Nov. 19, 1940. A. VAN D. WORTHINGTON 2,222,273

DRINKING FOUNTAIN ATTACHMENT FOR FAUCETS

Filed March 15, 1938

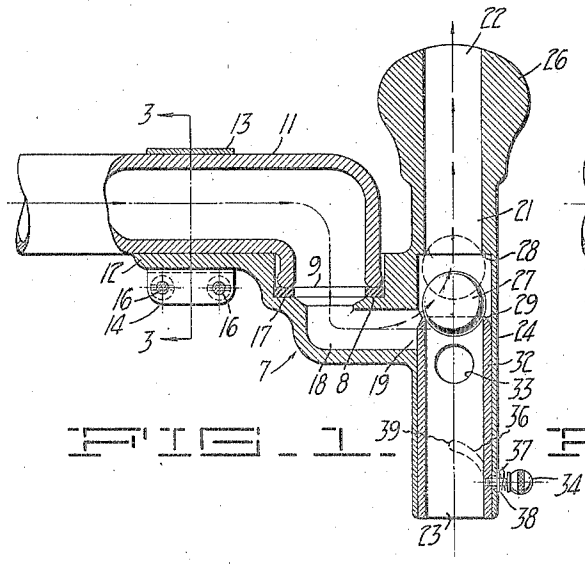


FIG. 1.

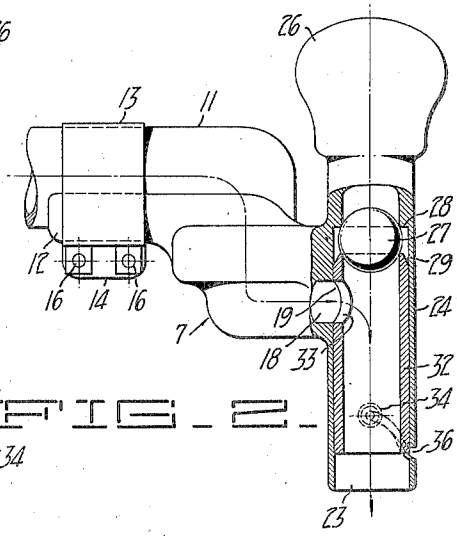


FIG. 2.

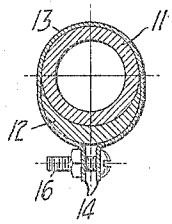


FIG. 3.

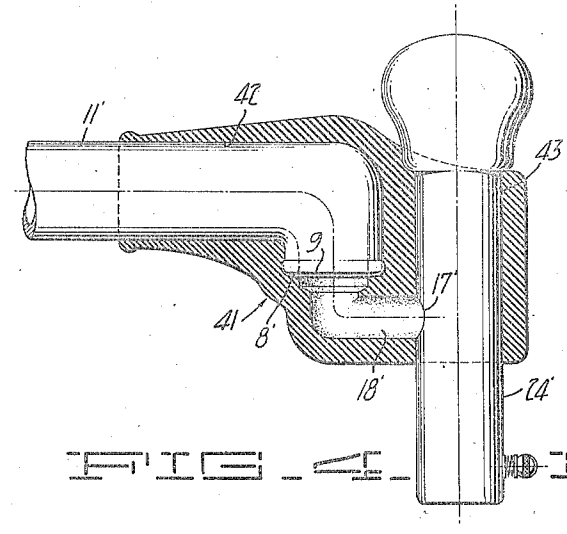


FIG. 4.

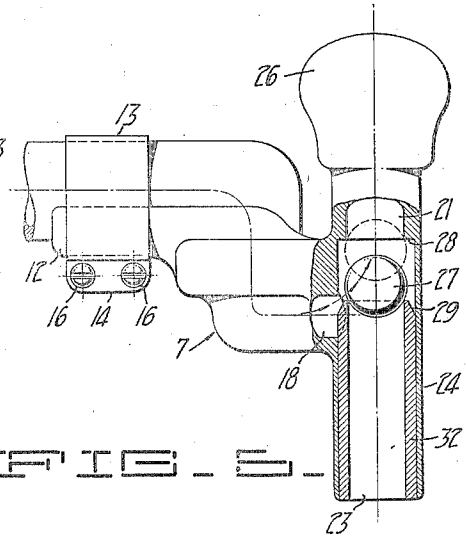


FIG. 5.

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Patented Nov. 19, 1940

2,222,273

UNITED STATES PATENT OFFICE

2,222,273

DRINKING FOUNTAIN ATTACHMENT FOR FAUCETS

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Application March 15, 1938, Serial No. 195,985

5 Claims. (Cl. 251—115)

The invention relates to drinking fountain attachments for faucets of the type commonly used in sinks, basins and the like.

An object of the inventon is to provide a device of the character described which may be quickly and readily attached to the spout of a faucet and which is arranged with an upwardly extending discharge passage providing a drinking fountain and a downwardly extending discharge passage for normal faucet discharge purposes, and is equipped with means for controlling the liquid discharge from either of said passages.

Another object of the invention is to provide a device of the character above having an automatic pressure responsive and liquid regulating means operative to limit the liquid discharge from the drinking fountain and to automatically close the drinking fountain discharge at relatively high applied liquid pressures.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a vertical sectional view of a drinking fountain attachment for faucets constructed in accordance with the present invention.

Figure 2 is a side elevation of the device illustrated in Figure 1 with a portion of the device being shown in section to illustrate a different positioning of certain of the parts.

Figure 3 is a cross-sectional view taken substantially on the plane of line 3—3 of Figure 1, showing the means of attachment to a faucet spout.

Figure 4 is a longitudinal sectional view of a modified form of attachment means for the device.

Figure 5 is a side elevation of a modified form of the device with a portion shown in section.

The device illustrated in the accompanying drawing is arranged to provide a combination drinking fountain and spout for faucets and consists briefly of an intake passage and upwardly and downwardly extending discharge passages arranged to provide a drinking fountain and a faucet discharge spout respectively, and means for selectively communicating each of the discharge passages to the intake passage. The device is also preferably arranged with a pressure responsive means for controlling the liquid discharge from the drinking fountain and for closing off the drinking fountain at relatively high liquid pressures. Preferably the device is constructed for attachment to a conventional type faucet, although as will be understood, the same may be constructed as an integral part of a faucet.

With reference more particularly to the accompanying drawing, the device as illustrated in Figures 1, 2, 3 and 5 comprises a member 7 formed with a seat 8 for the open end 9 of a spout 11 of a conventional type faucet, and is formed with a portion 12 adapted to underlie the spout 11 and is arranged to be secured thereto by means of a circular clamp 13 extending around the spout and under the portion 12. The clamp may be secured together at its free ends 14 by means of screws 16. Preferably a gasket 17 is mounted at the base of the seat 8 for engagement with the open end of the spout to seal the latter in the seat. Formed in the body of the member 7 and leading from the seat 8 is an intake passage 18 which extends horizontally into registration with a side port 19 of a vertical discharge passage 21 which is arranged at its upper end 22 to discharge liquid for drinking and at its lower end 23 to discharge liquid for normal faucet spout discharge purposes. The passage 21 is preferably formed in a vertically extending conduit portion 24 which may be formed integrally with the member 7 or may be attached thereto as a separate member and preferably the upper end 26 of the conduit portion is formed as a ball shaped drinking fountain head.

Mounted within the discharge passage 21 is a pressure responsive means which is operative to cause the discharge of liquid from the drinking fountain upon the application of relatively low liquid pressures and to automatically close the drinking fountain discharge at higher applied pressures so as to confine the discharge exclusively from the lower spout end 23 of the device at such higher pressures. In the present showing, this means comprises a pressure responsive valve in the form of a ball 27 which is mounted in the vertical passage 21 between a pair of spaced upper and lower ball seats 28 and 29 which are arranged respectively above and below the top side 31 of the port 17. The ball seat 28 is formed as a shoulder in the passage 21 by increasing the diameter of the passage over the lower portion thereof, while the ball seat 29 is

provided by the top of a sleeve 32 inserted in the lower portion of the passage 21.

As will be clear from Figures 1 and 5, the ball will normally rest on the lower seat 29, so as to close the lower discharge end of the passage and in this position of the ball the latter is spaced somewhat from the top seat so as to allow vertical flow of liquid to the fountain head. In accordance with the present arrangement, the ball is so positioned as to retain its lower seated position at relatively low applied pressures and will automatically lift from its lower seat and engage the upper seat 28 at relatively higher applied pressures so as to limit the liquid discharge from the fountain head. In this manner, regardless of the applied pressure, only a predetermined liquid height may be obtained above the fountain head and yet the full discharge force of the faucet may be delivered from the lower end 23 of the vertical passage. In accordance with this operation of the device, the user in wishing to obtain water from the drinking fountain will only partially open the faucet valve, so as to apply only a relatively small liquid pressure in the intake passage 18. Should the user wish to obtain water for filling a basin or sink, or for other purpose, for which the faucet spout is normally intended, he will open the faucet valve to obtain a medium high pressure in the intake passage 18 which will cause the ball to automatically close the drinking fountain passage and open the spout discharge passage 23. To effect this automatic operation of the ball, the lower ball seat 29 is preferably positioned so as to elevate the center of the ball to approximately the top 31 of the port and preferably slightly above the top of the port. In this position of the ball the water is forced upwardly around the ball and at low liquid pressures the ball will retain its seat and permit liquid discharge from the fountain. As the liquid pressure and flow is increased the ball is rocked from its seat and upon further increase of pressure to overcome the weight of the ball, the latter is carried upward to engage the top seat 28. Preferably the chamber for the ball defined between the seats 28 and 29 is only a little larger than the ball so that the ball will be quickly moved through the chamber upon variations of liquid flow and pressure to accurately and automatically control the liquid discharge from the faucet. In this manner and as noted above, the ball and the chamber and seat arrangement provide an automatic pressure responsive means for providing a discharge of liquid from the fountain head only when the liquid is applied to the device at below a predetermined pressure, and will automatically close the fountain head and open the spout discharge passage when the liquid is applied to the device at above the aforesaid predetermined pressure. This arrangement is embodied in the forms of the invention illustrated in Figures 1 and 2 and in Figure 5.

As an additional feature in the embodiment of the invention illustrated in Figures 1 and 2, I provide for a manual adjustment of the position of the sleeve 23 so that the same may be raised in the passage 21 to engage the ball against the upper seat 28 to close off the liquid flow to the fountain. In this position of the sleeve the latter is provided with a side opening 33 which is adapted to register with the port 17 to receive water into the sleeve for downward discharge therethrough. Means for so adjusting the sleeve position here consists of a pin 34 threaded into the sleeve and extended through a spiral slot 36 in the periphery of the conduit 24. If desired, the pin may be provided with a spring 37 and a friction washer 38 pressed by the spring against the side of the portion 24 for holding the sleeve in its upwardly adjusted position. A flattening of the upper end 39 of the slot 36 will effect substantially the same result as the spring and friction washer. With the arrangement illustrated in Figures 1 and 2, the sleeve may be raised by rotating the pin 34 around the vertical conduit so that only a spout discharge into the basin or sink is obtained and on the other hand, when the sleeve is lowered to its first described position the device will automatically function to supply liquid to the drinking fountain and to the discharge spout at various pressures as above explained. The sleeve is illustrated in its upwardly adjusted position in Figure 2. In Figure 5 the adjustment of the sleeve is omitted and the latter is fixedly secured within the passage in the aforedescribed lower position of the sleeve.

A modified form of supporting means for the device to a faucet 11' has been illustrated in Figure 4, wherein the attachment member is provided with a body portion 41 of elastic material such as rubber, and formed with an opening 42 therethrough arranged for drawing over the end of the spout. Preferably the body portion 41 is provided with a seat 8' for the open end 9' of the spout, and is provided with a horizontal intake passage 18' leading from the seat and communicating with a side port 17' in a vertical conduit 24' carried in a vertical opening 43 of the elastic body 41. The conduit 24' is constructed internally with a vertical passage and wall valve as described in connection with the first embodiment. The subject matter of this modified form of the invention is described and claimed in my co-pending application Serial No. 313,869, filed January 15, 1940, for Drinking fountain attachment for faucets.

I claim:

1. A combination drinking fountain and spout for faucets comprising, a member having a fluid supply passage, a discharge passage having an upward discharge providing a drinking fountain, a second discharge passage having a downward discharge providing a faucet spout, a valve chamber communicating with said passages, a pressure responsive valve in said chamber operable to cause fluid discharge from said first discharge passage at relatively low fluid pressures and to automatically cause fluid discharge through said second discharge passage only at relatively higher fluid pressures, and manual control means for said valve operative to position said valve for closing said first discharge passage at said relatively low fluid pressures, and to communicate said supply passage with said second discharge passage.

2. A combination drinking fountain and spout for faucets comprising, a member having a vertical passage therethrough for discharging liquid from the top thereof for drinking and from the bottom thereof for normal faucet discharge and being provided with a side port intermediate said ends, a supply passage connected to said port, a ball seat formed in said vertical passage above said port, a sleeve mounted in the lower end of said vertical passage and adjustable longitudinally therein and providing a ball seat at the upper end thereof below the top of said port, and a ball mounted in said vertical passage between said ball seats and normally resting on the

lower of said seats, said lower seat being positioned to support said ball with the center of the ball over the center of the port whereby said ball will retain its seat at relatively low fluid pressures and cause fluid discharge from the upper end of said vertical passage and raise to said upper ball seat upon application of relatively higher fluid pressures.

3. A combination drinking fountain and spout for faucets comprising, a member having a vertical passage therethrough for discharging liquid from the top thereof for drinking and from the bottom thereof for normal faucet discharge and being provided with a side port intermediate said ends, a supply passage connected to said port, a ball seat formed in said vertical passage above said port, a sleeve mounted in the lower end of said vertical passage and providing a ball seat at the upper end thereof below the top of said port, a ball mounted in said vertical passage between said ball seats and normally resting on the lower of said seats, said lower seat being positioned to support said ball with the center of the latter over the center of said port whereby said ball will retain its seat at relatively low fluid pressures and cause fluid discharge from the upper end of said vertical passage and raise to said upper ball seat upon application of relatively higher fluid pressures, and manually operated means for raising said sleeve in said passage for positioning said ball against said upper seat, said sleeve being provided with an opening positioned to register with said port in the upwardly displaced position of said sleeve.

4. A combination drinking fountain and spout for faucets comprising, a member adapted for mounting on a faucet and providing a vertical passage therethrough for discharging liquid from the top end thereof for drinking and from the bottom end thereof for normal faucet discharge and being provided with a side port intermediate said ends, a supply passage connected to said port and adapted for connection to a faucet, ball seats in said vertical passage above and below the top of said port, and a ball mounted in said vertical passage between said seats and having a diameter less than said passage intermediate said ball seats to permit a free enclosed movement of said ball vertically between said seats and normally resting on the lower of said seats, said lower seat being positioned to normally cause liquid discharge from said port over the top of said ball and out of the upper end of said vertical passage at relatively small liquid flow and being positioned relative to said port to position the ball for elevation in said vertical passage to said upper seat to close off the upper end of said passage at relatively greater liquid flow, said upper seat being positioned to position the ball in its elevated position entirely removed over the top of said port whereby liquid may flow freely from said port through the lower end of said vertical passage.

5. A combination drinking fountain and spout for faucets comprising, a tube having an internal longitudinal passage and a side port communicating with said passage intermediate the opposite ends of the tube, conduit means connected to said tube and communicating with said port and adapted for mounting on a faucet for conveying liquid from the faucet to said port and supporting said tube in a vertical position of said passage, said tube being provided with an enlarged passage portion extending from the lower end thereof to above said port and defining an annular shoulder at the upper end of said enlargement, a sleeve mounted in the lower end of said vertical passage and positioned with the upper end thereof adjacent said port, and a ball mounted in said enlargement between the upper end of said sleeve and said shoulder and having a diameter less than said enlargement to permit free vertical movement of said ball between said shoulder and sleeve end and having a diameter greater than the passage area at said shoulder and sleeve end to cause a seating of said ball against said shoulder and sleeve when engaged therewith to seal the liquid flow from the upper and lower ends of the faucet, said sleeve end being positioned longitudinally to support said ball with the center of the ball above the center of said port whereby the ball will normally rest on said end at relatively small liquid flow and cause such flow to pass upwardly in said tube and out of the upper end thereof and to elevate said ball to said shoulder upon relatively greater liquid flow, said shoulder being positioned longitudinally to support said ball in the upper position thereof with the ball positioned completely over the top of said port whereby an unobstructed downward liquid flow from the port is permitted.

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