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ANTI-NOISE AND ANTI-SPLASH ATTACHMENT FOR A TOILET BOWL

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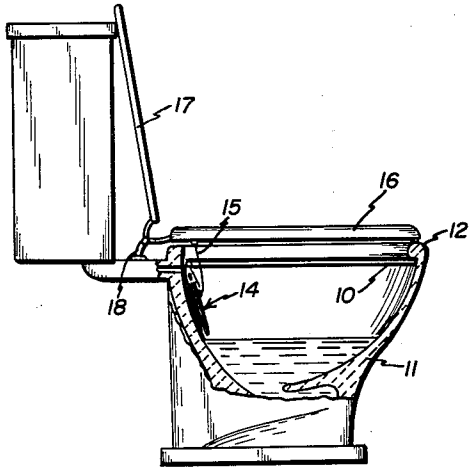


Fig.-1

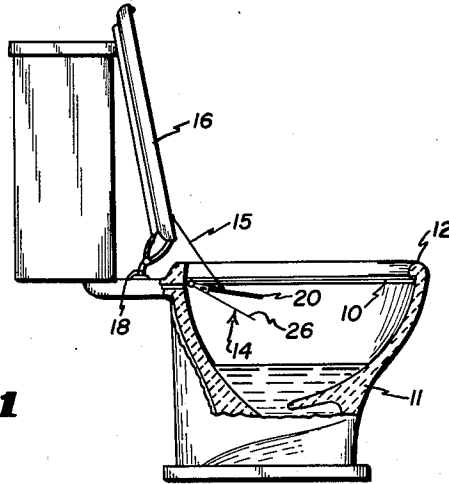


Fig.-2

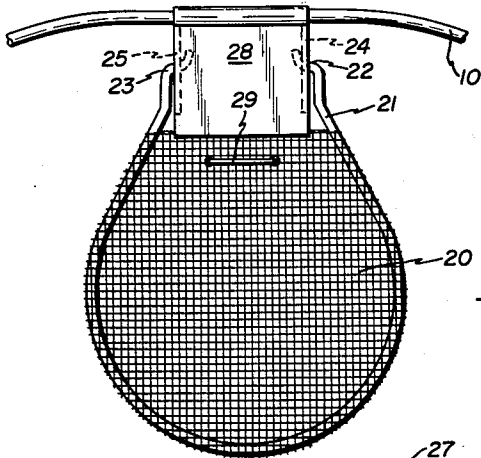


Fig.-3

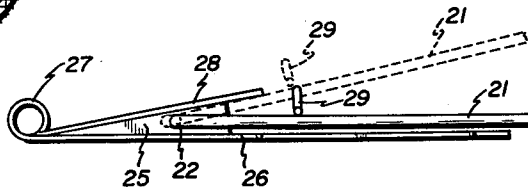


Fig.-4

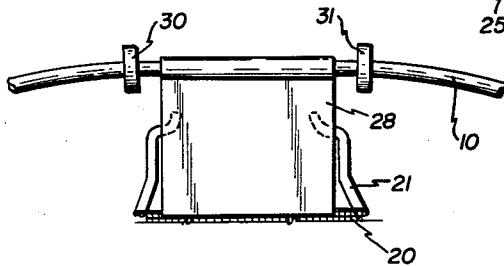


Fig.-5

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ANTI-NOISE AND ANTI-SPLASH ATTACHMENT FOR A TOILET BOWL

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9 Claims. (Cl. 4--1)

This invention relates to a toilet screen and baffle, and more particularly to an automatically positioning screen and baffle for toilet bowls when used as a male urinal.

A principal object of the invention is to provide a toilet bowl screen and baffle which is automatically lifted into usable position when the toilet seat is raised to an upright position, so as to eliminate unsanitary splatter and embarrassing noise encountered when a toilet bowl is used as a male urinal.

Another object of the invention is to provide a screen and baffle which pivots downwardly and is seated against the rear, inner side of the toilet bowl, when the seat is in lowered position, so that the screen and baffle does not obstruct the passage of solid materials and to be positioned to be subjected to washing and cleansing by the flushing water of the toilet.

A further object of the invention is to provide a combined baffle and screen which is automatically spaced a predetermined distance apart so that a stream of fluid directed against the screen is broken up and distributed without splatter and without noise into the toilet bowl.

A still further object of the invention is to provide a screen and baffle assembly for a toilet bowl which is easily and quickly assembled with and disassembled from a toilet bowl.

These and other objects and advantages of the invention may be readily ascertained by referring to the following description and appended illustrations in which:

Fig. 1 is a side elevational view, in partial section, illustrating the positioning of the baffle and screen assembly, according to the invention, mounted in a toilet bowl in an inoperative position;

Fig. 2 is a side elevational view, in partial section, of the device of the invention mounted in a toilet bowl in operative position;

Fig. 3 is a top plan view of the screen assembly according to the invention;

Fig. 4 is an enlarged detailed view of a screen and baffle assembly according to the invention illustrating the spacing means for the screen and the baffle; and,

Fig. 5 is a detailed plan view of a modified arrangement of the screen and baffle of the invention mounted on a retainer.

In the device illustrated, a retainer or clamp 10, which is a resilient, C-shaped wire member, is arranged to be mounted internally of a toilet bowl 11 and be retained under the bowl lip 12. A screen and baffle assembly 14, explained in detail below, is secured to the C-clamp so as to be positioned at the rear of the bowl, and is connected by means of a connecting member 15 to the toilet seat 16. The toilet seat 16 may be any commonly used type, which may, in general, include a cover 17 mounted jointly on a hinge 18.

The screen and baffle assembly includes a rounded screen 20 mounted on a wire frame 21 which extends around the periphery of the screen and terminates at two spaced apart ends 22 and 23. The ends 22 and 23

have inwardly directed portions which extend into holes in adjacent sidewalls 24 and 25, respectively, of a baffle member 26. The ends 22 and 23 are arranged for pivotal movement in the holes. The baffle member, of the same general shape as the screen, terminates at a flattened side in a loop 27 which is arranged for securing on the C-clamp 10 as a hinge for the assembly. A stop plate 28 is secured to the sidewalls 24 and 25 and provides means for automatically spacing the screen 21 from the baffle 26, as illustrated in dashed lines in Fig. 4. A loop 29 is secured to the screen at a rear position for connection to the connecting member 15. A slight reverse bend on each end of the bent-in portions of the ends 22 and 23 of the wire frame serve to secure the frame in the sidewalls 24 and 25.

The modification illustrated in Fig. 5 provides for the use of stops 30 and 31 mounted on the C-wire 10 to prevent lateral movement of the screen and baffle assembly mounted thereon. These stops are spaced apart to permit free pivotal movement of the assembly about the retainer, and prevent the hinge assembly from impinging on the bowl wall.

In use the device is mounted in the bowl by inserting the C-ring under the lip 12 with the screen and baffle assembly mounted at the rear portion of the bowl. The connecting member 15 is secured to the toilet seat and the length thereof being maintained sufficiently long so that when the toilet seat is in upright position, the screen 20 is extended outwardly and at a slight downward angle with the baffle 26 at a slightly greater downward angle. In this position when the seat is up the screen and bowl are separated the predetermined distance apart determined by the distance at which the stop plate 28 is spaced from the baffle 26. When the toilet seat is lowered, the screen and baffle assembly pivots about the C-wire to a downward position resting against the back side of the bowl. Flush water from the upper water inlets washes and rinses the screen and baffle assembly maintaining it fresh and sanitary. Also, the lowered position maintains the screen and baffle assembly out of the way so as to not obstruct passage of any solid material into the bowl.

The unit may be built directly into the bowl, in which case the retainer would be replaced by a built in loop or pivot to hold the screen and baffle assembly. The screen and baffle assembly may, of course, be made of suitable metal resistant to corrosion, plastic and the like. The shape and size may be varied to suit various conditions and bowls.

While the invention has been illustrated by reference to a particular device, there is no intent to limit the spirit or scope of the invention to the precise details so set forth, except insofar as defined in the following claims.

I claim:

1. A device of the character described comprising a plate member, a screen member superimposed over the plate member and hingedly assembled thereto, means for limiting swinging movement therebetween to a predetermined distance apart and permitting the two members to move together into contact, means for hingedly mounting the plate and screen assembly in a toilet bowl with the hinge thereof adjacent the lip of the bowl with the plate and screen member extending centerwise, and means connecting the plate and screen assembly to the toilet seat whereby lifting the seat moves the assembly into extended operable position with the screen and plate spaced apart and lowering the seat moves the assembly against the rear wall of the bowl in an inoperable position with the screen and plate together.

2. A device according to claim 1 in which the means connecting the assembly with the seat includes a flexible

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elongated member connected to the seat at one end and to the screen of the assembly at the other end.

3. A device of the character described comprising an imperforate plate member, a screen member superimposed over the plate member and hingedly assembled thereto, stop means for limiting swinging movement therebetween to a small, predetermined distance apart and permitting the two members to move together into contact, means for hingedly mounting the plate and screen assembly in a toilet bowl with the hinge thereof adjacent the lip of the bowl, and means connecting the plate and screen assembly to the toilet seat whereby lifting the seat moves the assembly into extended operable position and lowering the seat moves the assembly against the rear wall of the bowl in an inoperable position.

4. A device of the character described comprising a plate member, a screen member superimposed over the plate member and hingedly assembled thereto, stop means for limiting swinging movement therebetween to a small, predetermined distance apart and permitting the two members to move together into contact, means including a removable clamp assembly for hingedly mounting the plate and screen assembly in a toilet bowl with the hinge thereof adjacent the lip of the bowl, and means connecting the plate and screen assembly to the toilet seat whereby lifting the seat moves the assembly into extended operable position with the screen and plate spaced apart and lowering the seat moves the assembly against the rear wall of the bowl in an inoperable position with screen and plate together.

5. A device of the character described comprising a substantially oval plate member, a screen member of substantially the same size as the plate superimposed thereover and hingedly assembled thereto, means for limiting swinging movement between the two members to a predetermined distance apart and permitting the two members to move together into contact, a clamping ring mounted in a toilet bowl adjacent the lip thereof, hinge means mounted on said clamping ring adjacent the rear of the bowl for hingedly mounting the plate and screen assembly therein, the plate and screen assembly being arranged to move from an extended operable position with the two members spaced apart to an inoperable position against the rear wall of the bowl with the two members together, and means connecting the plate and screen assembly with the toilet seat whereby lifting the seat moves the assembly to the extended position and lowering the seat moves the assembly against the rear wall.

6. A device of the character described comprising a substantially oval plate member, a screen member of substantially the same size as the plate superimposed thereover and hingedly assembled thereto, means including side extensions on the plate extending upwardly and having stop means thereon for limiting swinging movement between the two members to a predetermined distance apart and permitting the two members to move together into contact, a clamping ring mounted in a toilet bowl adjacent the lip thereof, hinge means mounted

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on said clamping ring adjacent the rear of the bowl for hingedly mounting the plate and screen assembly therein, the plate and screen assembly being arranged to move from an extended operable position with the two members spaced apart to an inoperable position against the rear wall of the bowl with the two members together, and means connecting the plate and screen assembly with the toilet seat whereby lifting the seat moves the assembly to the extended position and lowering the seat moves the assembly against the rear wall.

7. A device of the character described comprising a substantially oval plate member, a screen member of substantially the same size as the plate superimposed thereover and hingedly assembled thereto, there being extensions on each side of the plate terminating in upper stop means for limiting swinging movement between the two members to a small, predetermined distance apart and permitting the two members to move together into contact, a clamping member removably mounted in a toilet bowl under and adjacent the lip thereof, hinge means mounted on said clamping ring adjacent the rear wall of the bowl for hingedly mounting the plate and screen assembly therein, the plate and screen assembly being arranged to move from an extended operable position with the two members spaced apart to an inoperable position against the rear wall of the bowl with the two members together, and means connecting the plate and screen assembly with the toilet seat whereby lifting the seat moves the assembly to the extended position and lowering the seat moves the assembly against the rear wall.

8. A device according to claim 7 in which the hinge mounting the assembly on clamping member is an integral extension of the plate and is looped around said member for free swinging movement.

9. A device of the character described comprising a substantially oval plate member, a screen member of substantially the same size as the plate superimposed thereover and hingedly assembled thereto, means for limiting swinging movement between the two members to a predetermined distance apart and permitting the two members to move together into contact, a clamping member mounted in a toilet bowl under and adjacent the lip thereof, hinge means mounted on said clamping ring adjacent the rear of the bowl for hingedly mounting the plate and screen assembly therein, the plate and screen assembly being arranged to move from an extended operable position with the two members spaced apart to an inoperable position against the rear wall of the bowl with the two members together, stop means mounted on the clamping member arranged to prevent lateral movement of the hinge thereon and maintain the hinge spaced from the wall of the bowl, and means connecting the plate and screen assembly with the toilet seat whereby lifting the seat moves the assembly to the extended position and lowering the seat moves the assembly against the rear wall.

No references cited.