

No. 871,666.

PATENTED NOV. 19, 1907.

S. BINGHAM.
VALVE FOR STERILIZERS.
APPLICATION FILED JUNE 7, 1906.

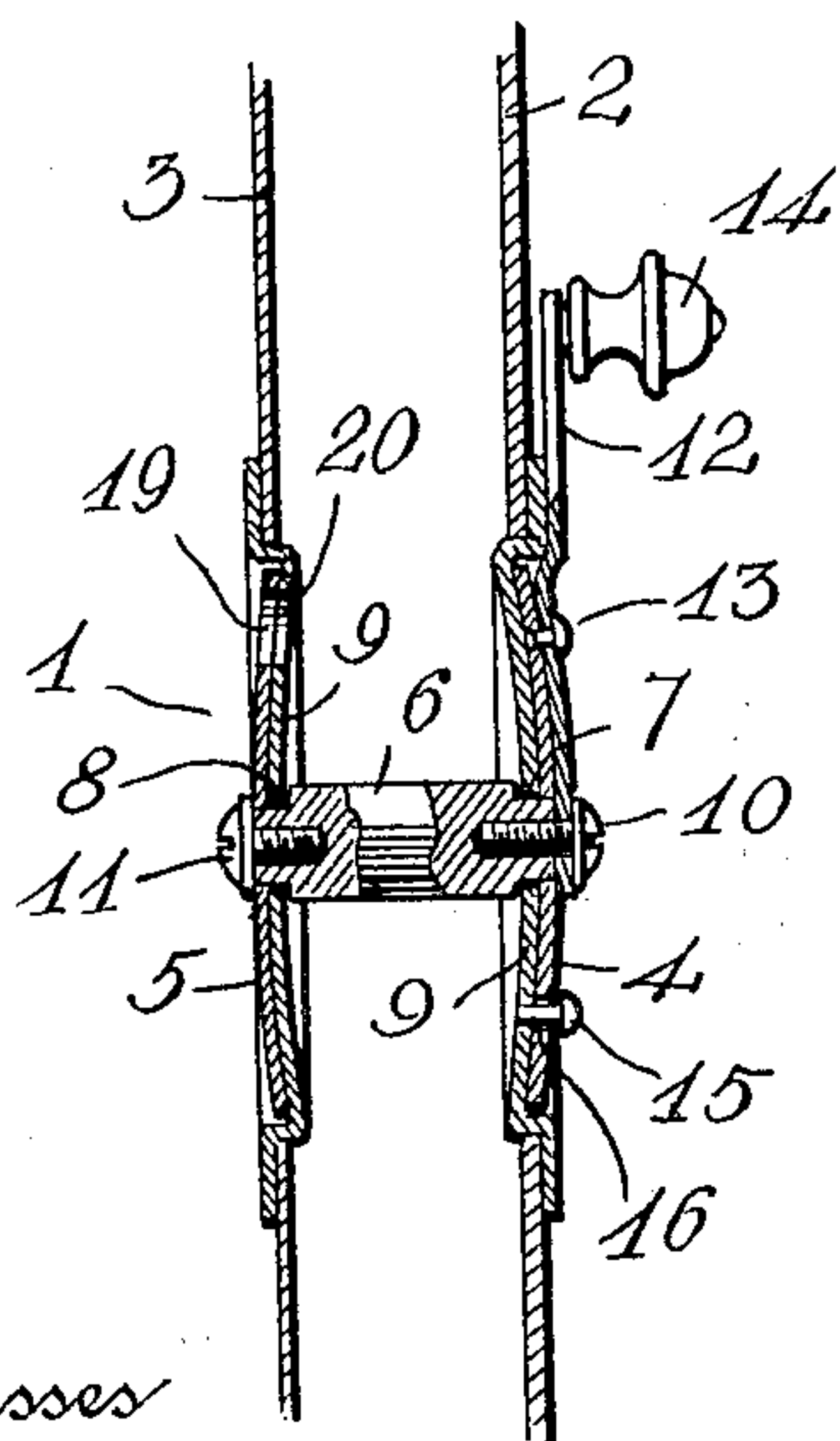
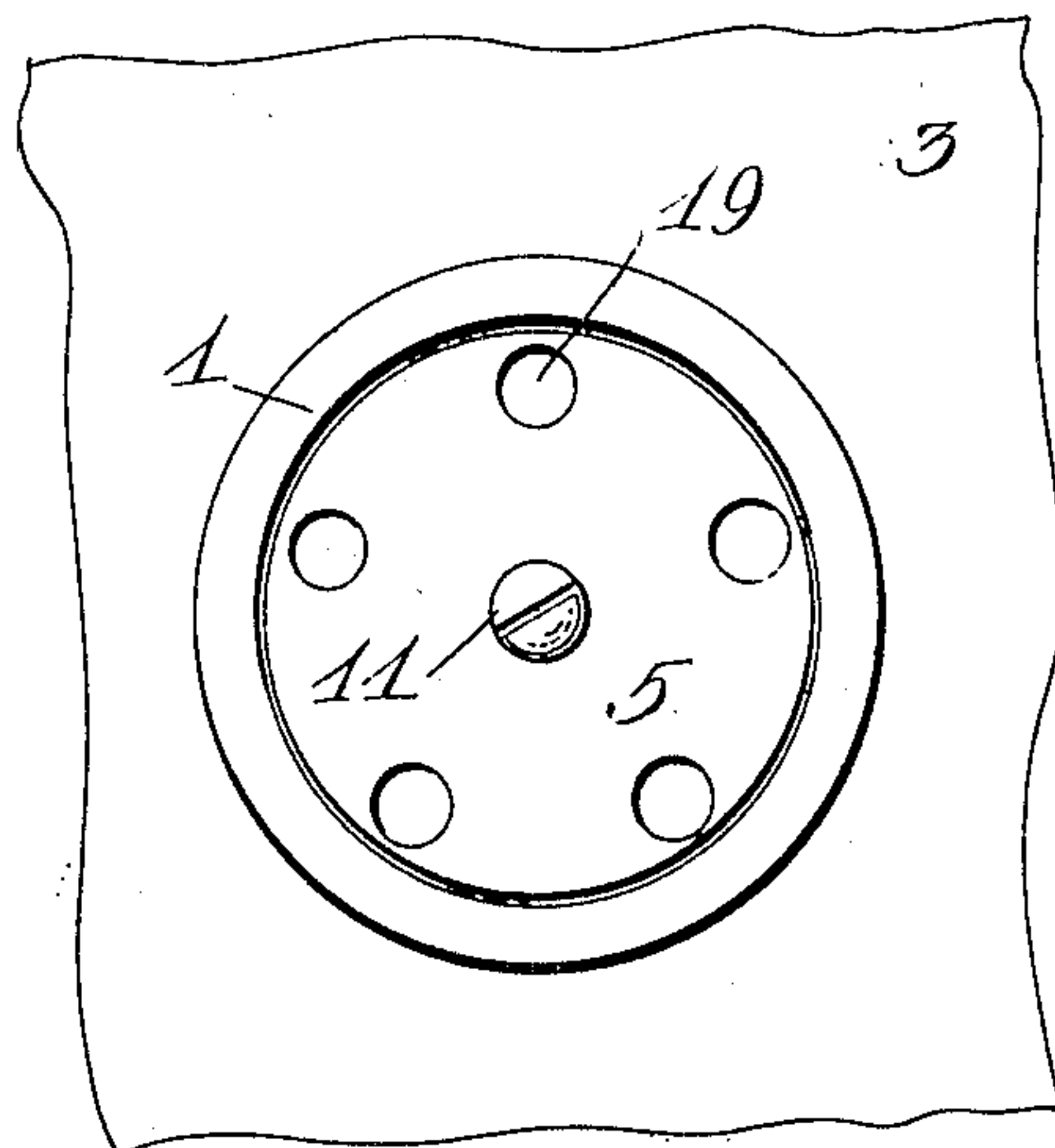
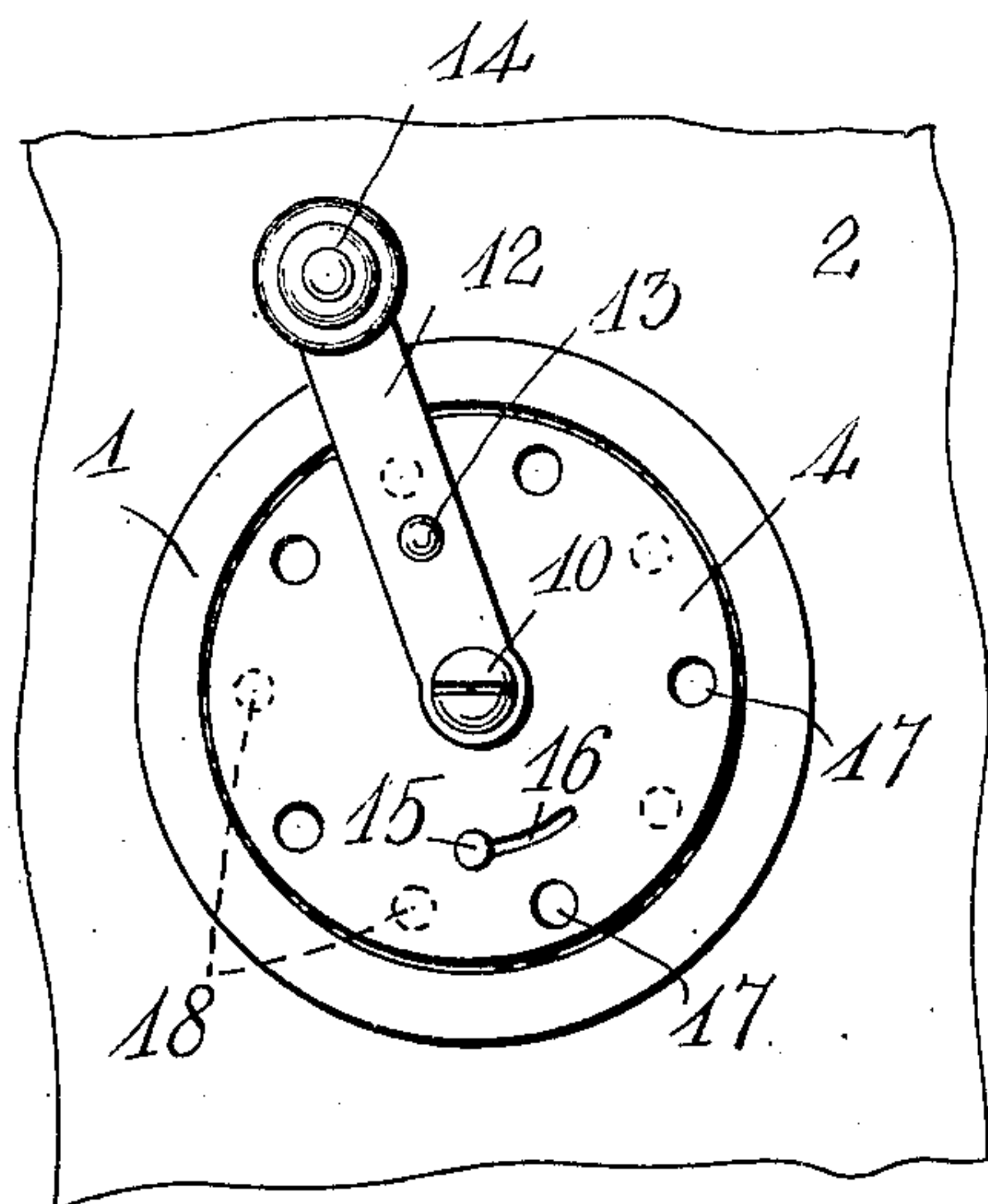
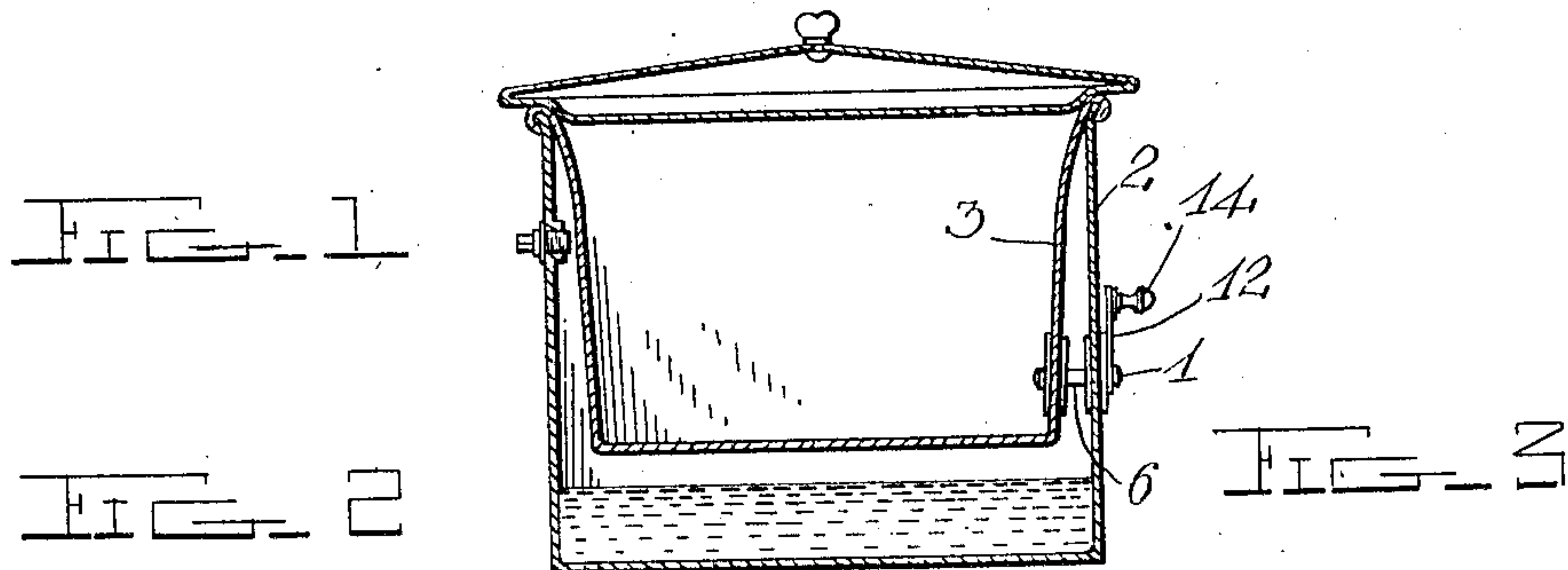
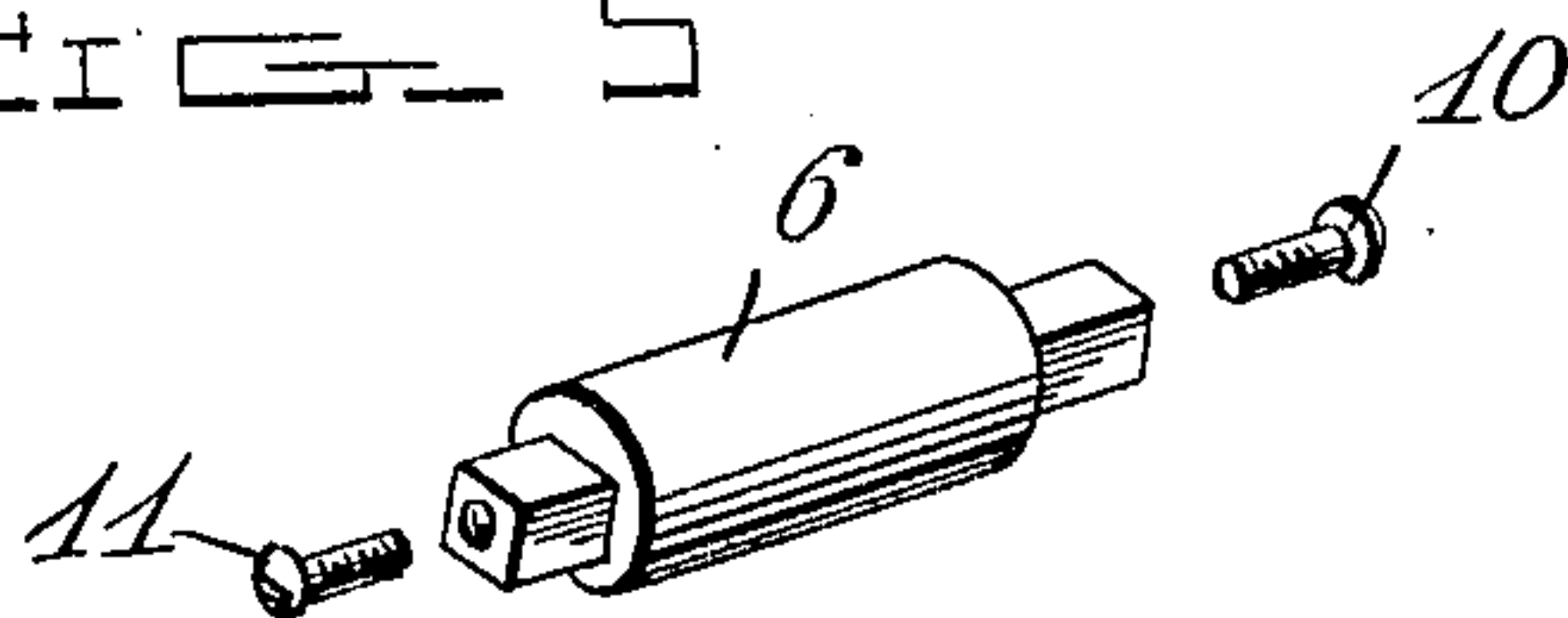


FIG. 7

FIG. 8



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL BINGHAM, OF ROCHESTER, NEW YORK.

VALVE FOR STERILIZERS.

No. 871,666.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed June 7, 1906. Serial No. 320,592.

To all whom it may concern:

Be it known that I, SAMUEL BINGHAM, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Valves for Sterilizers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in sterilizers for the use of physicians in sterilizing instruments and dressings, and more particularly to a valve for sterilizers of this character and for other uses.

The object of the invention is to provide a device of this character which will be simple, strong and durable in construction, and well adapted for the purpose intended.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts hereinafter described and claimed.

In the accompanying drawings,—Figure 1 is a vertical sectional view through a sterilizer, showing the application of my improved valve thereto; Fig. 2 is a front view of the valve and a portion of the sterilizer; Fig. 3 is a rear or inner view of the valve; Fig. 4 is a sectional view through the valve, and Fig. 5 is a perspective view of the shaft or rotary stem of the valve.

Referring to the drawings by numeral, 1 denotes my improved valve which is shown in Fig. 1 as mounted in the outer and inner walls 2, 3 of a sterilizer of the form commonly used by physicians for sterilizing instruments and dressings. As shown, this sterilizer consists of an outer vessel or receptacle adapted to contain boiling water, the steam from which circulates around an inner vessel or receptacle which is supported within the outer one and spaced therefrom, a cover being provided upon the top of the inner receptacle, in which latter the articles to be sterilized are placed.

By means of my improved valve 1, steam within the space between the two receptacles 2, 3 may be either allowed to escape to the atmosphere and simultaneously cut off from the inner receptacle, or admitted into the latter and prevented from escaping to the atmosphere.

My improved valve comprises outer and

inner valve plates or disks 4, 5 connected by a rotary shaft or stem 6 and mounted in seats 7, 8, which latter are provided, respectively, in the outer wall 2 and the inner wall 3. Each of these seats is in the form of a circular plate formed with a shoulder and a flange around its periphery and with a circular depression 9, in which depression the valve is seated and rotates. The valves 4, 5 are slightly dished or of concavo-convex form so as to snugly fit the valve seats with their peripheries abutting against said shoulders, and in their centers are formed square openings to engage the square reduced ends of the shaft or stem 6. The valve disks are thus caused to rotate with the stem and are retained upon these square ends by screws 10, 11, as clearly shown in Fig. 4. The screw 10 also passes through a hand lever 12 provided upon the outer valve disk 4 and further secured thereto by a rivet or the like 13. Upon said lever is a knob or finger piece 14, by means of which said lever and hence the two valve disks may be rotated or oscillated.

A headed pin 15 projecting from the valve seat 7 and through a slot 16 formed in the valve disk 4 limits the rotation of the latter, so that apertures or openings 17 formed in it at suitable points may be moved into and out of alinement with similarly arranged apertures or openings 18 formed in the depressed portion of the valve seat 7. Similar, but larger, openings 19 are formed in the inner valve disk 5, and they are also adapted to be moved into and out of alinement or register with similarly arranged apertures or openings 20 formed in the depressed portion of the inner valve seat 8. The arrangement of these openings in the valves and their seats is such that when the knob or finger piece 14 is swung to the left of the vertical plane of its pivot, the apertures in the valve 5 will register with the apertures in the valve seat 8 and thereby admit steam from the outer receptacle 2 into the inner receptacle 3 and at the same time the valve 4 will close the apertures in its valve seat so as to prevent the escape of steam to the atmosphere, and that when the knob 14 is swung in the opposite direction as far as the stop pin will allow it, the apertures in the valve 4 will be made to register with the apertures in its seat 7, so as to allow the steam within the outer receptacle to escape to the atmosphere, and the valve 5 will close the apertures

in its seat so as to cut off the admission of steam into the inner receptacle. When the knob 14 is moved to an intermediate position, both of the valves will close the apertures in their seats so as to effectively prevent the escape or loss of steam from the outer receptacle.

It will be noted that the valve is of simple, strong and durable construction, and is very effective for the purpose intended. Owing to the peculiar construction of the valves and their seats, and by arranging the seats to face in opposite directions, or away from each other, whereby the valves will be drawn toward each other and be thereby more firmly seated when secured upon the stem, it will be seen that longitudinal movement of the stem cannot occur and that all loss of the steam will be prevented and its escape from the receptacle 2 also prevented except when the valve is properly set to effect the desired result.

From the foregoing description taken in connection with the accompanying drawings, the construction, operation and advantages of the invention will be readily understood without requiring a more extended explanation.

While I have shown and described my improved valve as mounted in a sterilizer, it will be understood that it may be adapted for other uses.

It will also be understood that various changes in the form, proportion and the minor details of construction may be resorted to without departing from the prin-

ciple or sacrificing any of the advantages of the invention, as defined by the appended claims.

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

A sterilizer comprising a boiler and an inner vessel having their walls provided with oppositely facing, perforated valve seats, one of said seats being provided with a pin, a perforated valve on each seat having an angular aperture at its center and one of them provided with a slot through which said pin projects, a stem through said seats, the ends of which are angular and fit in the angular apertures of said valves, screws in the ends of said stem for holding said valves toward each other upon said oppositely facing seats, and a handle secured to the outer valve, whereby the valves may be rotated to cause the perforations of one of them and its seat to register when the pin stands at one end of the slot and the perforations of the other valve and its seat to register when the pin stands at the other end and all of said perforations to be out of register when the pin stands intermediate the ends of said slot.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SAMUEL BINGHAM.

Witnesses:

SAML. B. RAY,
WM. WALDERT.