

United States Patent

[11] 3,593,707

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[54] **JET TOOTH BRUSH**
 23 Claims, 13 Drawing Figs.

[52] U.S. Cl. **128/66,**
 128/62 A

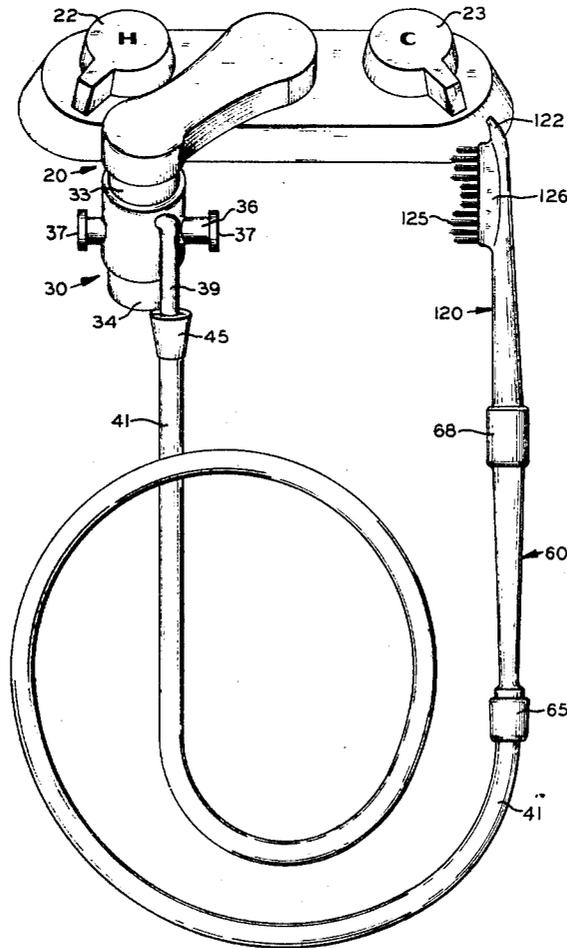
[51] Int. Cl. **A61h 9/00**

[50] Field of Search..... 128/62, 66,
 229; 239/302, 310

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ABSTRACT: A toothbrush with a jet nozzle at its end extending angularly toward the same side as the brush bristles and having a detachable handle, a flexible fluid duct from a fluid source, such as an adjustable hot and cold water spigot, and a valve for regulating the fluid for the jet, which valve may be at the source and/or in the handle. The handle may be hollow for connection to the flexible duct, or may be an electric or mechanical toothbrush handle, or a water jet or water pick handle. A source of dentrifice and/or disinfectant may be provided either in the jet brush attachment, in its handle, or from a reservoir connected by a separate duct to the jet brush attachment.



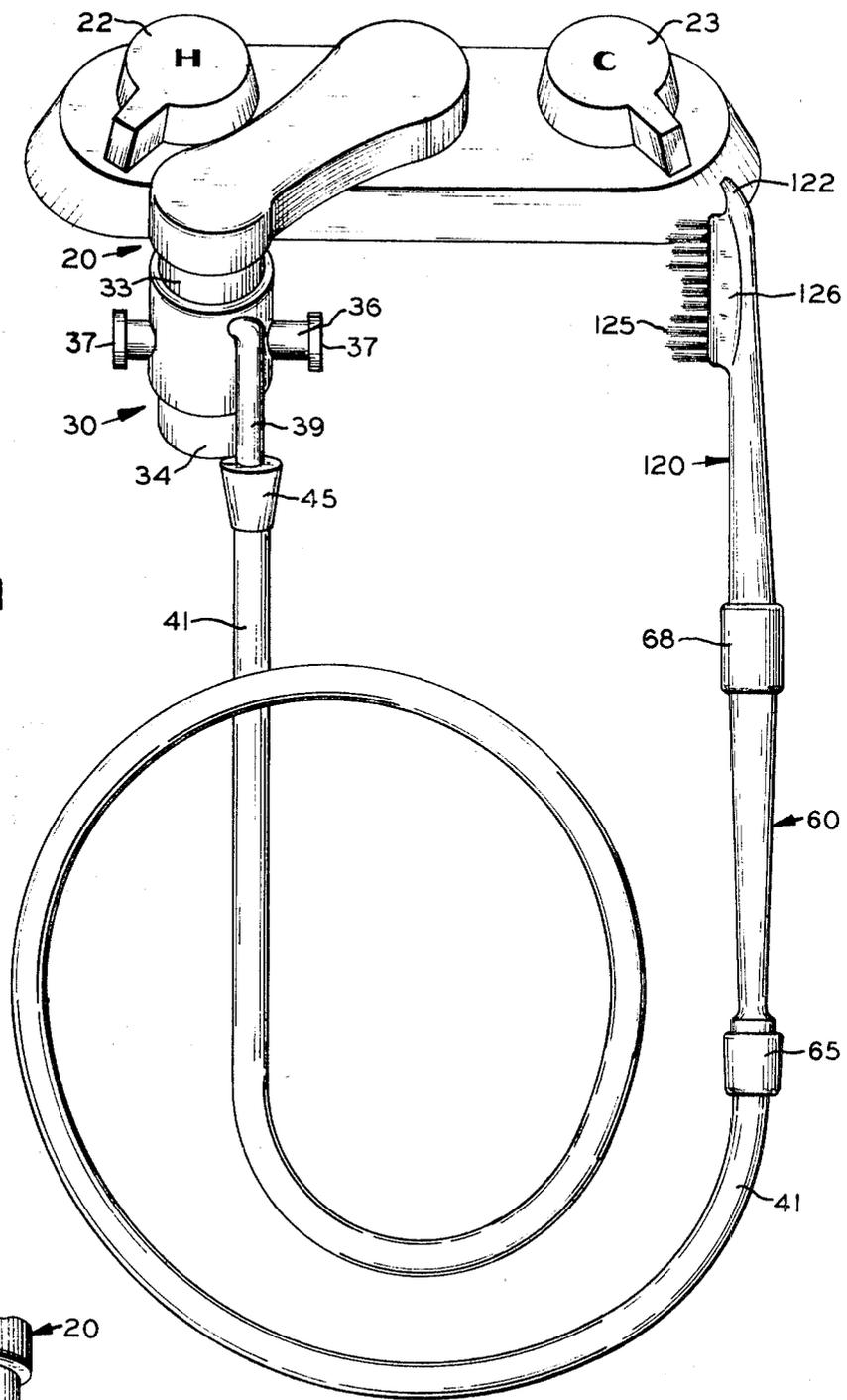


FIG. 1

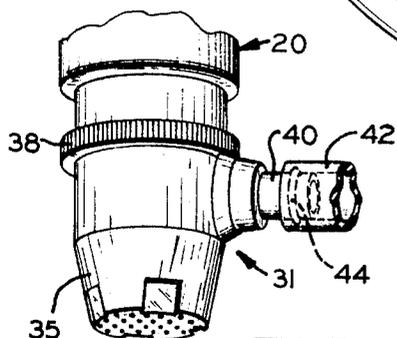


FIG. 2

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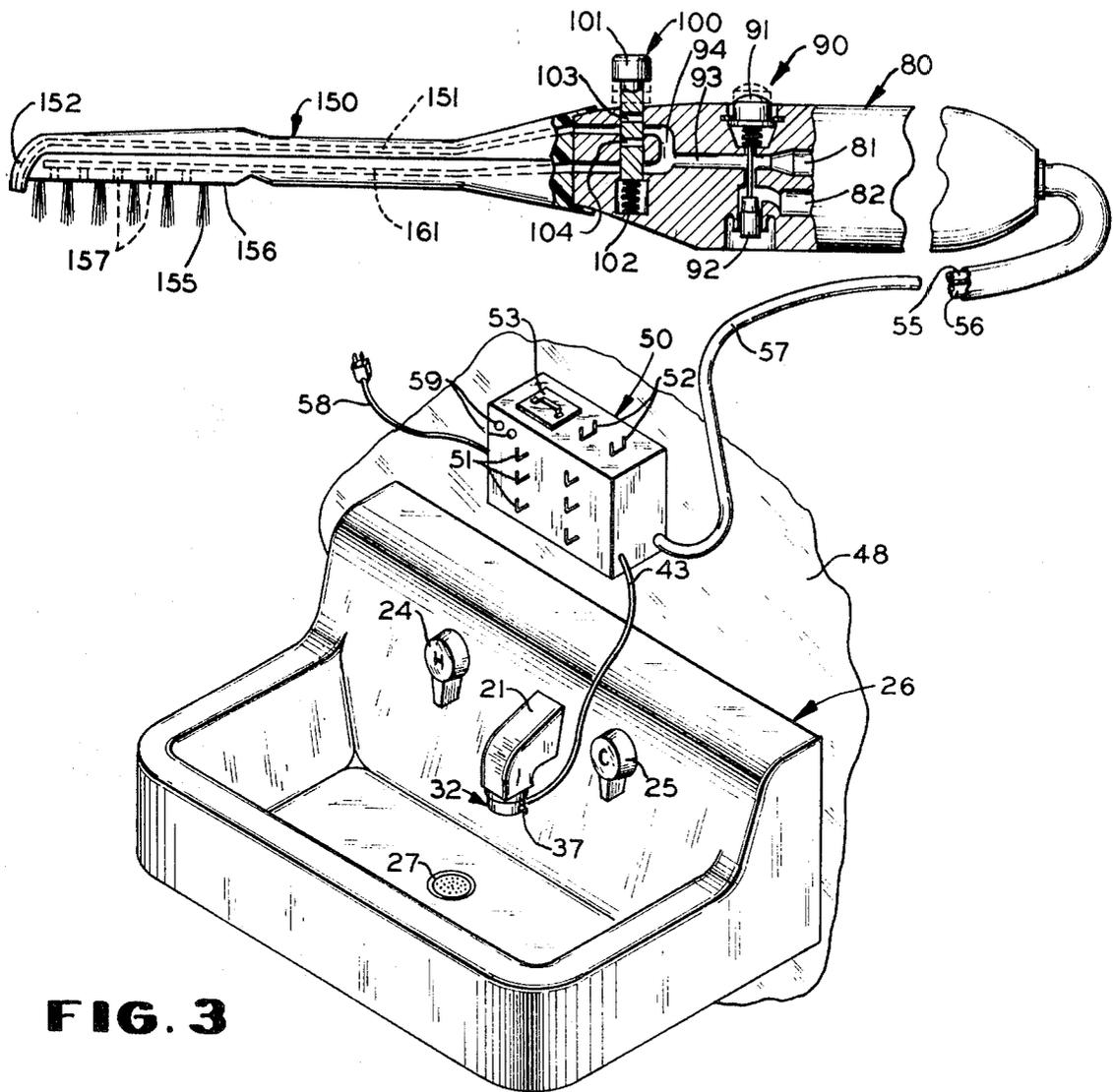


FIG. 3

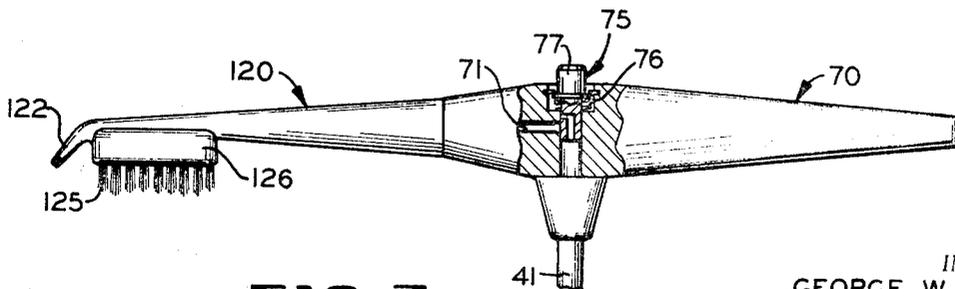


FIG. 7

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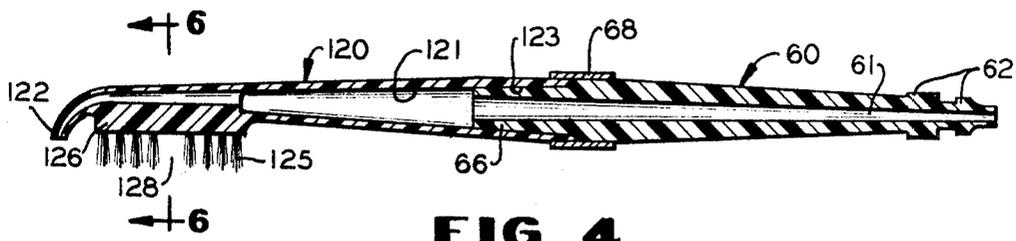


FIG. 4

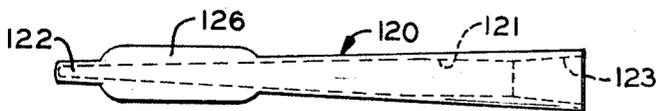


FIG. 5

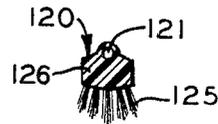


FIG. 6

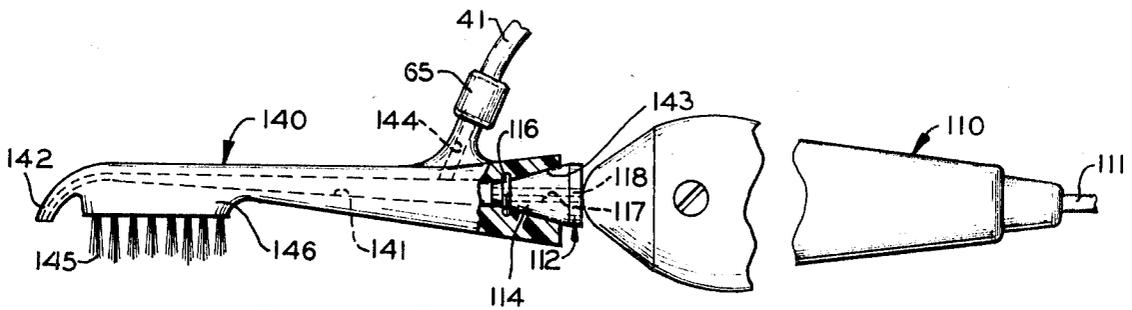


FIG. 8

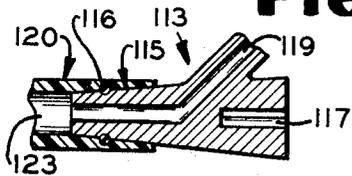


FIG. 9

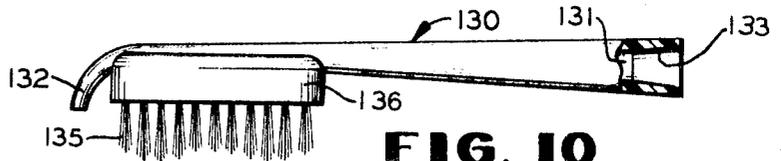


FIG. 10

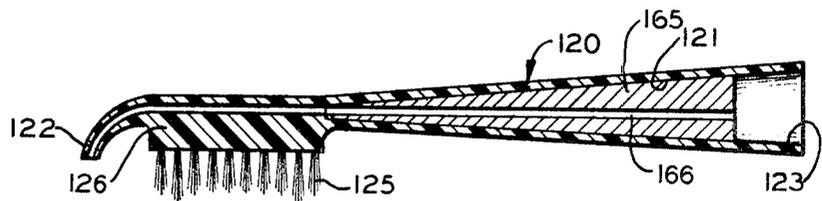


FIG. 13

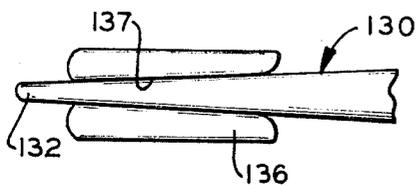


FIG. 11

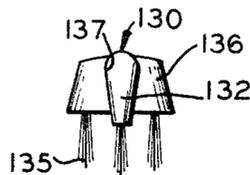


FIG. 12

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JET TOOTH BRUSH

BACKGROUND OF THE INVENTION

Many different types of oral cavity cleaners and toothbrushes are known including mechanical toothbrushes, fountain toothbrushes, pulsating and nonpulsating water jets, etc. However, so far there is no known single instrument which combines all three of these major methods of cleaning teeth, namely (1) brushing, (2) picking, and (3) flushing.

SUMMARY OF THE INVENTION

Generally speaking this invention deals with a toothbrush having an adjacent nozzle for a jet stream of liquid, which jet brush combines all three of the major methods of cleaning teeth, namely, brushing, picking, and flushing, in a single simple instrument. Thus this instrument requires a source of fluid which may be obtained directly from a spigot or faucet, preferably one which mixes hot and cold water so as to obtain a temperature which approaches that of the mouth, a handle for the instrument so it can be manipulated, a flexible fluid duct connection or hose to the fluid source, and the jet brush instrument or attachment to the handle, which may be readily swivelable relative to the handle by means of the fingers of the operator, as well as being interchangeable with other similar instruments or attachments of other persons who may use the same handle and fluid source attachments. Also the jet brush instrument or attachment may be provided with specific adapters so it can be attached to the handles of other known dental instruments now on the market such as electromechanical toothbrushes and water picks.

The fluid source may comprise an adapter which readily fits a spigot in the bathroom or wash basin of the user. This adapter may be provided with a bypass valve so that the amount, pressure, and the temperature of the water used may be adjusted before being bypassed through the flexible duct to the jet brush. This valve may be operated by one hand of the user while the handle on the brush may be manipulated with the other hand. Also the source may comprise a reservoir of liquid which is pumped through a pulsator for the jet, and/or a reservoir for a liquid dentifrice and/or antiseptic which may be selected for injection into the mouth or against the teeth at the will of the user.

Usually the handles for the jet brush attachment are hollow or tubular, to one end of which the flexible tube or hose may be connected and to which other end the interchangeable jet brush attachment may be removably connected. This handle may be provided with a pushbutton-operated valve for regulating the flow of liquid to the jet, such as after the teeth have been brushed by the brush, and then the liquid jet may be used for picking the cracks or interspaces between the teeth and/or washing out the plaque and dentifrice remaining from the brushing operation. This dentifrice may be supplied, as stated above, from a reservoir through a separate tube to the handle and controlled by a separate venturi valve, or it may be supplied from a slowly dissolving product located in one of the liquid ducts between the source and the jet nozzle. Furthermore, the handle may be mechanically powered by either a battery or cord powered electric motor, however, a battery-powered motor handle is preferred in that two flexible connections to the instrument of this invention could get intertwined and cause inconvenience and difficulties.

The jet brush attachment itself comprises an elongated tubular device, preferably made of a durable plastic that may be readily sterilized and washed without deterioration, which may be readily snapped on to the end of the handle, either directly or by means of an adapter to fit a particular powered handle or liquid source. The brush itself may have a cavity in the center of its bristles into which a paste-type dentifrice may be placed before the brush is used. The bristles on the brush also may diverge radially from one side of the tubular device to permit more flexibility. At the far end of this attachment

from the connection with the handle is provided a jet nozzle which preferably extends, at an angle of about 45° to the longitudinal axis of the tubular device or attachment as well as at 45° to that of the bristles, and in the same direction as the bristles, so as not to interfere with the bristles when the brush is being used, and so that the bristles will not interfere with the jet nozzle when the jet is being used. Also if desired, a separate duct may be provided through the attachment for a liquid dentifrice which may be introduced at the base of the bristles, and a separate push button control valve therefor may be provided in the handle.

OBJECTS AND ADVANTAGES

Accordingly it is an object of this invention to provide a single jet brush implement for cleaning, stimulating and flushing oral tissues, which may be readily attached to a bathroom spigot or fixture, readily controlled, and/or readily adapted to known electromechanical toothbrushes and/or water picks.

Furthermore another object is to provide such a jet brush in which liquid dentifrice and/or antiseptic may be applied selectively and/or automatically through this instrument.

BRIEF DESCRIPTION OF THE DRAWINGS

The above-mentioned and other features, objects, and advantages, and a manner of attaining them are described more specifically below by reference to embodiments of this invention shown in the accompanying drawings, wherein:

FIG. 1 is a perspective view of a hot and cold water source with a bypass valve and flexible duct or hose to a simple jet brush and its handle according to one embodiment of this invention;

FIG. 2 shows a perspective view of another type of regulating bypass valve for attachment between a spigot and the flexible duct of the jet brush of this invention;

FIG. 3 is a perspective view of a wash basin with a reservoir connected in the flexible duct between a spigot and an enlarged jet brush, partly in section, according to another embodiment of this invention, which reservoir may be provided with a dentifrice or antiseptic, and/or a pulsator and hook for supporting replaceable jet brush attachments, and which jet brush embodiment shows a plurality of valves in its handle for controlling both the jet nozzle and fountain for the brush;

FIG. 4 is a longitudinal vertical section of the jet brush and its handle shown in FIG. 1;

FIG. 5 is a back view of the jet brush attachment shown in FIGS. 1 and 4;

FIG. 6 is a section taken along line 6-6 of the jet brush attachment shown in FIG. 4 showing radially divergent bristles that may be used for the brush;

FIG. 7 is a jet brush attachment and its handle according to another embodiment of this invention disclosing a handle with a control valve therein and a side connection for the hose which supplies liquid to the jet nozzle;

FIG. 8 shows still another type of jet brush attachment with a side connection for the water supply to the jet nozzle and an adapter for connecting it to an electromechanical brush handle;

FIG. 9 is a longitudinal section of another type of an adapter for the type of handle shown in FIG. 8 wherein the hose connection for the jet nozzle of the brush is in the adapter in the socket part of a jet brush attachment like that shown in FIGS. 1, 4 and 5;

FIG. 10 discloses another embodiment of a jet brush attachment in which the brush may be snapped or fused onto the jet tube adjacent the jet nozzle end thereof;

FIG. 11 is a back or plan view of the brush end of the jet brush embodiment shown in FIG. 10;

FIG. 12 is an end view of the jet brush embodiment shown in FIGS. 10 and 11; and

FIG. 13 is a longitudinal sectional view of a jet brush attachment similar to that of FIG. 4 showing a slowly dissolving solid dentifrice or disinfectant material inserted into the hollow body portion thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

I FLUID SOURCES

Referring first to FIGS. 1 and 3, there is shown spigots 20 and 21, respectively, through which a mixture of hot and cold water may be controlled by means of hot and cold valves 22, 23 and 24, 25, such as may be provided in a bathroom or lavatory for a wash basin 26 with a drain 27 as shown in FIG. 3.

In place of the aerator or screen usually screwed into the internally threaded open outer end of the spigot 20 or 21, there may be provided a metal or plastic bypass valve 30, 31 or 32 as shown in FIGS. 1, 2 and 3, respectively, which valve may be provided with one or more adapter rings as ring 33 as shown in FIG. 1, for fitting different size and shape spigots. These bypass valves 30, 31 or 32 may also be provided with their own external aerator 34 and 35 as shown in FIGS. 1 and 2. Each bypass valve 30, 31 or 32 also includes a manual control for its valve, such as the reciprocating piston 36 having end finger operated buttons 37 shown in FIGS. 1 and 3, or the rotatable ring 38 shown in FIG. 2, by which the amount and pressure of the liquid bypassed from the liquid flowing through the spigot may be infinitely varied between limits in the branch ducts 39 and 40 shown in FIGS. 1 and 2. A flexible plastic or rubber hose 41, 42, or 43 as shown in FIGS. 1, 2 and 3, respectively, may be removably attached to these ducts 39 and 40, which hose should be sufficiently long for easy manipulation of the jet brush and its handle connected to its other end. These hoses 41, 42, and 43 may be slipped over an external annular rib or ridge 44 as shown in FIG. 2 for providing a better connection to their bypass ducts 39 and 40, and/or also may be provided with a slipover external sleeve or collar 45 as shown in FIG. 1 for further retaining the hoses and preventing them from slipping off of their bypass ducts when fluid pressure is applied to them.

In FIG. 3 there is shown attached to a wall 48 behind the basin 26, a fluid or liquid reservoir 50 which may be externally provided with a plurality of hooks 51 for other jet brush attachments for other members of the family, and also top supporting brackets 52 for the handle of the jet brush attachment. Access to this reservoir may be had through a removable cover 53 for the placing therein a liquid dentifrice or antiseptic, which may be sucked therefrom through a separate or second duct in the dual duct flexible hose 57 connected from an outlet of the reservoir 50 to the jet brush and handle embodiment 80 described later. One of these dual ducts 55 is for water from the spigot source 21 and the other duct 56 is for the liquid dentifrice or antiseptic.

Also if desired, the reservoir 50 may contain a pressure pulsating pump, which may be activated through an electrical connecting cord 58, and controlled by "off" and "on" push-buttons 59 of an electric switch mounted on the reservoir container or reservoir 50. Such a pulsating liquid source massages as well as rinses and cleans the dental tissues.

Thus the temperature and the amount of fluid pressure which is supplied from the fluid or water source to the jet brush of this invention may be manually regulated by the manual valves 22, 23, 24, 25, 36, 37, and 38 as well as the pulsator control buttons 59.

II HANDLES

One of the simplest embodiments of the handle for the removable jet brush attachments of this invention is shown in FIGS. 1 and 4 which comprises an elongated truncated conical hand plastic member 60 which may have a longitudinal central aperture 61. It also may have outward circumferential ribs 62 at its inlet end, over one of which may be attached the other end of the tube 41 and held in place by a collar 65, similar to the collar 45 described above. The other end of this tubular handle 60 may be conically tapered as a hollow plug portion 66 for insertion into the socket end of the removable jet brush attachment described later. At the junction between this socket and this plug portion 66 there may be provided a metal-

lic sleeve 68 for covering the junction between the handle and the jet brush attachment, which sleeve 68 may be either permanently attached to the handle 60 or the jet brush attachment. This connection may be such that it will permit relative rotation of the jet brush attachment with respect to the handle 60, which may be performed by the fingers of the operator holding the handle 60. However, in order to stabilize the direction of the bristles of the brush, this connection usually is not easily rotatable. Thus, the liquid to be supplied to the jet brush attachment passes directly through the axial duct 61 in the handle 60 of the embodiment shown in FIGS. 1 and 4.

If desired, the flexible connecting hose or duct 41 may be connected to the side of a handle 70, such as that shown in FIG. 7, having an L-shaped duct 71 in which may be provided a push button valve 75 for easy regulation of the flow of the liquid to the jet nozzle of the jet brush attachment. Such a valve 75 may be employed in place of or in addition to the valve 36, 37, or 38 described at the spigot in Section I above. Also such a pushbutton valve may be placed in the duct 61 shown in FIG. 4, if desired. This valve 75 may be normally closed by means of a spring 76 shown in FIG. 7 and opened by pressing on the button portion 77 thereof when liquid is desired to be applied to the jet nozzle portion of the jet brush attachment.

In FIG. 3 there is shown another embodiment of a handle 80 which may be provided with a pair of parallel longitudinal ducts 81 and 82 connected respectively to the flexible ducts 55 and 56 in the hose 57. Ducts 81 and 55 may be for liquid or water directly from the spigot 41 through duct 43, while ducts 56 and 82 may be for a liquid dentifrice or antiseptic which may be supplied from the reservoir 50. For controlling the flow of the liquid dentifrice or antiseptic from the reservoir 50 to the jet nozzle and/or bristles of the jet brush attachment, there may be provided a venturi-type valve 90 which is operated by pressing the button 91 on the handle 80 to open the valve 92 in the duct 82 connected to the throat of a venturi 93 in the duct 81. This causes suction of the dentifrice or antiseptic liquid into the outlet duct 94 from the handle where it is mixed with the water applied to the oral cavity. This mixture may be directed to the jet nozzle, or to the base of the bristles in a fountain type brush described later.

This selection of direction for the water and dentifrice mixture may be provided by an additional spring operated valve 100 with an operating push button 101 provided in the handle 80. Thus the outlet duct 94 from the venturi 93 is divided into two channels so that the first one to the jet nozzle is opened by pressing the pushbutton 101 of the valve 100 part way into the handle 80 against the action of the spring 102, and then by pressing the pushbutton 101 further, the first channel is closed through the duct 103 in the valve 100 and the second channel to the fountain brush is opened through the other duct 104 in this valve 100. However, if desired, only the valve 100 may be provided in the handle 80 so that only water can be applied either to the fountain brush or the jet nozzle.

Another type of handle to which the jet brush attachment of this invention may be applied may be an electromechanical handle 110 such as shown in FIG. 8, which handle 110 may be either connected by an electric cord 111 to a power source or may contain its own battery; the latter being preferred in view of the fact that the jet brush of this invention is also supplied with a flexible tube 41 for liquid, and more than one flexible connection to the handle 110 could cause entanglement difficulties. In FIG. 8 the tube 41 is shown attached to the jet brush attachment and does not connect to or pass through the handle 110 as in the previous embodiments described in this Section II. Thus there is provided an additional part, such as a special adapter or conical plug 112 or adapter 113 shown in FIG. 9, which has a conical plug portion 114 or 115 similar to the portion 66 in FIG. 4, that fits into the socket portion of the jet brush attachment with a sealing O-ring 116. The other ends of these adapters 112 and 113 are then provided with a pin socket 117 of hexagonal, semicircular, or other irregular cross

section for attachment to the vibrating or oscillating pin 118 at the end of the electromechanical handle 110, which then vibrates or oscillates the whole jet brush attachment. Instead of requiring a different jet brush attachment with its own branch duct for its liquid supply, the adapter can be provided with such a branch duct 119 as shown in FIG. 9, so that the jet brush attachment shown in FIGS. 1 and 4 may be used with the electromechanical handle 110. These adapters 112 and 113 also may be provided for the connection to other types of toothbrush handles or water picks which are on the market, without departing from the scope of this invention.

III JET BRUSH ATTACHMENTS

Referring to FIGS. 1, 4, 5, 6, 7, 9 and 13, there is disclosed a simple single-piece body plastically molded jet brush attachment 120 according to one embodiment of this invention, which may be readily slipped over the plug 66 and in the sleeve 68 or over the adapter 113. This attachment body 120 is preferably also made of a durable hard plastic material which may be readily sterilized, and comprises an elongated truncated conical member with an axial opening or duct 121 through which fluid or liquid may pass directly to the jet nozzle 122 at the outer end. Its other end has a socket 123 that fits either over the conical plug portion 66 of the handle member 60 or 70 or over the conical plug portion 114, or 115 of the adapters 112 or 113 respectively. This jet nozzle 122 is preferably at an angle of about 45° to the centerline of the attachment 120, and extends in the same direction as the bristles 125 of the brush portion adjacent the outer end, but does not extend quite as far as the outer ends of the bristles 125 so that the nozzle 122 will not interfere with their brushing operation. However, the outer end of the nozzle 122 is spaced sufficiently away from the outer ends of the bristles 125, so as to stimulate a relatively broad area of the oral tissue, that is broader than if the jet itself were placed right against the gum line or in between the teeth. Nevertheless, such closer contact of the nozzle 122 may be obtained by tilting the attachment and its handle at an angle of 45° to the oral surface to be flushed and/or picked.

The bristles 125 are mounted in a base portion 126 which may be molded as an integral part of the longitudinal hollow conical body 120, and these bristles may be parallelly inserted therein or radially divergent from the center line of the body 120 as shown in FIG. 6. Also the central portion of the bristles 125 may be eliminated or shortened to provide a cavity 128 as shown in FIG. 4 for the placement of a paste-type dentifrice. Although the radially divergent bristles shown in FIG. 6 are more flexible than the parallel ones, they still provide enough bristle action to break the plaque loose from the teeth so that the water jet from the nozzle can wash this plaque away as well as massage the gums.

Another form of a jet brush attachment 130 is shown in FIGS. 10, 11 and 12 wherein its body portion comprises an elongated conical tube having central aperture 131, with a socket end 133 similar to socket 123 and a bent over jet nozzle 132 at its outer end. The base portion 136 for the bristles 135, however, may be formed from a separate piece of plastic with a groove 137 molded in its side opposite the bristles 135 so it can be fused, glued, or snapped onto the tubular body 130 adjacent the nozzle 132. This may be for the convenience of manufacture and assembly of the jet brush attachment.

When the jet brush attachment is to be adapted to an electromechanical toothbrush handle 110 as shown in FIG. 8, the attachment to the duct 41 for the fluid supply to the jet nozzle should then be through an adapter 113 as shown in FIG. 9, or through an integral branch duct 144 from the side of the body of the attachment 140 as shown in FIG. 8. This branch duct 144 communicates with an internal longitudinal duct 141 to its jet nozzle 142 at its outer end adjacent the base 146 for the bristles 145. This branch duct 144 is preferably located adjacent the socket end 143 of the attachment 140, into which the adapter 113 may be sealingly inserted so as to prevent

leakage or escape of the liquid in the duct 141. In this case the valve for controlling the supply of the liquid to the jet nozzle 142 is by the valve 36, 37 or 38 at the spigot 20 or 21. However, an additional control valve may be provided either in the branch 144 on the attachment 140, or in the hose 41 adjacent the handle 110 without departing from the scope of this invention.

In FIG. 3 there is shown still another embodiment of jet brush attachment 150 in which the jet nozzle 152 is provided adjacent a fountain brush base 156 which supplies liquid dentifrice and/or water through one or more apertures 157 between the base of the bristles 155 through a second or separate duct 161 from the jet nozzle supply duct 151 in the body of the attachment 150. This particular attachment 150 preferably is not relatively rotatable with respect to the handle member 80, and the separate ducts 151 and 161 may be separately fed with liquid by means of a control valve 100 in the handle 80 as described in section II above. However, such a selector valve 100 may be used apart from the dentifrice supply venturi valve 90, or together therewith without departing from the scope of this invention. Thus in operating a jet brush of this type shown in FIG. 3, the operator may first press the push button 101 of valve 100 all the way in, as well as the button 91 of valve 90 to the supply a dentifrice or antiseptic through the apertures 157 at the bristles 155, and then by a brushing motion clean the plaque from the teeth. Then the button 91 for the valve 90 is released, and the button 101 of the valve 100 is partly released so as to apply the jet nozzle 152 only through its duct 151 with water for washing off the teeth and massaging the gums.

Furthermore if desired, the frustoconical chamber or duct 121 shown in the jet brush attachment 120 in FIG. 13 may be provided with a tubular slowly dissolving solid dentifrice or antiseptic 165 having a longitudinal axial aperture 166 therethrough, so that as the liquid is passed through it, it will slowly dissolve the dentifrice or antiseptic for application through the jet nozzle 122 to the oral cavity or mouth. Then the jet nozzle is usually operated both at the beginning and at the end of the brushing action. Alternately, such a slowly dissolving dentifrice or antiseptic 165 may be provided in the reservoir 50 shown in FIG. 3, or in the handle 60, without departing from the scope of this invention, however, a chamber should be provided therefor larger than the duct 61 shown in FIG. 4.

Thus, the jet brush attachment of this invention may be readily adapted to different standard types of dental or oral cleaning apparatus, both electromechanical and/or liquid. Furthermore, the apparatus of this invention may be not only portable for attachment to the spigots in different homes, hotels or motels, but also may be permanently attached to one's lavatory in the home, either at the wash basin, as shown in FIG. 3, or in the shower.

Accordingly, the jet brush of this invention has made simple and practical all three of the methods for oral hygiene, namely, cleaning, stimulating, and flushing, and thereby this invention has effected greater cooperation and maximum results from these methods. This all enables a greater reduction in reparative procedures which can reduce tremendously personal, national, and insurance health costs.

While there is described above the principles of this invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example, and not as a limitation to the scope of this invention.

I claim:

1. A jet toothbrush comprising:

- a. a fluid source from a hot and cold water lavatory spigot having a threaded open end for an aerator,
- b. a flexible duct for said fluid between said source and the jet nozzle of said jet toothbrush,
- c. a handle for said jet nozzle and toothbrush, having:
 1. a longitudinal body portion,
 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof,

3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom,
 4. a duct in said body portion for supplying fluid from said source to said jet nozzle and connectable to said flexible fluid duct,
 - d. a bypass valve means infinitely variable between limits and detachably connected to said threaded open end of said spigot for controlling the flow and pressure of said fluid to said jet nozzle to avoid injury of gum tissue, and
 - e. an aerator connected to said valve means for the fluid not bypassed to said jet nozzle,
- said bypass valve means being of the reciprocating piston type with finger buttons at each end of the piston, and said piston being transverse of the flow of liquid through said valve means from said spigot to said aerator.
2. A jet toothbrush according to claim 1 wherein said spigot includes a manually operated valve therefor.
 3. A jet toothbrush according to claim 1 wherein said fluid source also includes a reservoir of liquid dentifrice.
 4. A jet toothbrush comprising:
 - a. a fluid source comprising a lavatory spigot for controlling the flow of said fluid to the jet nozzle of said jet toothbrush,
 - b. a reservoir of liquid dentifrice,
 - c. a handle for said jet nozzle and toothbrush,
 - d. flexible ducts from said source and said reservoir to said handle,
 - e. a jet brush attachment for said jet nozzle and said toothbrush removably attached to said handle, said attachment comprising:
 1. a longitudinal body portion,
 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof,
 3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom, and
 4. a duct in said body portion for supplying fluid from said source to said jet nozzle, and
 - f. valve means in said handle for connecting said dentifrice in said reservoir to said jet nozzle.
 5. A jet toothbrush according to claim 1 wherein said fluid source includes a means for pulsating the fluid before being applied to said handle.
 6. A jet toothbrush according to claim 1 wherein said handle has a duct therein and includes means at one end of said handle duct for removably and rotatably connecting an attachment having said jet brush mounted thereon, and means at the other end of said handle duct to connect one end of said flexible duct.
 7. A jet toothbrush according to claim 1 wherein said handle includes a valve means for controlling the flow of fluid to said jet nozzle.
 8. A jet toothbrush according to claim 1 wherein said handle comprises an electromechanical vibrating means.
 9. A jet toothbrush according to claim 8 including an attachment having said jet brush mounted thereon and having a connection for said flexible duct.
 10. A jet toothbrush according to claim 8 including an adapter between said attachment and said handle.
 11. A jet toothbrush according to claim 10 wherein said adapter includes a connection for said flexible duct.
 12. A jet toothbrush according to claim 1 wherein said handle includes a base portion for said bristles, which base portion may be removably attached to said body portion of said handle adjacent said jet nozzle.
 13. A jet toothbrush according to claim 1 wherein said bristles of said brush are arranged to provide a cavity in the central portion thereof for the holding of a paste-type dentifrice.
 14. A jet toothbrush according to claim 1 wherein said bristles extend radially outwardly from the longitudinal center line of said longitudinal body portion of said handle.

15. A jet toothbrush according to claim 1 wherein said duct in said handle includes a chamber for a slowly dissolving dentifrice.
16. A jet toothbrush according to claim 4 wherein said valve is a venturi-type valve having two passageways, one for said fluid and the other for said dentifrice.
17. A jet toothbrush comprising:
 - a. a fluid source,
 - b. a flexible duct for said fluid between said source to the jet nozzle of said jet toothbrush,
 - c. a handle for said jet nozzle and toothbrush,
 - d. a jet brush attachment for said jet nozzle and said toothbrush having:
 1. a longitudinal body portion,
 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof,
 3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom,
 4. a first duct in said body portion for supplying fluid from said source to said jet nozzle and connectable to said flexible fluid duct, and
 5. a second duct in said body portion connected to apertures among said bristles,
 - e. means to removably attach said attachment to said handle, and
 - f. a valve means in the duct between said source and said jet nozzle for controlling the flow of said fluid to said jet nozzle.
18. A jet toothbrush according to claim 17 wherein said handle means includes a second valve means for controlling the flow of fluid to said apertures.
19. A jet toothbrush according to claim 1 wherein said outwardly extending angle of said jet from said bristles is about 45°.
20. A jet toothbrush comprising:
 - a. a fluid source from a lavatory spigot,
 - b. a reservoir for liquid dentifrice,
 - c. separate flexible ducts for said fluid and said dentifrice between said source and said reservoir and the jet nozzle of said jet toothbrush,
 - d. a handle for said jet nozzle and toothbrush,
 1. a longitudinal body portion,
 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof,
 3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom,
 4. ducts in said body portion for supplying fluid from said source and said reservoir to said jet nozzle and connectable to said flexible fluid ducts, and
 5. valve means for controlling the flow of said dentifrice to said jet nozzle, and
 - e. a bypass valve means detachably connected to said spigot for controlling the flow of said fluid to said jet nozzle.
21. A jet toothbrush comprising:
 - a. a fluid source from a lavatory spigot,
 - b. a reservoir of liquid dentifrice,
 - c. separate flexible ducts for said fluid and dentifrice between said source and said reservoir and the jet nozzle of said jet toothbrush,
 - d. a handle for said jet nozzle and toothbrush, having:
 1. a longitudinal body portion,
 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof,
 3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom,
 4. separate ducts in said body portion for supplying fluid from said source and dentifrice from said reservoir to

- said jet nozzle and connectable to said flexible fluid ducts, and
- 5. a venturi-type valve means between said ducts for controlling the amount of said dentifrice in said fluid, and
- e. a bypass valve means detachably connected to said spigot for controlling the flow of said fluid to said jet nozzle. 5
- 22.** A jet toothbrush comprising:
 - a. a fluid source from a lavatory spigot,
 - b. a flexible duct for said fluid between said source and the jet nozzle of said jet toothbrush, 10
 - c. a handle for said jet nozzle and toothbrush, having:
 - 1. a longitudinal body portion,
 - 2. bristles of said toothbrush extending laterally outwardly from one side of said body portion near the outer end thereof, 15

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- 3. a jet nozzle projecting outwardly from the outer end of said body portion and on the same side thereof as said bristles but at an outwardly extending angle therefrom,
- 4. a first duct in said body portion for supplying fluid from said source to said jet nozzle and connectable to said flexible fluid duct, and
- 5. a second duct in said body portion connected to apertures around said bristles, and
- d. a bypass valve means detachably connected to said spigot for controlling the flow of said fluid to said jet nozzle.
- 23.** A jet toothbrush according to claim 22 wherein said handle includes a valve means for controlling the flow of fluid to said apertures.