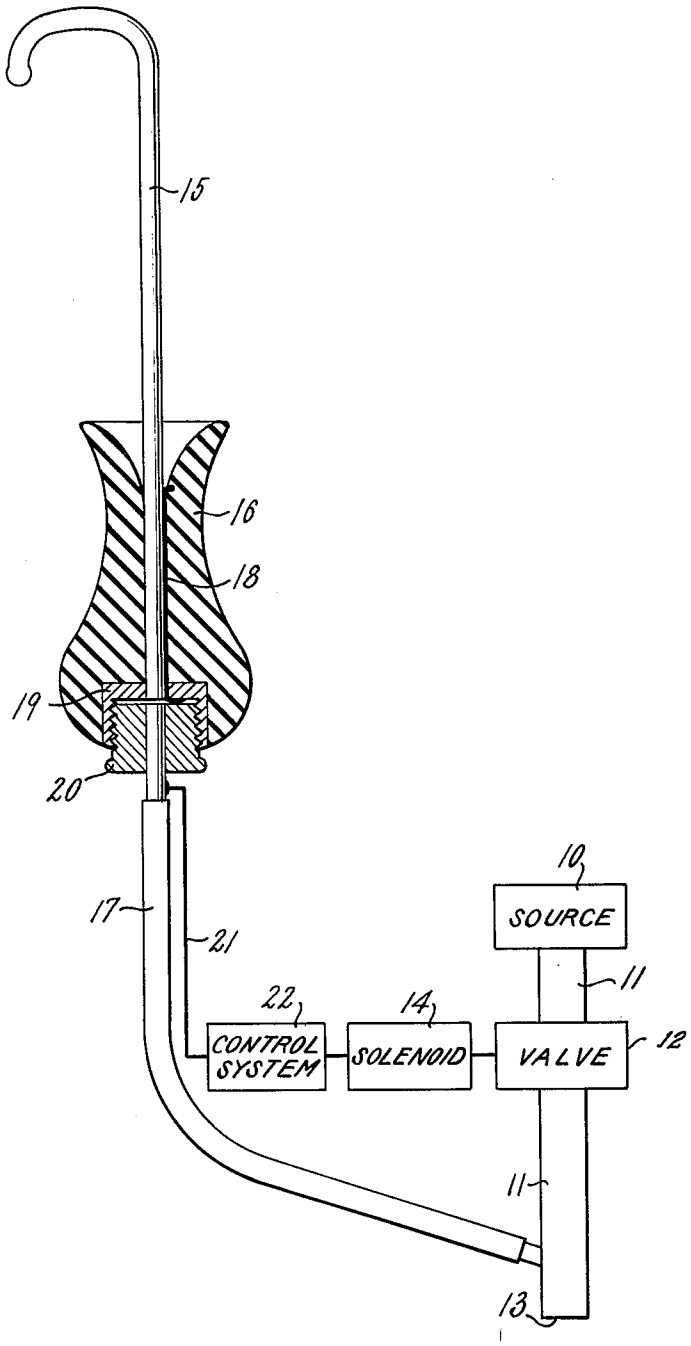
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SALIVA EJECTOR CONTROL SYSTEM

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SALIVA EJECTOR CONTROL SYSTEM

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This invention relates to a saliva ejector control system of particular utility in controlling water flow through dental equipment.

Saliva ejectors utilized in dental equipment ordinarily operate continuously in response to water flow through the equipment which creates a low pressure in the ejector, causing it to draw saliva from a patient's mouth. Water flows continuously through the dental equipment and in regions where water drainage is poor or water supply is limited, this continuous water flow is particularly undesirable.

It is an object of the present invention, therefore, to provide a new and improved saliva ejector control system for minimizing water flow through dental equipment.

It is another object of the invention to provide a new and improved saliva ejector control system which interrupts the flow of water through dental equipment when the saliva ejector is not being used.

In accordance with the invention, a saliva ejector control system comprises a water supply system and an electrically conductive tube connected to said water supply system for draining saliva from a person's mouth in response to water flow through the supply system. The control system also includes a capacity-sensitive control system for controlling water flow through the supply system and including a conductor electrically coupled to the tube to cause the control system to allow water flow through the supply system when the tube is in the person's mouth and to interrupt water flow through the supply system when the tube is removed from the person's mouth.

For a better understanding of the present invention, together with other and further objects thereof, reference is made to the following description, taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claims.

Referring to the drawing:

FIG. 1 is a diagram, partly schematic, of a saliva ejector control system constructed in accordance with the invention.

Referring now more particularly to FIG. 1 of the drawing, a water source **10** is connected to a water supply or piping system **11** having a solenoid-operated valve **12** therein and having an outlet **13** connected for drainage. A solenoid **14** operates the valve **12** in a manner to be described.

The system includes an electrically conductive tube **15** mounted in an insulating rubber base **16** and connected by a suitable hose **17** to the water supply system for draining saliva from a person's mouth in response to water flow through the supply system. A wire conductor **18** is mounted within the insulator **16** and is in electrical contact with the tube **15**, which may be slidably removed from the insulator **16** for sterilization. The wire is electrically connected to a conductive base member **19** into which a suitable nut **20** is threaded for connecting the hose **17** to the tube **15**. A wire conductor **21** is electrically connected to the nut **20** and serves as a capacity-sensitive antenna for a control system **22** to allow water flow through the water-supply system when the tube **15** is in the person's mouth and to interrupt water flow when the tube is removed from the person's mouth. The control system **22** may be of conventional construction, for example, of the type described in Patent 2,312,306 for energizing the solenoid **14**.

When the tube **15** is placed in a person's mouth, the capacity increase causes the control system **22** to energize the solenoid **14** to open the solenoid valve to allow water flow through the water supply system. This water flow creates a low pressure in the hose **17**, causing the saliva ejector tube **15** to withdraw saliva from the person's mouth. When the tube **15** is removed from the person's mouth, the capacity decrease causes the control system **22** to deenergize the solenoid **14**, closing the valve **12** and interrupting water flow through the water-supply system.

From the foregoing description it will be seen that a saliva ejector control system constructed in accordance with the invention has the advantage that the saliva ejector is operative only when being used in a person's mouth and is effective to control water flow through dental equipment in accordance with the use of the ejector, thereby relieving water supply and drainage problems.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. A saliva ejector control system comprising a water-supply system having a primary water inlet, a water outlet, and an inlet intermediate said primary inlet and said outlet; an electrically conductive tube connected to said intermediate inlet of said water supply system for draining saliva from a person's mouth in response to water flow through said water supply system; a capacity-sensitive control system for controlling water flow through said water-supply system and including conductive means electrically coupled to said tube to cause the control system to allow water flow through said water-supply system when said tube is in the person's mouth and to interrupt water flow through said water-supply system when said tube is removed from the person's mouth.

2. A saliva ejector control system comprising a water-supply system having a primary water inlet, a water outlet, and an inlet intermediate said primary inlet and said outlet; an electrically conductive tube mounted in an insulator and connected to said intermediate inlet of said water supply system for draining saliva from a person's mouth in response to water flow through said water-supply system; and a capacity-sensitive control system for controlling water flow through said water-supply system and including a conductor in electrical contact with said tube to cause the control system to allow water flow through said water-supply system when said tube is in the person's mouth and to interrupt water flow through said water-supply system when said tube is removed from the person's mouth.

3. A saliva ejector control system comprising a water-supply system having a primary water inlet, a water outlet, and an inlet intermediate said primary inlet and said outlet; an electrically conductive tube connected to said intermediate inlet of said water supply system for draining saliva from a person's mouth in response to water flow through said water-supply system; and a capacity-sensitive control system including a solenoid and a solenoid-operated valve and including conductive means electrically coupled to said tube to cause the control system to operate said solenoid and valve to allow water flow through said water-supply system when said tube is in the person's mouth and to interrupt water flow through said water-supply system when said tube is removed from the person's mouth.

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