

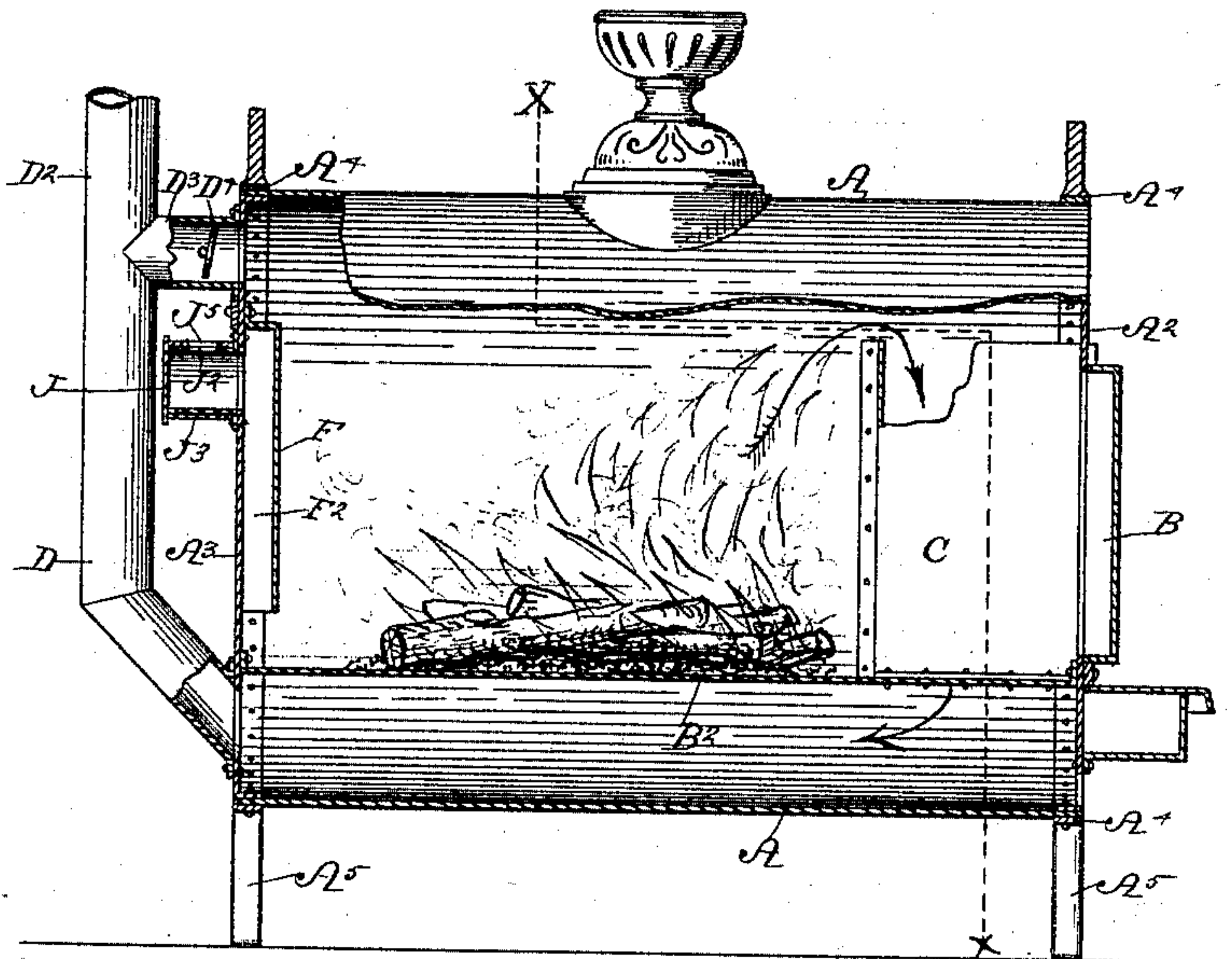
(No Model.)

C. T. McCARROLL.  
SHEET METAL STOVE.

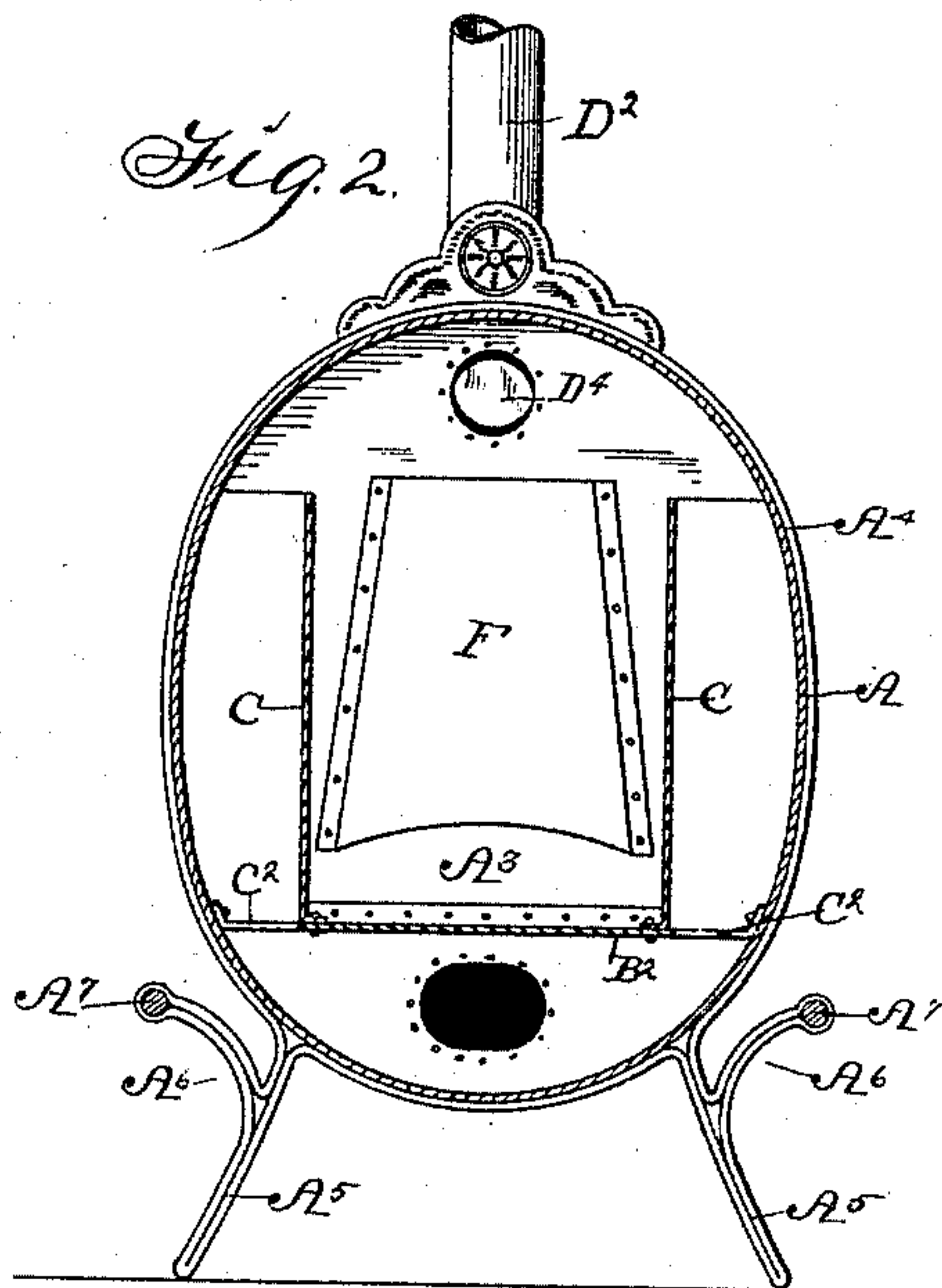
No. 496,947.

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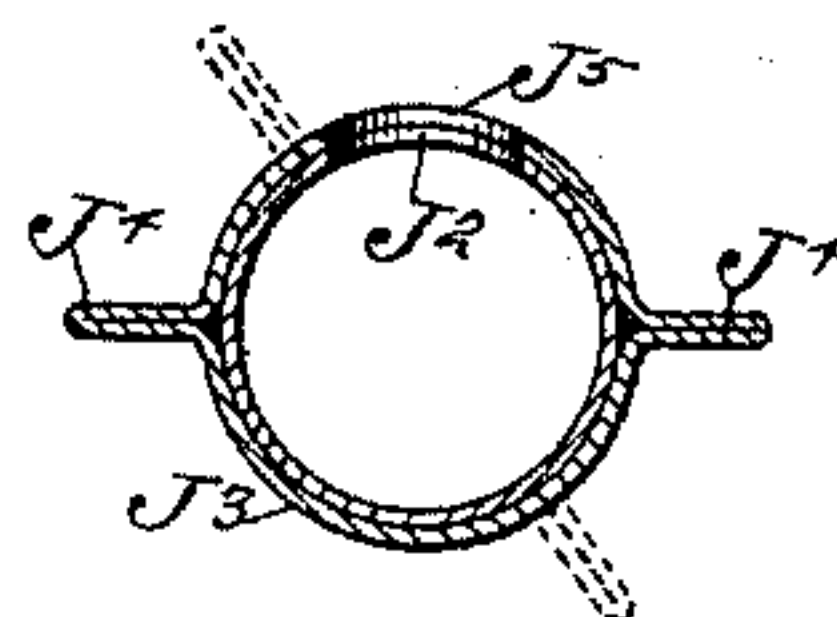
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
W. L. Sawley.  
J. Ralph Orwig.

Inventor: Charles T. McCarroll,  
By Thomas G. Orwig, Attorney.



# UNITED STATES PATENT OFFICE.

CHARLES T. MCCARROLL, OF OTTUMWA, IOWA.

## SHEET-METAL STOVE.

SPECIFICATION forming part of Letters Patent No. 496,947, dated May 9, 1893.

Application filed January 31, 1893. Serial No. 460,218. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES T. MCCARROLL, a citizen of the United States of America, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a Sheet-Metal Stove, of which the following is a specification.

The object of my invention is to provide a cheap, simple, and durable stove which may be constructed entirely of sheet metal.

With these ends in view my invention consists in certain details in the construction, arrangement and combination of parts as hereinafter fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the stove partially in longitudinal section. Fig. 2 is a transverse sectional view of the same through the line *xx* of Fig. 1. Fig. 3 is an enlarged detail sectional view of the valve for admitting air into the combustion chamber.

Referring to the accompanying drawings the reference letter A is used to designate the radiating drum which is formed of sheet metal and preferably elliptical in transverse section. The ends A<sup>2</sup> and A<sup>3</sup> of this drum are also of sheet metal flanges and fitted in the drum with which they are connected by rivets. The ends are further reinforced by means of the metal bands A<sup>4</sup> which are passed around them and have legs A<sup>5</sup> formed on their under sides and also the brackets A<sup>6</sup> adapted to support a foot rest A<sup>7</sup>.

B designates a door at the front end of the stove to cover an opening leading to the interior thereof, through which fuel is admitted.

B<sup>2</sup> is a horizontal partition extending longitudinally of the stove from one end to the other near the bottom thereof and flanged at its edges and riveted to the drum A. This also serves in lieu of a grate and for other purposes hereinafter set forth.

C C are two sheet metal partitions on opposite sides of said door B or the inside of the stove and extending a short distance inwardly therefrom and then attached to the sides of the stove to thereby form an open-topped compartment.

C<sup>2</sup> are openings formed in the partition B<sup>2</sup> in the compartments formed by the partitions C.

D designates a pipe leading from the rear end of the stove beneath the partition B<sup>2</sup> to a flue D<sup>2</sup> and D<sup>3</sup> is a pipe leading into said flue D<sup>2</sup> from the top portion of the rear end of the stove and D<sup>4</sup> is a damper in said pipe D<sup>3</sup> so that when said damper is open the products of combustion will pass directly to the flue and produce a strong and direct draft.

It will be obvious that the flame from the fire in passing to the pipe D<sup>3</sup> will strike upon the rear end A<sup>3</sup> of the stove and tend to burn the same out at that point, and to overcome this difficulty I have provided a partition F to extend from a point below the pipe D<sup>3</sup> to a point in proximity to the partition B<sup>2</sup> to thereby form an open bottomed compartment F<sup>2</sup>.

J is a pipe section leading from the compartment F<sup>2</sup> and having a closed outer end and an opening J<sup>2</sup> at its top.

J<sup>3</sup> is a sheet metal band encircling the said pipe J and having integral handles J<sup>4</sup> at its sides and an opening J<sup>5</sup> at its top adapted to be brought into co-incidence with the opening J<sup>2</sup>. By this arrangement it will be seen that the only point of the stove with which the flame comes in forcible contact is prevented from overheating by having a cold air chamber between it and the fire and air is admitted to the fire through the bottom of said chamber.

The practical operation of the stove is as follows: When a fire is to be started upon the horizontal partition B<sup>2</sup> the damper D<sup>4</sup> is opened and the openings J<sup>2</sup> and J<sup>5</sup> made to coincide. After the fire is well started and it is desirable to heat the room in which the stove is located the damper D<sup>4</sup> is closed, and this forces the heat and other products of combustion to rise to the top of the interior of the stove, pass downwardly through the compartments formed by the partitions C, and then beneath the horizontal partition B<sup>2</sup> and into the flue thus causing the heat to come into contact with every portion of the stove and utilize the same for radiating the heat, and by cutting off the draft through the opening J<sup>2</sup> and J<sup>5</sup> the fire is made to burn more slowly.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. In a stove the following elements in com-



5 combination, to wit, a sheet metal radiating drum having flanged sheet metal ends with the flanges inside of the drum and metal bands running completely around the outside of the end portions of the drum and having lugs to support the stove formed integral therein by bending for the purposes stated.

10 2. In a stove the following elements in combination, to wit; a sheet metal radiating drum having flanged sheet metal ends with the flanges inside of the drum, and sheet metal bands running completely around the end portions of the drum, and having lugs for supporting the drum and supports to hold a foot rest, formed integral with said bands by being bent into proper form for the purposes stated.

15 3. An improved furnace comprising the following elements in combination, to wit, a sheet metal drum A having the flanged ends A<sup>2</sup> and A<sup>3</sup> connected therewith as set forth, suitable supports for the drum, a door B at the end of the furnace, the horizontal partition B<sup>2</sup>, the partitions C as set forth, the openings C<sup>2</sup> in the pipe D leading to a point below the partition B<sup>2</sup>, the flue D<sup>2</sup>, the pipe D<sup>3</sup> leading from the top of the interior drum, the damper D<sup>4</sup> in said pipe, the partition F, the open-bottomed chamber F<sup>2</sup>, and adjustable

opening in said open bottomed chamber F<sup>2</sup> communicating with the outside atmosphere, all arranged and combined substantially in the manner set forth for the purposes stated.

35 4. An improved furnace comprising the following elements, to wit; a sheet metal drum A having the flanged ends A<sup>2</sup> and A<sup>3</sup> connected therewith as set forth, the bands A<sup>4</sup> passed around the ends of the drum having the legs A<sup>5</sup> and supports A<sup>6</sup> formed integral therewith, the door B at one end of the furnace, the horizontal partition B<sup>2</sup>, the partitions C as set forth the openings C<sup>2</sup> in the partition B<sup>2</sup> as set forth, the pipe D leading from a point below the partition B<sup>2</sup> the flue D<sup>2</sup> the pipe D<sup>3</sup> leading from the top of the interior of the drum the damper D<sup>4</sup> in said pipe the partition F the open bottomed chamber F<sup>2</sup>, the pipe J closed at its outer end and having the opening J<sup>2</sup> at its top the metal band J<sup>3</sup> passed around said pipe the integral handles J<sup>4</sup> on said band and the openings J<sup>5</sup> in the said band, all arranged as set forth for the purposes stated.

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Witnesses:

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