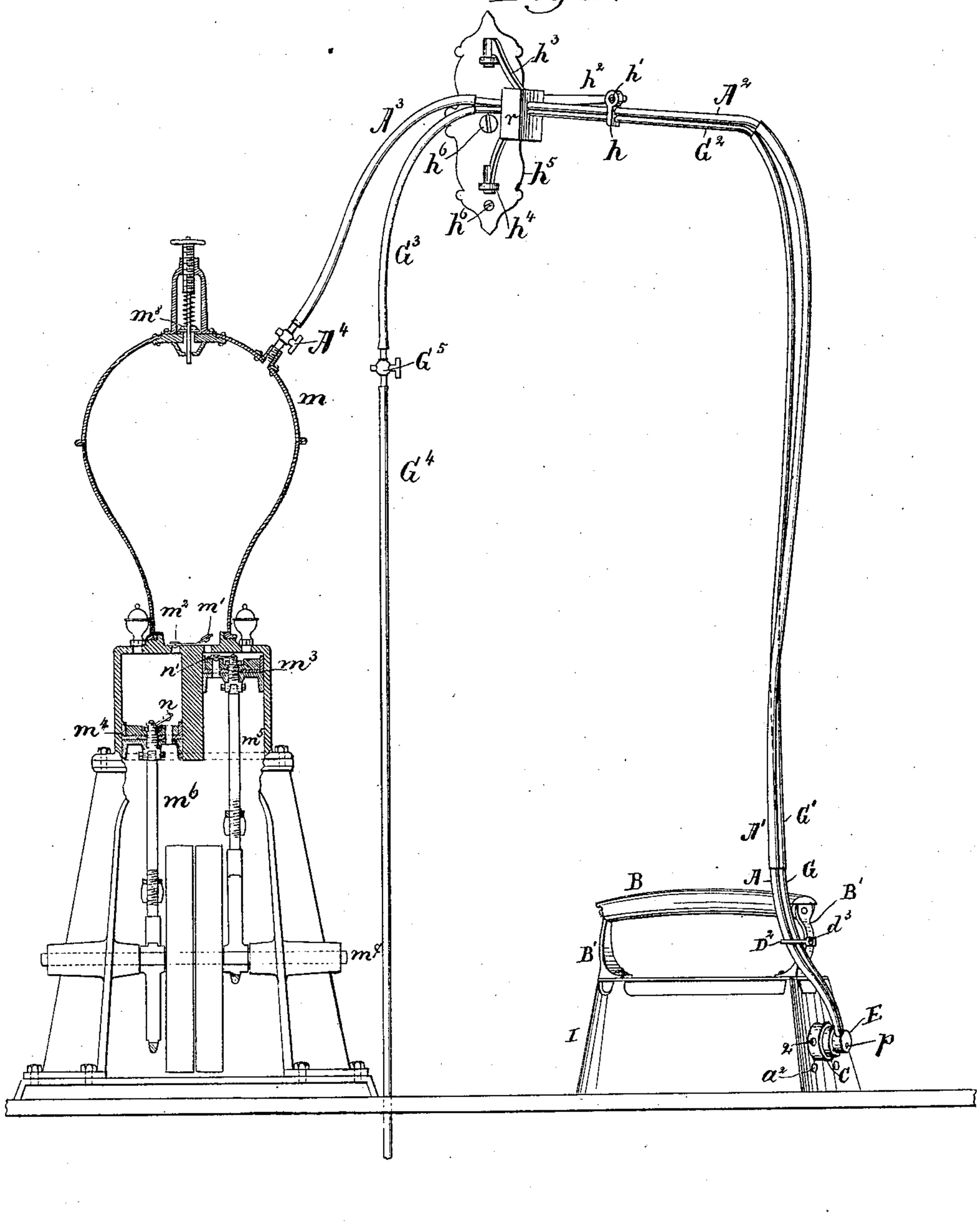
(No Model.) 2 Sheets—Sheet 1.

A. DE LASKI.

SAD-IRON.

No. 345,033. Patented July 6, 1886.

Fig. 1.



Witnesses.
Arthur Lispenard.
John F. C. Printzlau.

Inventor.
Albert De Laski.
by Crosby & Gregory Attys.

(No Model.) 2 Sheets—Sheet 2.

A. DE LASKI.

SAD IRON.

No. 345,033. Patented July 6, 1886.

Fig: 2.

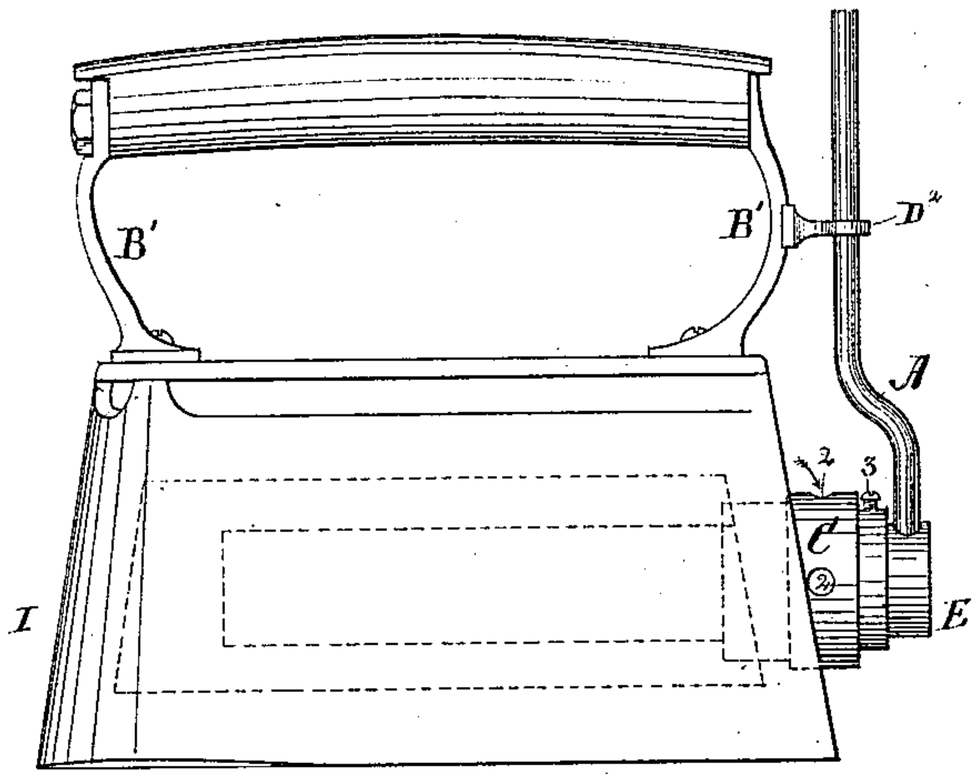


Fig: 3.

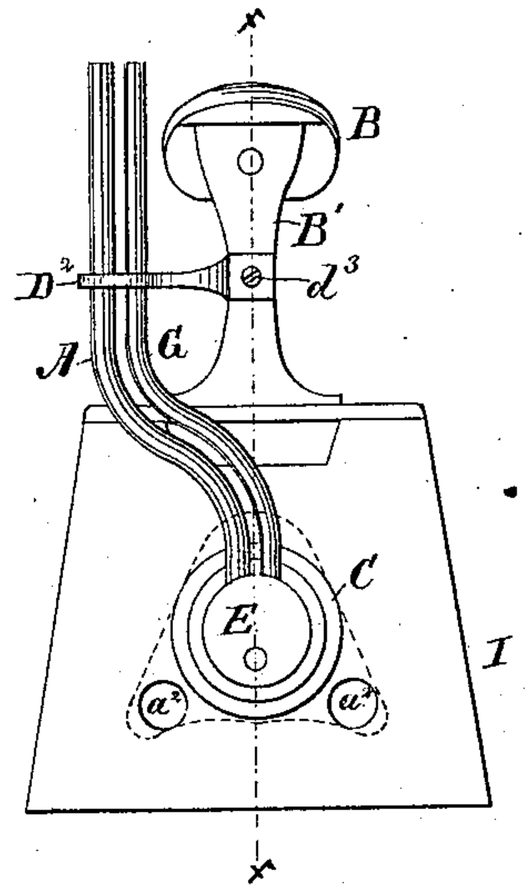


Fig: 4.

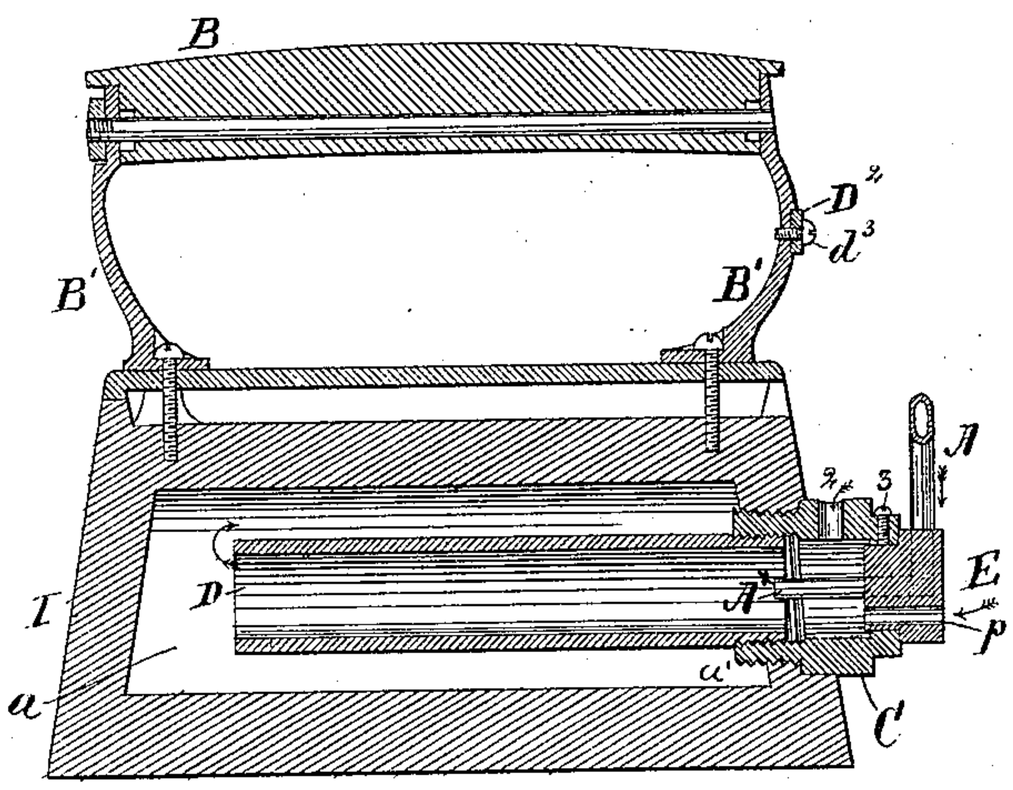


Fig: 5.

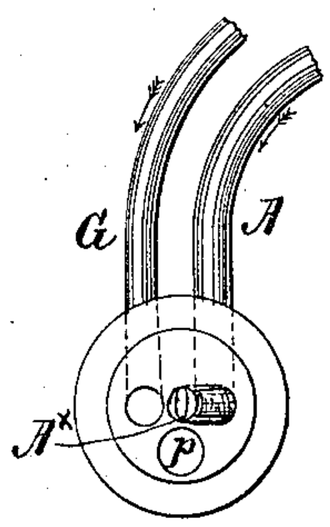
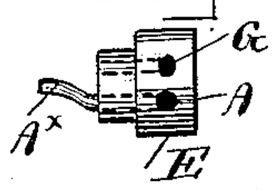


Fig. 6.



Witnesses.
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attys

UNITED STATES PATENT OFFICE.

ALBERT DE LASKI, OF LYNN, MASSACHUSETTS.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 345,033, dated July 6, 1886.

Application filed August 13, 1883. Serial No. 103,618. (No model.)

To all whom it may concern:

Be it known that I, ALBERT DE LASKI, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Sad-Irons, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a sad-iron to be heated by gas and compressed air, the latter being commingled with the gas inside the iron.

In this invention the body of the sad-iron is provided with a chamber into which is extended a tube smaller than the chamber, so as to leave a space outside the tube for the passage of the products of combustion around the tube into contact with the iron. The tube is held by a collar screwed into the rear end of the iron, and this collar, besides having inlets for atmospheric air, has a neck with which are joined the inlet-pipes for the gas and compressed air, and, as herein shown, the said neck has an inlet for atmospheric air at the rear of both the other inlets. The gas and air enter the iron through suitable pipes attached thereto, and connected, as herein shown, by flexible sections with two rigid sections of gas and air pipe pivoted upon a bracket, the weighted rear ends of the pivoted sections being in turn joined by india-rubber pipes with suitable sources of supply for gas and for air under pressure—as, for instance, an air-chamber. The pipe which supplies air to the tube referred to is herein shown as connected with the air-chamber of a forcing-pump operated by power or in other suitable manner. By the employment of air under pressure or air compressed in a receiver or air-chamber I am enabled to deliver into the gas a larger quantity of air containing oxygen than if the air be supplied at a less density.

Figure 1 shows one of my improved irons resting upon a table and connected with pipes capable of conducting inflammable gas and air into the iron to heat the same, the air-supplying pipe being shown as attached to the air-chamber of an air-pump, mostly shown in section. Fig. 2 is an enlarged side elevation of the iron alone; Fig. 3, a rear end or heel view of the iron; Fig. 4, a section thereof on the dotted line $x\ x$, and Fig. 5 a detail of the neck provided with the gas and air inlets. Fig. 6 is a plan view of neck E.

The iron I, having a handle composed of the hand-piece B, held between uprights B′, detachably secured to the iron, has a chamber, a, and at its rear end the iron has a large opening properly threaded at a' to receive the screw-threaded collar C, and has two or more outlets, a^2, for the escape of the spent products of combustion. The collar C is provided with a suitable number of air-passages, 2, and has screwed into it a combustion-tube, D, the open front end of which is extended nearly to the front of the chamber of the iron I. The outer end of the collar C is closed by a neck, E, held in place by a suitable screw, 3. This neck receives the gas-supply pipe G and the air-supply pipe A, the inlet end $A^\times$ of the latter being extended into the collar ahead of the mouth of the gas-inlet, and preferably so that the mouth of the inlet for compressed air rests substantially at the center of the collar and terminates in the collar beyond the air-passages 2. The pipes G A, of metal, are held by a guide, D^2, attached to one of the uprights B′ by a screw, d^3. The guides D^2 may be made right and left hand, so that by the use of the proper guide the pipes G A may be held at one or the other side of the handle, according to the desire of the operator and the work being done, one position of the said pipes for some work, and with some operators, being more out of the way and more convenient than the other position. When the position of the pipes G A is changed, as described, the screw 3 is loosened, and the neck E is turned in the collar C. The pipe G has a flexible section, G′, which joins it with the rigid section G^2, supported by a hanger pivoted at h' on a bracket, h^2, forked at h^3, and having pins to enter and turn in ears h^4, attached to a plate, h^5, screwed to the wall or other proper support by screws $h^6\ h^6$. The rigid section G^2 is connected by a flexible section, G^3, with a rigid section, G^4, which at its end is supplied with a suitable cock or valve, G^5, the pipe G^4 being joined with any usual or suitable source of supply for illuminating or inflammable gas,

the quantity being consumed being regulated by the said valve.

Besides supplying the combustion-tube D with atmospheric air through the air-passages 2 to support combustion of the gas led into the said tube, as in a Bunsen burner, I have arranged to supply the said tube with compressed air, the same being compressed into the air-chamber *m* by the pump or pumps, to be described, and being conducted to the tube D by the flexible pipe A^3, the rigid section A^2, the flexible section A′, and the air-pipe A.

The quantity of compressed air delivered into the tube D may be regulated by the cock A^4 and the pressure of the air in the air-cylinder *m* by the strength of the spring which acts on the valve m^8.

By the employment with the gas of air compressed by a pump I am enabled to obtain a higher heat with less gas and in less time than by the employment of a less quantity of air.

The air is compressed in the air-chamber by means of the pistons m^3 m^4, operated by suitable eccentrics on the shaft m^7, rotated by power in any suitable manner, the said pistons having valves *n*, and forcing air into the air-chamber through ports covered by the valves *m′* m^2, all as usual.

The gas is fully burned in the tube D, and the latter, which may be easily kept at a red heat, if desired, radiates its heat through the space about it into the body of the iron.

By means of the pivoted rigid sections of pipe A^2 G^2 and the bracket and flexible sections I am enabled to move the iron freely in every direction by hand to iron or press any desired object. If but a small quantity of gas is being employed, as when the heat of the iron is not to be very considerable, the cock G^5, being then partially closed, the burner would collect soot were it not for the air-passage *p*, made in the neck E. The air coming into the iron at the passage *p* carries the gas forward and prevents fouling of the gas-inlet.

I claim—

1. The combination, with a sad-iron having a combustion-chamber, of metallic air and gas supply pipes leading to said chamber, said pipes being offset from the perpendicular, and a guide attached to said iron and supporting the pipes in their offset position, as set forth.

2. The combination, with the sad-iron having hollow body and a screw-threaded aperture in the rear of said body, of a collar, C, having holes 2, and being screwed in said aperture, an adjustable neck-piece, E, secured in said collar, and separate metallic air and gas pipes connected with the neck-piece and offset from the perpendicular, as set forth.

3. In combination with a sad-iron body having a chamber and escape-passages therefrom and an aperture in its rear portion, a collar, C, entering said aperture, a tube, D, extending considerably forward therefrom, an adjustable neck, E, secured in the rear of said collar, the air-supply pipe entering said neck and having a forward extension, $A^{\times}$, and a gas supply pipe entering said neck and terminating at the face thereof, all substantially as stated.

4. In combination with a sad-iron body having a chamber, and having escape-passages a^2 a^2, the collar C, secured in the rear of said body, and having tube D extending forward, and having also supply-apertures 2 2, the neck E, secured in the rear of said collar, and having supply-aperture *p*, air-pipe $A^{\times}$, extending forward, and a gas-pipe, G, terminating in said neck, all as set forth.

5. The combination, with a sad-iron having combustion-chamber and metallic supply-pipes A and G leading thereto, of a swinging hanger, metallic pipes supported by said hanger, and flexible pipe-sections connecting the pipes on the hanger with the pipes on the sad-iron, as set forth.

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

ALBERT DE LASKI.

Witnesses:
G. W. GREGORY,
BERNICE J. NOYES.