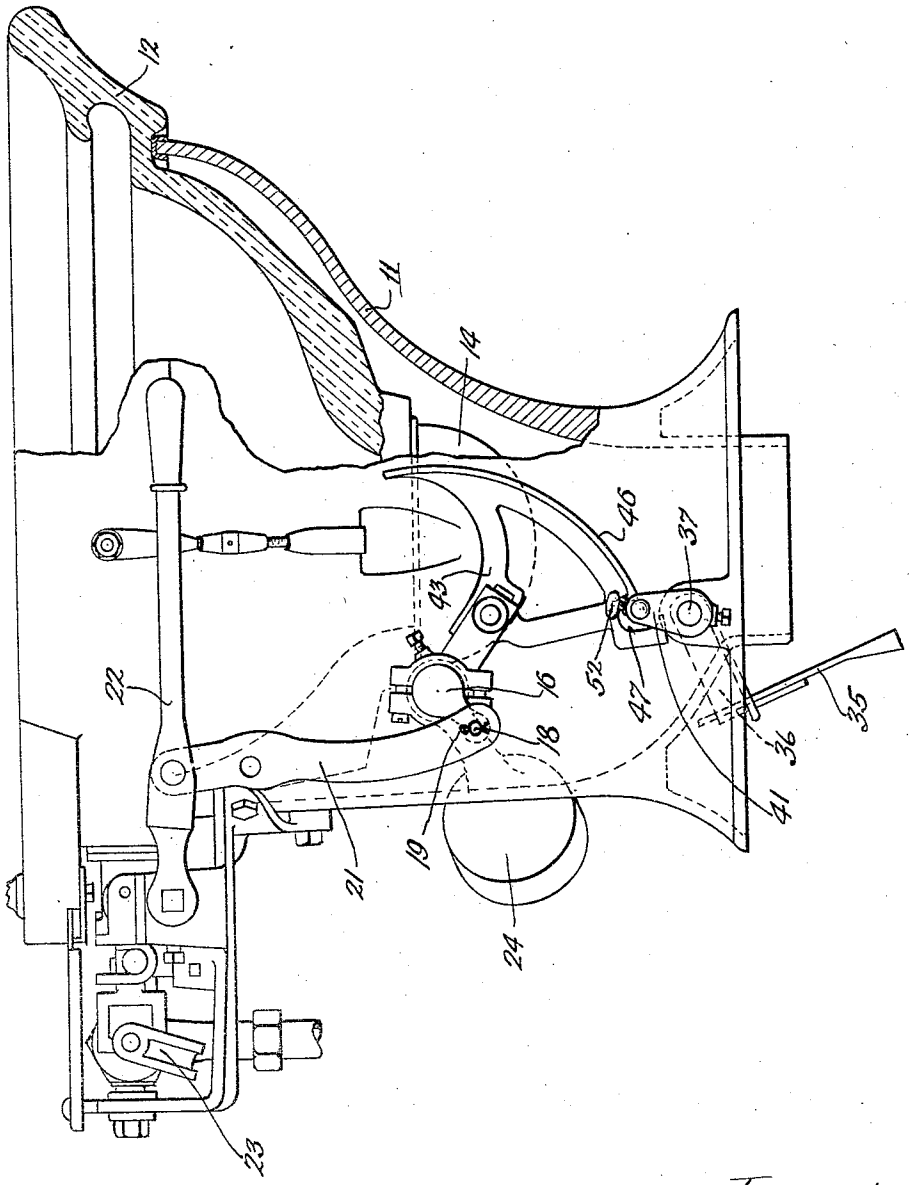
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WATER CLOSET

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Fig. 1




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Fig. 2

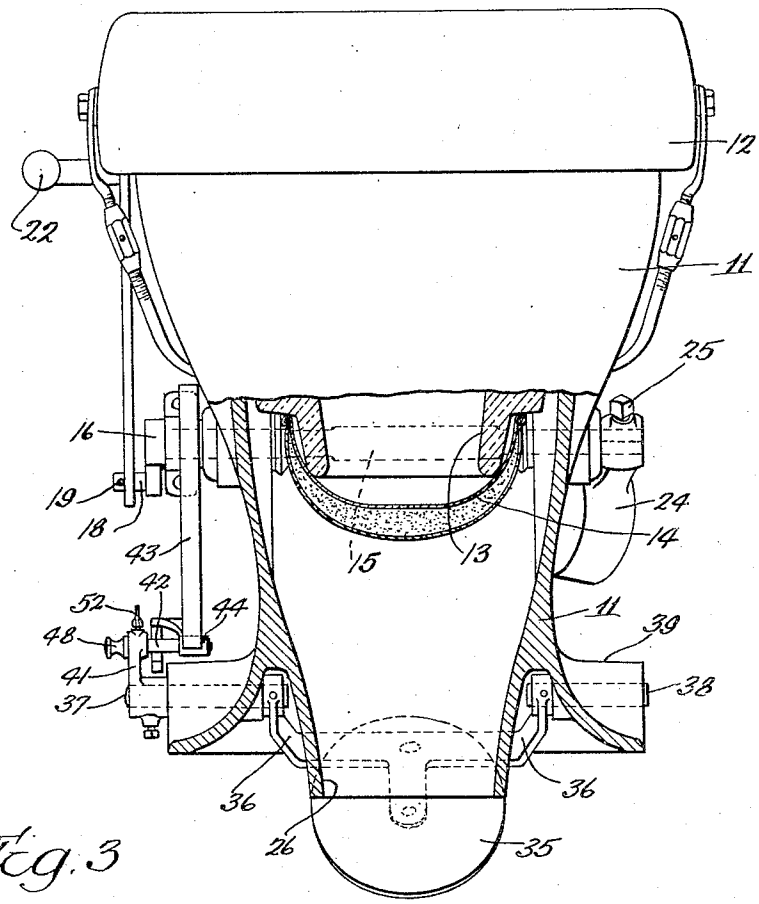
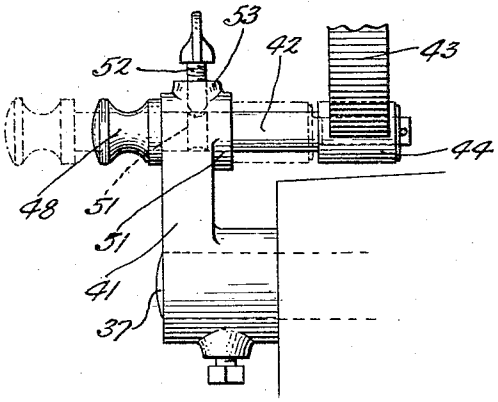



Fig. 3




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Patented Feb. 21, 1933

1,898,656

# UNITED STATES PATENT OFFICE

SVEN DUNER, OF WHEATON, ILLINOIS

## WATER CLOSET

Application filed May 26, 1930. Serial No. 455,686.

This invention relates to water closets provided for use in railway cars and like locations, and while it will be hereinafter described as embodied in a water closet like those shown in the co-pending application of John C. Duner for U. S. Letters Patent, Serial Number 375,243, filed July 1, 1929 which has matured into Patent No. 1,845,252, it will be readily apparent that from certain aspects the invention has broader and more general application.

Toilets of this sort are ordinarily provided with a dump pan adapted to be dropped in flushing with a resultant upflow of air frequently occurring with considerable velocity, and producing a blast directed upwardly through the toilet or closet. In the co-pending application above referred to, a draft member is disclosed for sealing the closet outlet, as an incident to the flushing of the toilet. This draft member, preferably and in accordance with the disclosure of said co-pending application moves into sealing or closed position during the initial opening movement of the dump pan, and prior to the breaking of the water seal.

The instant invention has for its principal object the construction and arrangement of the parts of a water closet of the character described which will permit the draft member to remain in full opened position when the dump pan is dumped to the end that a free open passageway may be provided upon occasion for the flushing and cleaning of the toilet.

This invention has also for a principal object the accomplishment of this result through simple, easily operated parts and devices, and without rendering it necessary that any of the parts of the assembled structure be removed or separated.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a side elevation, parts being shown in section of a railway closet embodying the present invention;

Fig. 2 is a view partially in front elevation, and partially in section, showing certain details of construction; and

Fig. 3 is an enlarged partial detail of a portion of the construction shown in Fig. 1.

For the purpose of illustrating the present invention the drawings show a closet of the character usually provided in Pullman and railway cars. As shown on the drawings this closet comprises an outer stand or support 11 of usual or preferred type, which supports a closet bowl 12 at its upper end. The closet bowl 12 is provided with an outlet 13 at its bottom, this outlet being normally closed by a water containing dump pan 14, which is pivoted upon a shaft 15, journaled as shown in Fig. 2 in opposite sides of the support 11. The shaft is provided with a rocker arm 16 fixed upon it to accomplish this oscillation and connected by means of an outwardly projecting stud 18 and cotter key 19 with a link 21 in turn connected to a flushing or dumping handle 22.

Reference character 23 generally indicates a water supply for flushing and since this forms no part of the present invention being here described, it will not be explained in detail. It may however be mentioned that raising the lever 22 swings the dump pan 14 from the position shown in Fig. 1 down and away from the closet bowl, this dump pan moving about the axis of the shaft 15. As an incident to this dumping the flushing mechanism 23 supplies water for cleaning of the dump pan and for the provision of a water seal in the dump pan after the dump pan has been returned by means of a suitable counterweight 24 to the usual or normal position shown in Fig. 1. The counterweight 24 is secured to the end of the shaft 15 opposite the arm 16 by means of a set screw or bowl 25.

It will be understood that the dump pan in moving from the position shown in Fig. 1 swings downwardly and to the left in a clockwise direction discharging its contents through a bottom opening 26 of the closet.

In accordance with the co-pending appli-

cation hereinbefore referred to, a draft member is provided at the opening or toilet outlet 26 to seal this opening against updraft of air during the dumping of the dump pan and its return movement. A draft member or closure 35 is affixed on or to arms 36 in turn fixed to the freely oscillating shafts 37 and 38 carried in bearings 39 in the stand or support 11.

The shaft 37 is provided with an arm 41, which carries an eccentric pin 42 arranged for optional engagement with a cam 43 fixed to and movable with the shaft 15 of the dump pan. A roller 44 is mounted upon the end of the eccentric pin 42, and is optionally arrangeable in position to engage the cam face 46 of this cam. In the normal operation of the toilet the roller 44 rests in a recess 47 in the lefthand end of the cam face 46 shown in Fig. 1, and upon initial dumping movement the cam swings the arm 41 to the left viewing this figure, raising the draft member into toilet closing position. The cam face 46 retains the draft member in this position throughout dumping and until just as the pan 14 reaches its final closed position after dumping.

In order that the draft member may remain arranged in open position when the dump pan is lowered, so that the closet may be flushed by a hose, or otherwise readily cleaned, I provide means for withdrawing the eccentric pin 42 and its roller 44 from engagement with the cam, thus disconnecting the normal interconnected members of the dump pan and draft member.

Viewing Figures 2 and 3 particularly, it will be noted that the pin 42 is provided with a projecting part 48 adapted to be manually pulled to move the pin axially away from the cam. The pin passes through a bearing 49 on the end of the arm 41, and within this bearing is recessed or grooved at 51 to receive the lower pointed end of a wing screw 52 arranged through a boss 53 at the upper end of the arm. This screw normally engages in the groove 51 to hold the parts in their operative relation.

It will be apparent that in arranging the toilet for cleaning or flushing out no parts of the device need be removed or disassembled. The counterweight 24 tends to hold the hopper in elevated position with the recess 47 of the cam in position to receive the roller 44, so that after cleaning all that is needed is to push the eccentric pin 48 back toward the right (Fig. 3), and then tighten the wing screw 52.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A water closet, comprising a closet bowl supported above its outlet, a dump pan positioned beneath said bowl and pivoted to swing from a sealing position down to a dumping position, a draft member located beneath said dump pan, and pivoted to move into a position for sealing the outlet of said toilet, and a toilet dumping mechanism comprising members normally interconnected, and connected to said dump pan and said draft member, and conjointly operable to move the draft member to draft closing position as an incident to the dumping of the dump pan and means for disconnecting said members to permit arrangement of both the dump pan and draft member in open position.

2. A water closet, comprising a closet bowl supported above its outlet, a dump pan positioned beneath said bowl and pivoted to swing from a sealing position downwardly to a dumping position, a draft member located beneath said dump pan and pivoted to move into a position for sealing the toilet outlet and means connected respectively to said dump pan and said draft member and optionally arrangeable for interengagement to cause conjointed opposite movement of said dump pan and said draft member, and to cause separate and sole movement of said dump pan from receiving position.

3. A water closet, comprising a closet bowl supported above its outlet, a dump pan positioned beneath said bowl and swinging from receiving to dumping position, a draft member positioned beneath said dump pan and arrangeable in sealing position as an incident to the dumping of said dump pan, a cam having a movement concentric with the axis of said dump pan and an operating arm on said draft member adapted for engagement with and disengagement from said cam.

4. A water closet, comprising a closet bowl supported above its outlet, a dump pan positioned beneath said bowl and pivoted to swing from a sealing position downwardly to a dumping position, a draft member located beneath said dump pan and pivoted to swing from open to closed position, means connecting said dump pan and draft member and for causing movement of the draft member into position to seal the closet outlet when the dump pan moves to open position, and means for disconnecting said dump pan and said draft member whereby to permit opening movement of the dump pan while the draft member remains in open position.

SVEN DUNER.