2 Sheets--Sheet 1.

J. H. ROBINSON.

Heating-Stove.

No. 159,968. Patented Feb. 16, 1875.

Fig. 1.

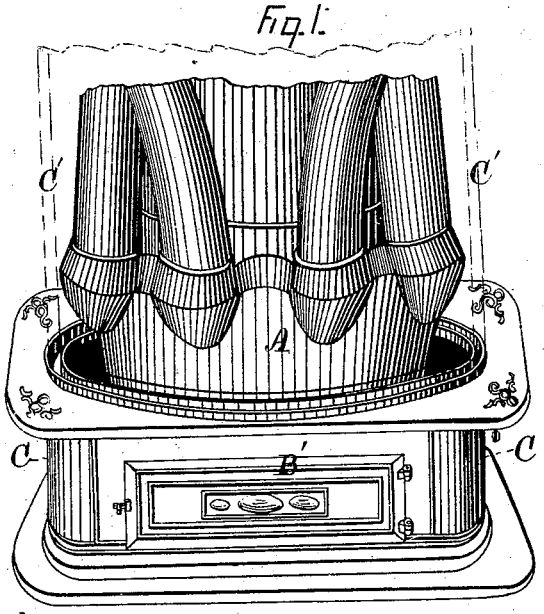
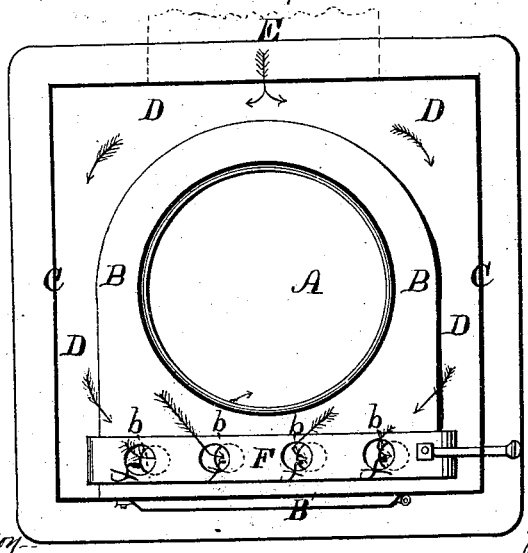


Fig. 2.



WITNESSES:

Jas. E. Hutchinson

John R. Young

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Prindle and Lay his Attys

2 Sheets--Sheet 2.

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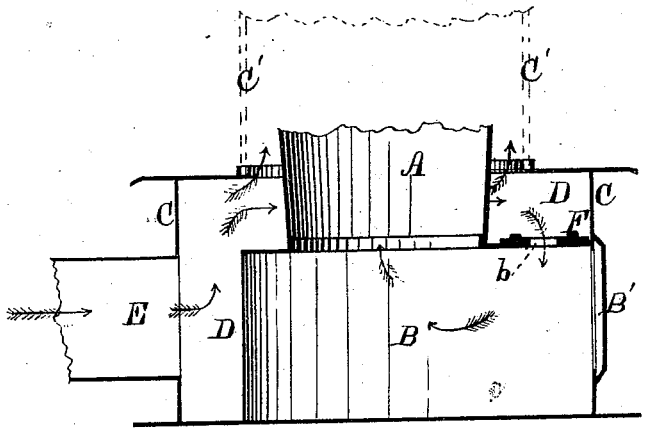
No. 159,968. Patented Feb. 16, 1875.

Fig. 3.



WITNESSES=

Jas. E. Hutchinson

John R. Young

INVENTOR.

James H. Robinson, by

Prindle and Co. his Attys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES H. ROBINSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **159,968**, dated February 16, 1875; application filed October 31, 1874.

To all whom it may concern:

Be it known that I, JAMES H. ROBINSON, of Washington, in the county of Washington and in the District of Columbia, have invented certain new and useful Improvements in Furnaces and Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a perspective view of the lower portion of a furnace containing my improvement. Fig. 2 is a horizontal section of the same upon a line passing immediately below the top plate of the base, and Fig. 3 is a vertical central section upon a line extending from front to rear.

Letters of like name and kind refer to like parts in each of the figures.

In the use of heating apparatus by which heat is transmitted to the interior of a building by currents of air which are first caused to pass through said apparatus and become heated, and then, by rarefication, to ascend to said apartments, much difficulty is often experienced in overcoming the inertia of the air and establishing such current.

To remove this objection, and to increase the strength of the air-current, is the design of my invention, which consists in uniting the air required for heating purposes and for the combustion of fuel, and causing the same to enter the heater-casing at one point, substantially as and for the purpose hereinafter specified.

My invention is equally applicable to any form of heater, but it is only necessary to show its employment in connection with one form in order to fully illustrate its operation.

In the annexed drawings, A represents the fire-pot section of a heater, which rests upon, and is supported by, an ash-pit, B, that, at its front side, is provided with an opening, *b*, which is inclosed by an air-tight door, B′. The ash-pit B is surrounded, except at its front side, by a cast-metal casing, C, between which and said ash-pit is formed an air-space, D, while above said casing C is placed a sheet-metal casing, C′, (shown by dotted lines,) for inclosing the upper portion of the heater and continuing said air-space upward, all in the usual manner. Air for heating purposes is supplied to the space D through a lateral duct, E, which enters the same from the rear or other suitable point, while air for combustion is taken from said air-space and enters the ash-pit B through a series of openings, *f*, *f*, and *f*, which are formed, preferably, in and through the upper side of the forward extended portion of said pit, and are closed, when desired, by means of a damper, F.

As thus arranged, it will be seen that when the furnace is in operation the withdrawal from the air-space D of the air needed for the purposes of combustion will set in motion a current through the duct E, which current, once started, will be easily and quickly increased by the upward flow of heated air within the casing until as much will pass through said duct as can escape through the registers within the building and can enter the ash-pit.

The arrangement shown not only enables the flow of air through the heater to be started, but also causes said flow to be more constantly maintained during periods when but little difference exists between the temperature within and outside of a building, at which periods the movement of air is ordinarily sluggish.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

In a heating-furnace having air-chamber D, surrounding the fire-pot and furnace proper, the combination of the air-tight door, B′, a single cold-air duct, E, and a perforated ash-pit, B, with damper F, all substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of October, 1874.

JAMES H. ROBINSON.

Witnesses:
JOHN R. YOUNG,
WILLIAM FITCH.