

(No Model.)

G. J. GRAY.
GAS SAD IRON.

No. 474,470.

Patented May 10, 1892.

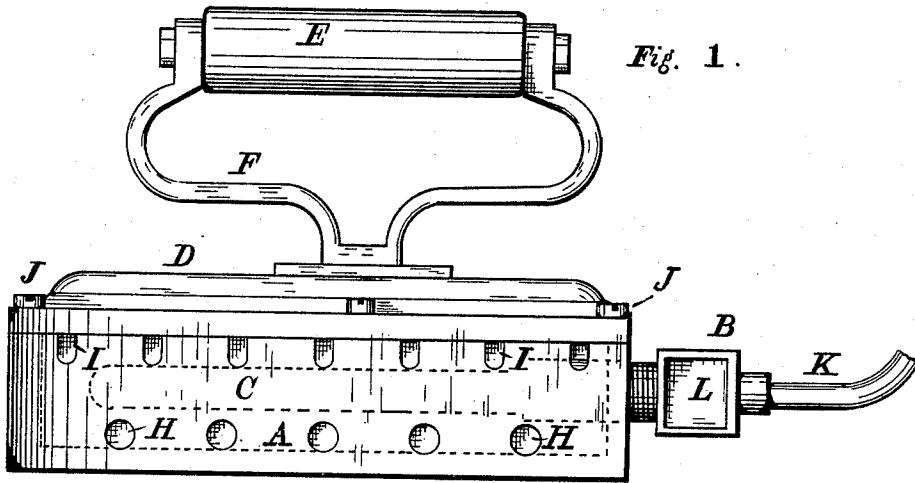


Fig. 1.

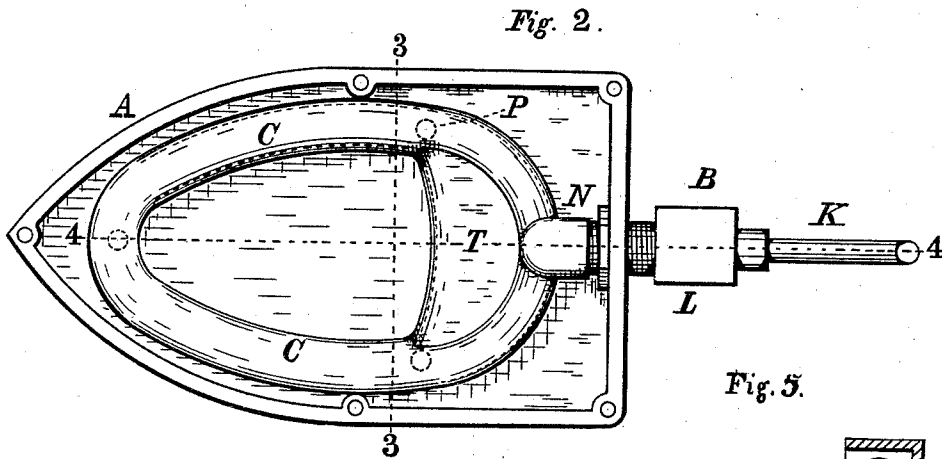


Fig. 2.

Fig. 5.

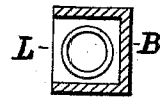


Fig. 3.

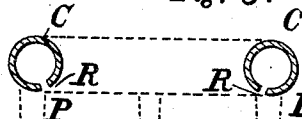
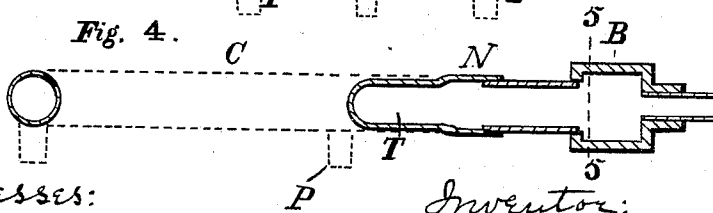


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GAS SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 474,470, dated May 10, 1892.

Application filed October 3, 1891. Serial No. 407,613. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. GRAY, a citizen of the United States, residing at Rochester, in the county of Monroe, in the State of New York, have invented certain Improvements in Gas Sad-Irons, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to certain improvements in gas-heated sad-irons having for their object the prevention of the extinguishment of the flame in such instruments by the movements imparted to them when in use.

My improvements are fully described and illustrated in the following specification and the accompanying drawings, and the novel features thereof specified in the claim annexed to the said specification.

In the accompanying drawings, representing my improvements in gas sad-irons, Figure 1 is a side elevation. Fig. 2 is a plan view with the top removed. Fig. 3 is a transverse section of the burner-tube on the line 3 3, Fig. 2. Fig. 4 is a longitudinal section of the burner-tube and supply-pipe on the line 4 4, Fig. 2. Fig. 5 is a transverse section on line 5 5 of Fig. 4.

My improved sad-iron consists of a suitably-shaped base or body A, provided with a gas-supply pipe B, the double or divided burner-tube C, and the removable cover D, having the handle E attached thereto by a suitable arm or bracket F. The body is made flat and polished on the bottom for operation on the fabric to be pressed or ironed, and it is provided with side walls, which rise upward and are furnished with suitable perforations, as represented at H and I. The openings I extend upward to the top of the side walls for convenience in casting. The cover is attached to body by suitable screws J.

The gas-supply pipe B is provided with an extension-pipe K, to which a flexible tube is attached, through which the gas is conducted to the iron without interfering with its movements when in use. The pipe B is enlarged just outside the body, and it is partially cut away on one side, so as to form the opening L, through which air enters and mixes with the gas, so as to produce a smokeless combus-

tion in the well-known manner. The enlargement of the pipe B enables a larger lateral air-inlet L to be provided than would otherwise be practicable. The free communication with the burner-pipe of this opening L, which has an area greater than the transverse area of the gas-supply pipe, would tend to permit the setting back of the flame were it not for the special arrangement of the branch pipes C and reservoir described below.

The divided burner-pipe C is provided at its rear end with the boss N, having a threaded pipe inserted therein, onto which the supply-pipe B is screwed, the pipe being secured where it passes through the side wall of the body by a jam-nut. The burner-pipe, with the branches, is preferably made of a single-cored casting. It is supported above the bottom of the body by the pins or lugs P. The burner-tube is provided along the inner portions of its lower sides with a series of suitable openings R, Fig. 3, so arranged as to direct the jets of flame issuing therefrom obliquely inward and downward against the bottom of the body. A suitable number of these openings is employed in accordance with the size of the iron or the amount of gas it is desired to burn therein.

It will be perceived that the burner-tube C is divided where it joins the boss N, each part extending laterally, and thence being brought around in suitable curves until they unite at a common point in front. The effect of this arrangement, in connection with the lateral air-admission opening L, is to prevent the flame from being extinguished by its jumping back to the pipe K in consequence of any movement which may be given to the iron when in use. On a quick forward movement of the iron in the horizontal plane the tendency of the gas to pass backward in one of the branches of the burner-tube C is resisted by a similar tendency in the other branch of the pipe at the point where they join the boss N, and, as already mentioned, the lateral position of the opening L prevents the extinguishment of the jets from any movements of the iron up or down. The oblique position of the burner-openings R also prevents the flame from escaping through the perforations in the side

walls to the injury of the cloth to be ironed. I also find it advantageous to form at the point where the branch pipes unite a reservoir T, which maintains a supply of gas at that point and insures a more equable pressure in the burner-pipe. This reservoir is conveniently formed by casting it in connection with the burner-pipe. This chamber provides for the more intimate mixture of gas and air before burning, and adds also to the stability of the flame by providing that a tendency to backward movement of air and gases from each branch C, occasioned by moving the iron, shall oppose that from the other before the pipe B is reached.

My improvements may be applied to sad-irons of any desired size or shape and, while

cheap and durable in construction, they are thoroughly practical and efficient in use.

I claim—

The combination, with the perforated hollow body of a sad-iron, of the gas-supply pipe B, having the enlargement provided on one side with the air-inlet L, and the burner-tube comprising the branch pipes C C, said branch pipes being both in free communication with the gas-supply pipe and with its enlarged air-inlet and provided with openings R and air and gas mixing reservoir T, substantially as set forth.

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Witnesses:

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