

No. 707,912.

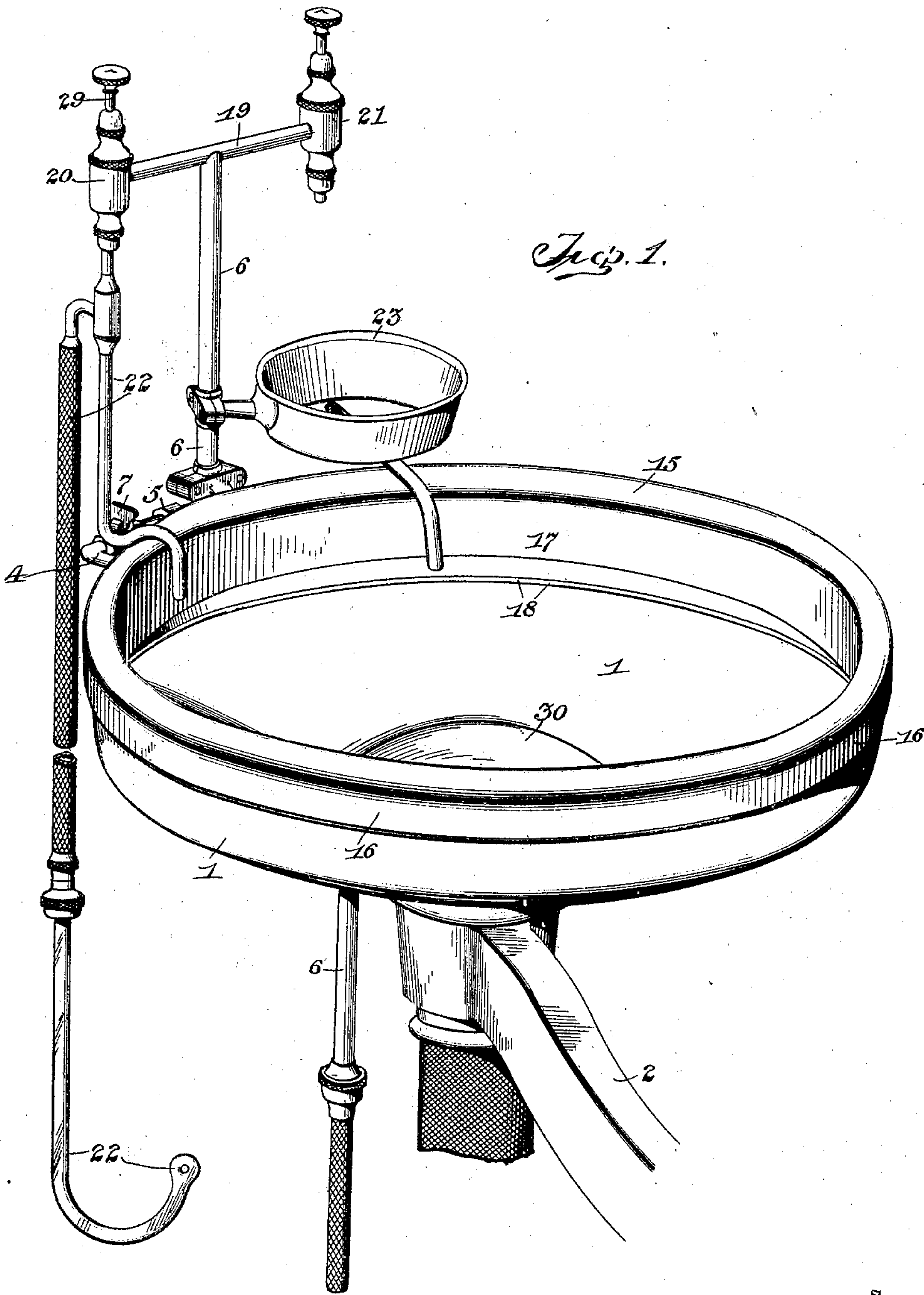
Patented Aug. 26. 1902.

C. M. FREEMAN.
FOUNTAIN SPITTOON.

(Application filed July 24, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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Geverance.

Inventor

C. M. Freeman

By Mary F. Freeman
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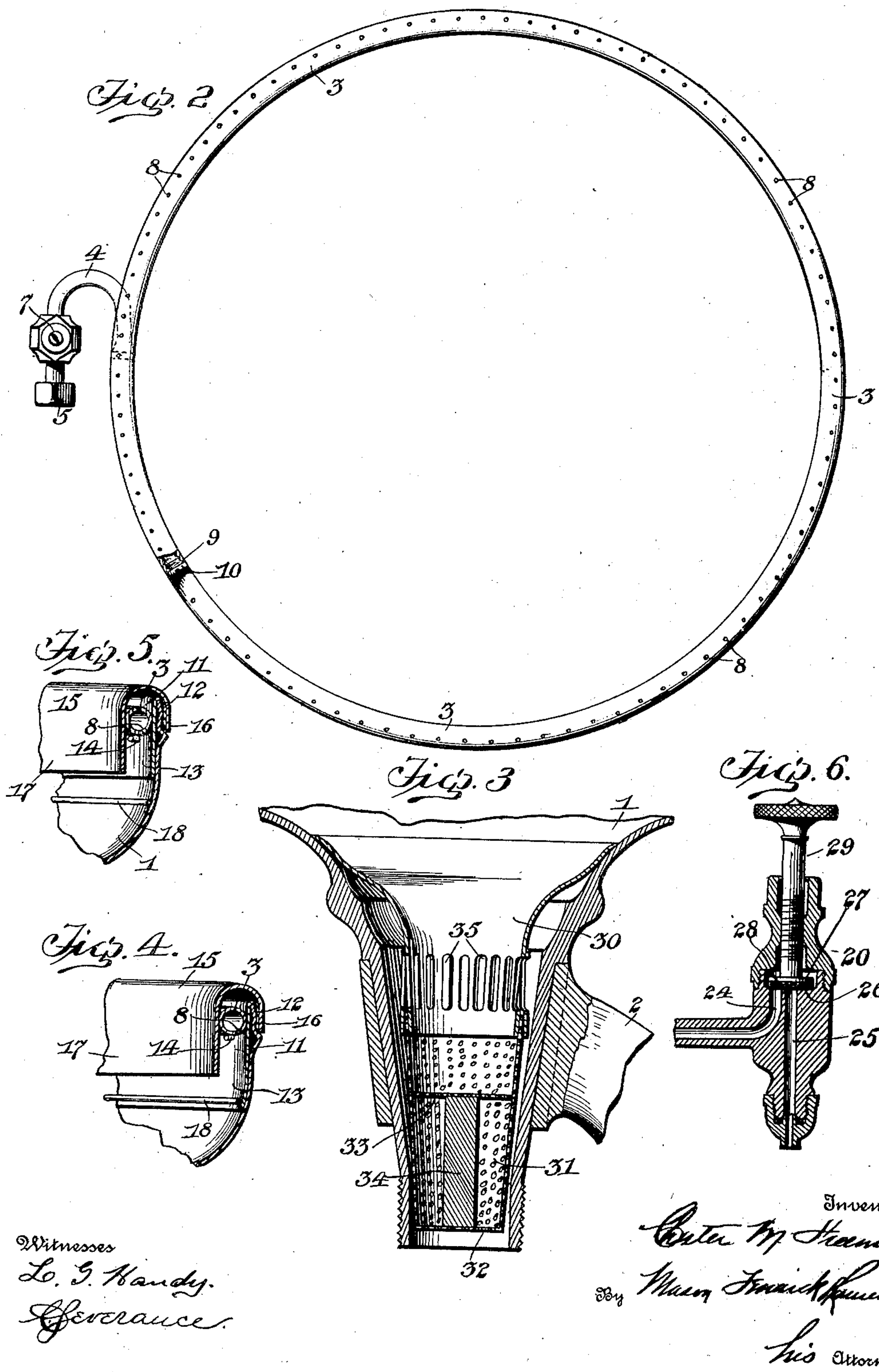
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UNITED STATES PATENT OFFICE.

CHESTER M. FREEMAN, OF BALTIMORE, MARYLAND.

FOUNTAIN-SPITTOON.

SPECIFICATION forming part of Letters Patent No. 707,912, dated August 26, 1902.

Application filed July 24, 1901. Serial No. 69,558. (No model.)

To all whom it may concern:

Be it known that I, CHESTER M. FREEMAN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Fountain-Spittoons; and I do hereby 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 fountain-spittoons for dental use; and it consists in a spittoon of suitable shape having means for supplying water thereto near its upper edge and being provided with an internally-projecting annular rib below the water-supply for perfectly distributing water over the inner surface of the spittoon, so that every portion thereof will be kept thoroughly clean at all times.

It further consists in a dental spittoon formed with a suitable draining-outlet and provided with a water-supply tube arranged near its upper edge and formed with discharge-apertures so located that an equal discharge of water will be secured all around the spittoon, the said discharge-apertures of the tube being also so positioned as to prevent the water making any noise whatever as it flows down the sides of the spittoon.

It also consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a fountain-spittoon adapted for dental purposes. Fig. 2 is an inverted plan view of the supply tube or pipe which introduces water into the spittoon. Fig. 3 is a central vertical section through the lower portion of the spittoon, showing the means employed at the discharge-outlet for preventing the water from making any noise as it runs out. Fig. 4 is a detail cross-section through the rim of the spittoon-bowl, showing the location of the water-discharge pipe or tube at the upper edge of the same and also showing an annular rib arranged near the upper edge of the said spittoon and projecting interiorly thereof. Fig. 5 is a similar view to Fig. 4, showing the annular spreading rib or projection affixed directly to the

bowl of the spittoon. Fig. 6 is a vertical central section through one of the valves employed for drawing water from the water-supply of the spittoon.

In fountain-spittoons heretofore employed for dental purposes it has been found very difficult to prevent the water employed in flushing the said spittoon from making a gurgling or otherwise objectionable noise as it flows in and over the said spittoon. It has also been found extremely difficult to spread the flushing liquid evenly over the inner surface of the spittoon, especially where it has a highly-polished surface, such as nickel-plate or glass. By the present invention I am enabled to overcome both of these difficulties. In accomplishing these purposes I provide a spittoon, as 1, formed with a suitable converging lower portion leading to an outlet-passage. The bowl 1 is supported upon a suitable arm, as 2, which is held in position upon any suitable stand or other support. Within the upper edge of the bowl of the spittoon is arranged a water-supply tube, as 3, which extends completely around the bowl of the said spittoon and preferably laps to some extent at its meeting ends, as clearly shown in Fig. 2 of the drawings. One end of the tube is bent outwardly, as at 4, and passes out of the spittoon through a suitable aperture in its upper edge and is connected by a swivel-coupling, as at 5, with the water-supply pipe 6. A cock or valve 7, located in the said pipe 4, controls the admission of water to the said flushing-pipe 3. Arranged along the under side of the flushing-tube and piercing the same are a series of discharge-apertures, as 8 8. The portion of the pipe which is lapped by the inner free end thereof is not provided with apertures, since the apertures in the said lapping free end cover this space. This arrangement is of advantage in that the water entering the tube and passing first through the imperforated portion arranged around the curve of the bowl is given a definite direction or motion, tending to send it clear to the end of the tube with a proper force and preventing a great quantity of the water being forced out the first aperture 8 which it reaches. These apertures are arranged in the discharge-tube at such an angle with respect to the sides

of the spittoon-bowl that the water or other flushing liquid issuing therefrom will engage the walls of the spittoon-bowl before the said water has had a chance to scatter or spray, and yet so that the stream of water from each aperture will not be forced directly against the sides of the bowl, but will strike the same at a considerable angle. It will be seen that if it is desired to prevent the water from making any noise as it enters the bowl the small streams issuing from the discharge-apertures must not have a chance to break before they hit the side of the bowl, and yet these streams must not be driven directly and forcefully against the bowl, else they will then be broken and scattered in such a manner as to produce the undesirable noise. The drawings illustrate the position in which the apertures should be placed, as I have discovered by actual experiment with a full-sized mechanism, the result being absolute freedom from any noise whatever in the discharge of water into the bowl. As seen in Fig. 2, it will also be noticed that the discharge-apertures 8 are gradually drawn closer together as the closed end 9 of the discharge-tube is approached. This is for the purpose of securing an even discharge of water entirely around the spittoon. When the water enters the discharge-pipe from the inlet end 4 thereof, the force of the water has not been diminished by any discharge from the apertures 8. As, however, the water progresses around the tube the force thereof is constantly diminished because of the leakage through the apertures 8. By arranging the holes as shown in Fig. 2 of the drawings I find that I am enabled to counteract this feature of the diminishing pressure in the water and secure an equal discharge of liquid from every point about the bowl. The end 9 of the flushing-tube 3 is preferably closed, as illustrated in the drawings. I close the said pipe, however, by means of a removable screw, as 10, so that should the pipe or any of its apertures become clogged in any way the sediment or other clogging agency may be quickly and completely forced from the flushing-tube by removing the screw-plug 10 at the end thereof and permitting a full and strong flow of water to pass through the said pipe.

The flushing-tube 3 is preferably arranged inside the bowl of the spittoon, just below the upper edge thereof, and may rest directly against the said bowl and be supported in position thereby, if desired. I, however, prefer to place a removable rim, as 11, upon the upper edge of the said bowl. The rim 11 is formed with an outer flange 12, which extends a slight distance downwardly upon the outer periphery of the spittoon-bowl and is also formed with an inner flange 13, which preferably extends a considerable distance into the said bowl. A series of studs or projections 14 are secured to the inner flange 13 of the said rim and support the weight of the discharge or flushing tube 3. After the flush-

ing-tube 3 has been put into position an outer covering-rim, as 15, is placed on the upper edge of the spittoon, its outer flange 16 projecting outside and covering the flange 12 of the inner removable rim 11, while its inner flange 17 projects downwardly a short distance into the spittoon just inside the flushing-tube, but so as to completely cover and hide the same.

In order to secure the perfect distribution of the flushing liquid over the inner surface of the spittoon-bowl, I form an inwardly-projecting annular rib or flange 18 within the bowl of the spittoon and at a short distance below the discharge-pipe 3. I find it very convenient to make this rib or flange by securing a wire within the bowl all around the inner surface thereof. The wire may be soldered or otherwise secured to the bowl or the flange 13 of the removable rim 11, the object being to so arrange the said rib that all of the water discharged into the spittoon will be forced to flow over the same, and thus be thoroughly and evenly distributed over the surface of the said spittoon. As shown in Fig. 4 of the drawings, I preferably extend the inner flange 13 of the removable rim 11 far enough into the bowl of the spittoon to support the rib or annular flange 18. I, however, contemplate securing the said rib 18 directly to the bowl of the spittoon when desired, as shown in Fig. 5 of the drawings, all within the spirit of the present invention. In this latter case the inner flange of the removable rim 11 need not extend so low in the bowl of the spittoon.

The water-supply pipe 6 extends a considerable distance above the spittoon and is provided with a cross-pipe 19 at its upper end, which carries at its outer ends two valves or cocks 20 and 21. The valve 21 is adapted to have attached to it a saliva-ejecting apparatus 22 of ordinary construction, the discharge of the same being over the edge of the spittoon into the interior thereof. The valve or cock 21 is preferably high enough to permit of a glass or other drinking vessel being placed in a support 23, which projects from the supply-pipe 6 and is supported thereby. This glass-support 23 drains into the spittoon in the usual way. The construction of the valves 20 and 21 forms an important feature of the invention. I have more perfectly illustrated one of said valves, as 20, in Fig. 6 of the drawings. In this figure it will be seen that the main casing of the valve is formed with an inlet-port 24 and an outlet-port 25, both of said ports extending to a common valve-seat 26. A valve 27 is arranged to engage the said valve-seat and is preferably made in the form a disk, having a disk washer 28 secured to its under surface. The stem 29 of the valve is screw-threaded, so that by turning the same the valve will be raised or depressed upon the valve-seat. By this construction the washer of the valve is forced downwardly against the broad flat valve-seat

and will completely cover and tightly close the inlet-port 24 when it is not desired to permit water to flow through the valve-casing. This forms a very superior valve, especially since the washer engages the broad flat seat, and is not liable to wear or cut out as quickly as in similar valves heretofore used.

It is not only desirable to be able to introduce and pass through the bowl of the spittoon water or other flushing liquid without noise, but it is also desirable to be able to discharge the said liquid from the bowl of the spittoon without noise or gurgle. I accomplish this result in a very simple manner, as will be seen by reference to Fig. 3 of the drawings. By reference to this figure it will be seen that a screened cup, as 30, is fitted into the converging lower end of the spittoon. This cup 30 is formed with an upwardly-flaring portion adapted to fit snugly against the inner surface of the bowl and is formed with a lower screen portion 31. This screen 31 is closed at its lower end by a horizontal perforated screen 32, the screen operating to thoroughly break up the water into small streamlets as it passes from the bowl. One diaphragm or screen 32 is not sufficient to absolutely prevent any noise at all times, and I therefore provide another horizontal screen, as 33, within the screen-cup 30 and near the upper edge thereof. Any suitable spacing means, as 34, may be interposed between the screens 32 and 33 to hold them a proper distance apart. The cup 30 is also provided near its upper flaring portion with a series of elongated slots 35 to provide an outlet in case the screened cup should be clogged in any manner and the water become blocked up thereby. These elongated slots 35 in such an event would form an overflow and the contents of the spittoon would be discharged as usual. The cup 30 is preferably allowed to rest loosely in position in the funnel of the spittoon and can be removed at any time for cleansing or other purposes by simply lifting it from place.

From the above description it will be evident that I am enabled to produce a flushing-spittoon which is simple and yet most effective for this purpose. I find also by practical demonstration that water is not only noiselessly discharged from the flushing-tube 3 into the bowl, but that it is thoroughly and evenly spread over the entire inner surface of the said bowl by passing over the annular rib 18. I also further find that the cup 30 effectively prevents any noise or gurgling sound of the liquid in passing from the spittoon.

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

1. A flushing-spittoon, comprising a bowl, an annular projection inside the bowl for distributing liquids evenly over the surface thereof, a flushing-pipe arranged within the bowl above said projection and provided with a series of apertures for directing streams of

water against the surface of the bowl, the said apertures being arranged in radial lines and delivering streams against the bowl before they spatter or break, the arrangement of the apertures assisting in the proper spreading of the liquid upon the bowl-surface, together with the annular projection, substantially as described.

2. A flushing-spittoon, comprising a bowl, a flushing-tube arranged within the same and provided with a series of radially-located discharge-apertures for directing streams of water against the bowl from the inside thereof, and an annular spreading projection upon the inner surface of the bowl below the flushing-tube to cooperate with the arrangement of the apertures in the tube for perfectly covering every portion of the surface of the bowl with water and without noise, substantially as described.

3. A flushing-spittoon, comprising a bowl, a flushing-pipe extending into the bowl at the upper edge thereof, its inner end being located upon the entering portion of the said tube, the said tube having a series of discharge-apertures arranged to deliver streams of water against the inner surface of the bowl at an angle of about thirty-five degrees, and a spreading rib or projection inside the bowl for further distributing the water on the surface of the bowl, substantially as described.

4. A fountain-spittoon for dental purposes, comprising a bowl adapted to discharge into a suitable outlet, a removable rim inclosing the upper edge of the said bowl and lying against the inner surface thereof, a flushing-tube supported inside the said removable rim, and an upper overhanging inclosing rim for covering the said inner rim and the flushing-tube, substantially as described.

5. A fountain-spittoon comprising a discharging-bowl, a removable inner rim carrying projections extending into the bowl, a flushing-tube resting on the said projections and adapted to deliver water or other liquid within the bowl, and an outer inclosing rim for overhanging and covering the said removable rim so as to be supported in position thereby, said tube being the flushing-tube, substantially as described.

6. A flushing-spittoon, comprising a discharging-bowl, means for delivering water or other liquid within the said bowl, and means for evenly distributing the said liquid over the entire inner surface of the bowl, comprising an inwardly-projecting annular flange or rib arranged within the bowl beneath the water-supply, substantially as described.

7. A flushing-spittoon, comprising a discharging-bowl, and a water-supply at its upper edge, a wire arranged within the bowl beneath the water-supply so as to form an inwardly-projecting rib for thoroughly spreading and distributing the water over the surface of the bowl, substantially as described.

8. A flushing-spittoon, comprising a bowl, and a flushing-tube arranged within the up-

per part thereof, an annular rib or projection supported on the inner surface of the bowl at a suitable distance below the discharge-pipe, whereby all the water entering the bowl
5 will be forced to run over the said rib, and will thereby be thoroughly distributed over the surface of the bowl, substantially as described.

9. A flushing-spittoon, comprising a bowl,
10 a removable rim inclosing its upper edge and projecting into the same, a flushing-pipe arranged within the said rim for delivering water into the bowl, and an annular flange carried by the lower edge of the said removable
15 rim inside the bowl for spreading water over the surface of the bowl, substantially as described.

10. A flushing-spittoon, comprising a bowl, a flushing-tube entering the same at the upper portion thereof, and entering in curved
20 lines, the inner end extending around the bowl and lapping the tube where it enters the bowl, a plug closing the inner end of the tube, the lapping arrangement of the said tube facilitating the removal and insertion of said
25 plug, while the coiling of the pipe in the bowl facilitates its being sprung into position, substantially as described.

11. A flushing-spittoon, comprising a bowl,

an annular projection inside the bowl for distributing liquids evenly over the surface
30 thereof, a flushing-pipe arranged within the bowl and provided with a series of apertures for directing streams of water against the surface of the bowl, the said apertures being arranged in radial lines and delivering streams
35 against the bowl before they spatter or break, the arrangement of the apertures assisting in the proper spreading of the liquid upon the bowl-surface, together with the annular projection, substantially as described. 40

12. A flushing-spittoon, comprising a bowl, a flushing-tube arranged within the same and provided with a series of radially-located discharge-apertures for directing streams of water
45 against the bowl from the inside thereof, and an annular spreading projection upon the inner face of the bowl to cooperate with the arrangement of the apertures in the tube for perfectly covering every portion of the
50 surface of the bowl with water and without noise, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

CHESTER M. FREEMAN.

Witnesses:

THOS. K. LE BROU,
B. MULLINEAUX.