No. 629,462. Patented July 25, 1899.

J. OLD.

WATER CLOSET.

(Application filed Nov. 2, 1898.)

(No Model.)

Fig. 1.

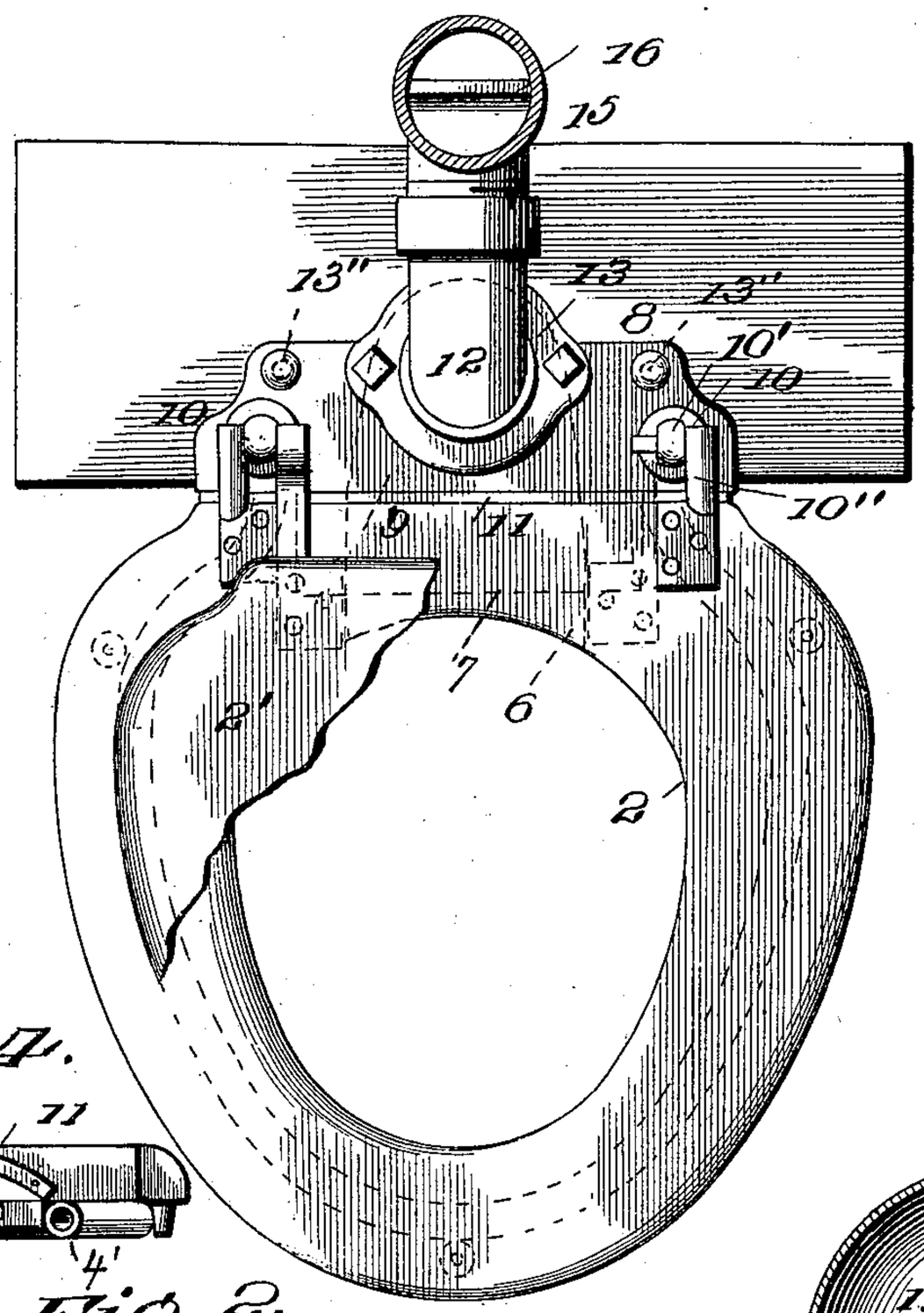


Fig. 4.

Fig. 2.

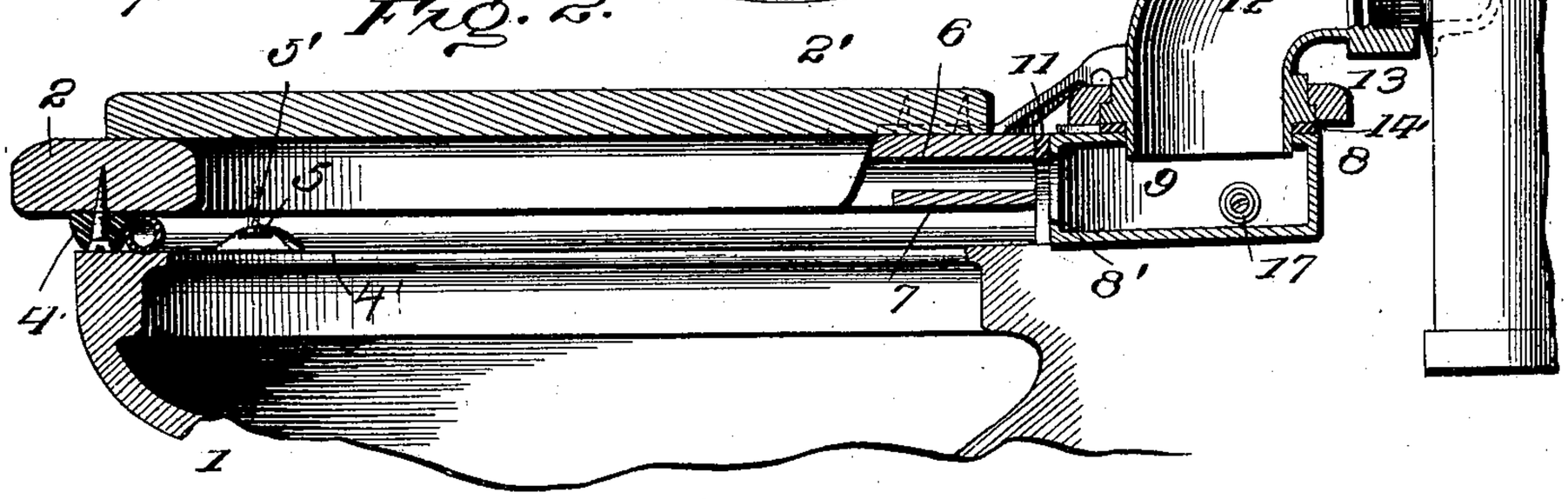
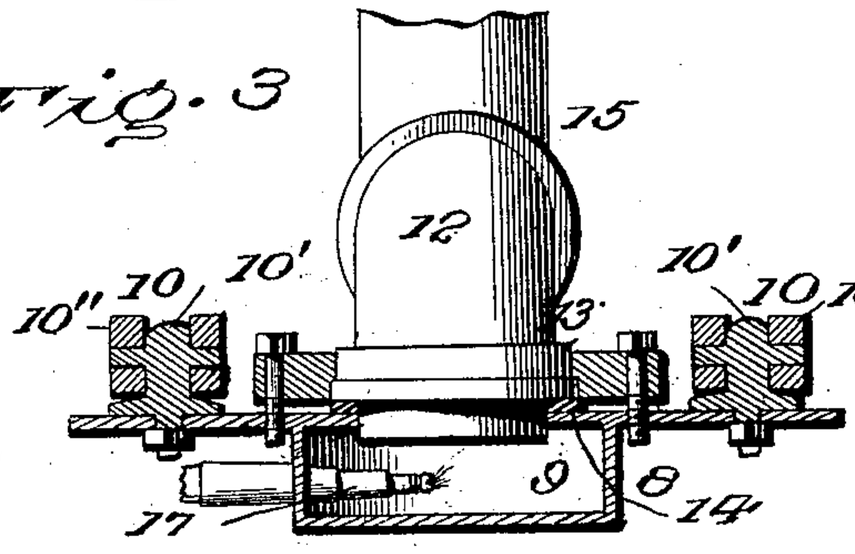


Fig. 3



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UNITED STATES PATENT OFFICE.

JAMES OLD, OF PITTSBURG, PENNSYLVANIA.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 629,462, dated July 25, 1899.

Application filed November 2, 1898. Serial No. 695,316. (No model.)

To all whom it may concern:

Be it known that I, JAMES OLD, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to water-closets, and particularly to that class in which the bowl is ventilated.

It has for its object to provide means for ventilating a water-closet bowl that can be applied either to new or old bowls and shall be applicable to bowls already in use without material or expensive changes and which shall be economical in construction and not unsightly in appearance and adapted to exhaust foul air from the highest practical plane and admit fresh air at a lower plane, all without any considerable modification of the seat.

The invention consists in the construction herein described and pointed out.

In the accompanying drawings, Figure 1 is a plan of a water-closet-bowl seat with the improved attachment, the seat-cover being partly broken away. Fig. 2 is a central vertical section of the same. Fig. 3 is a transverse section of the attachment. Fig. 4 is a rear elevation, on a reduced scale, of a seat having a modified outlet.

Numeral 1 denotes a water-closet bowl of any preferred construction and material.

2 indicates a seat, and 2′ a seat-cover.

4 4 are rubber stops of usual form. Inside of the stops is secured a tubular or other packing 4′ to exclude passage of air between the seat and bowl, except at desired points. Openings 5, for admission of fresh air closely adjacent the upper edge of the bowl, are conveniently provided by the packing-securing devices 5′, which compress the rubber tube, as indicated.

At the rear of the seat, on its under side, it is cut away, as shown at 6, to provide an outlet for air and gases. The cut extends only partially through the seat from top to bottom, and it is inclosed below by a thin plate 7, which bridges it, and, being properly secured to the seat, obviates the weakening which would otherwise result from cutting the exit-channel 6.

If the cover 7 is made of wood, it will be cut with the grain running lengthwise to strengthen the seat. A metal bridge or cover 7 may be employed.

8 denotes an attachment, comprising a ventilating-chamber 9, occupying the same situation and adapted to be secured by the same fastening devices as the piece to which the seat is customarily hinged. Seat-hinges of usual form are denoted by 10. The chamber 9 communicates freely with the bowl through a side opening 8′. The attachment is preferably made of cast metal, and has formed on its top pintles 10′ to receive hinge-leaves 10″. It also has bolt or screw holes 13″, whereby it is adapted to be attached to a fixed support.

11 indicates a packing situated between the rear edge of the seat and the attachment 8 to prevent leakage from the ventilating-conduit. This packing is bent around above the outlet 6 and terminates contiguous the packing between the seat and bowl.

The channel 6 communicates with the chamber 9, and the latter may discharge into a horizontally-adjustable elbow 12, seated on the collar 13 and having a packing 14.

13′ denotes bolt-holes or the like for securing the collar to the attachment.

15 is a ventilating-pipe.

16 is a guard to prevent escape of air and gases ascending in the pipe from below.

17 denotes a gas-burner situated within the chamber 9. The burner is not essential in all cases, but it is an efficient stimulant to the ventilating effect of the device and acts to ventilate or aid the ventilation of the house. It also insures the adjacent pipes against injury by freezing of their contents. Similar means have been heretofore used in draft-flues and the matter is not herein broadly claimed.

It will be understood that the seat is preferably provided with a cover 19, such as usually employed. The fastenings 13″ are preferably in situation, form, and effect like those customarily employed to attach the seat-support, it being one purpose of the improvement to provide for substituting for such support the attachment herein claimed.

It is preferred that the channel or exhaust-port 6 be situated as high as practicable and that the inlet-ports, such as 5, be not situated in a higher plane nor so formed as to extend above said plane, since cool fresh air cannot easily be made to enter from above a confined body of air of higher temperature.

The horizontally-cut-away part 6 insures the highest exit from the bowl practicable, and one that is necessarily situated above an inlet, like 5, below the plane of the seat; but approximately good results would follow the use of an exit provided immediately below the under surface of the seat without cutting or channeling it—as, for example, by means of an arched plate 7′, inclosing an exit 6′, as indicated in Fig. 4. It is, however, important that the exit be situated above the inlet, for the reason that otherwise fresh air will not readily enter the bowl to displace warmer air mingled with gases of a higher temperature and less specific gravity. By the present improvement the air-inlet is placed below and the gas-exit above the lower plane of the seat. This involves a new construction substantially such as herein pointed out and which coöperates with the usual packing between the seat and bowl and with a packing surrounding the exit and adapted to connect with the seat-packing. This packing adjacent the hinges is specially important to avoid the entrance of the comparatively heavy air adjacent the exit, whereby the warmer gaseous contents of the bowl would be left free to escape at openings, such as 5.

It is not always practicable, and sometimes not desirable, to provide a strong ventilating-draft, and in any case it is advantageous to render certain the escape of offensive gases and odors by the proper exit, and this is insured by placing the inlet below and the outlet above the bottom plane of the seat.

Having described my invention, what I claim is—

1. For ventilating a water-closet bowl, a seat provided with a conduit formed in the seat and leading directly in a horizontal plane from a space within the circumference of the bowl and above the bottom of the seat to a ventilating-flue.

2. For ventilating a water-closet bowl, a seat provided with a conduit formed in the seat and leading directly in a horizontal plane from a space within the circumference of the bowl and above the bottom of the seat to a ventilating-flue, and an air-inlet flue situated in a plane below the bottom of the seat.

3. In a water-closet, the bowl, the seat having the horizontal exit 6, above the bottom, the packing intermediate the seat and bowl, provided with the air-inlets, the attachment having a ventilating-chamber hinged to the seat, and packing between the rear edge of the seat and said attachment adjacent the hinges, said packing passing about the exit and terminating contiguous the seat and bowl packing.

4. In a water-closet, the bowl, the seat, means for ventilating the bowl, a compressible packing between the bowl and seat, devices for securing the packing to the seat and forming in said packing depressions to serve as fresh-air inlets, and buffers intermediate the bowl and seat serving to prevent the closing of said air-inlets by unusual compression of the packing.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES OLD.

Witnesses:
WILLIAM WARDROP,
JAS. COLGROVE.