

No. 641,911.

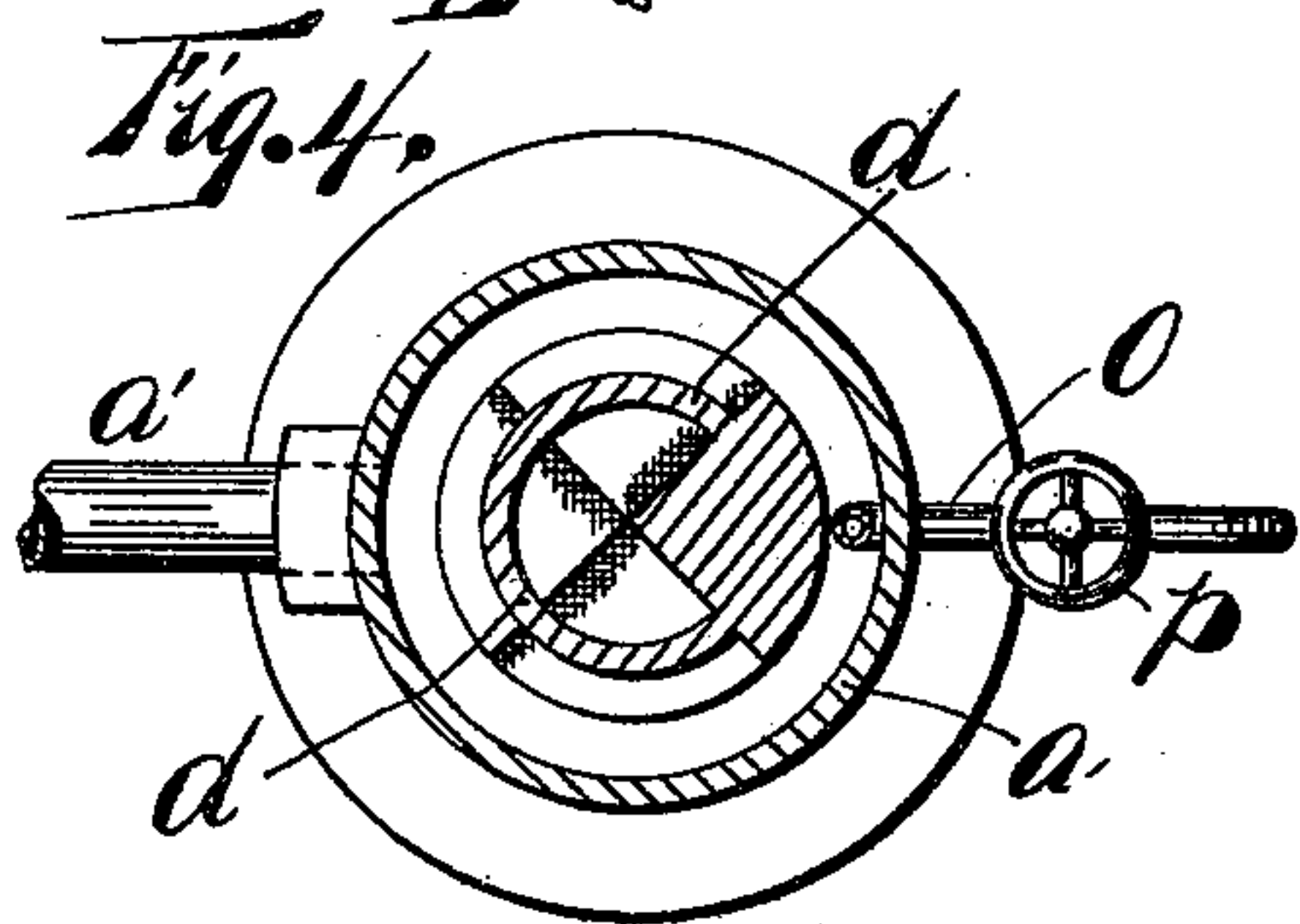
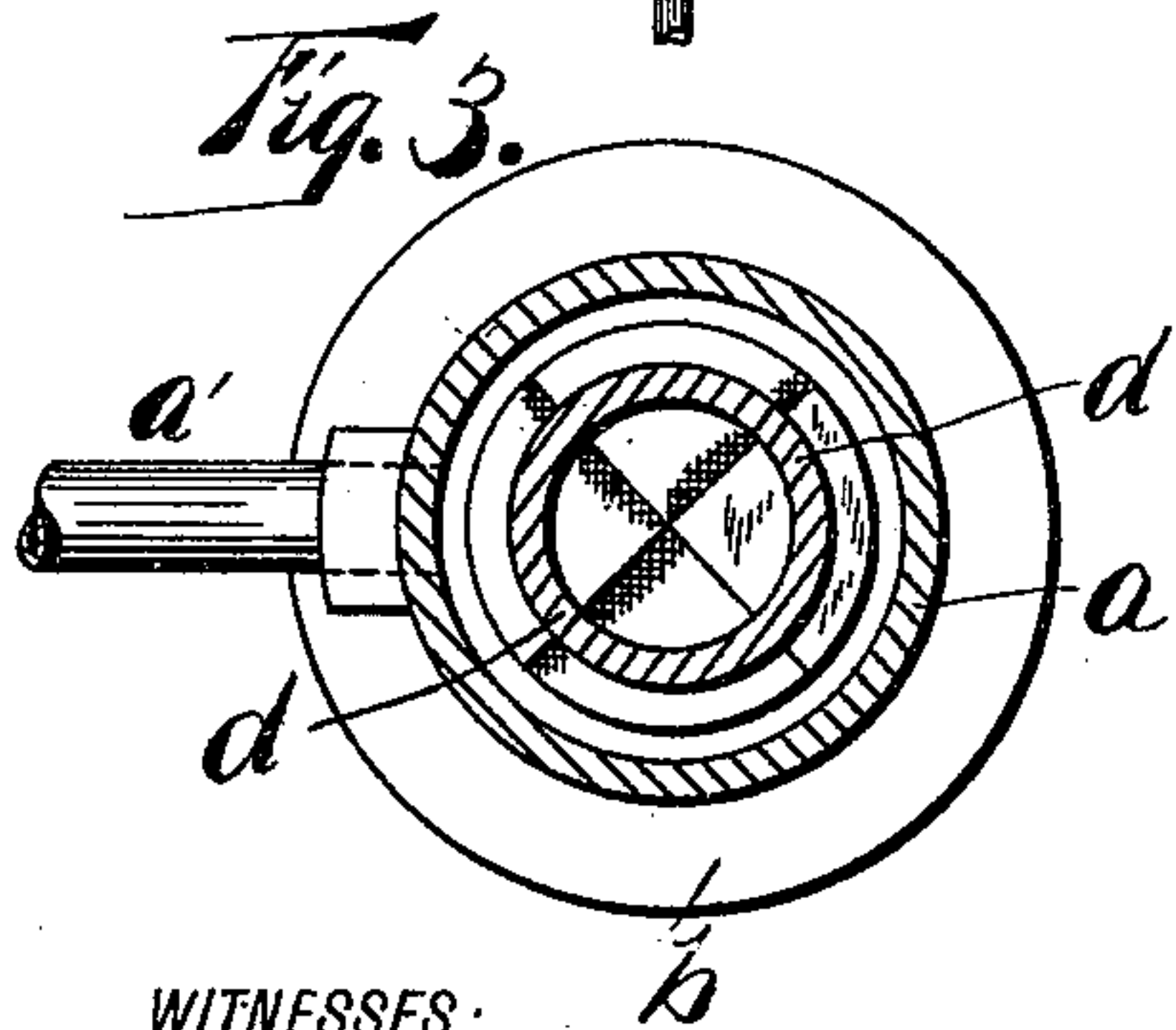
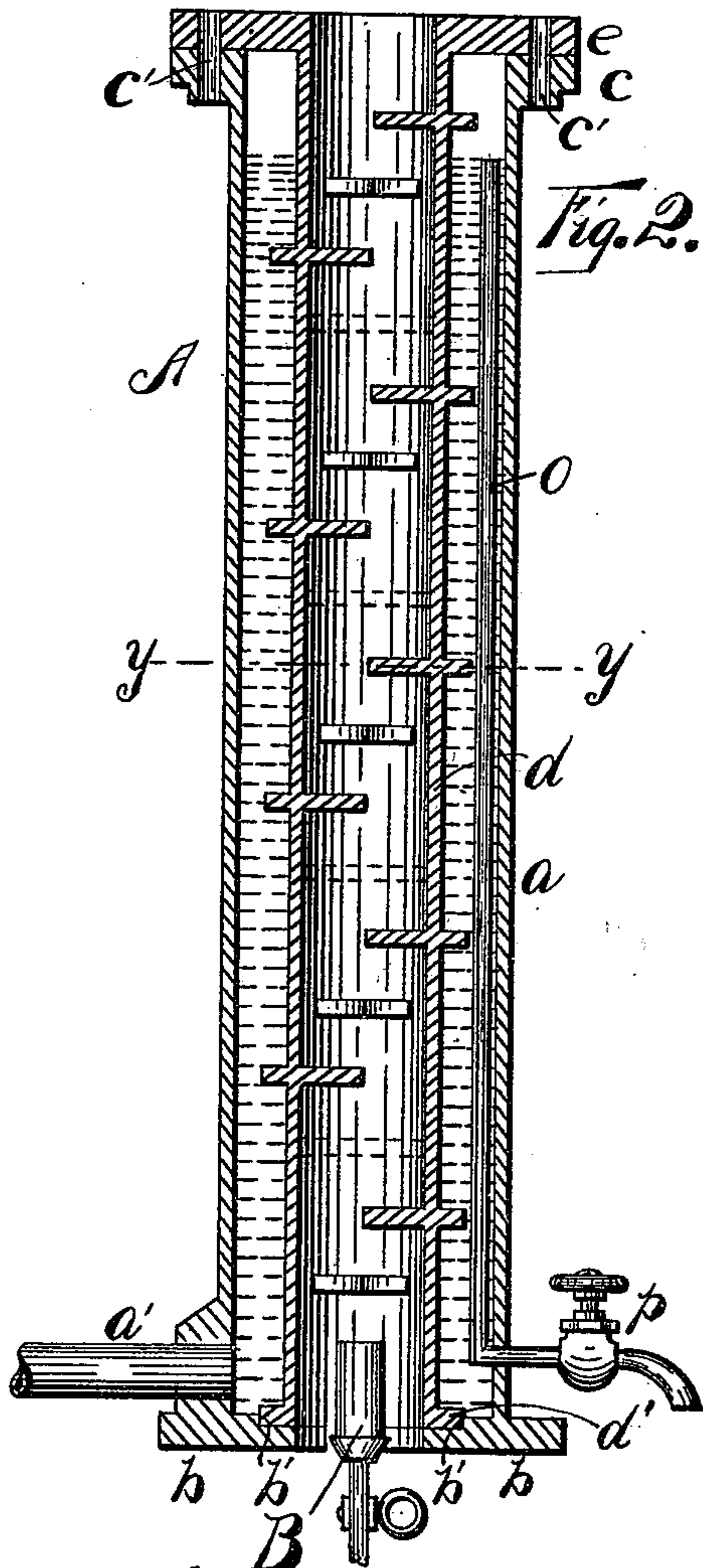
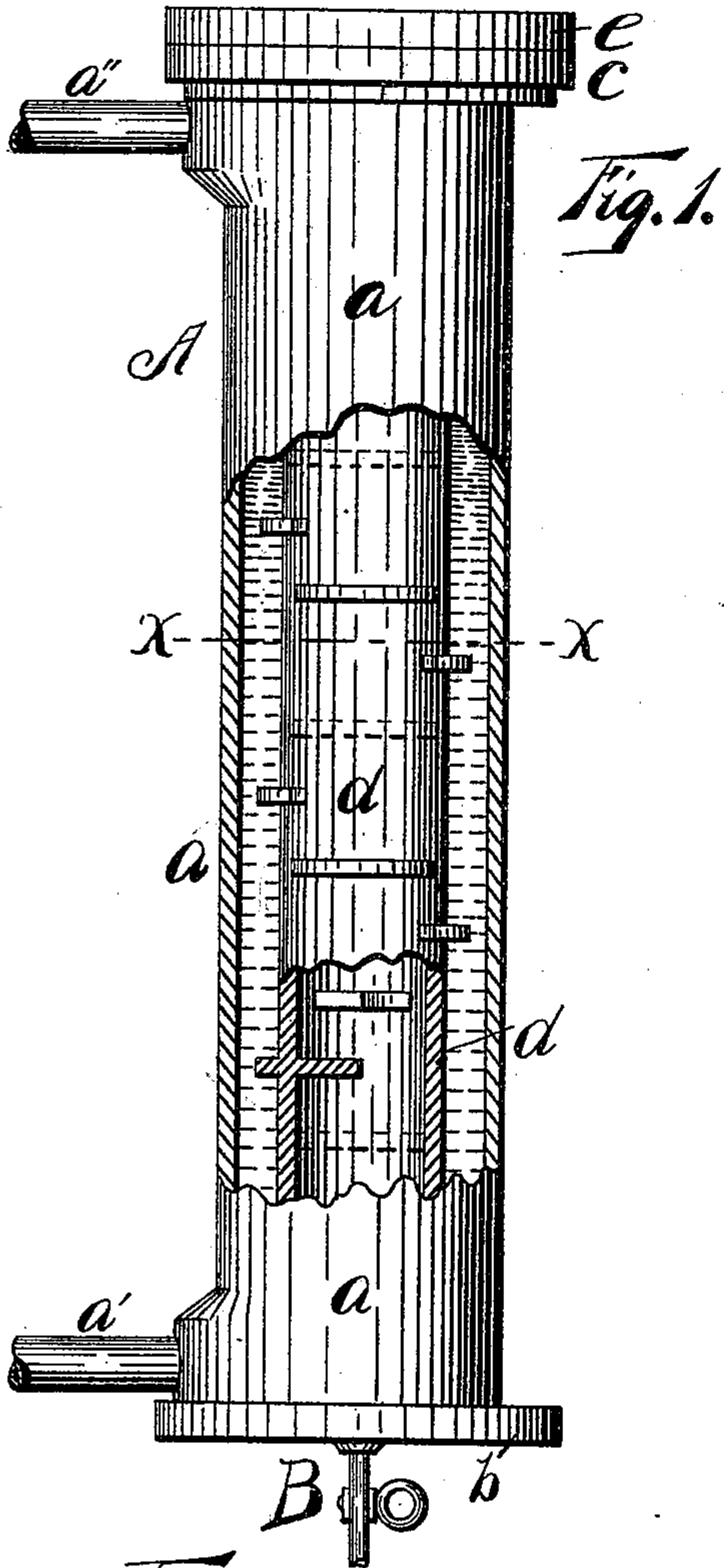
Patented Jan. 23, 1900.

J. T. WILKINS, W. H. WELLS & W. BAKER.

HEATING APPARATUS.

(Application filed Oct. 19, 1899.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN T. WILKINS, WILLIAM H. WELLS, AND WILLIAM BAKER, OF
BALDWINVILLE, NEW YORK.

HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 641,911, dated January 23, 1900.

Application filed October 19, 1899. Serial No. 734,057. (No model.)

To all whom it may concern:

Be it known that we, JOHN T. WILKINS, WILLIAM H. WELLS, and WILLIAM BAKER, of Baldwinville, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Heating Apparatus, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in devices for heating water in boilers used for domestic purposes and in which the boilers are connected in the ordinary way with the sink, bath-tub, washbowls, &c.

Our object is to produce such a heater by which we are able to quickly and inexpensively heat the water in the boiler and at the same time be cheap and durable in its construction and of great utility; and to that end our invention consists in the several new and novel features of construction and operation which are hereinafter described, and specifically set forth in the claims hereunto annexed. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of the heater complete, the inner and outer shells being broken away centrally to show the interior construction. Fig. 2 is a vertical section of what is shown in Fig. 1 and provided with a pipe and a faucet for the purpose of drawing off the hot water from the top of the heater. Fig. 3 is a section on line X X in Fig. 1. Fig. 4 is a section on line Y Y in Fig. 2.

A is the heater, which comprises an outer cylinder *a*, having an inlet-pipe *a'* at the bottom and an exit *a''* at the top. The outer cylinder is provided at the bottom with an annular rim *b*, extending outwardly and inwardly, as shown in Fig. 2, the inwardly-extending rim or flange being provided with a recess *b'* for the purposes hereinafter specified. The upper end of the cylinder is provided with an outwardly-extending flange or rim *c*, provided with bolt-holes *c'*. The inner cylinder *d* is provided upon its lower end with an outwardly-extending rim *d'*, adapted to fit tightly in the recess *b'*, as shown in said Fig. 2, and the upper end of the said inner cylinder

is provided with a flange *e*, which extends far enough to inclose the opening or water-chamber formed by the two cylinders and is secured to the flange or rim *c*. It will thus be seen that the two cylinders may be secured together simply by bolting the flanges of the respective cylinders together at the top. The inner cylinder is provided with metallic legs, preferably in the form of a quadrant, arranged spirally in the wall of the said cylinder, the inner ends extending into the chamber formed by the cylinder and the outer and broader ends extending into the water-chamber formed by the two cylinders. The inner ends of the quadrant are arranged spirally and serve as baffling-plates for the heat, and as they become heated the heat passes radially through said legs and heats the water in the water-chamber and causes a spiral movement of the water toward the top of the heater, where it passes off into the water-tank.

B is a lamp or gas-burner located within or just under the central recess and heats the various legs as the heat passes upward.

o is a pipe leading from the upper portion of the water-chamber down to a point near the bottom, where the hot water may be drawn off by the faucet *p*.

It will be observed that by constructing the legs in the form of a quadrant and arranging them spirally, so that their inner ends will serve as baffling-plates, and passing the outer and enlarged or broad ends into the water-chamber we increase the facilities for heating by providing ample means for the diverging rays of the heat to be conducted into the water-chamber.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A heating apparatus of the class described comprising an outer cylinder and an inner cylinder secured together so as to provide a water-chamber between the walls of the two cylinders, and metallic legs, or lugs secured in the inner cylinder, their inner ends arranged spirally, and their outer ends passing into the water-chamber.

2. A heating apparatus of the class de-

scribed comprising an outer cylinder and an inner cylinder secured together so as to provide a water-chamber between the walls of the two cylinders, and metallic legs, or lugs
5 secured in the inner cylinder, their inner ends arranged spirally, and their outer ends passing into the water-chamber, said metallic legs being in the form of a quadrant.

In witness whereof we have hereunto set our hands this 10th day of October, 1899.

JOHN T. WILKINS.
WILLIAM H. WELLS.
WILLIAM BAKER.

Witnesses:

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