A. R. MITCHELL.

DENTADOR OR SANITARY CUSPIDOR.

APPLICATION FILED JAN. 19, 1909.

925,587. Patented June 22, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

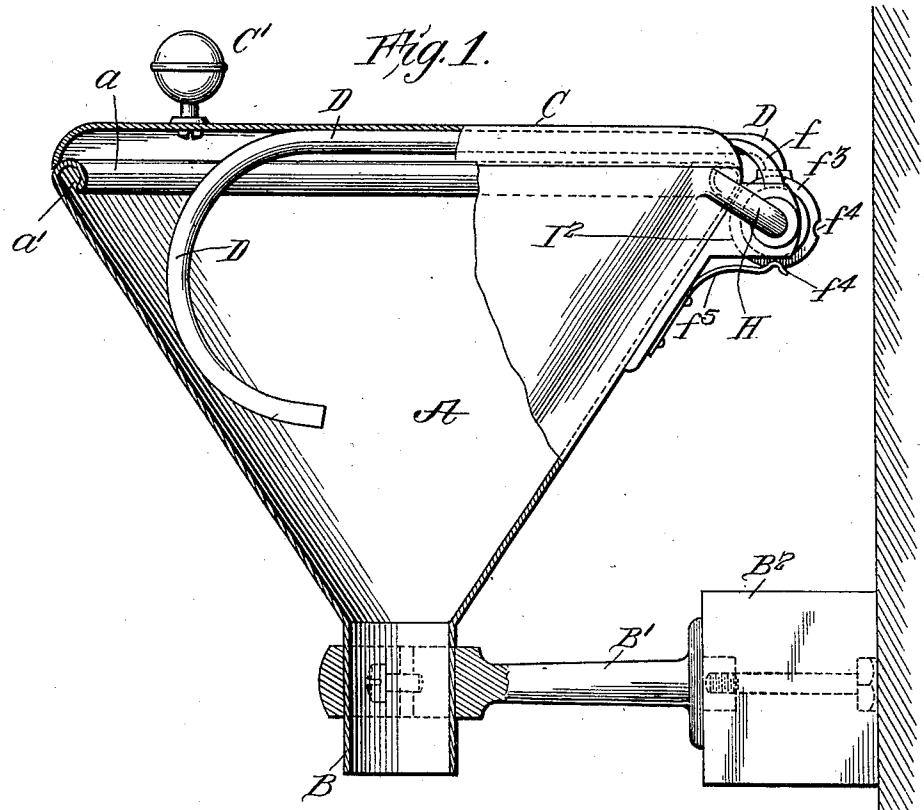
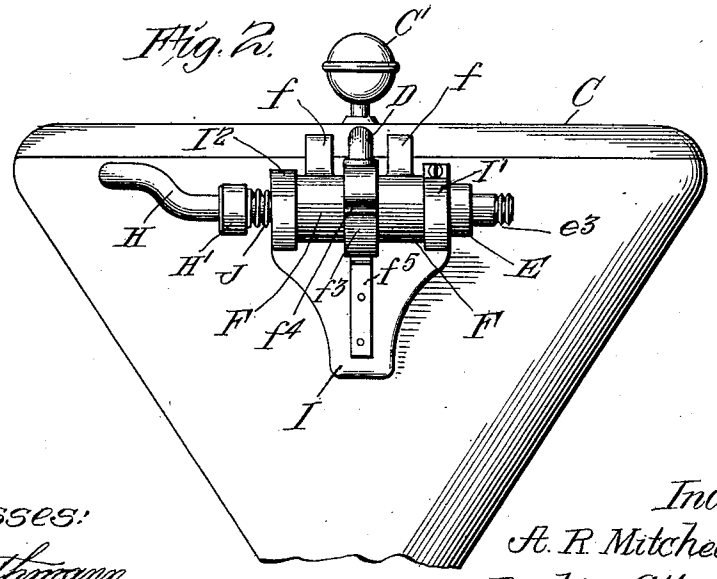


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

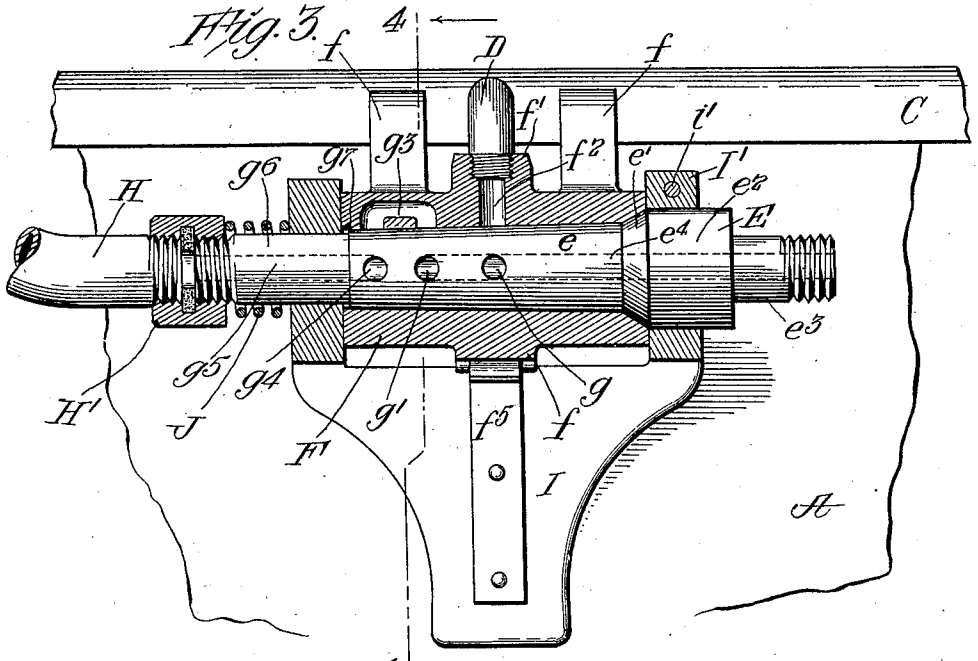


Fig. 4.

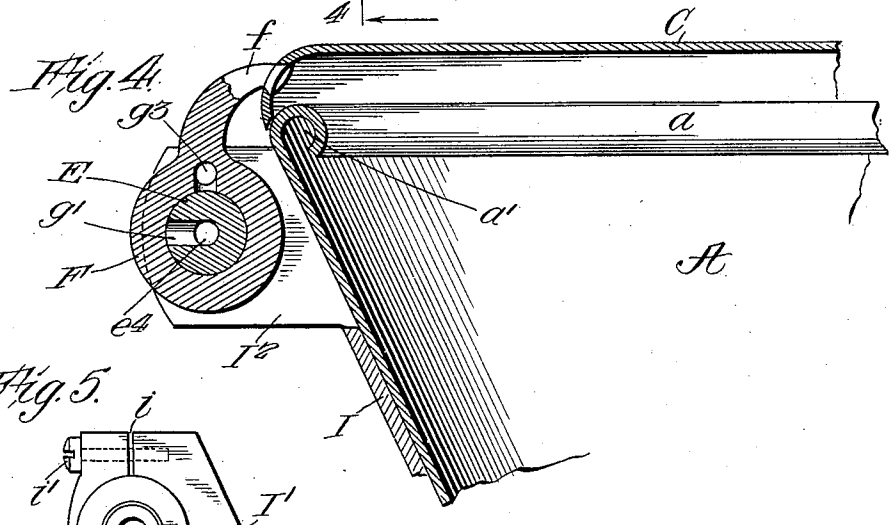
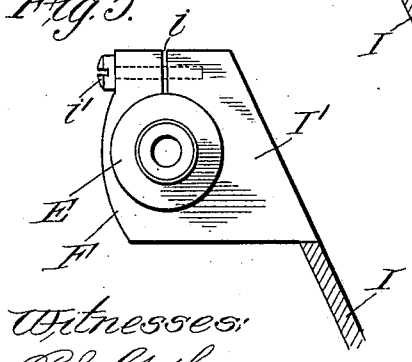


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALBERT R. MITCHELL, OF LINCOLN, NEBRASKA.

DENTADOR OR SANITARY CUSPIDOR.

No. 925,587. Specification of Letters Patent. Patented June 22, 1909.

Application filed January 19, 1909. Serial No. 473,138.

To all whom it may concern:

Be it known that I, ALBERT R. MITCHELL, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Dentador or Sanitary Cuspidor, of which the following is a specification.

The object of my invention is to provide an improved device for use by persons while cleaning their teeth.

In the toilet rooms of sleeping cars and other like places the wash-bowl is often used to receive the expectorations, wash water, etc. from those cleaning their teeth. This is undesirable for obvious reasons and by my invention I provide a supplemental or specially constructed bowl for this purpose which is provided with means for keeping it clean.

In carrying out my invention I provide a bowl of suitable size, shape and material which I mount securely in a suitable place, preferably near the stationary wash-bowl ordinarily used, and provide it with a lid which is normally closed. The bowl has a suitable outlet pipe for waste water and an inlet pipe for flush or bowl-cleaning water is provided which is connected through novel mechanism with a delivery pipe, in turn connected with the lid of the bowl in such manner that it is raised and lowered by the lid as the latter is moved up and down. The connection between the flush pipe and the valve is such that when the lid is closed, the supply of wash-water is cut off, but when the lid is raised, the supply is turned on. I preferably also provide the bowl with a supplemental rim flusher through which the flush water is distributed over the bowl. The flow of water through the rim flusher is also controlled by the raising and lowering of the lid.

In the accompanying drawings,—Figure 1 is a view in side elevation with parts broken away of my improved device. Fig. 2 shows a rear elevation thereof with the lower part of the bowl broken away. The remaining figures are on a larger scale. Fig. 3 is a view partly in rear elevation and partly in section through the valve mechanism contained in the hinge connection between the lid and the bowl. Fig. 4 shows a vertical section on the line 4—4 of Fig. 3. Fig. 5 is a detail view showing the manner of clamping the plug or stationary member of the hinge and valve to its supporting bracket.

The bowl A is preferably of the shape shown, viz., relatively large at the top and tapering downward to a discharge pipe B. The bowl may be supported by an arm B′ attached in any suitable way to a supporting block or bracket B^2 attached to the wall or side of the room or compartment in which the device is located. The arm B′ may be attached in any suitable way to the discharge pipe B. The bowl A, discharge pipe B and the lid C may be made of sheet metal which may be enameled, or they may be made of other suitable material. The lid is provided with a handle C′ by means of which it may be raised and lowered, and the bowl is formed with an inturned rim *a* which may extend entirely around the top of the bowl and which is open at its inner edge as at *a′* to allow flush water to pass to the sides of the bowl in a manner well understood.

I have shown novel means by which a hinge connection is made between the lid and the bowl and which is so constructed as to turn on the water when the lid is raised and to turn it off when the lid is closed. Suitable connections are made from the water-supply pipe to the flushing rim and I have also provided a curved pipe D which is so connected with the lid that it is raised and lowered therewith.

Fig. 1 shows the pipe D in its lowermost position at the time when the water is cut off. When the lid is raised, the curved pipe will deliver the water to the bowl which is useful in cleansing the bowl and also supplies the water for use on a tooth-brush or for mouth rinsing purposes.

As clearly shown in the drawings, the lid C is connected to a casting which constitutes the valve casing or outer member of the valve mechanism through which valve casing extends a plug or stationary valve member E hereinafter more fully described. The casting referred to is provided with upwardly projecting arms *f* which are attached to the rear part of the lid and which are formed integrally with the casing part F which is adapted to turn about the plug E. The part F is provided with a boss *f′* to which the rear end of the pipe D is rigidly connected and this boss is provided with a passage f^2 communicating with the interior of

the pipe D and with the central bore of the casing F, which latter is also provided with an annular portion f^3 formed with notches f^4 with which a spring f^5 is adapted to engage, the arrangement being such that when the lid C is in its lowermost position, the outer end of the spring f^5 engages one of the notches, as indicated in Fig. 1, so that the lid is held against accidental movement and when the lid is in its raised or uppermost position, the outer end of the spring f^5 engages the other notch f^4 and holds the lid securely in its raised position, but it is obvious that when it is desired to either raise or lower the lid, the spring finger f^5 will yield and allow the lid to be moved to the desired position. The bore of the casing F is slightly tapered, as indicated, and the plug E is correspondingly tapered. The main body e of the plug is tapered quite gradually, but at its larger end it is formed with a tapered shoulder e' fitting a corresponding tapered annular recess in one end of the casing F. Beyond the shoulder e' the end e^2 of the plug is straight or cylindrical and carries a threaded projection e^3 adapted to be secured to the water supply pipe. This projection e^3 has a channel passing through it and this channel e^4 extends axially part way through the plug and communicates with two lateral channels g, g', the former of which is adapted to communicate with the channel f^2 and the latter, g' is adapted to communicate with a U-shaped passage g^3 formed in the casing F. This passage g^3 is adapted to communicate with a lateral passage g^4 communicating with an axial passage g^5 extending through the cylindrical reduced end g^6 of the plug. Between the portion g^6 and the central tapered portion of the plug there is a shoulder g^7 which is normally a short distance inside the adjacent end face of the casing F. The part g^6 of the plug is coupled to a pipe H which is connected, in the manner indicated in Fig. 1, with the rim flusher a.

The plug E is supported on a bracket I secured to the rear face of the bowl and having rearwardly projecting arms I', I^2 between which the casing F is arranged and through which the plug E extends. The arm I' is bored or formed to fit the enlarged part e^2 of the plug, and this arm I' is preferably split, as indicated at i in Fig. 5, and it receives a tightening screw i', the arrangement being such that the plug may be inserted in the arms and then by means of the screw i', the part e^2 of the plug may be tightly clamped and firmly held. The arm I^2 is bored to receive the reduced cylindrical end g^6 of the plug and the arm I^2 is not split or provided with a clamping device.

Between the coupling H' and the arm I^2 is interposed a spring J which tends to draw the plug E into the casing F so that a watertight connection is automatically maintained. If the parts wear from constant use, the spring J will pull the plug into its tapered socket, the tapered shoulder e' being so formed as to wear correspondingly with the central part e of the plug. Should the plug be so tightly clamped by the devices i and i' that the spring J cannot act, if any leakage is discovered, by merely loosening the screw i' the spring J will automatically act to properly seat the plug in the casing and then the screw may be again tightened so as to hold the plug firmly and securely in place.

In Fig. 3 the lid C is shown in its closed or lowered position and there is no communication between the water inlet pipe and the pipe D and the rim flushing devices, but when the rim is raised, the casing F is turned about the axis of the stationary plug E and the channels f^2 and g^3 are brought into line and communicate with the passages g, g' and g^4. Water will then pass both through the pipe D and the rim flushing device. In this way the bowl is kept clean and sufficient water is supplied for the convenience of the user of the device while cleaning the teeth.

I claim as my invention:—

1. The combination with a bowl of a lid, a pipe for delivering water to the bowl when the lid is raised, connections between the lid and the pipe whereby they are raised and lowered together, and valve mechanism operated by the upward movement of the pipe for turning on the flush water as the pipe and lid are raised.

2. The combination with a bowl of the hinged lid, a pipe for delivering water to the bowl when the lid is raised, connections between said pipe and the lid whereby the two are raised and lowered together, a hinge for the lid and pipe, and valve mechanism in the hinge operated by the movement of the pipe for turning on the supply of water when the pipe is raised and for cutting it off when the pipe is lowered.

3. The combination with a bowl having a rim flusher, of a pipe for delivering water to the bowl, connections between the lid and the pipe whereby they are raised and lowered together, a hinge for the lid and pipe, and valve mechanism in the hinge operated by the upward movement of the pipe for turning on the water supply to the rim flusher and to said water-delivery pipe as the pipe and lid are raised and for turning it off while they are being lowered.

4. The combination of a bowl, a lid therefor, a valve casing attached to the lid and provided with a water channel, a water-delivery pipe connected to the lid and raised and lowered thereby, and which is connected with said water channel in the valve casing, a stationary plug having a channel communicating with a supply pipe and having a lat-

eral channel adapted to communicate with the channel leading to the water-delivery pipe when the lid is raised and the valve casing is moved about the axis of the plug, and means for clamping said plug in place.

5. The combination of a bowl provided with a rim flusher, a lid for the bowl, a valve casing connected with the lid, a water-delivery pipe also connected with the valve casing and raised and lowered with the lid, a tapered plug extending through the valve casing communicating with the water-supply pipe and adapted to communicate with the water-delivery pipe and the rim flusher when the lid is raised, and means for holding the plug in place.

6. The combination of a bowl provided with a rim flusher, a lid for the bowl, a valve casing having a central bore and provided with lateral passages, a water-delivery pipe connected with one of said lateral passages and which is raised and lowered with the lid, a pipe leading to the rim flusher connected with another of the said lateral passages, a stationary plug having a central channel connected with a water-supply pipe, a lateral channel adapted to communicate with the water-delivery pipe, and another channel adapted to communicate with the passages leading to the rim flusher, and means for holding the plug in place.

7. The combination of a bowl, a lid therefor, a valve casing connected with the lid having a central bore and a lateral passage, a water-delivery pipe adapted to be raised and lowered with the lid, and connected with the valve casing and communicating with said lateral passage in the valve casing, a plug extending through the valve casing having a tapered body portion and a tapered shoulder at its larger end, and having also passages adapted to communicate with the water-supply pipe and with the water-delivery pipe, a bracket attached to the bowl for supporting the plug, and means for clamping the plug to the bracket.

In testimony whereof, I have hereunto subscribed my name.

ALBERT R. MITCHELL.

Witnesses:

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MARY L. JEFFERY.