July 7, 1936. T. HARRIS 2,047,067

AIR CONDITIONER FOR BATHROOMS

Filed June 4, 1935 2 Sheets-Sheet 1

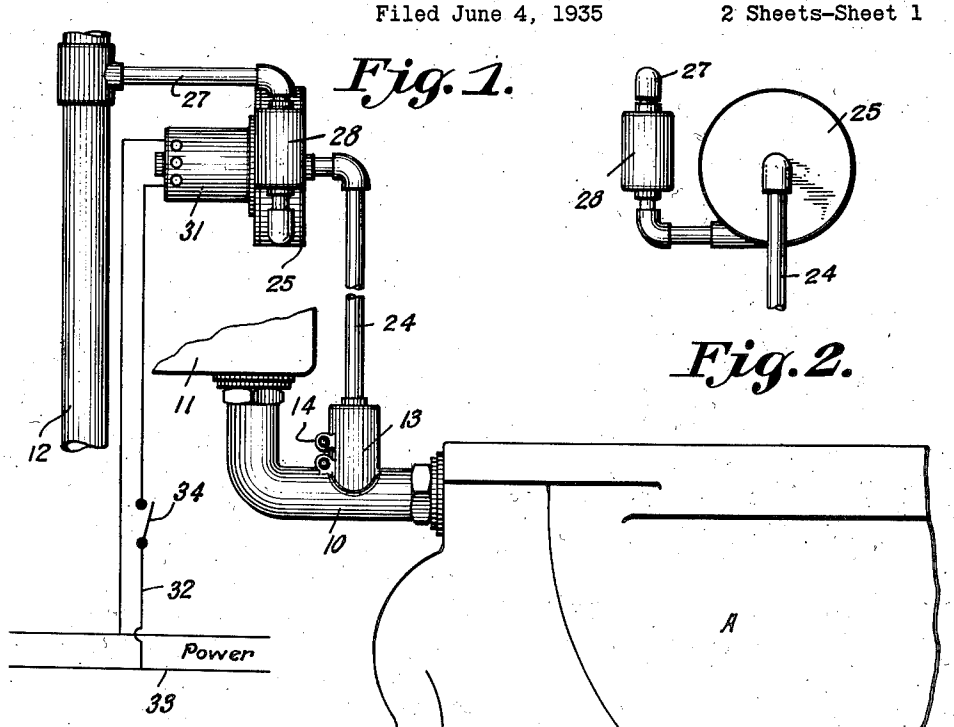


Fig. 1.

Fig. 2.

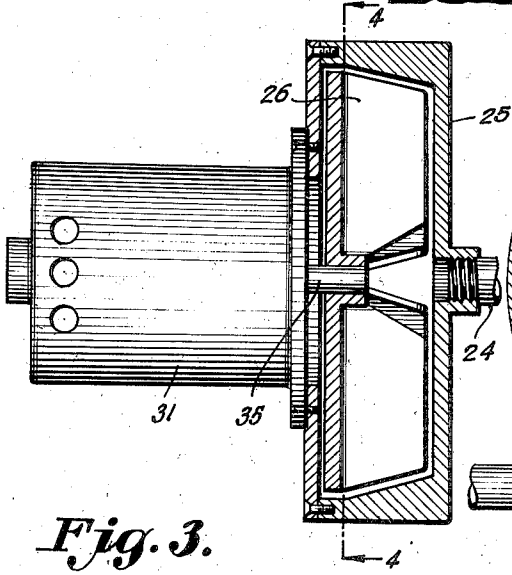


Fig. 3.

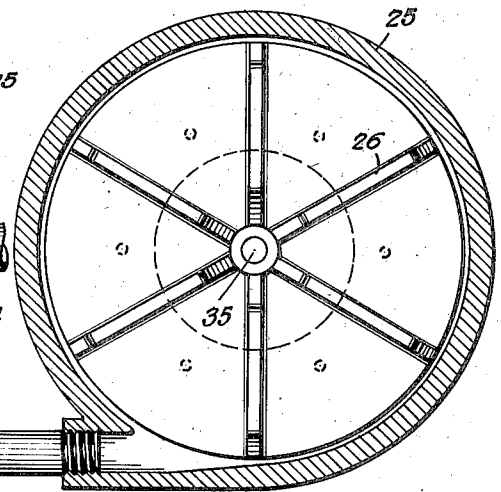


Fig. 4.

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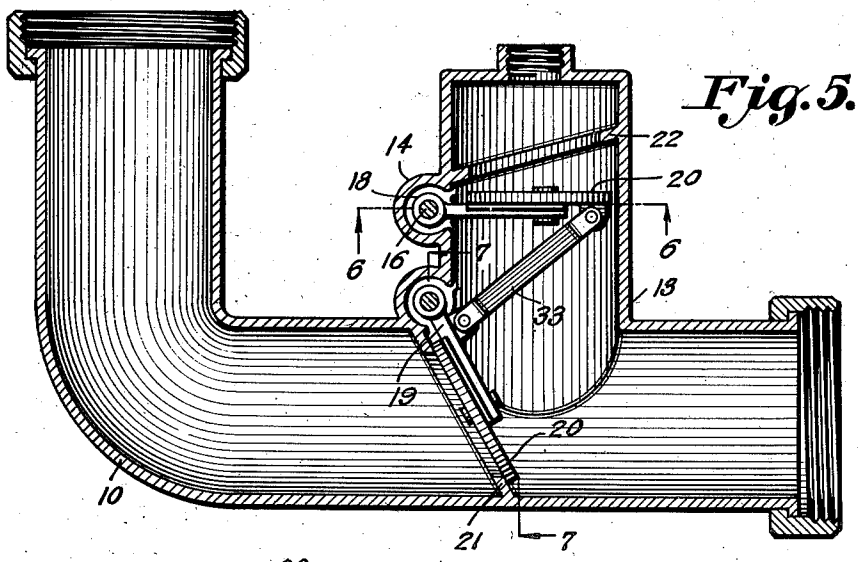


Fig. 5.

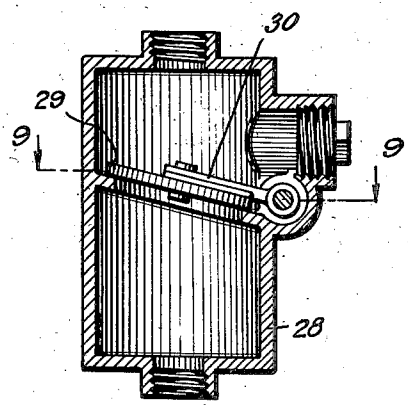


Fig. 8.

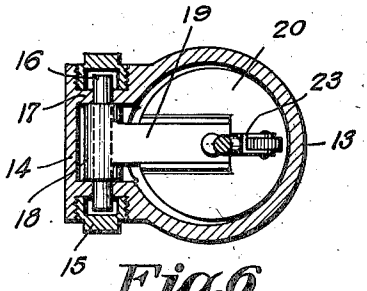


Fig. 6.

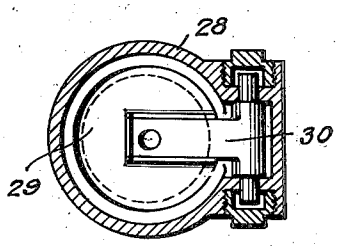


Fig. 9.

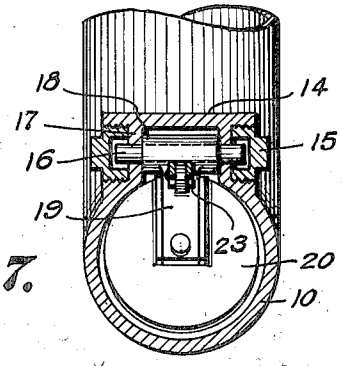


Fig. 7.

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Patented July 7, 1936 2,047,067

UNITED STATES PATENT OFFICE

2,047,067

AIR CONDITIONER FOR BATHROOMS

Thompson Harris, Lexington, Ky.

Application June 4, 1935, Serial No. 24,919

3 Claims. (Cl. 4—213)

The invention relates to a ventilating attachment for toilets and more especially to air conditioners for bathrooms.

The primary object of the invention is the provision of a device of this character, wherein a toilet bowl will be thoroughly ventilated in that the communication between it and the vent pipe has arranged therein a suction fan which when operated will remove foul air and thus condition a bath-room.

Another object of the invention is the provision of a device of this character, wherein the motor for driving the fan is included in the house wiring system and the circuit thereto is controlled by a hand switch so that the fan can be turned on as may be required, the device when in use assures sanitary conditions and a purification of the air within a lavatory.

A further object of the invention is the provision of a device of this character, which is comparatively simple in its construction, thoroughly reliable and efficient in operation, compact to avoid the occupying of a large space, durable, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a fragmentary side elevation of a lavatory bowl and adjuncts showing the device constructed in accordance with the invention in association therewith.

Figure 2 is an end elevation of the fan casing.

Figure 3 is an enlarged transverse sectional view thereof.

Figure 4 is a vertical sectional view through the same taken on the line 4—4 of Figure 3 looking in the direction of the arrows.

Figure 5 is an enlarged longitudinal sectional view through the flush elbow for the lavatory.

Figure 6 is a sectional view on the line 6—6 of Figure 5 looking in the direction of the arrows.

Figure 7 is a sectional view on the line 7—7 of Figure 6 looking in the direction of the arrows.

Figure 8 is a vertical longitudinal sectional view through the valve casing communicative with the vent pipe.

Figure 9 is a sectional view on the line 9—9 of Figure 8 looking in the direction of the arrows.

Referring to the drawings in detail, A designates generally a portion of a lavatory bowl which is of a standard construction having connected therewith a flush elbow 10 joined with a flush tank, a portion of the same being indicated at 11 while 12 is indicative of the vent pipe common in lavatory equipment.

The flush elbow 10 has built therewith a valve casing 13 which rises vertically therefrom and is formed at its rearmost portion with hinge pockets 14 for accommodating screw threaded removable capping plugs 15 concealing the ends of a hinge pivot 16 which is journaled in the vertical webs 17 of said casing 13. The hinge pivot 16 has fitted thereon the pintle sleeve 18 of a hinge extension 19 carrying a disk valve 20. The flush elbow 10 and the valve casing 13 have formed therein the angularly disposed valve seats 21 and 22, respectively, for the engagement therewith of the valves 20, one being within the elbow and the other within the casing 13. These valves 20 are pivotally associated with a connecting link 23 which is of a length to cause one valve to close and the other valve to open alternately. It will be apparent from Figure 5 of the drawings that when the valve 20 which is normally closed in the elbow 10 is automatically opened on the flushing of the bowl A and simultaneously the valve 20 in the casing 13 will close to prevent the rise of water therein. When the valve 20 in the elbow 10 closes the valve 20 in the casing 13 opens so that foul air within the bowl can rise and pass through the casing 13 thence through a connecting pipe 24 into a fan casing 25 having therein the rotatable suction fan 26 and finally through the connecting pipe 27 with said fan casing 25 and the vent pipe 12 to the latter where the foul air will discharge to the atmosphere.

The pipe 27 has fitted therewith a valve casing 28 in which is arranged a return check valve 29 of the disk type and swingingly hinged at 30 similarly to the valves 20. This valve 29 checks the return of the foul air from the vent pipe 12 to the bowl.

Attached to the fan casing 25 is an electric motor 31 arranged in a circuit 32 common to the house wiring system 33 and this circuit also includes a hand switch 34 for the opening and closing of said circuit. The switch 34 is arranged conveniently to the flush tank 11 so that it can be manually controlled without inconvenience to a user of the device. The motor 31 has its driving shaft 35 joined with the axle of the fan 26 and such fan is driven thereby.

On the operating of the same any foul air within the bowl A will be sucked therefrom or drawn

from within the same into the vent pipe 12 and finally discharged to the atmosphere. Thus in this manner a lavatory having a bowl A is rendered sanitary and foul air dissipated therefrom.

What is claimed is:

1. In a device of the kind described an elbow pipe for connection with a lavatory bowl and a flush tank and having a valve casing on one of its branches, valve seats formed interiorly of said pipe and casing, respectively, swinging valves coacting with said seats, connections between the valves for the alternate opening and closing action of said valves in unison with each other, motor operated suction means for communication with said casing and with a vent pipe, and a valve operating in the connection between the suction means and said vent pipe to automatically check the return flow from the latter and permitting discharge from said suction means.

2. In a device of the kind described an elbow pipe for connection with a lavatory bowl and a flush tank and having a valve casing on one of its branches, valve seats formed interiorly of said pipe and casing, respectively, swinging valves coacting with said seats, connections between the valves for the alternate opening and closing action of said valves in unison with each other, motor operated suction means for communication with said casing and with a vent pipe, a valve operating in the connection between the suction means and said vent pipe to automatically check the return flow from the latter and permitting discharge from said suction means, and a manual control for the motor of said suction means.

3. In a device of the kind described an elbow pipe for connection with a lavatory bowl and a flush tank and having a valve casing on one of its branches, valve seats formed interiorly of said pipe and casing, respectively, swinging valves coacting with said seats, connections between the valves for the alternate opening and closing action of said valves in unison with each other, motor operated suction means for communication with said casing and with a vent pipe, a valve operating in the connection between the suction means and said vent pipe to automatically check the return flow from the latter and permitting discharge from said suction means, a manual control for the motor of said suction means, and means for removal of mounts for said valves.

THOMPSON HARRIS.