(No Model.)

P. CONNOLLY.

WATER CLOSET.

No. 296,822. Patented Apr. 15, 1884.

Fig: 1.

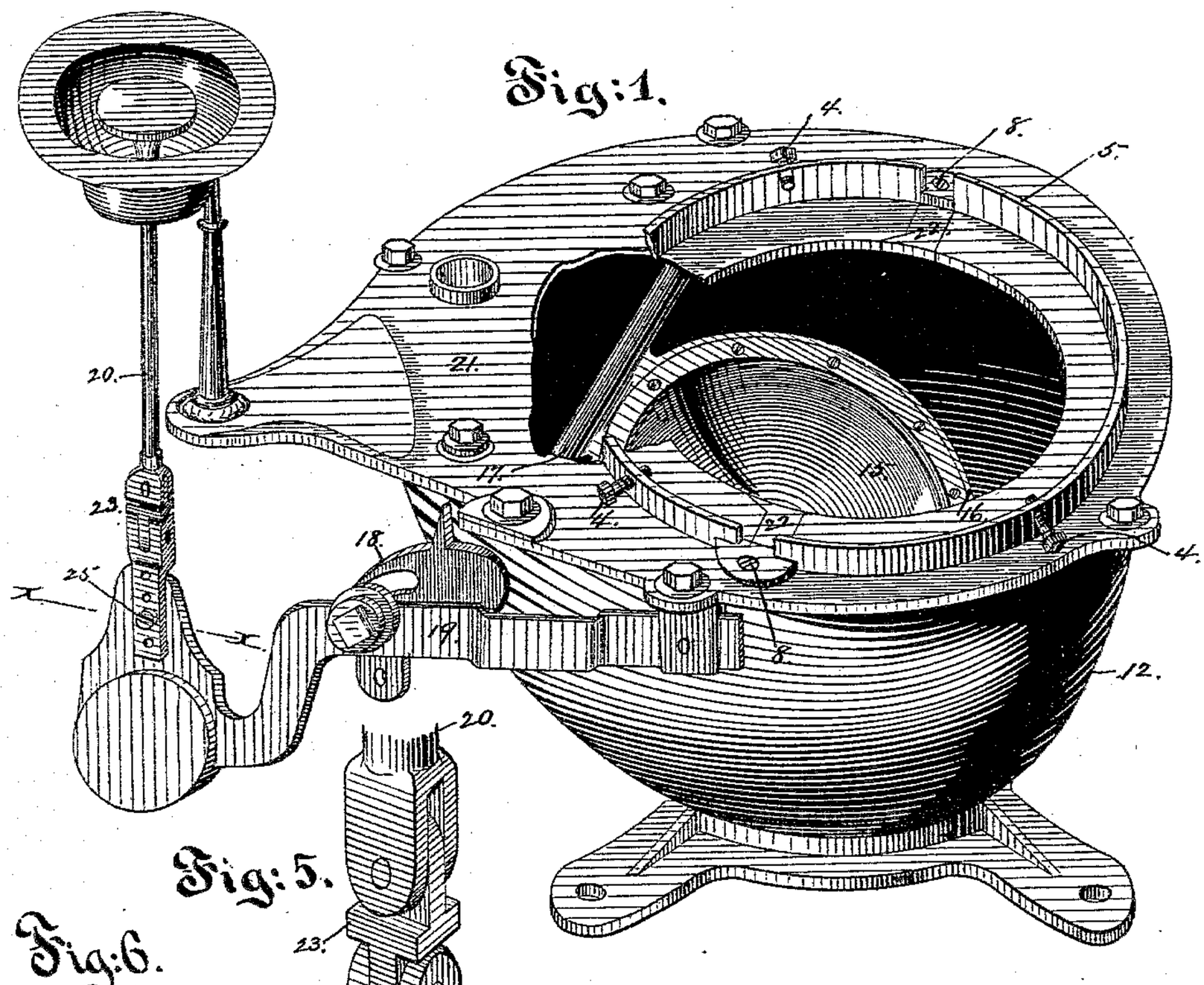


Fig: 5.

Fig: 6.

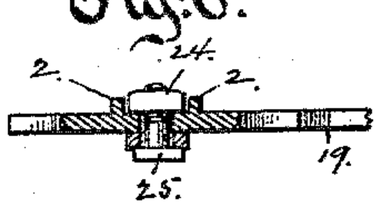


Fig: 2

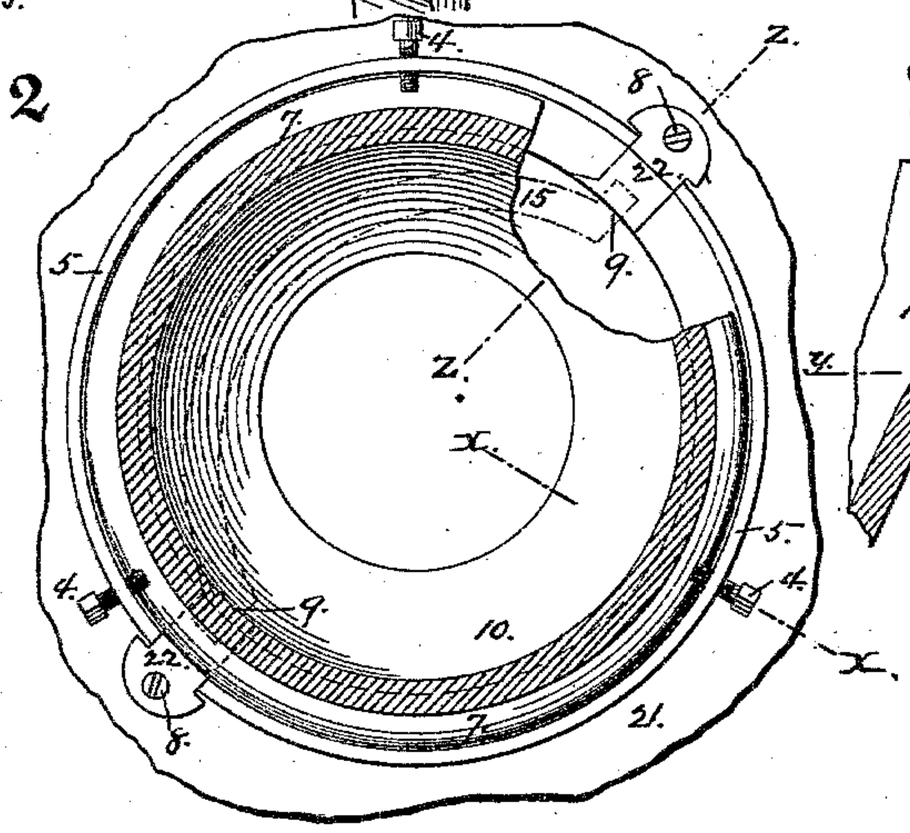


Fig: 3.

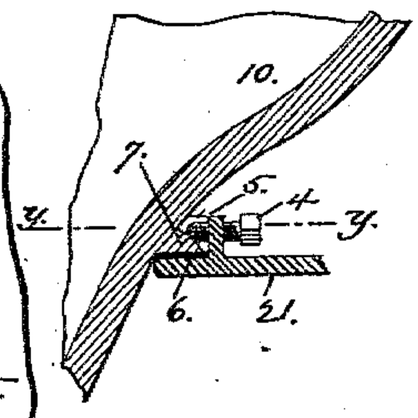
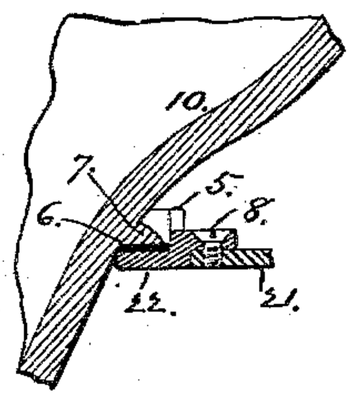


Fig: 4.



Witnesses:

A. S. Jasbera.

John A. Ellis.

Inventor:

Patrick Connolly

by Munson & Philipp

Attys.

UNITED STATES PATENT OFFICE.

PATRICK CONNOLLY, OF BROOKLYN, NEW YORK.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 296,822, dated April 15, 1884.

Application filed May 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, PATRICK CONNOLLY, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Water-Closets, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to that class of water-closets which consist, essentially, of a basin, usually made of porcelain or similar material, and having an opening in its bottom which communicates with an iron body or chamber, in which is supported a hinged dumping-pan so arranged that when elevated it closes the opening in the bottom of the basin and forms a water-seal between said basin and chamber.

In order to secure cleanliness and prevent corrosion, it has been found desirable in closets of this class to construct the pan of glass or some similar material of a non-corrosive nature and having a smooth surface, from which all substances are readily removed by the action of the water; and also to secure the pan in such a manner that it can be readily removed from the closet without disturbing the shaft upon which it is mounted.

In the constructions heretofore in use the pan, after being detached from its support, could be removed from the chamber only by the removal of the top of the latter, which operation involved considerable labor and an unnecessary disturbance of the various parts.

It is the object of the present invention, among other things, to obviate this difficulty; and to that end one feature of the invention consists in providing the opposite sides of the opening in the top or cover of the chamber with recesses, into which are fitted detachable plates, by the removal of which said opening is so enlarged as to permit the passage of the pan, thereby making it easy to introduce and remove the pan without disturbing the top of the chamber.

It is necessary in this class of closets, in order to prevent the escape of sewer-gas into the room in which the closet is located, as well as to prevent leakage in case the chamber or body becomes flooded by reason of a stoppage in the sewer-pipe, to maintain a perfectly tight joint at the junction of the basin and chamber. This joint has usually been formed by providing the basin with a flange, which rests in a bed of putty or similar substance placed around the edge of the opening in the top of the chamber. As the joint thus formed depended entirely for security upon the adhesion of the putty, it was liable to be rendered unsound and leaky by any jarring of the basin or by any undue pressure upon or against one of its sides.

Another object of the present invention is to prevent the destruction of this joint; and to that end another feature of the invention consists in providing the top or cover of the chamber with an upwardly-projecting flange, located just outside the flange of the basin, and provided with set-screws which press against said flange, so as to prevent the basin from being jarred or moved in its seat. By the use of devices of this character the bed of putty or cement can be dispensed with, if desired, and a packing of rubber or other suitable material used in its stead.

In closets of this class, as heretofore constructed, the rod by which the pan is operated has been connected to the pan-lever by means of a simple hinge-joint, so as to be capable of swinging in only one direction. When the rod is connected to the lever in this manner, it frequently happens, either through imperfect workmanship or by reason of some slight change in the position of the parts in making repairs, that the position of the hole in the closet-seat through which the rod passes is or becomes such that the rod binds therein, so as to cause an imperfect and unsatisfactory operation.

Another feature of the present invention is directed to the overcoming of this difficulty; and to this end the invention further consists in connecting the operating-rod to the pan-lever by means of a universal joint or hinge, so that it is capable of swinging in either direction, thereby preventing all liability of binding against the sides of the hole in the closet-seat.

The invention also embraces various details of construction and combinations of parts, all of which will be fully explained and particularly pointed out.

In the accompanying drawings, Figure 1 is a perspective view of a closet embodying the

present invention, the basin being removed and a part of the cover or top of the chamber broken away to better show the pan. Fig. 2 is a horizontal section, showing the lower part of the basin and a portion of the top of the chamber, the same being taken upon the line *y y* of Fig. 3. Figs. 3 and 4 are sectional details, taken, respectively, upon the lines *x x* and *z z* of Fig. 2. Fig. 5 is a perspective view of the universal joint in the operating-rod, and Fig. 6 is a section taken upon the line *x x* of Fig. 1.

Referring to said figures, it is to be understood that the basin 10 and the body or chamber 12 of the closet are of an ordinary construction, and consequently require no detailed description, the basin being provided with the usual pipe, through which it receives water for purifying the closet.

The pan 15 is constructed and arranged in the manner described in United States Letters Patent No. 273,668, it being composed of glass or similar material, and provided with a flange, 9, by which it is secured to a hoop, 16, attached to or made integral with a rock-shaft, 17, which is provided with the usual levers, 18 19, and pull-rod 20, for operating the pan.

The top or cover 21 of the chamber 12, which may be made integral with the chamber, or made separate therefrom, and secured in the manner shown, is provided with the usual opening for receiving the bottom of the basin. This opening is at opposite points provided with recesses, which are closed by tightly-fitting plates 22, said plates being bent, as shown in Fig. 4, so that their outer ends overlie the top 21, and afford means by which they can be secured in position by suitable screws, as 8. When it is desired to remove the pan, it is only necessary to lift the basin from its seat and remove the plates 22. The pan can then be readily detached from the hoop 16 and lifted through the opening in the top of the chamber, the recesses in the side of said opening affording ample room for the passage of the flange 9, as indicated by dotted lines in Fig. 2. By reason of this arrangement the pan can be readily removed from or replaced in the chamber without the necessity of removing the top or cover or of disturbing any of the operating apparatus.

The basin 10 is provided with the usual flange, 7, which rests upon the top 21 of the chamber, the joint between the two being made tight by a bed of putty or other similar substance, or by a rubber or other packing, as indicated at 6 in Figs. 3 and 4. To prevent the loosening of the joint thus formed by reason of jarring the basin, or by any pressure upon its edges or sides, the top 21 of the chamber is provided with an upwardly-extending flange, 5, through which pass two or more set-screws, 4, the ends of which abut against the inclined upper side of the flange 7, so as to press the same downward and hold the basin firmly upon the seat. By means of this arrangement all danger of destroying the joint between the basin and the chamber is prevented, and at the same time a ready means is afforded for removing the basin when desired, as in introducing or removing the pan. When putty or other like substance is used between the flange 7 and the top 21, the flange 5 also serves to prevent the same from being pressed out from between the parts before it is set. This flange also covers the joint, so as to prevent mice and other vermin from gnawing out the putty, and thus destroying the joint, which frequently happens when the joint is left uncovered.

The operating-rod 20, instead of being connected to the lever 19 by a simple hinge, as has heretofore been customary, is connected thereto by means of a universal joint or hinge, 23, as shown in Figs. 1 and 5. By means of this arrangement the rod 20 is permitted to swing in either direction, so that it will not be liable to bind in the opening in which it passes through the seat, even if said opening is considerably out of the proper position. The joint 23, instead of being of the construction shown, may be of the ball-and-socket form, or of any of the other well-known forms of universal joints.

Considerable annoyance and inconvenience have heretofore been occasioned by nut 24 (see Fig. 6) working off the bolt 25, so as to disconnect the rod 20 from the lever 19. To obviate this difficulty I have provided the lever 19 with two parallel ribs or projections, 2, between which the nut 24 rests, and by which it is prevented from turning upon the bolt 25.

In putting the parts together the nut is placed between the ribs 2 and the bolt 25 screwed into the nut, instead of the nut being screwed onto the bolt.

What I claim is—

1. In a water-closet, the combination, with the chamber or body provided with side recesses in its top opening and removable plates for closing said recesses, of the removable pan, substantially as described.

2. The combination, with the basin provided with a flange, as 7, of the body or chamber provided with a flange, as 5, and set-screws, as 4, passing through said flange 5 and abutting against said flange 7, substantially as described.

3. The combination, with the lever 19, of the rod 20, having a universal joint, as 23, substantially as described.

4. The combination, with the lever 19, provided with the ribs 2, of the nut 24, bolt 25, and pull-rod 20, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PATRICK CONNOLLY.

Witnesses:
JAS. A. HOVEY,
T. H. PALMER.