

No. 665,440.

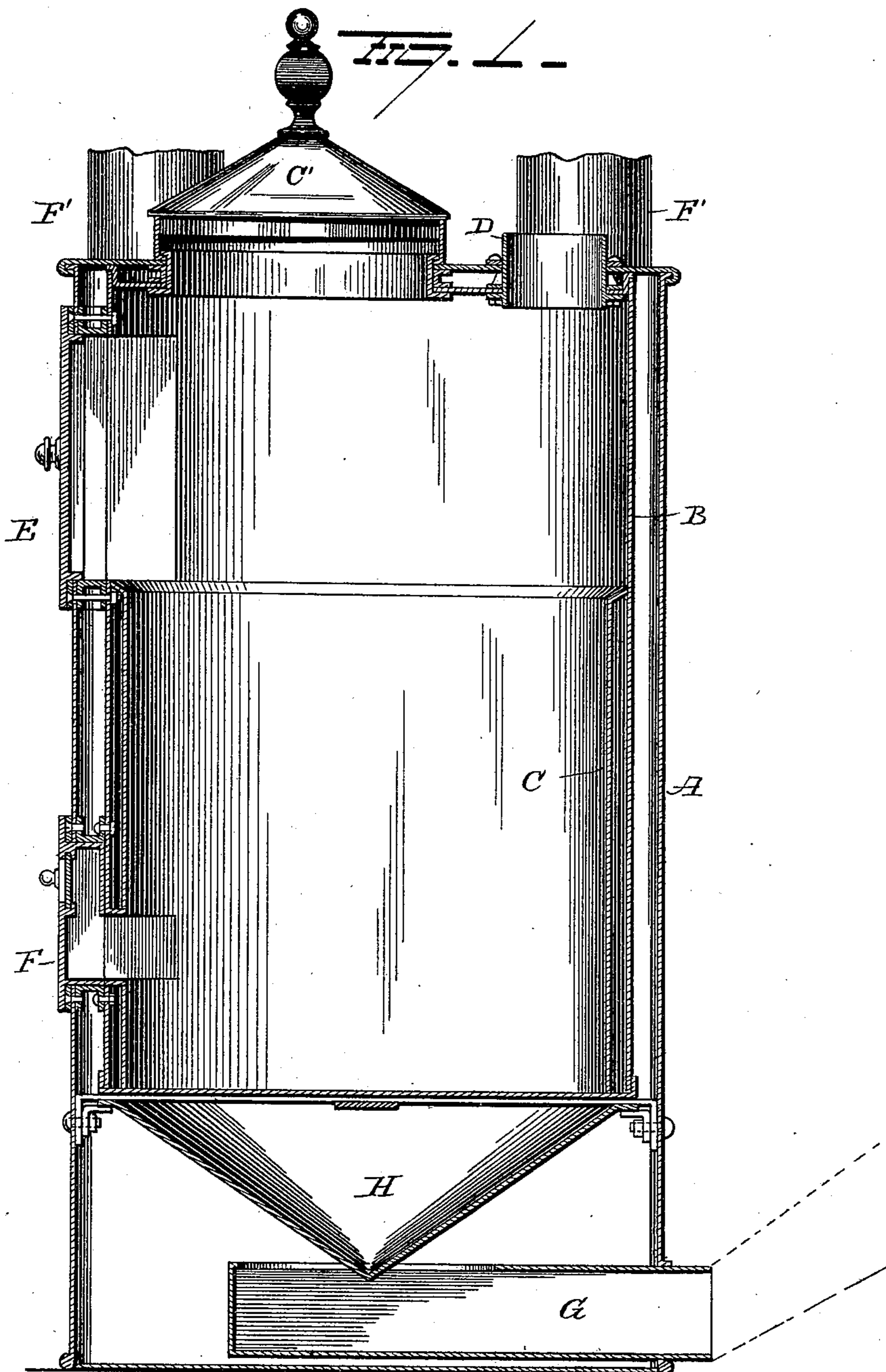
Patented Jan. 8, 1901.

E. H. HUENEFELD.  
WOOD BURNING FURNACE.

(Application filed Mar. 5, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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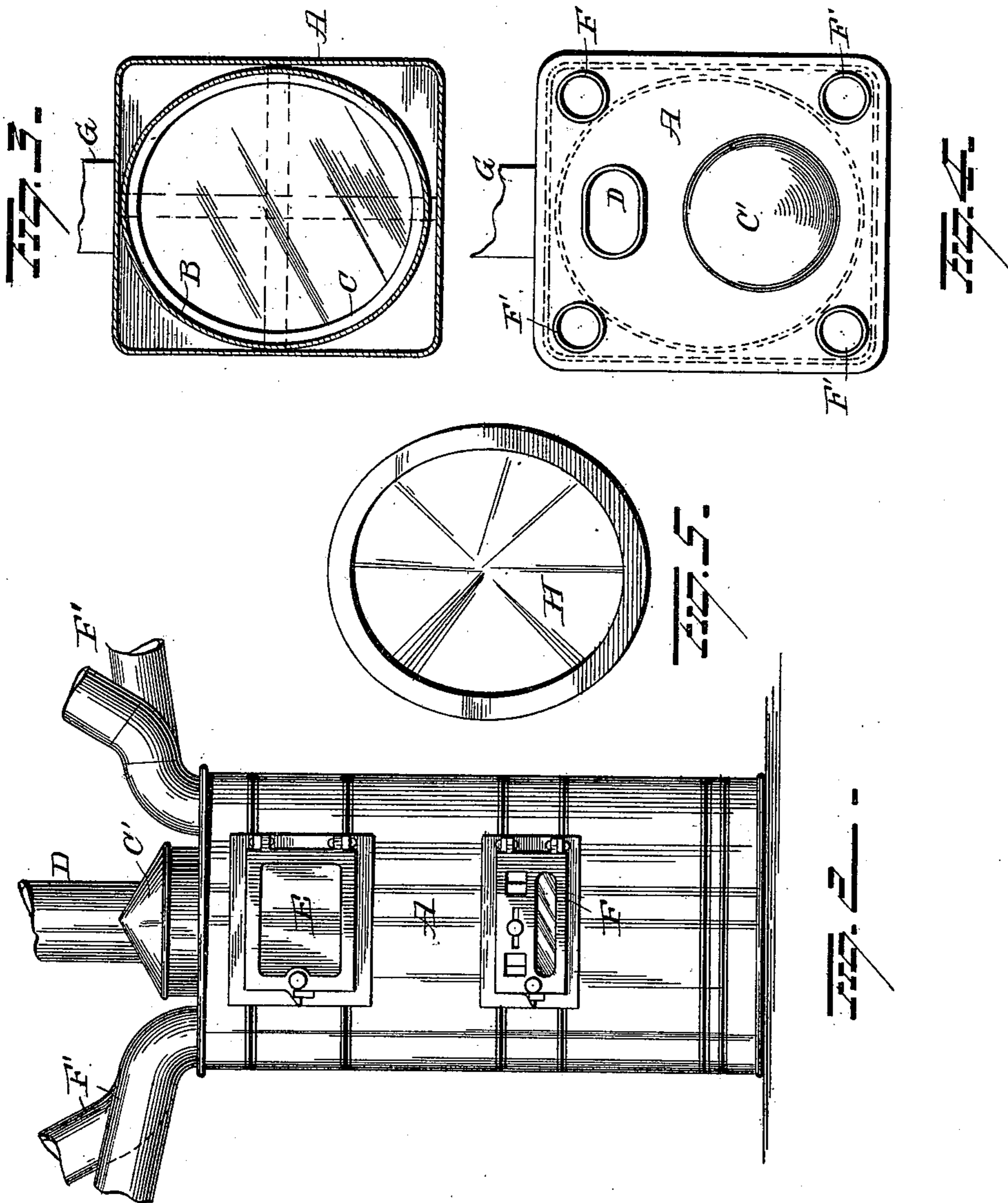
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# UNITED STATES PATENT OFFICE.

ERNST H. HUENEFELD, OF CINCINNATI, OHIO.

## WOOD-BURNING FURNACE.

SPECIFICATION forming part of Letters Patent No. 665,440, dated January 8, 1901.

Application filed March 5, 1898. Serial No. 672,679. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST H. HUENEFELD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and  
5 useful Improvements in Wood-Burning Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and  
10 use the same.

My invention relates to an improvement in wood-burning furnaces; and it is an improvement on and embodies the main features of the construction disclosed in the application  
15 of William H. James, filed July 20, 1897, Serial No. 645,254, for an improvement in wood-burning stoves.

The James stove is designed for heating a single room or hall, whereas the improvement  
20 here involved is designed for heating a house or building or a series of rooms therein like the ordinary coal-furnace.

My invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claim.  
25

In the accompanying drawings, Figure 1 is a view in section of a furnace embodying my invention. Fig. 2 is a view in elevation of the same. Fig. 3 is a view in transverse section.  
30 Fig. 4 is a view in plan; and Fig. 5 is a bottom plan, the bottom plate being removed.

A represents an outer jacket open or closed at its lower end and rectangular longitudinally and square transversely. The lower  
35 end of this jacket rests on a floor or foundation, and when resting on woodwork I prefer to have the lower end closed either by a permanent bottom or by a plate as a precautionary measure against overheating the parts.  
40 This jacket A carries the cylindrical fire-pot B, which latter is preferably sheet metal and is provided with a lining C, which latter may be removable and is designed to protect the fire-pot proper against injury due to the careless feeding of heavy logs to the fire.  
45

The fire-pot is closed at its bottom and top, and its top may rest up in contact with the inner face of the top of the jacket, or it may be removed from the top of the jacket, thus  
50 leaving an air-space between the two parts; but in either case the top of the jacket and fire-pot are each provided with an opening

connected by a suitable collar if the parts are separated for the air-space above referred to for the introduction of fuel, which opening  
55 is closed by the cover C', and with a smaller opening for the passage of smoke and products of combustion to the smoke-pipe D. The fire-pot and jacket are suitably braced at proper points to brace and maintain the parts  
60 in their relative positions, and they are also provided with a fuel-door E, if desired, in the front face of the stove and with a door F below the fuel-door E, through which the ashes may be removed, and which carries a dam-  
65 per for regulating the draft.

Instead of providing the front of the stove with two doors—one for the introduction of fuel and a lower smaller door for the removal of ashes and for the draft—I can dispense  
70 with one door and feed all the fuel through the top of the stove, as previously explained, and provide a single door for the removal of ashes, or I can make this single door sufficiently large for the introduction of fuel as  
75 well as for the removal of ashes. The openings through the jacket and fire-pot are surrounded by suitable collars within the space between the jacket and fire-pot, so as to exclude or prevent the hot air arising between  
80 the jacket and fire-pot from entering the fire-pot.

As the jacket is angular transversely and the fire-pot curved with its greatest diameter somewhat less than the smaller diameter of  
85 the jacket, four comparatively large air-spaces are formed at the four corners of the jacket with restricted spaces intermediate the four corners.

In the James stove above referred to the  
90 top of the stove is perforated at the four corners in or adjacent to the top and the heated air as it rises passes out through these perforations into the room.

In the present device I connect hot-air pipes  
95 F' to the top of the jacket and run these hot-air pipes to the several rooms or to several parts of the same room. I can attach these pipes (one at each corner of the furnace) directly to the top of the furnace, or, if desired,  
100 I can provide the top of the furnace with a continuous hot-air belt and connect a hot-air pipe or any number of pipes directly to this hot-air belt.

Leading into the jacket is the cold-air pipe G. This pipe preferably leads from a point outside the house to the furnace and discharges the air directly under the fire-pot.

5 In order to prevent a reversal of the direction of current of air, I discharge the cold air onto the inverted cone H. This cone rests against the under side of the fire-pot, and hence forms an air-space between the cone  
10 and the fire-pot, thus causing the air to be discharged at a point somewhat removed from the highly-heated surfaces, and as it rises it becomes gradually heated and follows the upward current produced by the rising of the  
15 heated air between the fire-pot and jacket.

In practice it has been found that where the cold-air pipe discharges into the space between the jacket and fire-pot in starting the fire the heated air is under some conditions  
20 liable to pass out through the cold-air pipe, and this tendency can be overcome by discharging the air at a point somewhat removed from the fire-pot which heats up very rapidly and under a cone which distributes  
25 the air evenly around the fire-pot.

A furnace of this character is comparatively inexpensive, as it is made principally of sheet metal, and it can, besides heating the room it is in, also be utilized for heating several other rooms or an entire house.  
30

It is evident that many slight changes

might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to restrict myself

35 to the exact construction herein shown; but, Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

40 In a wood-burning furnace, the combination of an outer jacket, an inner fire-pot closed at its bottom and located within the jacket, the fire-pot and jacket being so shaped and placed relatively to each other as to form  
45 a series of enlarged flues within the space between the fire-pot and jacket, and hot-air flues leading from the upper ends of said enlarged flues, the base of the jacket below the closed end of the fire-pot having a cold-air  
50 ingress discharging under the closed bottom of the fire-pot, of an inverted cone located under the closed bottom of the fire-pot for deflecting the cold air to the several enlarged flues, substantially as set forth.

55 In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ERNST H. HUENEFELD.

Witnesses:

M. COUGHLIN,  
P. S. PHILLIPS.