

P. PFEIL.

SAD IRON.

APPLICATION FILED FEB. 10, 1911.

1,015,742.

Patented Jan. 23, 1912.

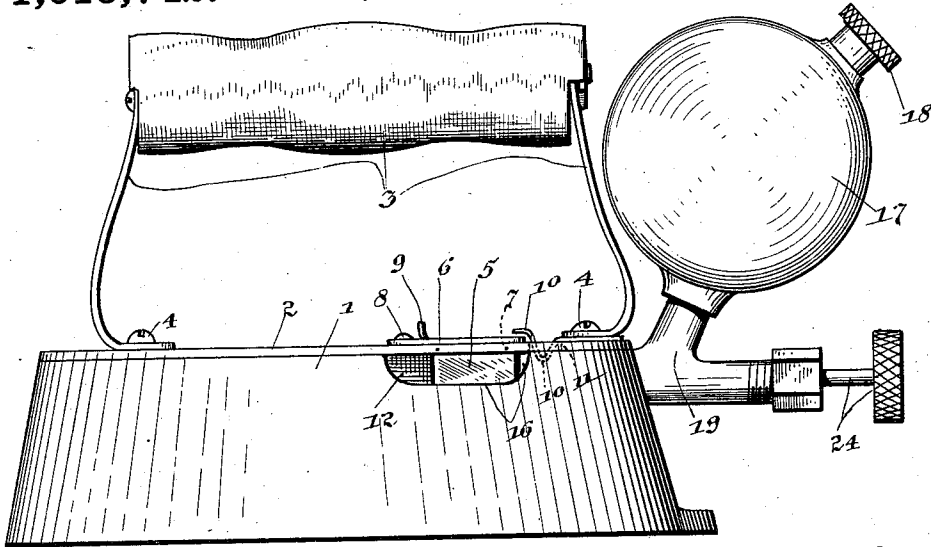


Fig. 1.

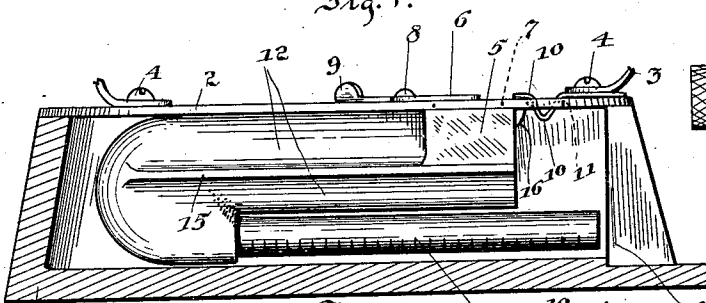


Fig. 2.

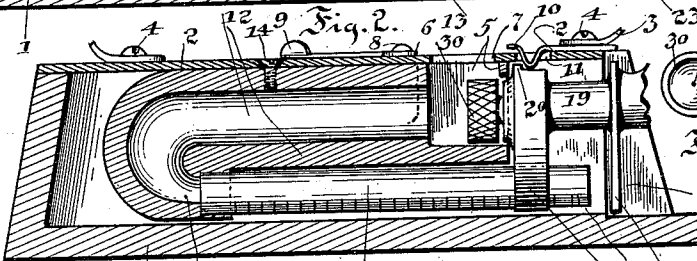


Fig. 3.

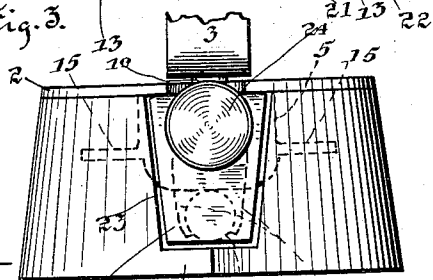


Fig. 4.

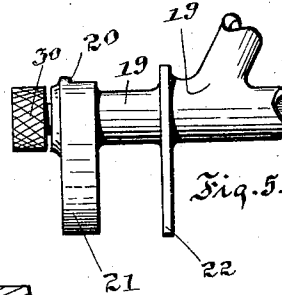


Fig. 5.

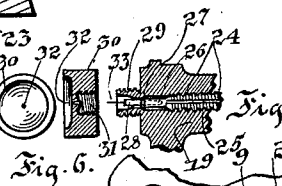


Fig. 6.

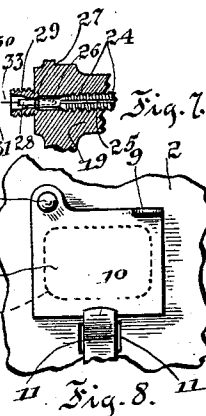


Fig. 7.

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UNITED STATES PATENT OFFICE.

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SAD-IRON.

1,015,742.

Specification of Letters Patent.

Patented Jan. 23, 1912.

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To all whom it may concern:

Be it known that I, PHILIP PFEIL, a citizen of the United States, and a resident of the city of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented certain new and useful Improvements in Sad-Irons, of which the following is a specification.

My invention relates to improvements in sad-irons of the vapor-heated class, the vapor being generated from liquid fuel carried in a reservoir therefor connected to the iron.

The object of the invention is to provide a sad-iron of the class mentioned which shall be simple of construction and efficient in operation.

The invention consists in the novel construction and arrangements of parts all as will be hereinafter more fully described and particularly pointed out in the appended claims.

The invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which,

Figure 1 is a side elevation of my invention in its preferred form, Fig. 2 is a sectional elevation of the device, the fuel reservoir being removed, Fig. 3 is a longitudinal section showing the manner of securing the fuel reservoir to the body of the iron, Fig. 4 is a rear elevation, Fig. 5 is a detail side elevation of the pipe leading from the fuel reservoir, Fig. 6 shows a side elevation and a section of the delivery nozzle provided for said pipe, Fig. 7 is a detail longitudinal section showing the valve employed in the device, and Fig. 8 is a fragmentary top plan view showing the swinging lid employed for regulating the air.

The preferred construction for carrying my invention into effect as illustrated in the accompanying drawings comprises a hollow body or base 1 having a cover-plate 2 secured thereto, an ordinary handle 3 being secured to said cover-plate by means of screws 4. Arranged in the interior of the body 1 is an air and gas mixing chamber 5. A swinging lid 6 is adapted to open or close the opening 7 in the cover-plate 2 which leads to the mixing chamber 5, whereby the amount of air flowing into said chamber is controlled. The lid 6 is pivoted by means of a rivet 8 to the cover-plate 2 and is provided with an operating handle 9 by means of which it is readily moved into any de-

sired position. A spring-catch 10 is provided on the cover-plate 2 and is held in position thereon by means of one of the screws 4 which holds the handle 3 to said cover-plate. The spring-catch 10 projects through the opening 11 provided in the cover-plate 2 into the interior of the iron as clearly shown in Fig. 2. Formed integral with the air and gas mixing chamber 5 and extending forwardly therefrom is a U-shaped vapor conducting tube 12 which terminates in a rearwardly extending burner 13, the latter being pressed securely into the rearwardly projecting end of said tube. The tube 12 is secured to the cover-plate 2 by means of a screw 14 as illustrated in Fig. 3, and said tube is provided with laterally extending arresters 15 which consist of horizontal flanges designed to prevent a too rapid escape of the product of combustion through the opening 16 provided on either side of the iron.

The means for supplying fuel to the burner 13 of the iron is detachably connected to the latter and comprises a fuel reservoir or tank 17 having an ordinary filler cap 18. The pipe 19 leading from the tank 17 is provided with an enlargement having a projection 20 extending therefrom. Said projection upon insertion of the pipe 19 into the opening provided at the rear of the body 1 is adapted to automatically engage the spring-catch 10, when the latter will assume the position as shown in Fig. 3. The lower end of the enlargement provided at the end of the pipe 19 is bifurcated and adapted to embrace the gas burner 13 and to support the same as indicated by dotted lines in Fig. 4. This provision is made to prevent settling of the burner 13 when in a highly heated condition. A plate 22 formed transversely on the pipe 19 is adapted to close the opening 23 at the rear end of the iron when the fuel supplying device is in operative position, thus preventing the escape of products of combustion through the rear end of the iron. The needle valve 24 is provided in the pipe 19 for controlling the flow of fuel to the air and gas mixing chamber 5. The stem of said needle valve is provided with a longitudinal groove or cut-away portion 25 to permit of the free flow of fuel. The valve stem is provided with a reduced portion 26, a valve 27 and an end portion 28 inserted through the valve seat,

and which projects into a threaded nipple 29 on the end of pipe 19. Screwed to said threaded portion 29 is a delivery nozzle 30, the same being internally threaded to fit the threads of said nipple 29. A small central perforation 32 is provided in the delivery nozzle 30, and in order to cleanse the same a needle point 33 is provided on the end of the portion 28 which is adapted to project through said perforation when the nozzle 30 is screwed on to the portion 29 as shown in Fig. 5.

In using the sad-iron the operation is as follows: First the pipe 19 is withdrawn from the body 1 and temporarily heated over a gas flame. This causes vapor to escape through the nozzle 30, it being obviously necessary to furnish external heat to the nozzle 30 as in any gasoline torch. Then the pipe 19 is inserted through the opening 23 into the body of the iron into the position shown in Fig. 3. When the projection 20 engages the spring-catch 10 the latter will rise and automatically lock said projection in position. In this position of the pipe 19 the nozzle 30 is projected into the air and gas mixing chamber 5 so that vapor escaping therefrom will mix with the air entering through the opening 7. This mixture is conducted from the air and gas mixing chamber 5 through the tube 12 and thence to the burner 15. Said burner when in operation will furnish the necessary heat to the nozzle 30 for the vaporization of the fuel escaping therethrough. It is apparent that when the pipe 19 is withdrawn from the body 1 that the spring-catch 10 will automatically raise and release its engagement with the projection 20.

A sad-iron of the construction set forth is simple of construction and efficient in operation.

While I have shown what I deem to be the preferable form of my improved sad-iron I do not wish to be limited thereto as there might be various changes made in the arrangements of parts and details of construction without departing from the spirit of my invention. Hence, I desire to avail myself of such variations and modifications which are comprehended within the scope of the appended claims.

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

1. A sad-iron comprising a hollow body and a cover-plate therefor, said body having an opening in the rear end thereof, a vapor burner in said body, means for supplying fuel to said burner adapted to be inserted in said opening in operative relation with said burner, said cover plate being provided with an air admission opening, means for controlling the amount of air admitted through said opening, and yieldable automatic means on said cover-plate for engaging and locking said first named means upon insertion thereof in said opening, substantially as described.

2. In a sad-iron, a hollow body having an opening in the rear end thereof, a cover-plate secured to said body, a spring-catch provided on said cover-plate, a vapor burner provided in said body, a vapor conducting tube leading to said burner and secured to said cover-plate, an air and gas mixing chamber in communication with said tube, means for supplying fuel to said mixing chamber adapted to be inserted in said opening in operative relation with said mixing chamber and means for admitting air to said mixing chamber, said spring-catch being adapted to automatically engage said fuel supplying means when inserted in said opening, substantially as described.

3. In a sad-iron, hollow body having an opening in the rear end thereof, a cover-plate secured to said body, a spring-catch provided in said cover-plate, a vapor burner provided in said body, a vapor conducting tube leading to said burner and secured to said cover-plate, an air and gas mixing chamber formed integral with said tube, means for supplying fuel to said mixing chamber adapted to be inserted in said opening and in operative relation with said mixing chamber, and a swinging lid provided over an opening formed in said cover-plate leading to said mixing chamber, said spring-catch being adapted to automatically engage said fuel supplying means when inserted in said opening, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIP PFEIL.

Witnesses:

F. A. HOYA,
G. H. RICHTER.