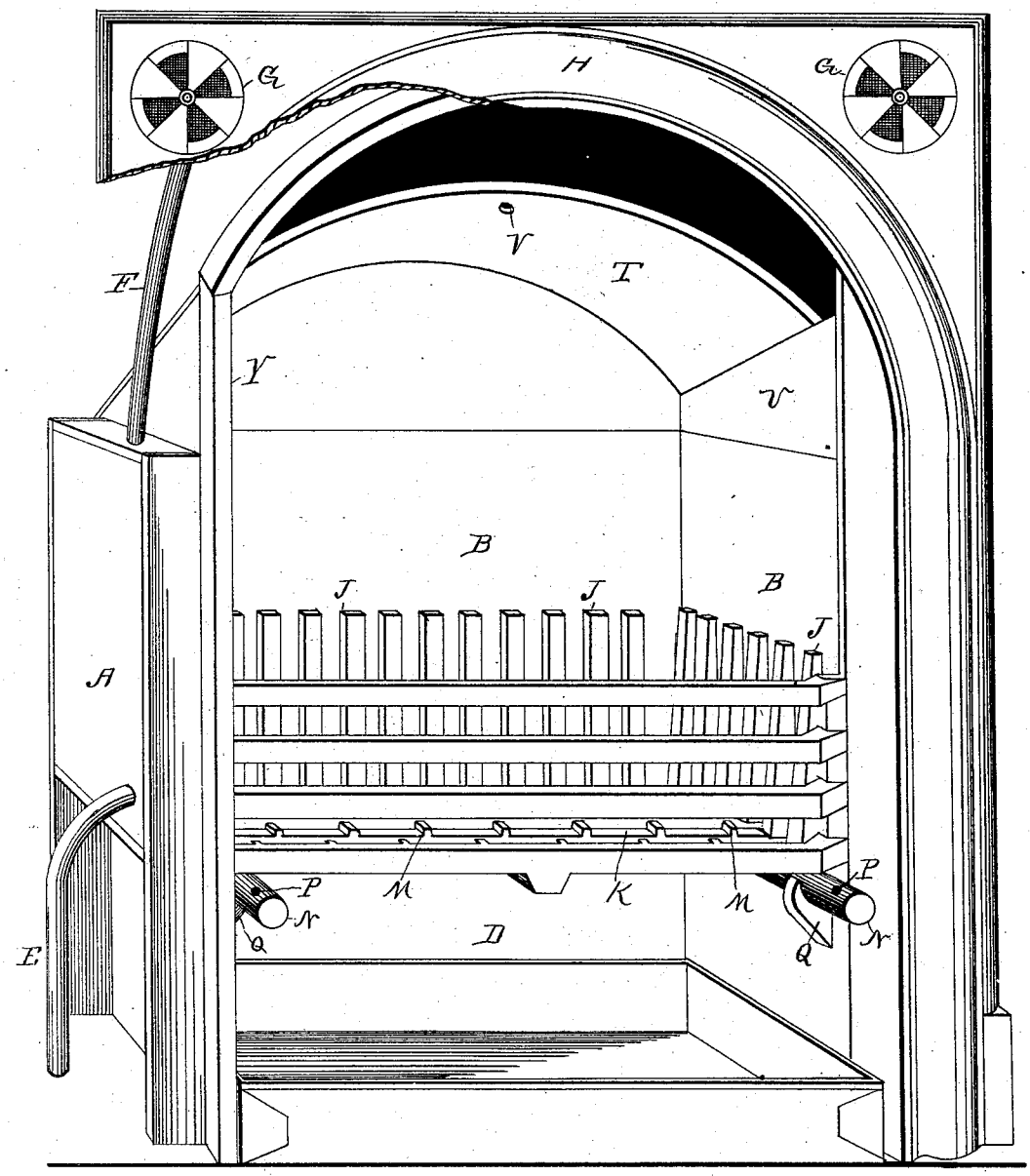
(No Model.) 3 Sheets—Sheet 1.

J. D. RICHARDS.

FIRE PLACE STOVE.

No. 302,030. Patented July 15, 1884.

Fig. 1.



WITNESSES:

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A. G. Lyne.

INVENTOR:

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(No Model.) 3 Sheets—Sheet 2.

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FIRE PLACE STOVE.

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fig. 2.

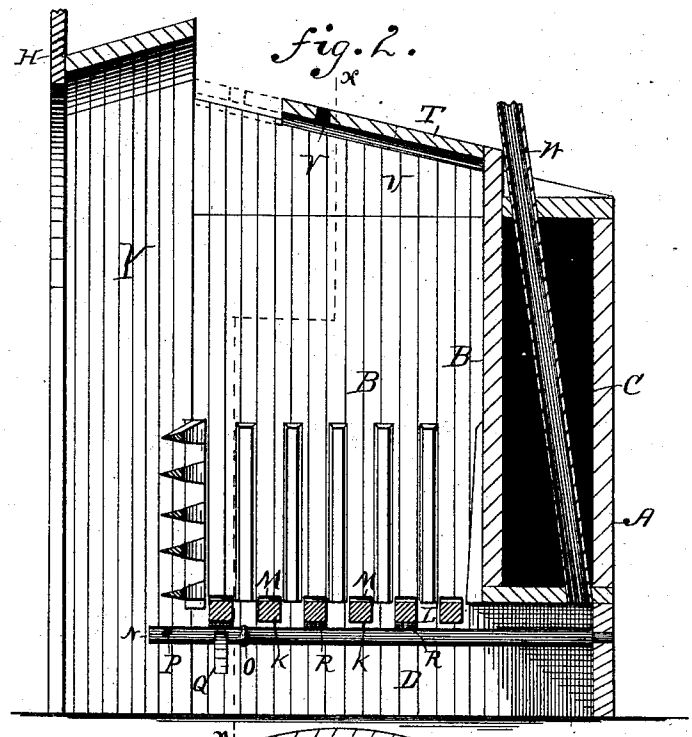
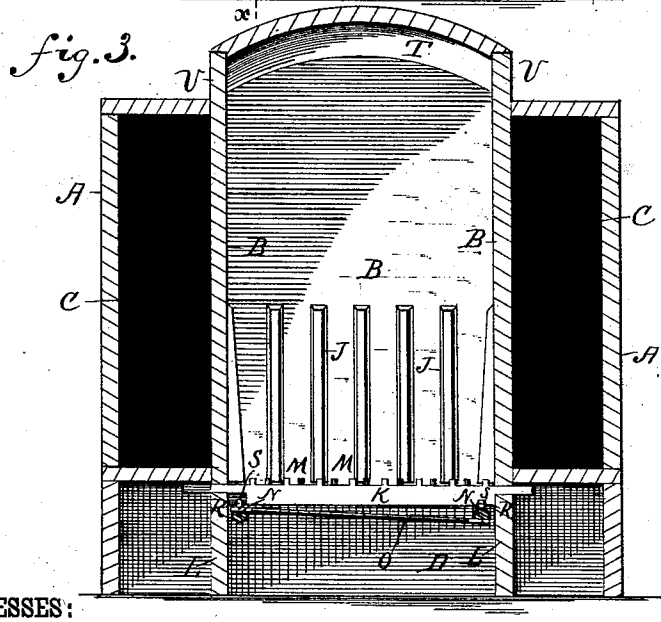


fig. 3.



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3 Sheets—Sheet 3.

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fig. 4.

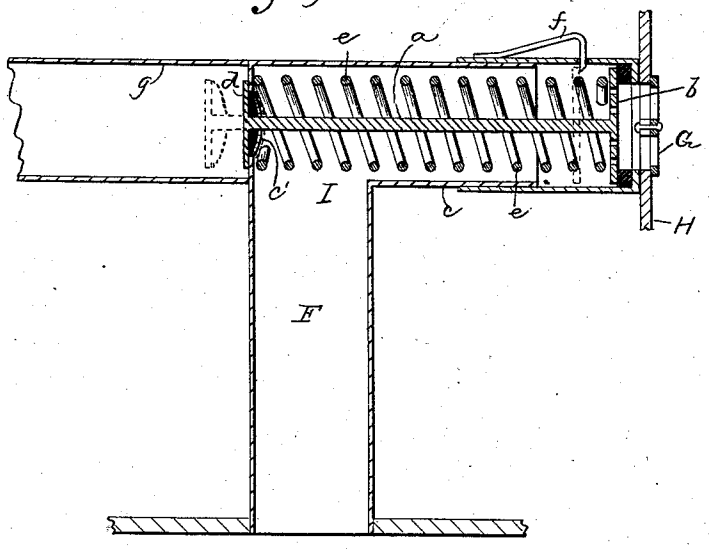
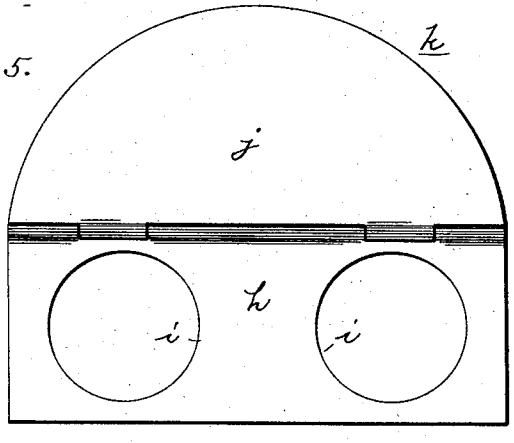


fig. 5.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JAMES D. RICHARDS, OF PATRIOT, INDIANA.

FIRE-PLACE STOVE.

SPECIFICATION forming part of Letters Patent No. 302,030, dated July 15, 1884.

Application filed August 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. RICHARDS, of Patriot, in the county of Switzerland and State of Indiana, have invented a new and useful Improvement in Fire-Place Stoves, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to fire-place stoves for heating rooms; and the invention consists of the construction hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my improved stove, partly broken away. Fig. 2 is a section cutting the front and back, and Fig. 3 is a section cutting the sides of the stove on line *x x* of Fig. 2. Fig. 4 is a detail sectional view, and Fig. 5 is a plan view of an attachment for supporting pots and kettles.

The stove, which is to be made in sections, according to the convenience of the manufacturer and builder, is formed with double walls A B, providing a closed hot-air chamber, C, which extends around the sides and back of the stove above the level of the ash-pit D. A pipe, E, leading to this chamber from under the floor or from the room, is to supply cold air to be heated in the said chamber, while pipes F, leading from this chamber to the registers G in the mantel-front, H, are to supply hot air to the room which is to be heated. The pipes F are to be provided with valves I, as shown in Fig. 4, which are to be so arranged that they may be operated from within the room to allow the hot air to escape up the chimney when the heat becomes too great.

The valve I consists of a rod, *a*, having a perforated disk, *b*, secured to one end thereof, and arranged within the branch *c* of the pipe F, and having its other end projecting through an opening, *c'*, in the pipe, and an imperforate disk, *d*, secured to said end outside the pipe. A spiral spring, *e*, is arranged around the rod *a*, and bears against the pipe F and the disk *b*, to hold the disk *d* in position for closing the opening *c'*. The disk *b*, being perforated, allows the hot air to pass from the pipe F through the register G in the mantel H. By inserting a poker through the register and pressing against the disk *b*, the rod *a* and disk *d* will be moved backward, opening the passage *c'*. A beveled spring-catch, *f*, is adapted to engage the edge of the disk *b* when thus moved back, and to hold it in said position. When the valve is thus opened, the register is to be closed, and the hot air will then pass out at the opening *c'* into the branch pipe *g*, which may lead to the chimney or to another room, if desired.

The inner walls, B, of the stove are to be made of tiles joined together, and are to be set in a perpendicular position, to prevent the ashes from choking the grate. The inner surfaces of these tiles are provided with vertical ribs J, to prevent the fuel from packing close to the walls and obstructing the draft. The bottom or grate is formed of independent removable bars K, which are adapted to have a slight longitudinal movement in supports L underneath the lower edges of the tiles. The bars have lugs M on their upper surfaces, which serve to agitate the coals when the bars are reciprocated, and the bars are alternately connected to two rock-shafts, N, located in opposite sides of the ash-pit, and connected together by a cross-bar, O, in such manner that when one of the rock-shafts is turned in one direction by means of a poker inserted into a hole, P, the other rock-shaft will be turned in the opposite direction. In this manner alternate bars K will be reciprocated in opposite directions by the proper rocking of either of the shafts N. The shafts are supported in holes in the rear wall of the stove and on brackets Q at the front, and they engage with the bars K by means of lugs R, fitted in recesses S in the bars. The cross-bar O is pivoted to the upper part of the surface of one rock-shaft and the lower part of the other, to communicate a movement in the opposite direction from one to the other, as above stated.

The grate above described forms the subject-matter of a separate application for patent by me, No. 114,383, filed December 11, 1883, and is not claimed here.

The roof of the stove is formed of a curved plate, T, which is loosely supported on walls U, which incline downward from the front to the rear. The plate T is thus adapted to slide

forward and backward on said inclined supports. By proper adjustment the draft may be made to pass up in front of the plate or behind it, and when the plate is adjusted backward it serves as a reflector to throw the heat forward into the room. When the plate is adjusted forward, the smoke will pass off at the rear of the same, so that the stove may be utilized for cooking purposes by means of a plate, *h*, having holes *i* for pots and kettles, which may be supported on the upper ends of the ribs J at the sides of the stove. The plate *h* is formed with a hinged section, *j*, having a curved edge, *k*, which is adapted to rest against the under surface of the plate T to shut off smoke from the front. The plate T is provided with a hole or recess, V, in its under surface, to receive the end of a poker, by which it is to be adjusted.

To prevent ashes from the ash-pit from being carried up in front of the grate, and thus escaping into the room, I provide a flue, W, leading up from the rear of the ash-pit through the rear part of chamber C into the chimney.

Y is a continuous jamb-plate arranged in front of the stove, to prevent heat from passing up behind a mantel and injuring the enamel or other finish on the same.

Some of the advantages of this stove are the following: It is adapted to control and economize hot air, thus saving fuel. By means of the cold-air pipe, damp air or malaria rising underneath the house may be carried through the hot-air chamber and purified, thus ventilating the foundation, or basement, or cellar of the house, and preventing such foul air from entering the rooms.

What I claim is—

1. The combination of the hot-air chamber C, the pipe F, having openings *c'*, and leading from said chamber to register G, and the valve I, arranged in said pipe, and having rod *a*, provided with disk *d*, for closing said opening, perforated disk *b*, spring *e*, and catch *f*, substantially as shown and described.

2. The combination, with the pipe F, having opening *c'*, and register G, of the valve I, having rod *a* and spring *e*, arranged within said pipe, the disk *d*, secured to one end of said rod for closing the opening *c'*, the perforated disk *b*, secured to the opposite end of said rod as a means for operating the valve, and the catch *f*, for holding the valve open, substantially as shown and described.

3. The combination of the inner walls, B, having ribs J, and the movable roof-plate T, supported on the said walls at the top, whereby a plate, *h*, may be supported on said ribs and against said roof-plate to form a rack for pots and kettles, substantially as shown and described.

JAMES D. RICHARDS.

Witnesses:
BENJAMIN E. ADDIS,
JOHN W. SHIREY.