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2 SHEETS—SHEET 1.



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SAD IRON.

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2 SHEETS-SHEET 2.

Fig. 4.

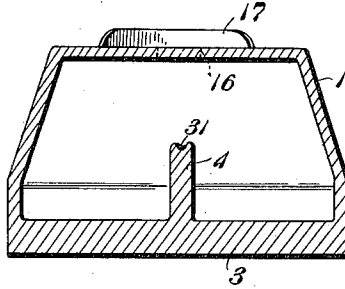


Fig. 5.

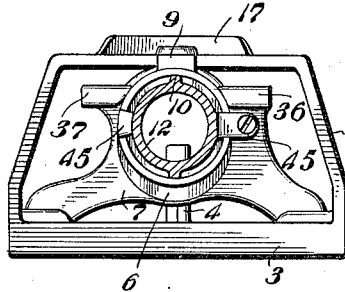
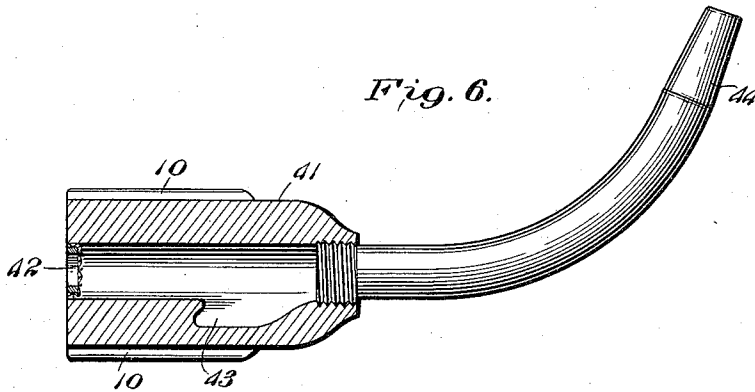


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SAD-IRON.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MONROE SUNSHINE, a citizen of the United States, and resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Sad-Irons, of which the following is a description.

This invention relates to sad irons such as are heated by a gas burner.

It has been my object to simplify and improve the construction of sad irons heated with such burners so as to render it easy to make and assemble the parts and also to secure greater efficiency in operation.

One of the objects of the present invention is to more effectively distribute and retain the heat of the burner.

Other objects and advantages of the device will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings:—Figure 1 is a longitudinal section of a device embodying my invention; Fig. 2 is a detail perspective view of the handle plate; Fig. 3 is a detail perspective view of the deflecting plate; Fig. 4 is a cross section of the hollow body on the line 4—4 of Fig. 1, with the other parts of the device omitted; Fig. 5 is a rear elevation of the device with the handle plate removed and the burner shown in section; and Fig. 6 is a sectional view of a modified form of burner.

As shown in these drawings I make use of a hollow body 1 of the general form which is usual, the rear end 2 being open. Within this body and preferably integral with the thick floor 3 I form the rib or partition 4 extending longitudinally of the body and terminating short of the rear or heel of the hollow body. This rib extends to a considerable height within the body and its end 5 is made wedge-shaped for the purpose of spreading the flame from the burner as hereafter described. A removable burner socket 6 having a cylindrical opening therein for the burner is placed in the open end 2 of the body portion and it is provided with the rib 7 constituting a foot fitting within a groove 8 on the bottom edge of the opening, and at its upper side is provided with a lug 9 fitting against the upper edge of the body. When in position this burner socket is directed longitudinally of the hollow body and at an an-

gle toward the bottom, and thus it is directed toward the rear sharp edge of the rib 4.

My burner, as shown in Figs. 1 and 6, is preferably made in cylindrical form 12 having a series of ribs 10 longitudinally thereof on the outer surface, and these ribs fit against the inner face of the opening in the burner socket. The burner has on its sides the ears 45 fitting in notches 46 in the burner socket to properly center and position the burner. At the outlet or discharge end of the burner I place a wire or perforated metal screen 11 which serves not only to mix and distribute the gaseous material discharged from the burner, but also prevents the flame from flashing back. Gas is supplied to the burner by an ordinary pipe connection 13 controlled by a valve 14 and air is admitted to be mixed with the gas through a single opening 15 which is of such shape that it may be closed by simply placing the finger over it at the time that the burner is lighted.

The ribs 10 separate the burner from the socket sufficiently to form practically an annular air inlet around the burner and air will be drawn through this annular opening when the burner is in operation. The burner is directed downwardly and longitudinally of the body and the flame from it will strike the end of the spreading and distributing rib 4 and will pass along the opposite sides of that rib to the front of the hollow body. The rib being formed of heat conducting material, it will absorb heat from the upper part of the flame as well as from the lower part, and will absorb that heat from one end to the other, since the flame will hug this rib throughout its length on both sides. The heat so absorbed is conducted to the bottom plate 3, and thus the rib acts to store the heat as well as to absorb it and transmit it to the point where it is desired for use. At the forward end of the hollow body I form the outlet 16 for the products of combustion and in order to prevent drafts from passing into the front of the iron I preferably form on the top of the hollow body the shield 17 which extends around the point or forward end toward the rear on each side.

A handle plate 18 is placed on top of the hollow body, and is of substantially the same shape, having at one end the fixed up-

right handle support 19. This plate is provided at the other or rear end with an opening 20, and leading from this opening 20 to a point near the center of the plate there is a groove 21 in the surface. A removable handle support 22 having an upright portion and a horizontal portion 23 at right angles thereto is secured in the opening 20 and slot 21. There is an angular lug 24 at the point of connection between the upright and horizontal portions and this passes through the opening 20 and hooks under the bottom of the handle plate, as shown in Fig. 1, and at the same time the horizontal portion 23 fits down in the groove 21 so that the upper surface is substantially flush with the surface of the plate. A single screw 25 passes through an opening in the handle plate at the end of the groove and enters the top of the hollow body in order to secure the parts together. A washer 26 surrounds the head of this screw and bears on top of the horizontal portion 23 to securely hold the removable handle section 22 in place on the handle plate. A handle 27 is clamped between the two handle supports, each support being provided with a lug entering a recess in the end of the handle. The handle plate is provided with feet 28 bearing in grooves on the top of the hollow body to support that plate in position, and the shield 17 extends from the hollow body up to the bottom of the handle plate.

Within the hollow body and above the rib 4 I place the deflecting plate 29, and on its under surface this plate has a lug 30 which fits in a groove 31 in the top of the rib 4. This deflecting plate has the side flanges 32 for directing the flame, and the pointed ears 33, 34 at opposite sides adapted to bear against the side walls of the hollow body to support the plate in proper position. The rear edge of the deflecting plate has a slot 35 to receive the burner socket and also the semi-cylindrical bearing 36' adapted to fit over the cylindrical portion of the burner socket, as shown in Fig. 1. The plate is therefore supported at its forward end on the burner socket, and the flanges 36, 37 hook over and engage lugs on the burner socket to lock the parts together as shown in Fig. 5. The handle plate is provided with a downwardly projecting finger 38 which passes through an opening in the top of the hollow body and engages a notch 39 having inclined sides formed in the longitudinal rib 40 on top of the handle plate. The engagement of the finger with the deflecting plate locks it in position preventing either vertical or longitudinal movement and by this means the burner socket is also locked into position.

It will be observed from the above description that the various parts of the apparatus are separable and they are all fas-

tened together by the single fastening means, consisting of the screw 25, after they have been assembled in position.

In place of using the burner shown in Fig. 1 I may make use of a burner 41 such as is shown in Fig. 6, this burner having the features of construction embodied in that shown in Fig. 1, which adapt it to be easily and quickly inserted in the burner socket in place of the burner of Fig. 1. This burner also has the perforated screen 42 at the outlet, and in order to collect impurities which may pass down with the gas into the burner, I preferably form a pocket 43 in the bottom of the burner body to collect the impurities. This form of burner is intended to make use of air and gas under pressure which may be admitted to the pipe 44, and in this respect differs from the burner of Fig. 1, which makes use of the gas under ordinary pressure, drawing in the air as in a Bunsen burner. The burners are interchangeable and either may be used in accordance with the choice of the operator or the facilities of the place where it is used.

Having thus described the invention, what is desired to be secured by Letters Patent, is:

1. In a sad iron, a hollow body having a longitudinally arranged upwardly extending rib on the floor thereof provided with a groove in its upper surface, a deflecting plate arranged above said rib and having a downward projection engaging said groove, a burner at one end of said body directed downwardly at an angle against one end of said rib, and said rib being sharpened to divide the flame directed against it.

2. In a sad iron, the combination with a hollow body, of a burner discharging therein at one end, the body being provided with an outlet for products of combustion in its top near the other end, a handle plate extending over said top, and a shield on said top partially around said outlet extending up from said top toward said handle plate.

3. In a sad iron, the combination with a hollow body having an outlet for products of combustion in the top at the forward end, of a burner entering said body at the rear end, heat conducting means on the floor of said body for dividing and spreading the flame from said burner and directing it around opposite sides to said outlet, a handle plate above said body, and an upwardly extending shield around the forward side of said opening to direct the products of combustion to the rear under said handle plate.

4. In a sad iron, the combination with a hollow body open at its rear or heel, of a removable burner socket fitting in said open end, a longitudinal vertical flame spreading rib on the floor of said body in line with said socket, a removable deflecting plate

within said body above said rib having interlocking connection with said socket at one end, a lug on the bottom of said plate resting on said rib, a removable handle plate having interlocking connection with said deflecting plate, and means for fastening said handle plate in place.

5. In a sad iron, the combination with a hollow body, a removable deflecting plate within said body, and a burner arranged at one end of said body and held in position by said plate, of a removable handle plate adapted to be secured to the top of said body and having a projection extending through the top of said body and engaging said deflecting plate, a fixed upright handle support at one end of said handle plate, a

removable handle support at the other end of said handle plate having an upright portion and a horizontal portion, the said handle plate being provided with a groove, to receive and fit said horizontal portion, and with an opening, a lug on said removable support adapted to enter said opening to interlock the parts, and means for fastening said handle plate to said body adapted to engage the end of said horizontal portion.

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

MONROE SUNSHINE.

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."