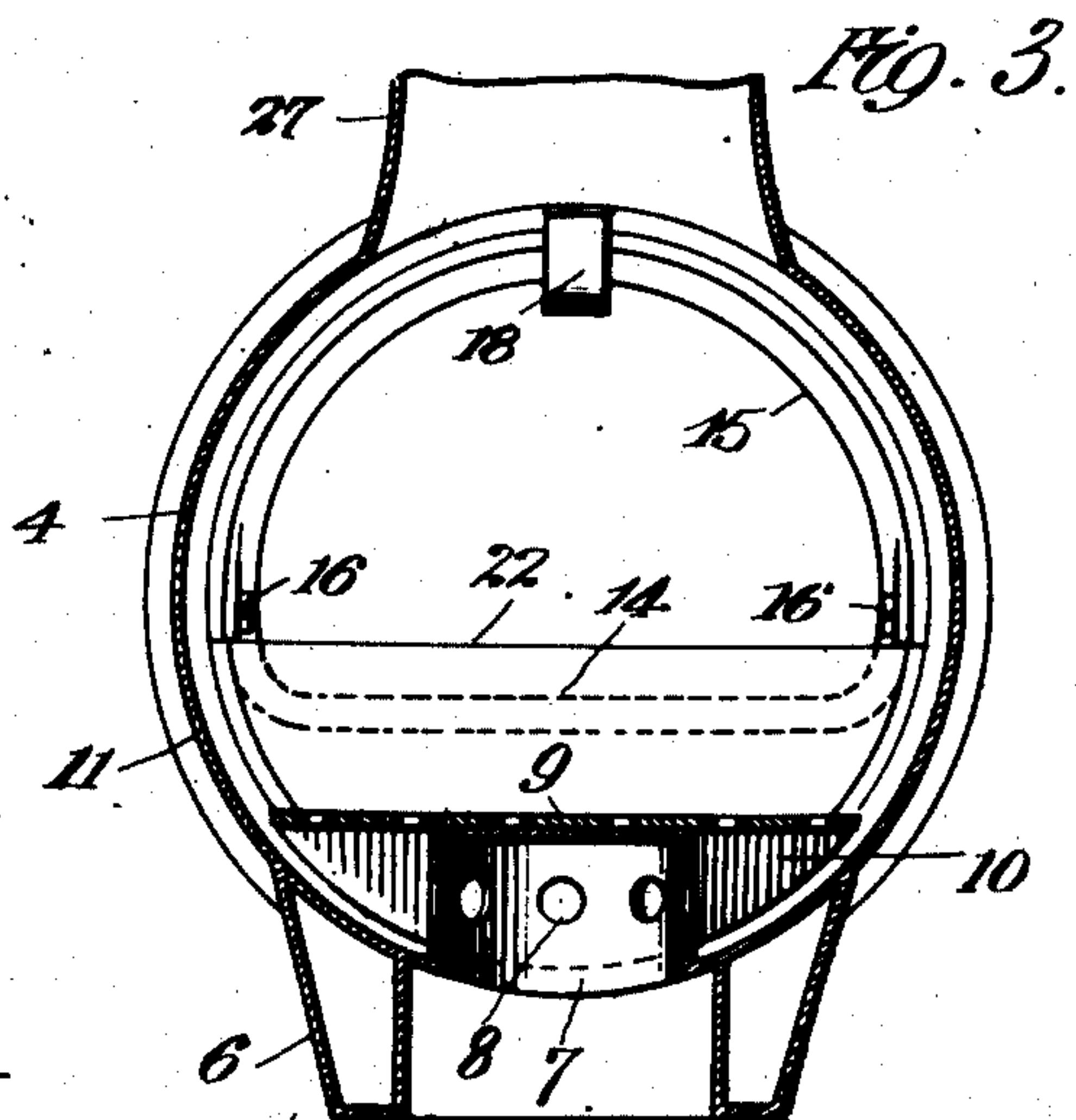
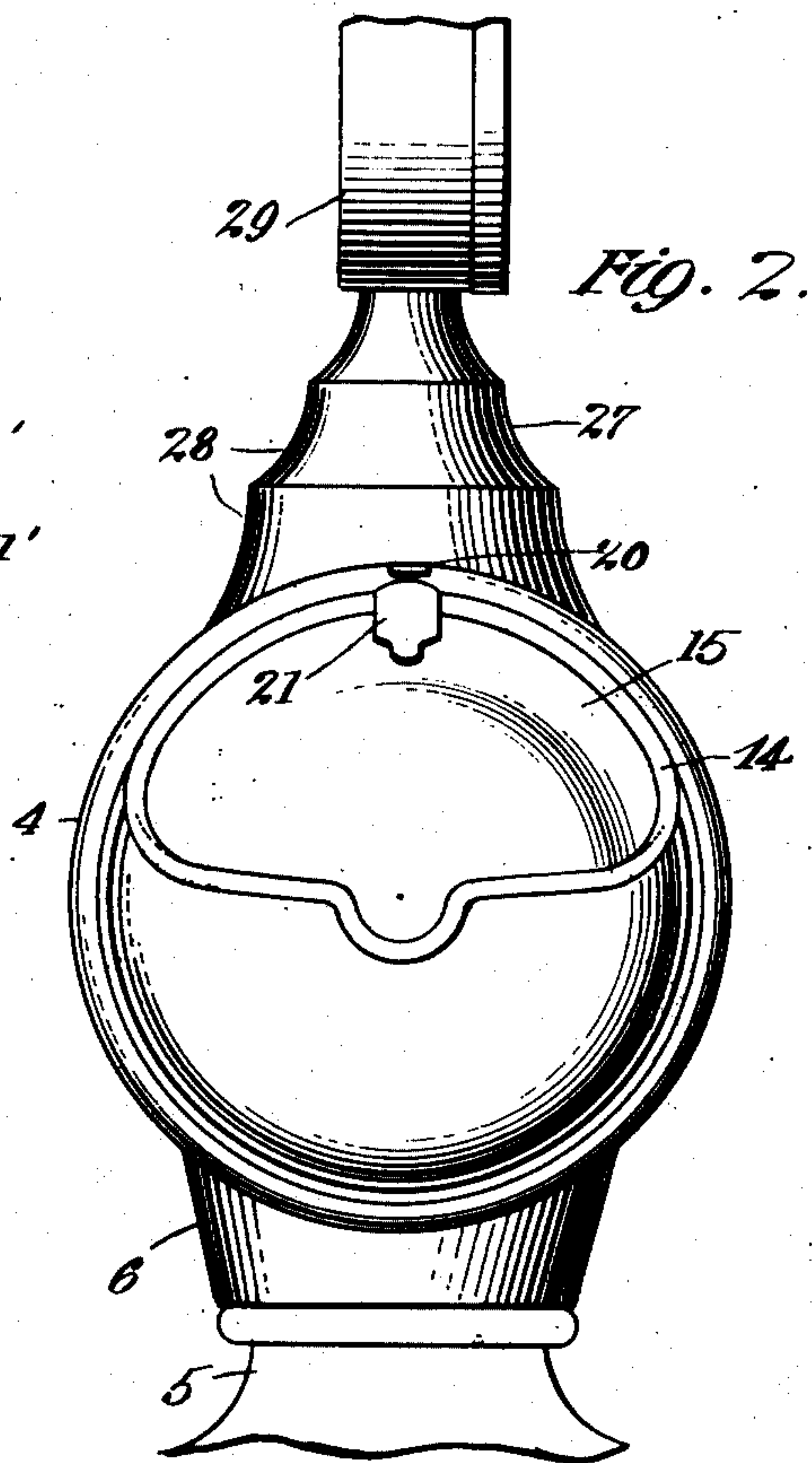
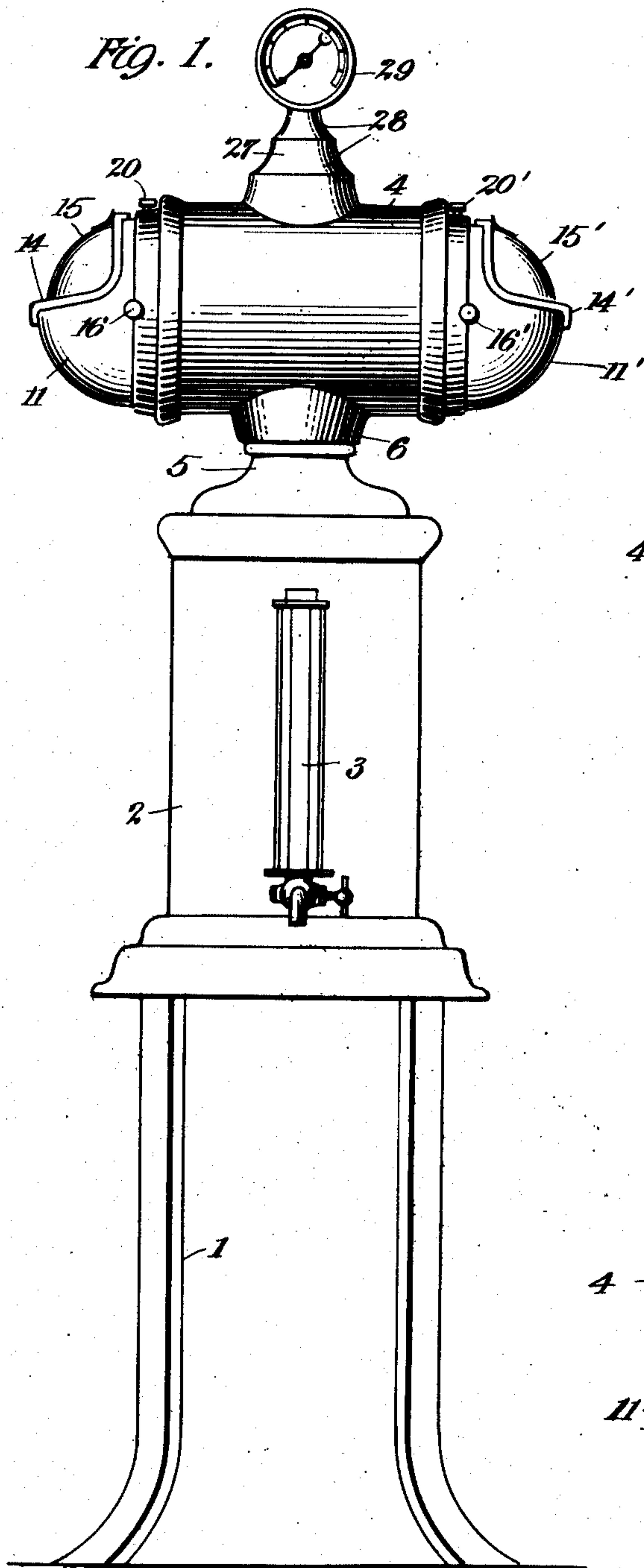


No. 883,463.

PATENTED MAR. 31, 1908.

E. KRONMAN.
STERILIZING APPARATUS.
APPLICATION FILED JULY 18, 1907:

2 SHEETS—SHEET 1.



Witnesses:
Francis Ober
L. V. Sparks

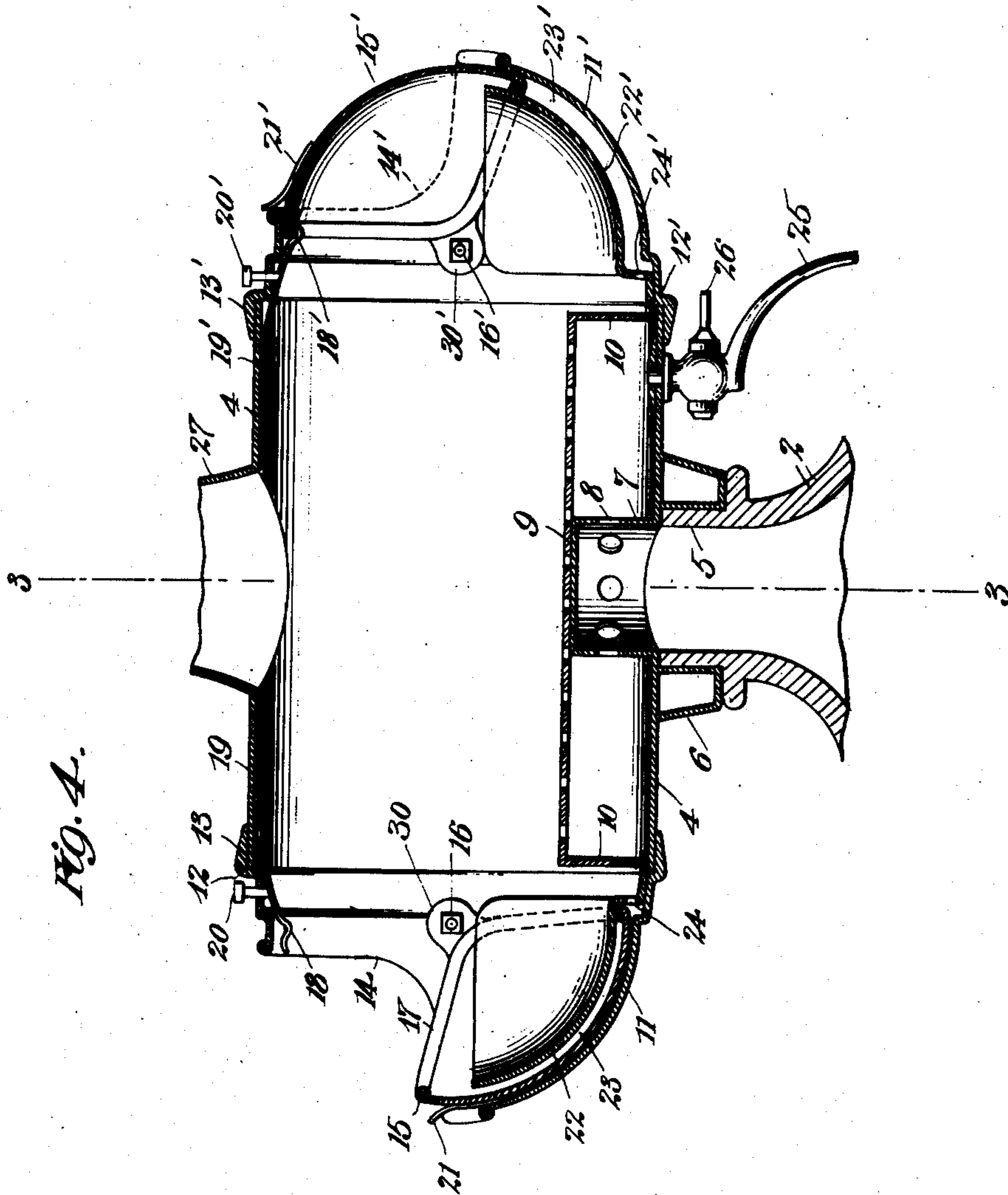
Inventor
Edward Kronman
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2 SHEETS—SHEET 2.



Witnesses:
Thos. O. O'Brien
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UNITED STATES PATENT OFFICE.

EDWARD KRONMAN, OF NEW YORK, N. Y.

STERILIZING APPARATUS.

No. 883,463.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed July 18, 1907. Serial No. 324,458.

To all whom it may concern:

Be it known that I, EDWARD KRONMAN, a citizen of the United States, residing in the borough of Manhattan, New York city, county and State of New York, have invented certain new and useful Improvements in Sterilizing Apparatus, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to apparatus for sterilizing or disinfecting articles by subjecting the same in a suitable receptacle to vapors or high temperature and the invention is particularly applicable to sterilizers used by barbers, physicians and dentists.

The principal objects of my invention are to provide a sterilizer in which the sterilizing receptacle or chamber is easily accessible, so that articles may be readily placed therein and removed therefrom; and in which also the door for closing the hand opening in the receptacle may be easily operated; and in which also access may be gained to the elongated sterilizing receptacle from either end thereof; and in which also the sterilizing receptacle or chamber may be readily applied to different forms of devices from which the sterilizing vapors or heat is supplied.

With these and other objects in view, my invention consists in the various novel and peculiar arrangements and combinations of the several different parts of the apparatus, all as hereinafter fully described and then pointed out in the claims.

I have illustrated a type of my invention in the accompanying drawings, wherein;

Figure 1 is a front view of my improved sterilizer shown as mounted upon a stand and on a reduced scale. Fig. 2 is an end view of the sterilizing receptacle with the door thereof shown as closed. Fig. 3 is a central vertical sectional view of the sterilizing receptacle, the plane of which section is indicated by line 3—3, Fig. 4. Fig. 4 is a central vertical sectional view of the sterilizing receptacle taken on a plane at right angles to that of Fig. 3 and longitudinally of the elongated receptacle. In this view, the left hand door of the hand opening is shown as open while the right hand one is closed.

Referring to the drawings, in which like numbers of reference designate like parts

throughout, 1 is an ordinary stand on which is mounted a heater or vaporizer 2 having a water gage 3, and this heater supplies the steam to the sterilizing chamber 4 which is mounted upon the tubular extension 5 at the upper end of the heater.

The sterilizing receptacle 4 is formed with a hollow cylindrical body open at both ends and provided in its side with a pipe connection 6 for fitting over the tubular extension 5 of the heater. Within the cylindrical part of the receptacle 4 is a raised part or dome 7 having perforations 8 which communicate with the tubular connection 5 through which the vapor or heat may pass from the heater into the receptacle. Upon this dome 7 rests a foraminated plate or tray 9 each end of which is provided with a depending segmental shaped flange 10 which rests upon the interior of the cylindrical body, as indicated in Figs. 3 and 4 and gives a firm support to the perforated bottom 9 which is of a suitable width to extend across from one side of the interior of the receptacle to the other, as indicated in Fig. 3. This provides an elongated arched interior for the receptacle with a flat perforated bottom thereto.

Each end of the cylindrical body is provided with a hollow rounded or hemispherical shaped end 11, which is formed with a shoulder 12 for fitting against the end of the cylindrical body and a flange 13 for extending over upon the exterior of the body 4 to secure the end in place on the body. As these two ends are alike, likewise the doors and openings therein, a description of one will serve for both, the parts at one such end being referred to by the same letters of reference as the other but with the prime marks added thereto.

Substantially the upper half of the horizontally arranged hemisphere 11 is cut away at 14 to provide a hand opening through which articles may be placed in the receptacle 4 and removed therefrom. This opening is provided with a swinging door 15 which is shaped like a quarter of a sphere and is of practically the same curvature as the rounded end 11 and this door operates upon the inside of the end 11 being pivoted at its two inner ends on pivots 16. The edge of this curved door 15 is rolled inwardly at 17, which part is engaged by a spring latch 18 which is secured at 19 to the interior of the body 4 and is provided with a push button 20 for depress-

ing the spring latch to release the door. This door when released from its closed position, will gravitate quickly down into its full open position, as shown in Fig. 4. A finger piece 5 21 is provided on the outside of the door for lifting the door upwardly to close it and place it in engagement with its spring latch 18. To prevent the contents within the receptacle from interfering with the operation of 10 the swinging door 15, I provide a shield 22 which is secured in such position as to provide a pocket 23 for the door to operate in when moving into and out of closed position. The lower end of this pocket 23 is provided 15 with drain-holes 24 which lead to the bottom of the receptacle 4 and permit any liquid which may find its way into the pocket or may be condensed therein, to flow into the bottom of the receptacle from which all liquid is drawn by a small drip-cock 25 having a 20 key 26 for operating it.

Upon the upper side of the cylindrical body 4 is a hollow boss or tubular extension 27 which is conical in its general contour and 25 circular in cross section and is made somewhat ornamental on its exterior by the corrugations 28. This boss carries a pressure gage 29 for indicating to the user of the sterilizer the amount of pressure of steam in the 30 sterilizer.

The various parts of the sterilizing chamber which have been described may be made of sheet metal drawn, spun or stamped to shape and the various parts soldered together 35 so as to form a liquid and gas tight receptacle at its joints.

It will be seen that the horizontal cylindrical body 4 provides a very compact and desirable form for a sterilizing receptacle and 40 that the hemispherical ends with the gravity doors afford ready access to the interior of the receptacle. Furthermore, the arrangement of a door at the opposite ends of the elongated chamber or receptacle 4 provides 45 two points of access which thus permits two operators to use the apparatus at the same time. Furthermore, this peculiar novel form of sterilizer body may be applied to different types of supply devices for furnishing the 50 necessary vapor or heat. It may, if desired, be attached to a steam-pipe by means of the tubular extension 6 extending from the bottom of the receptacle.

The pivoted door 15 which is substantially 55 a quarter of a sphere, so as to complete the hemispherical shape of the end of the body when the door is closed, is shown as being made of a single piece of sheet metal with the edge rolled at 17 and with its inner ends each 60 provided with a lug or ear 30 which may be soldered or otherwise secured to the door and through which the pivot 16 loosely passes. It will be noted that when the door is closed that practically the entire door lies to one 65 side of the vertical plane containing the axis

of the pivot 16, so that the tendency of the door is to gravitate with considerable force into open position.

The peculiar form of the door 15 which is a segment of a sphere being pivoted at its 70 lower inner end causes it to gravitate quickly into open position whenever the spring catch 18 is depressed by pushing on the button 20, to release it. As pressing on the button 20 is a very easy operation and can be quickly 75 done, the door 15 is thus caused to be operated with very little effort on the part of the operator. While I have shown a door at each end of the sterilizing chamber, it will, of course, be understood that only one door 80 need be provided, if desired, but I think it is preferable to have a door at each end, as hereinabove stated. Another feature of the curved gravity door is that it is practically free to move as the only bearing it has is on 85 its pivotal points and there is no friction between the door itself and any of the adjacent parts as in some constructions.

An important advantage in having the sterilizing chamber arranged as I have shown 90 it and with the hand-opening and its door at the upper part of one end thereof is that the contents of the receptacle are fully visible immediately on opening the door. Again, the door itself in no way interferes with the 95 operation in removing articles from the receptacle or placing the same therein. In fact the door is entirely out of the way when once opened. The hemispherical end of the receptacle with the hand-opening in the up- 100 per part thereof and the door being substantially a quarter of a sphere, is also a novel feature which I deem of importance in this construction of apparatus.

Having thus described my invention what 105 I claim and desire to secure by Letters Patent is:—

1. A sterilizing receptacle provided with a rounded end, a hand-opening formed in the upper part of the rounded end, a door con- 11 forming to the shape of such end for closing the opening, a pocket formed below the opening and into which the door slides, and drain holes between said pocket and the interior of the receptacle substantially as described. 11

2. A sterilizing receptacle comprising a horizontal elongated body provided with rounded ends, a hand-opening in the upper part of the end, a door shaped like the segment of a sphere for closing said opening and 12 pivoted at its respective ends and adapted to gravitate into open position, and releasable means for holding the door in closed position.

3. A sterilizing receptacle comprising a horizontally-arranged elongated body provided with rounded ends each having a hand-opening formed in the upper part thereof, a curved pivoted door for each end conforming to the rounded shape thereof for closing said opening, and releasable means for holding 13

the door in closed position, substantially as described:

4. A sterilizing receptacle comprising a horizontally-arranged elongated body provided with rounded ends of a hemispherical shape, each having the upper part thereof cut away to form a hand opening, the lower edge of said hand opening being provided with a notch, a curved pivoted door for each end conforming to the shape thereof, a finger-piece mounted upon the outside of said door for raising the same into closed position and adapted to stand in the notch in the edge of the opening when the door is open, and releasable means for holding the door in closed position, substantially as described.

5. A sterilizing receptacle comprising an elongated body arranged horizontally and provided with rounded ends each formed with an annular offset or shoulder for fitting against the end of said body, each of said ends having a portion of its upper part cut away to form a hand-opening, a pivoted door for each end comprising a curved part conforming to the shape of the end and pivoted so as to gravitate into open position, and releasable means for holding the door in closed position, substantially as described.

6. A sterilizing receptacle comprising a horizontally arranged elongated body provided with rounded or hemispherical shaped ends, a hand-opening formed in the upper part of the rounded end, a pivoted door conforming to the shape of the rounded end for closing said opening, the under side of said

body being provided with a depending tubular extension for mounting the body on and coupling it with a supply connection, and a foraminated plate placed within the lower part of said body and serving as a bottom for the articles to rest on, substantially as described.

7. A sterilizing receptacle comprising a tubular body 4 provided with rounded ends 11, 11' having hand openings 14, 14' respectively in the upper part thereof, swinging doors 15, 15' conforming to the curvature of the rounded ends and pivoted to swing upwardly to close said respective openings, said body being provided with a suitable supply connection, substantially as and for the purpose set forth.

8. A sterilizing receptacle comprising a horizontally arranged tubular body provided with rounded ends 11 having a hand opening 14 in the upper part thereof, a swinging door 15 pivoted at its ends 16 for closing the said opening 14, releasable means for holding the door in closed position, a hollow boss 27 located upon the upper side of the tubular body and a pressure gage mounted on said boss, substantially as described.

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

EDWARD KRONMAN.

Witnesses:

WILLIS FOWLER,
L. V. SPARKS.