

Jan. 4, 1966

J. G. ASHTON

3,226,733

DENTAL SPITTOON

Filed Jan. 2, 1963

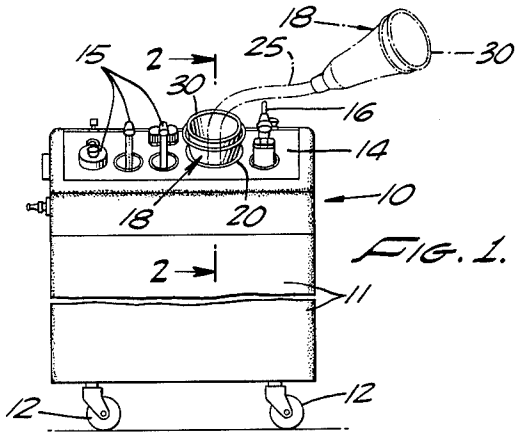


FIG. 1.

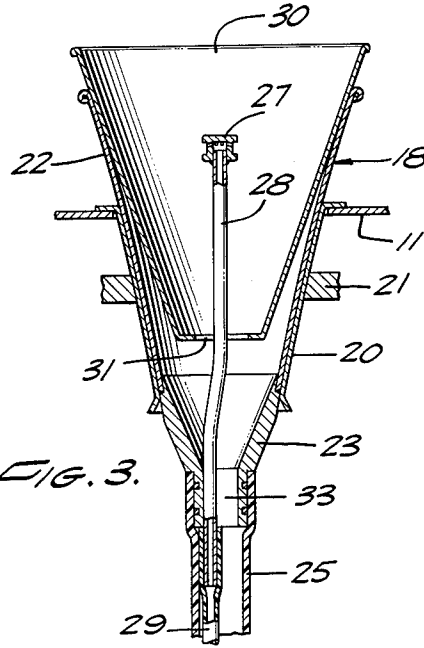


FIG. 3.

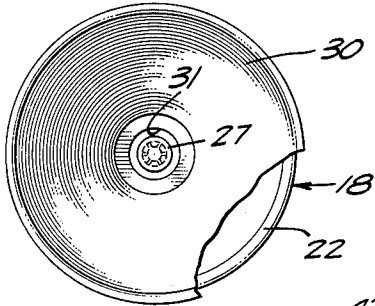


FIG. 4.

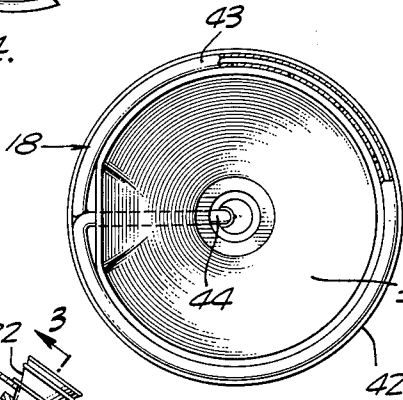


FIG. 6.

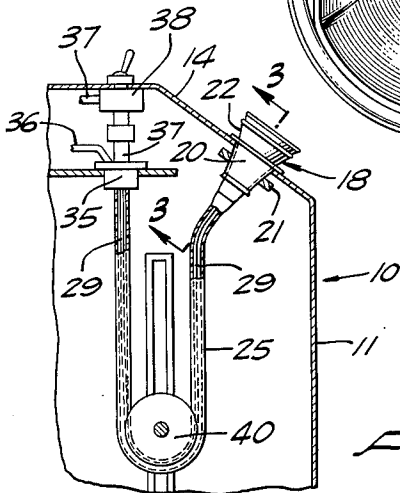


FIG. 2.

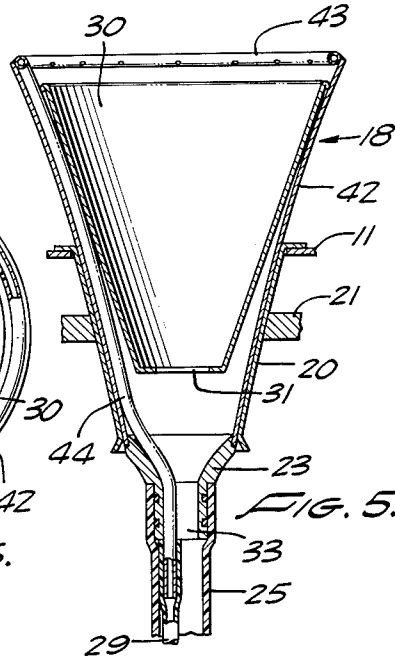


FIG. 5.

INVENTOR
JACK G. ASHTON

BY
Paul A. Weilin
ATTORNEY

1

3,226,733

DENTAL SPITTOON

Jack G. Ashton, 10011 Balboa Blvd., Northridge, Calif.
Filed Jan. 2, 1963, Ser. No. 249,089
4 Claims. (Cl. 4—263)

The present invention relates generally to a dental unit of the console type, and more especially to a spittoon therefor to be held when used by the patient.

A dental unit or console of the type here involved includes the necessary hand pieces and other operative accessories, together with their operating controls, to enable the dentist to carry on a wide variety of dental work on a patient. One of these accessories is the spittoon which, when not in use, is held by the console. The spittoon is provided with extensible and retractable connections to the console which permit it to be removed from the console and held in the patient's hand during the period of use.

One object of the present invention is to devise an improved spittoon of the retractable type that may be held conveniently by the patient, thus eliminating the need for sitting up and leaning over a stationary bowl mounted on or near the dental chair.

Another object of the present invention is to provide a dental spittoon of this type which includes a continuously operating spray adapted to wash the spittoon clean.

A further object of the invention is to provide a dental spittoon of this type which has a disposable liner which may be quickly inserted and easily removed, thus presenting an attractive appearance to the patient and making maintenance of a sanitary condition possible with a minimum of effort.

The above and other objects of the invention are attained by providing in a dental console having a panel provided with a receiver therein, a spittoon comprising a generally conical cup open at both ends, drain means connected to the lower end of the cup to carry away waste material, spray means within the cup to wash the spittoon clean, a water supply conduit connected to the spray means, and a disposable liner within the cup at a position where it is washed continuously by the water from the spray means, said liner being open at one end to receive waste material ejected into the spittoon and at the other end to discharge water and said waste material to the drain means. The drain means includes a length of flexible tubing connected to the cup, and the water supply conduit includes a length of flexible tubing inside the drain tubing, this arrangement permitting the spittoon to be removed from the receiver on the console and held by the patient at any selected position within a wide range of locations adjoining the console.

How the above objects and advantages of the present invention, as well as others not specifically referred to, are attained, will be better understood by reference to the following description and to the annexed drawings, in which:

FIG. 1 is a side elevation of a dental console showing the location therein of the dental spittoon;

FIG. 2 is a fragmentary vertical section through the upper portion of the console, on line 2—2 of FIG. 1, showing schematically the spittoon and the operational connections thereto;

FIG. 3 is an enlarged fragmentary median section through the spittoon on line 3—3 of FIG. 2;

FIG. 4 is a plan view of the spittoon of FIG. 3 with the liner in the cup;

FIG. 5 is a median section similar to FIG. 3 showing a variational form of spittoon; and

FIG. 6 is a plan view of the spittoon of FIG. 5.

Referring now particularly to FIG. 1, the dental console is indicated generally at 10. It comprises a cabinet

2

11 which serves as a housing to enclose various fluid and electrical controls, conduits, connections, and other apparatus. The cabinet 11 is shown as mounted upon casters 12 which make the console easily movable around the patient.

The upper portion of cabinet 11 includes panel 14 which has a plurality of openings therein through which project the various hand pieces, accessories, and other devices utilized by the dentist in the treatment of patients. Without necessarily limiting the construction to these particular devices, hand pieces for various dental drills are indicated 15, an air and water syringe at 16, and the spittoon at 18.

As may be seen more clearly in FIG. 2, panel 14 has an opening therein at which is mounted a frusto-conical receiver 20 which is held in place by an interior support indicated at 21. Receiver 20 opens to the face of panel 11 and is adapted to receive and hold the spittoon indicated generally at 18. The spittoon is shown in receiver 20 in FIG. 2 which is the normal relation of these parts during the time when the spittoon is not in use.

Construction of spittoon 18 is shown in greater detail in FIG. 3 where it will be seen that the spittoon includes a generally frusto-conical cup 22 which is open at both ends. The lower or smaller end of the cup is provided with fitting 23 for connection to a suitable drain means provided in the form of flexible hose 25. Fitting 23 is normally welded or otherwise suitably connected in a permanent manner to cup 22, thus becoming a part of the cup. The taper of cup 22 is designed to match substantially the taper of receiver 20 so that the cup fits snugly within the receiver as shown. Within cup 22, suitable spray means are provided, typically taking the form of spray head 27 mounted upon the upper end of rigid metal tubing 28 which may be permanently and rigidly attached near its lower end to the cup. Tubing 28 is connected at its lower end to a flexible supply hose 29 through which water is supplied for spray head 27. The spray head is located centrally of cup 22, for reasons which will become evident.

Positioned within cup 22 is a disposable paper liner 30 which, like cup 22, is frusto-conical in shape and open at both ends. The open larger end receives material ejected from the mouth of the patient, while the opening 31 at the smaller end of the cup enables the cup to pass over spray head 27 and a portion of tubing 28, thus locating the spray means centrally within the disposable liner. The water spray which issues from head 27 in all directions, washes the inside face of the liner 30 and carries away any waste material, the water and the waste material carried therewith being discharged through opening 31 in the liner into the lower end of cup 22 from which it passes at 33 into waste hose 25.

Flexible hose 25 which is connected at one end to cup 22 is, as shown in FIG. 2, connected at the other end to junction block 35. Also connected to junction block 35 is the vacuum line 36 which is in communication with any suitable source of vacuum, not shown in the drawing. The suction thus applied to flexible hose 25 draws water and fluid waste materials from the spittoon through the hose and vacuum line 36 to a suitable sewer connection or other line for disposal of the waste. Thus, in addition to supplying the suction for removal of the waste products from the spittoon, vacuum line 36 functions as a waste connection.

Also connected to junction block 35 is water supply line 37 flow through which is controlled by valve 38 which is preferably of the solenoid operated type. Water supply line 37 leads to a connection at junction block 35 with one end of flexible hose 29 which is located within the larger diameter flexible hose 25 and which is connected

at its other end to rigid conduit 28. The flexible nature of the two hoses 25 and 29 permit the spittoon to be removed from the receiver 20 to any position near console 10, within the range of the length of hose 25, at which the patient desires to use the spittoon. The capability of the spittoon of being removed from receiver 10 to a position of use is indicated by the phantom line position of spittoon 18 in FIG. 1. When it is desired to return the spittoon to receiver 20, suitably weighted pulley means, indicated at 40, retracts the hoses 25 and 29 into the cabinet.

In the embodiment of the invention illustrated in FIGS. 1-4, the major diameter of liner 30 is preferably slightly larger than the largest inside diameter of cup 22 so that when the liner is inserted in the cup, the rim of the liner is spaced from the rim of the cup. It may be preferable that the liner extend outwardly beyond the cup so that the user comes in contact with the liner rather than with the cup if the spittoon is held against the face. The liner being of paper or similar material is not cold to the touch and, therefore, more pleasant to feel than the metal cup. The user realizes that the disposable paper liner is replaced after each patient and is, therefore, clean and he feels confident that all desirable sanitary precautions are being observed.

The liner is more easily removed from the cup if the slope of the cup wall and the liner wall are different. This difference in slope results in contact between the two members over only a portion of the length of the liner, as shown in FIG. 3, and due to the liner having a small open bottom end, the suction or vacuum applied to the cup bottom will operate to retainingly hold the liner in its operative position.

A modified form of cup is shown in FIGS. 5 and 6. Here cup 42 has a larger diameter at the open outer end than does cup 22. As a result, the liner 30, assuming that it remains of the same size, fits entirely within the boundaries of the cup.

Spray head 27 has been replaced by perforated annular tube 43 around the rim of cup 42 which provides a plurality of downwardly directed streams of water. Annular tube 43 is supplied by tube 44 lying against the cup wall and which is connected at one end to annular tube 43 and at the other end to flexible supply tube 29. Since the upper edge of liner 30 is here below the spray forming means, the water from the spray means flows downwardly to and over the liner and washes it clean. Liner 30, as before, is open at the lower end at 31 in order to discharge the water and waste material to drain means 25. In this form of spittoon, it is preferable that the liner and cup be of such shapes that the liner engages the cup substantially at the upper end of the liner in order to direct the water into the liner rather than allowing it to run down between the liner and the cup.

While specific structural details have been shown and described, it should be understood that changes and alterations may be resorted to without departing from the spirit of the invention as defined in the appended claims.

I claim:

1. A dental console of the character described having waste and fluid supply connections, comprising: a cabinet having a panel with at least one opening therein; a tapered receiver mounted in the cabinet at said opening; a spittoon receivable in said receiver for support thereby in a position of non-use; water spray means carried by the spittoon interiorly thereof; a flexible drain hose connected to one end of the spittoon and to said waste connection; and a flexible water supply hose within the drain hose

connected to a fluid supply connection and to the spray means, said hoses being freely movable through the receiver to permit the spittoon to be moved bodily from the receiver to a selected one of a plurality of possible positions of use out of the receiver.

2. A dental console as claimed in claim 1 which also includes a removable liner within the spittoon washed by spray from said spray means, said liner having an open upper end, and being open at its lower end to discharge water therefrom to the drain hose.

3. A dental spittoon comprising: a rigid generally conical cup adapted to be hand-held and moved by a patient; said cup being open at its large upper end and having an outlet connection at its small bottom end; a disposable liner of flexible material supported within said cup and being replaceable through the large end of said cup, said liner being generally conical and having a large open end substantially corresponding with that of said cup, and an open bottom smaller than the bottom of said cup so that a marginal upper end portion of the liner circumferentially engages the adjacent upper end portion of the cup; fluid spray means at the upper ends of the cup and liner for washing the interior of the liner, the water therefrom passing through the open bottom of the liner; and suction drain means connected to the bottom outlet connection of said cup for collecting and carrying off the waste from said liner, said suction acting to further retain the liner in a seated position of use within said cup.

4. A dental spittoon comprising: a rigid generally conical cup adapted to be hand-held and moved by a patient; said cup being open at its large upper end and having an outlet connection at its small bottom end; a disposable liner of flexible material removably resting within said cup and being replaceable through the large end of said cup, said liner being generally conical and having a large open end substantially corresponding with that of said cup, and an open bottom smaller than the bottom of said cup so that only an upper end portion of the liner circumferentially engages the corresponding adjacent upper end portion of the inner surface of the cup; fluid spray means arranged to direct a spray of water within the upper ends of the cup and liner for washing the interior of the liner, the water therefrom passing through the open bottom of the liner; and drain means connected to the bottom outlet connection of said cup for collecting and carrying off the waste from said liner.

References Cited by the Examiner

UNITED STATES PATENTS

274,105	3/1883	Bliss	4-263
349,704	9/1886	Fletcher	4-263
1,025,288	5/1912	Morey	4-261
1,253,555	1/1918	Wolf	4-263
1,424,272	8/1922	Ankeny	4-262
1,552,837	9/1925	Gabel et al.	4-263
1,587,240	6/1926	Olson	4-263
1,649,182	11/1927	Pieper	4-263
1,805,560	5/1931	Barta	4-196
2,095,241	10/1937	Cox	4-159
2,138,563	11/1938	Voorhees	4-263
2,527,271	10/1950	Levin	4-10

FOREIGN PATENTS

681,009	5/1930	France.
---------	--------	---------

LAVERNE D. GEIGER, *Primary Examiner.*

EDWARD V. BENHAM, SAMUEL ROTHBERG,
Examiners.