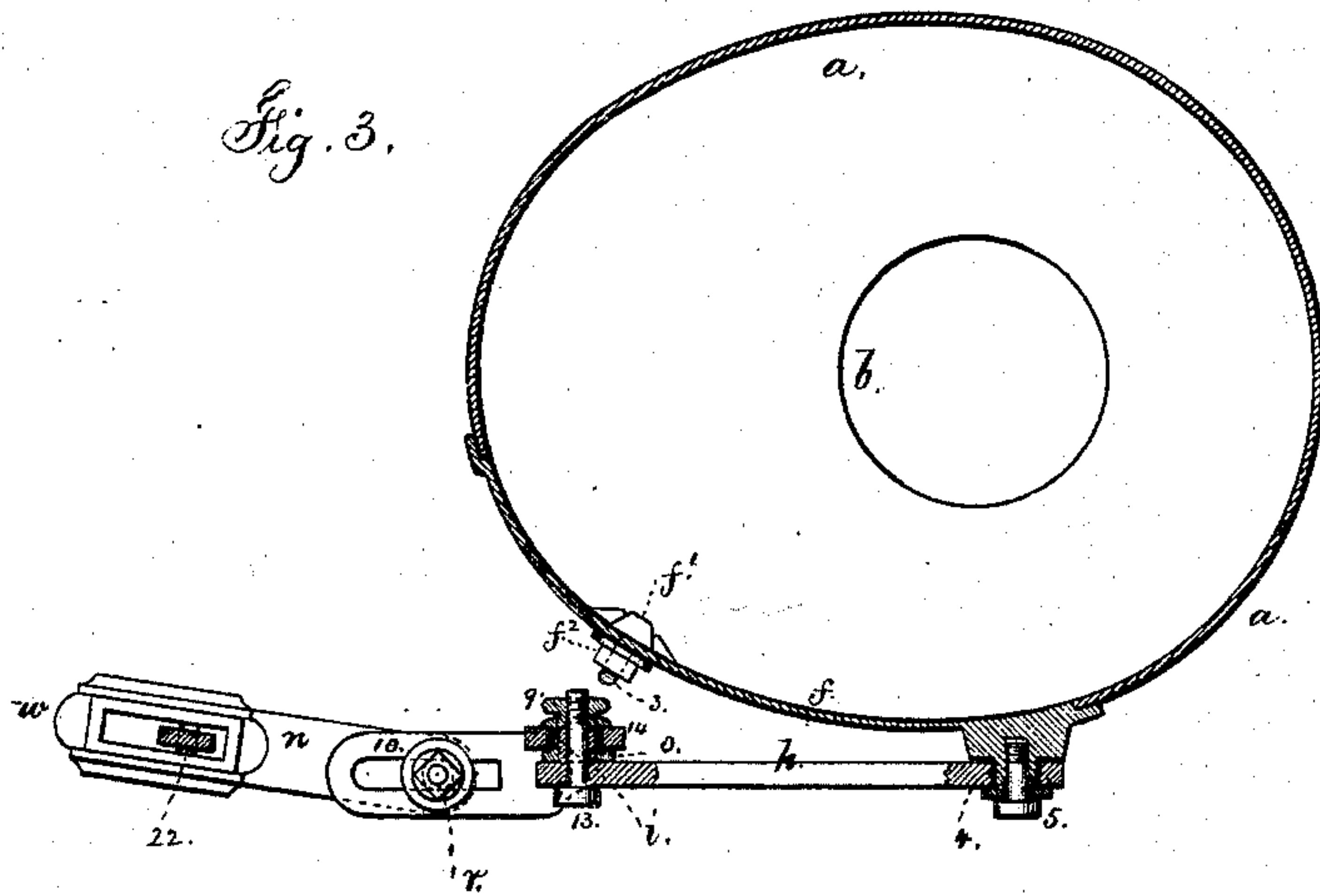
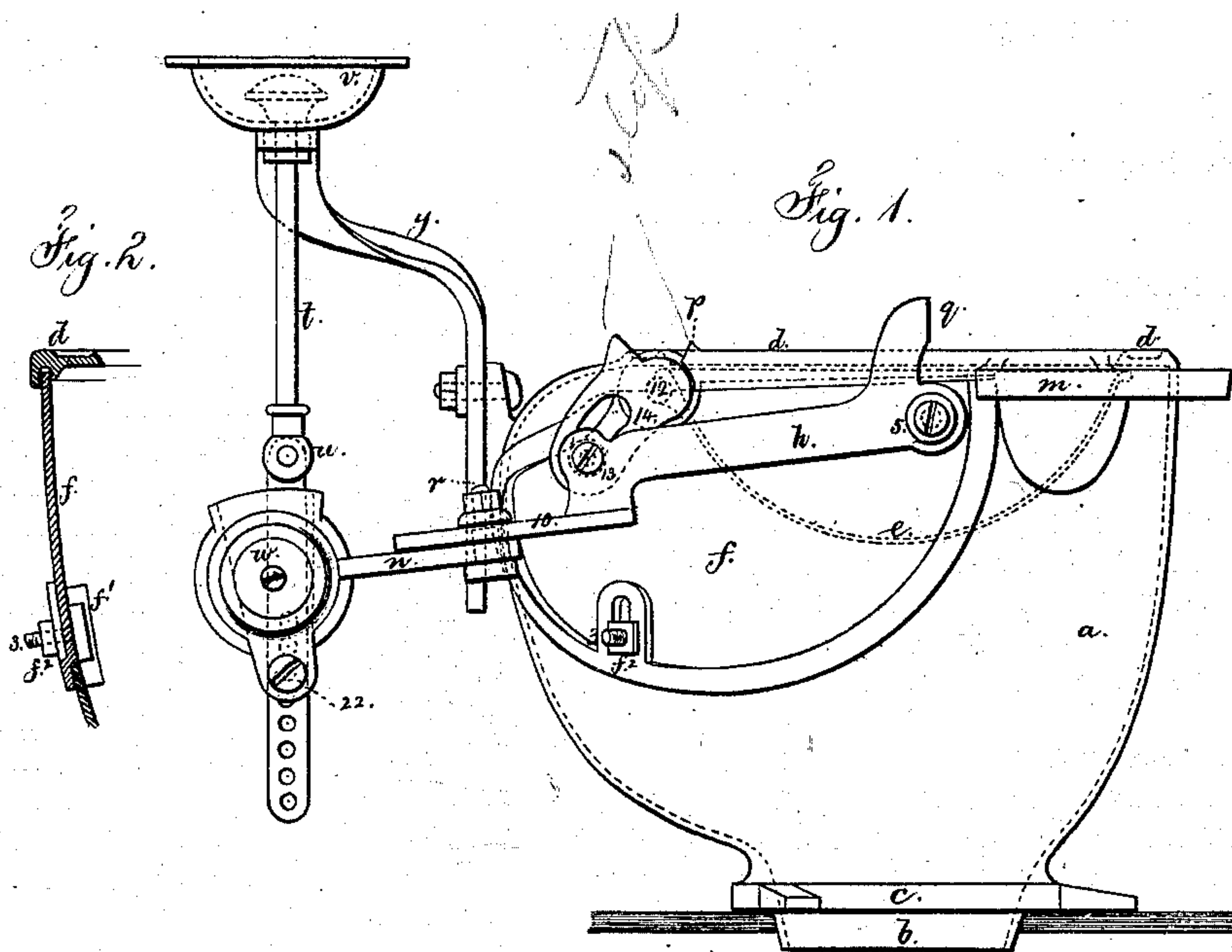


WILLIAM S. CARR.  
Water-Closet.

No. 127,307.

Patented May 28, 1872.



Witnesses,

*Chas. A. Smith*  
*Geo. D. Hawley*

Inventor

*William S. Carr,*  
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# UNITED STATES PATENT OFFICE.

WILLIAM S. CARR, OF NEW YORK, N. Y.

## IMPROVEMENT IN WATER-CLOSETS.

Specification forming part of Letters Patent No. 127,307, dated May 28, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM S. CARR, of the city and State of New York, have invented an Improvement in Water-Closets, and the following is declared to be a correct description of the same.

In water-closets obstructions frequently get into the trap, and the distance from the seat is such that a man cannot reach into the trap; besides this, the pan of the closet is liable to become bent and injured, so as to require repairs or replacing.

My invention consists in a hopper, with an opening in the side through which the pan and its spindle are inserted, said opening being closed by a movable plate, that also carries the pivot of the lever, and is made with a portion of the bearing for the axle, thereby the distance between these two points will be accurately determined with great facility, and the pan can be taken out or replaced without removing the basin, and access is obtained to the trap. I also make the lever with a horizontal joint that allows the weight to accommodate itself to the position of the pull of the closet by swinging horizontally.

In the drawing, Figure 1 is a side view of said closet. Fig. 2 is a vertical section of the plate and hopper. Fig. 3 is a sectional plan of the hopper and closet-lever, with part of the lever in elevation.

The container or hopper *a* is made of the desired size, with a soil-pipe, *b*, and base *c*. At the upper end of this container is an inward flange, *d*, for receiving the porcelain basin, and in the side of the container is an opening large enough to allow the swinging pan *e* to be entered or withdrawn, and this opening is covered by a plate, *f*, that, at its upper end, enters a groove in the under side of the flange *d*, and it is secured in place by a bolt or bolts.

I have shown a sliding clamp, *f*<sup>1</sup>, between ribs cast at the inner side of the plate *f*, which clamp has a bolt, 3, projecting through a slot in the plate, and provided with a nut. This clamp is slipped down within the hopper at the edge of the opening, and by drawing up the clamp by the nut *f*<sup>2</sup> the plate *f* will be firmly bound to the side of the hopper. Putty should be introduced at this joint to prevent smell passing out. Upon this plate *f* a projec-

tion or gudgeon, 4, is cast, forming the fulcrum of the lever *h*; a screw and washer, 5, holds the lever *h* upon this fulcrum. At the upper edge of the plate *f* a semicircular groove is formed that receives the axle 12 of the pan *e*, the other half-bearing being in the under side of the flange *d* of the container, so that when the parts are put together the axle of the pan is properly supported at the outer end by these bearings, the inner end of said axle passing into a hole in the container. The axle of the pan *e* is made with the usual slotted crank-arm 14 for a roller, *o*, upon the lever *h*. To simplify the construction, lessen cost by avoiding drilling, and make the parts with great accuracy, I cast the lever *h* with a hole for the fulcrum-stud 4, using a metal pin for said hole, which chills the iron and hardens the surface to prevent wear, this pin being driven out before the iron cools; and I also cast a cylindrical projection, *i*, for the roller *o*, that enters the cam-slot in the axle-crank 14, and this roller is secured by a bolt, 13, and nut 9, the former passing through the projection *i*. In this manner great accuracy is obtained in the distance between the parts of the lever and those portions of the plate *f* that support the axle of the pan and the lever, so that there is little or no fitting, but the parts go together; and in case of injury to the lever of the plate *f*, another can be obtained from the manufacturer and introduced by any ordinary plumber. The stop *p* on the container limits the movement of the spindle and pan. The projection *q* on the lever *h* acts to open the cock that supplies water to the closet. This cock is not shown in the drawing, being of known construction, and supported upon the projecting arm *m*. The lever *h* is made with a flat slotted projection, 10, beneath which is the loose arm *n* from the weight *w*, and these are connected by the vertical bolt *r*, that forms a horizontal joint that allows the weight to swing horizontally into any desired position relatively to the pull and rod that actuate the same, because the weight will be effective in closing the pan, and will hang from the pull when the latter is drawn up, and by turning upon its bolt *r* the parts will move freely with the pull, while otherwise the weight might not be beneath the cup of the pull and bind the rod thereof. The bolt *r* may be moved along in the slot of the



projection 10, to lengthen or shorten the distance the weight is from the fulcrum of the lever, and this bolt  $r$  should be clamped firmly to its place by the nut thereof, but be made so as not to clamp the arm  $n$ . The pull-rod  $t$  may be connected to the weight  $w$  in any desired manner. I have shown the weight as slotted to contain a link with holes for a pin, 22, to vary the length of the pull, and a joint at  $u$ . The handle of the pull-rod is within the cup  $v$ , that is upon the wood-work of the seat of the water-closet. This cup may be connected to the wood-work by a screw-bridge; I have, however, shown an arm,  $y$ , that is attached to the side of the container, and is adjustable vertically by a slot and clamp-screw.

I claim as my invention—

1. A water-closet container or hopper with an opening in the side large enough for inserting or withdrawing the pan below the flange upon which the basin rests, in combination with a movable plate to close the said opening and aid in supporting the axis of the pan, substantially as set forth.

2. A removable plate forming a portion of

the side of the hopper or container, made with a projection forming the fulcrum for the lever of the closet and with a portion of the bearing for the axle of the pan, substantially as and for the purposes set forth.

3. A water-closet lever, made with a projection cast upon the side for the roller of the axle-crank and a chilled hole or eye for the fulcrum-pin of said lever, substantially as set forth.

4. The horizontal joint in the water-closet lever, connecting with the same the arm of the weight so that said weight may be moved horizontally and adjusted in its position relatively to the lever, substantially as set forth.

5. The clamp  $f^1$ , applied between ribs on the inside of the plate  $f$ , with a bolt passing through a slot in said plate  $f$  so as to clamp the plate to the hopper, as set forth.

Signed by me this 2d day of April, A. D. 1872.

WM. S. CARR.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.