F. STICHBURY.

HEATING BOX IRONS.

No. 185,984. Patented Jan. 2, 1877.

Fig. 3

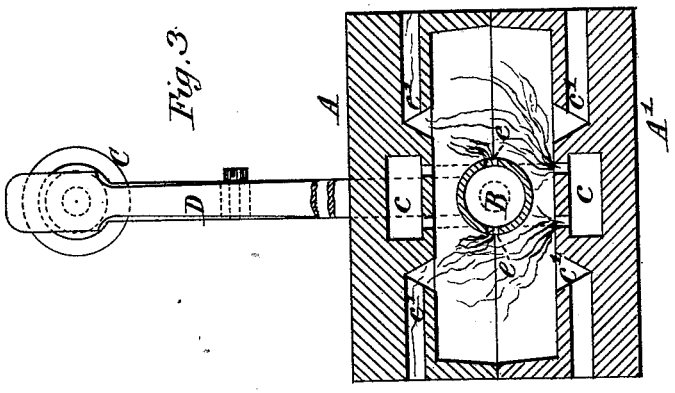


Fig. 1

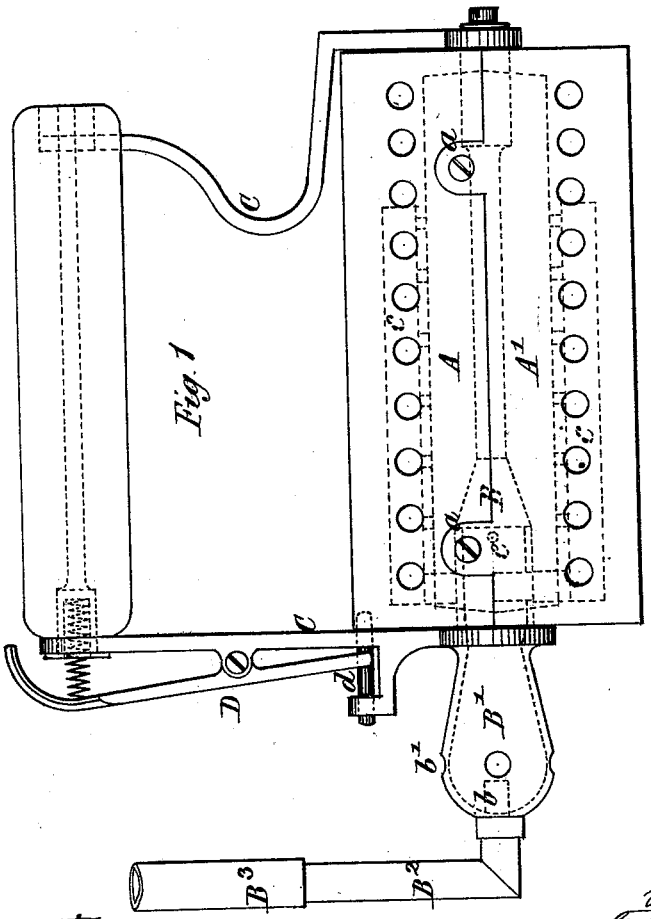
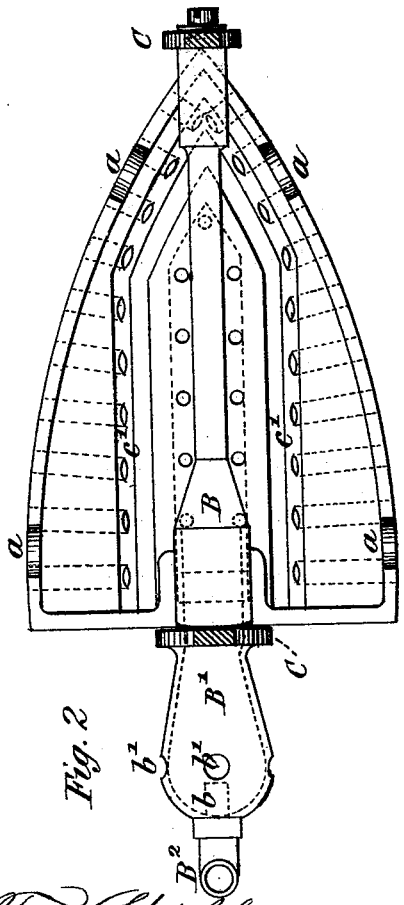


Fig. 2



Witnesses
John Becker
Fred. Haynes

F. Stichbury
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

FREDERICK STICHBURY, OF LEYTON, ASSIGNOR TO McBRYDE & ORR, OF JEWIN CRESCENT, CITY OF LONDON, ENGLAND.

IMPROVEMENT IN HEATING BOX-IRONS.

Specification forming part of Letters Patent No. **185,984**, dated January 2, 1877; application filed September 19, 1876.

To all whom it may concern:

Be it known that I, FREDERICK STICHBURY, of Leyton, in the county of Essex, England, have invented certain Improved Means for Heating Box-Irons, of which the following is a specification:

This invention relates to means for maintaining the heat of irons used for the purposes of the laundry and for finishing, surfacing, smoothing, or polishing fabrics, it being applicable, for instance, to tailors' pressing-irons, and to hatters' smoothing-irons. It consists of an improved construction of iron, in which a mixture of gas and air may be consumed for heating the iron, the object being to maintain the required heat therein with certainty and at a very small cost.

The gas and air are mixed on the well-known principle of the Bunsen burner, in a chamber situated at the rear end of the box-iron. The irons to be heated by the combustion of this mixture may vary somewhat in construction, to suit the special purposes for which they are required. For use in laundries attached to the manufactories of linen collars, cuffs, and similar articles of wearing-apparel, I prefer box-irons constructed with two acting-surfaces, such irons being fitted to their handles, so as to be reversible—that is to say, the bottom may become the top, and vice versa. The terms "bottom" and "top" are, therefore, for the purpose of this specification, used relatively.

In the accompanying drawing, Figure 1 shows, in side elevation, a divided reversible box or sad iron, suited for laundry-work. Fig. 2 is a plan view, with the upper half of the iron removed; and Fig. 3 is a vertical section, taken on the line 1 2 of Fig. 1.

A and A′ are the two corresponding halves of the iron, connected together by means of screws, which pass through lugs *a*, cast with one half of the iron, and fitting into recesses made in the other half to receive them. B is a central axle, on which the iron is free to turn to bring the acting-surfaces alternately into use as they are heated. To this axle B the handle C is firmly secured. Fitted to one arm of the handle by a hinged joint is a spring-lever, D, which is connected to a bolt, *d*, that takes into holes made in the rear end of the iron, and thereby serves to lock it in position and prevent its turning upon the axle B. The rear end and larger diameter of this axle is made hollow, and it terminates externally of the box-iron in a bulbous extension, B^1. This bulbous extension is fitted with an elbow, B^2, which carries a gas-jet, *b*, that projects into the bulb B^1. This bulb is pierced with holes *b′* to admit air to the interior thereof, and gas is supplied thereto through the jet *b* by means of a flexible tube, B^3, fitted to the elbow-piece B^2. In this bulb the gas and air become mixed in the proper proportions for consumption in the box-iron. In the center of the bottom of each half of the iron I make or cast a gasway or closed passage, *c*, Fig. 3, which may be of any suitable form. This gasway communicates, through a short passage in the back of the iron, with the interior of the axle B. Through the cover of the passages *c* of the iron I bore any suitable number of fine holes, and of any desired gage, for the issue of the mixture of gas and air to be consumed for heating the iron. The interior of each half of the iron, it will be understood, is constructed in a precisely similar manner. The mixed gas, as it leaves the bulb B^1, passes through an opening made in the under side of the hollow portion of the axle B to the gas-passage *c* in that part only of the iron which, for the time being, forms the bottom half, whence it issues at the holes above mentioned, as from a burner, to be consumed. On each side of the passage *c* I cast or otherwise construct a channel or groove, *c′*, which communicates with the external atmosphere by means of a number of holes drilled through or otherwise formed in the sides of each half of the iron. The holes in the bottom half serve to admit air for supporting combustion, while those in the top half serve as outlets for the products of combustion and for diffusing the heat rapidly and equally over the surface of the iron. This arrangement of circular holes communicating with these channels or grooves is such as to produce perfect combustion without any deposit of carbon, a steady atmosphere of flame filling the interior

of the iron, and not liable to be affected by the iron being moved about in working. To prevent the necessity for relighting the gas at every turn-over of the iron, which motion cuts off the gas from one passage *c* and admits it to the other, I bore holes in the sides of the hollow part of the axle B, as at *e*, Fig. 3, and thereby insure the maintenance of an ignited jet of gas, which will serve to light the several jets issuing from the pierced cover of the passage *c* of the heated half of the iron when brought into the position for working.

Having now set forth the nature of my invention, and explained the manner of carrying the same into effect, I claim—

1. In a box-iron containing two acting-faces, and formed with gas-passages *c c*, the hollow axle B, provided with a mixing-chamber, B^1, and with apertures *e e* for sustaining the flame as the passages *c c* are alternately brought into communication with the interior of the axle B, substantially as set forth.

2. The divided double-faced box-iron A A′, formed with longitudinal gas-passages *c c*, which are alternately brought into communication with the interior of the axle B, for the purpose of receiving a supply of mixed air and gas therefrom for heating the iron.

3. In a box-iron with double-acting faces, the combination of the longitudinal passages *c c*, communicating with the interior of the axle B, and the grooves and lateral passages *c′* for supplying air to support combustion and serve as an exit for the products of combustion, substantially as set forth.

4. In combination with the handle C and the double-faced box-iron, mounted on a hollow axle, B, and provided with passages *c c*, arranged to communicate alternately with the interior of said hollow axle, the spring-bar D, connected at its lower end to a bolt, *d*, working in the handle, and adapted to engage in a recess in the iron, in order to lock the iron in proper position relatively to the hollow axle, substantially as herein set forth.

Dated the 29th day of July, 1876.

FREDERICK STICHBURY.

Witnesses:

JNO. DEAN,
17 *Gracechurch Street*,
H. K. WHITE,
66 *Chancery Lane*.