

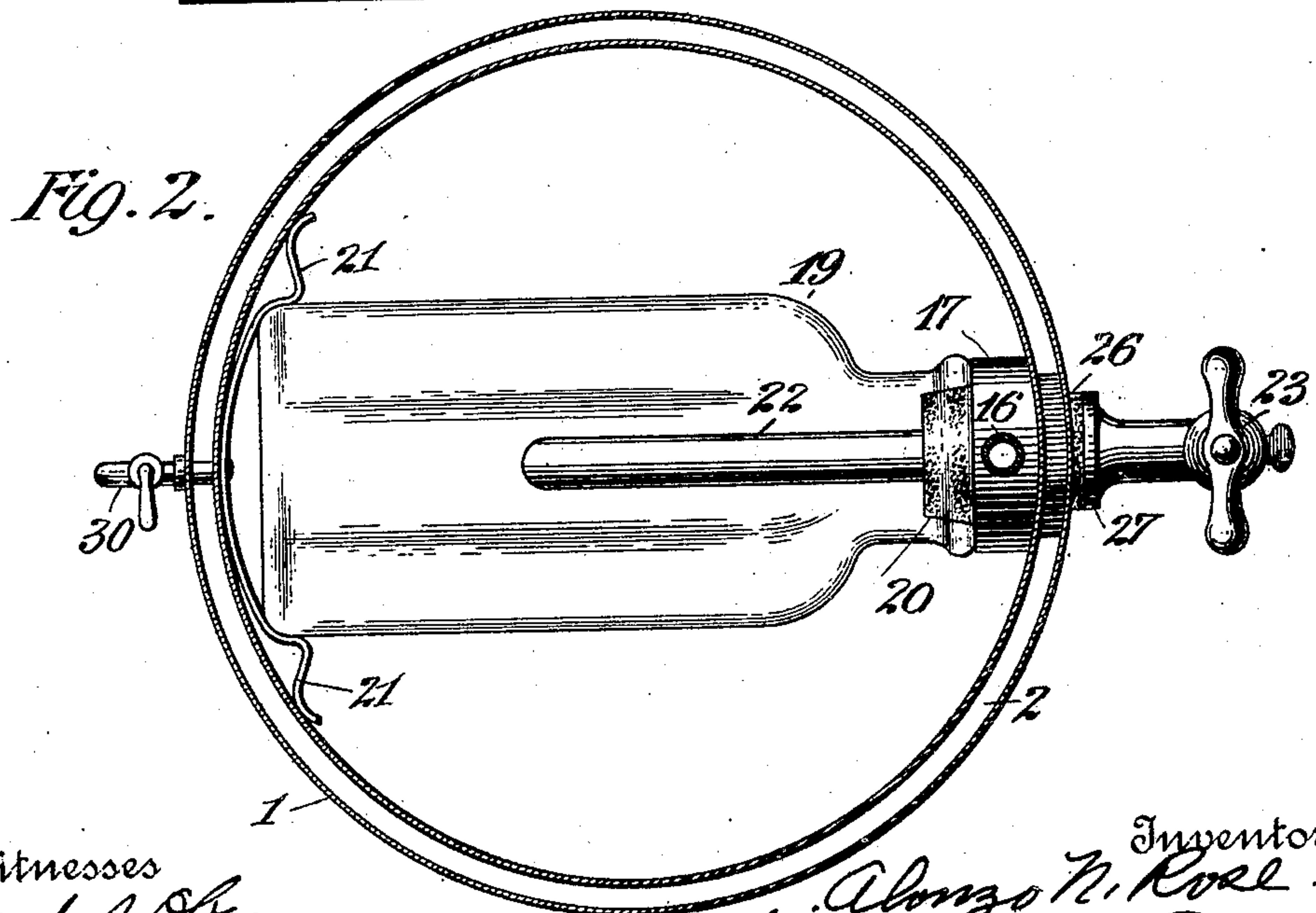
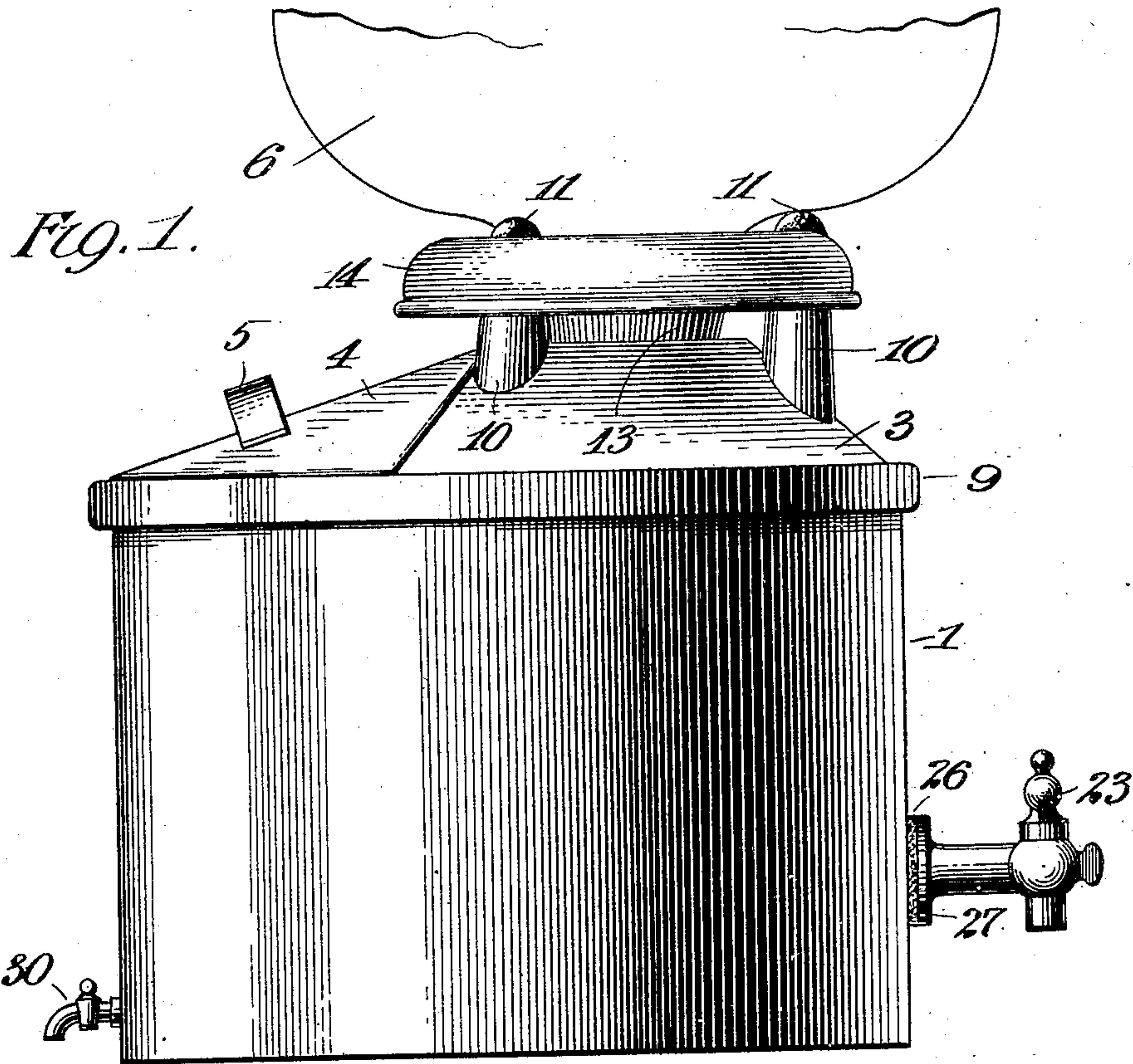
A. N. ROSE.
WATER COOLER.

APPLICATION FILED DEC. 22, 1904.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

935,060.



Witnesses
Hauke S. Ober
L. V. Sparks.

Inventor
Alonzo N. Rose.
By the Attorney
Willis G. Miller.

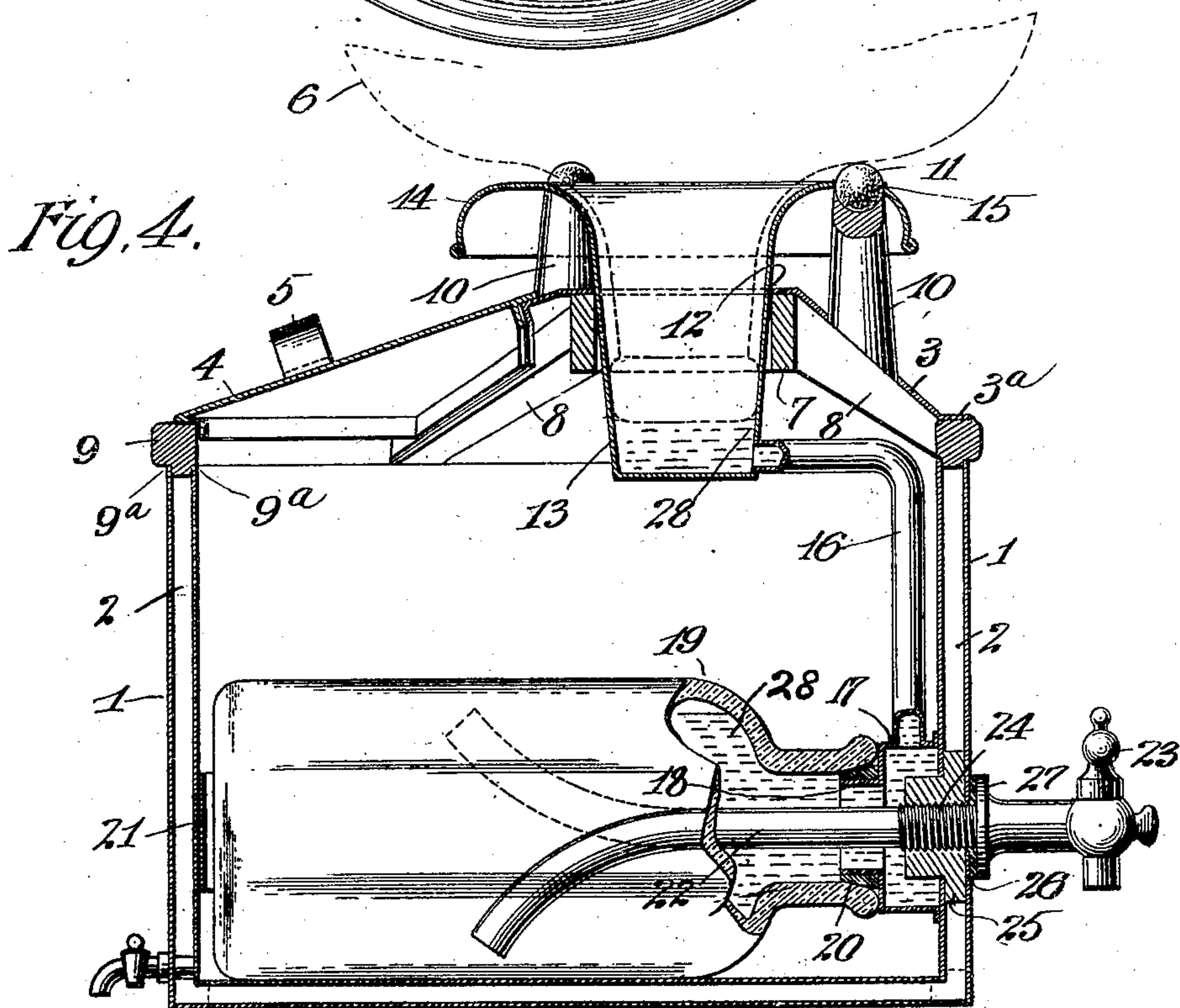
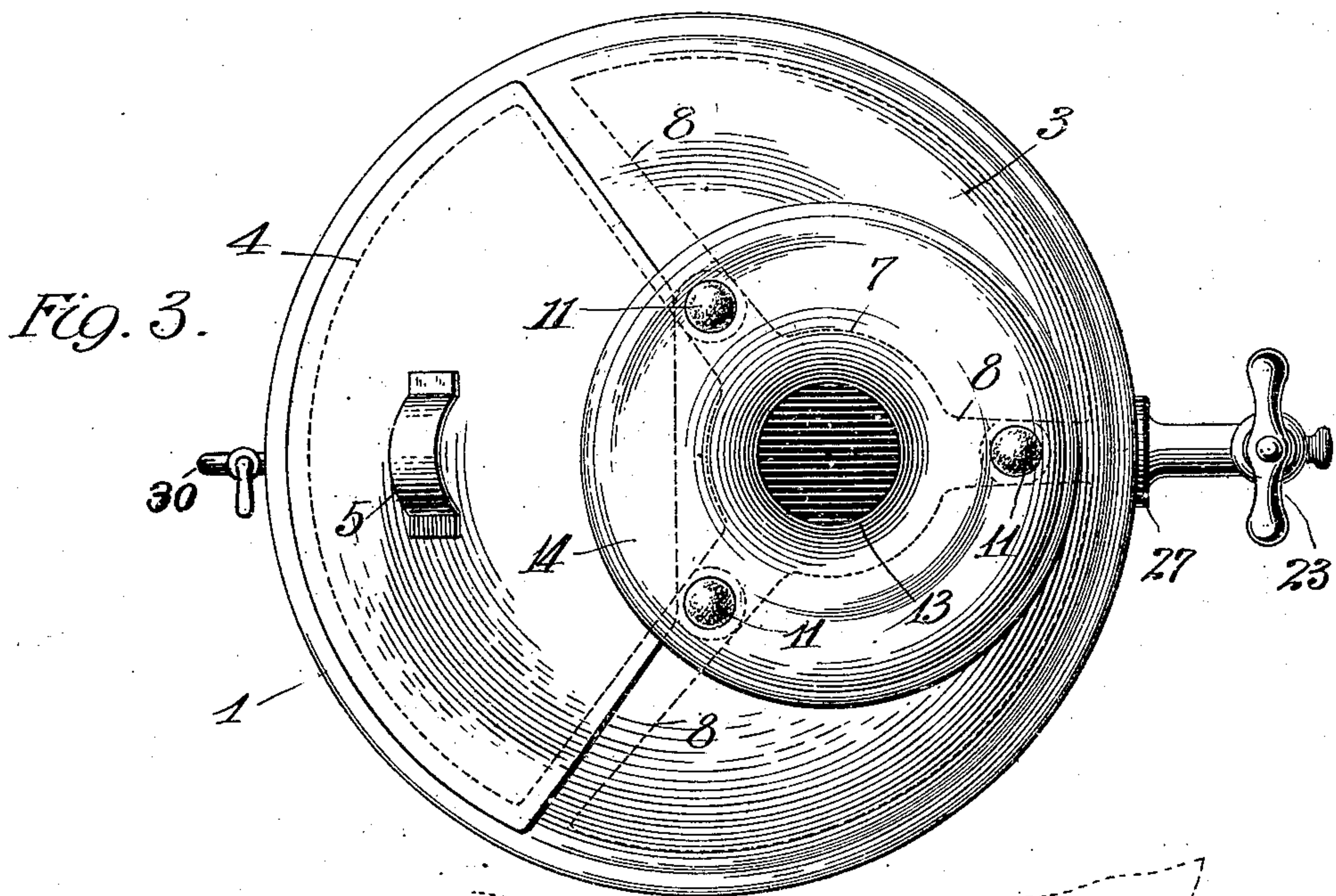
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2 SHEETS—SHEET 2.



Witnesses
H. S. Ober
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Inventor
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UNITED STATES PATENT OFFICE.

ALONZO N. ROSE, OF NEW YORK, N. Y.

WATER-COOLER.

935,060.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed December 22, 1904. Serial No. 237,914.

To all whom it may concern:

Be it known that I, ALONZO N. ROSE, 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 Water-Coolers, 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 a cooler for cooling drinking water by means of a cooling agent, such as ice, which does not come in contact with the drinking water, and the invention has reference more particularly to the cooling of bottled-water and the delivery of the same in a comparatively small quantity as needed.

The present invention consists in the various novel and peculiar arrangements and combinations of the several different parts of the cooler, 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 side view of my improved cooler with an inverted bottle or reservoir shown as seated upon the upper part of the cooler, such bottle or reservoir being broken away. Fig. 2 is a view of a horizontal section of the water cooler, showing the interior thereof. Fig. 3 is a top view of the cooler, with the inverted bottle or reservoir omitted. Fig. 4 is a vertical central section of the cooler, with a portion of the water receptacle, in which the water is cooled, broken away and with the lower portion of the inverted bottle or reservoir shown in dotted lines.

In the accompanying drawings, in which like numbers of reference designate like parts throughout, 1 is a cylindrical casing the bottom and sides of which are made of double sheets of metal with a space 2 between them, to serve as an air space or packing space for the usual material employed in connection with coolers and for the purpose of protecting the interior against the exterior heat. This casing constitutes the cooling or ice chamber and it is provided with a top 3 shaped somewhat like a truncated cone and which slopes upwardly from the edge of

the casing. This top is made stationary on the casing and is provided with a removable door or cover 4 having a handle 5 by means of which it may be readily lifted off, the door being shaped in conformity with the top 3.

The inverted bottle or reservoir 6 is supported in inverted position on the top of the cooler by means of a truss like bracket and comprising a ring like member 7 from which extends three arms 8 which slope downwardly to conform to the shape of the top 3 and have their outer ends secured rigidly to a solid rim 9 fixed upon the edge of the casing 1 and to which also the top 3 is secured. From each of the bracket arms 8 extends upwardly a post 10 which is shown of a shape tapering upwardly and each of these supporting posts 10 is provided at its upper end or head with a cushion of soft material 11, such as india rubber. These supporting posts 10 are arranged at equidistant points apart and together furnish a sufficient supporting surface and at the same time one that is very firm, and by means of this arrangement the entire weight of the superposed inverted bottle or reservoir, which in some instances holds five gallons of water, is received directly from the supporting posts by the supporting bracket or truss 7-8 which in turn is sustained by the solid rim 9 on the edge of the casing 1. The supporting bracket and its posts being made of metal, provide a very substantial support which is not liable to be strained. The edge of the top or cover 3 has a flange 3^a which is soldered to the upper side of the solid metallic rim 9. This supporting bracket together with the posts 10 and the annular rim 9 form a skeleton structure which may be cast in one piece and the structure serves to give great strength and rigidity to the upper part of the water cooler. The underside of the annular rim 9 is recessed toward its inner and outer sides at 9^a for the purpose of fitting the edge of the metal sheets forming the cylindrical casing 1, each of these sheets being soldered to the rim thereby forming a substantial and rigid structure, and making flush and smooth joints. It might be observed that this skeleton casting has the central ring or member 7 located to one side, relatively to the center of the annular rim 9 and that this necessitates one of the three

supporting bracket arms 8 being shorter than the other two as will be particularly understood from Figs. 3 and 4.

The top 3 is formed with a circular opening at 12 which registers with the opening in the ring or center piece 7 of the supporting bracket. Through this opening extends a vessel 13, which is circular in cross section and tapers downwardly toward its bottom and this vessel is comparatively shallow, it being shown as deep enough to receive the neck of the bottle so as to furnish at the mouth of the bottle a dip-seal, which will be hereinafter referred to. The upper end of the dip-seal vessel 13 is provided with an over-turned rim 14 in which are formed perforations 15 for the heads of the supporting posts 10 to pass through and at the same time support the dip-seal vessel which does not afford any support for the bottle or reservoir, as shown by dotted lines 6 in Fig. 4. The over-turned rim 14 of the dip-seal vessel is shown as extended a considerable distance beyond the posts 10 upon which the vessel is supported, the purpose of this extension being to give a more finished appearance to the device as will be fully understood from Figs. 1 and 3.

In order to give greater firmness to the dip-seal vessel 13 which is sustained on the supporting posts 10 by its upper edge 14, the body of the vessel fits snugly within the opening 12 in the top 3 and also within the ring 7 of the bracket and it is soldered at these points thereby preventing the vessel from being accidentally pushed out of its vertical position as might otherwise happen.

It will be noted that the supporting bracket 7-8 for suspending the inverted bottle or reservoir is not located centrally of the cylindrical cooling chamber 1 but is shifted to one side thereof. One advantage of this eccentric disposition of this part is that a larger door 4 can be used in the top 3 of the cooler, thereby permitting larger pieces of ice to be inserted than would be the case if the described parts were located centrally of the top. This arrangement also provides a greater space between the dip-seal vessel 13 and the side of the casing, where the door is located, and this renders the interior of the cooling-chamber more accessible and increases the ice holding capacity. In thus having the dip-seal vessel 13 situated to one side it is not so liable to be struck and injured by inserting the ice in the cooler.

From the bottom of the dip-seal vessel 13 leads a pipe 16 which connects with a cylindrical chamber 17 located to one side of the interior of the casing 1 near the bottom, and from the inner side of the chamber 17 projects a short section or pipe 18 of comparatively large diameter, and over which the mouth of the water-receptacle or bottle 19 fits so as to maintain the interior of the

bottle 19 in constant communication with the dip-seal vessel 13 through means of pipe 16, chamber 17 and section 18. To prevent leakage where the bottle 19 fits over the section 18 the washer 20 is interposed at this point as indicated in the drawings and the bottle 19 which is placed horizontally is forced firmly against the pipe section 18 by means of suitable springs 21 which are mounted upon the interior of the casing 1 and press with considerable force against the closed end of the bottle to assist in a water-tight joint being formed between the bottle and the coupling 18. The springs 21 are shaped and arranged so that the water bottle 19 may be readily placed in its horizontal position by first pointing the mouth of the bottle downwardly and placing it over the pipe section 18 and then forcing the other end of the bottle down against the springs 21 until the bottle 19 rests on the bottom of the cooling chamber in the position shown in Figs. 2 and 4.

The drawing off pipe 22 has permanently attached to it the drawing off faucet 23 and when the pipe is coupled up in operative position it extends through the chamber 17 and the pipe section 18 to a point well within the bottle, and the pipe is curved downwardly so as to reach practically the lowest point in the horizontal bottle. This drawing off pipe is provided with an exterior screw-thread 24 which screws into a corresponding thread in a fixed part 25 secured in the side of the casing 1, as shown in Fig. 4. The faucet and drawing off pipe are made to fit water tight by means of this screw thread joint and a suitable washer 26 interposed between the outer side of the casing 1 and a flange 27 on the pipe. In assembling the parts, the drawing off pipe 22 is not inserted until after the water bottle 19 is placed in its horizontal position, after which the drawing off pipe may be inserted and then screwed into position as shown in Figs. 2 and 4.

In using this cooler, before the inverted reservoir or bottle 6 is seated upon the supporting posts 10, in the position shown in Figs. 1 and 4, the drawing off pipe 22 is turned by taking hold of the attached faucet 23 and turning it backward one-half turn, in order to bring the inner end of the pipe 22 to about the highest point in the upper side of the water bottle 19, so that when the bottle or reservoir 6 is placed in position the water passing from the mouth of the bottle may run from the dip-seal vessel 13 by the described route into the bottle 19 and as it displaces the air therein such air may find an exit through the upturned end of the pipe 22 out of the faucet 23 which at this time is opened slightly for the exit of the air. Under this condition the water flows in to the water bottle 19 until it is

practically filled at which time the faucet 23 is closed and the water also fills the pipe connections 16, 17, 18 with a quantity of water in the bottom of the dip-seal vessel 13 sufficient to reach to the mouth of the bottle 6 and seal the same against a further discharge of water from the bottle. The cooler being thus filled, the faucet 23 is turned forwardly one-half turn to bring the curved end of the discharge pipe 22 down to the lowest point in the water receptacle 19, so that this pipe may serve to draw off the water from the water receptacle 19.

From the foregoing description it will be seen that the water receptacle 19 is an ordinary glass bottle, the idea being that this receptacle can be furnished by the ordinary small sized commercial water bottle found on the market, so that in the event of the water receptacle 19 becoming damaged or broken it can be replaced by the user of it by merely substituting one of the bottles on hand without having to be supplied with a particular part from a factory. Furthermore, it will be seen that by this arrangement of the horizontally disposed bottle in the bottom of the cooling chamber 1, larger pieces of ice can be applied to the exterior of this bottle than would be the case with a small cylindrical vessel standing on end in the cooling chamber; further the water receptacle 6 may be made comparatively large and accordingly presents a larger cooling area than an open jar standing within the cooling chamber. This arrangement furthermore possesses the important advantage of keeping the drinking water from being exposed to the air within the cooling chamber, thereby preventing any possibility of the dirt from the ice mingling with the drinking water. Again, the drinking water is exposed to contact with the air only at one point, namely, at the point where the mouth of the bottle or reservoir 6 forms a dip-seal in the vessel 13 and in this connection it will be noted that the exterior of the mouth of the bottle fits against the interior wall of the dip-seal vessel 13 sufficiently snug to keep out dirt or foreign matter but at the same time not to exclude any necessary admission of air at such point in order to bring about the operation of the dip-seal, the air to such dip-seal being supplied through the top of the vessel 13 around the neck of the bottle 6.

In the operation of the cooler, whenever a quantity of the water 28 is drawn by the faucet 23 from the water receptacle or bottle 19, the water in the receptacle 19 is replaced immediately by the water coming from the dip-seal vessel 13, the falling of the level of which uncovers the mouth of the bottle 6 and permits a corresponding supply of water to descend from the bottle 6, at the same time the air is taken in from around

the mouth of the bottle to replace the water discharged from it, and as soon as the level of the water in the dip-seal vessel 13 is restored to the level of the mouth of the bottle 6, this out-flow of water and in-flow of air ceases.

Either a very large bottle or demijohn 6 may be used as a reservoir for this cooler, or a small one substantially like the bottle 19, and in either case the shoulder of the bottle when inverted is to rest on the heads of the supporting posts 10 so that the skeleton frame 7, 8, takes up the weight of the bottle and contained water. As soon as the reservoir bottle 6 has been emptied a fresh bottle filled with water is substituted to take the place of the empty one and the dip-seal can thus be restored before draining the water bottle 19, to a point at which the exterior air would enter the same and thus necessitate the up-turning of the drawing off pipe 22 to extract the air.

While the cooling action of the ice and the water produced from the ice in the cooling chamber is depended on for the purpose of effecting the cooling of the water drawn from the apparatus, it will be observed that the water contained in the dip-seal vessel 13 is also subjected to the cooling action of the air within the upper part of the cooling chamber 1, and in this way the apparatus is made a very efficient one in the extent to which it cools the water.

The ice or cooling-chamber 1 is provided with a small faucet 30, for the purpose of running off the water which comes from the melting ice.

I wish to be understood as not limiting my invention to the specific constructions herewith shown, as it is evident that various modifications may be made in the different parts thereof without, however, departing from the spirit of my invention.

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

1. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a closed water-receptacle located within said cooling-chamber, means connected with and supplying said water-receptacle with water, a drawing-off pipe adapted to be turned and adjusted on its axis and provided with a faucet at its outer part and extending from the exterior of said cooling chamber into the interior of said water-receptacle and adapted when in one position of adjustment to draw off the air from above the water in said receptacle and when in another position to draw off the water from said receptacle.

2. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a closed water-receptacle located within said cooling-

chamber, a dip-seal vessel and pipe-connections between the same and the interior of the said water-receptacle, means for supporting an inverted reservoir or bottle above said dip-seal vessel with its outlet within said vessel, and a drawing-off pipe adapted to be turned and adjusted on its axis and provided with a faucet at its outer part and extending from the exterior of said cooling chamber into the interior of said water-receptacle and adapted when in one position of adjustment to draw off the air from above the water in said receptacle and when in another position to draw off the water from said receptacle.

3. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a closed water-receptacle located within said cooling-chamber, means connected with and supplying said water-receptacle with water, a drawing-off pipe provided with a faucet and extending from the exterior of said cooling-chamber into the interior of said water-receptacle and being capable of being turned on its axis and adapted when in one position of its adjustment to draw off the air from above the water in said receptacle and when in another position to draw off the water from said receptacle.

4. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a closed water-receptacle located within said cooling-chamber and provided with a lateral opening, a fitting provided with a water-chamber and having a tubular extension or pipe projecting therefrom and fitting said lateral opening of the said receptacle and in communication therewith, a supply-pipe connected with the water-chamber of said fitting, and a drawing-off pipe provided with a faucet and extending through said fitting and thence into the interior of said water-receptacle, and being capable of being turned on its axis in said fitting.

5. A device for delivering and cooling bottled water the same consisting in the combination of a dip-seal at the level of the mouth or out-let of the inverted bottle or reservoir and provided with means for cooling the water at or beyond the dip-seal, a pipe for drawing off the cooled water, a supporting bracket for the inverted bottle or reservoir the same comprising a skeleton frame provided with a central portion having a set of supporting arms extending therefrom, and a set of upright supporting posts mounted on said skeleton frame and adapted to receive on their ends the shoulder of said bottle or reservoir to sustain the weight thereof, substantially as and for the purpose set forth.

6. A device for delivering and cooling bottled water the same consisting in the com-

bination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a dip-seal vessel mounted in the top of said cover and depending within said cooling-chamber and a drawing-off pipe for the cooled water, a set of supporting posts mounted above the cooling-chamber and adapted to receive the shoulder of the inverted bottle or reservoir and to support the same in operative position with its neck extending into said dip-seal vessel, substantially as and for the purpose set forth.

7. A device for delivering and cooling bottled water the same consisting in the combination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a set of supporting posts mounted above the said cooling-chamber and adapted to receive on their ends the shoulder of the inverted bottle or reservoir and to support the same, a dip-seal vessel mounted in the said cover and depending into said cooling-chamber, the said dip-seal vessel being supported by the said set of posts and adapted to receive the neck of the inverted bottle, and pipe-connections for drawing off the cooled water, substantially as and for the purpose set forth.

8. A device for delivering and cooling bottled water the same consisting in the combination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a supporting frame comprising a central annular part provided with supporting arms extending therefrom and mounted in the upper part of said cooling-chamber, a set of supporting posts projecting up from said supporting frame and adapted to receive on their ends the shoulder of the inverted bottle to sustain the same, a dip-seal vessel mounted in the top of said cooling-chamber and depending through the said annular part of the supporting frame to which it is secured, and pipe-connections for drawing off the cooled water, substantially as and for the purpose set forth.

9. A device for delivering and cooling bottled water the same consisting in the combination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a rigid rim mounted on the upper end of said casing forming the cooling-chamber, a supporting frame or bracket comprising a central annular part having a set of supporting arms extending therefrom and secured to said annular rim on the casing, a dip-seal vessel mounted in the upper part of said cooling-chamber into which it depends through said central annular part of the supporting bracket, and means mounted on said supporting bracket for engaging the shoulder of the inverted bottle or reservoir to sustain the same, and pipe-connections for drawing off the cooled water, substantially as and for the purpose set forth.

10. A device for delivering and cooling bottled water the same consisting in the combination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a casting comprising an annular rim for said casing and a supporting bracket or frame consisting of an annular central part having supporting arms extending therefrom and uniting the same with said annular rim and a set of supporting posts projecting upwardly from said supporting arms, a dip-seal vessel depending within the said cooling-chamber and extending through the central annular part of the supporting frame, and means for drawing off the cooled water, substantially as and for the purpose set forth.

11. A device for delivering and cooling bottled water the same consisting in the combination of a suitably shaped casing forming a cooling-chamber and a cover therefor, a casting comprising an annular rim for said casing and a supporting bracket or frame consisting in an annular central part having supporting arms extending therefrom and uniting the same with said annular rim and a set of supporting posts projecting upwardly from said supporting arms, a dip-seal vessel depending within the said cooling-chamber and extending through the central annular part of the supporting frame, the underside of the said supporting rim being provided with a rib and the said casing having its sides formed of two layers of metal having their upper edges soldered to the respective sides of said rib on the rim, and means for drawing off the cooled water, substantially as and for the purpose set forth.

12. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a closed water-receptacle located within said cooling-chamber, a dip-seal vessel and means for

sustaining an inverted reservoir or bottle above said dip-seal vessel with the out-let of said reservoir extending into the said dip-seal vessel, pipe-connections between said dip-seal vessel and said water-receptacle, a drawing-off pipe provided with a faucet and extending from the exterior of said cooling-chamber to a point well within the said water-receptacle when secured in operative position, the said drawing-off pipe having its inner end bent to one side and said pipe adapted to be turned and adjusted on its axis so that the inner end thereof may reach to about the highest or lowest point within said receptacle according to the position in which it is adjusted.

13. A device for delivering and cooling bottled water the same consisting in the combination of a cooling-chamber, a water-bottle arranged horizontally within said cooling-chamber with its mouth projecting to one side thereof, a dip-seal vessel and pipe-connections between the same and the mouth of said bottle and comprising a pipe, an enlarged chamber and a pipe section or nozzle extending from the said chamber within the mouth of the bottle with which it makes a water-tight fit, a drawing-off pipe extending from the interior of said water-bottle through said nozzle and the connected water-chamber thence to the outside of said cooling-chamber for drawing off the water, and means for supporting a reservoir or bottle above the said dip-seal vessel with its out-let projecting within said vessel, substantially as and for the purpose set forth.

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

ALONZO N. ROSE.

Witnesses:

L. V. SPARKS,
WILLIS FOWLER.