

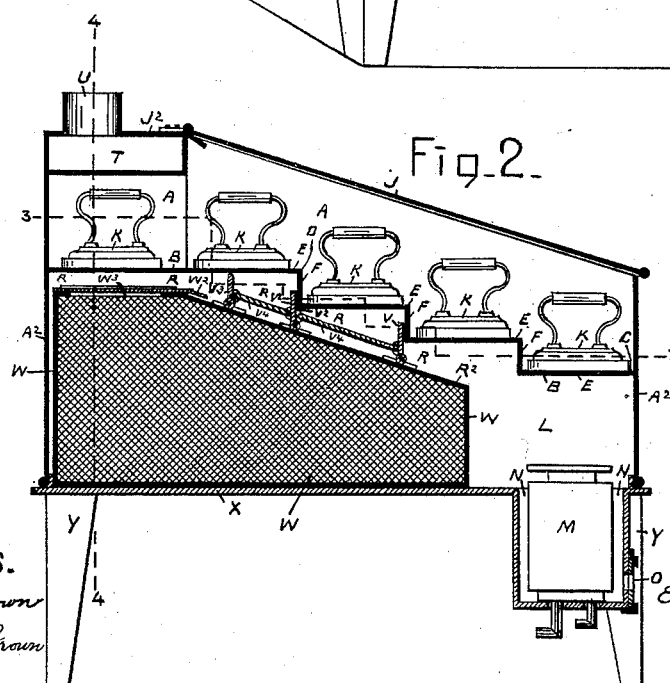
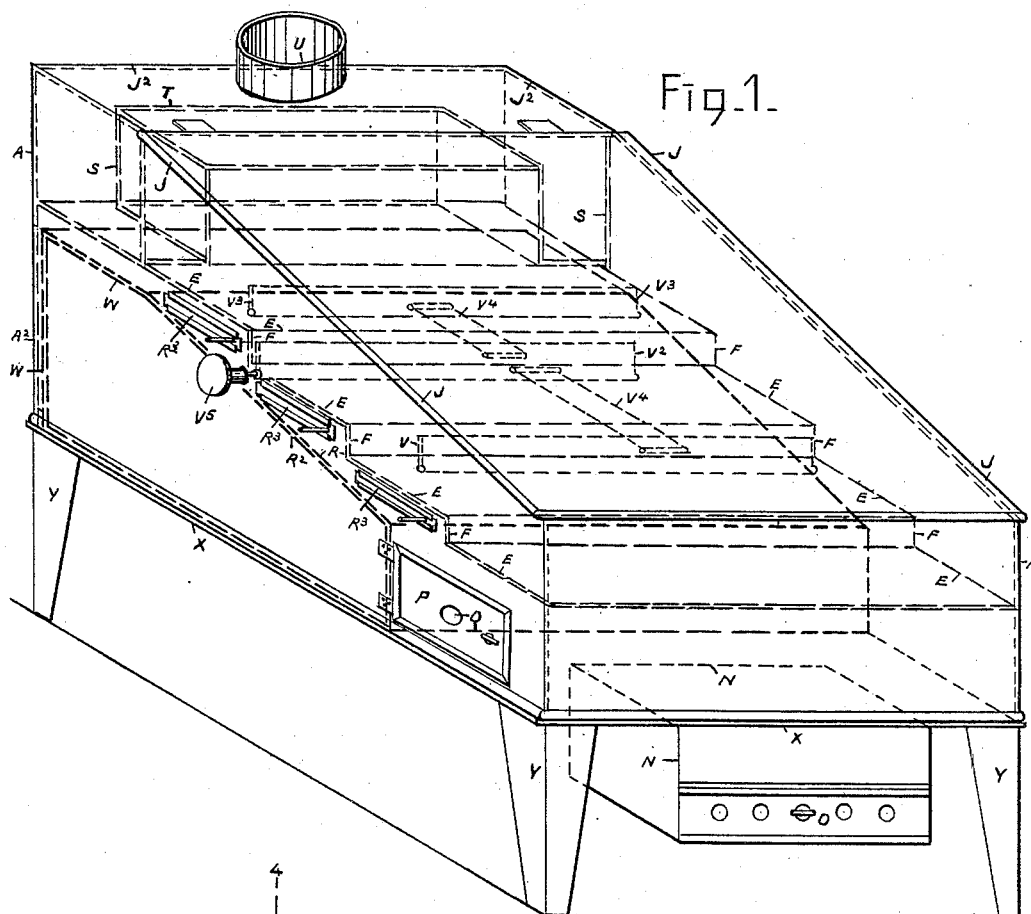
(No Model.)

2 Sheets—Sheet 1.

E. G. S. RICKER.  
FURNACE FOR HEATING FLAT OR SAD IRONS.

No. 421,434.

Patented Feb. 18, 1890.



WITNESSES.  
Francis M. Brown  
Marion E. Brown

INVENTOR.  
Elbridge S. Ricker  
by his Attorneys  
Brown Bros.

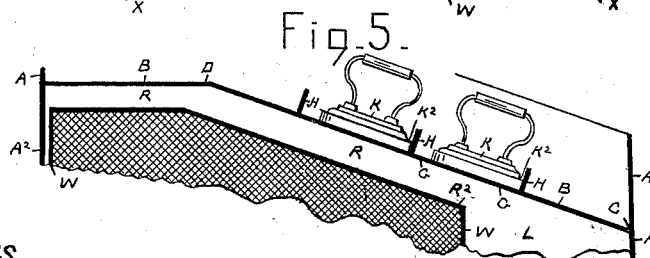
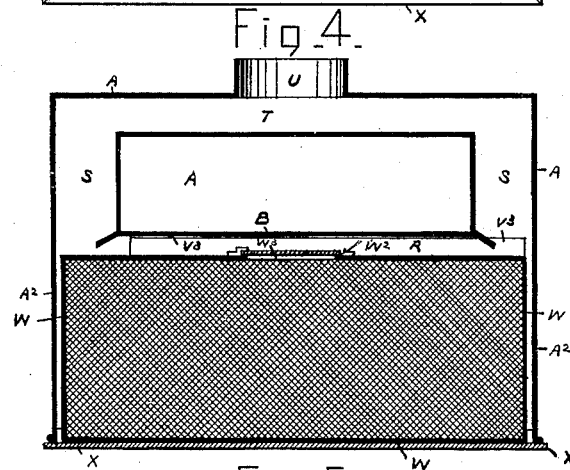
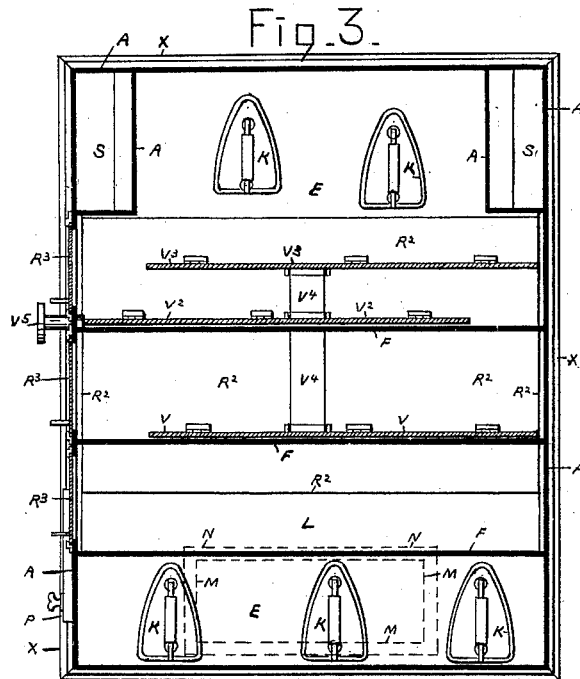
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# UNITED STATES PATENT OFFICE.

ELBRIDGE G. S. RICKER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM B. WETHERBEE, OF SAME PLACE, AND A. A. PLATTS, OF REED'S FERRY, NEW HAMPSHIRE.

## FURNACE FOR HEATING FLAT OR SAD IRONS.

SPECIFICATION forming part of Letters Patent No. 421,434, dated February 18, 1890.

Application filed April 29, 1889. Serial No. 309,059. (No model.)

*To all whom it may concern:*

Be it known that I, ELBRIDGE G. S. RICKER, a citizen of the United States of America, residing at the city of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Furnaces for Heating Flat or Sad Irons, of which the following is a full, clear, and exact description.

This invention relates to a furnace for heating flat-irons, more especially designed for laundries, hotels, restaurants, and all other places of like character. This furnace, having preferably, an inclosed chamber which is suitably adapted to be opened and closed, consists, essentially, of a table or platform making the bottom or floor of said chamber, or, in other words, the heating-surface to receive the flat-irons to be heated, and, preferably, in one direction of a gradual rise, in combination with an inclosed combustion-chamber which is located at and below the lower portion of said table, and is suitable for the reception and practical use of a hydro-carbon, vapor, or other like burner, an inclosed flue or passage leading from said combustion-chamber along and under and to and at the uppermost or portion of said table the farther removed from the combustion-chamber having an exit for the products of combustion which pass through it from the combustion-chamber, and a damper to said flue to open and close, and thereby to regulate the draft therethrough. The damper, preferably, is constructed in parallel sections or lengths running transversely to the length of the flue, and the sections are arranged so that, severally closed, the flue will be divided into separate parallel passages, each open to the other at opposite ends, and otherwise all in a manner to guide and to secure the travel in a zig-zag course, as it were, of the products of combustion from the combustion-chamber to the exit of the flue and under and across from side to side of the platform or table on which the flat-irons are placed.

Further than the above this invention consists in other features of construction and arrangement and combination, substantially all as hereinafter appears.

In the drawings forming part of this specification, Figure 1 is an isometrical perspective view of the furnace, showing in dotted lines its interior construction. Fig. 2 is a central vertical section from front to rear of furnace. Fig. 3 is a horizontal section, line 3 3, Fig. 2. Fig. 4 is a vertical section, line 4 4, Fig. 2. Fig. 5 is a sectional view, in detail, similar to Fig. 2, and of a modification, as hereinafter appears.

In the drawings, A is an inclosed chamber of rectangular shape, and B is a platform or table making the bottom or floor of chamber A and the heating-surface of the furnace for the flat-irons, as hereinafter fully appears. This table B, as shown, has a gradual rise in one direction—that is, from its front end portion C to its rear end portion D—and comprises, as shown, Figs. 1 and 2, a series of successive flats E and risers F, and, Fig. 5, a single flat incline G and a series of successive ledges H.

J is a portion or section of the top of the chamber A, inclining from rear to front and hinged at its upper edge to the front edge of the fixed section J<sup>2</sup> of the top, so as to be opened and closed. The flat-irons K to be heated are placed, Figs. 1 and 2, upon the flats E of the table B, and, Fig. 5, upon the incline G and at rest at their heels K<sup>2</sup> against the ledges H.

L is an inclosed combustion-chamber. This combustion-chamber is located at and below the front or lowermost end C of the table B.

M is a vapor or liquid hydrocarbon or other burner of like or suitable character, preferably and as by use is found most practical, a vapor-burner of the Letters Patent of the United States, No. 373,874, dated November 29, 1887, and issued to Warren M. Abbott. The burner M is located in a pit N in the lower portion of the combustion-chamber L.

O is an opening and closing slide at the front of the pit N, and by which to admit to and shut off air from the burner as combustion may require.

P is a door at one end of and for communication with the pit N, and Q is a glass in door P for observation of the combustion of the burner with the door closed.

R is an inclosed flue or passage leading from the upper portion of the combustion-chamber L under and to the highest portion of the table B, where it has communication at opposite sides of the table with inclosed vertical passages S S, opening to a common horizontal and inclosed passage T in upper portion of chamber A, and having an exit U, to be connected in any suitable manner with a chimney or other escape.

R<sup>3</sup> are slides at one side of the flue R to be opened and closed to admit or shut off air from the flue, as may be deemed desirable in running the furnace.

V is a damper for opening and closing flue-passage R. This damper V is in three parallel sections or lengths V, V<sup>2</sup>, and V<sup>3</sup>, and each section is separately hinged to the bottom wall or floor R<sup>2</sup> of the flue-passage R, and they are severally connected by bars V<sup>4</sup>, which at their opposite ends are hinged to the sections.

V<sup>5</sup> is a handle attached to the middle section V<sup>2</sup> for operating it, and through it and the connecting-bars V<sup>4</sup> the other sections V V<sup>3</sup> on opposite sides of it. Each damper-section when raised crosses the flue-passage R for its full height and for a part of its width, and they are severally arranged, Figs. 1 and 3 more particularly, when closed to make of the flue-passage a series of parallel ways severally open at their opposite ends to each other, and also in communication with the combustion-chamber and exit of the flue, all so as to secure a zigzag way, as it were, for the travel of the products of combustion from the combustion-chamber to the exit U. The several damper-sections lowered open the flue or passage to the free travel of the products of combustion from the combustion-chamber to the exit U of flue.

W is a closed chamber under the floor or bottom R<sup>2</sup> of the flue-passage R, which makes its top, and it extends from the combustion-chamber to the rear end of the flue. This chamber W is to be filled with coal-ashes or other material which is a non-absorbent and transmitter of heat, and as ashes are inexpensive and effective they are preferably used.

W<sup>3</sup> is a hole in top of chamber W, through which to enter and remove the ashes, and W<sup>2</sup> is a sliding lid to open and close hole W<sup>3</sup>.

The chamber A, receiving the flat-iron, the combustion-chamber L, burner-pit N, and chamber W, charged with ashes, are severally made of sheet-iron, and, as a whole, held on a platform X, supported on legs Y, one at each of its corners. Again, the chamber A and its table B have vertical and downward continuations A<sup>2</sup> at the front and sides, and making the corresponding walls of the combustion-chamber, and which further extend about the outside of the opposite side and back walls of the chamber W charged with ashes, and severally are adapted so as a whole to be placed upon and removed from the re-

maining portions of the furnace. A rising table B with successive flats E is most preferable, as it secures the maximum amount of surface for receiving flat-irons within a given horizontal superficial area and rise of the table. Again, a flue-damper V in sections and arranged, as described, to secure when closed a zigzag course for the travel of the products of combustion under the table A, is most preferable, as it insures the most effective utilization and confinement of the heat which arises from the products of combustion against and on the flats E or incline G of the table.

A chamber W charged with ashes and its top making the floor of the flue R, as described, prevents absorption or transmission of heat in that direction, and thereby effectually increases and the better concentrates the heat on the table B, and where only it is desired.

The connection described of the damper-sections may be dispensed with and each section, being provided with a handle—such as the handle V<sup>5</sup> of the middle section—thus made capable of separate and independent movement; but it is preferable to connect them so as to be operated in unison from one handle V<sup>5</sup>.

There may be more or less damper-sections or only one, and also the table B may have more or less or no risers; but flats and risers are preferable, for the reason stated and otherwise.

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

1. In a furnace for heating flat-irons, a table B, forming the flat-iron-heating surface of the furnace and having its front end lower than its rear end, an inclosed combustion-chamber L at and under the front end portion of table B, a hydrocarbon or vapor or other such like burner located in said combustion-chamber, an inclosed flue or passage R under said table and having its front end lower than its rear end and open to said combustion-chamber and its rear end open to an exit U, and a damper V, for opening and closing said flue R, substantially as described, for the purpose specified.

2. In a furnace for heating flat-irons, a table B, forming the flat-iron-heating surface of the furnace and having its front end lower than its rear end and comprising a series of successive flats E and risers F, an inclosed combustion-chamber L at and under the front end portion of table B, a hydrocarbon or vapor or other such like burner located in said combustion-chamber, an inclosed flue or passage R under said table and having its front end lower than its rear end and open to said combustion-chamber and its rear end open to an exit U, and a damper V, for opening and closing said flue R, substantially as described, for the purpose specified.

3. In a furnace for heating flat-irons, a ta-

ble B, forming the flat-iron-heating surface of the furnace and having its front end lower than its rear end, an inclosed combustion-chamber L at and under the front end portion  
5 of table B, a hydrocarbon or vapor or other such like burner located in said combustion-chamber, an inclosed flue or passage R under said table and having its front end lower than its rear end and open to said combustion-  
10 chamber and its rear end open to an exit U, and a damper V, for opening and closing said flue R and in separate sections, each hinged to swing, and thereby to be placed across and to divide said flue R into a series of transverse  
15 separate ways running alongside of and communicating with each other and with said combustion-chamber and said exit, substantially as described, for the purpose specified.  
4. In a furnace for heating flat-irons, a table  
20 B, forming the flat-iron-heating surface of the furnace and having its front end lower

than its rear end, an inclosed combustion-chamber L at and under the front end portion of table B, a hydrocarbon or vapor or other  
25 such like burner located in said combustion-chamber, an inclosed flue or passage R under said table and having its front end lower than its rear end and open to said combustion-chamber and its rear end open to an exit U, and a damper V, for opening and closing said  
30 flue R, and a closed chamber W, charged with material a non-absorbent and transmitter of heat and located at and under the floor of said flue, substantially as described, for the purpose specified.  
35

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ELBRIDGE G. S. RICKER.

Witnesses:

ALBERT W. BROWN,  
HENRY F. MCKEEVER.