

A. C. CLARK.
DENTAL CUSPIDOR.
APPLICATION FILED JAN. 20, 1911.

1,049,207.

Patented Dec. 31, 1912.

3 SHEETS-SHEET 1.

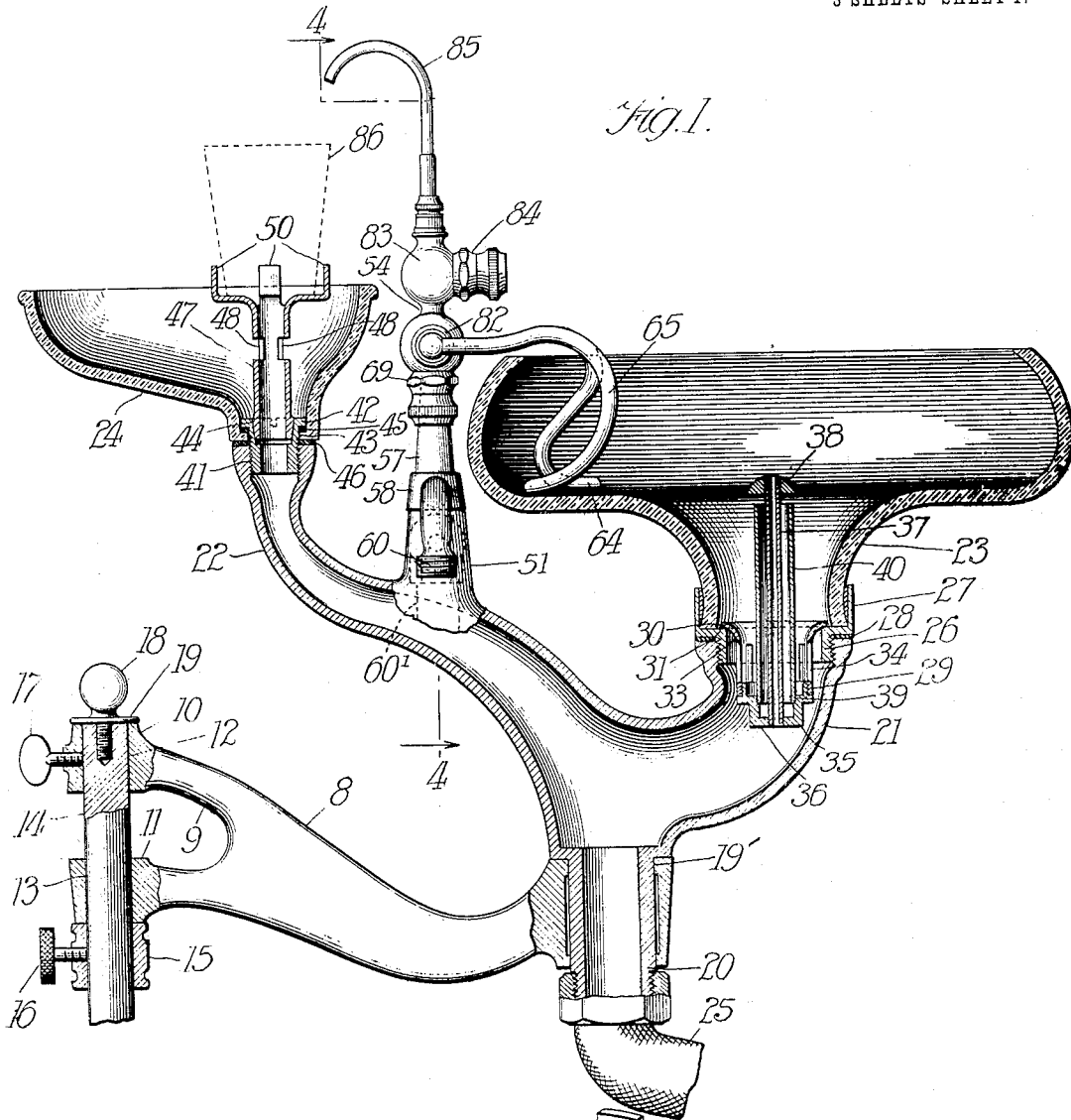
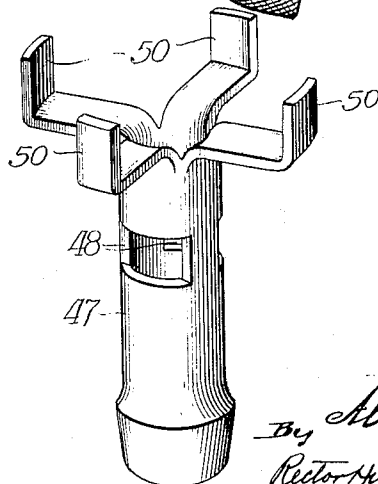


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 3.

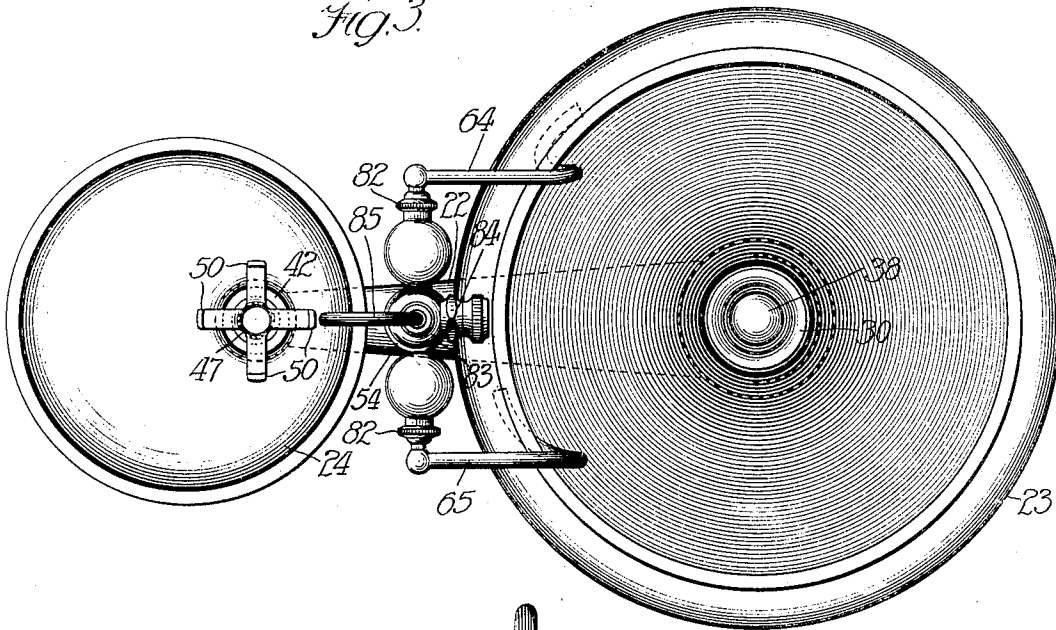
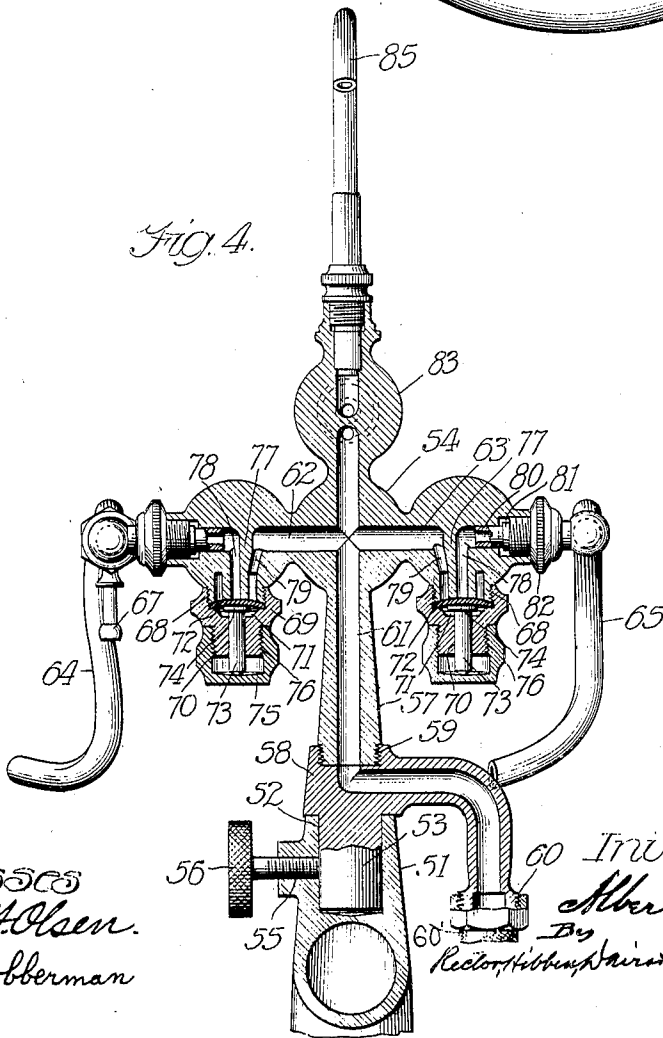


Fig. 4.



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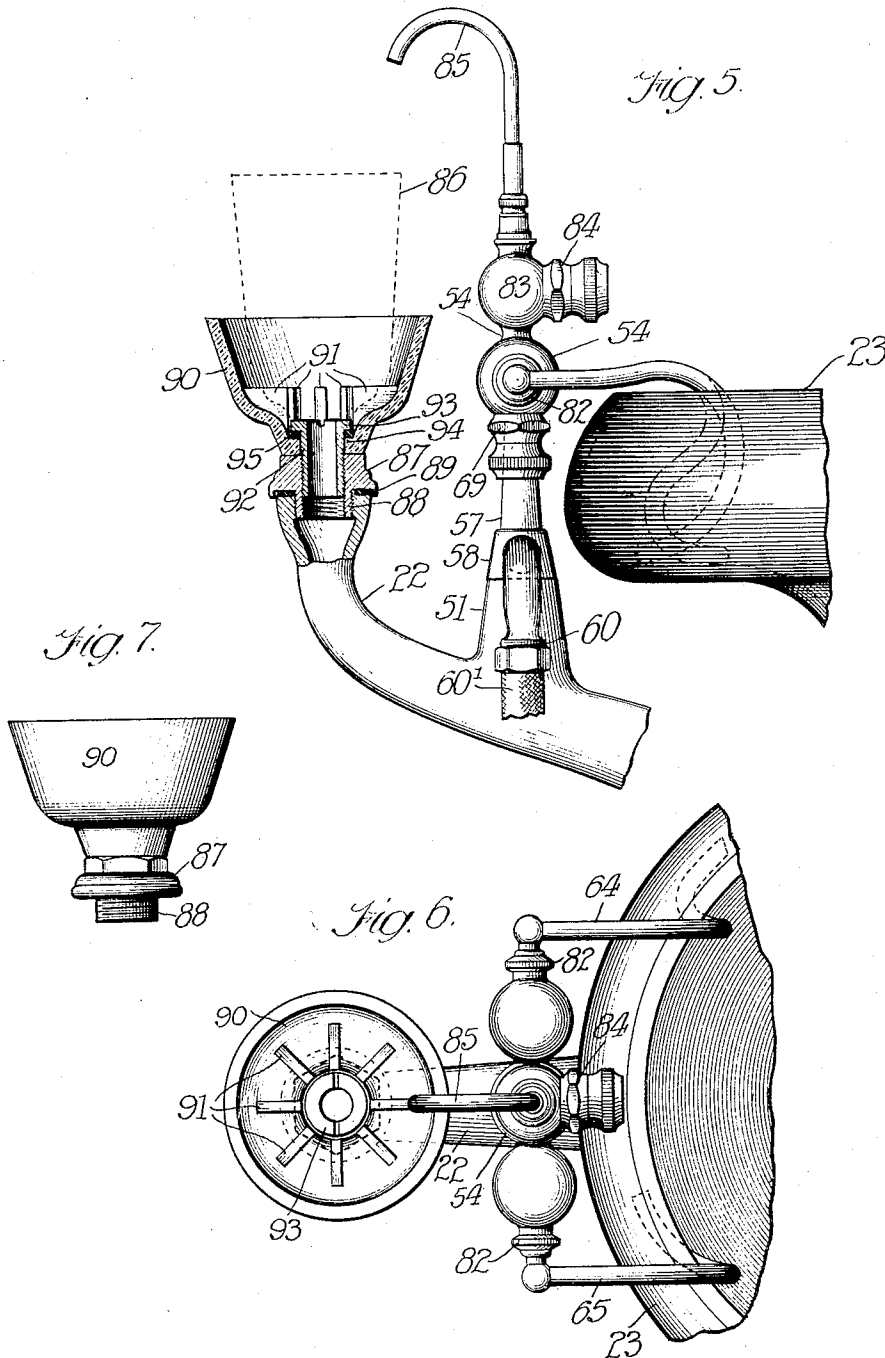
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3 SHEETS—SHEET 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALBERT C. CLARK, OF CHICAGO, ILLINOIS, ASSIGNOR TO A. C. CLARK & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DENTAL CUSPIDOR.

1,049,207.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT C. CLARK, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Dental Cuspidors, of which the following is a specification.

In the dental cuspidor attachments in common use there is ordinarily provided a drinking glass holder which is so arranged with respect to the cuspidor as to be in the way of patients using the latter.

My invention consists, broadly stated, in a compact arrangement of cuspidor, glass holder and finger bowl, together with the necessary faucet for supplying them, in which the several parts are accessible without interfering with each other and readily separable for the purpose of cleaning.

Other advantages will be readily apparent from the following detailed description.

The drawings represent the preferred form of my invention and it will be described in connection therewith, but it will be understood that I am by no means limited to the precise construction shown and described, but that my invention extends to equivalent constructions which may vary widely in details from the structures here disclosed provided that they come within the scope of the claims forming part of the specification.

Figure 1 represents a preferred form of my invention partly in elevation and partly in vertical section to show the interior construction; Fig. 2 is a perspective of a detail of the device shown in Fig. 1; Fig. 3 is a plan view of the structure shown in Fig. 1; Fig. 4 a section on the line 4—4 of Fig. 1 showing the construction of the detachable valve structure; Fig. 5 is a fragmentary elevation partly in section; and Fig. 6 is a fragmentary plan view of a modified form of my invention; and Fig. 7 an elevation of a detail of the same form of device.

My invention is adapted to be removably secured to a dental chair and for this purpose is mounted on a bracket 8 bifurcated at 9, forks 10 and 11 being provided with registering perforations 12 and 13 which receive a removable pintle 14 which passes into a stationary part 15 of the dental chair. The pintle may be secured against rotation with respect to the dental chair by means of

a thumb-screw 16 and with respect to the bracket 8 by means of a second thumb-screw 17. The knob 18 having an annular flange 19 is screwed into the upper end of the pintle and serves to fix its vertical position with respect to the bracket 8.

At its outer or free end the bracket 8 is provided with a vertical bore 19' which receives a hollow post 20 of my improved cuspidor structure. The latter comprises a pair of hollow arms 21, 22, which communicate with the bore of the post 20 and form exhaust passages from the cuspidor 23 and finger bowl 24 respectively. To the lower end of the post is secured a flexible exhaust tube 25 which may be connected with the drainage system of the building in which the chair is located. The free end of the arm 21 which supports the cuspidor is provided with an internal screw-thread, as shown in Fig. 1, with which there is engaged the threaded stem 26 of a socket 27, within which is cemented the glass or porcelain cuspidor 23. Between the socket and the upper end of the bracket 21 is secured a packing or washer 28 to prevent leakage.

I have shown in connection with my cuspidor an advantageous form of outlet control consisting in a cup 29 having an outwardly flaring flange 30 at its upper end adapted to engage a shoulder 31 on the socket 27 by which shoulder the outlet control is supported. The cup is formed of two sections the upper flanged member 33 being provided with slotted openings 34 and having screw-threaded engagement with the lower member 35. The latter comprises a lower U-shaped portion 36 open at opposite sides and adapted for the reception of a vent pipe 37 having a cap piece 38 and extending above the normal level of water in the cuspidor. The lower member of the cup is also tapped at 39 for the reception of a larger vent pipe 40 which surrounds the vent pipe 37. As will be seen, this form of outlet control may be readily removed from the cuspidor and disassembled for the purpose of cleansing it.

The arm 22 which supports the finger bowl 24 rises to a somewhat greater height than the arm 21 supporting the cuspidor and is likewise tapped at its upper end at 41 for the reception of an internal coupling 42 by which the bowl 24 is secured. The latter is formed at its outlet opening with

an inwardly extending flange 44 on the coupling, there being packing washers 45 and 46 between the shoulders of the bowl and coupling respectively and between the under surface of the bowl and the top of the bracket 22 to secure a water tight joint. The bore of the coupling is slightly tapered at its upper end as shown and provided with a shoulder and within the tapered or flaring portion is seated the lower end of the combined overflow and glass holder 47 which is provided with vent and overflow openings 48 and at its upper end with outwardly extending fingers 50 for the reception of the glass. It will be noted that the finger bowl of the form of device shown in Figs. 1 and 3 is formed of glass and that the outlet is located eccentrically thereto, the purpose being to mount the glass within the bowl in a convenient position and yet provide ample space for dipping the fingers in the bowl.

The arm 22 of the cuspidor and finger bowl support has cast therewith a projecting boss 51 which is provided with a vertical socket 52, see Fig. 4, for the reception of a spud or post 53 upon the lower end of the valve casting 54 and a tapped opening 55 communicates with the socket 52 and receives a thumb-screw 56 for securing the valve casting from rotation or removal. The valve casting may be formed in a single body but I prefer to make it and have shown it cast in two portions 57 and 58 connected together by a threaded joint 59, the lower portion comprising the spud 53 above referred to and a threaded connection 60 to which may be secured the flexible hose 60' for supplying water to the valves and faucets.

The upper casting 57 has a central longitudinal bore 61 communicating with the bore in the lower section and provided with branch channels 62 63 which lead to the faucets 64 65 which supply the cuspidor bowl. At an intermediate point, however, each of these passages is provided with a valve mechanism to be described and beyond this valve the passage 62 also connects with a secondary branch leading to a nipple 67 to which may be secured the usual flexible saliva ejector. The ejector connection is so connected with the passage 62, in a manner well known to those skilled in this art, that the flow of water through the nozzle 64 causes an aspirating or ejector action in the saliva ejector when attached to the nipple 67. The valves for controlling the supply of water to the nozzles 64 and 65 are precisely similar to each other, and a description of one will suffice for both. Each branch of the casting containing a water passage is provided with an exteriorly threaded boss 68 upon which is secured a nut 69 having a central perforation 70. Be-

tween the nut and the boss 68 is formed a chamber 71 within which is secured a movable diaphragm 72, the edges of which are clamped between an annular shoulder upon the nut 69 and the end of the boss 68 and within the perforation 70 of the nut 69 is mounted a pin or stem 73 having an enlarged head 74 which engages the diaphragm. The outer end of the nut is reduced as at 75 and screw-threaded for the reception of a cap 76 which is adapted to bear upon the outer end of the stem 73. The passage 62 is interrupted by a web 77 at a point opposite the boss 68 and the adjacent ends of the passage on opposite sides of the web 77 are connected by concentric passages 78 and 79 with the chamber in which the diaphragm is mounted. It will be obvious from this description that by screwing in the cap 76 against the outer end of the stem 73 the diaphragm is pressed against the end of the threaded boss to close communication between the passages 78 and 79 and by releasing or moving back the threaded cap passage of water to the faucet is permitted. Each nozzle is shown as provided with a perforated stem 80 extending into the bore of its corresponding passage and provided with a collar 81 against which the nut 82 engages to secure the faucet in place. Obviously, however, this precise form of attachment is immaterial. The faucet casting is provided with an upwardly projecting branch 83 provided with a valve mechanism 84 similar to that heretofore described in every respect and terminates in a nozzle 85 for supplying the glass with water.

It will be obvious from Fig. 1 that when the flexible supply and exhaust pipes are connected with the fixture and the water turned on it can be diverted into the nozzle 64 or nozzle 65 accordingly as the saliva ejector is to be used or not, and by loosening the cap of the valve 84 a stream of water may be turned into the glass shown in the dotted lines at 86 supported upon the overflow pipe 47 or, if desired, any two or all of the branches may be supplied with water at the same time. The water flowing into the glass 86 will fill it and overflow into the finger bowl to the level of the openings 48 in the overflow pipe, when it will rise no farther. If, for any reason, it is desired to empty the finger bowl the overflow pipe is lifted and the bowl immediately emptied and may, if desired, be cleaned. In order to clean the faucet or to get at the adjacent parts of the cuspidor, finger bowl or support, the valve casting may be removed by releasing the clamp screw 56.

In the modification seen in Figs. 5, 6 and 7 the finger bowl as such is dispensed with and a mere glass holder with drainage connection substituted therefor. The cuspidor

23, valve casting 54 and faucet connections are the same as those heretofore described. The arm 22, however, is provided with a reducing extension 87 which has a screw-threaded stem 88 engaging the interior thread in the arm 22, a washer 89 being inserted between the parts to secure a tight joint. The glass holder 90 is preferably made of glass or porcelain provided with an annular series of wings 91 upon which the glass may be supported and secured to the extension 87 by an exteriorly threaded connection 92 having an outer flange 93 engaging the internal shoulder 94 on the outlet opening of the holder 90 with the intervention of a washer 95. The glass is shown in position by the dotted lines 86 to receive water from the faucet which, when the glass is full, overflows into the holder 90 and is drained away through the hollow arm 22.

In each of the modifications which I have shown and described the glass is mounted a sufficient distance from the cuspidor bowl to avoid any possibility of saliva getting into it, there being provision also in each case for venting the waste pipe and permitting the water to drain away from the glass. In the case of the latter described modification, the dentist may have at his disposal a glass into which a stream of clean water is constantly running and in the case of the former or preferred modification he has a constantly running stream of water not only in his glass but also in the finger bowl and in case the latter becomes soiled or contaminated it may be readily drained and cleaned. By the double pivoted structure and the arrangement of cuspidor and finger bowl and glass holder, the parts may be brought into most convenient position for use.

What I claim is:

1. In a device of the class described, the combination of two bowls, a bracket for supporting the same, a water supply fixture common to both bowls and mounted on the bracket, said fixture being removable from the bracket without interfering with the water supply.

2. In a device of the class described, the combination of two bowls, a bracket comprising two branches diverging upward at an angle to the perpendicular and at their upper ends supporting said bowls respectively, and a water supply fixture mounted on the bracket.

3. In a device of the class described, the combination of two bowls, a bracket comprising two branches diverging upward at an angle to the perpendicular and at their upper ends supporting said bowls respectively, and a water supply fixture mounted upon one of said branches.

4. In a device of the class described, the combination of two bowls, a bracket com-

prising two branches diverging upward and at their upper ends supporting said bowls respectively, and a water supply fixture common to both of said bowls and mounted upon one of said branches.

5. In a device of the class described, the combination of two bowls, a bracket comprising two branches diverging upward at an angle to the perpendicular and at their upper ends supporting said bowls respectively, a water supply fixture mounted on one of the branches of the bracket, and a support on which said bracket is swiveled.

6. In a device of the class described, the combination of two bowls, a bracket comprising two branches diverging upward at an angle to the perpendicular and at their upper ends supporting said bowls respectively, a water supply fixture mounted on the bracket and a horizontally swinging support on which the bracket is swiveled.

7. In a device of the class described, the combination of a bracket comprising two branches diverging upward at an angle to the perpendicular and having an axial stem, two bowls mounted upon the upper ends of said branches, means for supplying water to the bowls, and a support in which such stem is swiveled.

8. In a device of the class described, the combination of a bracket comprising two branches diverging upward at an angle to the perpendicular and having an axial stem, two bowls mounted upon the upper ends of said branches, means for supplying water to the bowls, and a swinging support in which such stem is swiveled.

9. In a device of the class described, a cuspidor, a bracket supporting the same having a socket, a water supply fixture having at its lower end a post secured in the socket, a nipple connected to the fixture for the attachment of a flexible supply pipe.

10. In a device of the class described, the combination of two bowls, a bracket having two branches diverging upward for supporting the same, one of the branches having a socket, a water supply fixture having a post secured in the socket and having means of attachment of a flexible supply pipe, and means for securing the post in the socket.

11. In a device of the class described, a bracket having two branches diverging upward provided with drain conduits communicating with a common outlet, bowls mounted on the upper ends of said branches and having outlets communicating with said drain conduits respectively, and a water supply fixture common to both bowls and removably mounted upon one of the branches.

12. In a device of the class described, a bracket having two branches diverging upward provided with drain conduits communicating with a common outlet, bowls

- mounted on the upper ends of said branches and having outlets communicating with said drain conduits respectively, and a water supply fixture common to both bowls and
 5 removably mounted upon one of the branches, at a point intermediate the length thereof, said fixture extending upwardly between the two bowls.
13. In a device of the class described, a
 10 bracket having two diverging branches provided with drain conduits communicating with a common outlet, bowls mounted on the upper ends of said branches and having outlets communicating with said drain conduits
 15 respectively, one of said branches having a socket, and a water supply fixture common to both bowls and having a post received by the socket.
14. In a device of the class described, a
 20 bracket having two diverging branches provided with drain conduits communicating with a common outlet, bowls mounted on the upper ends of said branches and having outlets communicating with said drain conduits
 25 respectively, and a water supply fixture common to both bowls and removably attached at its lower end to one of the branches, said fixtures having a water supply connection intermediate its height.
- 30 15. In a device of the class described, a bracket having two diverging branches provided with drain conduits communicating with a common outlet, bowls mounted on the
 35 upper ends of said branches and having outlets communicating with said drain conduits respectively, and a water supply fixture common to both bowls and removably mounted upon one of the branches, said fixture having
 40 a nozzle 85 for discharge of water into one bowl and also a swinging nozzle arranged to enter the other bowl and to discharge water thereunto.
16. In a device of the class described, the combination with a cuspidor, and a glass
 45 holder, a bracket having branches on which the glass holder and cuspidor respectively are mounted, a faucet detachably mounted on the bracket between the glass holder and cuspidor and removable without interfering with the water supply, said fixture
 50 having one discharge pipe opening above the glass holder and another opening into the cuspidor, and a nipple adapted for the attachment of a flexible supply pipe.
- 55 17. In a device of the class described, the combination of a cuspidor, a glass holder, a bracket having two branches on which the glass holder and cuspidor are mounted, the
 60 bracket being also provided with a socket, a faucet having a post thereon for detachable engagement with the socket and having one discharge branch opening above the glass holder and another opening into the cuspidor, and a nipple for the attachment of
 65 a flexible supply pipe.
18. In a device of the class described, the combination of a bowl having an outlet, a combined glass holder and overflow device arranged in said outlet and adapted to support a glass at its upper end, said device
 70 having an overflow opening but otherwise permanently closing the bowl outlet, and means arranged substantially over the holder for supplying water directly to the glass while in its holder, the glass overflowing into the bowl and the bowl into said
 75 device and through the outlet.
19. In a device of the class described, the combination of a bowl having an outlet located eccentrically thereof, a combined glass
 80 holder and overflow device arranged in said outlet and adapted to support a glass at its upper end, said device having an overflow opening but otherwise permanently closing the bowl outlet, and means arranged substantially over the holder for supplying
 85 water directly to the glass while in its holder, the glass overflowing into the bowl and the bowl into said device and through the outlet.
20. In a device of the class described, the combination of a bowl having an outlet, a
 90 combined glass holder and overflow device arranged in said outlet and adapted to support a glass at its upper end, said device comprising a tubular body portion whose lower end fits into and closes the bowl outlet and whose upper end terminates in a
 95 plurality of radial arms for supporting the glass, said body portion having an overflow opening below the plane of said arms, whereby a water level is maintained in the bowl, and means for supplying water to the glass.
21. In a device of the class described, the combination of a support, a bowl bracket
 100 mounted to swivel thereon and having two branches diverging upward at an angle to the perpendicular and a stem forming the axis of rotation upon the support, said branches and stem having drain conduits,
 105 bowls mounted upon the upper ends of the branches respectively and having outlets communicating with said conduits, and a fixture mounted upon one of the branches and common to both bowls for supplying
 110 water thereto.
22. In a device of the class described, the combination of a support, a bowl bracket
 115 mounted to swivel thereon and having two branches diverging upward at an angle to the perpendicular and a stem forming the axis of rotation upon the support, said branches and stem having drain conduits,
 120 bowls mounted upon the upper ends of the branches respectively and having outlets communicating with said conduits, and a fixture mounted on one of the branches and extending upwardly between the two bowls
 125 and having discharge connections for delivering water to both of the bowls.

23. In a device of the class described, the combination, with a stationary support, of an arm mounted to swing thereon, a bowl bracket mounted to swing on said arm, and comprising two upwardly extending branches diverging upward and a stem forming the axis of rotation upon the arm, said branches having drain conduits, bowls mounted upon the upper ends of the branches respectively and having outlets communicating with said conduits, and means for supplying water to the bowls, said branches diverging at an angle to the horizontal.

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Witnesses:

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