H. ANDERSON & F. E. KIRBY.

SELF HEATING SAD IRON.

APPLICATION FILED MAR. 7, 1910.

1,013,357. Patented Jan. 2, 1912.

Fig. 1.

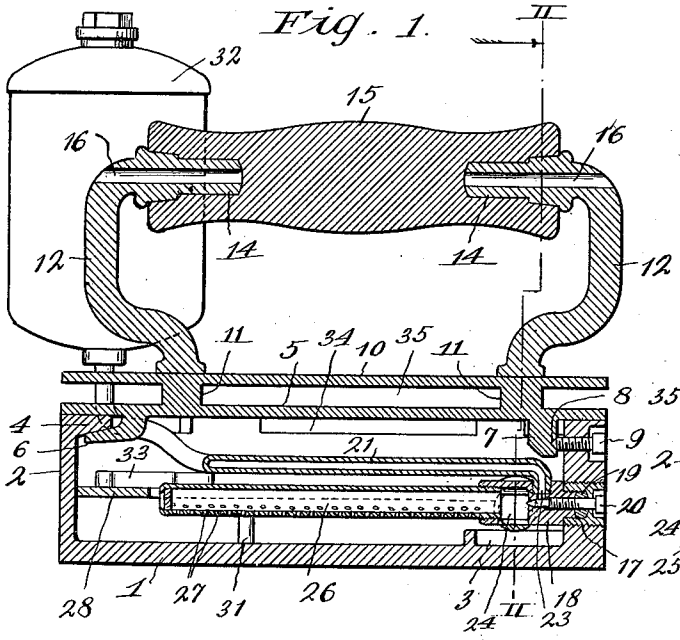

Fig. 2.

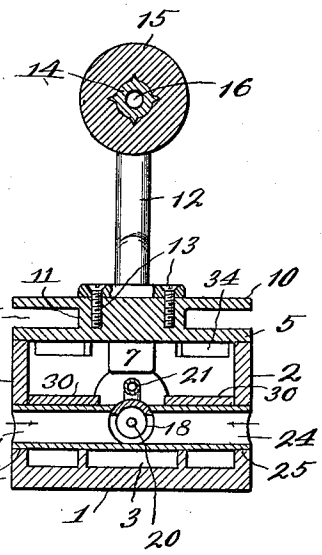

Fig. 4.

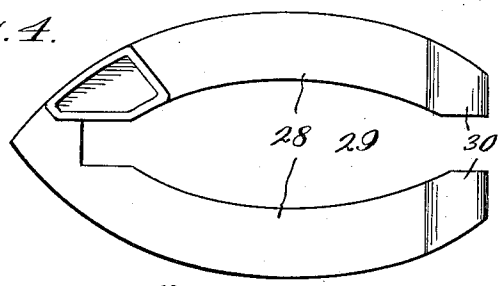

Fig. 5.

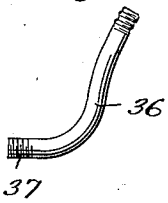

Fig. 3.

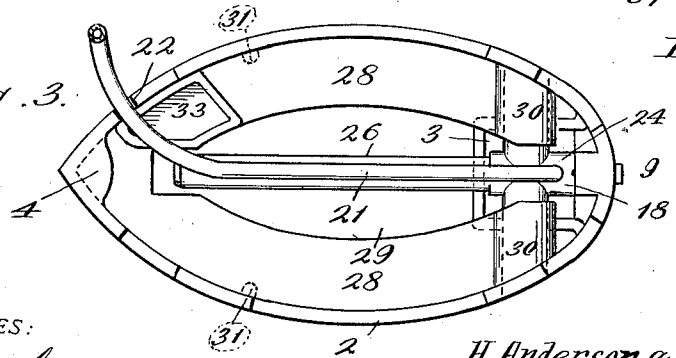

Fig. 6.

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SELF-HEATING SAD-IRON.

1,013,357. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed March 7, 1910. Serial No. 547,890.

To all whom it may concern:

Be it known that we, HARVEY ANDERSON and FREDERICK E. KIRBY, citizens of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Self-Heating Sad-Irons, of which the following is a specification.

Our invention relates to sad-irons, and has for one object to provide a sad-iron which may be heated either by hydrocarbon vapor generated within the iron, or by gas supplied from an exterior source.

Other objects of the invention will hereinafter appear, and in order that said invention may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 is a central, vertical, longitudinal section of the sad-iron provided with a gasolene reservoir. Fig. 2 is a section on line II—II of Fig. 1. Fig. 3 is a plan view of the interior of the iron, the cover-plate and reservoir being removed. Fig. 4 is a plan view of the deflector and its cup. Fig. 5 represents a fitting adapted to be attached when commercial gas is used as fuel. Fig. 6 is a detail of a plug used for closing a port in the iron when commercial gas is used.

The body of the iron consists of a base 1, having the upturned sides 2. Cast in the rear end of the base 1 is a gasolene cup 3. A lip 4 projects rearwardly from the top of the body at the pointed front end thereof.

5 designates the detachable cover-plate which is provided with a lug 6 adapted to pass beneath the lip 4, and near its opposite end with a depending lug 7 in which is a socket 8. A set-screw 9 passes through the rear end of the body and its point, when inserted in the socket 8, coacts with lip 4 and lug 6 in holding the plate 5 upon the body. Secured to or integral with the plate 5 and spaced above it, is a plate 10, the two plates being separated by bosses 11. The handle arms 12 are secured to plate 10 with screws 13. These arms have inwardly curved upper ends 14, on which the wooden or other handle 15 is mounted. The parts 14 are cast or drilled with axial openings 16, which expose a larger surface to the air and reduce the mass of metal in the arms, whereby the heating of said parts will be reduced.

Threaded into the rear end of the iron body is a plug 17, into which is threaded a reduced end of a valve casing 18. Between the parts 18 and 17 is a packing 19. A needle-valve 20 extends through packing 19 and the rear of casing 18 in the manner shown in Fig. 1, to control a jet opening in the front end of said casing. A gasolene feed-pipe 21 enters the body through a notch 22 to the center line of the iron and is connected to the valve casing 18 as shown, there being a port 23 leading therefrom to the interior of valve casing 18.

24 is a transverse tube which is bored out intermediate its ends as shown in Fig. 2 to receive the casing 18, which passes through it and has lateral openings in register with tube 24. The burner tube 26 is threaded into the casing 18, and has perforations 27 in its lower side. The air tube 24 opens to the atmosphere at each end through openings 25 in the iron body and communicates with the openings of the valve casing 18.

28 designates the deflector plate, which is supported at about the level of the burner tube 26. Plate 28 fits within the sides of the iron, but has a large central recess 29. The ends 30 are separated to clear the tube 26, and are convex to fit upon the air tube 24. The forward part of the plate is supported by lugs 31 integral with the iron body. Mounted on the outer end of the feed-tube 21 is the reservior 32 for liquid fuel, such as gasolene. Adjacent said reservoir the deflector 28 is formed with a cup 33, adapted to hold a small quantity of gasolene.

To start the heating operation, the cover is removed, exposing the cup 33, into which is poured gasolene. Gasolene is also placed in the lower cup 3, and the liquid in both cups ignited. Thus the reservoir 32 and the parts 18 and 21 become heated, and pressure is created in the reservoir and feed-tube. The needle valve 20 is opened, and a lighted match applied to the exterior of the burner tube 26. The vapor ignites at the perforations. The cover 5 is replaced, after which the air to maintain combustion enters through the ends of the tube 24. The products of combustion escape through openings 34 in the side walls 2. The heat from the burner heats the base 1, the flame being deflected by plate 28, and heats the feed-tube 21, thereby continuously vaporizing the liq-

uid which passes therethrough. The space 35 between plates 5 and 10 of the cover, permits a free circulation of air therethrough, so that the upper plate will not become too warm and unduly heat the hand gripping the handle 15.

If it should be desired to employ artificial or natural gas as the fuel, a fitting like that shown in Fig. 5 is used, consisting of a tube 36 having a threaded end 37 of the same diameter and thread as the plug 17. Said plug and valve 20 are removed and the threaded end 37 screwed into the plug opening. The tube 36 is then connected by a flexible tube, with a gas burner or nipple. Reservoir 32 and feed-pipe 21 are also removed and port 23 is closed by the plug 38 shown in Fig. 6, to prevent the escape of gas into the body of the iron.

The reservoir is located at one side of the iron, as shown, to avoid obstructing a view of the work adjacent the front end of said iron. This location of the reservoir is also desirable, because the same is not so apt to be injured should the iron fall upon its forward end from a table or other support. All projections from the rear end of the body of the iron have been dispensed with, except the tube 36, when using natural or artificial gas, and hence the danger of catching the sleeve which exists in the ordinary self-heating iron having projections, etc., is obviated.

Having thus described our invention, what we claim is:

1. In a sad-iron provided with a removable cover, a fuel reservoir supported above the body of the iron and independently of said cover, and a cup located within the body, adjacent the reservoir, substantially as described.

2. In a sad-iron provided with a removable cover, a fuel reservoir supported adjacent the body of the iron independently of the cover, a burner communicating with said reservoir, a deflector at substantially the same level as the burner and adapted to deflect the heat from said burner, and a cup supported by said deflector adjacent the fuel reservoir.

3. In a sad-iron, a tubular burner, a transverse air tube communicating with said burner, and a deflector-plate fitting within the body of the iron at approximately the level of the burner, and partly supported by said air-tube, substantially as described.

4. In a sad-iron, a body having a plug opening, a plug therein, a valve casing connected to said plug, a valve stem passing through the plug, an air inlet tube, a fuel feed tube, and a burner, all three having suitable connections with said valve-casing, substantially as described.

In testimony whereof we affix our signatures, in the presence of two witnesses.

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FREDERICK E. KIRBY.

Witnesses:
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M. COX.