C. H. MUCKENHIRN.

WATER CLOSET BOWL.

APPLICATION FILED APR. 2, 1912.

1,215,049. Patented Feb. 6, 1917.

Fig. 1.

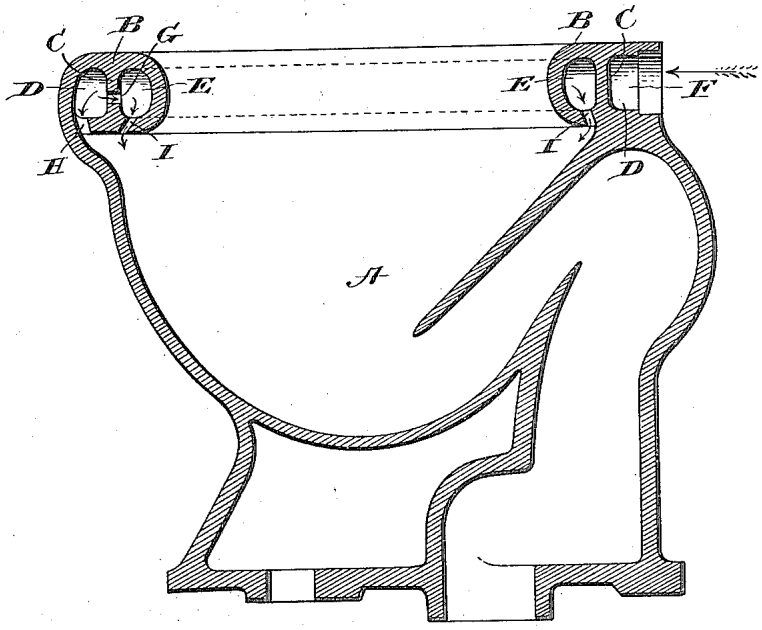
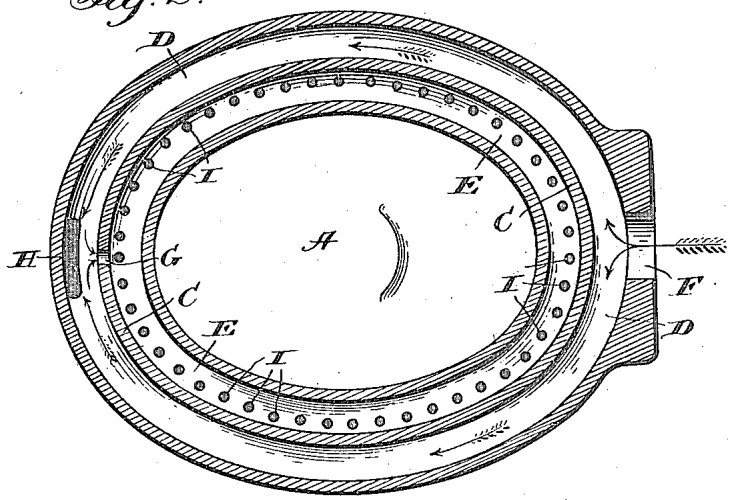


Fig. 2.



Witnesses:

Jas. E. Hutchinson:

E. A. Krey.

Inventor:

Charles H. Muckenhirn,

By Munn & Miller Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES H. MUCKENHIRN, OF DETROIT, MICHIGAN, ASSIGNOR TO STANDARD SANITARY MANUFACTURING CO., OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

WATER-CLOSET BOWL.

1,215,049. Specification of Letters Patent. Patented Feb. 6, 1917.

Application filed April 2, 1912. Serial No. 688,061.

To all whom it may concern:

Be it known that I, CHARLES H. MUCKENHIRN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Water-Closet Bowls, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in water closet bowls of any standard or preferred type, and has for its object the facilitation of the cleaning and emptying of the bowl. Heretofore in the art it has been the prevailing custom to flush a bowl with water through the medium of perforated flushing rim around the upper margin of the bowl adapted to deliver the water into the interior of the bowl in a multitude of jets or spray of uniform character around the inside of the bowl.

In practice it has been found that, as distinguished from the art as here recognized, it is desirable in many instances to relatively concentrate the flushing water at a given point or points to afford a greater volume or force thereof directed at particular portions of the bowl, as compared to a mere flushing of other portions of the bowl, for example, on the one hand to furnish an effective jet to properly secure the emptying of the bowl, or, on the other hand, to subject that portion or portions of the bowl, where necessary, to a more vigorous washing action.

The essential characteristic of the present invention resides in the provision of means for accomplishing the desirable results above outlined, said means embracing broadly a flushing rim divided into two distinct conduits, one having a plurality of outlets to deliver the water in a divided state to the bowl for flushing the major portion thereof, and the other having an outlet through which the water in a concentrated condition may be discharged to a particular portion or portions of the bowl in relatively greater volume or force; and more specifically the invention comprises a common water inlet for the rim, communication between the two conduits being afforded by means of an aperture in the dividing partition furnished to that end.

The details in the construction and arrangement of the several features of the preferred embodiment of the invention will be apparent from the specific description hereinafter contained, when read in connection with the accompanying drawings forming part hereof and wherein said embodiment is illustrated. It will be understood, however, by persons skilled in the art that the invention is capable of embodiment in forms and devices other than that herein specifically disclosed for the purposes of illustration.

In the drawings:

Figure 1 is a vertical longitudinal sectional view through the bowl, and

Fig. 2 is a horizontal sectional view through the center of the flushing rim.

Referring more specifically to the drawings wherein like reference characters refer to corresponding features in the two views, A represents the bowl or hopper, molded of suitable material, such as porcelain, and of any style desired in keeping with the operation and use for which the same may be intended. The upper portion of the bowl, indicated at B, is integral therewith and rounded on its upper surface to constitute a smooth rim or margin, as shown. The rim is hollow on its interior and divided by a continuous partition C connecting the upper and lower walls of the rim and dividing the space within the rim into two distinct or independent conduits D and E, the outer conduit opening at the rear of the bowl, as at F, to a suitable source of water supply, not necessary to be herein illustrated, the same of course being of suitable capacity and force.

Communication between the two conduits is afforded by means of an aperture G in the partition C arranged at a forward point relative to the bowl, the same being of relatively restricted size, as compared to the inlet F.

The outer conduit D has a single discharge outlet H adapted to discharge against the forward wall of the bowl or hopper, the same being of considerable size compared to other discharge apertures, to be later defined, so as to discharge water in volume and with maximum force at this point. Conveniently the enlargement of the discharge aperture H is by an elongation thereof, as clearly shown in Fig. 2.

In a series extending substantially around

the bowl, I provide a multitude of jet or spray orifices I, the same being relatively small, as compared to the outlet H, so that the water passing around the inner conduit E is divided so as to escape in relatively light force and volume to secure a flushing action around the interior of the bowl. The apertures I are inclined outwardly and downwardly, as shown in Fig. 1, to direct the water onto the surrounding inner surface of the bowl.

While I have herein defined the opening H as arranged at the forward portion of the bowl, and the communicating aperture G at approximately the same point, it will be obvious that these, or either of them, may be located at any other point or points around the rim, as may be found expedient or desirable.

From the foregoing construction it will be appreciated that the water under suitable force being admitted through the inlet F will flow around and fill the outer conduit D, passing from the same through the aperture G into and around the inner conduit E, a relatively forcible jet or volume being discharged from the enlarged outlet H from the outer conduit, and a relatively fine jet or spray being emitted from the many apertures constituting the outlets from the inner conduit E.

I claim:—

In a bowl of the character described, a flushing rim comprising a pair of channels one within the other, the outermost channel having an inlet opening at the rear of the bowl and a discharge opening at its front end for positively directing a heavy stream of water against the inner face of the front wall of the bowl, the inner channel having a plurality of relatively fine outwardly and downwardly directed discharge apertures arranged around the same to positively direct jets of water against the inner face of the bowl, the inner channel being closed adjacent to the inlet to the outer channel to compel the water to travel entirely around said outer channel to the discharge opening at the front of the bowl and having a communicating passage with the outer channel at said front of the bowl compelling the water admitted to the inner channel to traverse in a return path rearwardly relative to the bowl, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. MUCKENHIRN.

Witnesses:
JAS. E. HUTCHINSON,
JOS. H. MILANS.