

(No Model.)

3 Sheets—Sheet 1.

A. T. MORLEY.
Furnace.

No. 227,989.

Patented May 25, 1880.

Fig. 1.

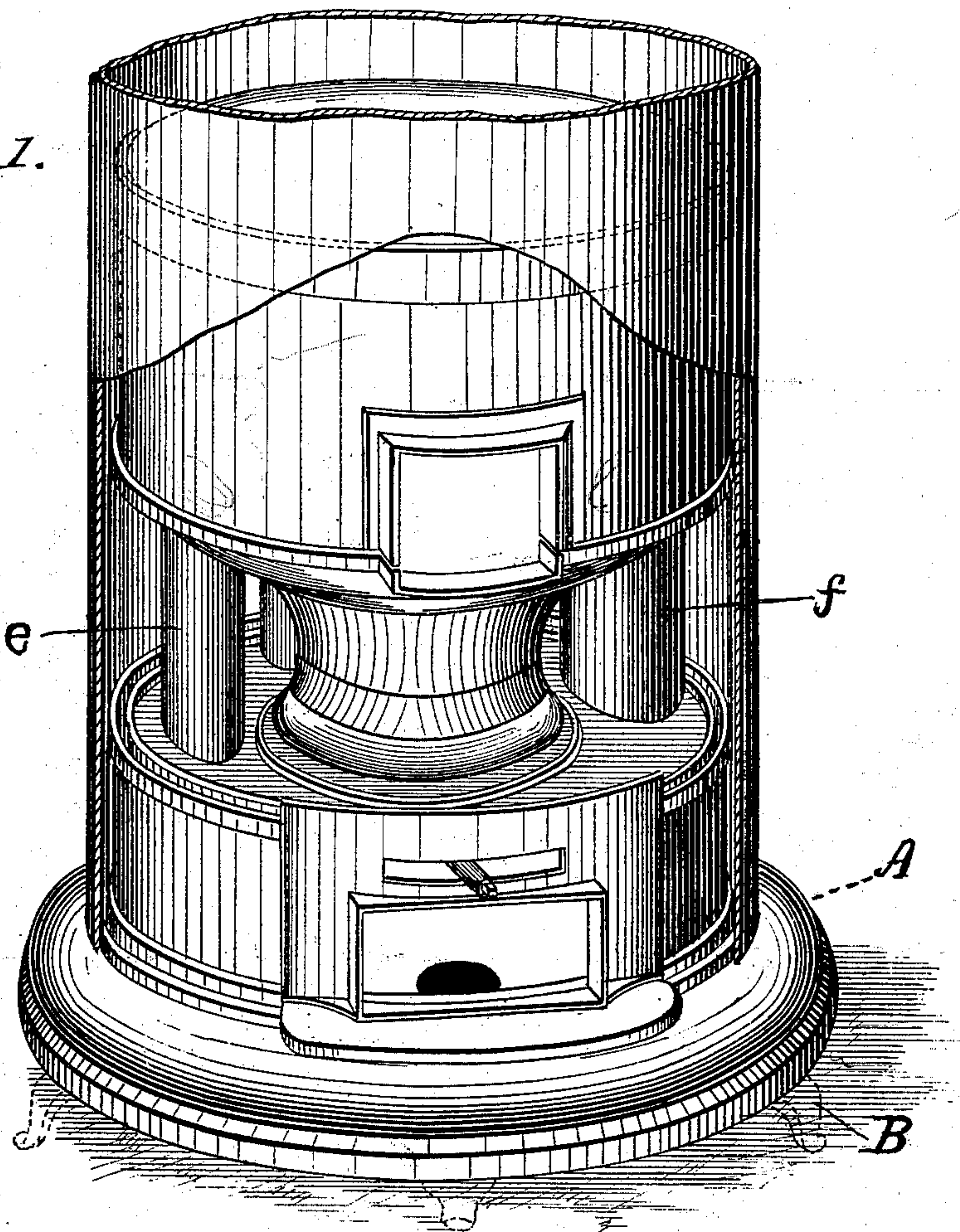
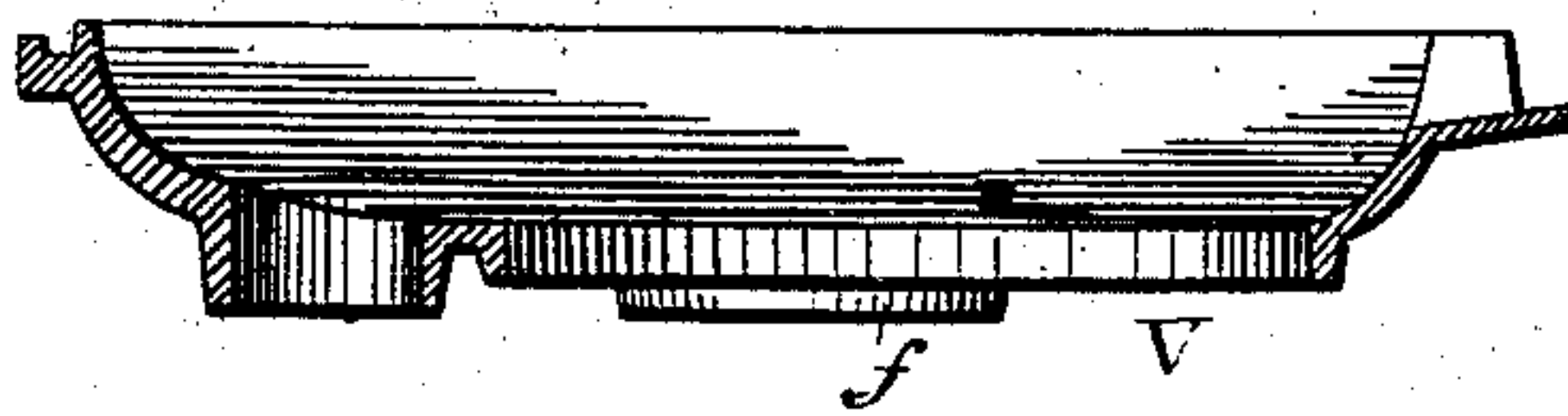


Fig. 6.



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3 Sheets—Sheet 2.

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Fig. 2.

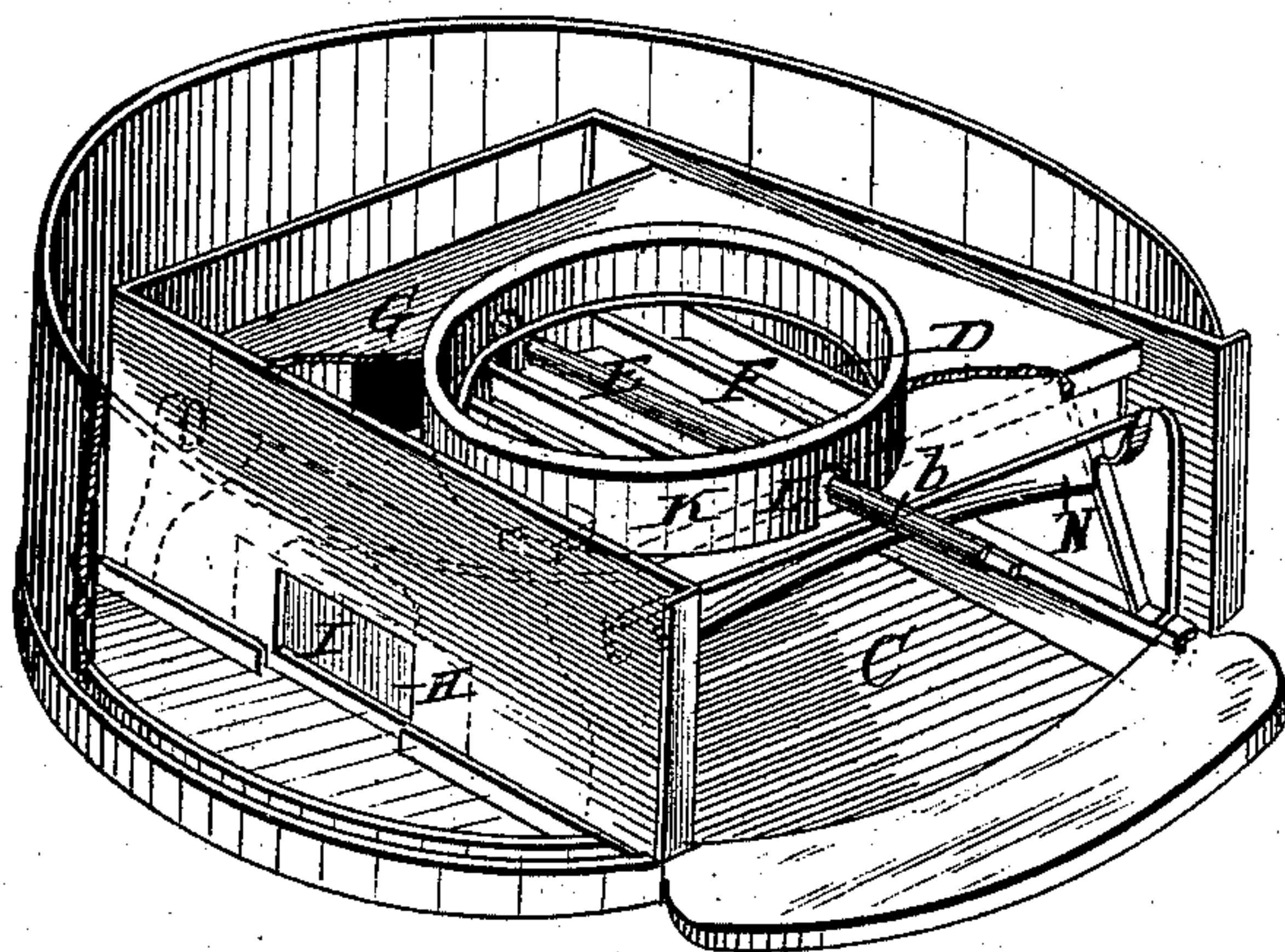


Fig. 3.

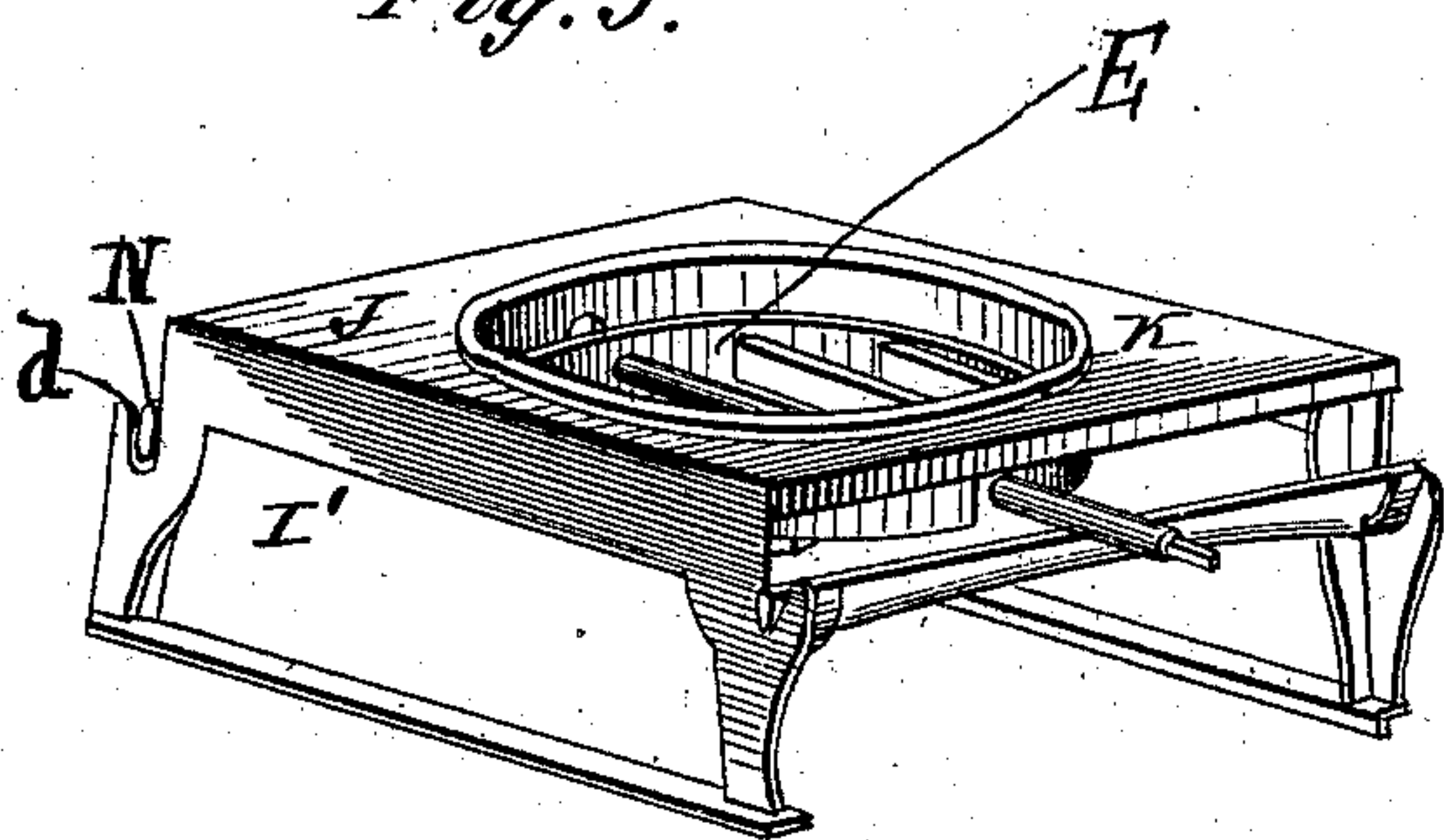


Fig. 4.

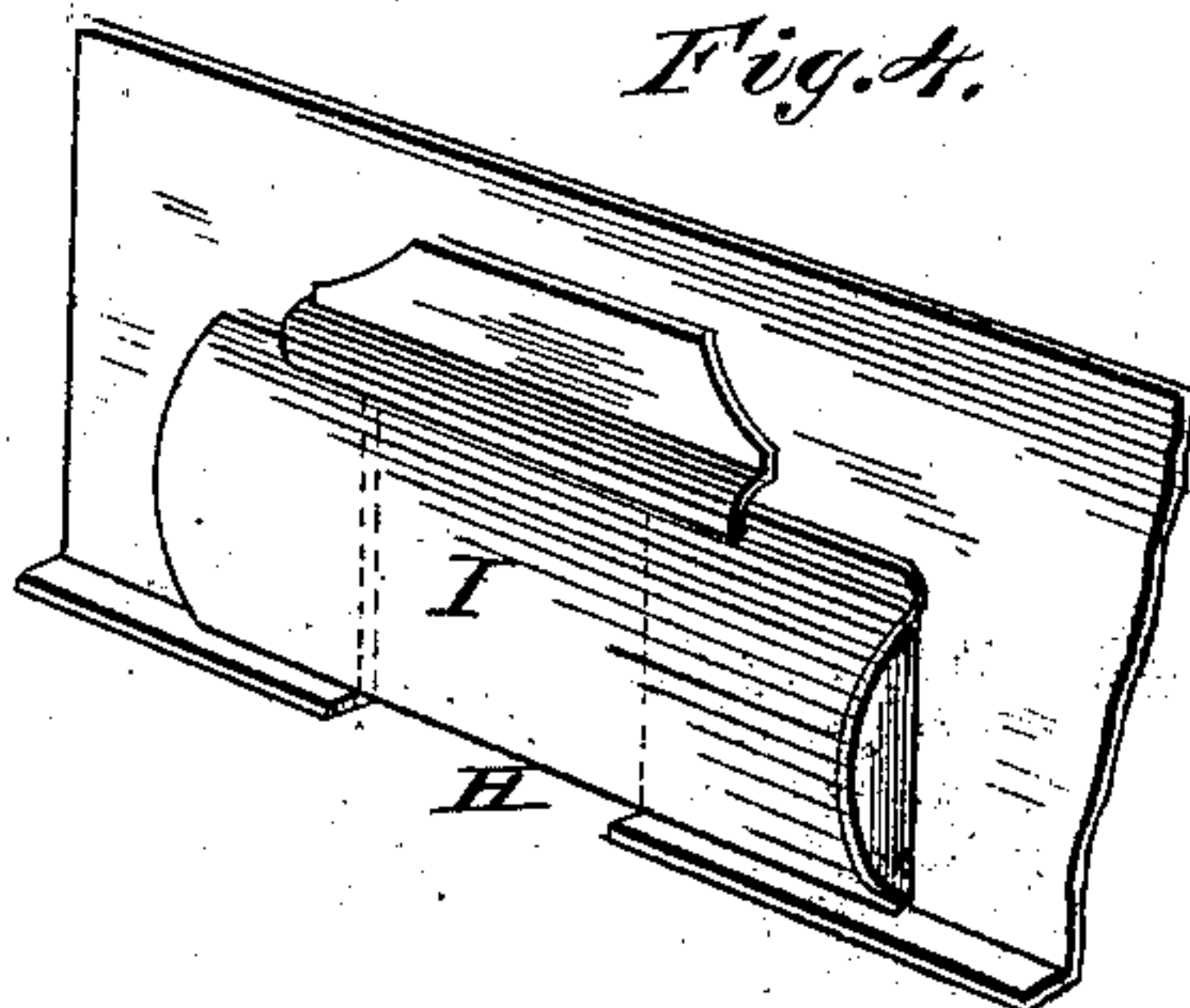
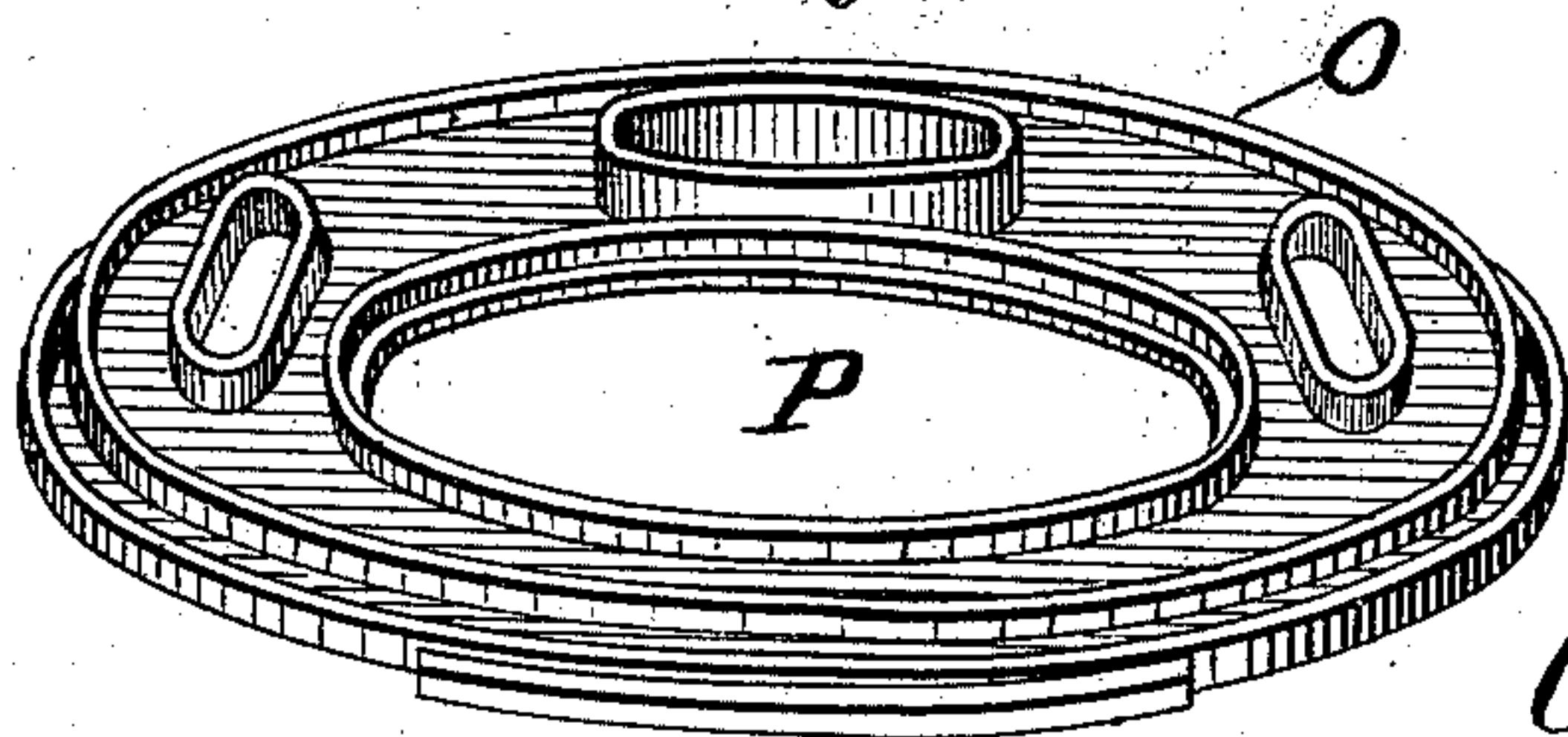


Fig. 5.



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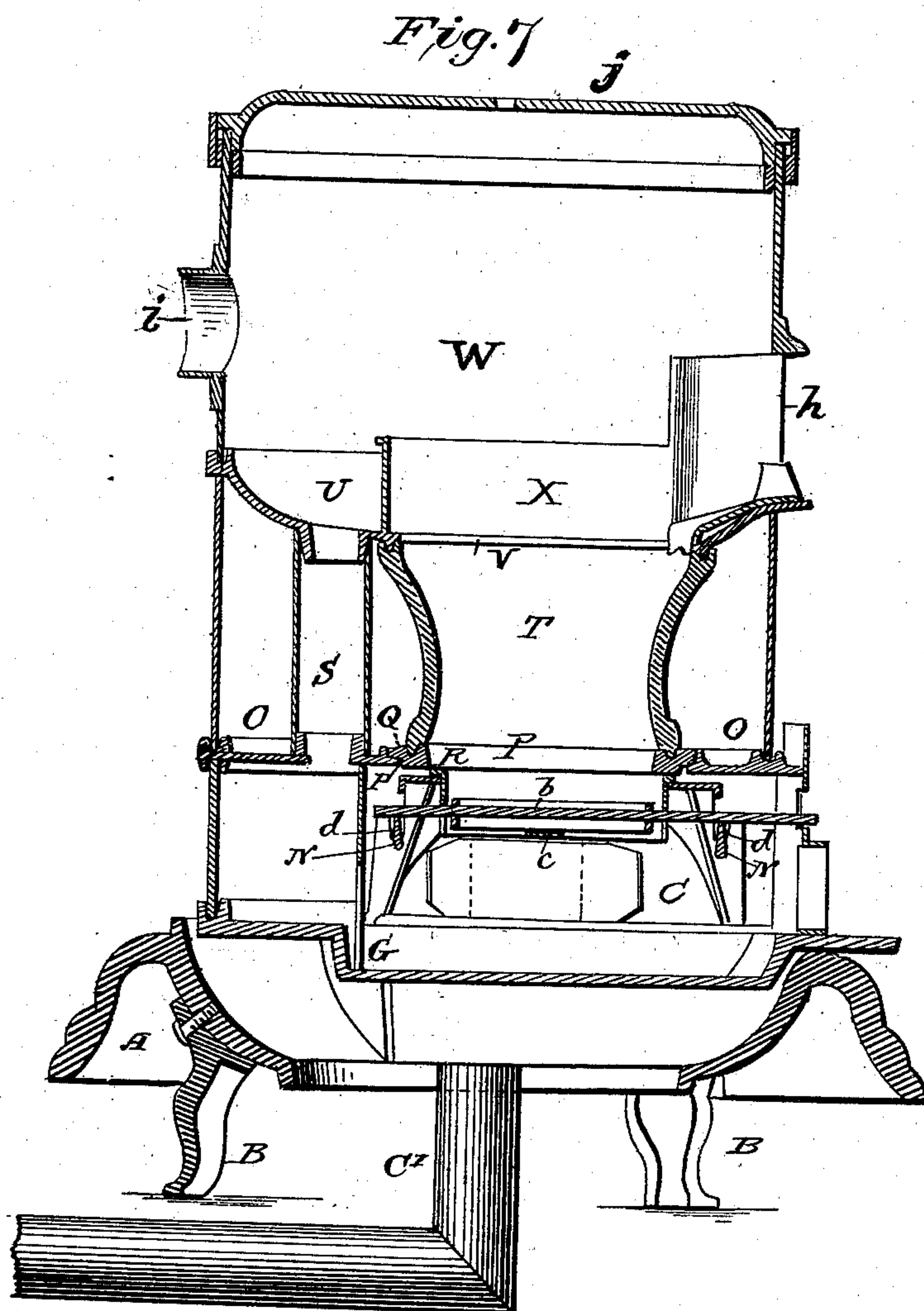
(No Model.)

3 Sheets—Sheet 3.

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No. 227,989.

Patented May 25, 1880.



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UNITED STATES PATENT OFFICE.

ALLEN T. MORLEY, OF COLUMBUS, OHIO.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 227,989, dated May 25, 1880.

Application filed March 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, A. T. MORLEY, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The invention relates to furnaces; and it consists in the improvements in the construction of the same hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a view, in perspective, with the outside casing in section, and parts broken away to show the internal arrangement. Fig. 2 is a perspective view of the removable grate and the stand on which it rests in the ash-pit, the top of the stand being removed. Fig. 3 is a perspective of the grate and stand with the top and annular ring in place. Figs. 4, 5, and 6 are detail views. Fig. 7 is a vertical sectional view of a furnace embodying the improvements in my invention.

Referring by letter to the drawings, A designates the base of the stove, which base is designed to be elevated on legs B, and connected by a tube, C', to the outside of the house in order to supply pure cold air to the furnace; or the legs may be dispensed with and a hole made in the floor of the room in which the stove is placed to take the cold air from beneath the floor. The cold air admitted in either case is afterward heated by the furnace and conducted to the point required by suitable pipes leading from the furnace.

The ash-pan section C has a cast-iron bottom, which rests upon the base A, as shown, and is provided with a rectangular chamber, D, for the reception of the removable grate-stand E and grate F. The rectangular chamber D is open at its front to admit of the insertion and withdrawal of the removable grate-stand E, and is provided at its rear end with an opening, G, and at its sides with openings H, protected by slides I for the purposes of opening and closing them in order to communicate with the surrounding flue to conduct off dust, ashes, &c., when the grate is shaken.

The grate-stand E is composed of the frame I', having top J, with a circular opening, in which rests the ring K, having a supporting-flange which holds it in place in the opening, and notches L to receive the extensions of the bar b of the circular grate F. A lip, c, at one side of the ring K stops the heavy side of the grate F. The legs of the stand are notched at d to receive the ends of the cross-bars N, on which the extensions of the bar b rest.

When desired, the grate and stand can be removed through the opening at the front of the rectangular chamber or ash-pit D by taking off the door and frame in front of the same; or the door may be made sufficiently large to permit the operation to be performed by simply opening it.

An annular ring, O, fits upon the section C, and has an opening, P, in which fits a smaller annular ring, Q, provided with a collar, R. Flue-collars are also provided in this ring to receive pipes S, which lead to the section above the fire-pot T, which fits the collar R of the annular ring Q and flares outward and upward, as shown.

A concave annular ring, U, provided with an opening, V, and flue-collars and openings corresponding in number and size with those in the annular ring or plate O, rests upon the fire-pot T and forms the bottom of the chamber above the same. Flues e, f, and S connect the chambers above and below the fire-pot section.

A casing, W, with a door, h, in front, rests upon the ring U, and has the discharge-exit i and the top j. Within the chamber thus formed is a metal ring, X, with an opening to correspond with the door, through which the fuel is fed to the fire-pot. This ring is intended to receive and hold fire-brick in place when desirable to employ them in the furnace.

By constructing the base and other portions in this manner only one set of patterns are necessary to make the furnace adaptable to the casing or to the ordinary brick wall, in which they are frequently placed, for the reason that the casing can be entirely removed and yet leave the furnace complete.

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

1. In a furnace, the grate-stand E, having the frame I', top J, with the opening, and the cross-bars N, in combination with the ring K and grate F b, substantially as and for the purposes set forth.

2. In a furnace, the combination of the annular ring O, having the opening P, in which rests the ring Q R, with the fire-pot T and concave ring U, having opening V, and the

flues e, f, and S, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALLEN T. MORLEY.

Witnesses:

JOHN P. REMSAY,
MICHAEL HARDING.