

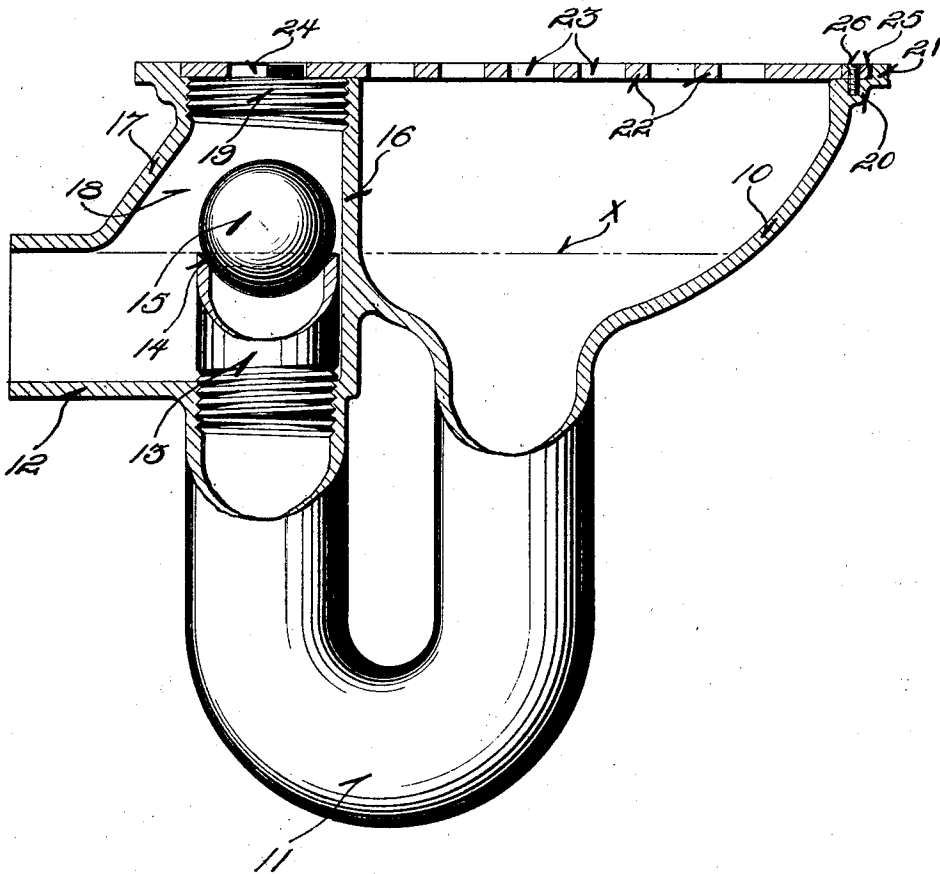
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TRAP

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UNITED STATES PATENT OFFICE.

THOMAS M. GLEASON, OF RACINE, WISCONSIN.

TRAP.

Application filed August 7, 1922. Serial No. 580,286.

To all whom it may concern:

Be it known that I, THOMAS M. GLEASON, a citizen of the United States, and resident of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Traps; and I do hereby declare that the following is a full, clear, and exact description thereof.

The invention relates to traps adapted to prevent the removal of water from a siphon and to prevent back flow therethrough.

It consists of a siphon provided with a ball valve and a valve seat, an air space being provided above the ball, the valve seat determining the level of water in the siphon.

It is the object of the invention to provide a structure that will permit the free flow of drainage and yet which will prevent the removal of all liquid from the siphon. Ordinarily where the siphon is drained, noxious gases are permitted to escape. The device is designed to prevent the emission of gases, even on the removal of liquid from the siphon, which at times is brought about by evaporation. The trap further functions to prevent back flow thru the siphon which has heretofore resulted from a backing up of the sewage.

It is a further object of the invention to provide a construction which is simple and easy to manufacture, the parts of which are few in number and readily assembled.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claim, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claim.

In the accompanying drawing, is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

The figure is a vertical section thru the device showing the siphon in full.

Bowl 10 is continuous with U-shaped siphon 11, depending therefrom, from one arm of which an outlet tube 12 is laterally directed. The siphon is threaded at its point of juncture with tube 12 to receive a

nipple 13 which is substantially cylindrical in shape and extends upwardly having a bevelled end forming a valve seat 14 for the reception of ball 15. Continuous with siphon 11 is an inner wall 16, and the outer wall 17 extending from tube 12 upwardly is inclined, so that an enlarged air space 18 is formed immediately above ball 15. A plug 19 is threaded into the upper ends of walls 16 and 17 which form a substantially cylindrical portion in which the plug is positioned. Bowl 10 is provided with a horizontal shoulder 20, bordered by an upstanding flange 21. A cover 22, provided with flanges 23, rests on the shoulder and contacts along its entire edge with flange 21.

The cover is provided with a square opening adapted to fit over a square projection 24 on plug 19, and also has an ear 25 secured by screw 26 to shoulder 20. Cover 22 is provided when the trap is used for floor drains. It is not, however, limited to this specific application, but is useful also in wash basins, ice boxes, bath tubs and the like.

In the operation of the device, liquid flows thru openings 23 into bowl 10 and thru the siphon 11, lifting ball 15. The dimensions of the air space 18 and outlet tube 12 are such that on the lifting of the ball 15, a free and unimpeded flow of the fluid is permitted. Heretofore the outflow of water has oftentimes resulted in the drainage of the siphon, thus permitting the escape of noxious gases. In the novel construction, this defect is eliminated, as the provision of air space 18 results in a breaking of the vacuum and prevents the withdrawal by suction of liquid in the siphon. The normal level of water in the siphon is indicated by the reference character X. The provision of ball 15 tends also to prevent the withdrawal of liquid from the siphon. When the liquid in bowl 10 reaches the level X, the pressure developed against the ball tending to lift it, is so low that the ball is permitted to seat on nipple 13. Wall 16 and adjacent parts are such as to guide the ball properly into position on the nipple.

Heretofore the evaporation of liquid in the siphon has permitted the escape of gases therethrough. As ball 15 rests normally on tube 13, all possibility of such a result is eliminated. It will be apparent that back flow thru the siphon resulting from

a backing up of the sewage is prevented by the action of ball 15 which checks all outflow thru nipple 13.

It is apparent that the parts of the device are readily assembled, nipple 13 being screwed into position, as is also plug 19. When it is desired to clean the trap, the cover, plug 19 and ball 15 are removed which gives access at once to tube 12, nipple 13 and siphon 11.

Claim:

A device of the class described comprising a bowl, a U-shaped pipe having one arm integral with said bowl and the other arm opening into a casing integrally joined to the side of said bowl, said last mentioned

arm being internally threaded, a nipple having a threaded lower portion screwed into the internally threaded portion of said pipe, a ball adapted to seat upon the upper portion of said nipple, a removable plug carried by said casing immediately above said ball, said casing and nipple cooperating to prevent said ball from passing from said casing, and a perforated cover closing said bowl and partially covering said plug.

In testimony that I claim the foregoing I have hereunto set my hand at Racine, in the county of Racine and State of Wisconsin.

THOMAS M. GLEASON.