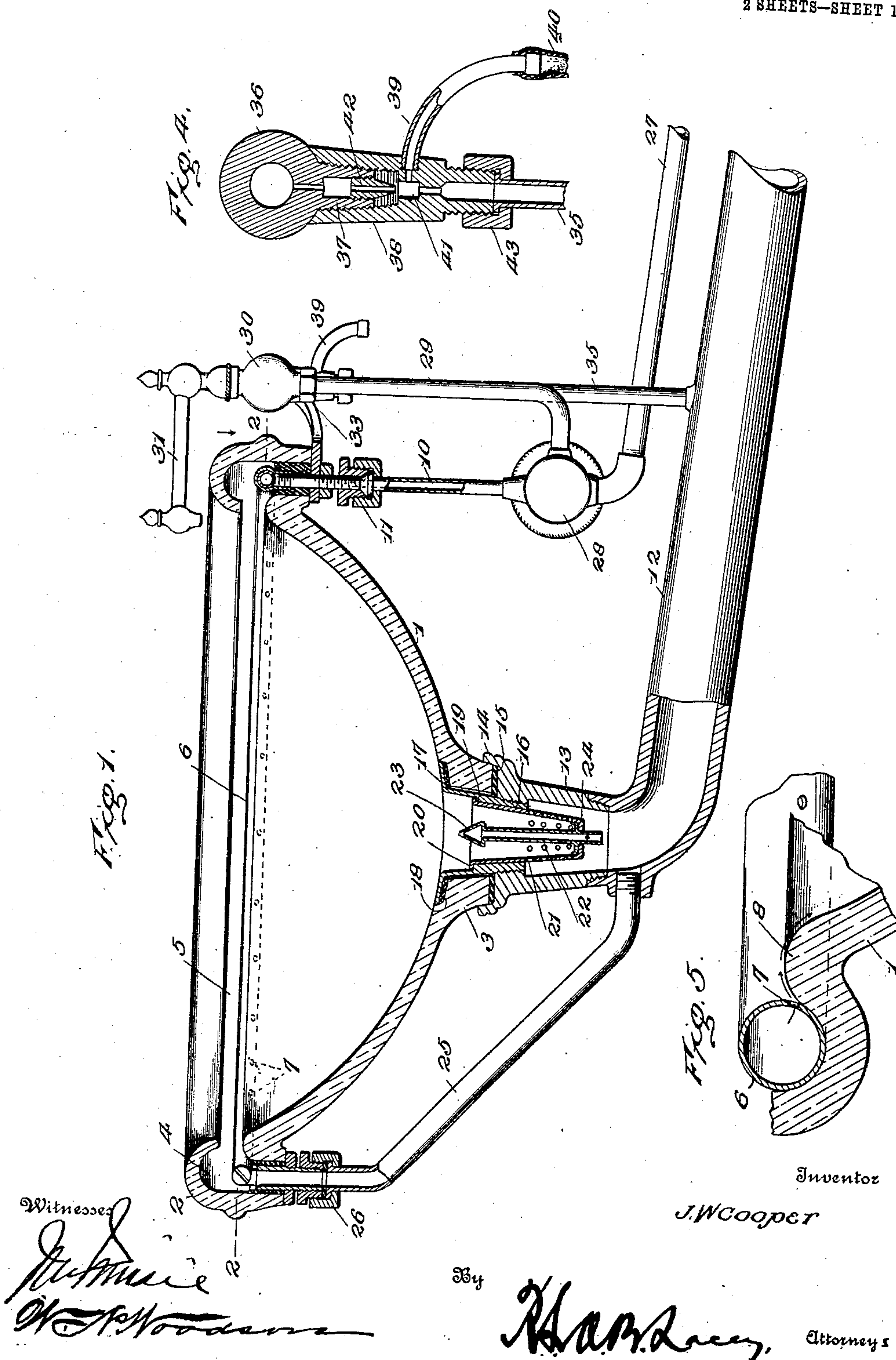


J. W. COOPER.
FLUSH CUSPIDOR.
APPLICATION FILED DEC. 23, 1907.

Patented Mar. 9, 1909.
2 SHEETS—SHEET 1.

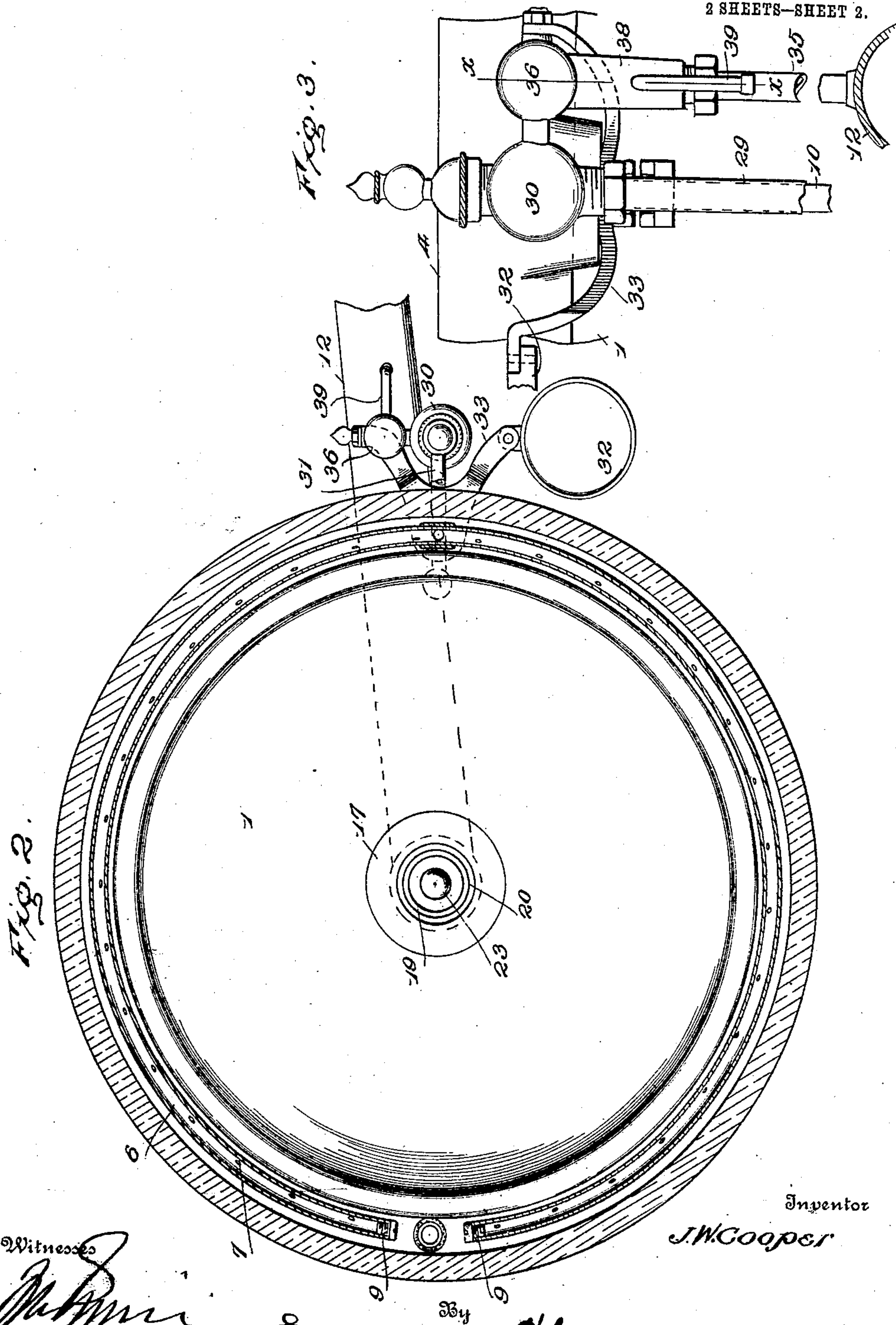


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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. COOPER, OF BUFFALO, NEW YORK.

FLUSH-CUSPIDOR.

No. 914,927.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed December 23, 1907. Serial No. 407,699.

To all whom it may concern:

Be it known that I, JOHN W. COOPER, citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Flush-Cuspidors, of which the following is a specification.

The present invention has relation to the type of cuspidors designed most especially for dentists' use, and which are supplied with a flush for carrying off matter thrown into the bowl so as to preserve a sightly appearance and avoid unsanitary conditions.

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

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a vertical central section of a flush cuspidor embodying the invention. Fig. 2 is a horizontal section thereof on the line 2—2 of Fig. 1. Fig. 3 is a detail view of the rim portion of the cuspidor showing the saliva ejector, the supply pipe and the glass holder in coöperative relation. Fig. 4 is a vertical central section of the saliva ejector on the line *x—x* of Fig. 3. Fig. 5 is a sectional view of the rim portion of the bowl and the flush pipe, showing the parts on a larger scale.

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 cuspidor comprises a bowl 1 having a hollow rim 2 and provided centrally of its bottom with an outlet from which a boss 3 is pendent. The bowl may be of glass, porcelain, china or other material commonly employed in the manufacture of devices of this and analogous character. The annular space 4 formed within the rim 2 is open at its inner side, as indicated at 5, said opening 5 being continuous and arranged intermediate of the top and bottom of the space 4. A flush pipe 6 is arranged within the space 4 of the hollow rim 2 and is provided at intervals in its length with minute openings 7 for the escape of water in jets. The flush pipe 6 rests upon the

bottom portion of the annular space 4 and the openings 7 are arranged upon the side of the flush pipe facing the interior of the bowl and are located a short distance below the upper edge of the hump 8 bordering upon the lower side of the opening 5. The jets of water escaping from the openings 7 impinge against the adjacent wall of the hump 8 and spread laterally and flow over said hump, as indicated by the arrows in Fig. 5. The flush pipe 6 is nearly or quite of circular form, its extremities being spaced apart a short distance and closed by means of plugs 9, which are threaded therein and are removable to admit of the introduction of a swab or other device into the flush pipe for cleaning the same, should it become obstructed by mud or sediment or any foreign matter. The supply pipe 10 connects with the flush pipe 6 clear of its ends, the joint being effected in any substantial manner. The supply pipe 10 is sectional, the parts being connected by means of a union 11, such as generally employed in water fixtures for coupling pipes and tubing.

A waste pipe 12 has connection with the outlet of the bowl 1 and is threaded to the lower end of a coupling 13, which is tapered throughout its length and is provided at its upper end with a flange 14 to encircle the lower portion of the pendent boss 3. A packing 15 is interposed between the coupling 13 and the boss 3 to insure the formation of a tight joint between them. A thimble 16 of tapered form is fitted in the boss 3 and its lower end is threaded and receives the upper end of the coupling 13 which is screwed thereto. The upper end of the thimble 16 has an outer flange 17 which fits snugly within a depression formed in the bottom of the bowl about the outlet. A packing 18 is interposed between the flange 17 and the bottom of the depression provided to receive said flange 17 so as to obtain a tight joint between the thimble and bowl. The opening of the thimble 16 is enlarged at its upper end to form an inner shoulder 19 which receives an outer flange 20 of a receptacle 21 placed within the thimble and coupling 13 and designed to catch gold and other metals to be saved. A stem 22 is arranged within the receptacle 21 and its lower end is fitted into an opening formed in the bottom of said receptacle. This stem is hollow and is provided at its upper end with a conical head 23 which sheds water and prevents the lodgment or

accumulation of any matter thereon. This head 23 also serves as a finger piece for removing the stem from the receptacle 21 when required. A cup 24 is fitted to the lower portion of the stem 22 and snugly fits within the lower portion of said receptacle and receives particles of gold or other metal which may be removed from time to time by means of the stem 22, which latter may have its head portion 23 grasped between the thumb and finger of the hand. An overflow pipe 25 is connected at its lower end with the waste pipe 12 at a point below the coupling 13 and is fitted at its upper end to the lower portion of the hollow rim 2 preferably at the point where a space is formed between the separated ends of the annular flushing pipe 6. The overflow pipe 25 is coupled by means of a union 26 to a nipple or short pipe fitted in an opening formed in the lower portion of the hollow rim 2. Should the outlet in the bottom of the bowl become choked by cotton or other accumulations, stopping the openings or perforations in the lower portion of the receptacle 21, the water will be prevented from flowing over the bowl by means of the pipe 25 which affords a discharge therefor.

The supply or service pipe 27 has connection with the supply pipe 10, a globe valve 28 being provided to control the flow of water therethrough. A branch pipe 29, connected with the globe valve 28, is provided at its upper end with a valve 30 to which a water fixture 31 is coupled by means of a swivel joint to admit of said fixture being swung to a point over the bowl or to position above the glass holder 32. The glass holder 32 is of cup form and is adapted to receive a tumbler or cup. A bracket 33 attached to the bowl in any convenient and substantial way, pivotally supports the glass holder 32 and also braces the upper ends of the branch pipe 29 and the waste 35 of the saliva ejector.

The saliva ejector comprises a valve 36 provided with a tubular extension 37 to which is fitted the body 38 of the ejector, said body having a nozzle 39 to which a flexi-

ble tube 40 is fitted, and which flexible tube carries the mouth piece or suction tube, not shown. A chamber 41 is formed in the body 38 opposite to the opening with which the nozzle 39 connects. A nipple 42 is threaded into the extension 37 and is provided with a minute opening to project a fine stream of water across the chamber 41 and create a vacuum or suction therein, after the manner of an injector, so as to create a suction in the parts 39 and 40 to carry off the saliva from the mouth of the patient. The waste pipe 35 is coupled to the lower end of the body 38 by means of a union 43.

The water fixture 31 serves as a handle to the plug of the valve 30, and when said part 31 is turned toward the center of the bolt, the valve 30 is closed, and when turned to the left to extend over the glass holder 32, the valve 30 is open and water flows from the fixture 31 to supply the drinking glass or other receptacle that may be placed in the holder 32 or held above the same. When the fixture 31 is turned to the right so as to face away from the glass holder 32, the valve 30 is open to the saliva ejector.

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

In a cuspidor of the character specified, the combination of a bowl having an outlet and provided at or near its upper edge with a hollow rim, said rim having an annular opening in its inner wall midway of its top and bottom, and a flush pipe located within the lower portion of the space of the hollow rim and provided at intervals in its length with openings arranged upon the side facing the inner wall of the space, said openings being slightly below the plane of the upper edge of the lower part of the inner wall of said hollow rim.

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

JOHN W. COOPER. [L. s.]

Witnesses:

DANIEL STEPHEN MURPHY,
DELLA L. HARTY.