

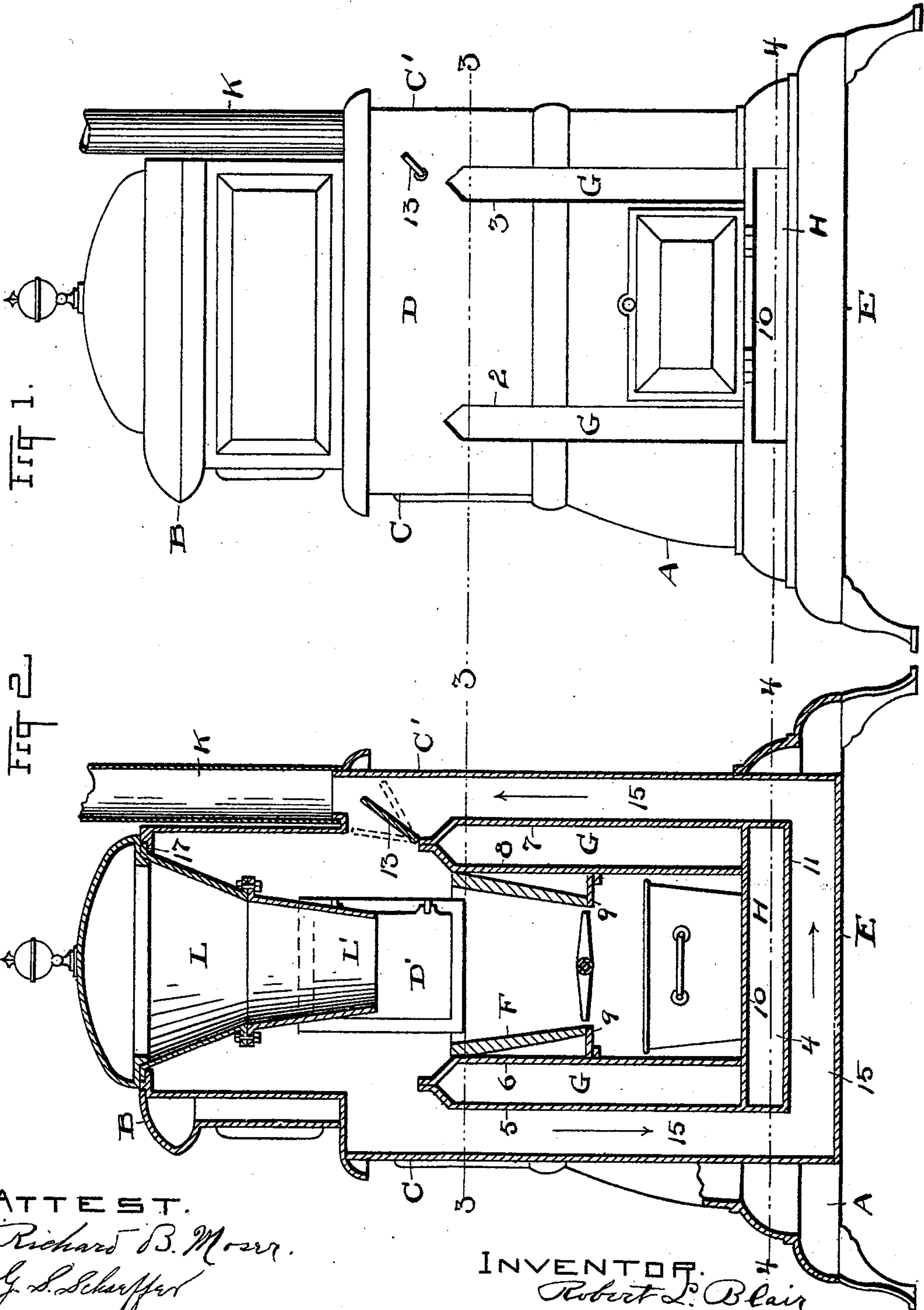
(No Model.)

2 Sheets—Sheet 1.

R. L. BLAIR.
PARLOR OR HEATING STOVE.

No. 538,497.

Patented Apr. 30, 1895.



ATTEST.

Richard B. Moss.
G. L. Schaffer

INVENTOR.

Robert L. Blair

BY *H. F. Fisher*

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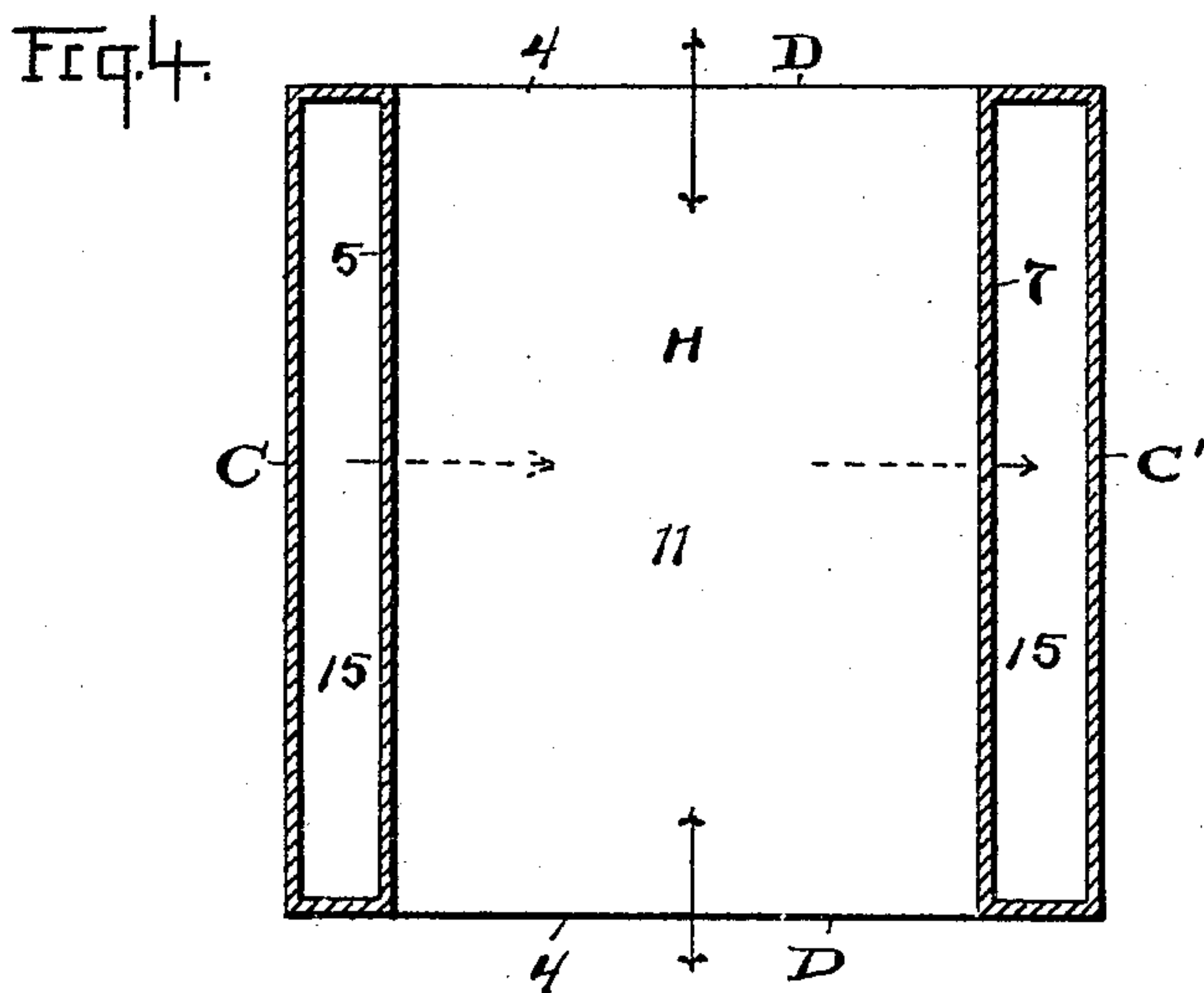
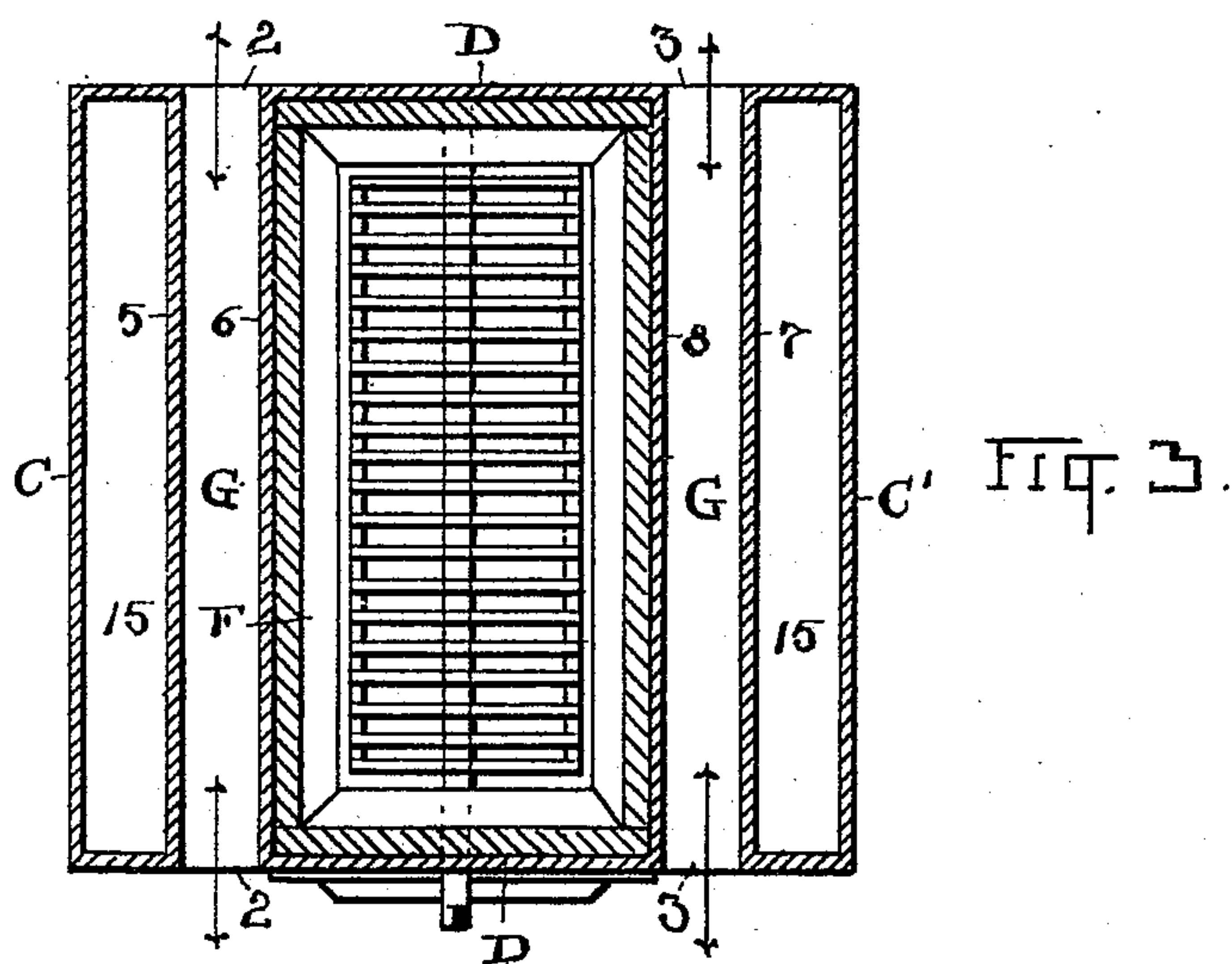
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UNITED STATES PATENT OFFICE.

ROBERT L. BLAIR, OF PAINESVILLE, OHIO.

PARLOR OR HEATING STOVE.

SPECIFICATION forming part of Letters Patent No. 538,497, dated April 30, 1895.

Application filed June 11, 1894. Serial No. 514,161. (No model.)

To all whom it may concern:

Be it known that I, ROBERT L. BLAIR, a citizen of the United States, residing at Painesville, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Parlor or Heating Stoves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to parlor or heating stoves, and the object of the invention is to produce a stove in which, as nearly as possible, all the heat that is produced therein is utilized for heating the room and is eliminated before reaching the exit flue or chimney.

Many different forms of stoves having this object in view have been made, but in none that I am aware of has the object been attained to the degree that is possible in the stove shown herein, and none have been constructed on the principle involved in this invention. This stove is built with the maximum of heat radiating surface possible in a stove of its size and heat producing capacity, and with this radiation is combined such free and complete circulation of air as to insure the diffusion of the heat from the stove into the room.

The invention consists in the construction and arrangement of parts whereby the foregoing objects are attained, substantially as shown and described and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical side elevation of my improved stove. Fig. 2 is a vertical central sectional elevation thereof. Fig. 3 is a horizontal cross-section on a line corresponding to 3 3, Figs. 1 and 2; and Fig. 4 is a horizontal cross-section corresponding to line 4 4, Figs. 1 and 2.

The stove, in this instance, is rectangular in cross-section, as seen in Figs. 3 and 4, but, obviously, a somewhat different form or forms of stove might be adopted without departing from the principle of construction embodied in this invention.

The base A and the top B may be of any desirable fashion or style, according as taste

or the special construction or form of the stove may require, and may be of plain or ornamental exterior.

The outside wall or shell consists of front plate or plates C, rear plate or plates C', and side plates D, which may be of cast, rolled or other suitable metal, according to the kind of stove that is made, but usually these plates are of cast metal and united upon the base E in any suitable way. The side plates D are each constructed with vertical slots or openings —2— and —3—, and with a horizontal slot —4— beneath slots —2— and —3—, as clearly seen in Fig. 1. These slots or openings form open communication on both sides of the stove with the internal heat radiating passages. A door D' is formed in one of the sides D through which entrance is obtained to the fire box.

Now, to produce the heat radiating surface hereinbefore referred to, I introduce the heat radiating plates —5— and —6—, respectively, at the front of the stove, and the corresponding plates —7— and —8— at the rear of the stove, said plates having the elevation of the slots —2— and —3— and converging at their top so as to come together and close the air space at that point. These plates extend from side to side of the stove and are built into the sides D. The plates —5—, —6—, —7— and —8— are inclined inwardly at their top to close the air passages at that point. The fire pot F is supported on the grate rest plate —9—, and this pot extends entirely across the stove from side to side. Hence, its sides radiate the heat through the plates —6— and —7— into the chambers or air circulating passages G, while at the ends the heat radiates through the sides D. The horizontal air passage or space H beneath the ash-pit has the transverse plate —10— forming the bottom of the ash-pit, and the bottom plate —11—. These plates together with the plates —5— and —7—, which extend down along the edges of said horizontal passage H, form an open passage way for the air through the stove at two places vertically and one horizontally, and all together constitute what is equivalent to a continuous internal heat radiating and air circulating medium which

absorbs heat both from the fire-pot directly and from the hot air flue that carries off the products of combustion.

Now, having a construction whereby the heat may be thus directly drawn from the fire-pot, I provide for eliminating the heat from the draft flue by passing the heat the greatest distance practicable from said pot to the exit flue K, and to this end take the heat over the front of the fire-pot into the down flue or dive —15—, and thence across beneath the hot air passage H to the rear of the stove between plates —7— and C', and thence out into the exit flue and chimney. In this travel the heat flowing into said flue from the fire-pot has a continuous radiation over the broad surfaces of the plates C, C' and E at the outside, and plates —5—, —7— and —11— on the inside, and this flue is of such large and simple space as compared with the usual exit pipe K that when the said pipe is reached there is practically no heat left to be carried off through the chimney. The economy of heat and consequently of coal, which this construction affords over the more direct draft stoves and which have no internal heat radiating and air circulating spaces obviously is very considerable and material.

Where a direct draft is desired, as in kindling the fire, or when the fire is low, the damper —13— is opened.

The magazine consists of upper section L and lower section L', and is removably supported as a whole by flange —17— about its top on a ledge provided for that purpose, whereby when occasion requires the magazine may be bodily removed, or it may be removed simply to detach the lower section L'. When hard coal is burned the magazine remains complete as shown, but when soft coal is burned, as may be very successfully with this stove, I remove section L'. Obviously, it is entirely practicable to burn wood in this stove by removing part or all of the magazine. This construction affords a triple heat

radiating surface, or three such surfaces at the front, bottom and rear of the stove. Thus, at the front we have the three surfaces C, —5— and —6—; at the bottom —10—, —11— and E, and at the rear —7—, —8— and C', and the heat from all these surfaces or plates goes into the room. It is needless to say that there will be very little heat left to pass out of the chimney.

This stove is especially constructed and adapted for burning soft coal. Hence, a large and continuous and unobstructed flue is required so as to maintain a sufficient and perfect draft, especially since the draft is a bottom draft, and the natural tendency of a stove with down draft and using soft coal is to become choked in the draft and smoke.

Having thus described my invention, what I claim is—

A heating stove, substantially rectangular in cross section and constructed to burn wood or coal, said stove having fire pot F extending centrally from side to side, a horizontal fresh air passage from side to side beneath said fire pot at the bottom of the stove and fresh air passages G and G' at the front and rear, respectively, of said fire box and extending through the stove from side to side and from the top of the fire box to the horizontal passage H, and a draft passage for the products of combustion extending from side to side of the stove and from over the front air passage G down to the bottom of the stove, and thence across beneath air passage H to the rear of the stove and thence up to the discharge flue, said draft passage being the full width of the stove at front, bottom and rear, substantially as set forth.

Witness my hand to the foregoing specification this 31st day of May, 1894.

ROBERT L. BLAIR.

Witnesses:

H. T. FISHER,
GEORGIA SCHAEFFER.