Sept. 4, 1934. G. C. CROSS 1,972,076

VENTILATING DEVICE

Filed Aug. 2, 1933

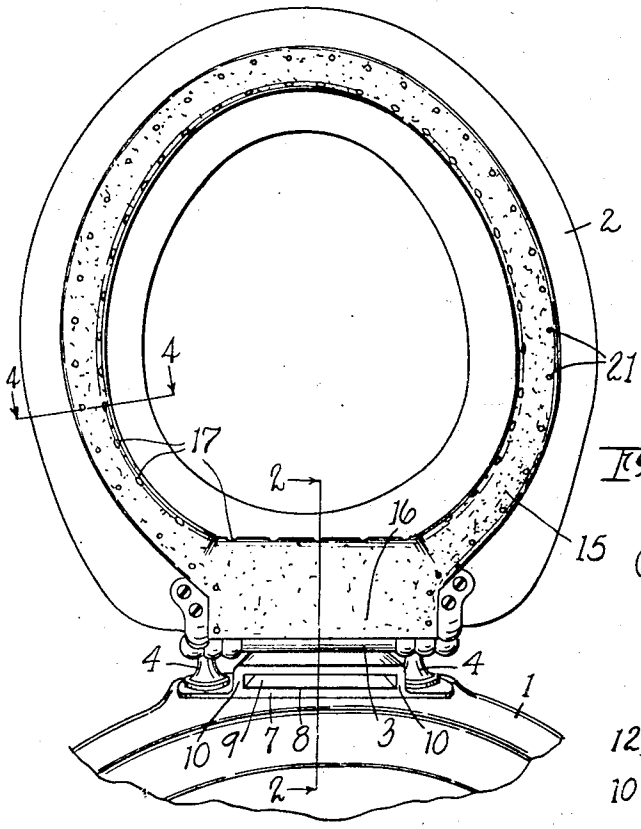


Fig. 1

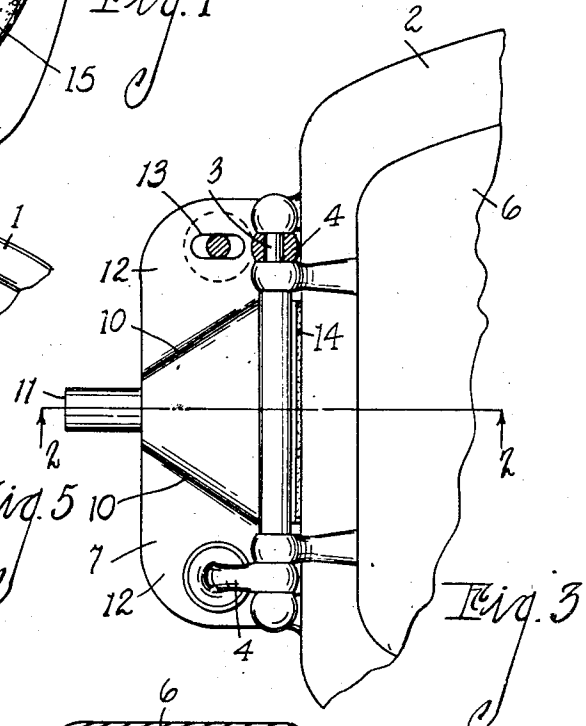


Fig. 3

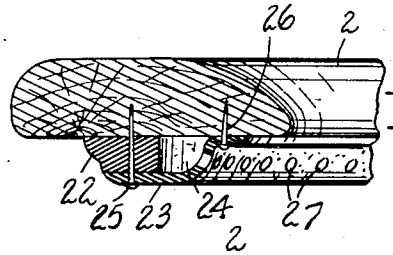


Fig. 5

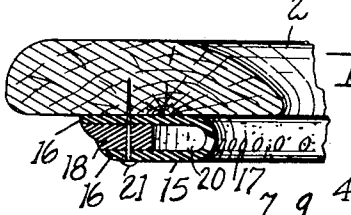


Fig. 4

Fig. 2

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VENTILATING DEVICE

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16 Claims. (Cl. 4—217)

The main objects of this invention are:

First to provide a ventilating device of improved construction for a bowl having a hinged seat.

Second, to provide a device of this character, which constitutes a cushion for the seat in coaction with the bowl as well as a substantially air-tight seal and an air conduit for evacuating the bowl through a series of inwardly opening apertures.

Third, to provide a device of this character including a fitting adjustably secured to the bowl at the back of the seat for coaction with the conduit when the seat is down, the cushion abutting the fitting to provide a substantially air-tight seal.

Fourth, to provide a device of this character which may be embodied as an attachment to bowls of types now very extensively used.

Fifth, to provide a ventilating device which is simple and economical in its parts and very efficient in operation, and one which provides a combined air and noise seal between the seat and bowl.

Objects relating to details and economies of my invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary perspective view of a bowl having a hinged seat, the parts being provided with a ventilating device embodying the features of my invention.

Fig. 2 is an enlarged fragmentary section on a line corresponding to line 2—2 of Figs. 1 and 3.

Fig. 3 is a fragmentary top plan view, parts being broken away and shown in section.

Fig. 4 is an enlarged fragmentary sectional view on a line corresponding to line 4—4 of Fig. 1.

Fig. 5 is a detail sectional view of a modification.

In the embodiment of my invention illustrated by Figs. 1 to 4, inclusive, of the drawing, numeral 1 indicates a bowl having a hinged seat 2, the seat being hinged to the pintle or pivot rod 3 carried by the arms 4 of the bolts 5 at the rear of the bowl. A cover or closure 6 is also hinged to the pintle 3.

My ventilating device comprises a fitting 7 preferably of metal arranged on the bowl at the rear of the seat and having a front slot-like opening 8, a central chamber 9 provided with rearwardly converging side walls 10, 10, a rear outlet pipe or nipple 11 and laterally extending attaching flanges 12, 12 resting on the top of bowl. The laterally extending flanges have parallel slots 13, 13 receiving the bolts 5, 5 for securing the fitting in adjusted position and assembled relation with the bowl. As best illustrated by Figs. 2 and 3, the fitting is arranged with its forward end under the pintle 3 and has a substantially flat forwardly facing abutment 14.

A continuous soft rubber passage member or strip 15 of outwardly facing channel section is disposed with its flange 16, 16 between the seat and bowl with its web portion overhanging the inner periphery of the latter. The passage member has a series of downwardly and inwardly facing inlet openings or perforations 17 adapted to place the interior of the bowl in communication with an evacuating system. A soft rubber filler or closure member 18 is disposed between the flanges of the passage member and has its ends spaced and arranged to provide an opening 19 for registration with the opening 8 at the front of the fitting. The ends of the member 18 and the flanges at the back of the passage member are positioned to meet the abutment of the fitting when the seat is down as illustrated by Figs. 2 and 3. Thus arranged, the chamber 9 of the fitting is placed in substantially air-tight communication with the passage 20 in the passage member 15 so that an evacuating system connected to the outlet pipe 11 efficiently evacuates the interior of the bowl without leakage between the seat and bowl or between the fitting and the continuous member.

The flanges of the passage member and the filler member are secured together and to the seat by means of the nails or tacks 21. With the parts thus arranged, the seat is provided with a soft rubber cushion for coaction with the top of the bowl, thereby providing a substantially air-tight joint between these parts and which also acts as a muffler.

In the modification of my invention illustrated by Fig. 5 of the drawing, the combined cushion and conduit comprises a rubber cushion strip or member 22 and a rubber passage member or strip 23 arranged under the cushion and seat to provide an inner continuous conduit or passage 24, the parts being secured to the seat by means of the nails or tacks 25 and 26. The passage strip has a plurality of inner and downwardly facing inlet openings 27 which place the conduit in communication with the interior of the bowl. Otherwise, the modification is substantially similar to that

described above in connection with Figs. 1 to 4, inclusive.

From the above description of my invention, it will be apparent to those skilled in the art that I provide a ventilating device of the character and for the purpose described, which is not only simple and economical in its parts, but which is also very effective in operation and one which may be used with a standard bowl having a hinged seat without altering or modifying the standard parts thereof.

The flexible passage elements may be readily adjusted to the size or shape of the seat and bowl.

I have illustrated and described my improvements in embodiments which I have found very practical. I have not attempted to illustrate or describe other embodiments or adaptations, as it is believed this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A ventilating device for a bowl having a hinged seat, comprising in combination a chambered metal fitting mounted on the bowl at the rear of the seat and having a forwardly facing abutment, an outlet suction chamber opening to said abutment and an outlet at the back, a continuous soft rubber passage member of outwardly facing channel section disposed with its flanges between said seat and bowl and having a series of downwardly and inwardly opening perforations, the flanges at the back being adapted to abut said abutment when the seat is down, a soft rubber filler member disposed between the flanges of said passage member and having its ends spaced to provide an opening at the back of said passage member for registration with the outlet chamber opening, said ends being adapted to meet said abutment, and means securing said flanges and filler member together and to the seat.

2. A ventilating device for a bowl having a hinged seat, comprising in combination a chambered fitting mounted on the bowl at the rear of the seat and having a forwardly facing abutment, an outlet suction chamber opening to said abutment and an outlet at the back, a continuous passage member of outwardly facing channel section disposed with its flanges between said seat and bowl and having a series of downwardly and inwardly opening perforations, the flanges at the back being adapted to abut said abutment when the seat is down, a filler member disposed between the flanges of said passage member and having its ends spaced to provide an opening at the back of said passage member for registration with the outlet chamber opening, said ends being adapted to meet said abutment, and means securing said flanges and filler member together and to the seat.

3. A ventilating device for a bowl having a hinged seat, comprising in combination an outlet fitting mounted on the bowl at the rear of the seat and having a forwardly facing abutment, a chamber opening to said abutment and an outlet at the back, a hollow cushion passage member disposed betwen said seat and bowl and having a series of inwardly opening perforations, the cushion at the back being adapted to abut said abutment when the seat is down and having an opening at the back for registration with the outlet opening, and means securing said member to the seat.

4. A ventilating device for a bowl having a hinged seat, comprising in combination an outlet fitting mounted on the bowl at the rear of the seat and having a forwardly facing abutment, a chamber opening to said abutment and an outlet, and a hollow cushion passage member disposed between said seat and bowl and having a series of inwardly opening perforations, the cushion at the back being adapted to abut said abutment when the seat is down and having an opening at the back for registration with the outlet opening.

5. A ventilating device for a bowl having a seat hinged to supporting bolts at the back of the bowl, comprising in combination a metal outlet fitting disposed on the bowl at the rear of the seat and having a front slot-like opening, a chamber having rearwardly converging side walls, a rear outlet pipe and laterally extending attaching flanges provided with slots for the passage of the bolts to secure the fitting in adjusted position, and a combined cushion and conduit member on said seat for coaction with said bowl and having a series of inlet openings to the bowl and a rear slot-like outlet opening for registration with said outlet chamber opening when the seat is down, the member abutting the fitting to provide a substantially air-tight joint.

6. A ventilating device for a bowl having a seat hinged to supporting bolts at the back of the bowl, comprising in combination an outlet fitting disposed on the bowl at the rear of the seat and having a front slot-like opening, a chamber, a rear outlet pipe and laterally extending attaching flanges provided with slots for the passage of the bolts to secure the fitting in adjusted position, and a conduit member on said seat for coaction with said bowl and having a series of inlet openings to the bowl and a rear slot-like outlet opening for registration with said outlet chamber opening when the seat is down.

7. A ventilating device for a bowl having a seat hinged at the back of the bowl, comprising in combination an outlet fitting disposed on the bowl at the rear of the seat and having a front slot-like opening, a chamber having rearwardly converging side walls, a rear outlet pipe and laterally extending attaching flanges, and a combined cushion and conduit member on said seat for coaction with said bowl and having a series of inlet openings and a rear slot-like outlet opening for registration with said chamber opening when the seat is down, the member abutting the fitting to provide a substantially air-tight joint.

8. A ventilating device for a bowl having a seat hinged at the back of the bowl, comprising in combination an outlet fitting disposed on the bowl at the rear of the seat and having a front slot-like opening, a chamber, a rear outlet pipe and laterally extending attaching flanges, and a combined cushion and conduit member having a series of inlet openings and a rear slot-like outlet opening for registration with said chamber opening.

9. A ventilating device for a bowl having a seat hinged thereto, comprising a suction fitting disposed on the bowl at the rear of the seat and having a front inlet opening and a conduit member of cushioning material on said seat for coaction with said bowl and having a series of inlet openings and a rear outlet opening for registration with said suction fitting inlet opening when the seat is down, the member then abutting the fitting to provide a substantially air-tight joint.

10. A ventilating device for a bowl having a hinged seat, comprising in combination a hollow

suction fitting on the support at the rear of the seat, a continuous soft rubber conduit member of outwardly facing channel section disposed with its flanges between said seat and bowl and having a series of downwardly and inwardly facing perforations, the flanges at the back being adapted to meet said fitting, a soft rubber filler member disposed between the flanges of said continuous member and having its ends spaced to provide an opening at the back of said continuous member, said ends being adapted to meet said fitting, and means securing said flanges and closure member together and to the seat.

11. A ventilating device for a bowl having a hinged seat, comprising in combination a continuous member of channel section disposed under said seat, a soft rubber filler member disposed between the flanges of said continuous member and having its ends spaced to provide an opening at the back of said continuous member, and means securing said flanges and closure member together and to the seat.

12. A ventilating device for a bowl having a hinged seat, comprising in combination a rubber cushion on said seat for coaction with said bowl, a rubber strip arranged with said cushion and seat to provide an inner continuous rubber conduit and having a series of inlet openings opening to the bowl, and a fitting on the bowl at the rear of the seat for coaction with said conduit when the seat is down.

13. A ventilating device for a bowl having a hinged seat, comprising in combination a cushion on said seat for coaction with said bowl, a flexible strip arranged with said cushion and seat to provide an inner continuous resilient conduit and having a series of inlet openings opening to the bowl, and a fitting on the bowl at the rear of the seat for coaction with said conduit when the seat is down.

14. A ventilating device for a bowl having a hinged seat, comprising in combination a rubber cushion on said seat for coaction with said bowl, and a rubber strip arranged with said cushion and seat to provide an inner continuous rubber conduit and having a series of inlet openings.

15. A ventilating device for a bowl having a hinged seat, comprising in combination a cushion on said seat for coaction with said bowl, and a flexible strip arranged with said cushion and seat to provide an inner continuous conduit and having a series of inlet openings.

16. A ventilating device for a bowl having a hinged seat, comprising in combination a cushion on said seat for coaction with said bowl, a flexible strip arranged with said cushion to provide an inner continuous resilient conduit and having a series of inlet openings and an outlet, and a hollow fitting on the bowl at the rear of the seat and having an inlet for coaction with said conduit when the seat is down.

GUY C. CROSS.