

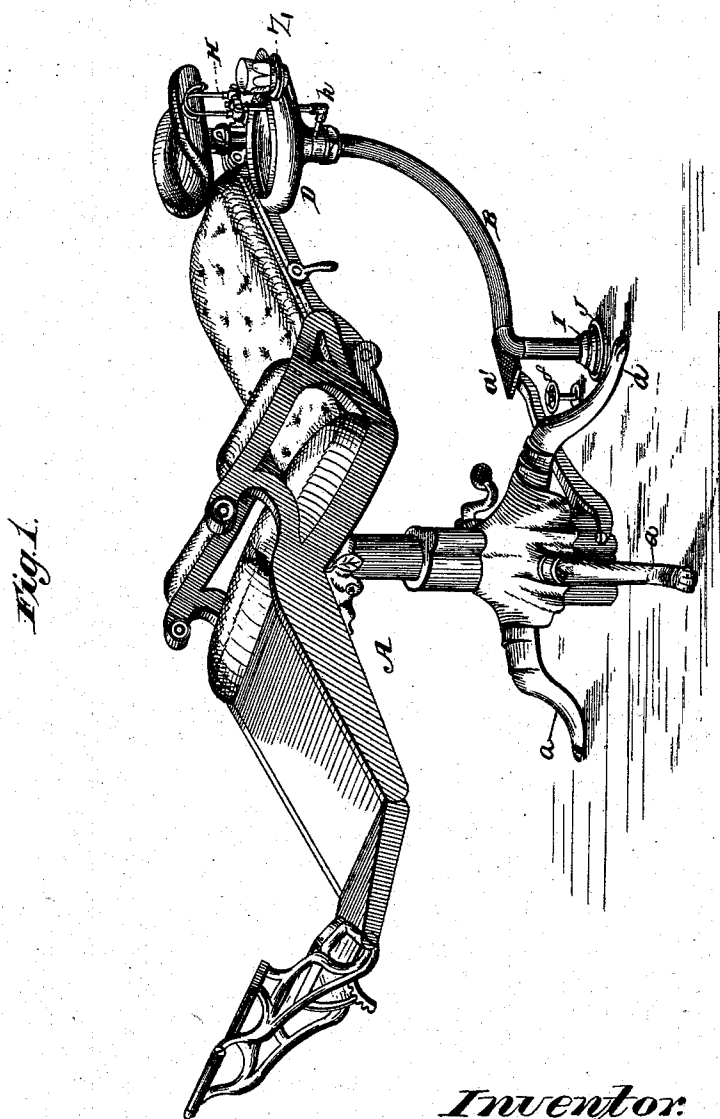
(No Model.)

3 Sheets—Sheet 1.

E. B. BLISS.
DENTAL SPITTOON.

No. 274,105.

Patented Mar. 20, 1883.



Witnesses.

Robert Everett.
George Tighman

Inventor.

Ellis B. Bliss

By Wm H Babcock

Atty.

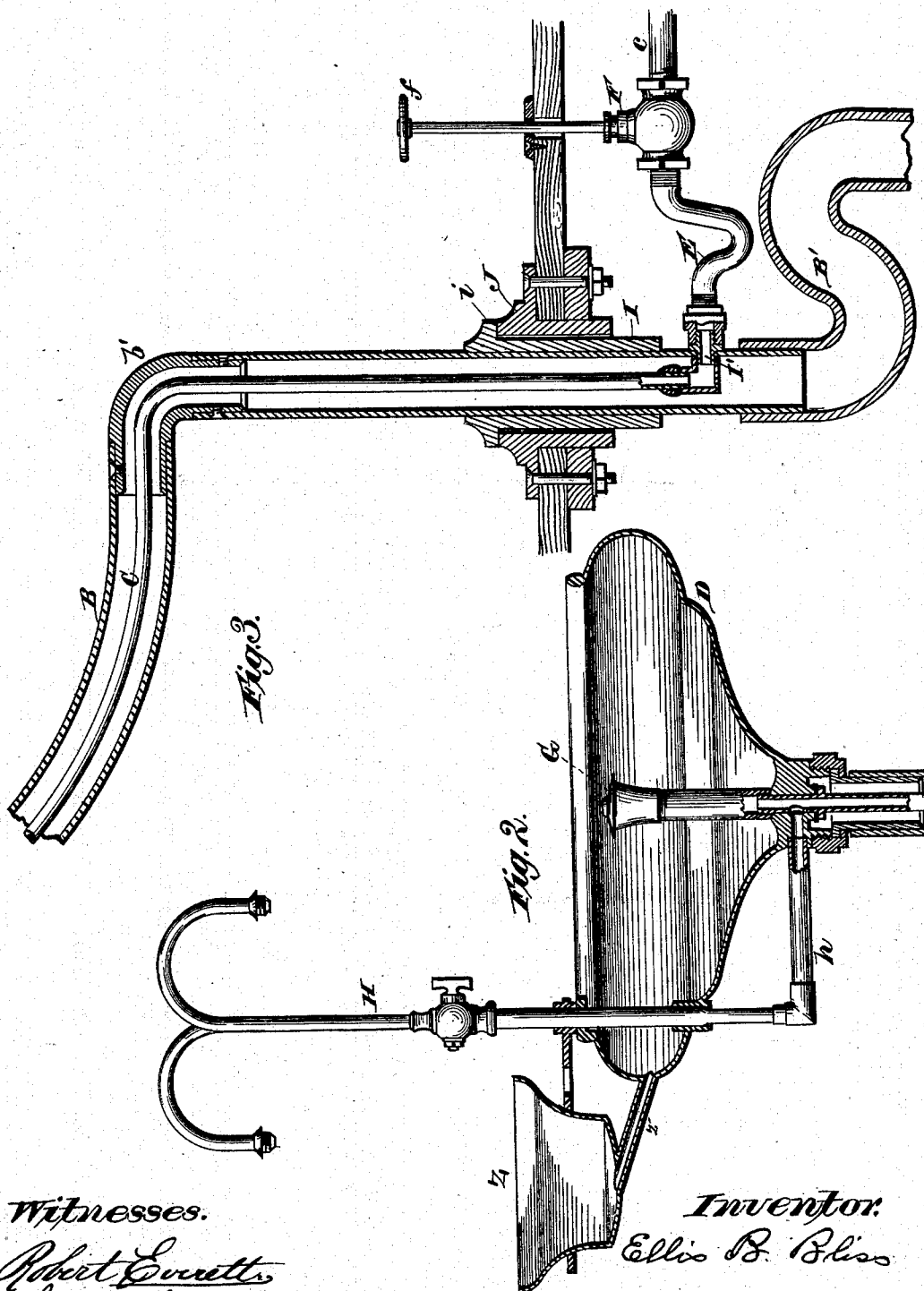
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Fig. 4.

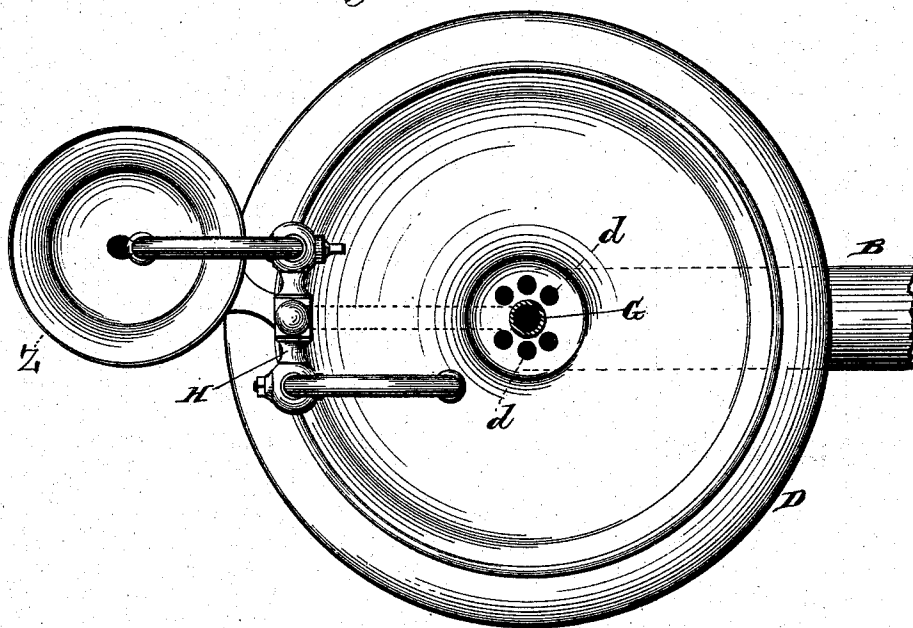
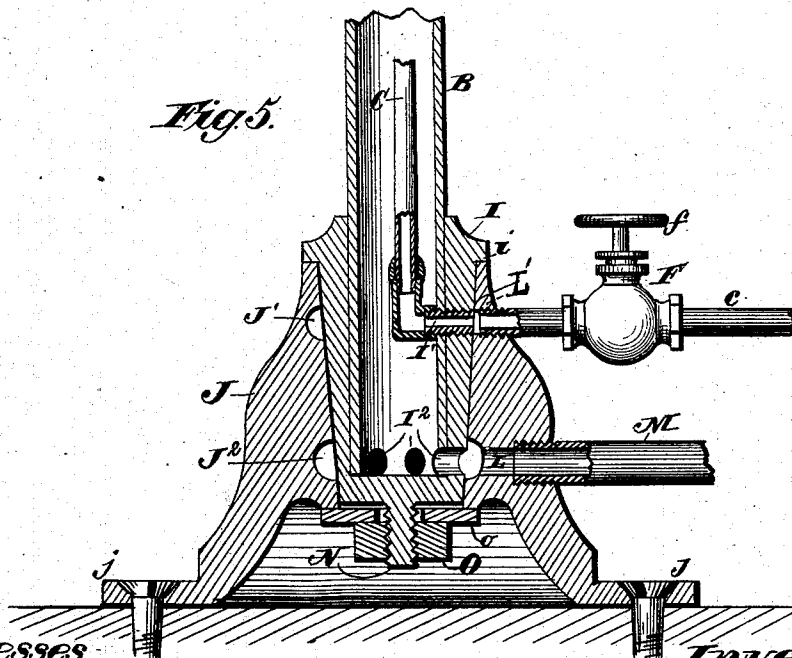


Fig. 5.



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UNITED STATES PATENT OFFICE.

ELLIS B. BLISS, OF WASHINGTON, DISTRICT OF COLUMBIA.

DENTAL SPITTOON.

SPECIFICATION forming part of Letters Patent No. 274,105, dated March 20, 1883.

Application filed January 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, ELLIS B. BLISS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Dental 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of dental spittoons which have pipes for the supply and discharge of water, and are adapted to be adjusted in position to conform to the varying location of the patient's head as the chair-back is raised or lowered or the chair turned on its pivot in the usual manner. Sometimes these spittoons have been attached to the chair itself, in which case they are necessarily removed therewith whenever the chair is removed from its place, and have no independent support. Moreover, the turning of the chair will not vary the position of the spittoon with respect to the patient's head, a separate motion being required to effect this latter adjustment. In other cases these spittoons have been supported on their discharge-pipes independently of the chair, said pipes being provided with two universal joints, one near the floor and one near the spittoon. By means of the former the spittoon may be raised and lowered and turned in any direction, and by means of the upper joint the spittoon is made to take a horizontal position wherever thus placed. It is obvious, however, that this construction is very costly, and, moreover, requires at least two motions to adjust the spittoon ready for use. To avoid these objections, I make use of the construction hereinafter set forth and claimed.

My invention consists, first, in a dental spittoon, in combination with a bent support pivoted for horizontal axial adjustment and independent of the dentist's chair; secondly, in a dental spittoon, in combination with a support consisting of a water-supply tube and a discharge-tube, arranged the one within the other and independent of the dentist's chair;

thirdly, in a dental spittoon, in combination with a support consisting of a water-supply tube and a discharge-tube and a bearing in which they have axial motion, said tubes being bent substantially as and for the purpose hereinafter set forth; fourthly, in a dental spittoon, in combination with a water-supply tube, a discharge-tube exterior thereto, a bushing turning with said tubes, a bearing in which said bushing turns, and connections respectively between said discharge pipe or tube and the drain-pipe and said water-supply tube or pipe and the water-supply system of the building, substantially as hereinafter set forth; fifthly, a dental spittoon and its water-supply pipe and discharge-pipe, in combination with a bearing in which they turn, and an exterior supply-pipe and drain-pipe, said bearing being adapted to allow the passage of water to and from the spittoon through said supply-pipe and discharge-pipe, substantially as hereinafter set forth; sixthly, a bearing having two annular grooves in its inner face and passages leading from said grooves to the exterior of said bearing, in combination with tubes leading respectively to and from the spittoon and provided with a bushing and suitable openings communicating with said grooves, substantially as hereinafter set forth; seventhly, in a spittoon and supply and discharge tubes which support it, a conoidal bushing for said tubes, said bushing being closed at the bottom and provided with a screw-threaded stud, in combination with a bearing adapted to receive said bushing and a nut which turns on said stud to tighten said bushing in its seat, substantially as hereinafter set forth; eighthly, in a dental spittoon provided with a tumbler-holder which has an outlet from its bottom, for the purpose hereinafter set forth; ninthly, in a dental spittoon provided with a tumbler-holder which has a tube extending from its bottom and communicating with the interior of the spittoon, substantially as and for the purpose hereinafter set forth and claimed; tenthly, in a dental spittoon provided with a tumbler-holder having a tubular support which acts as a drain or outlet-pipe for said tumbler-holder, substantially as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1

represents a perspective view of a dentist's chair tilted back in the usual position for operation, and one of my improved dental spittoons arranged in proximity thereto and ready for use. Fig. 2 represents an enlarged vertical section through the spittoon proper and the upper ends of the pipes. Fig. 3 represents a vertical section through the outer or discharge pipe, its bearings and connections, the supply-pipe being unsectioned except at its lower end, and the upper ends of both pipes not shown. Fig. 4 represents a plan view of the spittoon proper. Fig. 5 represents a vertical section through the devices for allowing supply and discharge of water above the floor.

In the accompanying drawings the same letters indicate the same parts.

A designates a dental chair, supported in the usual way on legs *a*, and having the ordinary devices for raising and lowering, tilting and turning it. Any form of chair may be used, as this forms no part of my invention. It should be arranged so that the treadle *a'* will be on the right of the spittoon-support, and the rear left leg of the chair on the other side of said spittoon-support. This support consists of an outer pipe or tube, B, and an inner pipe or tube, C, both extending vertically upward a short distance from the floor, and then bending laterally in an upward curve, on the upper end of which is mounted a spittoon, D. The inner pipe, C, receives water at its lower end from a pipe, *c*, forming part of the water-supply system of the house, the connection being made by means of a flexible tube, E, and suitable couplings, as shown in Fig. 3, when the pipes B C are extended below the floor, the couplings of course protruding through the outer pipe, B, for the attachment of said flexible tube. The influx of water is controlled by a valve, F, the stem whereof rises through the floor and is provided with the usual hand-wheel, *f*, for convenience of operation. The upper end of pipe C is firmly attached to the bottom of spittoon D. It communicates terminally with the usual rose or sprayer, G, whereby the inside of the spittoon is washed, and through a side opening with the small tubular fixture *h*, leading to the elevated faucets H, which supply water at will to the cups or tumblers for rinsing the patient's mouth. The bottom of the spittoon is provided with openings *d*, which allow the water supplied through pipes C to flow down into the discharge-pipe B, and thence through goose-neck stretch-trap B' to the waste-pipe leading to the sewer.

The pipe B is preferably of brass, plated with nickel or other metal sufficiently hard to bear polish and resist wear, and consists of two sections joined at the bend by a union-piece, *b'*, of the ordinary sort. The pipe C consists preferably for the most part of lead tubing joined to brass pieces at the top or bottom; but I do not wish to be understood as restricting myself to any particular material or number of parts, or shape or method of at-

tachment for either of these pipes, as they may be greatly varied without departing from my invention.

On the outer tube or pipe, B, is shrunk or otherwise firmly secured a bushing, I, which turns in a cylindrical bearing, J, fixed in the floor, and is provided at its top with a flange, *i*, which rests on the top of said bearing and prevents the pipe B from slipping down through the same. The flexible tubing E is of such length as to interpose no obstacle to the turning of said tubes B and C, and they accordingly have free pivotal motion on the axis of the vertical lower parts of said tubes. The upper parts of said tubes, however, being bent laterally, will necessarily present the spittoon to the patient at a nearer or more remote point or a different angle according to the degree of motion given. As there is no tilting of the tubular support, the spittoon inevitably retains at all times its horizontal position, requiring no additional adjustment. When the chair is turned upon its pivot it may be made to turn the spittoon (by contact with the latter or its support) until the relative positions of the patient's head and the spittoon are accurately adjusted to secure his convenience. Thus the spittoon is properly located in Fig. 1, so long as the patient's head is in the position indicated by the head-rest, since by slightly rising and turning he can easily rinse his mouth into it. By turning the chair to the left the spittoon will be struck or pressed against by the side of the back of said chair, and the bent supporting-tube of said spittoon will be caused to turn upon its pivot. This will obviously cause the said spittoon to take a more forward position with respect to the patient's head while he is in a recumbent attitude, and thus arrange itself to be conveniently used when the raising of the patient's body into a more upright attitude has brought his head farther forward. This cannot be done by turning the chair when the spittoon-support is attached thereto, since they have then an axis in common; nor can it be done when the tilting form of spittoon-support is used. In both these latter cases at least one additional operation or motion is required, which my improvement makes unnecessary.

In very many cases a dentist's office is above a vestibule or some hall or apartment, into which the pipes for supplying and discharging water cannot well be introduced. The cutting of the floor and ceiling is also undesirable. To avoid these objections I often make use of the devices shown in Fig. 5. In this figure the bearing J is shown entirely above the floor, to which it is bolted by a bottom flange, *j*. On the inner face of this bearing are formed two annular grooves, J' and J², one being near the top and the other near the bottom thereof, for a purpose to be hereinafter explained. Said inner face is conoidal, tapering downward, and the outer face of bushing I is made to fit it. This bushing is closed at the bottom below the lower end of the outer pipe, B. A series of holes, I²,

afford passage for the water from the interior of the discharge-pipe B, through said pipe and bushing to the lower groove, J², aforesaid. A coupling thimble or nipple, I', extends through
 5 said pipe B and bushing I at a higher point, affording communication between the upper groove, J', and the supply-tube C. The bearing J is provided with a screw-tapped passage, L', extending from upper groove, J', to the
 10 outside of said bearing, and also with a similar passage, L, extending from the lower groove, J², to the outside of said bearing. The pipe c, forming part of the water-supply system of the building, is screwed into the first-named pas-
 15 sage, the influx of water being governed, as before, by valve F. The drain-pipe M is connected similarly to said bearing by screwing into the screw-tapped outer portion of passage L. Both these pipes are above the floor and
 20 may be concealed by wood-work or in any other manner, according to convenience. The tubes B C and bushing I turn freely in bearing J, and whatever their position of axial adjustment the grooves J' J² insure a flow of water
 25 from pipe c to pipe C, and from discharge-pipe B to the drain-pipe M.

On the lower end of bushing I a screw-threaded downwardly-extending stud, N, is formed. This is encircled by a washer, o, and
 30 receives a nut, O, whereby said bushing may be tightened at will in its seat within said bearing.

Of course the foregoing devices may be modified in many ways, and equivalents may be
 35 substituted without departing from the spirit of my invention.

Z designates a tumbler-holder formed with or attached to the spittoon, and provided with a tubular support, z, which conducts the water
 40 that drips from the tumblers down into the interior of the spittoon, whence it passes through pipe B to the drain. Tube z may be flexible and independent of the support; but I prefer the construction shown.

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

1. A dental spittoon, in combination with a bent support, pivoted for horizontal axial ad-
 50 justment and independent of the dentist's chair.

2. A dental spittoon, in combination with a support consisting of a water-supply tube and a discharge-tube arranged the one within the
 55 other and independent of the dentist's chair.

3. A dental spittoon, in combination with a support consisting of a water-supply tube and a discharge-tube and a bearing in which they have axial motion, said tubes being bent substantially as and for the purposes set forth. 60

4. A dental spittoon, in combination with a water-supply tube, a discharge-tube exterior thereto, a bushing turning with said tubes, a bearing in which said bushing turns, and connections respectively between said discharge
 65 pipe or tube and the drain-pipe, and said water-supply tube or pipe and the water-supply system of the building, for the purposes set forth.

5. A dental spittoon and its water-supply pipe and discharge-pipe, in combination with
 70 a bearing in which they turn, and an exterior supply-pipe and drain-pipe, said bearing being adapted to allow the passage of water to and from the spittoon through said supply-pipe and discharge-pipe, substantially as set forth. 75

6. The bearing J, having annular grooves J' and J² in its inner face, and passages leading from said grooves to the exterior of said bearing, in combination with the tubes B C, leading to and from the spittoon, and provided
 80 with a bushing and suitable openings communicating with said grooves, substantially as set forth.

7. In combination with the spittoon and the supply and discharge tubes which support it,
 85 the conoidal bushing I, closed at the bottom and provided with a screw-threaded stud, the bearing adapted to receive said bushing, and the nut which turns on said stud to tighten said bushing in its seat, substantially as set
 90 forth.

8. A dental spittoon provided with a tumbler-holder which has an outlet from its bottom, for the purpose set forth.

9. A dental spittoon provided with a tum-
 95 bler-holder which has a tube extending from its bottom and communicating with the interior of the spittoon, for the purpose set forth.

10. A dental spittoon provided with a tumbler-holder, Z, having a support, z, which is
 100 tubular, in order to adapt it to act as a drain or outlet-pipe for said holder, substantially as set forth.

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

ELLIS B. BLISS.

Witnesses:

JOHN P. LAWRENCE,
 A. S. TAYLOR.