No. 680,216. Patented Aug. 13, 1901.

A. T. BEACH.

SAD IRON.

(Application filed Oct. 13, 1900.)

(No Model.)

Fig: 1.

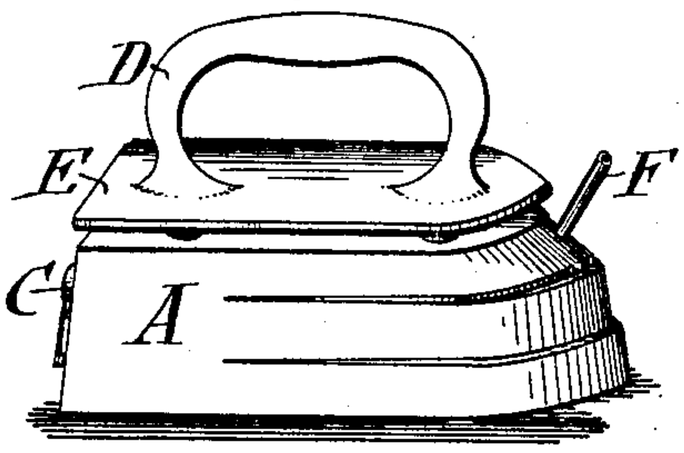


Fig: 2.

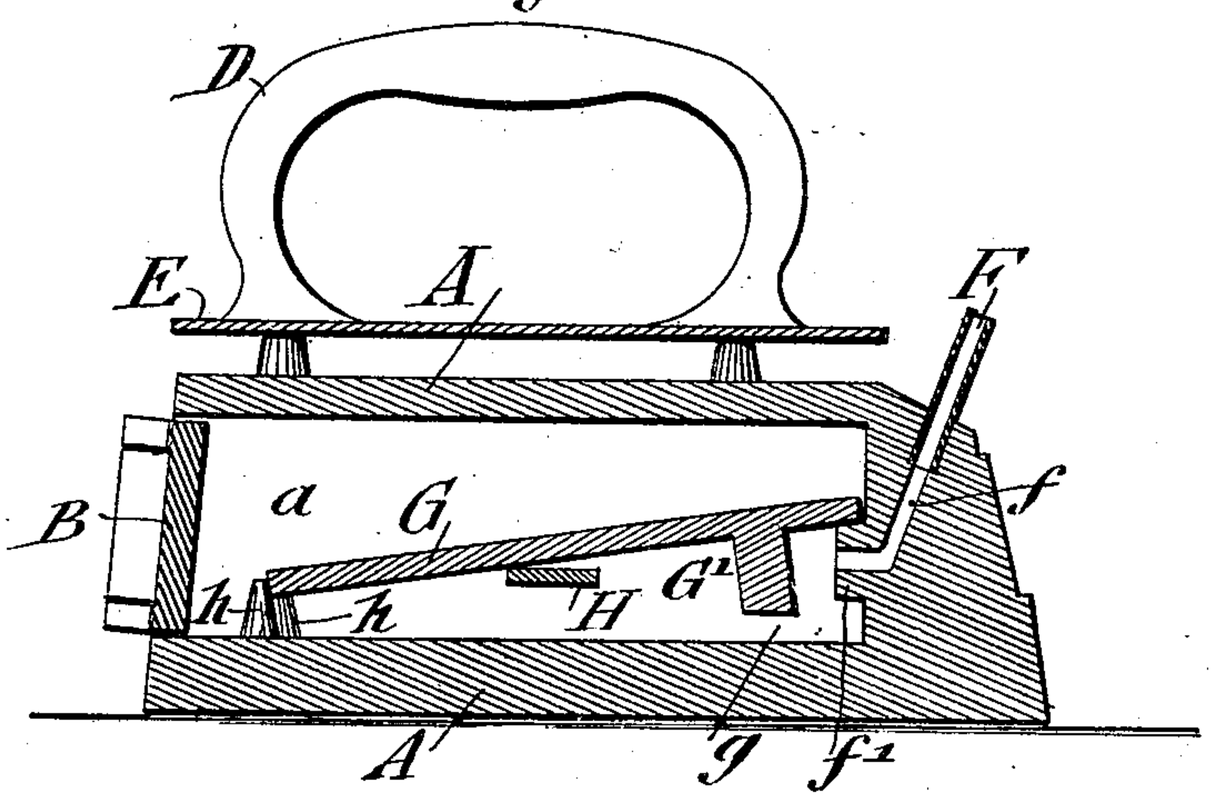


Fig: 3.

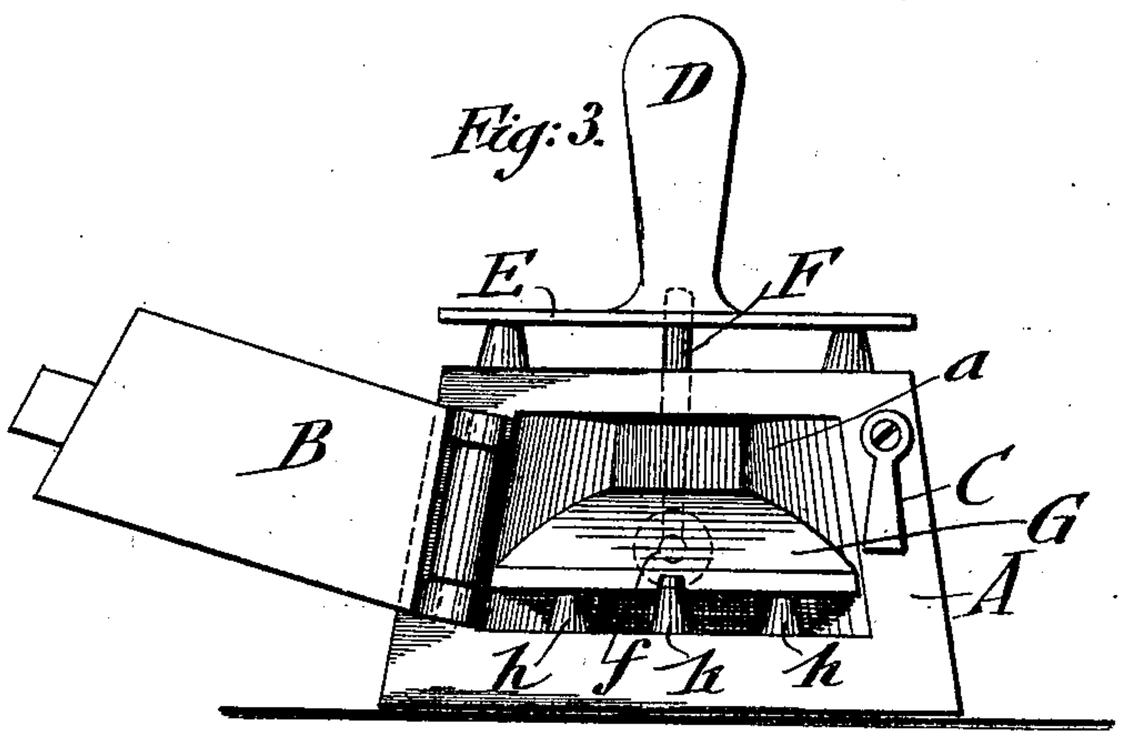
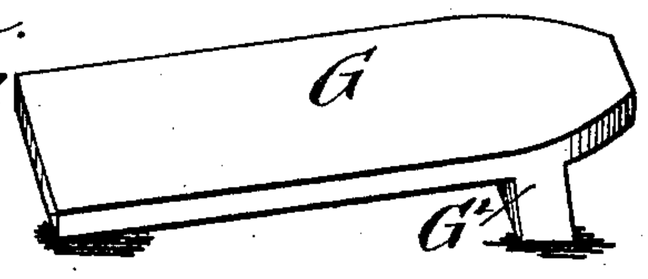


Fig: 4.



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SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 680,216, dated August 13, 1901.

Application filed October 13, 1900. Serial No. 32,951. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR T. BEACH, a citizen of the United States, residing in the city of New York, borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Self-Heating Sad-Irons, of which the following is a specification.

This invention relates to a sad-iron of that class which is heated internally by means of gas or a gas and air mixture; and the object of the invention is to provide an efficient, durable, and convenient self-heating sad-iron.

A further object of the invention is to provide means for satisfactorily and uniformly heating up the polishing-surface of the sad-iron, so that the heat will be properly distributed throughout said surface.

The invention consists, broadly, of a self-heating sad-iron which comprises a hollow body provided with means for closing the same, a gas-tube connected with a duct passing through one end of the sad-iron, and a heat-concentrating plate supported within the chamber of the sad-iron and provided with a baffle arranged adjacent to the inner end of said duct, said heat-concentrating plate being inclined downwardly from the gas-inlet end of the sad-iron and being suitably supported at its opposite end, so as to provide openings which communicate with the upper part of the chamber of the said iron, all as will be hereinafter fully described and then pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved self-heating sad-iron. Fig. 2 is an enlarged vertical longitudinal section of the same. Fig. 3 is a rear view of the sad-iron, showing the door open; and Fig. 4 is a detail perspective view of the heat-concentrating plate.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A indicates the body of my improved self-heating sad-iron, the same being of the usual form. The body A is provided with a chamber *a*, the rear end of which is open and is adapted to be closed by means of a hinged or other door B, which is secured to the body of the iron when closed by means of a suitable button C or the like pivoted to the rear end of the body A.

The body A of the sad-iron is provided with a suitable handle D, which is preferably equipped with a guard-plate E for protecting the hand against the heat arising from the body A.

F is a piece of gas-tubing which is inserted in the outer end of a suitable duct *f*, that extends through the upper part of the toe of the sad-iron, said duct being terminated, preferably, by means of a boss *f'*.

G indicates a heat-concentrating plate, which is composed of suitable metal, and the edges of the same are formed so as to conform with and fit against the walls of the chamber *a*. The forward end of the heat-concentrating plate is made tapering, so as to conform to the taper of the forward end of the chamber *a*, said tapering end resting, preferably, upon the boss *f'*, while the rear end of the plate G is separated at a suitable distance from the door B and is supported by means of teats or lugs *h*, which project upwardly from the bottom of the body A. There are preferably three teats or lugs *h*, the central one of which is longer than and set a little to the rear of the others, so as to form a stop against which abuts the rear edge of the plate G. In this manner the heat-concentrating plate G is supported in inclined position, its rear end being lower than its front end, so that the flame of the air and gas mixture, which latter is conducted from a suitable source through the tube F, may be gradually concentrated toward the rear end of the iron, whereby the heat lost by reason of first passing into the enlarged space at the front end of the body will be compensated for by concentrating the heat and products of combustion under the rear end of the heat-concentrating plate, thereby more effectively heating up the polished bottom of the body A.

Formed on the under side of the heat-concentrating plate G, near its forward tapering end, is a transverse baffle or projection G', which extends downwardly and forms a contracted throat *g* between the lower edge of said baffle and the bottom of the body A, adjacent to the boss *f'*. By means of the baffle G' the flame which issues from the duct *f* is prevented from passing directly to the opposite end of the sad-iron and will be deflected downwardly and form a curl, which passes

through the throat *g* and around the baffle G', thereby thoroughly and efficiently heating up the toe of the iron, as otherwise a greater degree of heat will be at the rear end than at the toe. The proper heating of the heel of the iron is caused, as above stated, by the downward inclination of the rear end of the heat-concentrating plate, which deflects the heat and products of combustion onto the bottom of the body A. The combined effect of the baffle and the downward inclination of the plate G is to cause the flame to uniformly heat up the iron. The products of combustion pass through the spaces between the teats or lugs *h* and upwardly into the upper part of the chamber *a*. Relief for the heat-pressure within the body A and such products of combustion as may result is suitably found through the cracks or crevices between the door B and the body A.

Extending transversely of the chamber *a* is a supporting-bridge H, upon which the middle portion of the heat-concentrating plate G rests. The heat-concentrating plate may be arranged loosely within the chamber *a*, as shown, so that by opening the door B it can readily be removed, or it may be firmly fastened in position, as desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A self-heating sad-iron, composed of a suitable hollow body provided with means of access to its interior, a handle, a duct leading through the toe of the body, a rearwardly and downwardly inclined heat-concentrating plate suitably supported within the chamber of the body, above the inner end of the duct, and a baffle located on the under side of the said plate, adjacent to the said duct, substantially as set forth.

2. A self-heating sad-iron, composed of a suitable hollow body provided with means of access to its interior, a handle, a duct leading through one end of the body, a plate suitably supported within the chamber and disposed lengthwise thereof, said plate extending above the inner end of the said duct, and a baffle located on the under side of said plate, adjacent to the duct, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ARTHUR T. BEACH.

Witnesses:
PAUL GOEPEL,
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