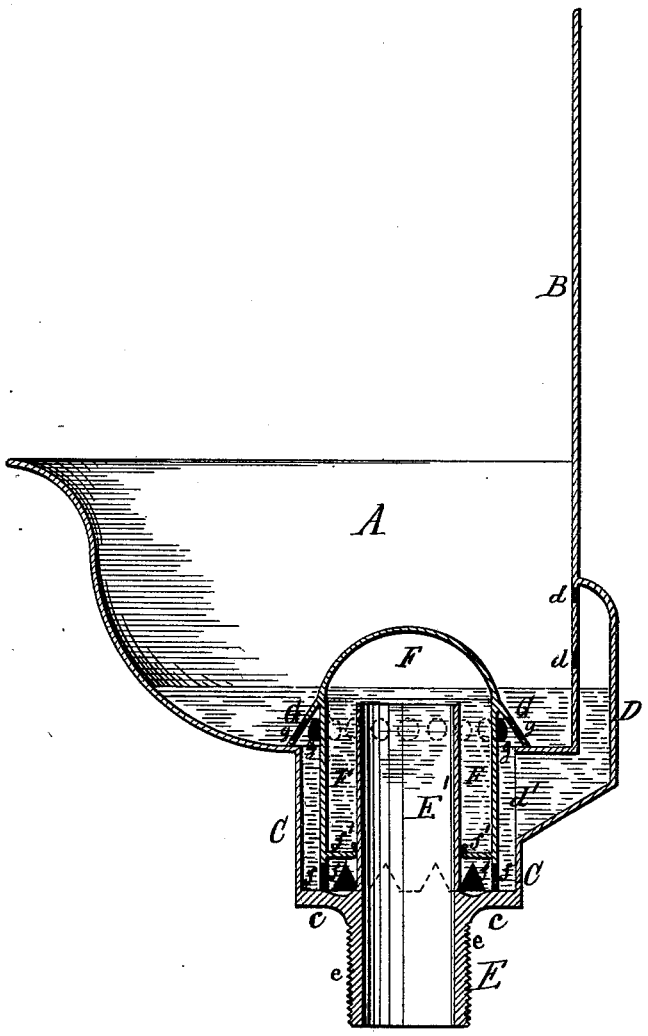
J. H. KEYSER.

URINALS OR WATER-CLOSET BASINS.

No. 190,767. Patented May 15, 1877.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. KEYSER, OF NEW YORK, N. Y., ASSIGNOR TO FREDERIC A. PALMER, OF SAME PLACE.

IMPROVEMENT IN URINALS OR WATER-CLOSET BASINS.

Specification forming part of Letters Patent No. **190,767**, dated May 15, 1877; application filed October 19, 1876.

To all whom it may concern:

Be it known that I, JOHN H. KEYSER, of the city, county, and State of New York, have invented a new and useful Improvement in Urinals or Water-Closet Basins, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which my improved urinal or water-closet basin is represented by a vertical central section.

The nature of my invention consists, first, in the combination of a urinal or water-closet basin with a bell-trap, whereby the bottom of the basin is kept covered with water; second, the combination of a urinal or water-closet basin, a bell-trap, and an overflow-pipe; third, the combination of a urinal-basin, a bell-trap, and a water-pipe connection, which forms part of the trap.

The object of my invention is to avoid having a dry bottom in a urinal-basin, and to let the water cover that part of the inner surface of the basin which, by its slight inclination, would retard the flow of the urine and favor the formation of sediment.

Another object is to provide a urinal-trap which is of easy access, and which may be conveniently cleaned or repaired without disturbing the waste-pipe.

In the drawings, A represents a basin; B, a wall-shield; F, a cylindrical bell-trap chamber below the basin, and D an overflow-pipe opening into the chamber C. The bottom *c* of the chamber C is formed by a flange of the waste-pipe joint E, and is soldered or otherwise fastened to the metal of the said chamber. An upper tubular extension, E′, of the joint E serves as an exit for the water and urine, and by its height keeps the surface of the water in the basin at such elevation that the bottom and shallow sides are covered and washed by it. The joint E is provided with a screw-thread, *e*, whereby it is fastened to the waste-pipe. A bell, F, with openings *f* around its base, and with steadying or centering arms *f′* bearing on the tube E′, is inserted into the chamber C, in the manner shown. The upper part of the bell F has a conical rim, G, which rests upon the bottom of the basin, and which is provided with a number of holes, *g*, through which the water passes into the chamber C. If the holes *g* should become obstructed, the water would rise, and finally enter the overflow-pipe D by means of the opening *d* in the shield B. From the pipe D the water enters the chamber C through the opening *d′*, and enters the bell F through the openings *f*, the same as the water which enters through the holes *g*. From the bell the water is drawn off by the tubular extension E′ of the joint E, and delivered to the waste-pipe.

The bell-trap described has the advantage over the common **S**-shaped trap, in that it is within easy reach for cleaning or repairing purposes, and that access to the lower part of the overflow may be had at the same time.

The main difficulty in the operation of **S**-shaped traps is this, that they, in most cases, act as siphons and empty the trap, thereby frustrating its purpose. This difficulty is overcome by the bell-trap, because the amount of water within the bell can only be withdrawn by siphonic action to a very slight degree, whereupon the entrance of air into the bell counteracts the said action at once.

By preventing the free entrance of water into the chamber C by means of the perforated rim G, I divide the flow of water into a number of currents, and thereby increase the cleaning effect of the water in the basin while passing off, causing it to constantly wash the sides and bottom of the basin, and prevent the formation and fastening of sediment on the sides and bottom thereof.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A urinal-basin having a bell-trap attached to its bottom, so that the bell-cover thereof may be lifted out through the bottom of the urinal without disconnecting any of the fixtures of the urinal, substantially as set forth.

2. A urinal-basin, A, in combination with the joint-connection E, having a flange, *c*, and

a tubular exit, E′, a chamber, C, and bell F, having base-openings *f*, and a perforated rim, G, substantially as set forth.

3. A urinal-basin, A, in combination with a bell-trap, C E′ F, and the overflow-pipe D, substantially as set forth.

Witness my hand in the matter of my application for a patent for an improved urinal or water-closet basin this 12th day of October, 1876.

JOHN H. KEYSER.

Witnesses:

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