April 9, 1929. D. A. DEACON 1,708,380

DRAINAGE FIXTURE

Filed April 9, 1927 2 Sheets-Sheet 1

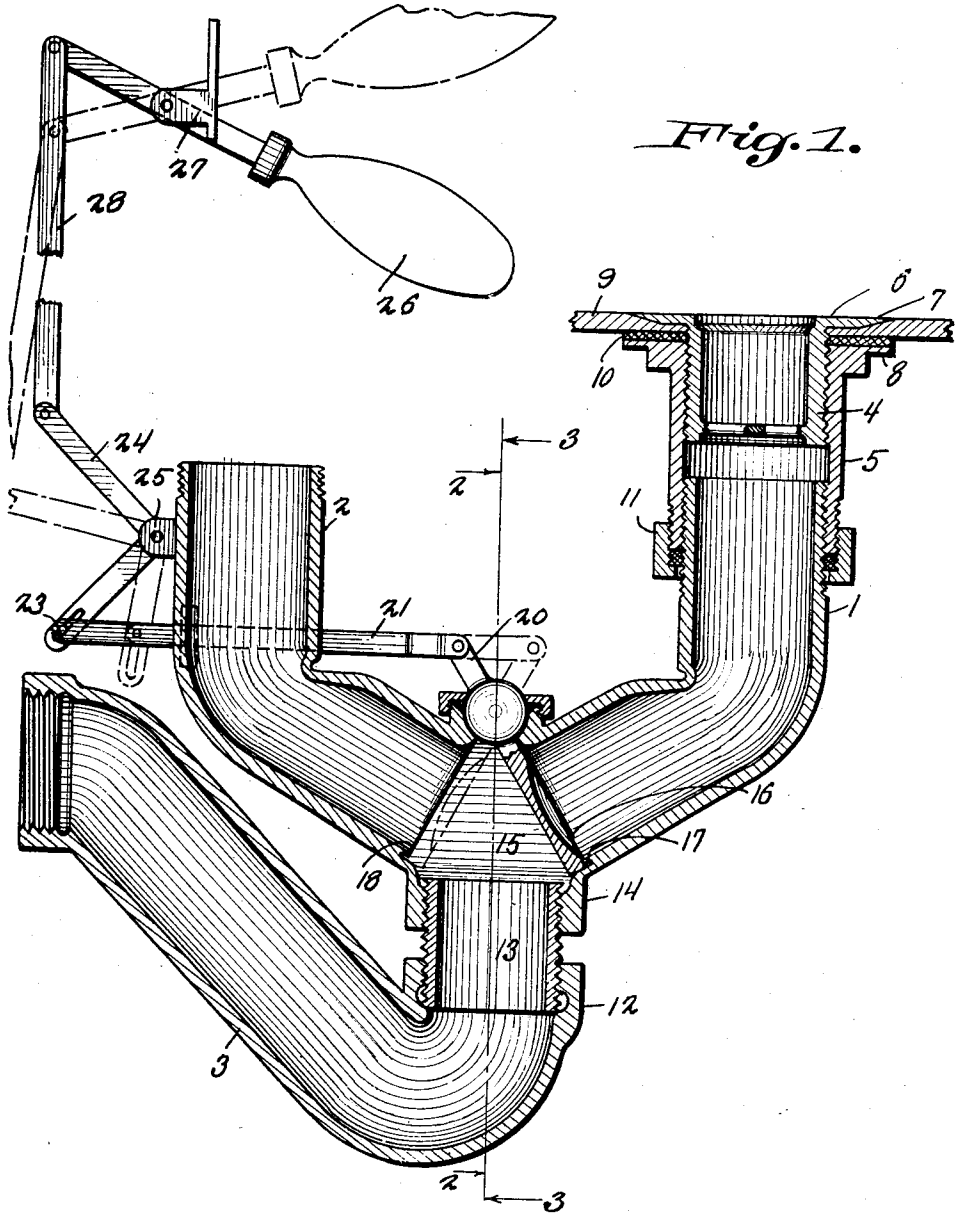


Fig. 1.

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Filed April 9, 1927 2 Sheets-Sheet 2

Fig. 2.

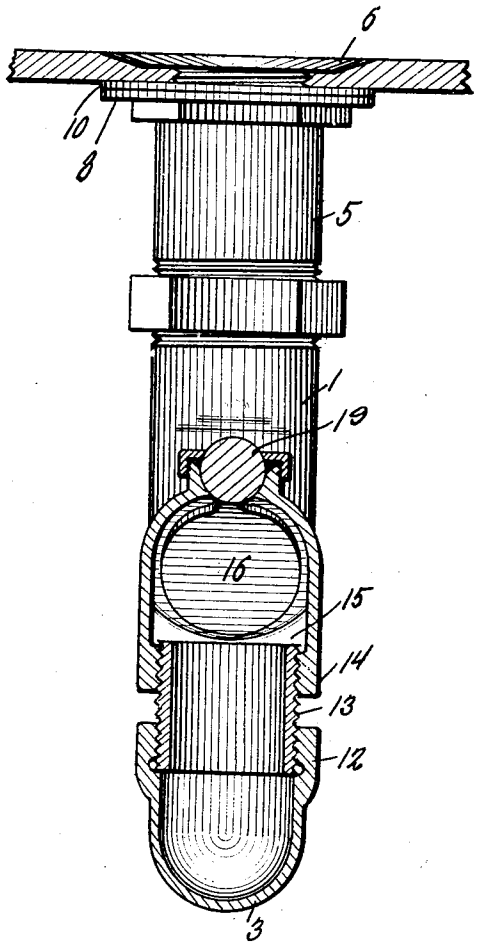
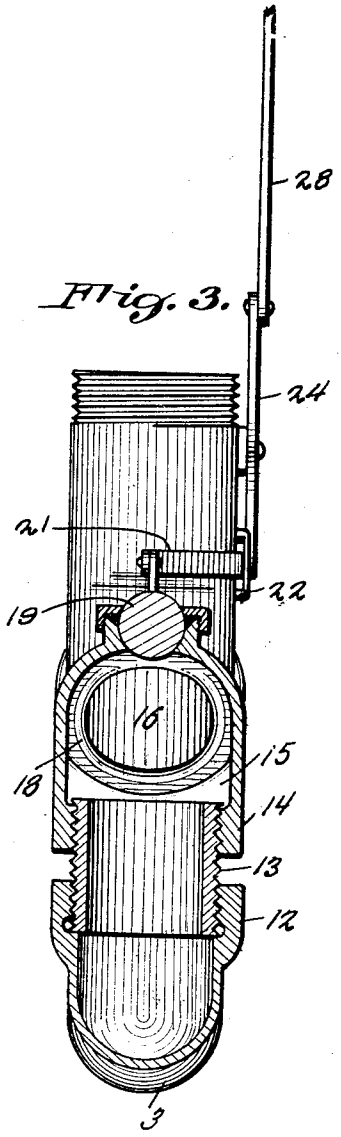


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL A. DEACON, OF SAN DIEGO, CALIFORNIA.

DRAINAGE FIXTURE.

Application filed April 9, 1927. Serial No. 182,489.

This invention relates to a drainage fixture, and has for its primary object a construction whereby the same may be entirely arranged below the floor and operate to positively eliminate the usual sucking of air characteristic of similar devices now on the market.

An object of the invention is the designing and connection of the parts so as to have a predetermined straight drop to accelerate the flow of the water and then discharge the water through the trap at the proper inclination to create a complete cleaning of the inner walls of the fixture.

Another object of the invention is the provision of a construction wherein the full capacity of the waste pipe may be utilized in the discharging of the water due to the fact that air will not be drawn through this pipe in the discharge of the water.

Still another object of the invention is the novel manner of constructing and arranging the overflow and waste pipes so that the valve structure cooperating therewith may selectively close either of said pipes and, when in closing position, will not interfere with the free flow of water from the under structure pipe.

A feature of the invention is the novel manner of arranging the valve mechanism so that the full capacity of the overflow may be utilized and in such a manner that the same is noiseless in its operation.

Besides the above, my invention is distinguished in the construction of a fixture that is self-cleaning and sanitary in every respect and one constructed of very few parts effectively secured together.

With these and other objects in view, my invention will be better understood from a description of the invention taken in connection with the accompanying drawings, wherein:—

Figure 1 is a vertical sectional view of the fixture;

Figure 2 is a sectional view on the line 2—2 of Figure 1 looking in the direction of the arrow;

Figure 3 is a similar view looking in the direction of the arrow.

Again referring to the drawings illustrating one of the many constructions of my invention, the numerals 1 and 2 designate respectively the waste pipe and overflow pipe, directly below which is arranged the drain trap 3 extending at a predetermined angle to facilitate the flow of the water. The overflow pipe 2 is connected to a bath-tub or other suitable structure in the usual manner to receive water when the level of the latter has reached a predetermined height, whereas the pipe 1 is secured to a special construction of connector 4. This connector comprises the coupling 5 screw-threaded to the pipe 1 and to the drain member 6 threaded to the coupling 5 and having a flange 7 cooperating with the flange 8 of the coupling to clamp the connector to the wall 9 and compress the gasket ring 10 arranged therebetween.

To complete the construction, I provide the gasket nut 11 threaded to the coupling to provide the necessary liquid-tight connection. The drain trap 3 is provided with a threaded hub 12 connected by the nipple 13 to the threaded hub 14 that connects the pipes 1 and 2 together and provides the chamber 15.

As far as I have proceeded, it will be noted that the pipes 1 and 2 are connected together to discharge at an angle to each other and in an angular direction with relation to the drain trap so that flow of the water is facilitated and complete cleaning of the interior walls assured. The design and capacity of the chamber 15 is such as to allow the flap valve 16 to have its proper movement to selectively close either of the pipes 1 or 2 and, when in closing position, to allow free unobstructed flow of water through the unobstructed pipe. Attention is called to the fact that when the flap valve is in obstructing position, the surface thereof is arranged at an inclination to the direction of flow of water through the unobstructed pipe so that water striking thereupon will be directed in a direction toward the drain trap.

This flap valve, which may be of any suitable construction and operated by any suitable mechanism, has a liquid-tight engagement with the valve seat 17 of pipe 1 but its engagement with the valve seat 18 is such as to allow a slight amount of water to pass therearound when the valve is seated. This provides a certain amount of flow through the trap to accumulate behind the flap valve to prevent any tendency to create a vacuum.

One construction of mechanism for supporting and operating the flap valve is shown in the drawings as consisting of a

ball and socket joint 19 mounted at the intersection of pipes 1 and 2 and including an arm 20 pivotally connected to a slide 21. This slide 21 is passed through a guide 22 on the side of pipe 2 and has a pin and slot connection 23 with a bell crank lever 24 also pivotally connected to the pipe 2, as shown at 25. A handle 26 is pivotally connected to a bracket 27 to be arranged in convenient reach of an operator and this handle 26 is flexibly connected to the bell crank 24 by the link 28.

It will now be appreciated that I have designed and constructed a drain fixture that is positive in its operation, that does not in any way interfere with the full capacity flow and is self-cleaning and one which may be easily operated by the simple manipulation of a handle arranged within convenient reach.

Of course, it is to be understood that the various parts may be designed and constructed in various other ways and assembled in other relations and, therefore, I do not desire to be limited in any manner except as set forth in the appended claims.

I claim:—

1. A drainage fixture comprising a Y waste head including a first branch for connection to an overflow from a fixture, a second branch for connection to a waste line from said fixture, and a third branch for connection to a discharge line for said head, opposite valve seats in the fork of said head at the overflow branch and at the waste branch, a control valve mounted intermediate said waste and overflow branches and hinged at the crotch of said head and arranged to seat against either of said seats so as to place either said waste branch or said overflow branch in communication with said discharge branch, and manually actuable operating means to move said valve at will to either closed position, said valve seating against the normal flow from the overflow and waste line to their branches.

2. The combination of a plumbing fixture, a drainage fixture comprising a Y waste head including a first branch connected to an overflow from said plumbing fixture, a second branch connected to a waste line from said fixture, and a third branch for connection to a discharge line for said head, opposite flat valve seats in the fork of said head at the overflow branch and at the waste branch, a flat valve at the fork of said head pivotally mounted at the crotch so as to be seated upon either of said seats for placing either said waste branch or said overflow branch in communication with said discharge branch and to divert the stream of water and flush the valve face, and operating means to move said valve at will to either closed position, said valve seating against the normal flow from the overflow and waste line to their branches.

3. In the combination with a plumbing fixture having an overflow and a waste, a drainage fixture comprising a Y waste head, a first branch connected to an overflow, a second branch connected to said waste, and a third branch for connection to a discharge line for said head, opposite valve seats in the fork of said head at the overflow branch and at the waste branch, a control valve mounted intermediate said waste and overflow branches arranged to seat against either of said seats so as to place either said waste branch or said overflow branch in communication with said discharge branch.

In testimony whereof I affix my signature.

DANIEL A. DEACON.