

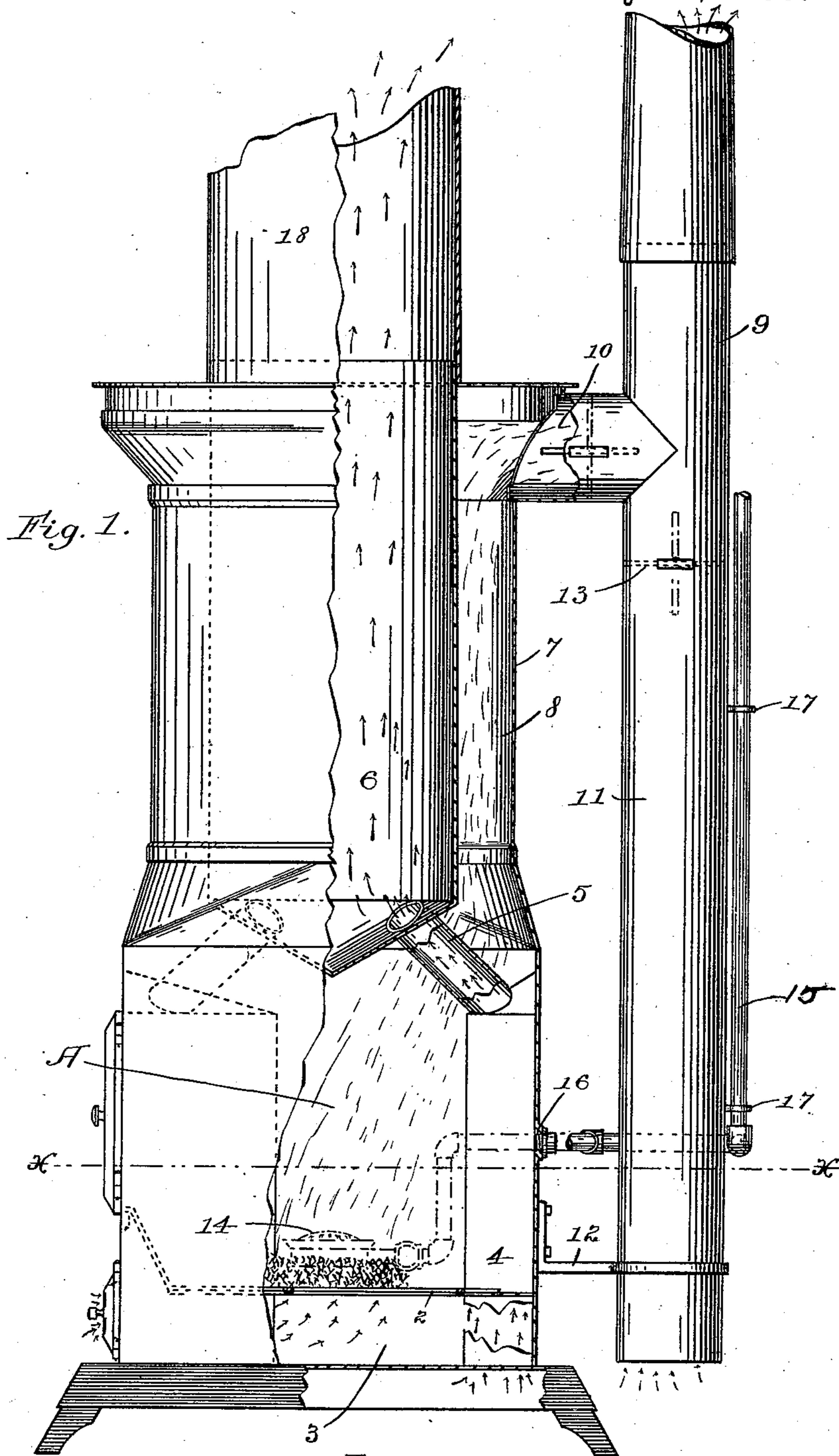
(No Model.)

2 Sheets—Sheet 1.

J. FLEMING.  
DOUBLE DRUM HEATING STOVE.

No. 564,189.

Patented July 21, 1896.



Witnesses:

V. D. Bradbury  
A. L. Johnson

Inventor:

James Fleming.

per: V. D. Merwin  
Attorney.

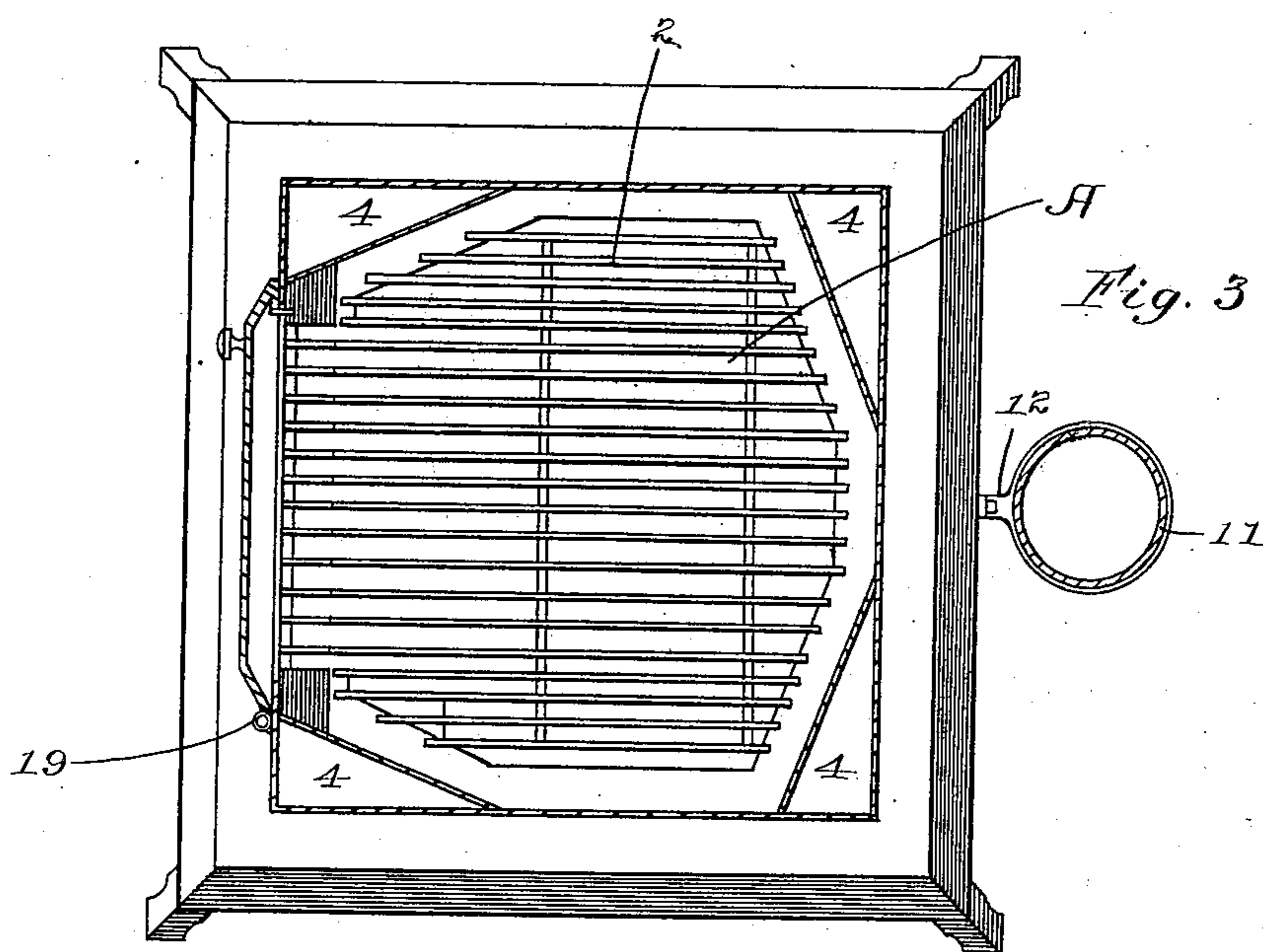
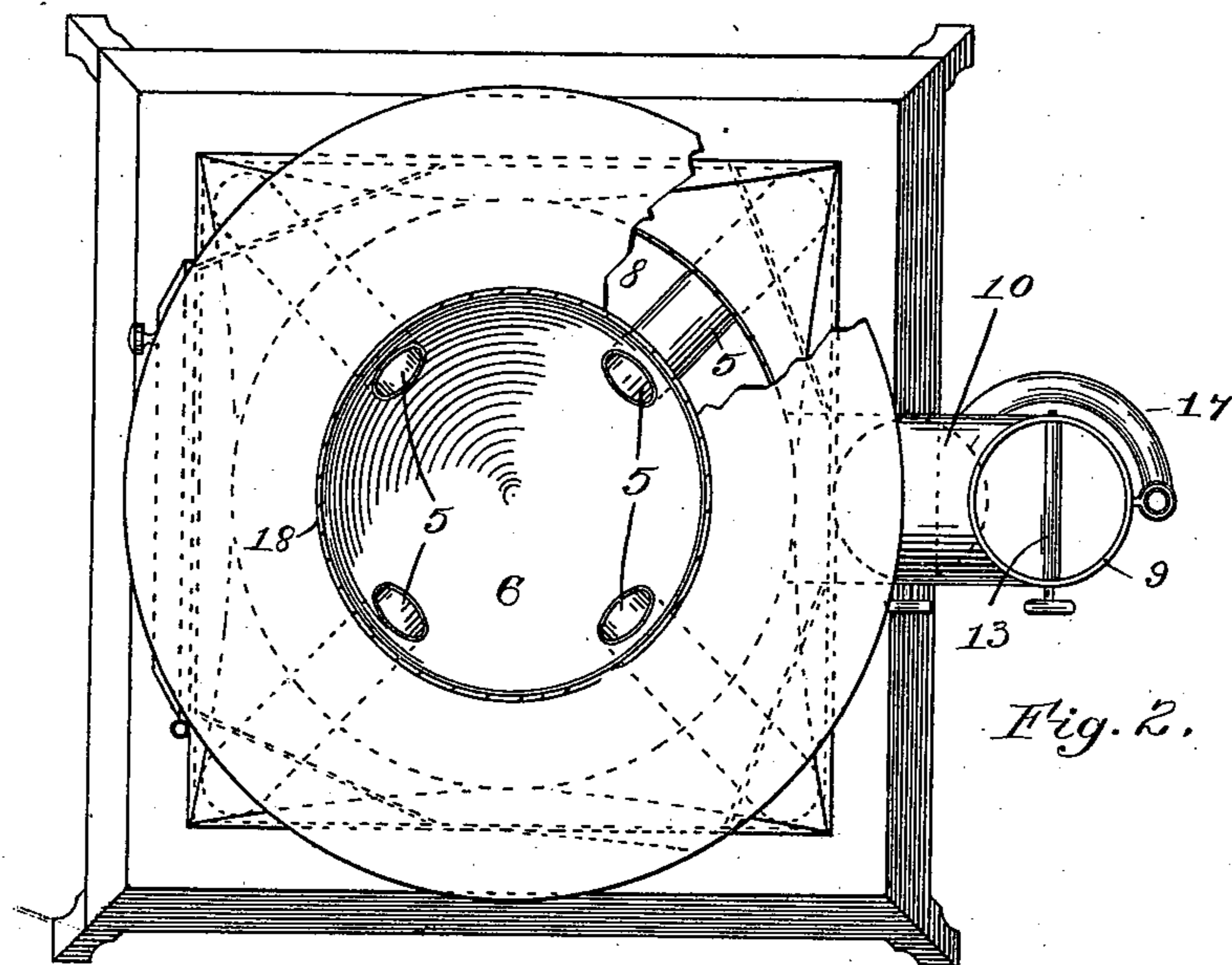
(No Model.)

2 Sheets—Sheet 2.

J. FLEMING.  
DOUBLE DRUM HEATING STOVE.

No. 564,189.

Patented July 21, 1896.



Witnesses:

H. S. Roadbury.  
A. S. Johnson

Inventor:

Inventor:  
James Fleming.

per: T. B. Menzies  
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# UNITED STATES PATENT OFFICE.

JAMES FLEMING, OF SHAKOPEE, MINNESOTA.

## DOUBLE-DRUM HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 564,189, dated July 21, 1896.

Application filed March 17, 1896. Serial No. 583,580. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES FLEMING, of Shakopee, Scott county, Minnesota, have invented certain Improvements in Double-Drum Heating-Stoves, of which the following is a specification.

My invention relates to improvements in stoves, its object being to provide an improved construction of the same having both inner and outer radiating-surfaces and adapted to give the maximum amount of heat with the minimum of fuel.

The object of my invention is more particularly to provide a stove which will burn either solid or liquid fuel without any interchanging of parts, and also to construct the fire-box and included air-ducts as to substantially cut off the heat radiation through the rear wall and allow the maximum radiation through the side walls, where there is greater need for it.

My invention further consists in the several improved features of construction and combination, hereinafter more particularly described and claimed.

Figure 1 is a side elevation of my invention, partially broken away to show the interior construction. Fig. 2 is a top elevation of the same, partially broken away; and Fig. 3 is a horizontal cross-section taken on line *x x* of Fig. 1.

In the drawings, A represents the fire-box of the stove, provided with the grate 2, and having underneath the same the space 3, which serves to admit air to the fire-box, and in which an ash-pan may be placed to receive ashes from the grate. In each of the four corners of the fire-box is the triangular air-duct 4, opening to the outer air at the bottom of the stove, and each connected by means of the pipe 5 with the air-chamber 6, centrally arranged above the fire-box. Each of the air-ducts 4 (see Fig. 3) has one of its sides adjacent the right-angled corner considerably wider than the other similar side, so as to cover a greater amount of one wall of the fire-box than of the other wall, for the purposes hereinafter described. The air-chamber 6 is arranged some distance inside of the outer wall 7 of the stove, forming a space 8, leading from the top of the fire-box to the smoke-outlet pipe 9, which pipe is provided with the

controlling-chamber 10. The outlet-pipe is formed with a branch pipe 11, extending downward adjacent the stove to approximately the bottom, and being supported by a bracket 12, connected to the rear of the fire-box. This branch pipe is open at the bottom and provided with a controlling-damper 13, whereby the draft may be checked or equalized for the different kinds of fuel used.

In Fig. 1 the stove is shown fitted with an oil-burner 14, which is connected with the source of supply by means of the pipe 15, passing through the opening 16 in the rear wall of the fire-box and being supported by brackets 17 upon the branch pipe 11.

By having the air-ducts 4 arranged in the rear corners of the fire-box, constructed as shown in Fig. 3, most of the rear wall is covered, there being merely sufficient space left between the ducts to permit the carrying into the fire-box of the oil-inlet pipe. The opposite ducts, arranged in the front corners of the fire-box, have their narrow sides next the front wall, so as to give room for the large side door-opening 19. It will thus be seen that a comparatively large radiating-surface is left at the two sides and front, while the rear wall is nearly covered by the air-ducts. The purpose of this is that the greatest amount of heat may be radiated from the sides, where persons are most apt to be sitting, and a less amount from the rear, where there is less necessity for it.

By having the air-ducts arranged in the corners of the fire-box I utilize the space where there is normally comparatively little combustion, and thus practically do not decrease the efficient capacity of the fire-box.

In use the inner air-chamber 6 may be connected with any of the other rooms by the pipe 18, the heat radiating from the outer wall of the stove serving to heat the room in which it is placed, while the heat from the inner drum passes to the other rooms.

The air-chamber 6 is of greater capacity than the combined capacity of the pipes 5, so that the passage of the air through the chamber is slower than through the ducts, and is thus subjected for a greater length of time to the heat radiated from the conduit 8.

By means of the branch pipe 11 the air-draft can be regulated so as to permit of the burn-

ing of either solid fuel or oil without any interchanging of parts, and by the mere insertion of the oil-burner connected with the source of supply. In the use of coal or wood the damper in the branch pipe would be closed, so as not to interfere with the front draft, while in the use of oil or gas it would be necessary to open the damper in the branch pipe so as to equalize or check the draft.

10 I claim—

1. In a stove of the class described, the combination with the rectangular fire-box and the centrally-arranged air-chamber above the same, of the triangular air-ducts arranged in the respective corners of the fire-box opening to the outer air at the bottom of the stove, the converging pipes connecting said air-ducts with said centrally-arranged air-chamber, and the conduit between the central air-chamber and the outer wall of the stove connecting the fire-box with the smoke-outlet.

2. In a stove of the class described, the combination with the rectangular fire-box and the centrally-arranged air-chamber above the same, of the triangular air-ducts arranged in the respective corners of said fire-box opening at their bottoms to the outer air, and connected at their tops with the centrally-arranged air-chamber, the air-ducts in the rear corners of said fire-box covering more of the

rear-wall than the side-wall space, so as to permit the maximum amount of radiation through the side walls, and the conduit between the air-chamber and the outer wall of the stove connecting the fire-box with the outlet smoke-pipe.

3. In a stove of the class described, the combination with the rectangular fire-box and the centrally-arranged air-chamber above the same, of the triangular air-ducts arranged in the respective corners of said fire-box and opening at their bottoms to the outer air, and connected at their tops with said centrally-arranged air-chamber, the conduit between the air-chamber and outer wall of the stove, connecting the fire-box with the outlet smoke-pipe, and the damper-controlled branch pipe extending parallel with the wall of the stove and adapted to admit air to the smoke-outlet, whereby the draft may be checked or equalized, said branch pipe also serving as a support for an oil-supply pipe connected with the burner removably arranged within the fire-box.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES FLEMING.

Witnesses:

H. S. JOHNSON,

MINNIE L. THAUWALD.