

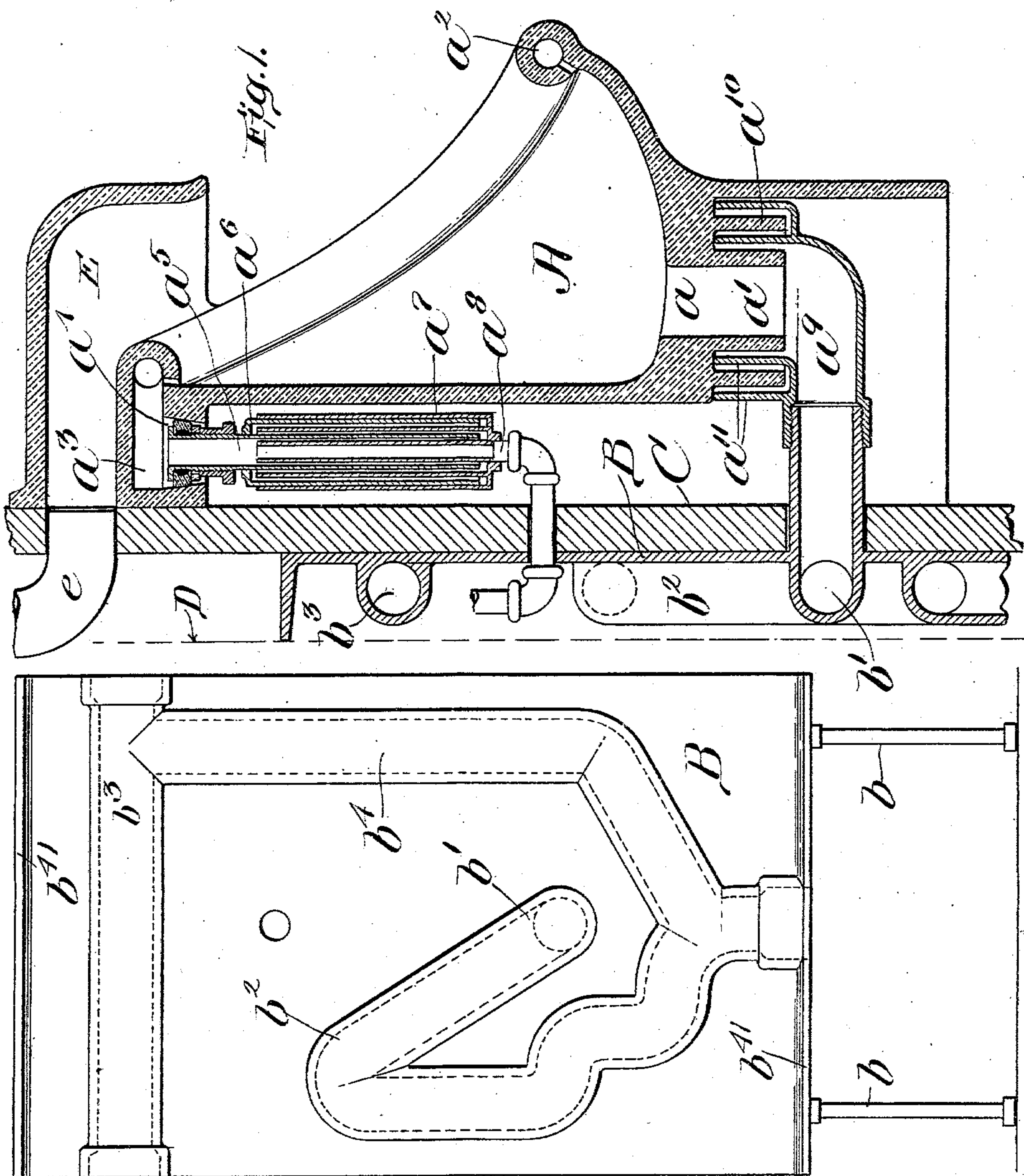
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D. CRAIG.  
URINAL.

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NO MODEL.



Witnesses:

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Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## URINAL.

SPECIFICATION forming part of Letters Patent No. 751,976, dated February 9, 1904.

Application filed March 19, 1903. Serial No. 148,515. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID CRAIG, a citizen of the United States, and a resident of Melrose, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Urinals, of which the following is a specification.

My invention relates to urinals; and its object is to provide an improved urinal of simple construction capable of being quickly and easily installed and removed.

A further object of my invention is to provide an improved and simplified wall-plate for supporting the urinal-bowl.

Heretofore urinals of the class to which my invention relates have been so constructed as to require the use of fastenings and supporting devices—such as bolts or screws of more or less elaborate character, as well as of screw-couplings or the like—to effect the pipe connections, all of which require careful manipulation and adjustment when the urinal is installed or removed for the purpose of repair or other reason. Furthermore, the rust or oxidation of these fastenings and fittings and their tendency to accumulate dirt not only renders the urinal unsightly but unsanitary.

By the use of my invention the employment of the usual fastenings and supporting devices is dispensed with, the bowl is supported by the pipe-couplings alone, and the couplings are of such construction that they require no other manipulation to effect a union than the setting of one member within the other. One member of each pipe-coupling is secured to the bowl and the other to a fixed support, so that the urinal may be installed or removed simply by lowering or raising the bowl. The fixed support is preferably a wall-plate of cast metal and of novel construction presently to be described.

In the accompanying drawings, Figure 1 is a central vertical section of a urinal embodying one form of my invention. Fig. 2 is an elevation of the rear side of the cast-metal wall-plate hereinafter described.

Having reference to the drawings, A represents the bowl of my improved urinal, which may be made, as usual, of porcelain. Through the bottom of bowl A is provided an exhaust

or discharge opening  $a$ , which is continued for a short distance below bowl A by a short integral section of pipe  $a'$ . The top edge of bowl A is bordered, as usual, by an integral flushing-pipe  $a^2$ , perforated along its under or inner side. At the top of the bowl pipe  $a^2$  communicates with a chamber  $a^3$ . Through the bottom of chamber  $a^3$  is provided a tapered opening  $a^4$ , within which is firmly fixed the end of a coupling member  $a^5$ , whose lower end is made up of a plurality of concentric rims  $a^6$ . The member  $a^5$  is adapted to telescope with a similar opposed coupling member  $a^7$ , fixed to the end of a section of pipe  $a^8$ , and when in engagement therewith the rims of one member are intermeshed with the rims of the other. By filling the spaces between the rims of the lower member with a fluid the joint is effectively sealed. For a more detailed description of the construction of the union and of the principle of operation of the seal thus effected I refer to my patent for "Pressure-resisting seal," No. 725,937, dated April 21, 1903. The flushing-pipe  $a^8$  is suitably secured to the back plate B. It will now be clear that with one of said coupling members fixed to the bowl and the other to a support the two may readily be slid together or apart by moving the bowl vertically. A similar coupling and seal may be effected at the bottom of the bowl connecting the duct  $a'$ , leading from the discharge-opening of the bowl, with the waste-pipe  $a^9$ . The concentric walls made up of the end of pipe  $a'$  and rim  $a^{10}$  intermesh with the walls or rims  $a^{11}$  and pipe end  $a^9$ , forming with the use of a suitable sealing fluid a union of the same character as above described, the two members of which may be engaged and disengaged by moving the bowl vertically, as above described with reference to members  $a^5$  and  $a^7$ .

The two couplings above described not only form sealed joints, but hold the bowl in place, the lower one preferably holding the weight, while the upper one prevents any forward or lateral pitch.

The supporting-plate B is preferably a wall-plate of cast metal and is supported at the proper height by standards  $b$ . It may be secured in position against the wall in any suit-



able manner. The pipe  $a^9$  may be integral with plate B or affixed thereto and projects from the front face of the wall-plate B, serving not only as a pipe connection, but as a shelf for supporting the bowl A. At its inner end the pipe  $a^9$  communicates with a conduit  $b^1$  upon the back of and cast integrally with plate B and provided with a trap or siphon  $b^2$ , as shown. From the trap the conduit extends to the lower end of the plate B, at which point it may be connected with a pipe leading to a sewer. Plate B is also cast with a horizontal ventilating-conduit  $b^3$ . Leading from conduit  $b^1$  below the siphon  $b^2$  is the conduit  $b^4$ . The conduit  $b^3$  may communicate with any suitable plumbing-trap vent-pipe in the building. By arranging the conduit  $b^3$  horizontally a number of plates B may be set up side by side and connected in series by simply connecting the proximate ends of the conduits  $b^3$ .

It is customary to face the wall of the room in which the bowl is mounted with a slab or slabs of stone and to mount the bowl upon the outside of this facing, and my invention, as herein illustrated, is adapted to such construction of wall, C representing in section a slab of stone, and D the wall of the room. The top and bottom edges of the plate B are each formed with a leg  $b^4$ , and these legs serve to space the slab C from wall D. The plate B may be held in position against the wall by any suitable fastenings, such as bolts, L-shaped hooks, or iron straps.

At the top of bowl A is provided a ventilating-outlet E, which registers with the end of a ventilating-pipe  $e$  when bowl A is in position.

The telescoping coupling connecting the two flushing-pipe sections  $a^5$  and  $a^7$  is preferably made longer than the coupling connecting the two discharge-pipe sections  $a^7$  and  $a^9$ , so that in placing the bowl in position the pipe-sections  $a^5$  and  $a^7$  may be first engaged and then the pipe-sections  $a^7$  and  $a^9$ , which will be found of material assistance in installing the bowl. Furthermore, the long coupling in the flushing-pipe will furnish a seal of high-pressure resisting capacity.

It will now be observed that an exceedingly small amount of piping and pipe-fitting is required, that the bowl A may be readily installed and as readily removed and replaced without any other labor than that of lowering or lifting the bowl when necessary, and that the bowl is supported by the wall-plate B and not, as heretofore, by the stone slab, in which case special and separately-manipulated fastening devices were required. The advantages derived from these structural features will be obvious to all skilled in this art.

In the drawings the section  $a^9$  of the discharge-pipe is shown as made in two parts; but this is not material and is simply for convenience in assembling where the stone slab

C is to be used between plate B and the bowl A. Obviously it may be made all in one piece in cases where the slab C is omitted.

What I claim is—

1. In a urinal, a bowl; a support therefor; a flushing-pipe and a discharge-pipe each made in two sections, one section of each pipe being fixed to the support and the other section of each pipe being fixed to the bowl; two vertical couplings, one for each pair of pipe-sections, the upper member of each coupling being fixed to the pipe-section on the bowl and the lower member of each coupling being fixed to the pipe-section of the support.

2. In a urinal, in combination, a support; a bowl; a flushing-pipe and a discharge-pipe each comprising two vertical telescoping sections, with the upper section of each fixed to the bowl and the lower section of each fixed to the support.

3. In a urinal, in combination, a support; a bowl; a flushing-pipe and a discharge-pipe each comprising two vertical telescoping sections with the upper section of each fixed to the bowl and the lower section of each fixed to the support, the lower section of one pipe being arranged to support the weight of the bowl.

4. In a urinal, in combination, a wall-plate; a bowl; a flushing-pipe and a discharge-pipe, each of said pipes made in two telescoping sections, with one section of each pipe fixed to the bowl and the other section fastened to the wall-plate, and also having one of the sections on the wall-plate arranged to support the bowl.

5. In a urinal, in combination, a wall-plate; a bowl; a flushing-pipe and a discharge-pipe each made in two sections, one section of each pipe being fixed to the support and the other section of each pipe being fixed to the bowl; two vertical couplings one for each pair of pipe-sections, each coupling comprising an upper series of concentric rims fixed to the pipe-section on the bowl, and a lower series of concentric rims fixed to the pipe-section on the support, and telescoping with the upper series.

6. In a urinal, in combination, a bowl; a flushing-pipe; a discharge-pipe; each of said pipes made in two telescoping sections with one section of each pipe fixed to the bowl; a wall-plate having one of the sections of the discharge-pipe fixed thereto and arranged to support the bowl, and a siphon or trap cast in said plate and communicating with the fixed discharge-pipe section.

7. In a urinal, in combination, a bowl; a flushing-pipe; a discharge-pipe, each of said pipes made in two telescoping sections with one section of each pipe fixed to the bowl; a wall-plate having one of the sections of the discharge-pipe fixed thereto and arranged to support the bowl; a conduit comprising a trap cast in the wall-plate and communicating with the fixed discharge-pipe section, and a venti-



lating-conduit cast in said plate and communicating with the first conduit below the trap.

5 8. The above-described wall-plate casting made with a trap or siphon-shaped conduit on one side of said plate and integral therewith, the inlet end of said conduit passing through said plate to the other side thereof and terminating in a projection adapted to be coupled to a bowl.

10 9. The above-described wall-plate casting made with a trap or siphon-shaped conduit on one side of said plate and integral therewith, the inlet end of said conduit passing through said plate to the other side thereof and terminating in a projection adapted to be coupled to a bowl, and a ventilating-conduit integral with said plate and communicating at one end with the first conduit below the trap or siphon.

15 10. The above-described wall-plate casting made with an integral projecting pipe-section adapted to support a bowl; and also to serve as one of the pipe connections for such bowl.

11. The above-described wall-plate casting made with an integral projecting pipe-section on one side thereof adapted to support a bowl 25 and also to serve as one of the pipe connections for such bowl; and a siphon-shaped conduit upon the opposite side of said plate and communicating at one end with said pipe-section.

12. The above-described wall-plate casting 30 made with an integral projecting pipe-section on one side thereof adapted to support a bowl; a siphon-shaped conduit communicating at one end with said pipe-section, and a ventilating-conduit upon the opposite side of said 35 plate and communicating at one end with the first conduit below the siphon.

Signed by me at Boston, Massachusetts, this 16th day of March, 1903.

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Witnesses:

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