a handle 9. The top edge of the iron body has two recesses 10 in each side edge to permit the escape of the products of combustion from the interior thereof. The cover is locked to the iron body by a catch 11 pivoted to an inturned flange 12 on the top edge of the body near its rear end, and extending through a slot 13 in the edge of the cover, and over the top thereof. Upon swinging the catch away from the cover, the latter can be removed. The cover is further held in place by means of a prong 14 extending from the under side thereof, and adapted to enter a recess 15 made in the wall of the iron body on the interior thereof at its front end. The prong is forwardly presented and is made to enter the recess 15 upon sliding the cover forwardly. The under side of the cover carries a transversely curved deflector plate 16 which, when the cover is in place, extends into the interior of the iron body between the recesses 10 above the burner, and serves to deflect the products of combustion away from the top 8 and out said recesses 10. The plate 16 carries prongs 16^a entering eyes 16^b on the wall of the iron body, which assist to hold the cover in place.

The burner comprises a hollow body 17 mounted within the interior of the iron body. The rear end of the burner is curved upwardly slightly, and fits in a deep recess 18 made in the rear wall of the iron body. The front end of the burner is formed with a foot 19 which engages the floor of the interior of the iron body, and serves to space the bottom of the burner therefrom. Said bottom of the burner is a plate 20 having a series of burner openings 21. The burner is closed on top, and from said top rises a stem 22 with which the deflector 16 engages when said cover is in place. The foot 19, and the stem 22 when the latter is engaged by the cover, serve to hold the burner in position within the iron body. The burner is further held in place by having upright grooves in opposite sides at its rear end as indicated at 23 into which grooves the opposite walls of the recess 18 extend.

The herein described arrangement of parts provides a rigid support for the burner, and at the same time it may be readily removed from the iron body should it become desirable to do so. The recess 18 in which the rear end of the burner seats opens out the top of the iron body, so that upon removing the cover the burner may be removed by simply lifting it out of the iron body.

The rear end of the burner is enlarged and raised as indicated at 25, and in said enlargement are fuel passages 26 and 27. The ends of these passages, on the interior of the iron body, are fitted with removable couplings 28 by means of which a vapor generating tube 29 is connected with said passages. This tube is U-shaped in plan view as seen in Fig. 3, but forward of the couplings its body is dropped onto and in metallic contact with the top of the burner whereby it receives heat therefrom, and the bend at its front end is engaged under a hook 30 formed on the burner body and opening to the rear. By having its rear portions raised above its flat body, the couplings 28 can be unscrewed to disconnect its extremities from the fuel passages, after which said extremities can be sprung upward, the whole tube swung around said hook as a pivot, and its bend

moved out from under said hook; and in this way the tube can be detached from the burner body for cleaning purposes.

To the ends of the passages 26 and 27 which are on the outside of the burner body, are connected a fuel supply pipe 31, and a valve casing 32, respectively, the fuel pipe being connected to the passage 26, and the valve to the passage 27. The fuel pipe carries a tank 33 containing a supply of liquid fuel such as gasolene or alcohol. The valve 32 may be formed integral with the burner body and the body of said valve consists of two angularly disposed tubes in line with the bore of one of which is an opening 34 constituting a seat for a needle valve 35 which works in said bore. The stem of the needle valve is provided with a suitable handle 36, and the end of the bore through which the stem of the needle valve extends, is closed by a suitable packing nut 37.

The operation of the burner is as follows: The liquid fuel passes from the tank 33 through the pipe 31 into the passage 26 and from said passage to the generating tube 29, in which it is vaporized, and the vapor passes to the valve 32 and into the body of the burner from which it issues through the openings 21 and burns at the latter. The flames are deflected downwardly against the bottom of the iron body which will be rapidly heated. In view of the metallic contact of the generating tube 29 with the burner, the liquid fuel passing through said tube will be quickly vaporized.

On the cover 8 are socket pieces 41 whereby the handle 9 is secured. These socket pieces are skeleton in form intermediate their ends as indicated at 42, and are secured to the cover by screws or other suitable fastening means 43 passing thereinto and through the cover from the under side thereof. The fastening means also pass upward into the ends of the handle seating in the sockets. Between the socket pieces and the cover are interposed asbestos washers 44, which with said socket pieces prevent heat from being transmitted to the handle. The products of combustion within the body of the iron and which must issue through the side recesses 10, are directed laterally out of them by the deflector plate 16 whose body standing beneath the cover 8 therefore affords additional protection to the operator's hand which grasps the handle.

What is claimed is:

1. In a self-heating iron, the combination with a hollow body having an open top and two recesses in each side edge, a burner mounted within said body and having its forward end at a lower level than its rear end, a stem rising from said forward end, and means for supplying liquid fuel to the burner; of a flat top detachably secured to the iron body and extending over and resting upon the raised rear end of the burner, and a deflector plate secured beneath the top and having its edges bent downward within the burner body, said stem engaging the center of the deflector when the latter is in place.

2. In a self-heating iron, the combination with a hollow body having an open top and two recesses in each side edge, a burner mounted within said body, and means for supplying liquid fuel to the burner; of a flat top detachably secured to the iron body, a handle secured to and insulated from the top, a curved deflector plate whose center is secured beneath said top and whose downturned edges carry prongs, and eyes within the wall of the iron body engaged by said prongs when the cover is in place.

3. In a self-heating iron, the combination with a hollow body having a recess in its rear end, a flat top detachably secured to the body, and handle; of a burner having a hollow body raised at its rear end and engaging said recess, the raised portion being provided with longitudinal fuel passages, a tank and a valve connected with the outer ends of said passages, couplings at their inner ends, a rearwardly facing hook at the front end of the burner body, and a U-shaped vapor generating tube whose bend removably engages under said hook, whose legs lie upon the flat top of the burner body, and whose extremities are upturned and engaged by said couplings.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY W. SCHOFF.

Witnesses:
S. J. CANHAM,
HERMAN SCHOFF.