

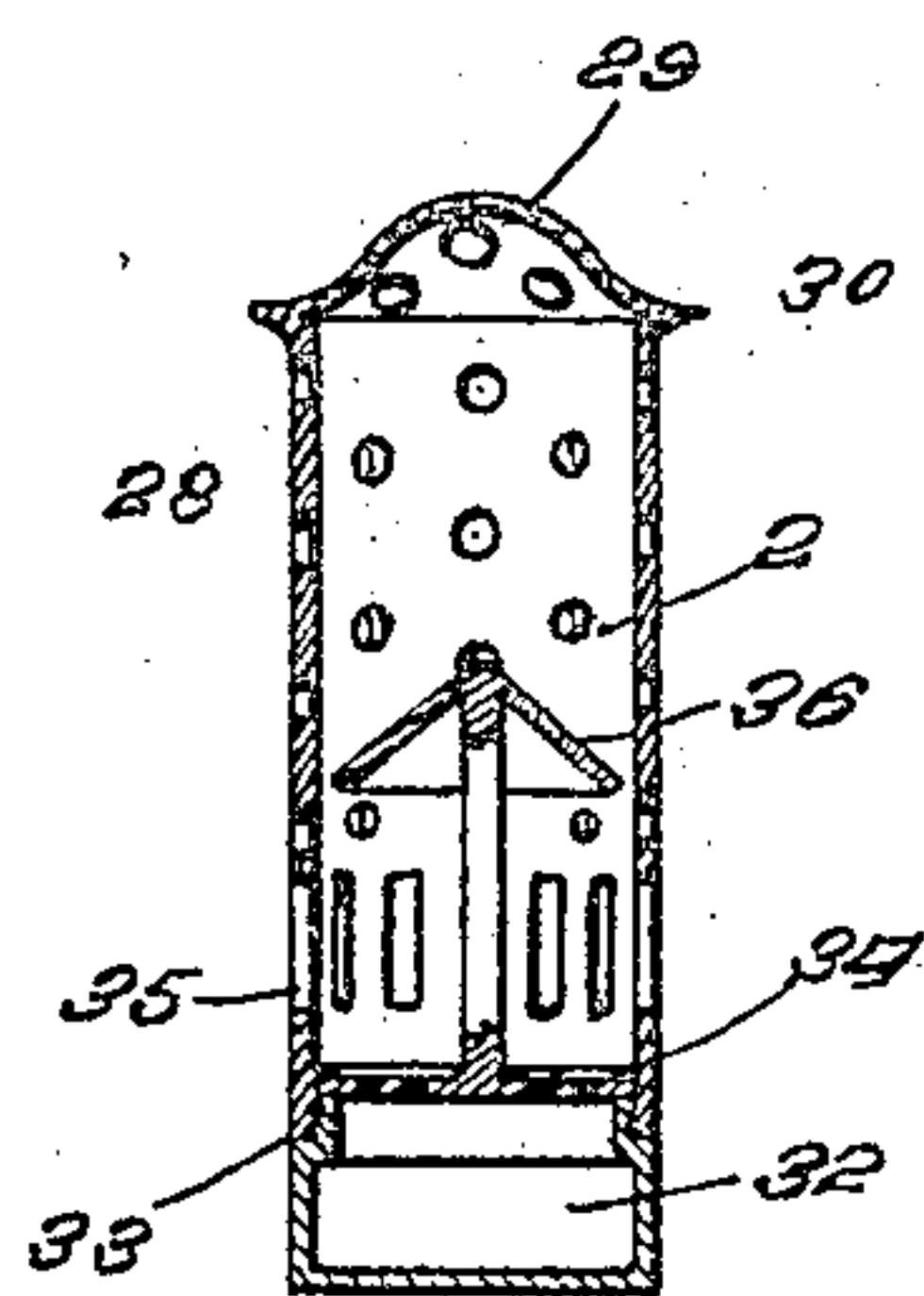
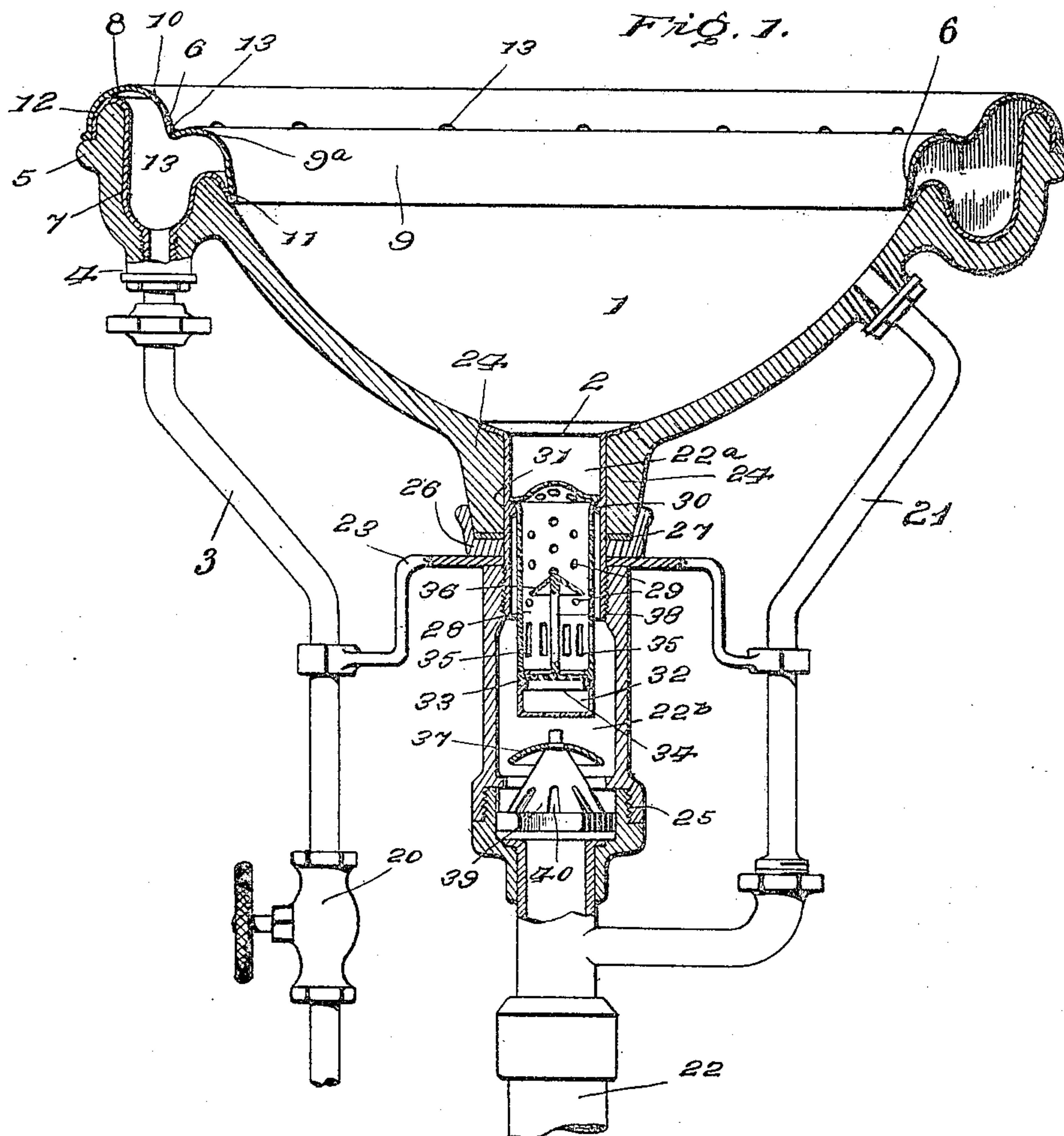
No. 801,220.

PATENTED OCT. 10, 1905.

J. W. COOPER.
FLUSHING CUSPIDOR.

APPLICATION FILED AUG. 16, 1904. RENEWED AUG. 17, 1905.

2 SHEETS—SHEET 1.



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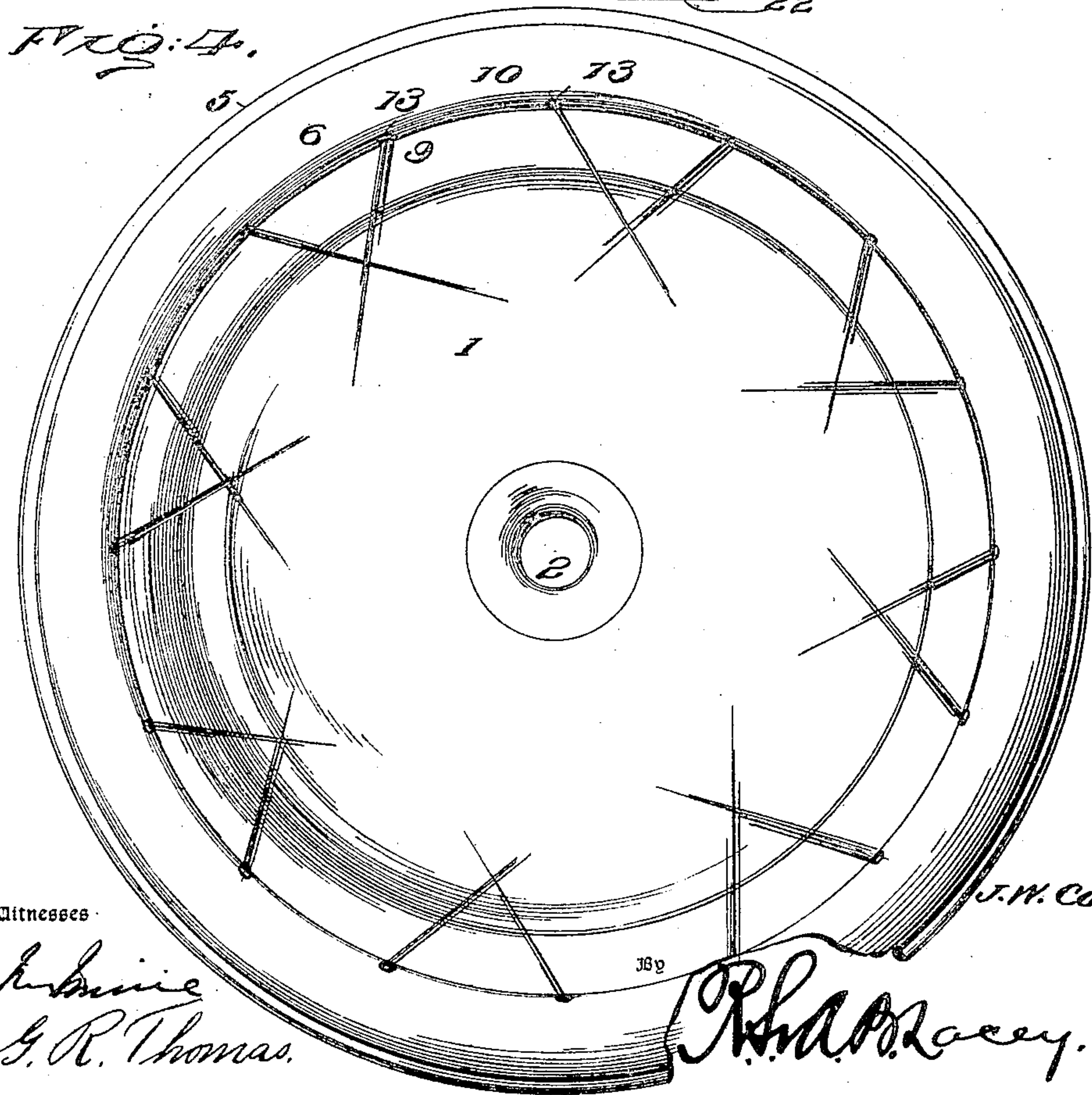
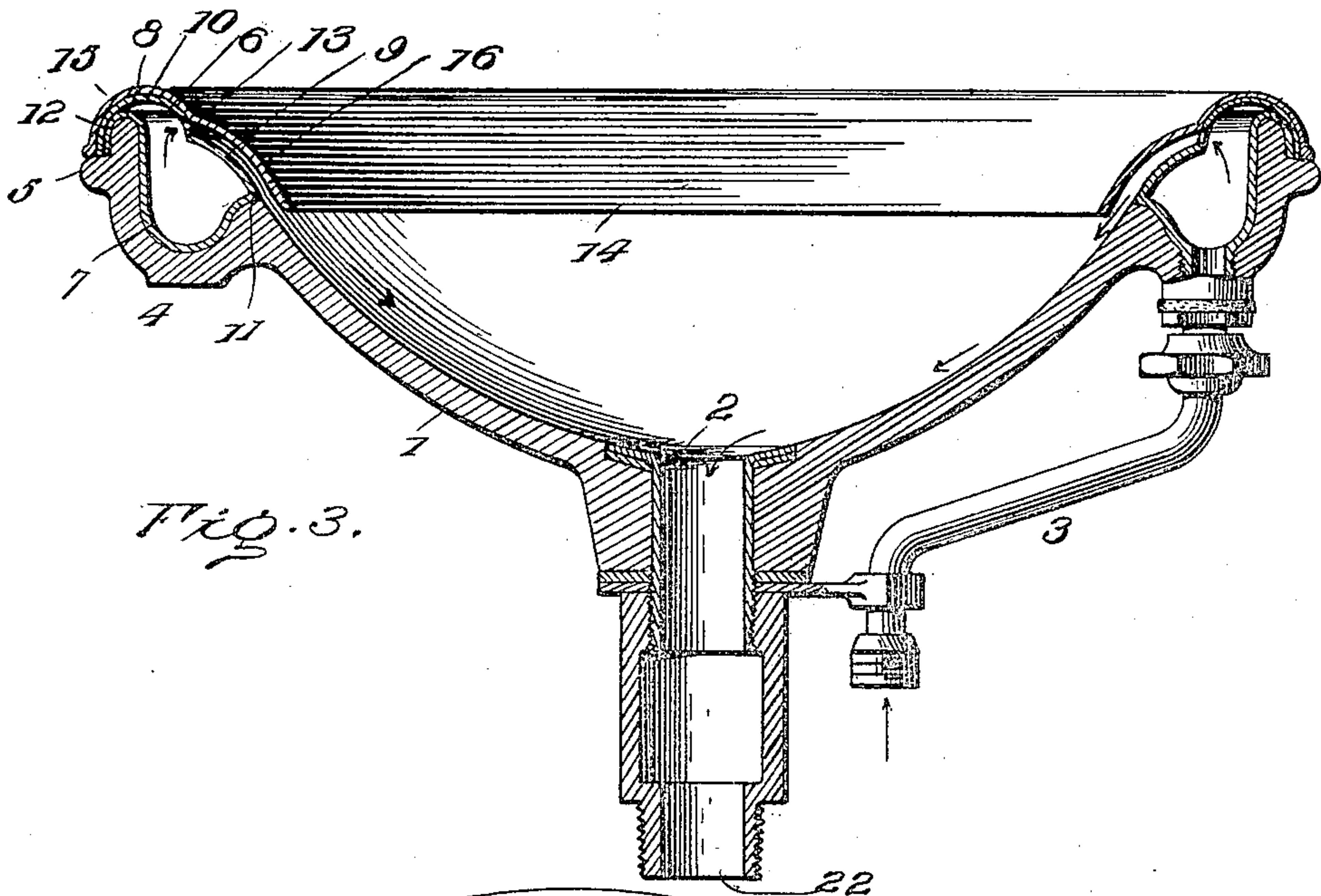
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN W. COOPER, OF BOSTON, MASSACHUSETTS.

FLUSHING-CUSPIDOR.

No. 801,220.

Specification of Letters Patent.

Patented Oct. 10, 1905.

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To all whom it may concern:

Be it known that I, JOHN W. COOPER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Flushing-Cuspidors, of which the following is a specification.

This invention has relation to spittoons designed for dentists' use and which embody flushing means for carrying off sputum or other matter received therein.

The invention relates to the flushing means which are peculiarly adapted for glass, china, porcelain, or other frangible bowls, so as to obviate leaking in the event of the bowl becoming cracked.

The invention further embodies a special form of waste-trap arranged at the outlet of the bowl or basin of the spittoon, said trap being of such a nature as to readily collect waste material thrown into the receptacle—such as cotton, paper, fragments of fillings, teeth, or the like—so as to prevent likelihood of choking of the outlet.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section of the flushing-cuspidor embodying the invention. Fig. 2 is a detail section of the waste-trap adapted to be arranged in the outlet. Fig. 3 is a view similar to Fig. 1 embodying a modification in the construction of the water-ring and deflector therefor. Fig. 4 is a plan view of the construction shown in Fig. 3, the deflector utilized in connection with the modified construction being omitted.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The bowl is indicated at 1 and is provided in its bottom with the outlet 2 and at one side with the supply-pipe 3. This bowl may be of any material, preferably glass, porcelain, earthenware, and the like. An annular trough 4 surrounds the upper edge of the bowl, and the outer wall of the trough is projected ver-

tically and has an outer rib 5 near its top edge which forms a shoulder for the upper or outer edge of the deflector and the water-ring.

The water-ring is preferably of metal and of such formation as to snugly fit within the trough or annular depression surrounding the upper edge portion of the bowl. The lower portion of the water-ring is in communication with the supply-pipe 3, as indicated most clearly in Fig. 1. The water-ring is composed of two parts 6 and 7, the latter conforming in cross-section to the outline of the upper wall of the trough 4 and having its inner edge terminating about in the plane of the bowl and having its upper and outer edge portion 8 bent to embrace the upper end of the outer wall of the trough above the rib 5. The upper portion 6 of the water-ring comprises the inner curved portion 9 and the outer curved portion 10, which overlaps the outer portion of the part 7 and rests upon the rib 5. The upper and lower parts of the water-ring are joined at 11 and 12. The joint 11 corresponds to the plane of the bowl, and the joint 12 is exterior to the outer wall of the trough 4. The joints 11 and 12 may be formed in any determinate way commonly practiced in the mechanic arts for securing metallic pieces or sections. A series of openings 13 are formed in the inner edge of the curved portion 10 and, as shown in Fig. 1, are wholly below the uppermost annular portion of the curved portion. The uppermost portion of the outer curved portion 9, which is indicated at 9^a, being arranged somewhat above the openings 13 forms a deflector which spreads the jets of water passing through the openings 13, so that the water will effectively flush the entire inner surface of the bowl 1.

In the modified construction of the water-ring, as shown in Figs. 3 and 4, the outer curved portion 9 of the part 6 of the water-ring is so constructed that the openings 13 are arranged wholly above said portion 9. It is preferred in the construction last mentioned that the openings 13 be disposed in two series, the openings of one series inclining in one direction and the openings of the other series inclining in an opposite direction. The openings are alternately disposed, and the jets delivered from adjacent openings neutralize and result in a direct flow of water to the outflow 2. By having the openings arranged as shown in the construction in Fig. 3 the entire surface of the bowl is covered with water, so as to insure the carrying off of any matter

thrown thereon. An annular deflector 14 is used, (see Fig. 3,) and same is placed over the water-ring, an upper edge portion of the bowl being comprised in the curved portions 15 and 16. The part 15 of the deflector 14 overlaps the curved portion 10 of the water-ring, and the part 16 conforms approximately to the curved portion 9, being spaced therefrom a short distance to provide a passage between it and the part 9 of the water-ring for proper flow of the water. The inner curved portion 16 of the deflector assists materially in confining the jets and in directing the same downward, so as to follow the outline of the bowl. Moreover, the deflector 14 serves to spread the jets in a manner similar to the part 9^a, (shown in Fig. 1.) thereby insuring a flow of water over every portion of the bowl.

The supply-pipe 3 is preferably located upon one side of the bowl, leading into the water-ring at the lower portion thereof, as before mentioned, and said supply-pipe is provided with a suitable valve 20. Upon the opposite side of the bowl is located an overflow-pipe 21, and the latter extends from the upper portion of the bowl connecting with the main outlet-pipe 22 at its lower end. The pipes 3 and 21 are rigidly supported adjacent the bowl by means of brackets 23, which are attached to the outlet-pipe 22 adjacent the point where said outlet-pipe is secured to the bowl. The outlet-pipe 22 is preferably made in a number of sections coupled together and consists of the section 22^a, which is received in the outlet-openings in the boss or extension 24 usually formed at the lowermost portion of the bowl 1. The pipe 22^a is threaded at its lower portion, and a second pipe 22^b is screwed to the lower extremity of the pipe 22^a. The main portion of the pipe 22 is substantially coupled to the pipe 22^b by a screw-thread joint 25. (Shown most clearly in Fig. 1.) The sections 22^a and 22^b of the waste or outlet pipe 22 secure the brackets 23 in position, and a thimble 26 is clamped between the parts 22^a and 22^b, suitable packing 27 being interposed between the thimble and the extension or boss 24, so as to prevent leakage.

The waste-trap is located in the waste-pipe 22 and consists of a casing 28 of tubular form, the sides and top of said casing being provided with a plurality of apertures 29. The casing 28 is located in the parts 22^a and 22^b of the pipe 22, and the upper extremity of the casing or trap 28 is flared outwardly, as shown at 30, so as to rest upon an annular rib 31, formed upon the inner peripheral portion of the pipe 22^a. The trap 28 is held in suspension supported in the manner above, and the lower end of the casing 28, which comprises the same, is threaded, so that a receptacle or box 32 may be secured thereto. The receptacle 32 is secured to the casing 28 by a threaded connection, (indicated at 33,) and said receptacle may be readily removed for clean-

ing purposes or the like. The body of the casing or trap 28 is spaced from the inner sides of the pipe in which it is located, so that the water passing through the outlet 2 may readily escape through the apertures 29, and thus pass through the casing to the main outlet for the waste. It is designed, however, that the heavier waste particles—namely, the fragments of fillings, teeth, cotton wads, etc.—shall be caught in the lower portion of the casing 28 and prevented from clogging or choking the waste-pipe 22. For the above purpose the receptacle 32 is provided, and said receptacle will receive the heavier particles of waste material descending through the outlet 2, said particles passing through a perforated partition 34, situated in the casing or trap 28 just above the point of attachment of the receptacle with said part 28. The partition 34 is horizontally disposed and is apertured so that the particles of gold and heavier waste fragments will fall therethrough into the receptacle 32. The sides of said casing are provided with narrow vertical slots 35. The slots 35, even though waste material may be caught above the partition 34, will allow the water to pass out of the casing therethrough at this portion thereof, said slots being of such a nature, however, as not to admit of escape of the said waste particles from the casing. The partition 34 is preferably carried by the upper portion of the receptacle 32, so that on removal of said receptacle this partition will also be displaced and the waste material collected in the trap, and thus be quickly removed and the device readily cleaned. The use of the receptacle 32 is particularly advantageous, since any valuable particles of gold or like precious metal falling into the bowl 1 will be collected therein and preserved.

In addition to the features of the invention hereinbefore described it is contemplated to provide special means for preventing the disagreeable gurgling sounds caused by direct flow of the water passing through the outlet 2 of the bowl into the outlet-pipe 22, and such means consists of deflectors 36 and 37, the former being located within the trap 28 and the latter situated somewhat below the trap. The deflectors 36 and 37 are of somewhat conical form, and the former is supported by a vertical bar 38, projected upwardly from the partition 34 centrally of the latter. The deflector 36 will cause the water falling into the trap through the outlet 2 to be spread and thrown against the sides of the casing or trap 28, said water falling noiselessly thereagainst. The water passing through the trap 28 to the main outlet-pipe will drop upon the lower deflector 37 and again is thrown outwardly against the inner sides of the pipe-section 22^b. The deflector 37 is carried by the upper portion of a conical-shaped plug 39, the latter being supported within the pipe 22 adjacent the screw-joint 25 described before. The

sides of the plug 39 are grooved, as shown at 40, to permit passage of the water into the main pipe 22. The deflectors 36 and 37 preferably comprise plates suitably attached, as before described.

Having thus described the invention, what is claimed as new is—

1. In a flushing-cuspidor, a bowl having an outer trough at its upper edge, a water-ring fitted into said trough and comprising upper and lower parts joined at their inner and outer edges, the upper portion of the water-ring having inner and outer curved portions, the latter being provided with openings in its inner edge above the inner curved portion of said upper part, and a deflector spaced from the inner upper curved portion of the water-ring.

2. In a flushing-cuspidor, the combination of a bowl having a trough at its upper edge, a water-ring fitting said trough and having its upper portion formed with inner and outer curved parts, the inner edge of the outer curved part being provided with a series of openings, and an annular deflector adjacent the outer curved part of the upper portion of the water-ring.

3. In a flushing-cuspidor, the combination of a bowl, having a trough at its upper edge

with its outer wall extended above the inner wall and formed with an outer rib, a water-ring snugly fitting said trough and composed of upper and lower parts joined at their inner and outer edges, the upper outer portion of the water-ring embracing the upper edge portion of the outer wall of the trough and resting upon said outer rib and the upper part being composed of inner and outer curved portions, the inner edge of the outer curved portion being provided with openings, and an annular deflector adjacent the outer curved portion of the upper part of the water-ring.

4. In a flushing-cuspidor, the combination of a bowl, an inlet-pipe for said bowl, an outlet waste-pipe leading from the bowl, a trap comprising an apertured casing, a receptacle at the lower extremity of the casing, an apertured partition above said receptacle, and a deflector within and spaced from the body of the casing and supported by the apertured partition aforesaid.

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

JOHN W. COOPER. [L. s.]

Witnesses:

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