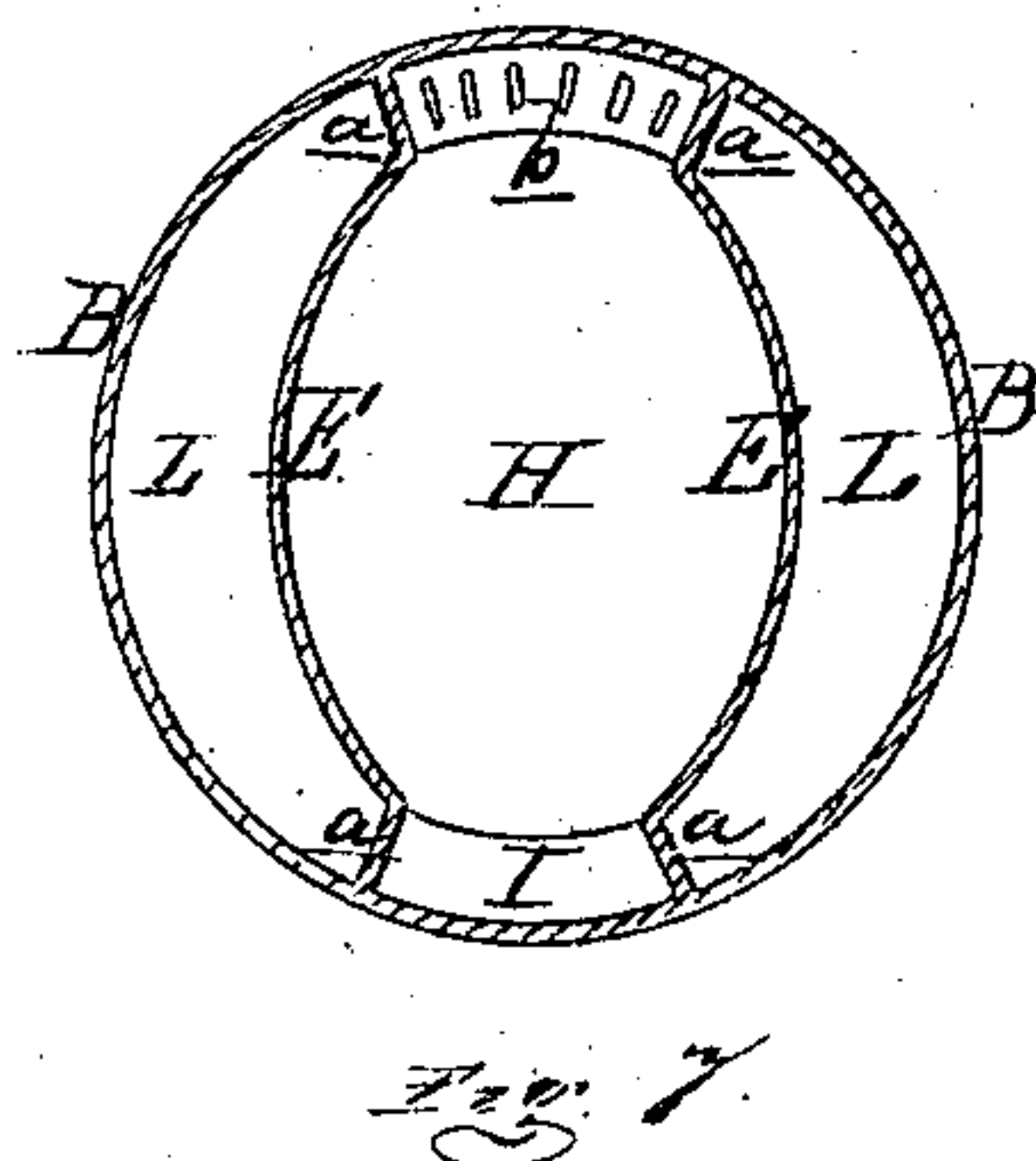
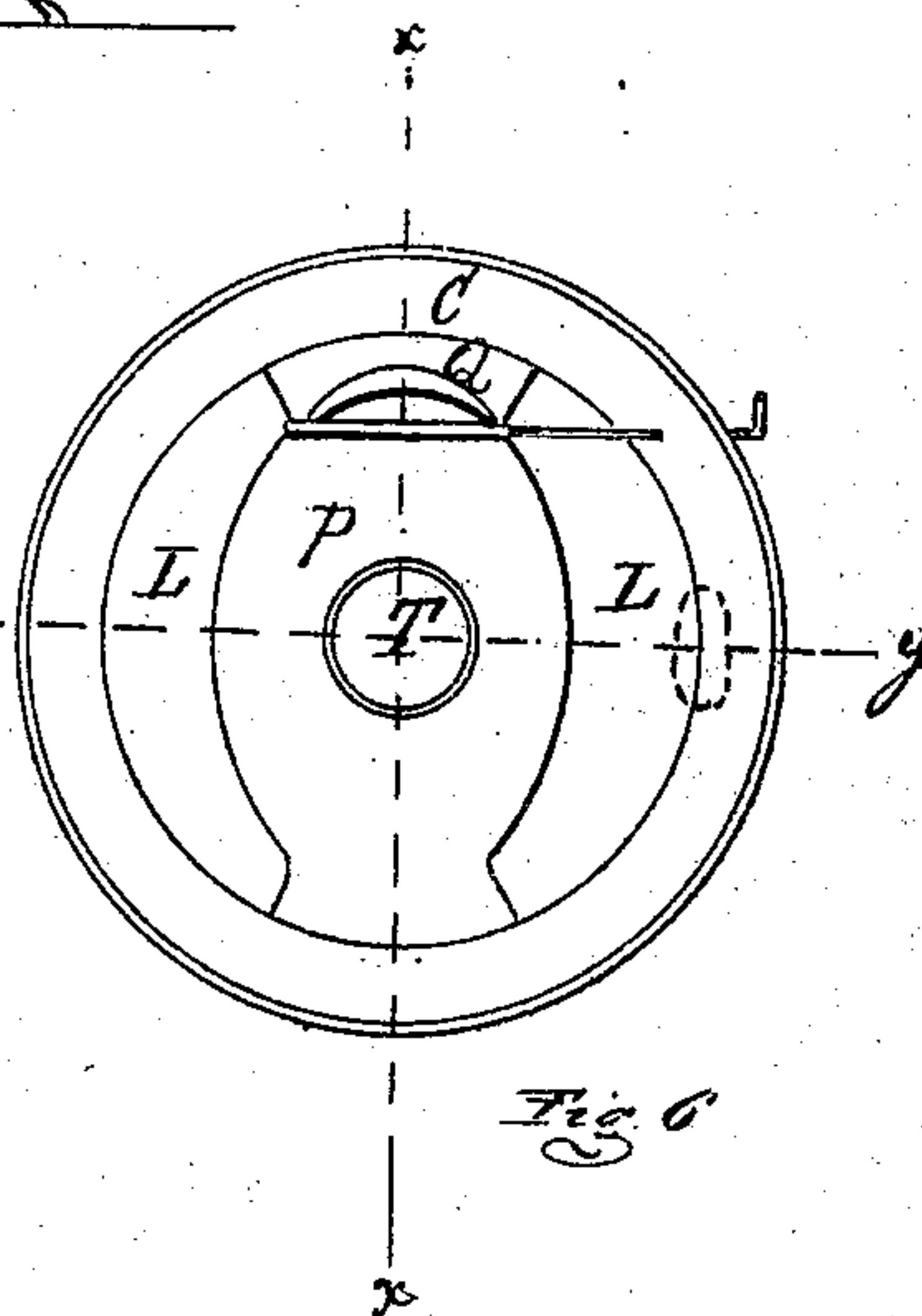
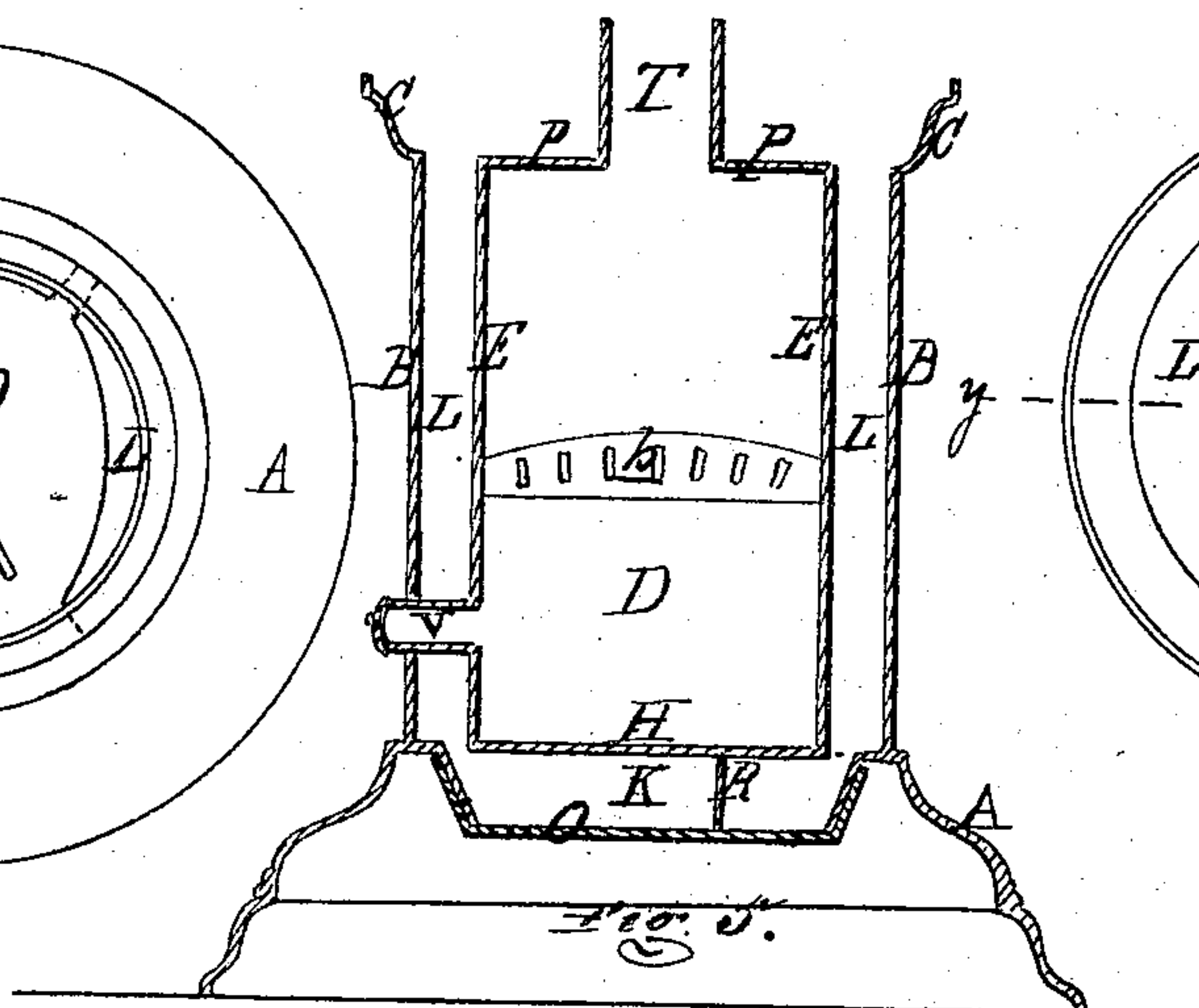
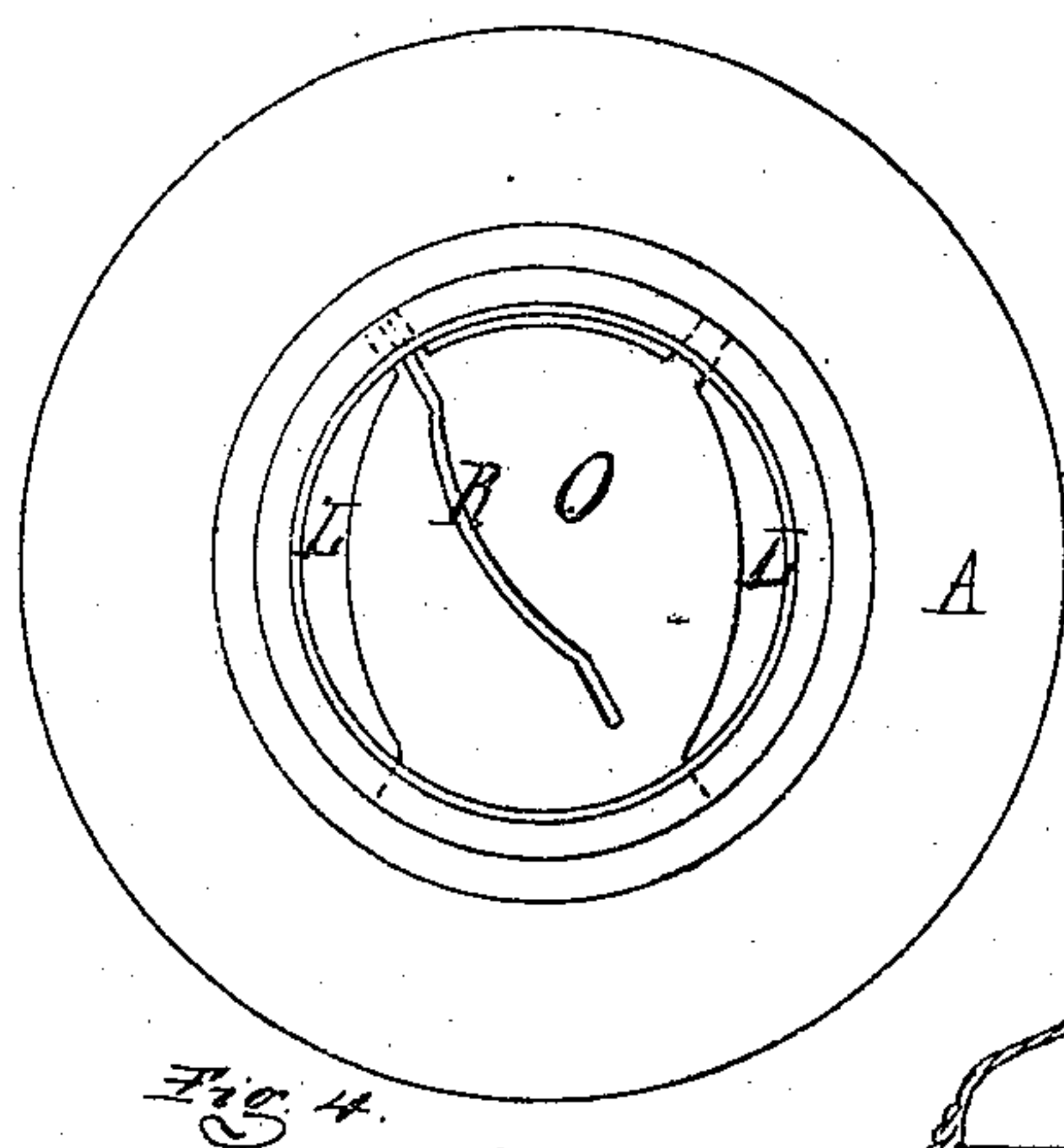
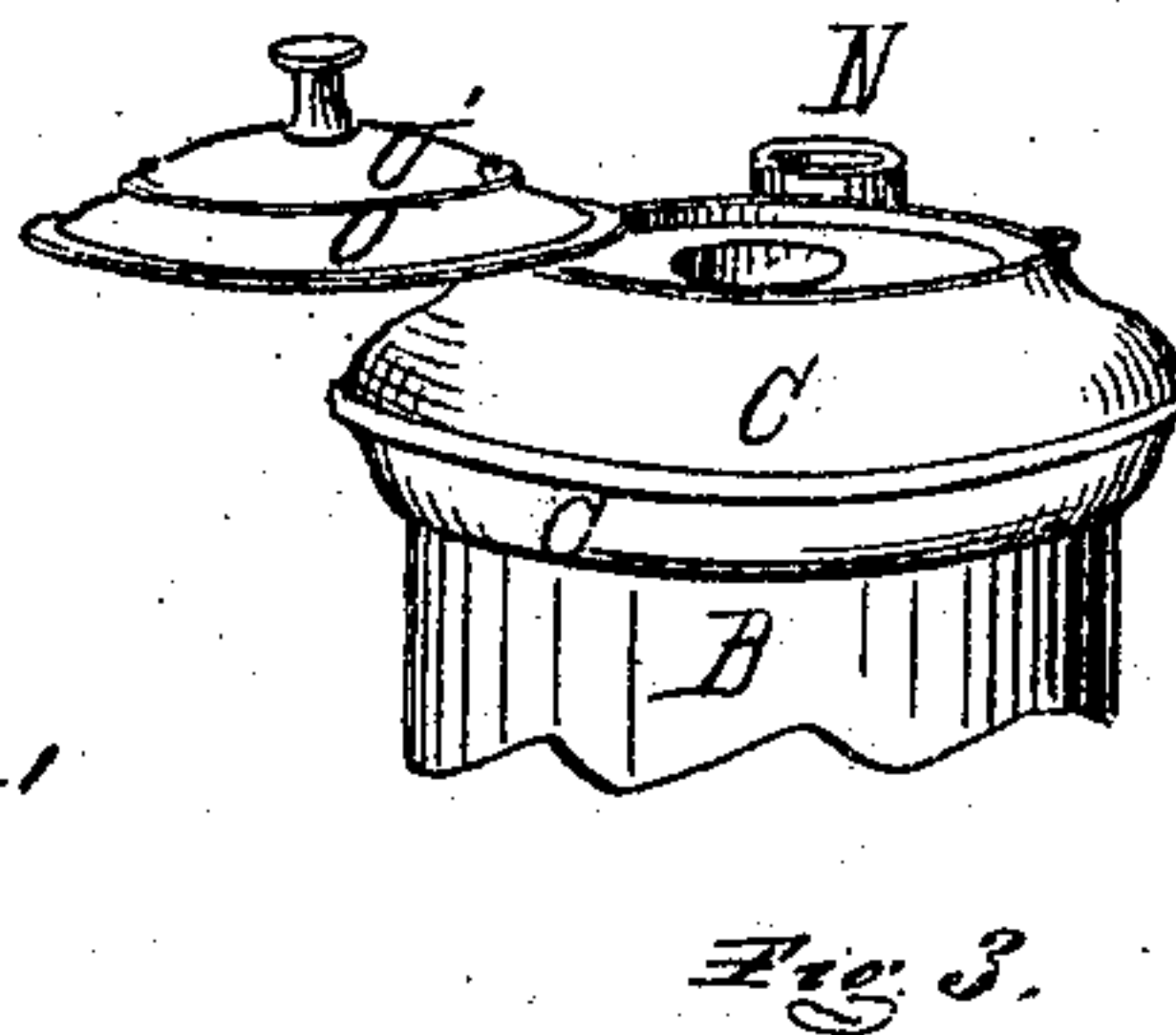
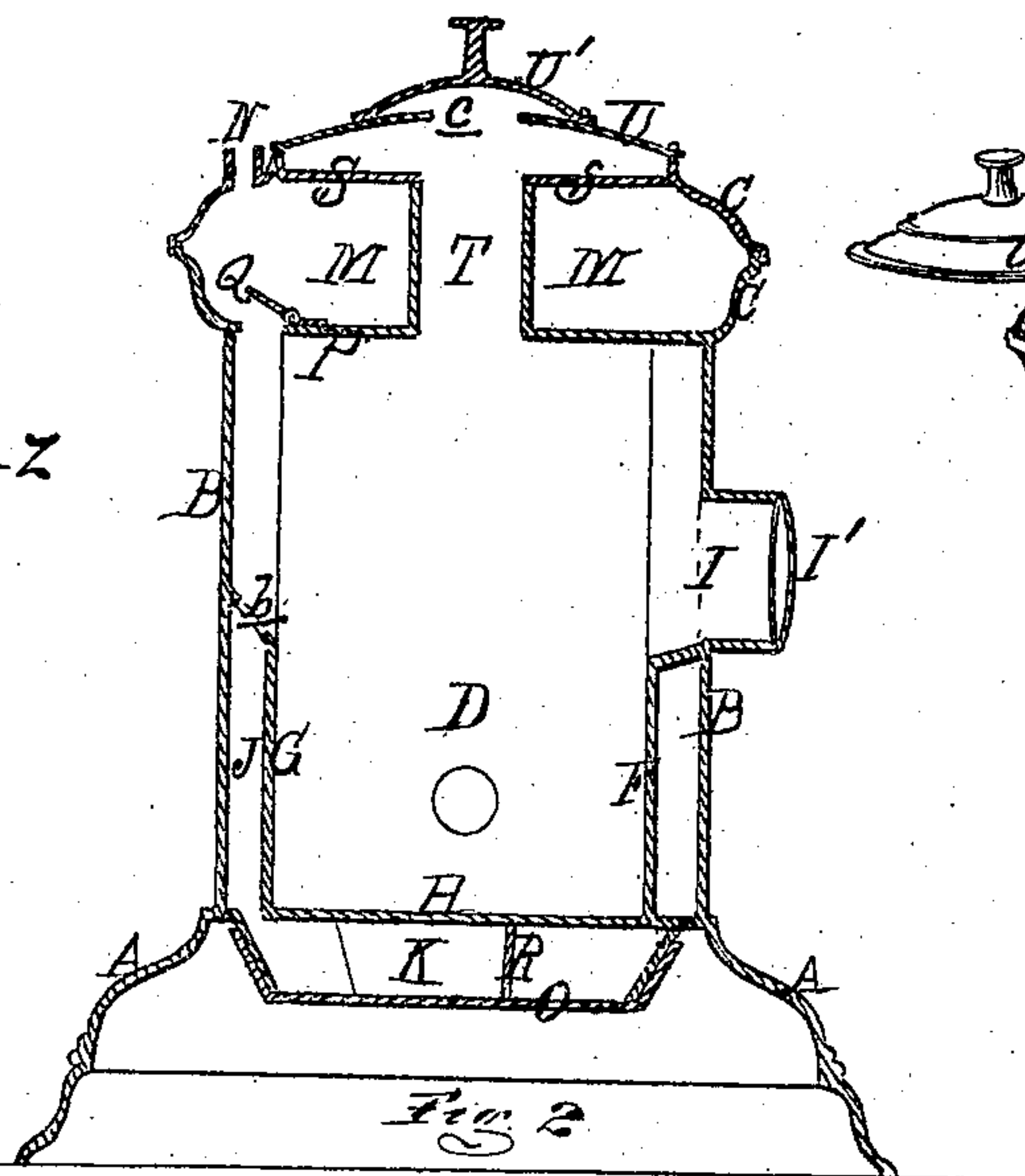
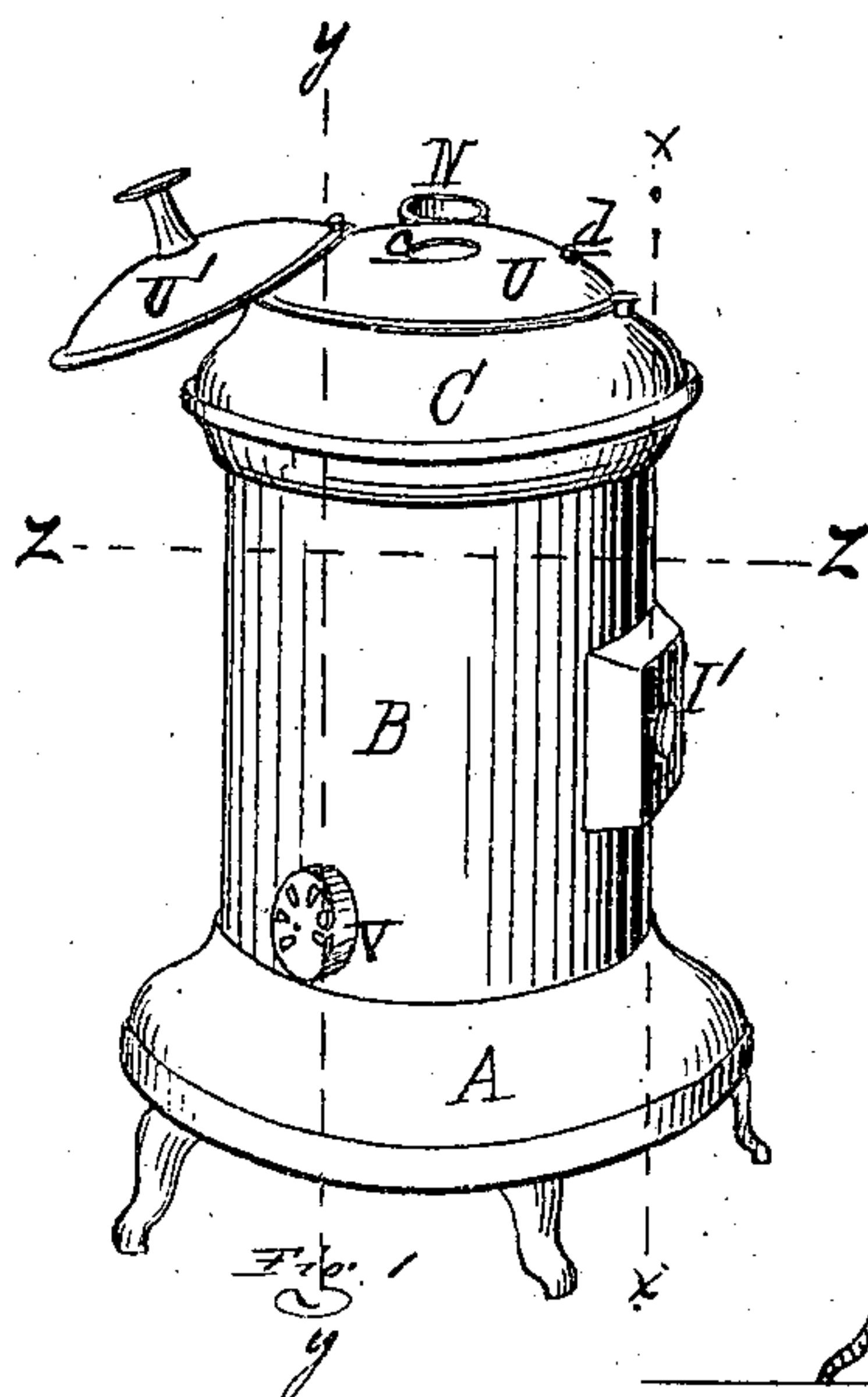


JOHN D. MILLER.

Improvement in Heating Stoves.

No. 119,634.

Patented Oct. 3, 1871.



ATTEST:  
Myron A. Church  
H. F. Everts.

INVENTOR:  
John D. Miller.  
per Attorney,  
Thos S. Sprague.



# UNITED STATES PATENT OFFICE.

JOHN D. MILLER, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT STOVE-  
WORKS, OF SAME PLACE.

## IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 119,634, dated October 3, 1871.

*To all whom it may concern:*

Be it known that I, JOHN D. MILLER, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Heating-Stoves; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my stove. Fig. 2 is a vertical section of the same, taken on the line  $xx$  in Figs. 1 and 6. Fig. 3 is a perspective view of the upper part of the stove, showing the double cover swung away from the top feed-chute. Fig. 4 is an inverted plan of the base, with the bottom plate removed. Fig. 5 is a vertical section of the stove-body on the plane  $yy$  in Figs. 1 and 6. Fig. 6 is a plan of the stove with the top removed, and Fig. 7 is a horizontal section of the same on the plane  $zz$  in Fig. 1.

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

The nature of this invention relates to an improvement in wood-burning heating-stoves, whereby the products of combustion are reverted through a short diving-flue into a double base, whence they rise through other flues into a double top before passing into the smoke-pipe, while the stove is so arranged that a direct draught may be had at will. The invention consists in the novel and peculiar construction of the stove with a double top and double base, closing the ends of a cylindrical or oval sheet-metal shell, and the arrangement therewith of a diving and two ascending flues, a deflector-strip in the base, and a damper in the lower top plate, operating as hereinafter set forth; also, in the peculiar construction of a swinging sectional or double covering-plate.

In the drawing, A represents the base of my stove, mounted on suitable legs. B is a cylindrical sheet-metal shell erected thereon, and surmounted by the cast top C, in two sections, so formed as to leave an open space above the plane of the top of the shell. The combustion-chamber D is in the form of an ellipse, and is composed of the cast-iron front and back plates E E and the side plates F and G, all of which are mounted on a plate, H, of corresponding shape, and

which plate rests upon the bottom flue strip and lugs projecting from the upper part of the base. I is an opening in the right side of the shell, surrounded by a frame on which a door, I', is hung for the introduction of fuel. The right side plate F is carried up only to the lower plane of this opening, and is curved outward to come against it and the shell. The opposite plate G is also carried up to about the same plane, and bent backward to meet the shell, the inclined portion  $b$  being cast with openings, as shown. The joining edges of the four plates are closely fitted, and the plates E E are cast with division flanges  $a$  at their vertical edges, which radiate to the shell and form a dividing flue-space, J, under the inclined perforated plate  $b$  leading into the base-chamber K, and two opposite up-take flues, L L, leading into the top-chamber M, whence the products of combustion escape into the smoke-pipe N. O is the bottom-plate of the base-chamber, and P is a plate which covers the combustion-chamber, with an opening in its back part, which may be closed by a damper, Q, or left open, in which case the direct draught is established and the products of combustion pass at once into the smoke-pipe N. R is a deflector or flue-strip in the bottom or base-chamber, so arranged that a greater portion of the products of combustion will be compelled to pass up the front flue L and the remainder up the other. S is the top plate of the top chamber M, and T is a cylindrical feed-chute through the plates P and S, so that knots of wood too large to be placed in the stove through the door may be introduced. U is a swinging cover pivoted at one point in its periphery to the top C of the stove. It is provided with a central opening,  $c$ , to receive a tea-kettle or other vessel. U' is a cover to the plate U, to which it is in like manner pivoted, as shown. The plate U has a stud,  $d$ , and the cover U' an opening to receive it, so that the two plates may be swung around, as shown in Fig. 3, for uncovering the feed-chute; or the hole  $c$  uncovered to receive a kettle or other vessel in which to boil water. V is a draught-tube secured about an opening in the front plate E, extending outwardly through the shell to receive a register to regulate the draught. When the damper Q is closed the products of combustion pass through the openings in the plate  $b$  into the diving-flue J; thence into the base-chamber K, where the diagonal flue-strip R deflects the



reater portion of them up the front flue L; thence into and across the top chamber M into the smoke-pipe N; the remainder passing up the back flue into the chamber M, thence to the smoke-pipe.

It will readily be seen that the area of radiating surface is very large in proportion to the size of the combustion-chamber, nearly every inch of the external metal being made available for direct radiation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction and arrangement, with relation to the shell B, base A, top C, and base-plate O, of an internal combustion-chamber, composed of the bottom plate H, flanged front and back plates E, side plates F G, and top plate P, provided with the damper Q and the diagonal reflector or flue-strip R in the base-chamber, as and for the purpose set forth.

2. The arrangement, in the double top composed of the plates P and S and casing C, of the chute T, as described.

3. In heating-stoves, the sectional swinging cover, the lower section U being provided with an opening, *c*, and pivoted at the periphery to the top C, the upper section U' being in like manner pivoted to the lower one, and provided with any suitable means for locking the sections together, substantially as described.

4. The construction and arrangement of the base A, shell B, top C, front and back plates E E, side plates F and G, bottom plate H, door I', base-plate O, diving-flue J, up-take flues L L, base-chamber K, top chamber M, smoke-pipe N, covering-plate P, damper Q, diagonal flue-strip R, top plate S, feed-chute T, draught-tube V, and sectional swinging cover U U', as shown and set forth.

JOHN D. MILLER.

Witnesses:

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CHAS. J. HUNT.

(105)