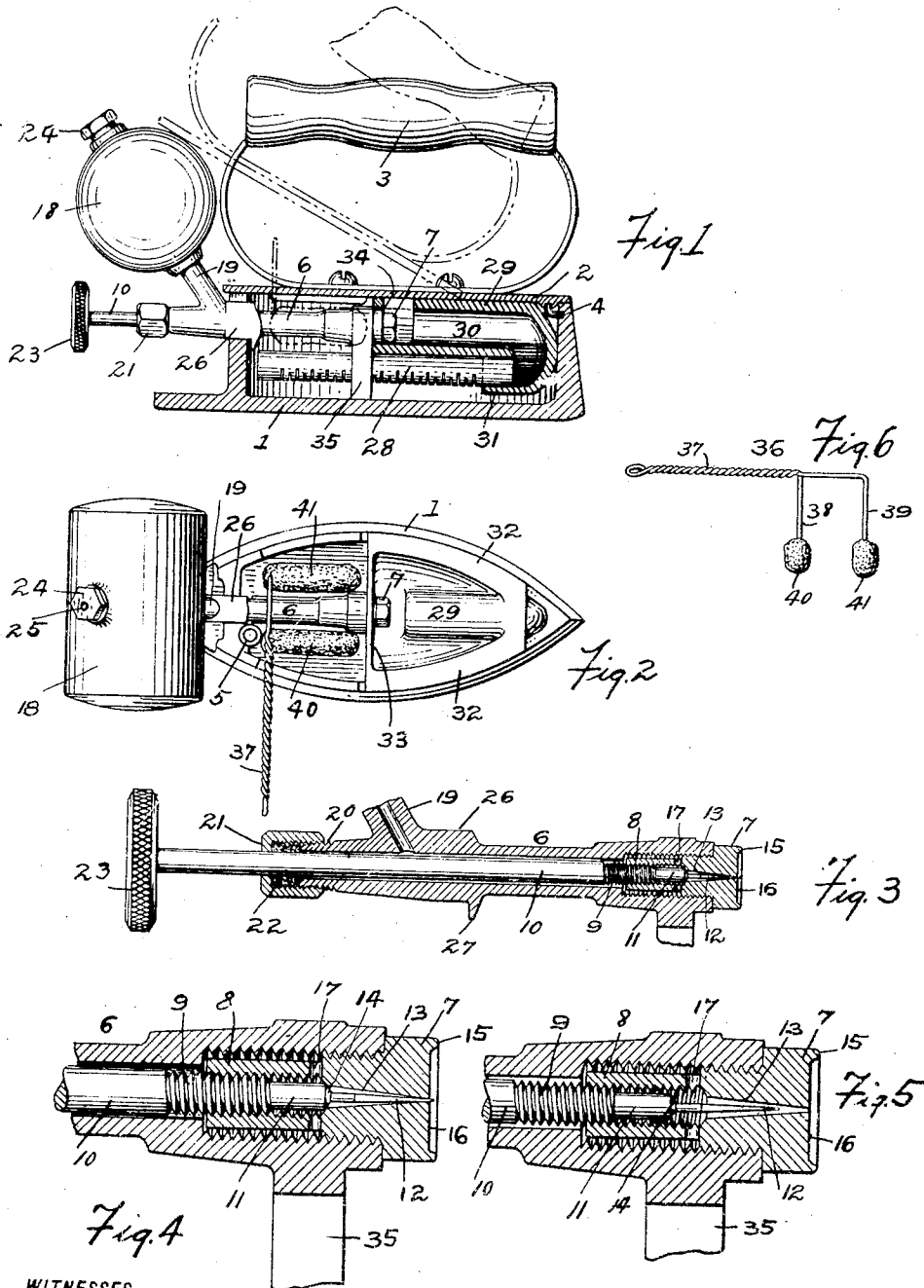


J. HEILBRON.
SELF HEATING IRON.
APPLICATION FILED OCT. 19, 1909.

974,665.

Patented Nov. 1, 1910.



WITNESSES

N. D. Hughes,
F. Jordan, Jr.

INVENTOR

J. Heilbron
BY *Max E. Lawrence*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JULIUS HEILBRON, OF ST. PAUL, MINNESOTA, ASSIGNOR TO HERZ MANUFACTURING COMPANY, A CORPORATION OF MINNESOTA.

SELF-HEATING IRON.

974,665.

Specification of Letters Patent.

Patented Nov. 1, 1910.

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To all whom it may concern:

Be it known that I, JULIUS HEILBRON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Self-Heating Irons; and I do hereby 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.

My invention relates to self heating sad irons.

The invention consists in the construction and arrangement of parts, as will be hereinafter described and particularly pointed out in the claim.

In the drawings:—Figure 1 represents a longitudinal sectional elevation through the body of the iron showing the means for mounting the valve and burner mechanism. Fig. 2 is a top plan view of Fig. 1 with the cover removed showing the swab in position for heating the burner and reservoir. Fig. 3 is a fragmentary sectional elevational view through the valve showing the needle in a position to close the valve. Fig. 4 is an enlarged detail fragmentary sectional elevation through the valve showing the construction of the detail parts of the valve with the needle closing the same. Fig. 5 is an enlarged detail fragmentary sectional elevation through the valve showing the valve in an open position. Fig. 6 is an end view in detail of the swab.

Referring to the drawings by numerals 1 represents a chambered base upon which is mounted a cover 2 provided with a handle 3 secured to the cover by suitable screws or otherwise. The cover 2 is provided at the front end with a horizontally extending pin 4 seated in a boss formed integral with the cover. The horizontally extending pin 4 projects into an opening formed in the front end of the chambered body 1 near the top thereof for holding the front end of the cover in rigid connection with the chambered body. The rear end of the cover 2 is secured to the chambered body by means of a screw passing through the cover into a boss 5 formed upon the chambered body 1. Positioned in the chambered body is a valve mechanism for controlling the supply of fuel to the burner, also mounted in the chambered body. The valve consists of a hollow

tube 6 threaded internally at the front end to receive a valve plug 7 screwed into the threaded end of the tube. The valve plug 7 is provided with a reduced portion 8 smaller in diameter than the opening in the threaded end of the tube 6 into which the reduced portion projects when the valve plug is screwed up as shown in Figs. 3, 4 and 5 of the drawing. The reduced portion 8 of the valve plug 7 is threaded internally for receiving the externally threaded reduced portion 9 of a valve rod 10. From the reduced portion 9 of the valve rod 10 extends a projection 11 carrying a needle 12. The needle 12 is adapted to close the front end of a conical opening 13 formed in the valve plug 7. The projection 11 is provided with a conical valve 14 adapted to close the opening 13 at its rear end at the same time the needle 12 closes the opening at its front end.

The valve plug 7 is provided with an annular projection 15 extending beyond the outer face 16 of the plug a sufficient distance to protect the point of the needle 12 when the same is in a closing position, as shown in Figs. 3 and 4. The reduced portion 8 is provided with openings 17 leading into a cavity in the reduced portion surrounding the projection 11 for admitting vaporized fuel from the hollow tube 6 to the opening 13 to pass therefrom to the burner. The valve rod 10 is smaller in diameter than the opening in the hollow tube 6 to allow the vaporized fuel to pass through the tube from a reservoir 18 having a hollow tube 19 connecting the reservoir with the hollow tube 6 to allow the vaporized fuel to pass from the reservoir to the tube 6. The hollow tube 6 projects slightly in the rear of the hollow tube 19 and is threaded externally at 20 to receive a packing nut 21 having positioned therein packing 22 surrounding the valve rod 10 to prevent the escape of the vaporized fuel from the hollow tube. The valve rod 10 is provided with a hand wheel 23 for screwing up and unscrewing the valve.

The reservoir 18 is provided with a filling plug 24 which is provided with a melting plug 25 to prevent explosion of the reservoir 18. An opening is formed in the rear upright portion of the chambered body 1 for receiving a rectangular portion 26 of the hollow tube 6, and a depending lug 27 is

carried by the hollow tube to engage the inner surface of the rear upstanding wall of the chambered body 1 to prevent accidental displacement of the hollow tube. A burner 28 is mounted in engagement with a tube 29 having a receiving chamber 30 for receiving fuel from the valve plug 7 for transmission to the burner 28 through a tube 31 positioned beneath the chamber 30. The tubes 29 and 31 are formed integral and are provided on each side with flanges 32 adapted to rest upon the top of the wall of the chambered body 1. The flanges 32 are connected in front of the tube 29 with a cross bar 33 having formed in the center thereof an opening 34 in alignment with the chamber 30 and adapted to receive the valve plug 7 to hold the hollow tube 6 in engagement with the cross bar. The hollow tube 6 is provided at its front end with a pair of downwardly extending members 35 adapted to engage the burner 28 on each side to hold the same against lateral movement within the chambered body 1.

A double asbestos swab 36 as shown in Figs. 2 and 6 is provided for heating burner 28, the hollow tube 6 and the reservoir 18. The swab 36 consists of a wire member having a handle portion 37 with prongs 38 and 39 projecting therefrom in parallel relation to each other upon which are mounted asbestos rolls 40 and 41 adapted to be placed upon each side of the hollow tube 6 and burner 28 within the chambered body 1, as shown in Fig. 2. The asbestos swab is adapted to be saturated with alcohol or some other suitable liquid, and to be lighted and placed in the position shown in Fig. 2, at which time cover 2 is placed in the position shown by dotted lines in Fig. 1 to deflect part of the flame from the burner to the reservoir for heating the same to create the necessary pressure which is kept up automatically after the iron is once heated. In case it is not desired to use a swab, a small

quantity of alcohol may be placed in the bottom of the iron and lighted for heating the burner, the hollow tube 6 and the reservoir 18.

In the operation of my improved device the reservoir 18 is filled nearly full of gasoline after which the filler plug 24 is screwed into position. The cover 2 is taken off and positioned as shown by dotted lines in Fig. 1. The swab 36 is then saturated in alcohol and lighted and placed in the position shown in Fig. 2 to heat the burner, the hollow tube 6 and the reservoir 18. The cover 2 is then properly placed upon the iron and the valve operated to regulate the amount of flame desired for heating the iron.

What I claim is:—

A self heating sad iron comprising a chambered body portion with a burner therein, a valve mechanism connected with said burner, said valve consisting of a hollow tube threaded internally at its front end, a hollow plug having exterior and interior screw threads, secured in said tube, said plug being reduced in diameter at its inner end whereby a passage is formed between the plug and tube, openings establishing communication between said passage and the interior of the plug, a valve rod having a screw threaded end secured to the interior threads of the plug, said rod having a projection provided with a conical valve, said plug also having a conical opening, a needle on the outer end of the conical valve adapted to close said opening, and said plug being further provided with an annular projection which extends beyond the outer face of the same to protect the point of the needle.

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

JULIUS HEILBRON.

Witnesses:

HUGO MOCK,
MARY PERRY.