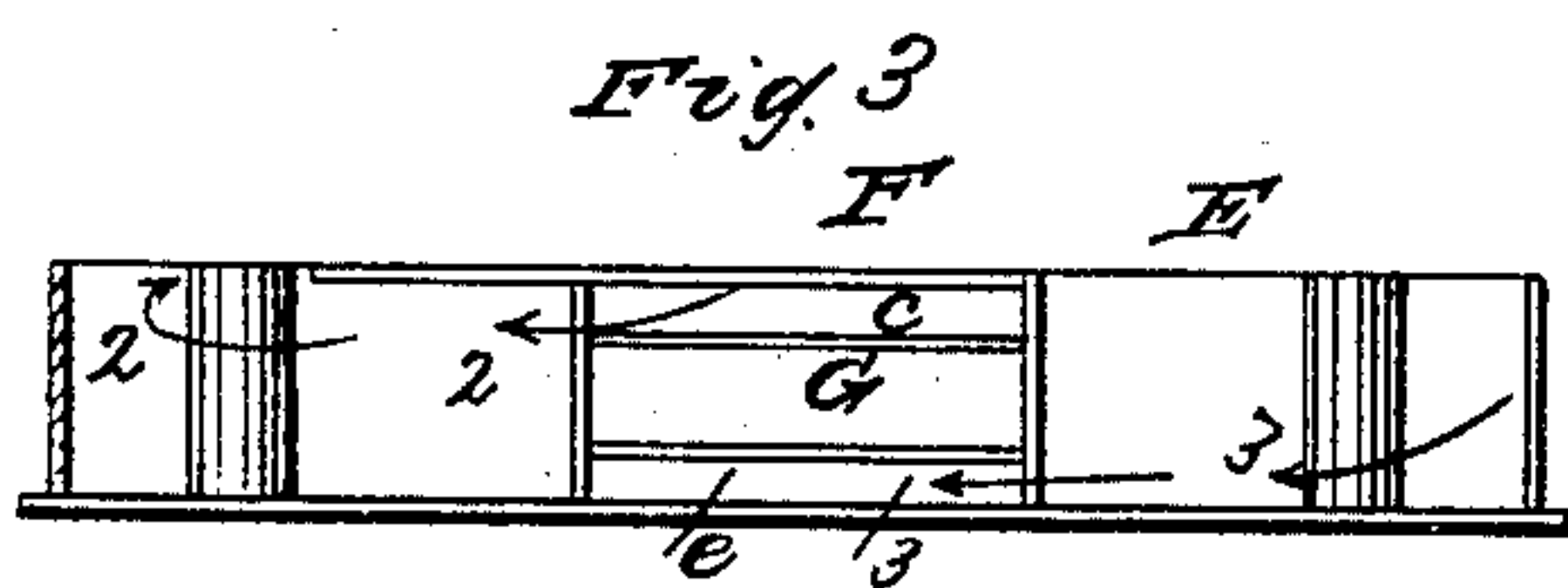
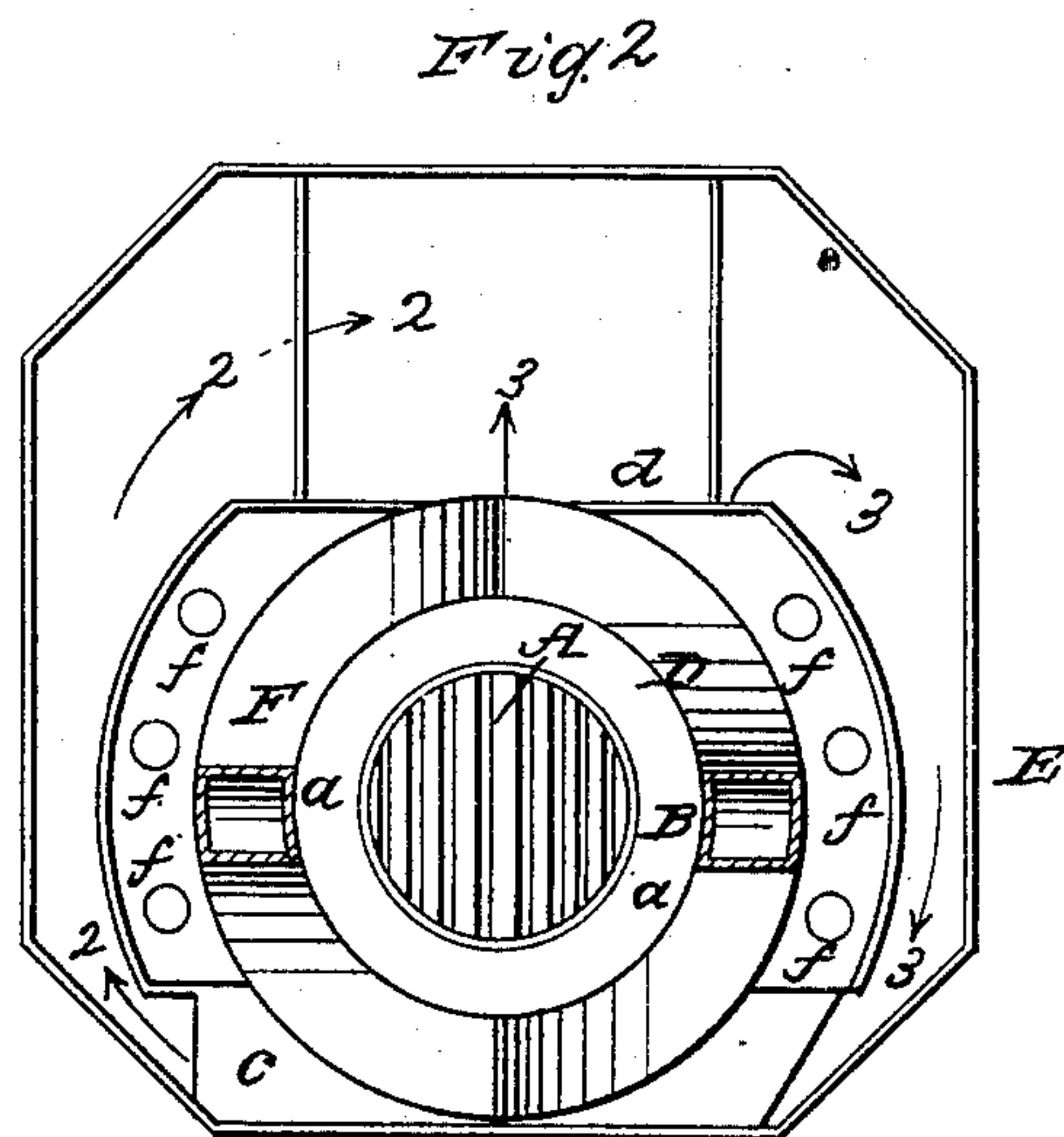
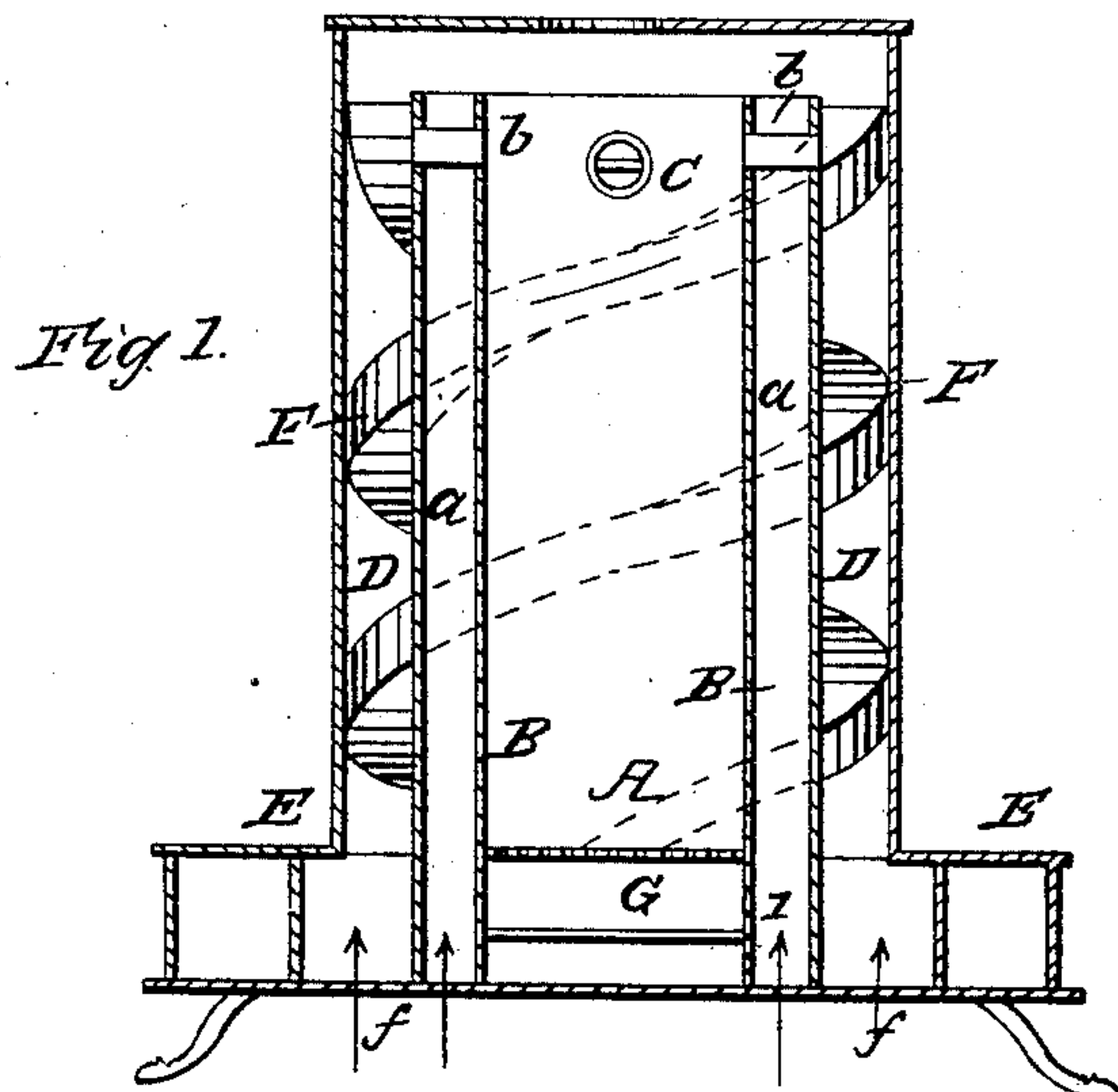


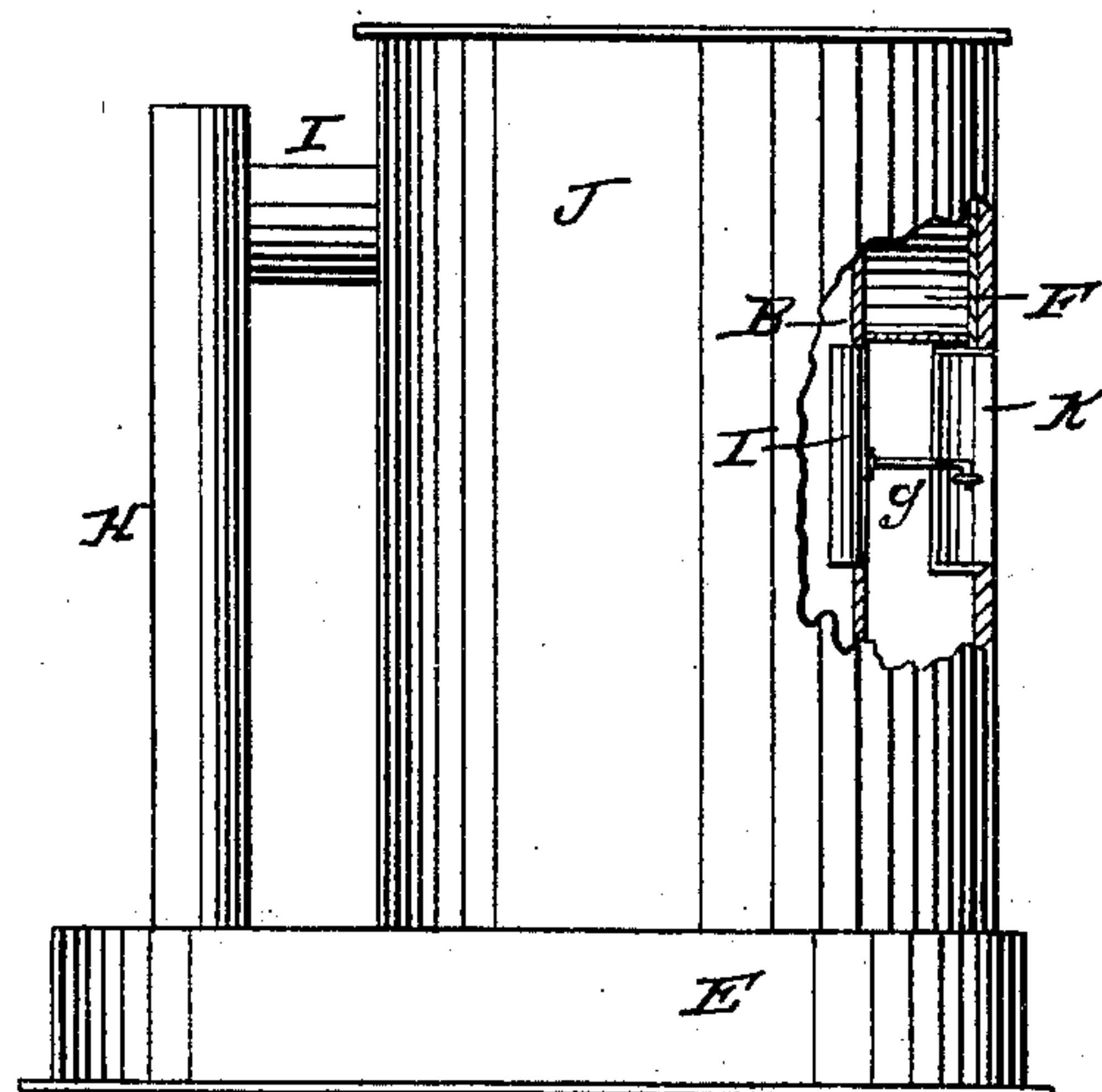
T. S. GORE.  
Heating Stove.

No. 9,969.

Patented Aug. 30, 1853.



*Fig. 4.*



# UNITED STATES PATENT OFFICE.

THOMAS S. GORE, OF JERSEY CITY, NEW JERSEY.

## STOVE.

Specification of Letters Patent No. 9,969, dated August 30, 1853.

*To all whom it may concern:*

Be it known that I, THOMAS S. GORE, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Hot-Air Stoves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of the stove, taken through the center. Fig. 2, is a horizontal section of the same, taken at any point above the foundation or base. Fig. 3, is a front view of the base; the front plate being removed in order to show the interior. Fig. 4, is an external view of the same; a portion of the external case being broken in order to show the arrangement of the doors.

Similar letters of reference indicate corresponding parts, in each of the several figures.

The nature of my invention consists in surrounding an inner cylinder or chamber of the stove with spiral flues, so arranged or connected to the base, that the heat which passes down the spiral flues will meet or unite with a main flue or pipe connected to the ordinary smoke pipe. The arrangement of the spiral flues and base, by which a large heating surface is obtained, as will be hereafter shown, constitutes the invention.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents the fire-chamber, at the bottom of a cylinder, B; and, C, is a smoke pipe aperture at its upper parts.

D, is a cylinder that surrounds the cylinder, B, forming a space, (a), between them. The cylinder, D, extends downward to the bottom of the base, E, of the stove, and the lower end of the space, (a), communicates with the external air, in order to allow cold air to pass into the space, (a), as indicated by arrows, 1, in Fig. 1. The cylinder, D, is surrounded by two spiral flues, F, F, which communicate with the upper part of the cylinder, B, by small pipes or passages, (b), (b), see Fig. 1, which pass through the space, (a). The lower ends of the spiral flues communicate with the base, E, in the following manner. The front flue is con-

nected with a passage, (c), in front of the fire-chamber, A, and above the ash-pit or drawer, G. This passage, (c) communicates with the base, E, on the outer side of the cylinder, D; see Figs. 2 and 3. The back flue is connected with a passage, (d), at the back of the fire chamber. This passage, (d), communicates with the base, E, on the outer side of the cylinder, D; and the heat from this back flue passes around to the front of the base, and enters a passage, (e), underneath the ashpit or drawer, G, and passes out at the back, when it unites with the heat that passes down the front flue, see Figs. 1 and 2; the arrows, 2, indicating the direction of the heat of the front flue, and the arrows, 3, of the back flue. The heat from both of the spiral flues enters the pipe, H, seen in Fig. 4, at its lower end. At the upper end of the pipe, H, a small pipe, I, is connected, which, when a damper is turned, affords a direct draft from the fire chamber; the heat not passing down the spiral flues. The aperture, C, of the pipe, I, is seen in Fig. 1.

J is the outer or external covering which surrounds the cylinder, D, and spiral flues, F, F. As the spiral flues project outward some distance from the cylinder, D, it will be seen by referring to Fig. 1, that spiral spaces are formed around the cylinder, D, between the two spiral flues. These spiral spaces communicate with the external air, by means of openings or holes, (f), seen in Fig. 2.

The advantages of the improvement will be readily seen. Fire being made in the fire chamber, A, and the damper in the pipe, I, being turned, the heat and smoke pass upward in the cylinder, B, and through the small pipes or passages, (b), (b), into the spiral flues, F, F. The heat and smoke then pass downward in the spiral flues, as before described, and unite at the back part of the base, E, and ascend the pipe, H. Cold air enters the lower end of the space, (a), between the cylinders, B, D, as indicated by arrows, 1, and ascends upward, becoming thoroughly heated. Cold air also passes through the apertures or holes, (f), and ascends upward through the spiral spaces between the spiral flues, F, F, and unites at the upper part of the case, J, with the air that passed upward in the space,



(a). This warm air is conveyed through proper pipes (not represented,) to any portions of the building designed to be warmed.

5 K, in Fig. 4, is the door of the external case J. This door, K, is connected by a wire or rod, (g), with the door, L, of the cylinder, B, so that by opening or closing the outer door, K, the door, L, is also opened or closed at the same time.

10 By having the flues, F, F, of spiral form, a great heating surface is obtained, and also a great heating space is formed between them for the heating of cold air.

I do not claim the spiral flues separately, 15 or irrespective of their arrangement; as they have been previously used; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The spiral flues, F, F, surrounding the 20 cylinder, D, arranged and connected to the base, E, substantially as shown and described, for the purpose of obtaining a large extent of heating surface for the flues and also for forming a space between them for 25 the admission and heating of cold air, as set forth.

THOS. S. GORE.

Witnesses:

S. F. COHEN,

O. D. MUNN.