4 Sheets—Sheet 1.

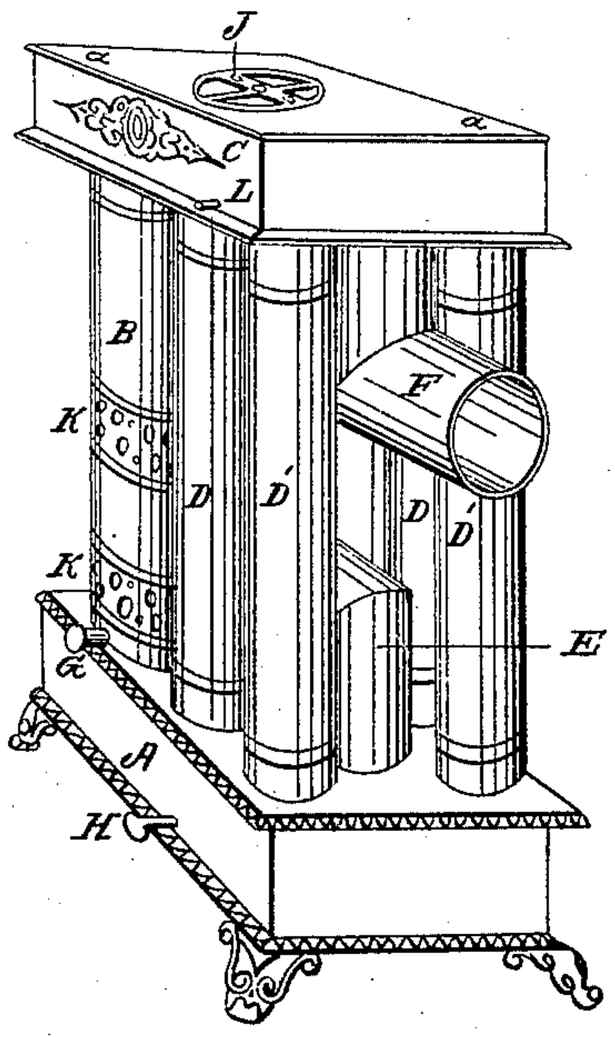
J. FEINOUR, Jr.

Parlor Stove.

No. 2,301.

Patented Oct. 11, 1841.

*Fig: 1.*



4 Sheets—Sheet 2.

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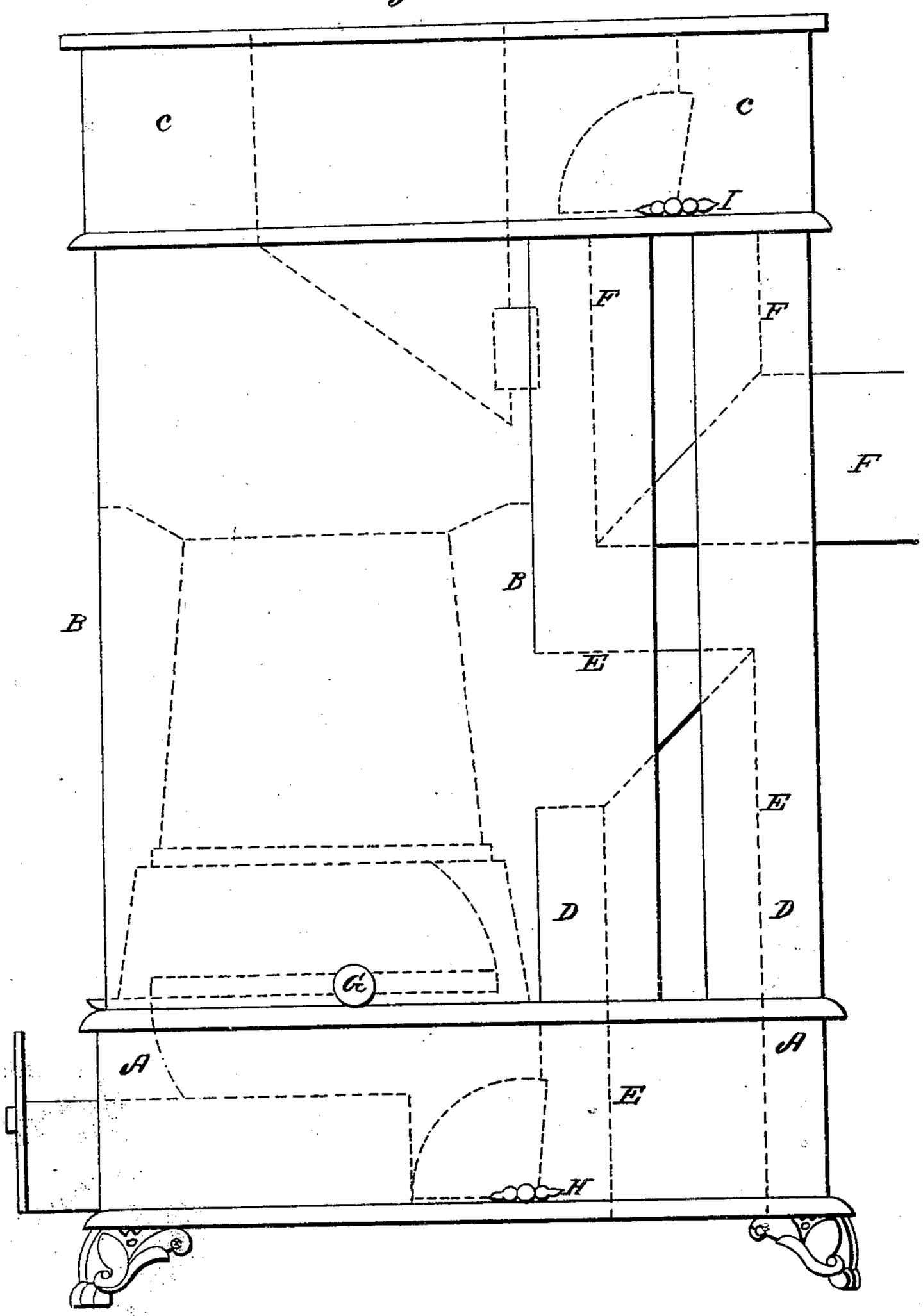
Patented Oct. 11, 1841.

*Fig: 2.*



4 Sheets—Sheet 3.

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*Fig: 4.*

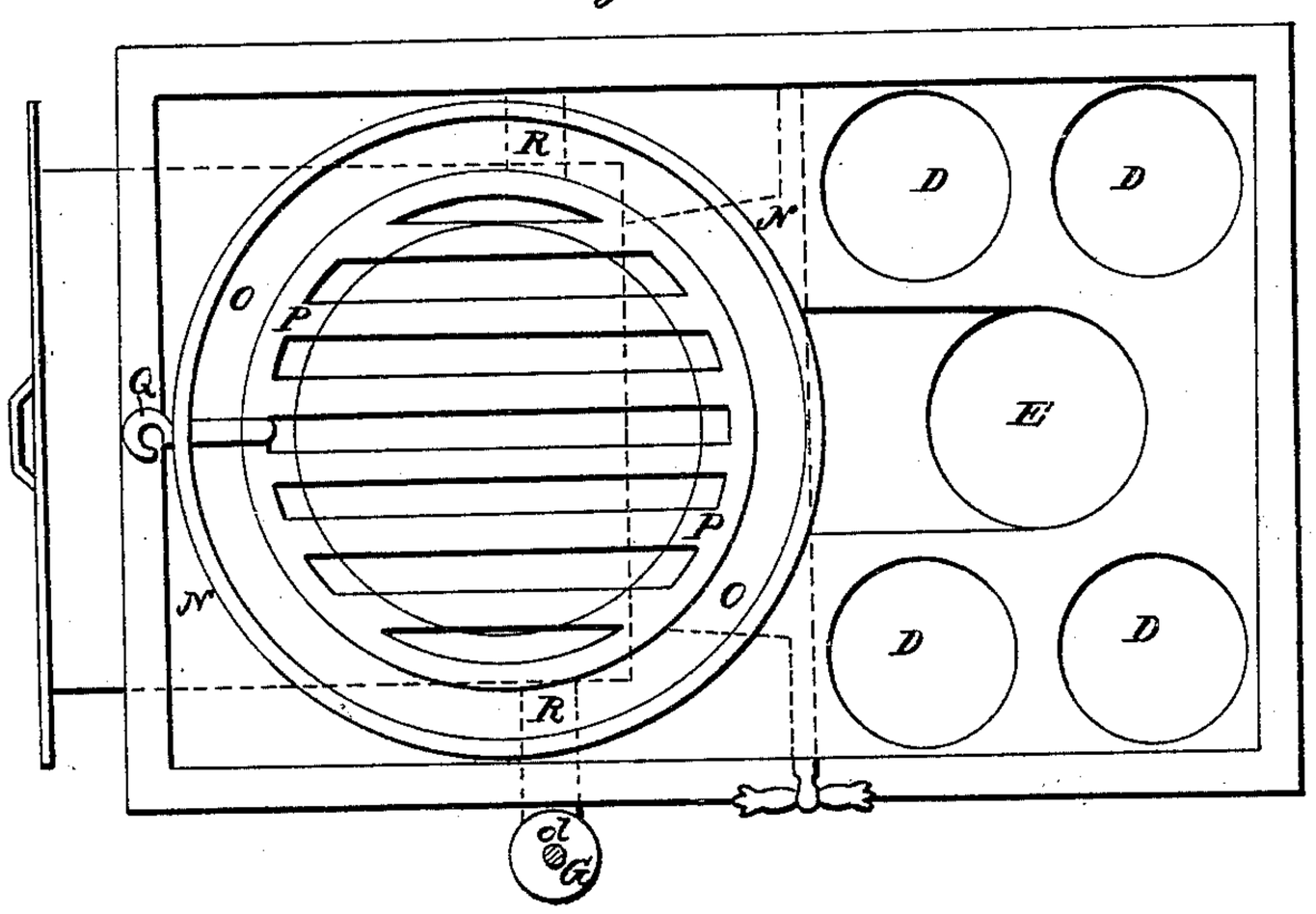
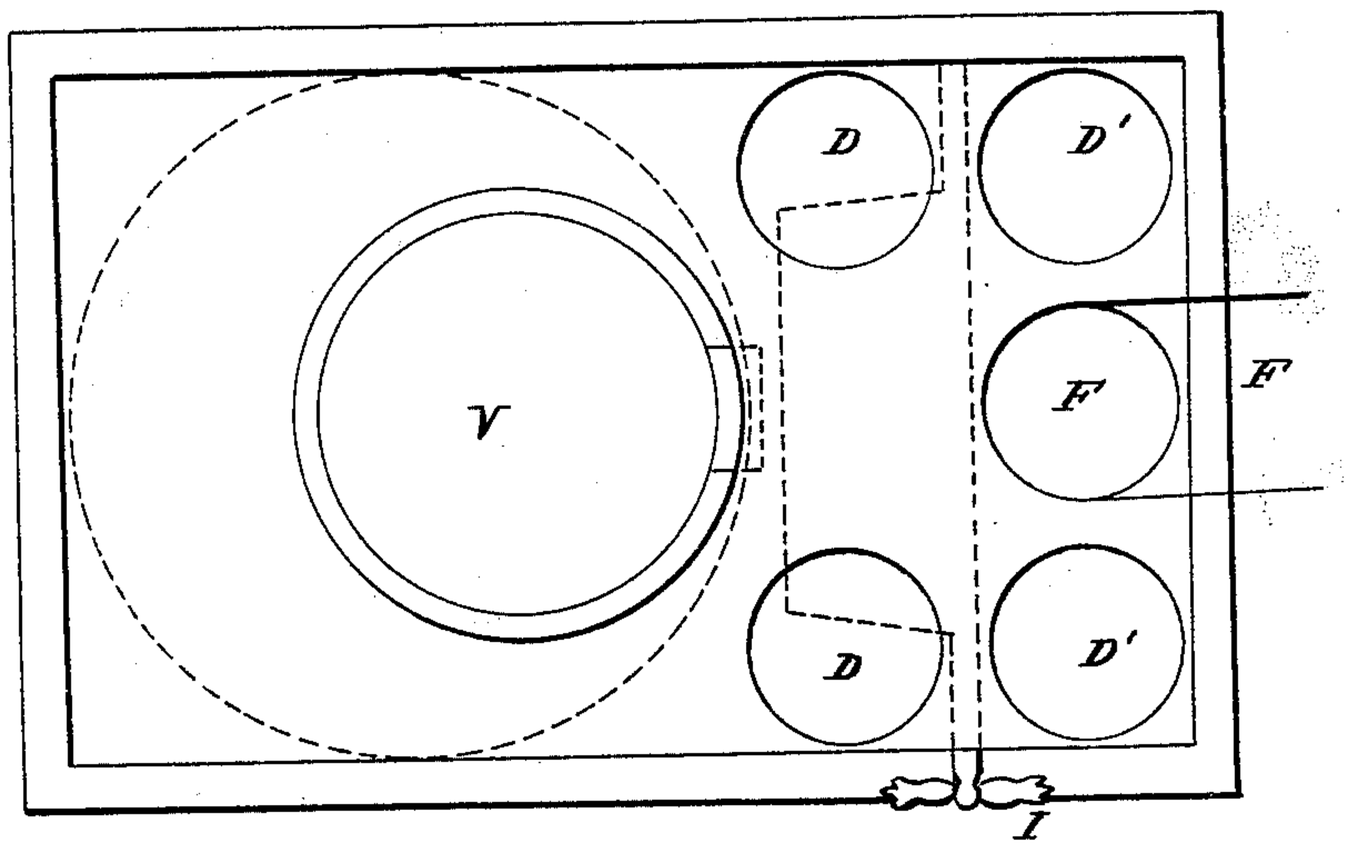



*Fig: 3.*



4 Sheets—Sheet 4.

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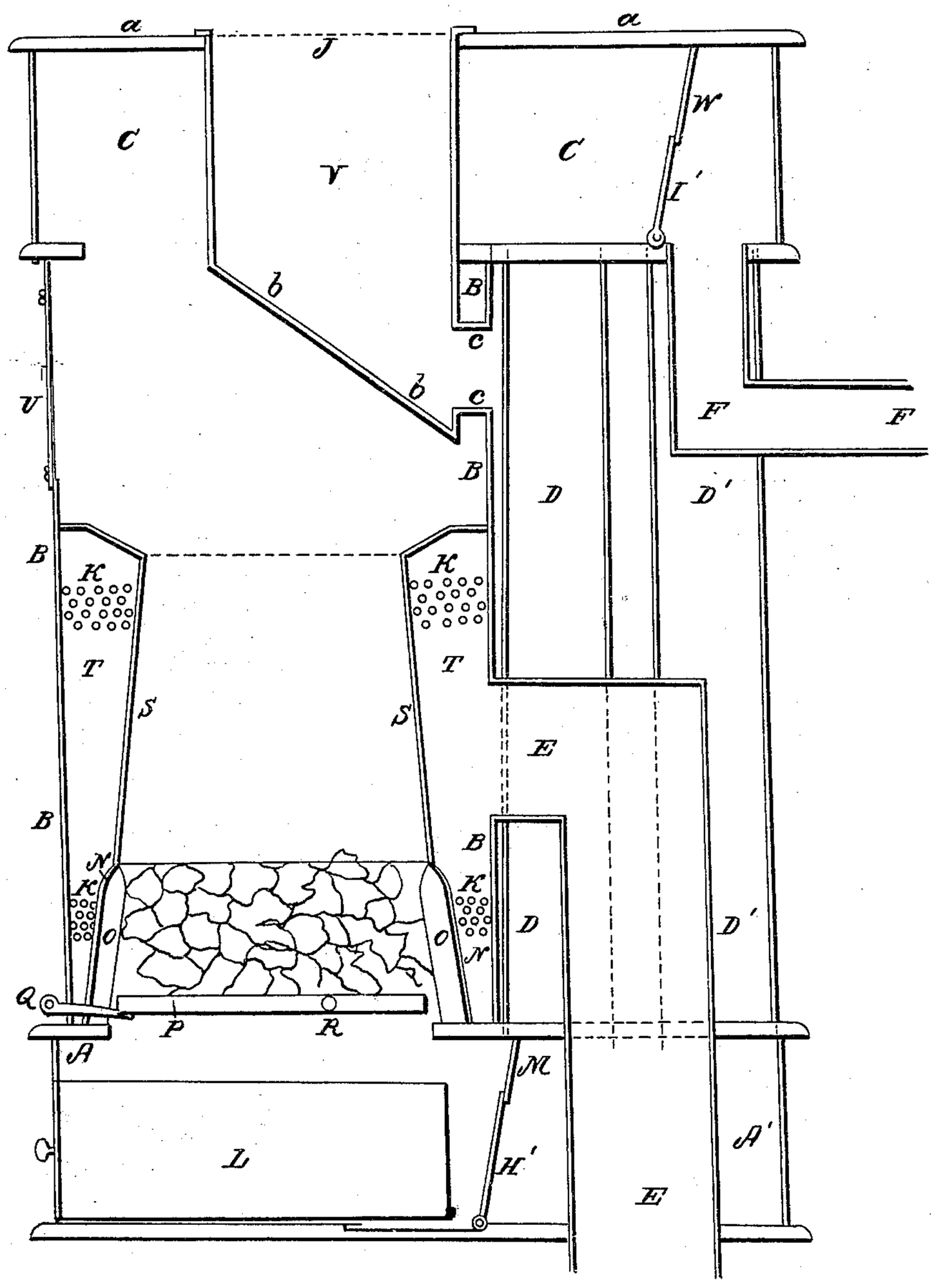
*Fig: 5.*



# UNITED STATES PATENT OFFICE.

JOSEPH FEINOUR, JR., OF PHILADELPHIA, PENNSYLVANIA.

## CONSTRUCTION OF PARLOR-STOVES.

Specification of Letters Patent No. 2,301, dated October 11, 1841.

*To all whom it may concern:*

Be it known that I, JOSEPH FEINOUR, JR., of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Parlor-Stove, which I denominate the "Washington Stove or Combined Radiator and Warm-Air Diffuser;" and I do hereby declare that the following is a full and exact description thereof.

Upon a quadrangular, or other suitably formed pedestal, I place a cylinder of sheet-iron, within which is contained the fire-place, or chamber of combustion. The lower part of this chamber of combustion, which is to contain the fuel, is a low cylinder of cast-iron, that is lined with fire clay, and may be from nine to ten inches, more or less, in diameter in the clear, and five or six inches in height. The pedestal upon which the outer cylinder and chamber of combustion stand, contains the ash-pit drawer, and extends back so as to receive, in its rear part, four tubes, or columns, through which the draft from the fire may be directed, and the upper ends of which enter a heated air chamber, or case, similar in dimensions to the pedestal, and the use of which will presently appear. The chamber which contains the fire is surmounted by a cast-iron cylinder, or rather by a conical body, which, with the fire-chamber, is surrounded by the sheet-iron cylinder, which cylinder forms the exterior of the stove. The fire rests upon a grate, which turns upon pivots, and is sustained in front by a rod, or pin, the removal of which will allow the grate to tilt, and the fuel to fall into the ash drawer; but the grate is so constructed as that it may be shaken by a motion up and down, at any time.

The outer cylinder of sheet-iron is of such diameter as to allow a space of about an inch and a half, for the passage of heated air, between it and the inner cylinder, or cone. Air is admitted into this space through a pipe constructed for the purpose, which passes vertically through the pedestal behind the cylinder, and has an elbow by which it is made to enter the outer cylinder, and open into the above named space. The lower end of this pipe may open under the pedestal so as to receive its supply of air from the room, near the floor, or a pipe may be continued from it, to obtain its air from without the apartment. This pipe opens into the sheet-iron cylinder near its middle, and furnishes a supply of cool air which impinges against the cast iron cylinder, or cone, above the fire, and there becomes heated, while it prevents the said cylinder, or conical body, from becoming so hot as to deteriorate the air, and, consequently, preserves it from injury by the fire. The air so heated escapes into the room through perforations in the sheet-iron cylinder, made for that purpose. The feeding door for supplying fuel opens through an upper section of the sheet-iron cylinder, in the ordinary way.

Immediately above the fire cylinder, and contained principally within the heated air chamber, is a cylindrical air heater, closed at its lower end, which is exposed to the direct heat of the fire, excepting that there is an opening into its lower parts, by means of a pipe from the exterior of the sheet-iron cylinder, which opening admits air from the room, that will become heated, and will escape into the apartment through a grated cover placed above said air heating cylinder.

The pedestal, behind the ash drawer, forms a draft space for heated air, which may be made to descend two of the columns leading from the upper heated air chamber, and to ascend the other two, on its way to the exit, or smoke pipe, which leads from the heated air chamber into a fire place. By means of a valve, or damper, in the upper heated air chamber, a direct passage may be allowed from the fire, to the exit pipe. There is also a valve in the pedestal, behind the ash drawer, which forms a part of a partition dividing the pedestal into two chambers, and which when it is desired to lessen the force of the fire may be opened for that purpose, while the upper door of the stove may remain closed. The air that enters at the opening of the ashpit drawer will then pass directly back to the columns behind the stove, instead of through the fuel, preventing its free combustion, and the escape of gas into the room, which is apt to occur when the upper door is opened.

In the accompanying drawing, Figure 1, is a perspective view of my parlor stove. A, is the bottom, or pedestal. B, the sheet-iron cylinder. C, is the upper box, or heated air chamber. D, D, D′, D′, are pipes, or columns, leading from A to C. E, is a pipe through which cool air is to be conducted into the space between the fire chamber and the outer cylinder B. F, is

the exit, or stove pipe. G, the grate shaker. H, the handle of a valve H′, in the pedestal; I, the handle of a valve I′, in the heated air chamber C; J, the grated, or fretwork, cover of the cylindrical air heater, and K, K, the holes in the cylinder B, for the escape of heated air. Fig. 2, is a side elevation of the stove; the dotted lines representing parts within, or hidden by the parts which are directly seen, the latter being shown in continuous lines, as is more clearly shown in the sectional view, Fig. 5. Fig. 3, is a top view of the stove, supposing the upper plate of the heated air chamber to be removed. Fig. 4, is a horizontal section through the middle of the fire chamber. Fig. 5, is a vertical section from front to back, through the center of the stove.

The same letters are used to designate the same parts in each of these figures.

L, is the ash drawer, behind which, in the pedestal, is a partition M, (Fig. 5) which, when the valve H′, is closed, divides the ash pit from the chamber A′, in the pedestal, and when said valve is open allows the draft to pass through without entering the fire, for the purpose above expressed.

N, is the cast-iron case, or cylinder, of the fire chamber, which is lined with fire clay at O, O. The fuel rests upon the grate P, P, which is supported on pivots in the line R, and will fall when the pin, or bolt, Q, is withdrawn. This grate may be agitated by passing a pin into the opening *a′*, Fig. 4, and vibrating it vertically, without removing the pin Q.

S, S, is a cylindrical chamber of cast-iron, resting upon N, and which is highly heated by the fire.

T, T, is the air space between S, S, and the outer cylinder B, into which air is admitted through the cool air pipe E, E, and from which when heated it escapes through the holes K, K. There is a feeding door at U, for supplying fuel.

V, is a cast-iron cylindrical air heater which passes through an opening in the top plate *a*, *a*, of the heated chamber, and has its oblique bottom, *b*, *b*, exposed to the direct heat of the fire; into this air heater there is an opening *c*, *c*, admitting the external air freely, which will become highly heated in the cylinder V, and will escape through a grated opening at J. A partition W, extends across the heated air chamber C, C, between the pipes, or columns, D, and D′, a part of which partition consists of the valve, or damper, I′; and when this is open, there is a direct passage for the draught to the exit pipe F, leading into a fire plate, or flue; when the damper is closed, the draft is down the pipes D, D, and up the pipes D′, D′, as in some other stoves.

Having thus fully described the manner in which I construct my combined radiator, and warm-air diffuser, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The arranging of the damper H′ between the ash pit and the heated air chamber A′, of the pedestal, for the purpose described.

2. I claim the manner in which I have arranged and combined the fire chamber N, the cast-iron cylinder, or cone, S, the sheet-iron cylinder B, furnished with openings K, K, and the cool-air pipe E, leading into the space T, in the manner and for the purpose above made known.

3. I claim the manner of arranging the air heating cylinder V, above the fire chamber and passing through the heated air chamber C, C, having also an opening into it at *c*, *c*, for the admission of air into it, and being furnished with a grated cover at J, for its escape, after being heated in passing through the cylinder V.

JOSEPH FEINOUR, Jr.

Witnesses:
Thos. P. Jones,
M. E. Jones.