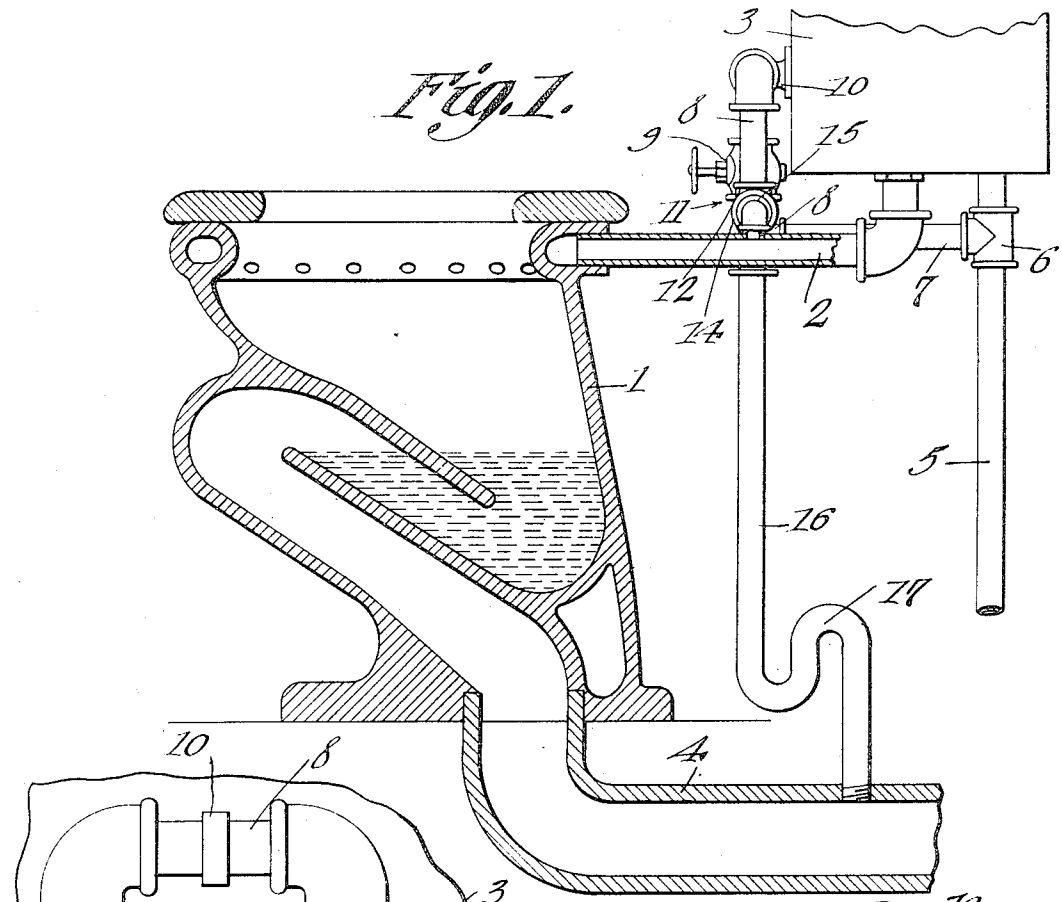
E. E. DUFF.

CLOSET ATTACHMENT.

APPLICATION FILED AUG. 14, 1914.

1,137,196. Patented Apr. 27, 1915.

Fig. 1.



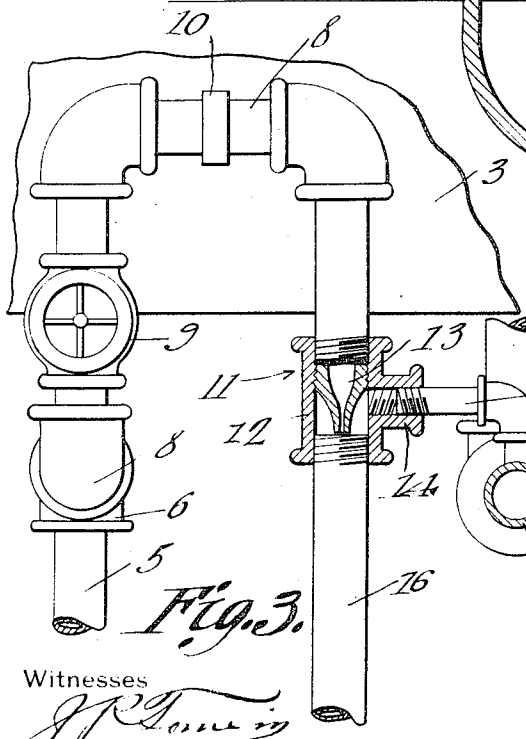


Fig. 3.

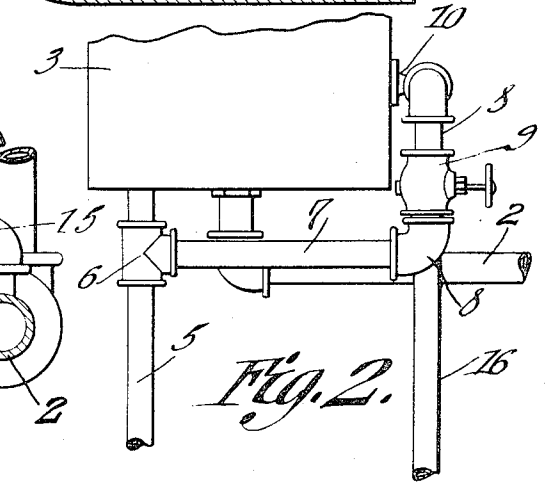


Fig. 2.

Witnesses

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CLOSET ATTACHMENT.

1,137,196. Specification of Letters Patent. Patented Apr. 27, 1915.

Application filed August 14, 1914. Serial No. 856,832.

To all whom it may concern:

Be it known that I, EDWARD E. DUFF, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Closet Attachment, of which the following is a specification.

The present invention appertains to a closet attachment, and aims to provide a novel and improved attachment for water-closets, which is adapted to eject or expel the foul gases from the bowl.

The present invention contemplates the provision of a device of the character indicated, which may be attached to the water supply pipe of the flushing tank, the flushing pipe leading from the tank to the bowl, and the discharge or waste pipe of the bowl, whereby the present device or attachment will effectively serve its intended purpose, the same having means whereby the gases may be drawn from the bowl by the action of a jet of water, and whereby the water and gas will be discharged into the waste pipe.

It is also within the scope of the present invention, to provide a device for withdrawing and ejecting the foul gases from a bowl or latrine, which device will be comparatively simple and inexpensive in construction, which may be readily applied to various water-closets, and which will be practical and efficient in its use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in its preferred embodiment in the accompanying drawing, wherein:—

Figure 1 is a side elevation of the attachment as applied, parts being shown in section. Fig. 2 is a fragmental side elevation of the attachment looking from the opposite direction. Fig. 3 is a fragmental enlarged front view of the attachment, with the ejector illustrated in section.

In the drawings, there is designated an ordinary bowl or latrine 1, which has its upper portion connected by means of the usual horizontally extending flushing pipe 2 with the bottom of the flushing tank 3 disposed in rear of the bowl, the waste pipe 4 being attached to the lower outlet of the bowl 1, and an upwardly extending water supply pipe 5 being connected to the bottom of the water tank 3 in the usual manner. The said parts are to be merely taken as conventional, inasmuch as they vary, and inasmuch as the present device may be attached to various water-closets.

In carrying out the present invention, a T-coupling 6 is interposed in the water supply pipe 5, and a forwardly projecting pipe 7 is threaded into the arm or branch of the coupling 8, and projects slightly beyond the front side of the tank 3. An inverted U-shaped pipe 8 has one limb attached to the forward end of the pipe or branch 7, and is disposed in front of the tank 3, the said limb of the pipe 8 having a suitable hand controlled valve 9 interposed therein for controlling the passage of water from the supply pipe 5 through the present device. The pipe 8 is preferably supported by means of a bracket 10 embracing the crest or upper portion thereof and attached to the front side of the tank 3.

An ejector or siphoning device 11 is attached to the lower end of the other limb of the pipe 8, and embodies an upright T-coupling or casing 12 having its upper end engaged to the lower end of the respective limb of the pipe 8, and a nipple or nozzle 13 having its butt end threaded within the coupling or casing 12 above its arm or branch 14 and having its tip projecting downwardly past the said arm or branch as clearly seen in Fig. 3.

The arm or branch 14 of the coupling or casing 12 of the ejector has threaded thereinto, an eduction pipe 15 which is in turn threaded or engaged through the top of the flushing pipe 2.

A discharge pipe 16 is threaded or otherwise engaged into the lower end of the casing or coupling 12, and has its lower end engaged through the top of the waste pipe 4, the pipe 16 being preferably provided with a double bend or trap 17 for preventing the foul gases from rising through the pipe 16 from the waste pipe 4, as will be obvious.

The present device is of simple and inexpensive construction, the same being mainly formed of piping, elbows and T-couplings,

and it will be evident that the present device or attachment may be readily applied to the water supply pipe 5, the flushing pipe 2 and waste pipe 4.

In operation, when the closet is occupied, the valve 9 may be readily opened, which will permit the water to flow from the supply pipe 5 through the pipe or branch 7 and the pipe 8 into the ejector of siphoning device 11. Thus, the water being discharged through the nipple or nozzle 13 downwardly into the discharge pipe 16, will tend to create a vacuum within the casing or coupling 12, and as a result the suction created will extend through the eduction pipe 15 and flushing pipe 2 to the bowl or latrine 1. It will be evident that the flushing pipe 2 is ordinarily empty, so that the suction created by the ejector 11 would draw the foul gases from the bowl or latrine 1, and the gases will be discharged through the pipe 16 into the waste or discharge pipe 4. The withdrawal of the gases from the bowl will continue as long as the valve 9 is open, and the present device or attachment will not interfere with the siphonic action when the bowl 1 is flushed in the usual manner. Thus, when the water is permitted to flow from the tank 3 through the flushing pipe 2 into the bowl 1, to start the siphonic action, the pipe 2 being filled with water will prevent air being taken in through the present device, which would be liable to break the siphon within the trap or siphon of the bowl 1 and the waste pipe 4. It is preferable to close the valve 9 as soon as the bowl 1 is flushed, to bring the present device out of operation by shutting out the flow of water to the present device from the supply pipe 5. It will also be noted that the trap 17 will ordinarily be filled with water, when the present device is idle, to prevent the gases rising from the waste pipe 4 through the present device and into the bowl 1.

From the foregoing taken in connection with the drawing, the advantages and capabilities of the present device will be obvious to those versed in the art, it being understood that the present device may be altered in its details in adapting it to various closets and to various environments.

Having thus described the invention, what is claimed as new is:—

In a water closet, the combination with a bowl, a waste pipe for the bowl, a flushing tank in rear of the bowl, a horizontally extending flushing pipe connecting the bottom of the tank and the upper portion of the bowl, and an upwardly extending water supply pipe connected to the bottom of the tank, of a forwardly projecting branch connected to the supply pipe, an inverted U-shaped pipe disposed in front of the tank and having one limb connected to the front end of the said branch, one limb of the said U-shaped pipe having a valve, a bracket attached to the front of the tank and having means engaging the crest portion of the U-shaped pipe to support the same, an ejector embodying an upright T-casing and a nozzle having its butt end secured therein above the arm thereof and having its tip projecting downwardly past the said arm, the upper end of the casing being engaged to the lower end of the other limb of the U-shaped pipe, an eduction pipe connected to the arm of the casing and the top of the U-shaped pipe, and a discharge pipe connected to the lower end of the said casing and the waste pipe.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD E. DUFF.

Witnesses:
JOHN BURROWS,
D. I. ORME.