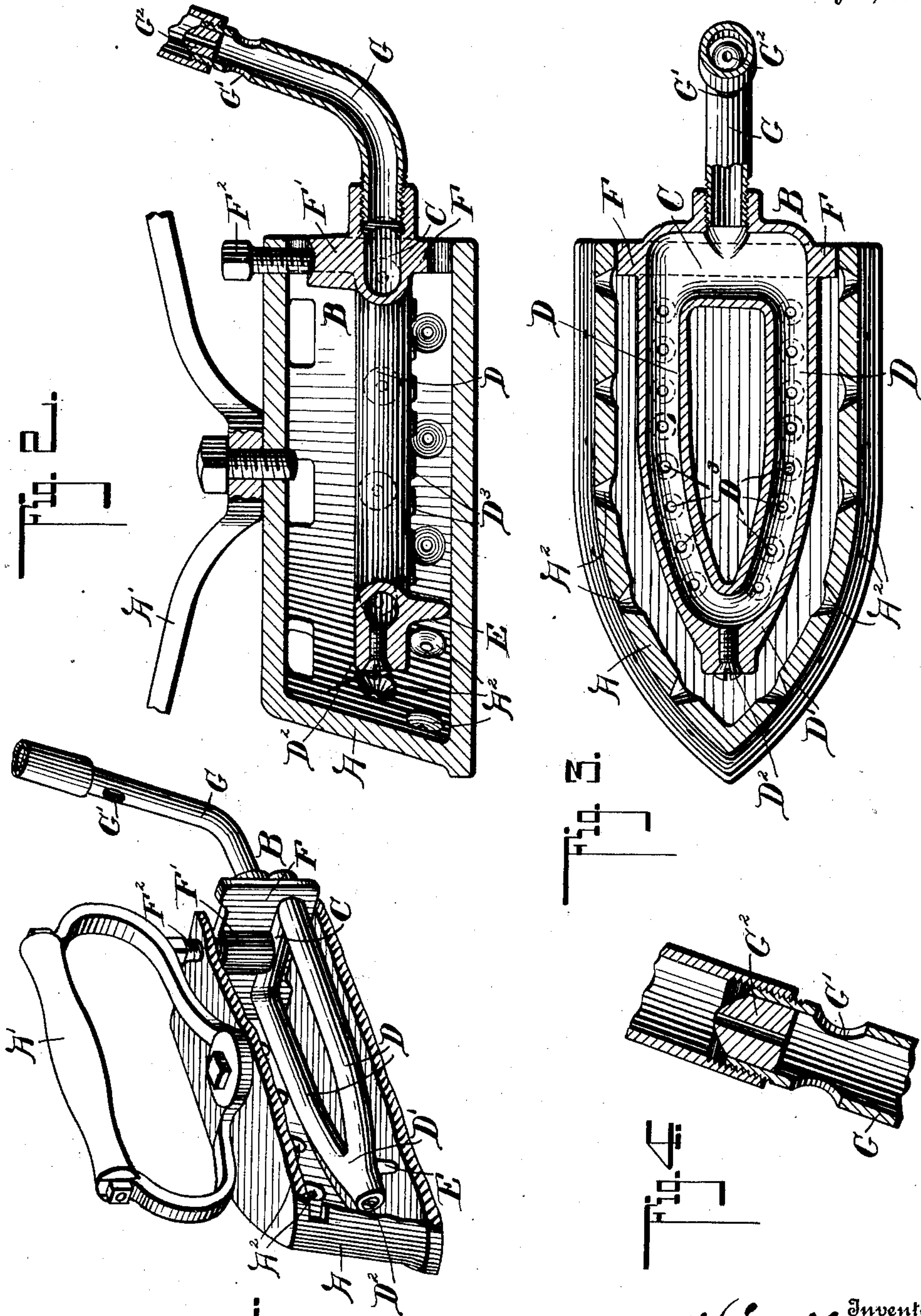


H. A. KOENIG.  
GAS HEATED SAD IRON.  
APPLICATION FILED AUG. 5, 1908.

997,198.

Patented July 4, 1911.



Witnesses

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# UNITED STATES PATENT OFFICE.

HARRY A. KOENIG, OF PHILADELPHIA, PENNSYLVANIA.

GAS-HEATED SAD-IRON.

997,198.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed August 5, 1908. Serial No. 447,118.

*To all whom it may concern:*

Be it known that I, HARRY A. KOENIG, a citizen of the United States, residing in Philadelphia, State of Pennsylvania, have  
5 invented a new and useful Improvement in a Gas-Heated Sad-Iron, of which the following is a specification.

This invention relates generally to gas-heated sad-irons, such as are commonly used  
10 for pressing, and the invention relates more particularly to the novel construction of burner whereby a blue flame is maintained throughout the entire length of the burner at all times.

The object of the invention, therefore, is to provide certain improvements both in the burner and in the iron whereby the air will be thoroughly commingled with the gas no matter what the pressure may be; and another object is to provide against dirt accumulating in the nipple of air-feed pipe, and a still further object is to provide for an abundant supply of oxygen to the flame without permitting said flame to pass  
20 through the wall of the iron, and a still further object is to provide an exceedingly simple and efficient means for securing the burner within the iron.

With these various objects in view my invention consists essentially in constructing the burner with a mixing chamber and two converging tubular members leading from said mixing chamber, the underside of said tubular members being perforated, the forward end of the burner being supported by means of an integral foot-piece, the rear end being supported by means of an integral plate which is arranged transversely and extends above and below the mixing chamber  
35 of the burner and virtually constitutes the rear wall of the iron when the burner is in place within said iron.

The invention consists also in constructing the nipple of the feed-pipe with a tapering  
45 plug so that all tendency of dirt to accumulate over the central bore is avoided.

The invention consists also in certain details of construction and novelties of combination all of which will be fully described  
50 hereinafter and pointed out in the claims.

In the drawings forming a part of this specification:—Figure 1 is a perspective view of an iron constructed in accordance with my invention, one side being broken  
55 away to disclose the construction and ar-

rangement of the burner. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2, and Fig. 4 is a detail sectional view of the gas supply pipe at the point where  
60 the rubber tube is connected.

In carrying out my invention I employ an iron A having the handle A' connected thereto. The iron A is preferably made in a single piece, and is open at the rear end to  
65 permit the burner B to be inserted. This burner B is also made in one piece and it will therefore be noted that this iron consists of only two parts. The burner B comprises the mixing chamber C into which the gas supply pipe is tapped, and from the mixing chamber C extend the tubular members D which converge and meet as shown at D'. The underside of the tubular members are perforated for the escape of the gas to be  
70 ignited, and burned at these apertures, it being understood of course that these tubular members constitute the burner proper. The flame will be projected downwardly upon the bottom of the iron.  
80

A plug D<sup>2</sup> serves to close the forward end of the burner, this end being left open in casting the burner in a single piece. The forward end of the burner is supported upon the integral foot-piece E, while the rear  
85 end is supported upon the integral transverse plate F which extends above and below the mixing chamber and virtually constitutes the rear wall of the iron, said plate being of such size and shape as to practically close the rear end of the iron but it will be noted that there is a small opening at both the top and bottom to permit the circulation both above and below the burner tube. The upper half of the transverse partition-plate F is formed with an enlargement or boss F' upon which the binding screw F<sup>2</sup> passing through the top of the iron is adapted to bear for the purpose of  
90 fastening the burner in the iron.  
100

The gas supply pipe G is tapped into the rear end of the burner as before described and is provided with the usual air-opening G', so that a definite quantity of air is drawn in and supplied with the gas,  
105 and this air and gas thoroughly commingle in the mixing chamber before they pass to the burner tubes D and this insures a blue flame from one end of the burner to the other, and I have found from experience  
110



that by providing the mixing chamber C into which the air and gas is received before passing to the burner tubes proper, I can obtain a blue flame from end to end  
5 irrespective of the gas pressure.

In order to provide an abundant supply of oxygen to the burner and at the same time prevent the flame coming through the wall of the iron, I provide a series of open-  
10 ings in the side walls of the iron adjacent the bottom and it will be noted that these openings A<sup>2</sup> are made inwardly expanding, that is they are considerably wider at their inner ends than at their outer. This con-  
15 struction of opening serves to draw in the air and permit it to expand readily while being drawn in. Adjacent the upper end of the side walls larger openings are provided for the escape of heat and gases.

At the outer end of the gas supply pipe G is the nipple G<sup>2</sup> comprising the apertured  
20 plug, the outer end of which is tapered or beveled as shown so that any dust and dirt which might be within the rubber hose when  
25 placed upon said nipple will fall down upon the side and will not accumulate over the central bore or aperture and consequently will not obstruct the passage of the gas.

It will thus be seen that I provide an  
30 exceedingly simple and highly durable construction of sad-iron and which will effectively carry out all of the objects hereinbefore referred to.

Having thus fully described my invention,

what I claim as new and desire to secure 35 by Letters Patent is:—

1. The combination with a sad iron hav-  
ing openings in the side walls, the inner ends  
of said openings being larger than the outer  
ends, of a burner formed in a single piece, 40  
said burner comprising a mixing chamber, converging tubular members provided with apertures in their undersides, a supporting foot piece and a partition plate, said parti-  
45 tion plate extending above and below the mixing chamber of the burner and provided with a boss; and a set screw working through the top of the iron bearing upon said boss.

2. The combination with an iron having 50  
openings in its side walls, the rear end of said iron being entirely open, of a plate adapted to fit within said open end, a set screw adapted to work through the top of the iron and bear upon the upper edge of 55  
said plate, a mixing chamber and converging burner tubes integral with said partition plate, said converging tubes extending into the body of the iron and arranged parallel with the bottom thereof; and a gas 60  
supply pipe entering the mixing chamber at the rear end thereof substantially as de-  
scribed.

HARRY A. KOENIG.

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."