C. B. HAVEN & H. VANDERPOOL.

GAS HEATED SAD IRON.

APPLICATION FILED NOV. 25, 1911.

1,054,689.

Patented Mar. 4, 1913.

Fig. 1

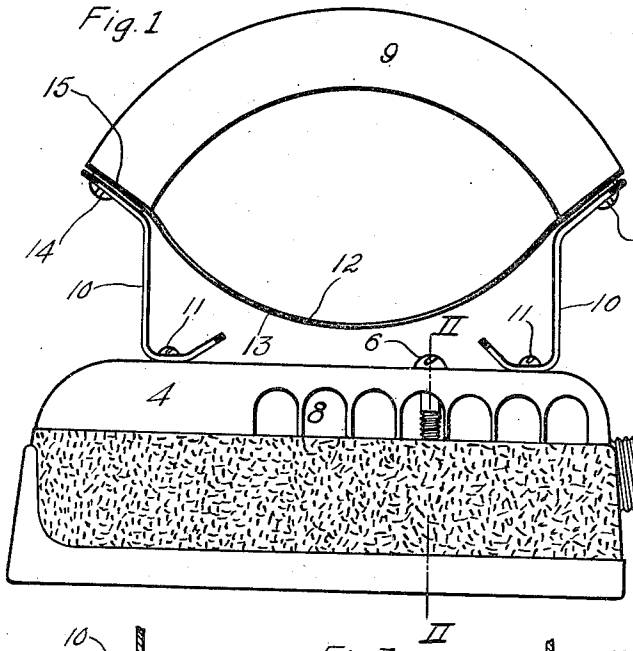


Fig. 2.

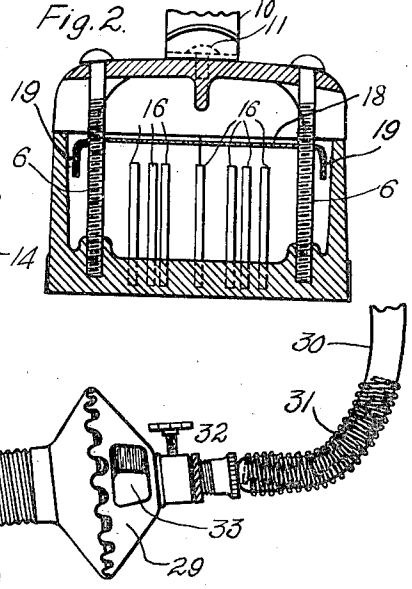


Fig 3.

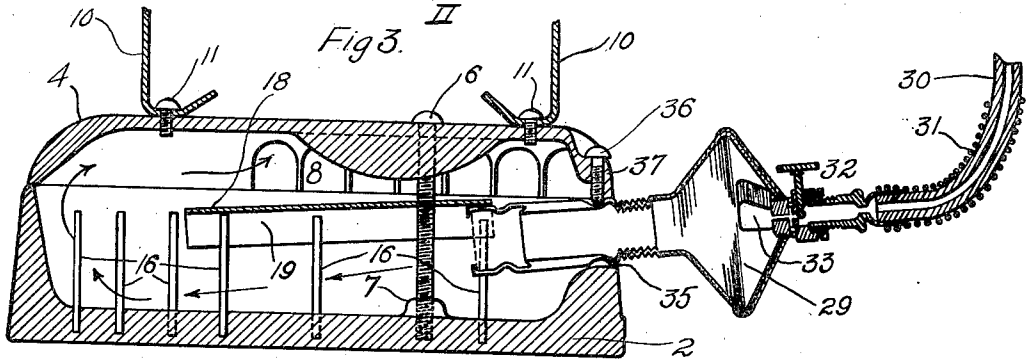


Fig. 4.

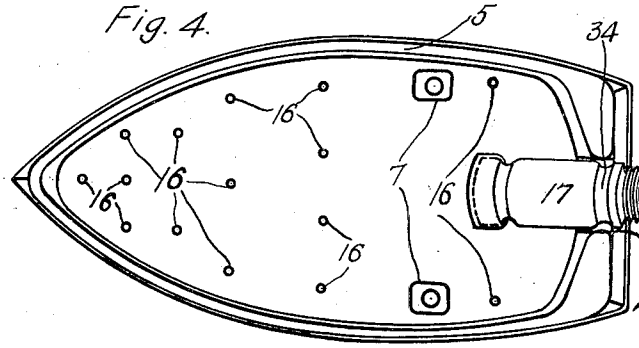
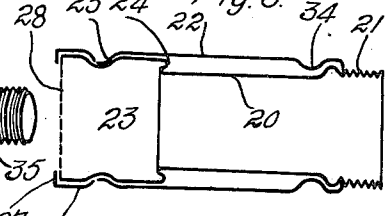


Fig. 5.

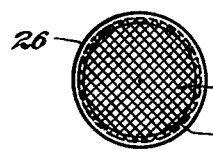


Witnesses.

J. W. Mayfield

Wal. Lichtman

Fig. 6.



Inventors.

Clarence B. Haven

Harry Vanderpool

by C. M. Clarke

Atty.

UNITED STATES PATENT OFFICE.

CLARENCE B. HAVEN, OF NIAGARA FALLS, NEW YORK, AND HARRY VANDERPOOL, OF TURTLE CREEK, PENNSYLVANIA; SAID HAVEN ASSIGNOR TO SAID VANDERPOOL.

GAS-HEATED SAD-IRON.

1,054,689. Specification of Letters Patent. Patented Mar. 4, 1913.

Application filed November 25, 1911. Serial No. 662,333.

To all whom it may concern:

Be it known that we, CLARENCE B. HAVEN and HARRY VANDERPOOL, citizens of the United States, residing at Niagara Falls, county of Niagara, State of New York, and Turtle Creek, in the county of Allegheny and State of Pennsylvania, respectively, have invented certain new and useful Improvements in Gas-Heated Sad-Irons, of which the following is a specification.

Our invention consists of an improvement in sad irons and refers particularly to means for continuously heating an iron in the interior by the combustion of gaseous fuel, to heat radiating elements for such purpose, incorporated with the iron, and to different features of construction as shall be more fully hereinafter set forth.

In the drawings: Figure 1 is a view of the device in side elevation. Fig. 2 is a cross section on the line II. II. of Fig. 1. Fig. 3 is a central longitudinal vertical view of the device. Fig. 4 is a plan view of the iron showing the interior construction with the cover removed. Fig. 5 is a longitudinal sectional detail view of the burner. Fig. 6 is a view of the inner end of the burner.

The body 2 of the iron is hollow, providing an open interior 3, which is covered by a top 4 adapted to fit upon the upper edge 5 of the main body 2 and to be secured thereon by securing devices as screws 6, 6. Said screws pass downwardly through the top 4 at each side of the middle portion and are tapped into the base of the iron, which is preferably provided with receiving lugs 7. The top 4 is provided along each side with ample circulation apertures 8 for escape of the gases of combustion, heated air, etc., and is provided with a handle 9 secured to the top by connecting uprights 10, 10, fastened to the top 4 by screws 11. A shield 12 of asbestos board or other suitable material on the upper side and a lower stiffening piece 13 of thin sheet metal, shields the hand of the operator from the heat of the iron, such shield being connected with the handle by screws 14, 14. We preferably also provide heat insulating washers 15 of asbestos between the shield and terminals of uprights 10, to which the handle is thus connected.

Extending upwardly from the inner face of the bottom of the main body 2 of the iron are a series of closely adjacent pins 16 which may be made of short sections of heavy wire, and which are cast in the base of the iron in the operation of making it from cast metal. The pins 16 are grouped in the forward interior portion of the hollow iron body, in the path of the circulation of the gases of combustion from the burner 17. Laid over the front end of said burner and covering the rearmost of said pins and extending to within a sufficient distance of the front of the iron to insure forward, upward and backward circulation of the gases, is a cover plate or shield 18 of thin sheet metal, held in position by gravity and two screws, 6, 6. Said shield 18 is preferably turned downwardly at each side, as indicated at 19, whereby to fit snugly around and over the tops of the heat absorbing pins 16. The side edges 19 of the cover plate 18 are preferably spaced away from the inner sides of the main iron body 2, and rest lightly on the tops of pins 16, being held against lateral movement by the screws 6. By this arrangement the heat of the flame passes under shield 18 and is always deflected downwardly to the bottom of the iron and prevented from passing to the sides.

The burner 17 is composed of an inner tube 20, the rear end of which is screw threaded, as indicated at 21, and an outer tube 22 of somewhat enlarged diameter. The front portion of tube 20 is enlarged to practically the same diameter as the outer tube 22, or slightly less for interfitting engagement therewith, whereby to provide a mixing chamber 23 of enlarged diameter in the front portion of the tube. Such construction is effected by spinning the metal of tube 20, providing the smaller and larger diameters at each side of the intervening annularly crimped shoulder 24. The tubes 20 and 22, as thus made, are fixedly connected together by an annular groove 25 accomplished by spinning of the metal. By this construction the outer terminal of the enlarged chambered portion 23 of the inner tube is provided with a shoulder immediately back of its end, for engagement by the inner terminal edges, by a cap 26 having an inwardly extending annular flange 27. The purpose of such flange is to retain the circular disk 28 of wire netting or wire gauze, and to provide for easy removal or renewal of such disk. By this construction it is very easy to renew the gauze, or to substitute a gauze of finer or coarser mesh

according to the pressure, quality or quantity of gas used, or to vary the flame as desired, according to circumstances, to secure the highest efficiency in using the iron.

To the rear threaded terminal 21 of the burner is screwed the air supply casing or mixer 29 to which is connected the gas supply pipe 30, preferably provided with stiffening series of spirally wound wires 31. The air mixer is provided, as is usual in such devices, with a gas controlling valve 32 in the hose nipple and is so arranged that, by rotation of its rear portion, the supply of air to its interior through openings 33 may be readily regulated.

The rear portion of the burner 17 is provided with an annular groove 34 formed by depressing the thin sheet metal, and when the burner is inserted in position through a suitable receiving opening 35 in the rear upper portion of the iron body, it is secured in place by a set screw 36. Said set screw is mounted in a threaded opening in the rear portion 37 of the iron cover or top 4, and projects downwardly into the annular groove 34 of the burner. By this construction it will be seen that the burner is readily inserted through the opening 35 and will be fixedly held in position by the screw 36, and may be as readily and easily taken out by loosening said screw. Also that the cap 26 of the burner may be as easily and quickly slipped off of the inner end of the burner for removal of a worn out or burnt out gauze disk 28 and renewal thereof. The iron is thus rendered very easily repaired by any one using it, without the necessity of any special skill or tools.

The arrangement of the heat absorbing pins 16 and their manner of incorporation with the body of the iron render them very strong, serviceable and durable, and not easily broken or damaged. The use of the pins, as thus arranged, and as composed of sections of steel wire, greatly assists in the distribution of the heat from the interior to the bottom or operative portion of the iron. The entire hollow iron body is completely closed at its sides and end so that no heat or flame can escape laterally to injure the goods, while the main effect of the heating gases is directed toward and absorbed by the base portion, where it is most efficient in the use of the iron. The shield 18 effects the proper circulation of the gases of combustion around and against the pins backwardly and upwardly to the escape openings 8.

The bottom surface, the outer surface of top 4 and lower side edges and front of the iron are preferably nickel-plated, giving the iron a highly ornamental appearance, and it will be found to provide a generally useful and serviceable article, capable of long continued use with any desired degree of unvarying temperature, and well adapted to the objects in view.

Having described our invention, what we claim is:

1. The combination with a hollow sadiron having a burner opening in its rear and a securing set screw, of a burner consisting of a tubular shell having a maximum diameter corresponding to the width of the burner opening and provided with an annular groove near its front end, an endmost disk of wire gauze, a securing cap therefor having an outermost inwardly turned retaining flange for the gauze and an inwardly deflected rear portion for spring engagement with said annular groove, and a similar annular groove pressed around its rear portion adapted to be engaged by the set screw, substantially as set forth.

2. A burner for sadirons consisting of an inner tube having an annular groove near its end, an annularly crimped shoulder beyond said groove and a reduced fuel channel tubular portion having a threaded terminal, an outer cylindrical shell surrounding said inner tube and fixedly connected therewith between said annular groove and threaded terminal and itself having an annular groove adjacent to said terminal, a disk of wire gauze laid over the end of the inner tube, and a securing cap therefor embracing the disk and the end of the inner tube, substantially as set forth.

3. A burner for sadirons consisting of an inner tube having an annular groove near its end, an annularly crimped shoulder beyond said groove and a reduced fuel channel tubular portion having a threaded terminal, an outer cylindrical shell surrounding said inner tube and fixedly connected therewith between said annular groove and threaded terminal and itself having an annular groove adjacent to said terminal, a disk of wire gauze laid over the end of the inner tube, and a securing cap therefor embracing the disk and the end of the inner tube and having an inwardly deflected portion adapted to make spring engagement with the first named annular groove, substantially as set forth.

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

CLARENCE B. HAVEN.
HARRY VANDERPOOL.

Witnesses:
WALLACE M. LINDSAY,
LOUIS C. MATES.