Oct. 4, 1966 D. F. STOKES, JR., ET AL 3,276,060

FOOT CARE APPLIANCE

Filed Dec. 14, 1964 2 Sheets-Sheet 1

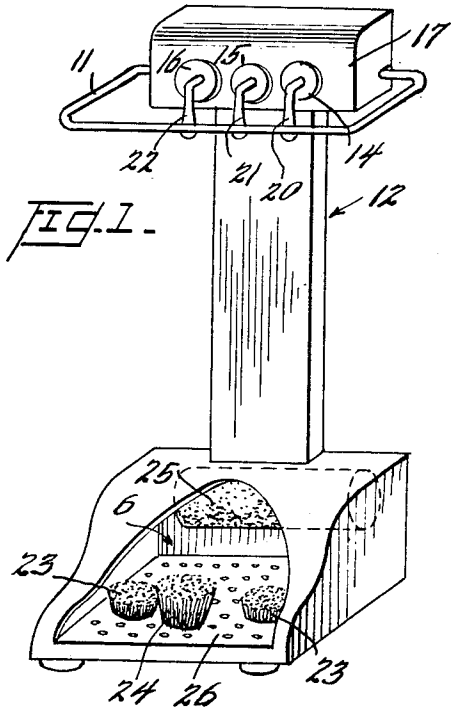


FIG. 1.

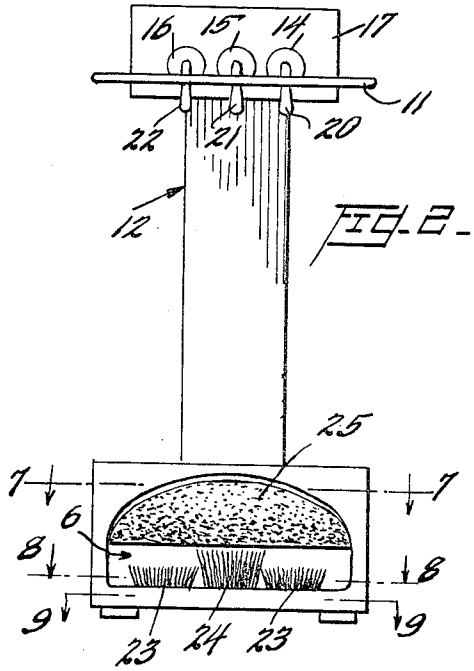


FIG. 2.

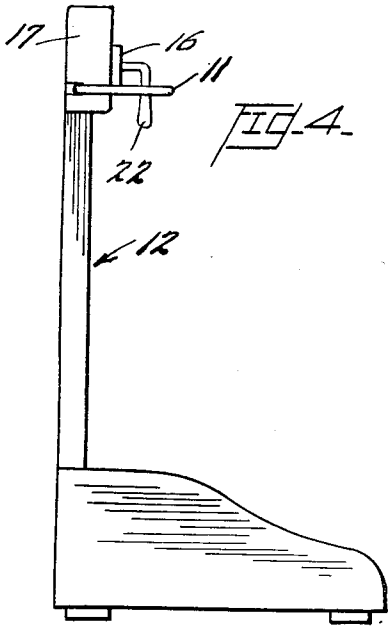
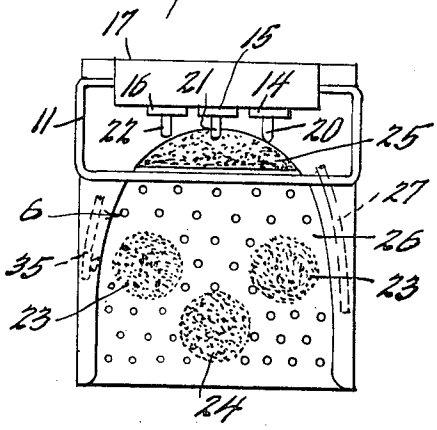


FIG. 4.

FIG. 3.



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Filed Dec. 14, 1964 2 Sheets-Sheet 2

FIG. 5.

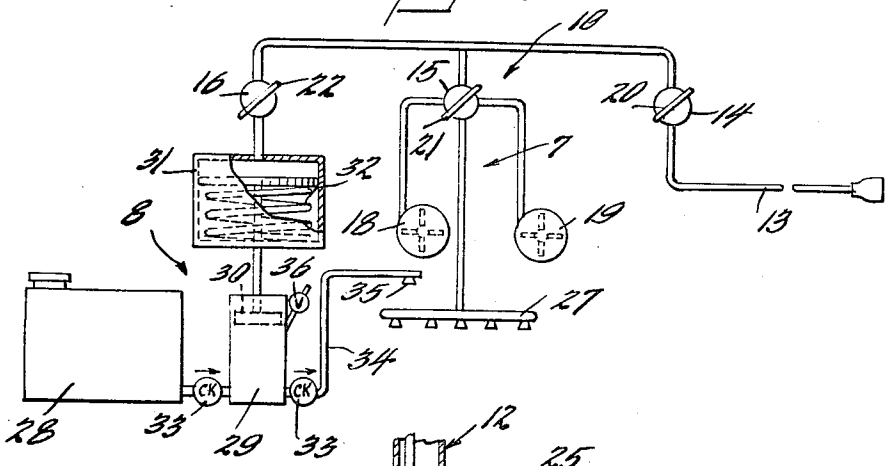


FIG. 6.

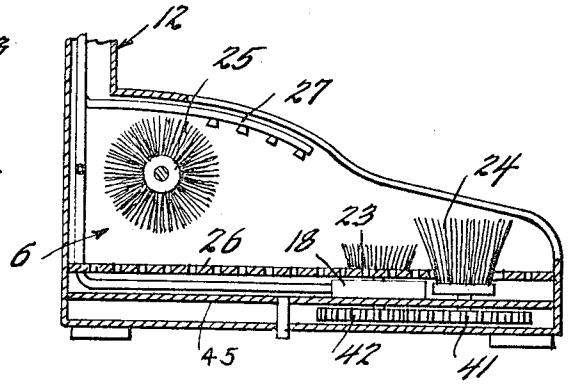


FIG. 7.

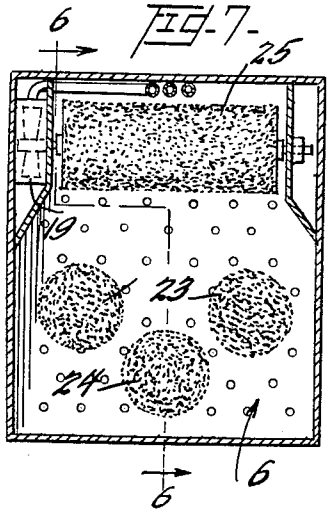


FIG. 8.

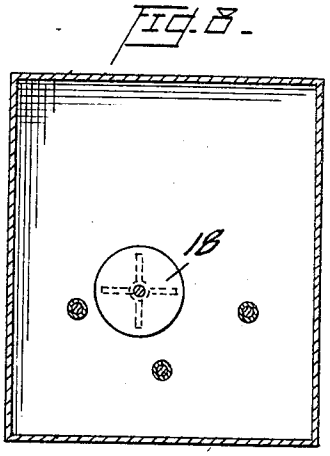
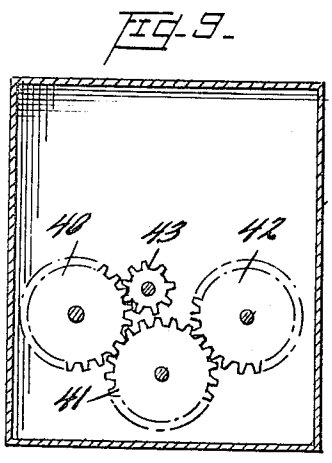


FIG. 9.



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United States Patent Office 3,276,060 Patented Oct. 4, 1966

3,276,060

FOOT CARE APPLIANCE

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Filed Dec. 14, 1964, Ser. No. 417,866
3 Claims. (Cl. 15—21)

This invention relates to foot care apparatus and more particularly to an appliance or fixture, hereinafter referred to as appliance, for use in the personal care of human feet.

Heretofore, in order to wet, soap, scrub, and rinse their feet, people have had to use such dangerous, strenuous, and uncomforatable methods as lifting one foot at a time into a lavatory or tub; hopping about on one foot in a shower while washing the other foot; and other makeshift arrangements. As a result, numerous accidents have occurred, and many persons have not maintained the desired standards in healthful foot care.

It is therefore an object of this invention to provide an appliance which will allow human feet to be safely, quickly, easily, comfortably, conveniently, and thoroughly wet, soaped, scrubbed, rinsed, and massaged while the user's feet are at or near floor level and without the necessity of the user stooping, kneeling, sitting, lying down, or assuming any position other than that of standing upright, and with very little danger to the user, with very little physical effort required of the user, and with very little splashing or otherwise wetting of the other parts of the user's body or the surrounding area.

It is also an object of this invention to provide an appliance as described above which is in one compact unit and which is attractive in appearance and which may be constructed as a portable unit which can be used in a shower, a tray, or other compartment or which may be constructed as an independent unit for use in bathrooms, etc., both models being compatable in appearance and in operational functions with standard bathroom fixtures and capable of operating in compliance with standard building and plumbing codes.

It is also an object of this invention to provide an appliance which is driven by water power and completely rid of electrical components or circuits thus eliminating shock hazards.

It is also an object of this invention to provide a foot care appliance which can be produced, sold, and installed in large quantities at a comparatively low cost, and which can be utilized wherever needed.

Still additional objects, benefits, and advantages of this invention will become evident from a study of the following description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a typical model of this invention.

FIGURE 2 is a front elevation.

FIGURE 3 is a top view.

FIGURE 4 is a side view.

FIGURE 5 is a schematic diagram of the water powered soap spray system, water powered brush system, water spray system, and control system.

FIGURE 6 is a sectional view taken on line 6—6 of FIGURE 1.

FIGURE 7 is a sectional view taken on line 7—7 of FIGURE 2.

FIGURE 8 is a sectional view taken on line 8—8 of FIGURE 2.

FIGURE 9 is a section on the line 9—9 of FIGURE 2.

Referring now specifically to the drawings, a foot care appliance made in accordance with the present invention is shown to include a washing compartment 6 located at or near floor level; water spray equipment 7; soap spray

equipment 8; foot scrubbing and massaging equipment exemplified by rotary brushes 23—23, 24 and 25; and a control system 10, and safety bar 11 which are located at the proper height above floor level so as to be readily accessible and convenient to the user, said components and other parts being contained in an attractive housing 12.

The operation of this device will now be readily understood. Water under pressure and temperature regulated is supplied to the appliance through feed line 13. Valves 14, 15 and 16 are conveniently located in the control panel 17 and operate as follows. Valve 14 is an on-off valve for the unit. Valve 15 is a three-way valve which allows the water from valve 14 to be directed to turbine 18; to turbine 18 and water spray system 7; to water spray system 7; to water spray system 7 and turbine 19; or to turbine 19. Valve 16 is an on-off valve controlling the flow of water to the soap spray equipment 8. Valves 14, 15, and 16 are readily manipulated by levers 20, 21, and 22 which extend from the control panel 17. Also located near the control panel 17 is safety bar 11 for use in preventing slips and falls by the user.

Turbines 18 and 19 are water powered and drive brushes 23, 24, and 25. Brushes 23 are located in the washing compartment 6 with only the bristles extending above the grate 26. The primary purpose of these brushes is to scrub and massage the bottom portions of the feet. Brush 24 is located inside the washing compartment 6 and its primary purpose is to scrub and massage the sides and backs of the feet. Brush 25 is located somewhat above the grate 26 and is equipped with relatively long bristles for scrubbing and massaging the top portions of the feet and between the toes.

As shown in FIGURE 9, the rotary brushes 23—23 and 24 are interconnected for simultaneous rotation by means of gears 40, 41 and 42 affixed to their respective vertical shafts in intermeshing relation. A drive pinion 43 on the output shaft of the turbine 18 transmits rotary motion from the turbine through the chain of gears 40, 41 and 42 by virtue of its intermeshing relationship with gear 40. The pinion 43 and gears 40, 41 and 42 are all covered by a horizontal plate 45 which extends over them in spaced relation below the drainage grate 26.

Water from valve 15, when so directed, flows down into the washing compartment 6 and is sprayed into the compartment through nozzles in the water spray tube 27 which is shaped around the inside of the washing compartment. Waste water flows through grate 26 and into a drain or onto the floor of the shower or other compartment in which the appliance is stationed.

Liquid soap from tank 28 is drawn into cylinder 29 by rising piston 30. When valve 16 is opened, water flows into cylinder 31 compressing spring 32 and forcing piston 30 down into cylinder 29. One way valves 33 allow soap from cylinder 29 to be forced through tube 34 and out of nozzles 35 which are located in the washing compartment 6. This flow will continue, if valve 16 remains open, until piston 30 reaches its limit in cylinder 29. Valve 36 is adjustable and for the purpose of restricting the flow of water from cylinder 31, however, when valve 16 is closed, spring 32 causes the piston to force the water from cylinder 31 through valve 36 as piston 30 rises. The cycle is then completed. Waste water from valve 36 is spilled into the washing compartment.

While the invention has been described with particular reference to the construction shown in the drawings and while various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus completely and fully described the inven-

tion, what is now claimed as new and desired to be protected by Letters Patent of the United States is:

1. A foot care appliance, comprising a washing compartment having at the bottom thereof a horizontal drainage grate, a turbine shaft and a plurality of brush shafts all journaled through said grate for rotation about vertical axes, gearing carried by the respective shafts beneath said grate and interconnecting said shafts to said turbine shaft for rotation by the latter, rotary brushes affixed to the respective brush shafts above said grate, a water-powered turbine in driving relation to said turbine shaft, a source of water under pressure in operative communication with said turbine for driving the latter, and a selectively-operable valve for controlling the communication between said source and the turbine.

2. A foot care appliance as defined in claim 1, further including a soap-spraying apparatus having a spray nozzle within said compartment and above the said grate, said spray nozzle being directed downwardly into the said compartment toward said grate, a liquid soap pump including a cylinder and a piston disposed for reciprocation therein, said cylinder having check valve controlled inlet and outlet ports, a soap tank communicating with said inlet port, said spray nozzle communicating with said outlet port, spring means resiliently urging said piston in a direction to draw soap through the inlet port into said cylinder, water pressure actuated means connected with said piston for urging said piston in a direction to expel said soap from the cylinder through said outlet port and nozzle, and a valve selectively operable for controlling the actuation of said water-pressure actuated means.

3. A foot care appliance as defined in claim 2, further including a brush mounted in said compartment for rotation about a horizontal axis, a second water-power turbine operatively connected to said last-mentioned brush, means establishing communication between said second turbine and said source of pressurized water and a valve selectively operable to control such communication, a control panel and means supporting said panel in spaced relation above said compartment, all of said valves being mounted on said control panel.

References Cited by the Examiner

UNITED STATES PATENTS

2,068,757	1/1937	Mishelle	15—21 X
2,248,205	7/1941	Stobbe	15—21
2,952,859	9/1960	Alcamo	15—21
3,066,338	12/1962	Nappi	15—34

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