2 Sheets--Sheet 1.

W. S. CARR.
Water-Closet.

No. 162,742. Patented May 4, 1875.

Fig. 1.

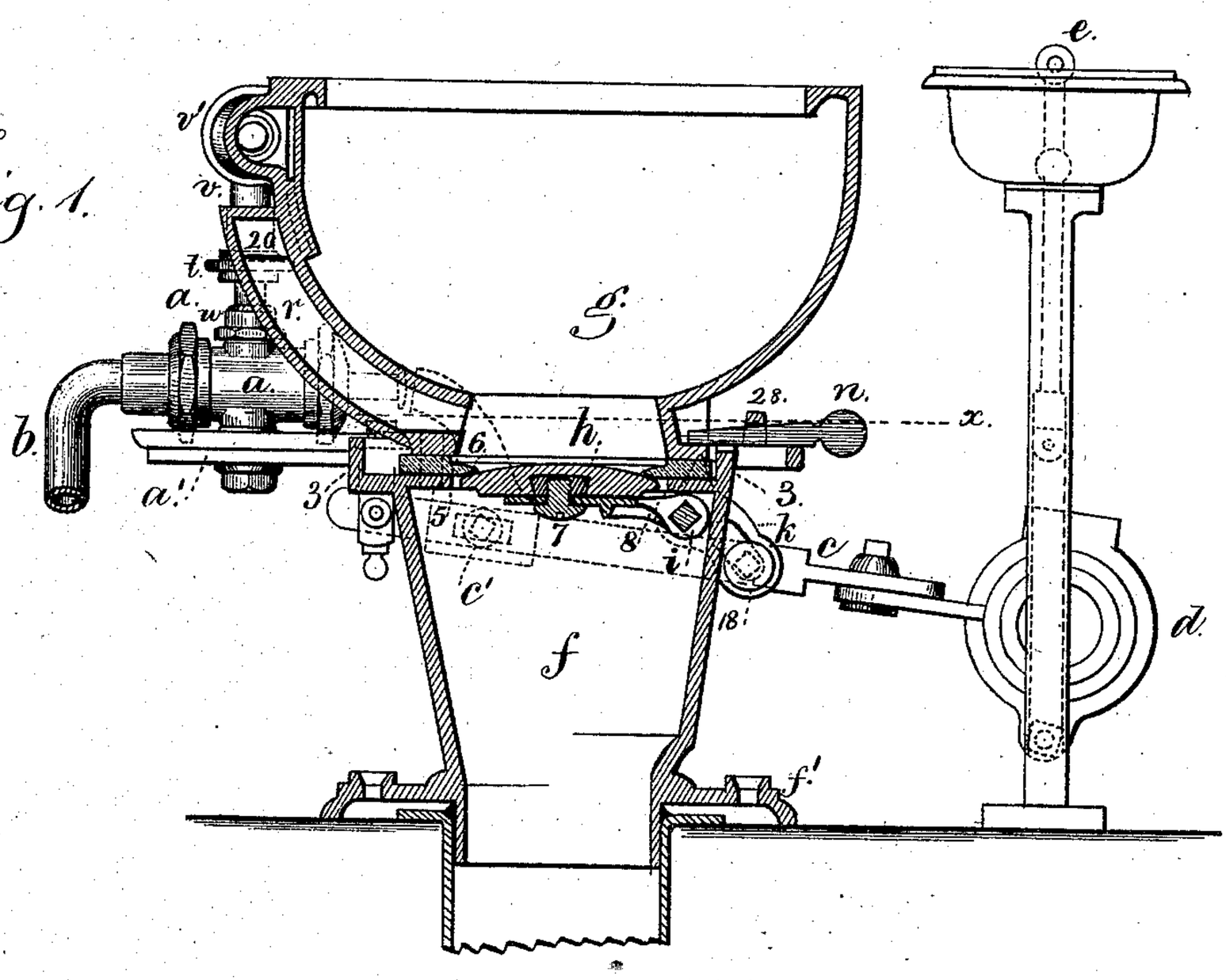
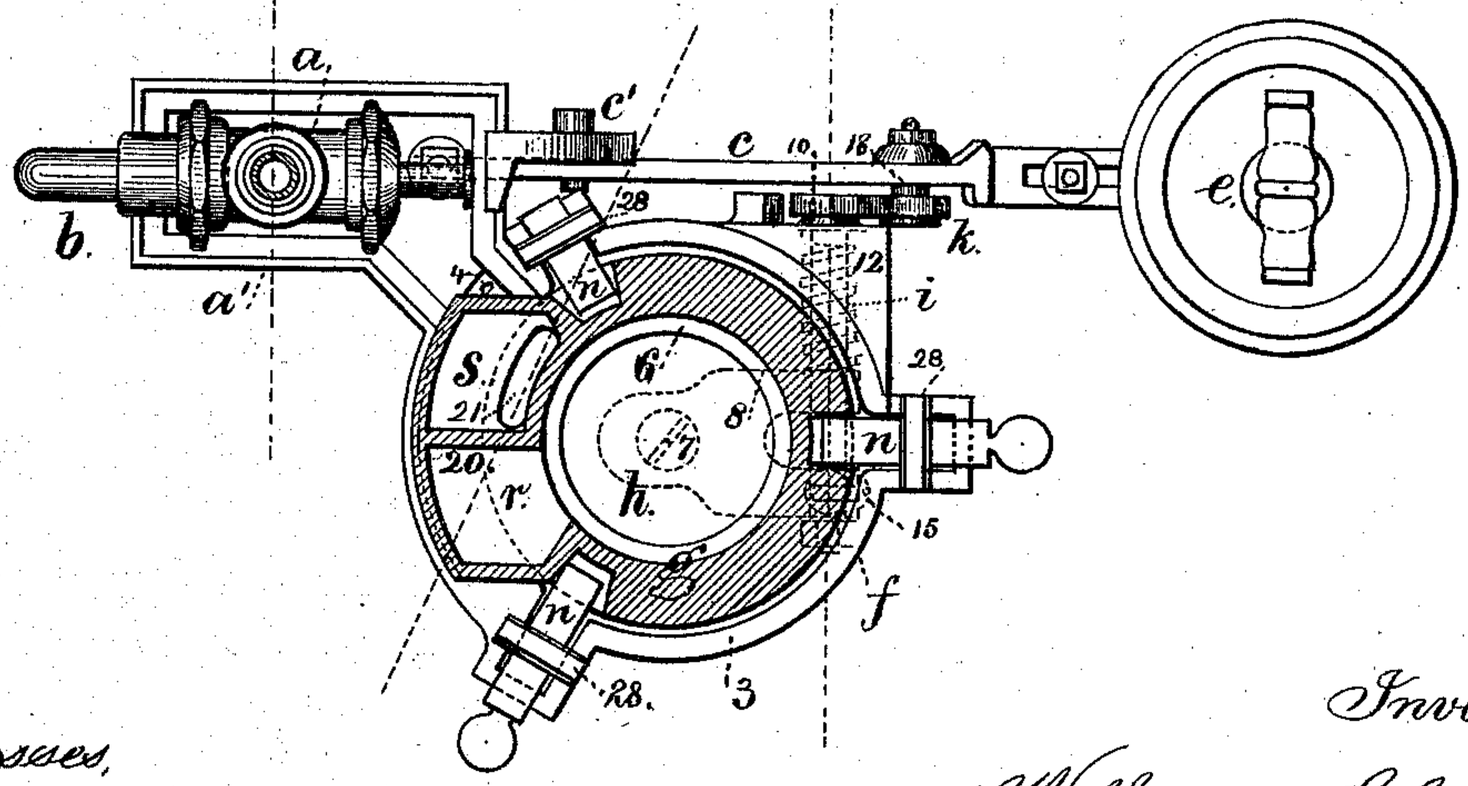


Fig. 2.



Witnesses,
Chas. F. Smith
Geo. T. Pinckney

Inventor
William S. Carr.
per Lemuel W. Serrell
atty

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

2 Sheets--Sheet 2.

W. S. CARR.
Water-Closet.

No. 162,742. Patented May 4, 1875.

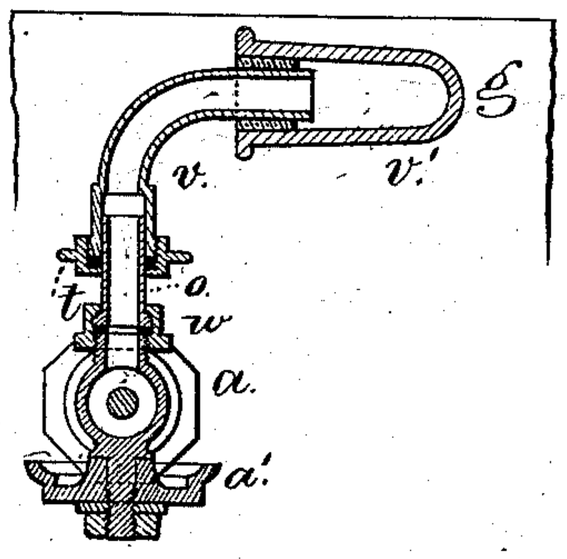


Fig. 3.

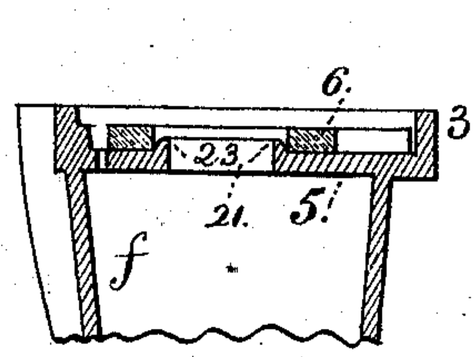
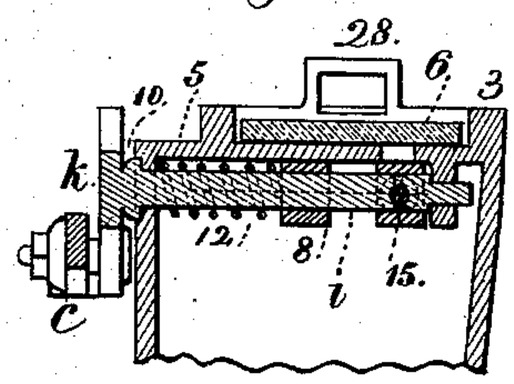


Fig. 4.

Fig. 5.



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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. **162,742**, dated May 4, 1875; application filed March 29, 1875.

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, of which the following is a specification:

The objects of this invention are to lessen the space occupied by the closet; to allow of the water being deeper in the basin than is possible with the pan-closet; to dispense entirely with the pan; to allow the earthen basin to be easily removed and replaced without disturbing the other parts; to dispense with the cumbersome hopper or container usual in water-closets, and which becomes so offensive with accumulations upon the inside that cannot be cleansed; and to make almost all the parts exposed to the action of water or soil of porcelain, so as to be easily kept clean.

In the drawing, Figure 1 is a vertical section. Fig. 2 is a plan at the line *x x*. Fig. 3 is a section of the coupling for the basin-pipe; and Fig. 4 is a detached section of the water-way and packing.

The cock *a* for the water-supply from the pipe *b*, the lever *c* upon the fulcrum *c'*, with the weight *d* and actuating-pull *e*, are all of usual or desired construction, and devices of this character can be seen in patents heretofore granted to me. The hopper or container *f* is an inverted truncated cone, of a size to fit into the soil-pipe at the bottom, and provided with a flange, *f'*, to rest upon the floor. At the upper end of this hopper there is a flange, 3, that forms a dam that connects with the rim around the shelf *a'* that supports the cock *a*, so that any leakage or dripping will run into the hopper through a small hole, 4, provided for the purpose. An inward flange, 5, at the upper end of the hopper *f*, receives a rubber washer, 6, forming a seat for the basin *g*, and also an elastic septum against which the valve *h* closes upwardly. This valve *h* is a porcelain disk, having within it a nut by which a screw, 7, attaches the valve to the arm 8 of the rock-shaft *i*. The rock-shaft *i* is made with the slotted cam and stop *k*, outside the container operated upon by the roller or pin 18 upon the lever *c*, similar to that used in a pan-closet; but the shaft has a shoulder at 10, (see section, Fig. 5,) resting against the outer surface of the container, or within a recess, and a spring, 12, around the shaft, between the arm 8 and inside of the hopper *f*, presses the shoulder toward its seat and keeps the rock-shaft or axle tight so as to prevent leakage or the escape of gases. The arm 8 is made with square eyes, through which the squared portion of the rock-shaft passes, so that the valve *h* is reliably moved, and a screw, 15, connects the arm and rock-shaft. This screw is inserted through a hole or notch in flange 5, so that the parts can be attached or separated for repairs without disturbing the hopper itself. The basin *g* is made with a base or flange that rests upon the rubber washer 6, and it is held firmly in place by wedges *n*, that pass beneath the metal loops 28 and press the basin-flange firmly upon the rubber. It is preferable to use wedges of hard wood, and to provide recesses into which their ends pass, as shown, so that the basin will be properly positioned as well as secured by the ends of the wedges. Wash-basins have been made with openings near the bottom, a rising water-way, and the overflow has passed over a dam, as seen in Letters Patent No. 62,812, granted to H. Boyd. My invention is made for applying some of the features of this basin to a water-closet. The bowl or basin *g* of the closet is made with the double water-ways *r* and *s* with the intermediate dam 20. The water-way *r* opens inside the bowl, just above the valve *h*, and the water-way *s* opens through the rubber washer 6 and flange 5 of the hopper *f*, as seen in Figs. 2 and 4. It will now be apparent that when the valve *h* is closed the water accumulates in bowl *g*, and rises in the water-way *r*, and if the supply continues the water runs over the dam 20 and escapes into the hopper through the water-way *s*. The dam 20 can be sufficiently high to cause an accumulation of water in the bowl to a much greater extent than would be possible with a pan-closet; hence the soil-pipe will be washed out more thoroughly, and in case of water being poured into the bowl, or accumulating unduly, so that there is risk of overflow, the passages *r* and *s*, filling, act as a siphon to discharge the water with increased rapidity. When the valve *h* is opened there is a rush of water from the bowl into the hopper, and also from the water-way *r*, so as to wash the lower

end free from any particles that may have passed thereinto; hence there is no risk of the water-way *r* becoming stopped, especially because when water rises therein it is the clean water as supplied into the bowl, and should either water-way become stopped the basin is easily removed and the water-ways cleaned. There is no risk of rust or accumulation, because the water-ways are in the porcelain of the basin. In order to prevent the rubber washer being shifted around and not corresponding with the opening 21 in the flange 5, I make use of end lips or projections 23, seen in Fig. 4, that rise up into the opening of the india-rubber sufficiently for the said purpose. The water-pipe *v* is connected from the cock or valve *a* to the hollow arm *v'* of the basin adjustably, so as to allow of the basin being removed and the parts properly positioned without any labor, as usual with putty or cement joints that become broken. To effect this the upper end of the bent tube *v* is forced into a short section of rubber tube previously inserted into the porcelain arm *v'*, so as to make a tight but yielding joint at this point, and the coupling *w* connects the pipe to the cock *a*, but there is an intermediate sleeve or ferrule, *o*, that passes through the gland *t*, so as to allow the parts to be positioned, after which the gland *t* is screwed up to compress the same firmly around the sleeve *o* and make a tight joint.

By this construction of water-closet the parts can be separated, cleaned, repaired, or replaced without disturbing the hopper, and an experienced workman is not required to perform the same.

I claim as my invention—

1. The bowl or basin of porcelain or earthenware, resting upon a washer of elastic material, and secured in place by wedges passing through metallic loops at the upper part of the hopper, and pressing upon the base of the bowl, substantially as set forth.

2. The metallic hopper, made with a seat at the upper end for the elastic washer and earthenware bowl, and a dam around the outside of such washer, for the purposes set forth.

3. The hopper *f*, having an inward flange 5 and opening 21, through which the overflow-water passes from the basin, as set forth.

4. A bowl or basin made with the water-ways *r* and *s*, opening respectively above and below the valve that closes the escape-pipe, substantially as set forth.

5. The rock-shaft *i*, provided with a shoulder at its outer end, behind the cam-arm *k*, in combination with the spring 12, and water-closet pan or valve, for keeping the shaft water-tight at its junction with the hopper or container, substantially as set forth.

6. The valve *h*, of porcelain, connected to the arm 8 of the rock-shaft *i*, by a screw and nut, and removable from said rock-shaft, substantially as set forth.

7. The water-pipe *v*, connected to the hollow procelain arm *v'* by the rubber packing, in combination with the sleeve or ferrule *o*, packing gland *t*, and supply-cock or valve *a*, substantially as set forth.

Signed by me this 25th day of March, A. D. 1875.

WM. S. CARR.

Witnesses:

GEO. T. PINCKNEY.

CHAS. H. SMITH.