

Feb. 26, 1963

L. HERMANN ETAL

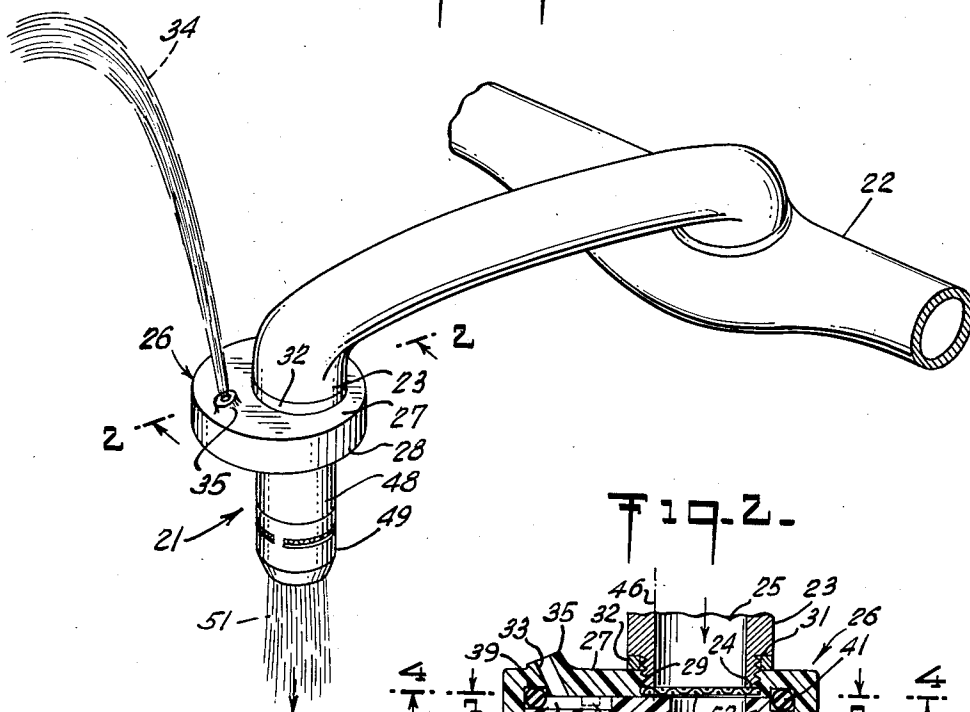
3,079,088

FOUNTAIN ATTACHMENT FOR FAUCETS

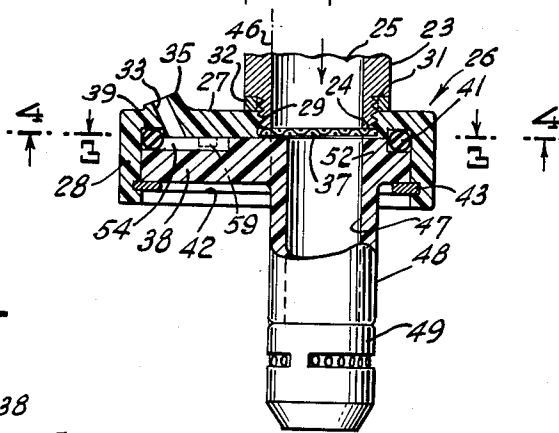
Filed Sept. 29, 1961

2 Sheets-Sheet 1

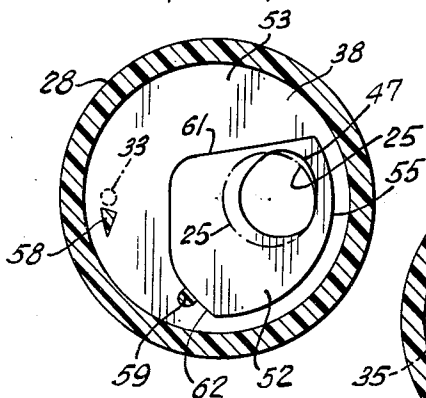
F 19-1.



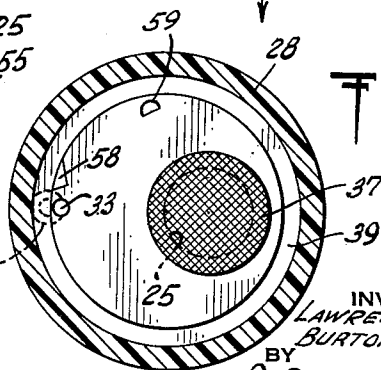
F 19-2.



F 19-3.



F 19-4.



INVENTORS:
LAWRENCE HERMANN
BURTON I. REISMAN
BY
L. Jordan Kessick
ATTORNEY

1

3,079,088

FOUNTAIN ATTACHMENT FOR FAUCETS

Lawrence Hermann, 1865 Ocean Ave., and Burton I. Reisman, 9425 Shore Road, both of Brooklyn, N.Y.

Filed Sept. 29, 1961, Ser. No. 141,817

7 Claims. (Cl. 239-25)

This invention relates to drinking fountain attachments for faucets, and is concerned particularly with an improved valve mechanism for converting an ordinary water faucet into a drinking fountain.

The present invention contemplates the provision of a simple housing containing a fountain spout that is connectible to a faucet. A rotatable disc within said housing has a boss on one surface thereof which provides a valve control for selectively causing the water from the faucet either to flow through a down stream spout or through the fountain channel, as desired. Provision is made whereby the volume of both the down stream and the fountain stream may be varied by the valving action of the rotating disc.

In some embodiments means are provided for limiting the rotation of the valving disc at the respective positions where water flow is directed exclusively either through the down stream spout or through the fountain stream spout. In other embodiments the valve disc is adapted to provide for simultaneous flow of water through the down stream spout and through the fountain stream spout.

The devices embodying the present invention may be made of simple and inexpensive molded or cast parts that are readily assembled, and which are easily applied or attached to conventional water faucets.

The device of the present invention makes possible the conversion of a standard faucet plumbing fixture into a drinking fountain without interfering with its principal use. The utilization of the present fountain attachment in kitchens, bathrooms and elsewhere obviates the necessity for glasses or cups, and their attendant inconveniences and possible unsanitary conditions.

Still other objects and advantages of the invention will be apparent from the specification.

The features of novelty which are believed to be characteristic of the invention are set forth herein and will best be understood, both as to their fundamental principles and as to their particular embodiments, by reference to the specification and accompanying drawings, in which:

FIGURE 1 is a perspective view of a portion of a kitchen faucet fixture showing the improved fountain attachment of the present invention connected thereto, with the valve-disc in a position for closing the fountain spout and for normal discharge of water into a sink, said view nevertheless showing in dotted outline the manner in which the fountain stream spout is operative when the valve-disc is in another position;

FIG. 2 is an enlarged section view of said device, taken on line 2-2 of FIG. 1;

FIG. 3 is a view taken on line 3-3 of FIG. 2;

FIG. 4 is a view taken on line 4-4 of FIG. 2;

FIG. 5 is similar to FIG. 3, showing the valve-disc mechanism of the device in a partially rotated position where water is conducted to and through the fountain spout and is closed off from discharge into the sink;

FIG. 6, similar to FIG. 5, shows the valve-disc mechanism in a still further rotated position where water is conducted to and through the fountain spout only;

FIG. 7 is a bottom view similar to FIG. 4, and shows only the housing portion of the device herein;

FIG. 8 is a view taken on line 8-8 of FIG. 7; and

FIG. 9 is a view similar to FIG. 5 showing another embodiment of the valve control element.

2

Referring now to the drawings in detail, the device of the present invention, generally designated 21, is utilized in conjunction with a kitchen faucet fixture 22, as shown in FIG. 1. Said fixture has a forwardly and then downwardly extending discharge spout 23, the discharge end 24 of which surrounds outlet 25 and is threaded to accommodate the fountain-valve attachment 21.

The fountain-valve attachment 21 comprises a circular housing, generally designated 26, made of a suitable plastic material such as Bakelite, nylon, Teflon, or the like (FIG. 2). In some embodiments housing 26 may be made of metallic material. Housing 26 comprises a horizontal end plate 27 and an integral, circular, downwardly extending rim 28. Plate 27 has an off-center threaded aperture 29 which engages the threaded end 24 of spout 23. Interposed between the top of plate 27 and shoulder 31 of spout 23 is a resilient washer 32, made of rubber, neoprene, or the like, that forms a leak-proof connection therebetween.

Formed at one side of plate 27 is a vertical or slightly inclined aperture 33 forming a channel through which water passes upwardly in the form of a drinking fountain stream 34 (FIG. 1). The area of plate 27 surrounding channel 33 may be formed in an integral protruding spout 35 for directing the flow of fountain stream 34.

Positioned within aperture 29 of plate 27 is a circular mesh strainer or screen 37 which is located opposite the outlet of spout 23 (FIG. 2).

The valve mechanism of the apparatus herein comprises a circular disc 38 molded or otherwise formed of a suitable material such as metal, nylon, Bakelite, Teflon, or the like, said disc being rotatably mounted in a horizontal plane within housing 26. The peripheral surface of disc 38 moves slidably against the circular inner surface of rim 28.

The interior surface of plate 27 has a circular recess 39 which accommodates a resilient O-ring 41 made of rubber, neoprene, or the like. Rim 28 has an annular recess 42 on the interior wall thereof which accommodates a snap ring 43 which serves to retain disc 38 in position within housing 26, as shown in FIG. 2. Recess 42 is located in a position where ring 43 causes the top surface of disc 38 to bear against the bottom of resilient O-ring 41 with sufficient pressure to provide a substantially leak-proof juncture between housing 26 and said disc. At the same time the materials of which both O-ring 41 and disc 38 are made are selected to provide a low coefficient of friction therebetween whereby disc 38 may be smoothly rotated in a horizontal plane while the liquid seal between said two parts is maintained.

To one side of its center line 46 of rotation, disc 38 has a circular aperture 47 which forms a common passage with the interior of a downwardly extending cylindrical spout 48 formed integrally with said disc. Mounted on the lower end of spout 48 is an aerator 49. When aperture 47 is axially aligned with or overlaps outlet 25 of spout 23, water will flow downwardly through the aerator in the form of a down stream 51 (FIG. 1).

Integrally formed on the top of disc 38 is a raised boss 52 having an irregular contour, as shown in FIGS. 3, 5 and 6. The top surface of said boss is in sliding engagement with the bottom surface of plate 27. Spaced apart from the top surface of boss 52 is a horizontal channel surface 53 that occupies the remaining portion of disc 38 and forms a channel 54 with the bottom of plate 27.

The outer arcuate edge 55 of boss 52 is spaced apart from the outer edge of disc 38 to form a recess which accommodates O-ring 41. In all positions of disc 38, channel 54 communicates with channel 33 of fountain spout 35.

When aperture 47 of disc 38 is substantially aligned with the outlet 25 of spout 23, as shown in FIG. 3, the top surface of boss 52 surrounding said aperture and juxtaposed against the bottom surface of plate 27, will prevent water from outlet 25 reaching channel 54, and consequently, no water will emerge through channel 33. By grasping spout 48 manually and turning it to cause the rotation of disc 38, aperture 47 is moved out of alignment with outlet 25 of spout 23, as shown in FIG. 5. In this position, boss 52 still extends over the mouth of outlet 25 and prevents water from flowing into channel 54.

Upon further rotation of disc 38 to the position illustrated in FIG. 6, boss 52 has moved into a position where at least a portion of outlet 25 communicates with the channel 54, whereby water flows through said channel and through channel 33 to form a fountain spout 34. In this position, aperture 47 is completely out of alignment with outlet 25 and, accordingly, no water will flow down through aerator 49. By forming boss 52 in a suitable contour, variable volume for the fountain spout may be provided whereby the edge of said boss may be moved across a desired portion of the bottom entrance of channel 33 so that the height of fountain 34 may be adjustably controlled.

In some embodiments, it may be desirable to provide a limitation of motion for disc 38. This is achieved by the formation of integral, downwardly extending, spaced apart stop elements 58 and 59 formed in the bottom surface of plate 27 (see FIGS. 3, 5, 6, 7 and 8). As disc 38 is rotated counterclockwise, edge 61 of boss 52 will reach and abut stop element 58 at which point water flows in a fountain from spout 33. See FIG. 6. When disc 38 is rotated clockwise, edge 62 of boss 52 will reach and abut stop element 59 at which point aperture 47 is in registry with outlet 25 and boss 52 forms a seal between itself and plate 27, as a result of which water flows only through spout 48. See FIG. 3. In some embodiments, stop elements 58 and 59 constitute a pair of spaced apart pins or the like inserted into or otherwise attached to a suitable position on the interior of housing 26.

By rotating disc 38 and adjusting the extent to which boss 52 overlaps outlet 25 (FIG. 6), said disc performs the function of a valve to control the volume of water that passes through channel 54 and thence through channel 33 to form fountain stream 34, whose height may be adjusted as desired. This control action may take place in the various positions of disc 38 between its respective positions in FIGS. 5 and 6, for example.

Disc 38 may also be utilized as a valve to control the flow of water through spout 48. Between its respective positions in FIGS. 3 and 5, the movement of disc 38 will vary the amount of water that can flow from outlet 25 from full flow to complete shut-off.

In the embodiment of the valve-disc 38 as shown in FIG. 9, boss 52 is provided with an aperture 71 which is located in a different position from that of aperture 47 in FIGS. 3, 5 and 6. Aperture 71 would be aligned coaxially with spout 48. In some locations of disc 38 aperture 71 at least partially overlaps the aperture of faucet down spout 23 while at the same time boss 52 extends only partially over the mouth of said down spout whereby water is enabled to flow simultaneously through spout 48 as well as into channel 54 whence it also flows through fountain spout 33.

Stop elements 58 and 59 may be suitably arranged in the embodiment of FIG. 9 whereby valve-disc 38 is rotated to one stop position where full flow of water passes only through spout 48 while boss 52 prevents flow of water into channel 54, and in the opposite stop position aperture 71 will be completely out of registry with the aperture of faucet down spout 23 whereby water will flow only into channel 54 and thence through fountain spout

33. In intermediate positions of valve-disc 38, variable flow of water may be achieved through either down spout 48 or through fountain spout 33.

Accordingly, it is manifest that by suitable modifications in the contour of boss 52 and the location of apertures 47 or 71, any desired condition of variable, simultaneous or exclusive flow may be obtained through either or both down spout 48 and fountain spout 33.

In some embodiments which may omit stop elements 58 and 59, suitable index markings may be applied upon the outer surfaces of spout 48 and of housing 26 whereby visual indication is given to the operator for the relative positions to which valve-disc 38 should be rotated to provide for flow of water either through spout 48 or through fountain channel 34, or both.

It is claimed:

1. A drinking fountain attachment for a faucet, comprising a housing, an aperture in said housing, means for attaching said housing to the end of said faucet whereby said aperture is aligned with the outlet of said faucet, said housing aperture being located in an off center position in said housing, a fountain outlet in said housing, a disc positioned in said housing and rotatable therein, an aperture located in an off center position in said disc, the disc aperture being positionable in alignment with the housing aperture and providing passage therethrough for the down stream flow of water from said faucet, a raised boss on the top side of said disc surrounding said disc aperture, said boss occupying a portion only of said disc, the remainder of the top of said disc forming a channel between itself and said housing, said boss operating when said disc aperture is aligned with the faucet outlet to prevent water from entering into said channel, said disc being movable rotatably into a position where communication is established between the outlet of said faucet and said channel and in which position said channel is in communication with said fountain outlet in said housing.

2. A drinking fountain attachment for a faucet comprising a housing, an aperture in said housing, means for attaching said housing to the end of said faucet whereby said aperture is aligned with the outlet of said faucet, a rotatable disc in said housing, an off center aperture in said disc, an off center raised boss means on a portion of one side of said disc and surrounding said disc aperture, the surface of said boss means being in sliding contact with an interior surface of said housing, the remainder of said disc side being spaced apart from an interior wall of said housing and forming a channel therebetween, a fountain outlet in said housing, said fountain outlet being in communication with said channel in some positions of said disc, said boss means being shaped and said disc being rotatable into different positions where said boss permits passage of water through said disc aperture only and prevents water from reaching said channel, in other positions of said disc said boss prevents water from passing through said disc aperture and permits water to flow through said channel and thence through said fountain outlet, and in intermediate positions said boss permits the flow of water both through said disc aperture and through said fountain outlet simultaneously.

3. An attachment according to claim 2, and further comprising a downwardly extending spout on said disc, the interior of said spout being aligned with said disc aperture, said spout being manually rotatable to produce rotation of said disc.

4. An attachment according to claim 2, and further comprising a pair of spaced apart stop elements on the interior of said housing, one of said elements cooperating with one edge of said boss to limit the rotation of said disc in one direction, the other of said elements cooperating with another edge of said boss to limit the rotation of said disc in the opposite direction.

5. An attachment according to claim 2, and further comprising a pair of spaced apart stop elements on the

5

interior of said housing, one of said elements cooperating with one edge of said boss to limit the rotation of said disc in one direction, the other of said elements cooperating with another edge of said boss to limit the rotation of said disc in the opposite direction, said attachment being operative when said boss is in contact with one of said stop elements to permit flow of water from said faucet only in a down stream therethrough, and operative when said boss is in contact with the other of said stop elements to permit flow of water from said faucet only through said fountain outlet.

6. An attachment according to claim 2, and further comprising a pair of spaced apart stop elements on the interior of said housing, one of said elements cooperating with one edge of said boss to limit the rotation of said disc in one direction, the other of said elements cooperating with another edge of said boss to limit the rotation of said disc in the opposite direction, said attachment being operative when said boss is in contact with one of said stop elements to permit flow of water from said faucet only in a down stream therethrough, operative when said boss is in contact with the other of said stop elements to permit flow of water from said faucet only through said fountain outlet, and operative in various intermediate positions of said disc when said boss is in contact with neither of said stop elements to permit water to flow both in a down stream and through said fountain outlet simultaneously, said intermediate positions of said

6

disc being selectable to vary the volume of flow of water in the down stream and through the fountain outlet.

7. A drinking fountain attachment for a faucet comprising a housing attachable to the outlet of said faucet, an aperture located in an off center position in said housing and aligned opposite the outlet of said faucet, a fountain outlet in said housing, a rotatable disc positioned in said housing, an off center aperture in said disc, a raised boss on a portion of said disc, said disc being rotatable to locate said boss selectively in some positions where said disc aperture permits the passage of water from said faucet in a downstream therethrough while said boss prevents water from reaching said fountain outlet, and to locate said boss selectively in other positions where it is displaced from the housing aperture to permit water to flow from said faucet through said housing and thence through said fountain outlet, a resilient O-ring positioned between one side of said disc and said housing, a circular aperture in said housing, and a snap ring insertable into said aperture, said aperture being located in a position where said snap ring urges said disc against said O-ring.

References Cited in the file of this patent

UNITED STATES PATENTS

2,001,341	Clarke	May 14, 1935
2,790,632	Mellette	Apr. 30, 1957