(No Model.)

2 Sheets—Sheet 1.

J. E. BOYLE.

URINAL.

No. 329,806.

Patented Nov. 3, 1885.

Fig. 1.

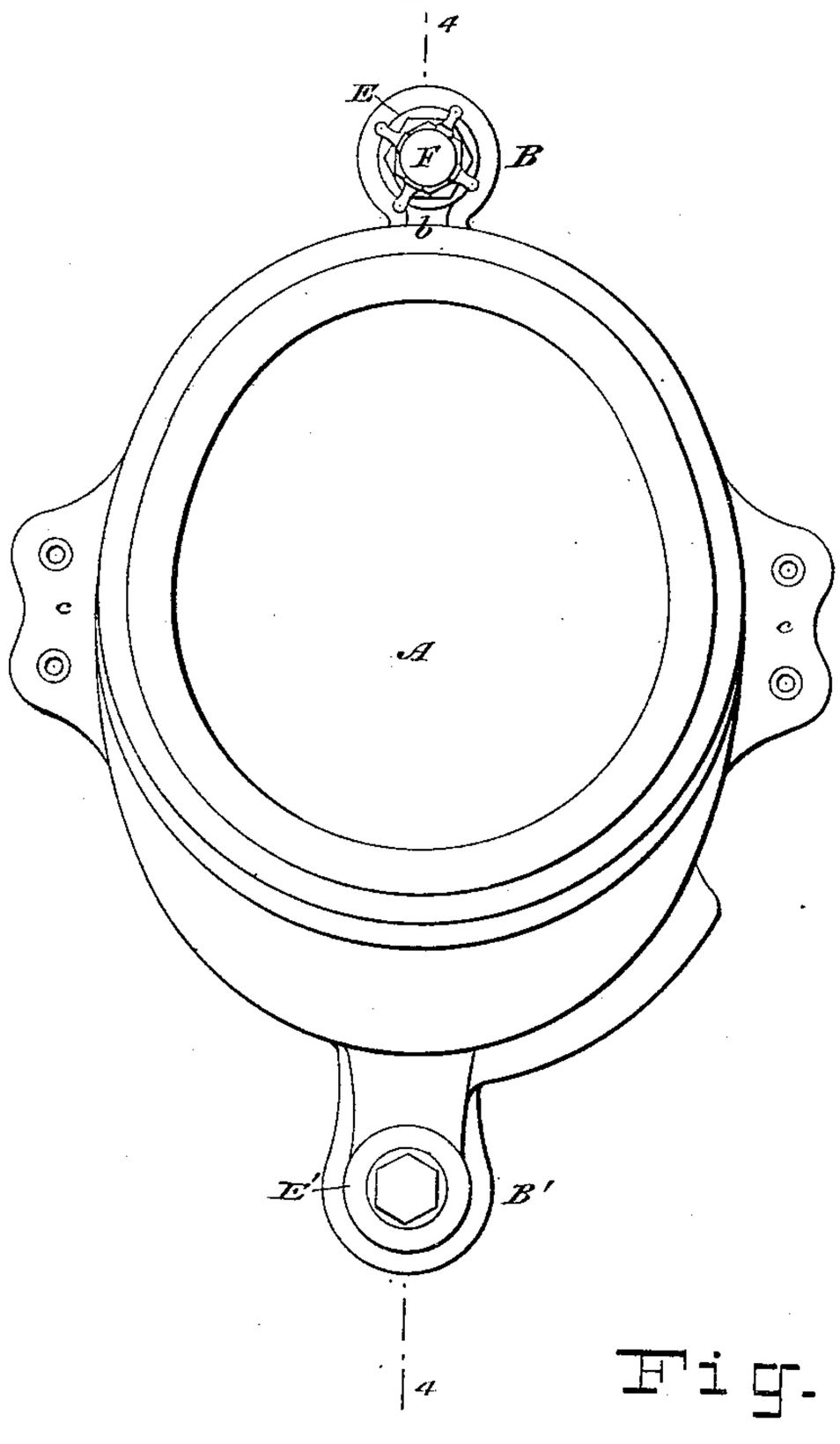


Fig. 2.

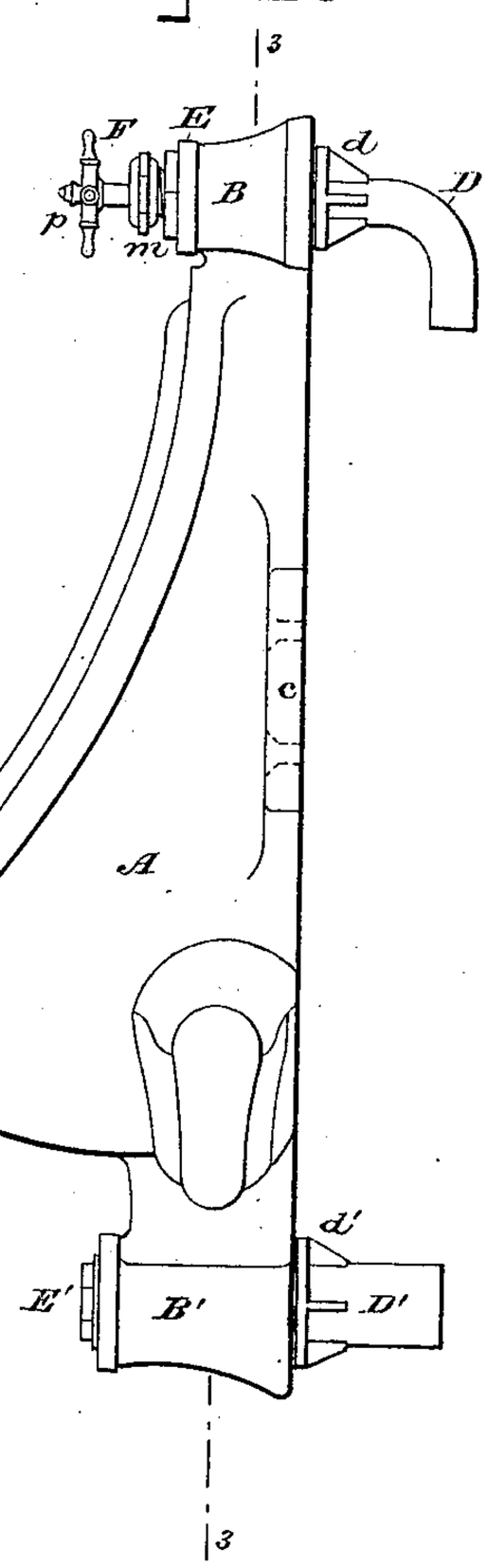
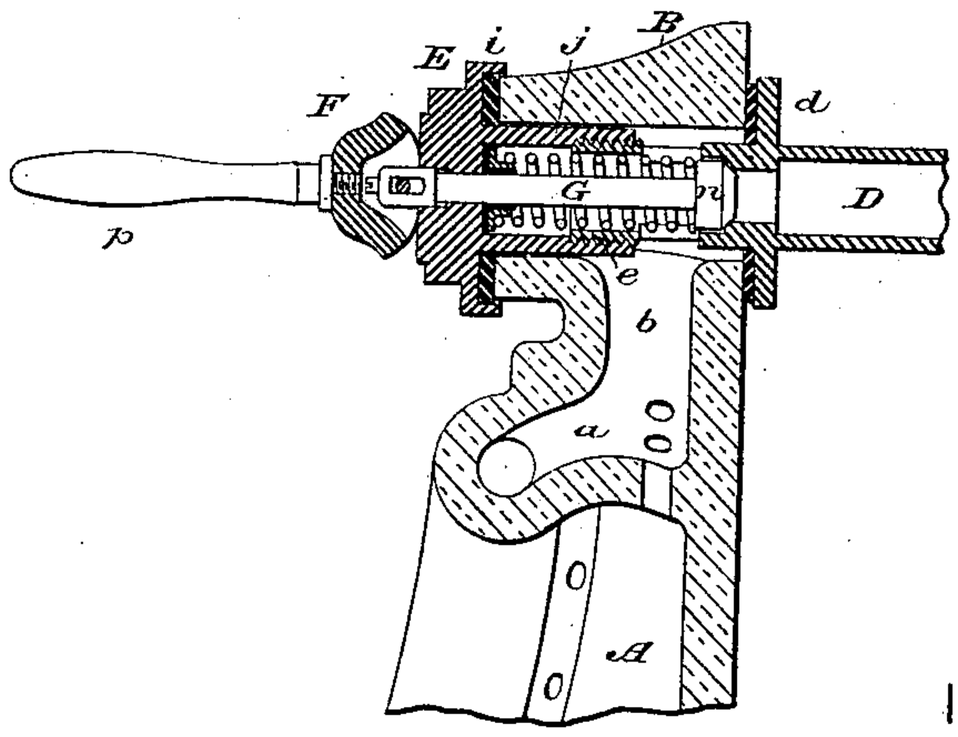


Fig. 7.



WITNESSES:

E. B. Bolton

Geo. Dainson

INVENTOR:

James E. Boyle

By his Attorneys,

Burke, Fraser & Bennett

(No Model.) 2 Sheets—Sheet 2.

J. E. BOYLE.

URINAL.

No. 329,806. Patented Nov. 3, 1885.

Fig. 3.

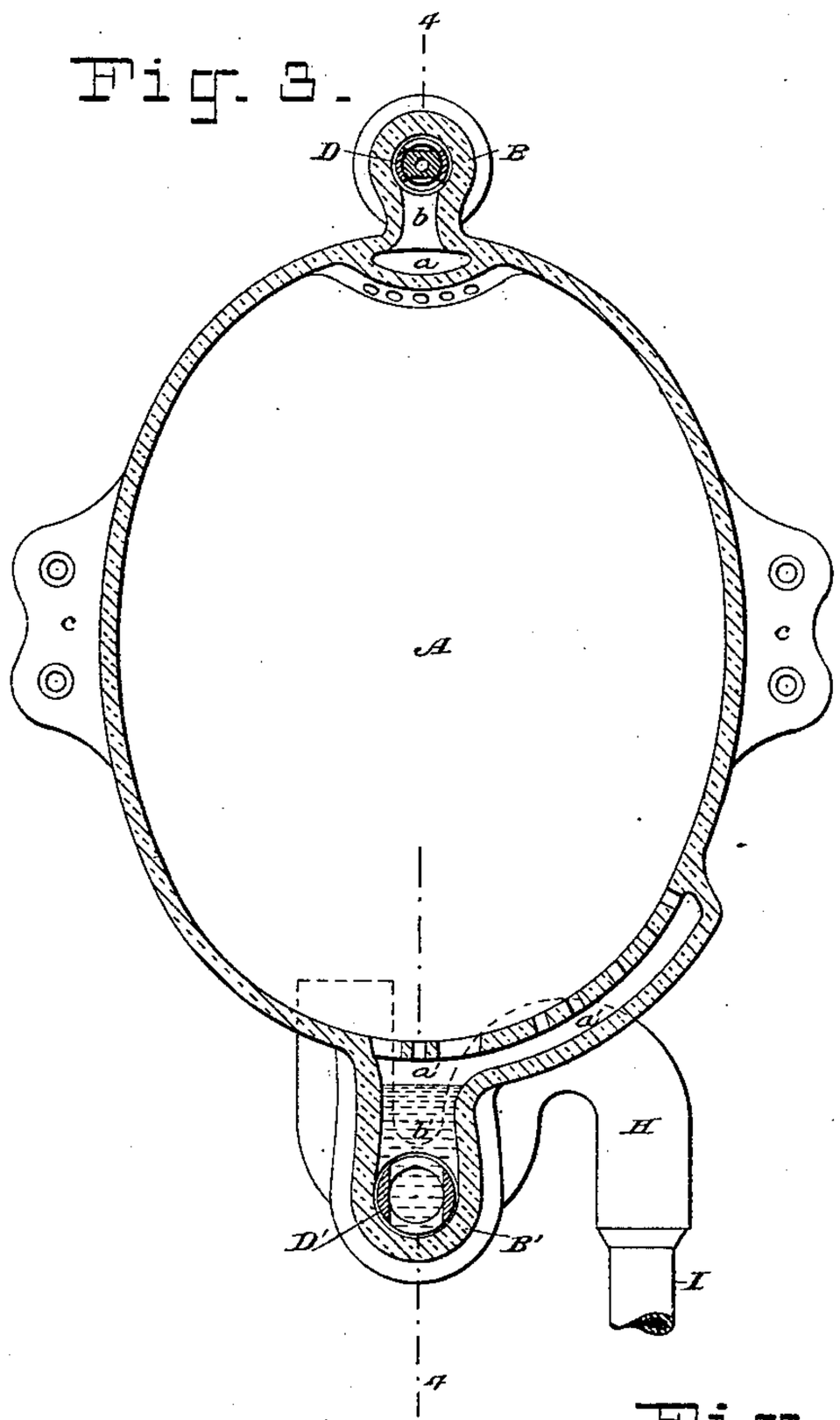


Fig. 4.

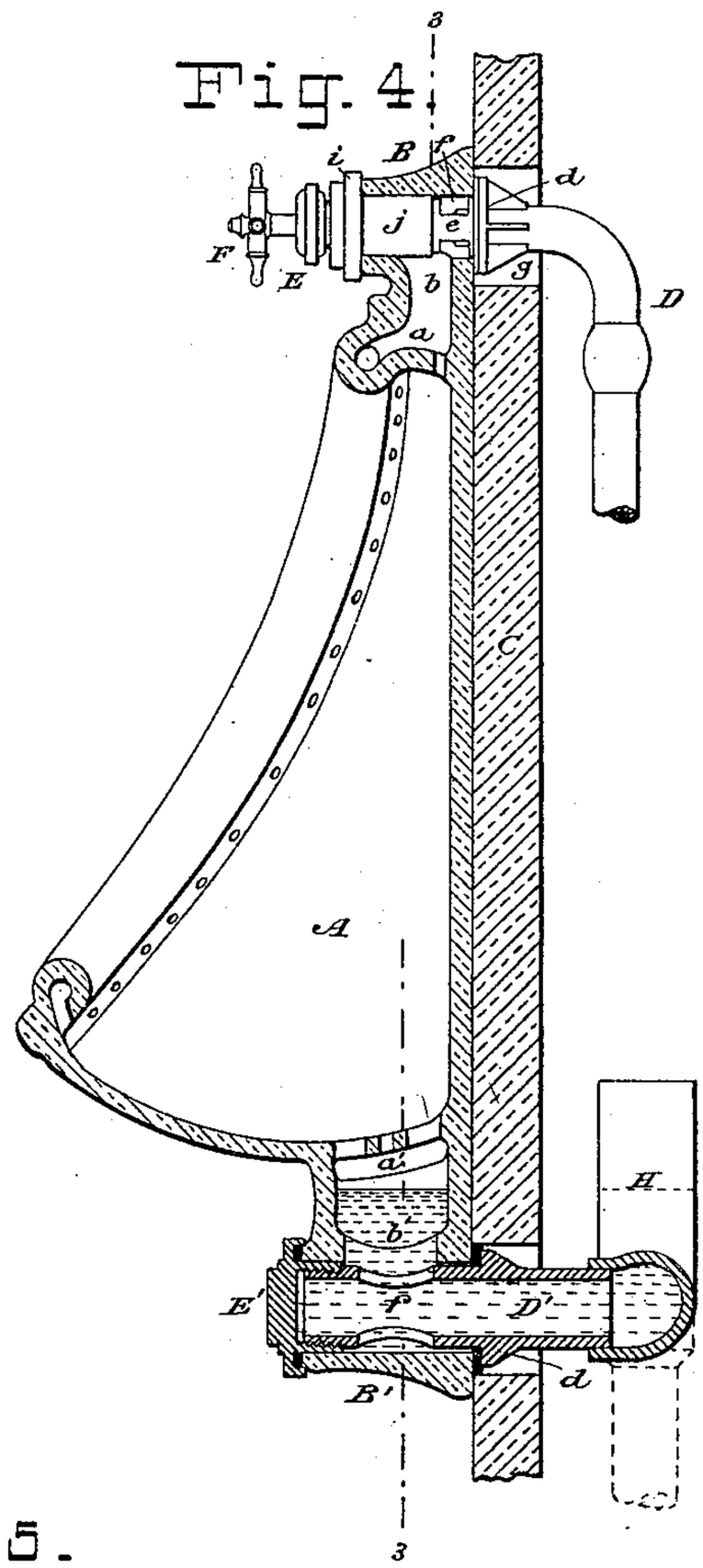


Fig. 5.

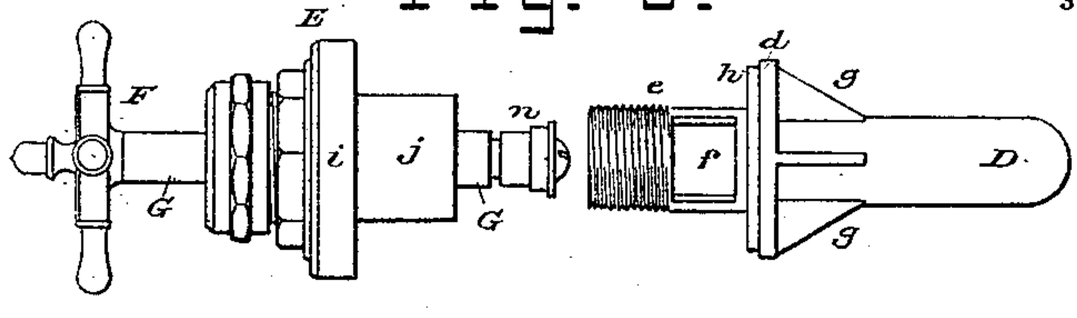
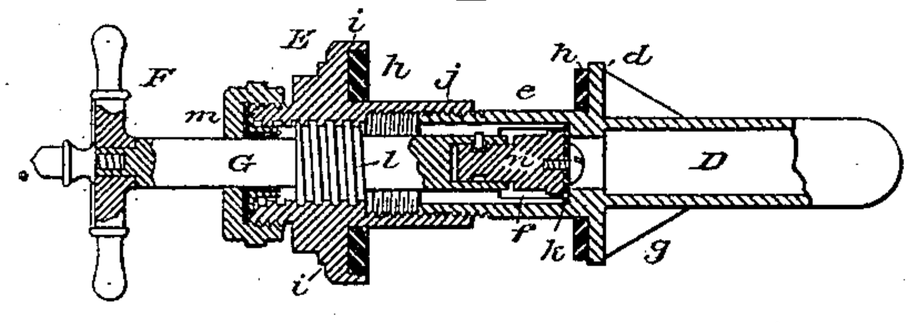


Fig. 6.



WITNESSES:

E. B. Bolton

Geo. Bainton

INVENTOR:

James E. Boyle

By his Attorneys,

Burby Fraser & Committ

UNITED STATES PATENT OFFICE.

JAMES E. BOYLE, OF BROOKLYN, NEW YORK.

URINAL.

SPECIFICATION forming part of Letters Patent No. 329,806, dated November 3, 1885.

Application filed September 25, 1884. Serial No. 143,931. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. BOYLE, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Urinals, of which the following is a specification.

My invention relates in general to earthenware urinals which are fastened to a vertical slab, receive water at the top to rinse them, and have a waste-pipe leading from the bottom.

The features to which my invention has particular reference are the means of connecting the water-supply and waste pipes, the means of applying a faucet or cock to control the water-supply, and the means of trapping the waste-pipe.

Figure 1 of the accompanying drawings is a front elevation of my improved urinal. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical section on lines 3 3 in Figs. 2 and 4, looking from the front. Fig. 4 is a vertical mid-section on lines 4 4 in Figs. 1 and 3, looking from the side, as in Fig. 2. Fig. 5 is a plan, on a larger scale, of the faucet and water-supply connections removed. Fig. 6 is a longitudinal mid-section of the same on the same scale, showing them connected together; and Fig. 7 is an enlarged fragmentary view corresponding to the upper part of Fig. 4, and showing the application of a modified form of faucet.

Let A designate the earthenware bowl of the urinal, which is of the usual or any suitable construction, except that it is formed at top and bottom with two tubular barrels, lettered B and B′, respectively. Each of these barrels is molded in one piece with the bowl, is formed with a cylindrical cavity extending through it from end to end in a direction perpendicular to the plane rear surface of the bowl, and has a passage or port extending from it into the interior of the bowl. At the base or rear end of each barrel it is molded with a projecting flange, thus making its rear end of considerably greater diameter than its front end, as shown, for the purpose of concealing the hole in the slab, as will be explained. The upper barrel, B, is designed for connection with the water-supply pipe, and has a port, *b*, opening downward into the cavity *a*, which communicates, as usual, with the hollow flushing-rim, and has also perforations designed to admit jets of water to flow down the back wall of the bowl. The lower barrel, B′, is designed to be connected with the waste-pipe, and the part *b′*, which leads into it, extends downward from the overflow or draining space *a′*.

The urinal-bowl A is fastened back to an upright slab, C, of marble or slate, by screws passing through holes in ears or lugs *c c*, as usual. Holes are made through the slab to coincide with the holes through the barrels B B′, being considerably larger than the holes through the barrels to freely admit the clamping-flanges of the pipe-connections and to allow for some variations in the dimensions of the bowl in case of replacing one urinal-bowl by another. These holes through the slab are covered and effectually concealed by the flanges at the base or rear of the barrels, which thus impart a neat finish to the urinal. These flanges also serve to strengthen the barrels and prevent their breakage. The water-supply pipe passes up behind the slab C, and is wiped or otherwise joined to a spud, D, Figs. 2 and 4. This spud curves forward, is formed with a flange, *d*, and a tube, *e*, extends forward from this flange, is screw-threaded, and is provided with holes *f f* through its sides. Ribs *g g* are preferably formed behind the flange *d*. This flange enters the upper hole in the slab and comes against the rear of the barrel B, a rubber gasket or washer, *h*, being interposed to make a tight joint. The tubular portion *e* enters the barrel B and extends nearly through it. A cap, E, is provided to close the front end of the barrel B. This cap is formed with a flange, *i*, which fits against the front of the barrel, a rubber washer, *h*, being interposed to make the joint tight and with a tube, *j*, screw-threaded to screw upon the tube *e*, as shown in Fig. 6. The cap E is placed against the front of the barrel and its tube *j* screwed onto the tube *e* until both flanges *d* and *i* are drawn tight against the barrel. Thus the water-supply connection is made in a simple, strong, and convenient manner. I combine with this connection the faucet or cock for controlling the flow of water into the urinal. The faucet F (shown in Figs. 1 to 6) is of

the type known as "compression-faucets," its valve being screwed down against a seat. A contraction in the spud D, forming a shoulder, *k*, Fig. 6, forms the valve-seat. The cap E is perforated for the passage of the valve-stem G, and the perforation is screw-threaded to engage the screw-threads *l* on the stem, by which it is moved to open or close the valve. On the cap E screws an outer cap or stuffing-box, *m*, in which is the usual packing common to compression-faucets. The valve *n* is constructed and attached to the stem in the usual manner. The stem is provided with the usual wheel or handle, *p*, by which to turn it. The water enters through D, escapes past the valve *n* when the faucet is opened into the tube *e*, and out through the apertures *f*, into the passage *b*, leading down to the flushing-cavity of the urinal. This combination of the faucet with the pipe-connection renders the parts more compact, saves the fittings and joints or connections heretofore used with a separate faucet, and enables the supply-pipe to be wholly concealed behind the marble slab.

In Fig. 7 I have shown a self-closing faucet, instead of a compression-faucet, arranged according to my invention. The construction of the faucet is substantially the same as shown in my Patent No. 249,579, dated November 15, 1881, and requires no description here. Almost any known or practicable construction of faucet may be adapted to be used according to this feature of my invention—such, for instance, as the common plug or key-cock. The waste-pipe connection at the bottom of the urinal is similar to the water-supply connection at the top, except that the faucet is omitted and a trap is used. The spud D′, which enters the barrel B′ from the back, has a flange, *d′*, apertures *f′*, and is screw-threaded to be engaged by threads on the cap E′, which screws on against the front of the barrel.

In Fig. 4, H is a common S-trap, to the lower end of which is connected the waste-pipe I, and the upper end of which may be closed or left open, or connected by a ventilating-pipe to the roof. The tube D′ is joined to the belly of the trap, being wiped or soldered thereto. Thus the water stands in the passage *b′* of the urinal, which, with the tube D′, becomes part of the trap. This construction has the important advantage that when it becomes necessary to clean the trap the plumber has only to unscrew the cap E′, when at once he has access through the tube D′ into the lowest portion of the trap bend.

Heretofore the waste-trap has been placed below the urinal-connection and a third hole has been necessary through the slab C in order to gain access to the plug closing the bottom end of the trap, and this opening in the slab has been closed with a metal cap fastened by screws. My invention renders this lower hole and cap unnecessary, and also simplifies the construction and reduces the number of joints or connections.

The barrel-connection herein shown and described is identical in principle and very similar in construction to that embodied in my Patent No. 291,140, granted January 1, 1884. I make no claim in this application to anything shown in that patent.

I am well aware that urinals have been made prior to my invention in which the supply and waste pipes entered through the back through openings formed in the back plate at top and bottom of the bowl, being thereby concealed behind the slab; and also that earthenware urinal-bowls have had hollow chambers molded on them at top and bottom with openings at the back, in which the supply and waste pipes are connected, being fastened by nuts screwed onto them inside the chambers, the nuts being passed in through larger openings in the front of the chambers, closed by independent caps.

I make no broad claim to combining a supply cock or faucet with a water-pipe connection for a urinal, except when the cock is arranged in the connection and operates inside a tubular barrel formed on the bowl; nor do I make any broad claim to so constructing the waste-trap of a urinal that the lower portion of the trap can be reached for cleaning, except when it is reached through a barrel molded on the bottom of the urinal-bowl.

I claim as my invention—

1. An earthenware urinal-bowl having molded in one piece with it a tubular barrel the bore of which is cylindrical and extends through the barrel from end to end with its axis perpendicular to the plane rear surface of the urinal-bowl, and formed with a port or passage extending from the bore to the interior of the bowl, substantially as set forth.

2. An earthenware urinal-bowl having molded in one piece with it a tubular barrel the bore of which is cylindrical and extends through the barrel from end to end, with its axis perpendicular to the plane rear surface of the urinal-bowl, and formed with a port or passage extending from the bore to the interior of the bowl, and with a projecting flange formed at the base of the barrel, constituting a continuation of the plane rear surface of the bowl, and adapted to cover and conceal the hole through the slab against which the urinal is to be placed, substantially as set forth.

3. An earthenware urinal-bowl formed with an open-ended barrel molded on it, and an opening extending from its interior into the cavity of said barrel, in combination with a pipe-connection entering said barrel, and having flanges drawn toward each other against the ends thereof, and with a faucet or cock arranged in said connection and operating in the cavity of said barrel, substantially as set forth.

4. The earthenware urinal-bowl A, formed with a barrel, B, molded in one piece with it, in combination with flanged tube or spud D,

entering said barrel from the back, cap E, closing the front thereof, and faucet or cock F, borne by said cap, entering the barrel and seating itself within the tube D, substantially as set forth.

5. The combination of tube or spud D, having flange *d*, threaded tube *e*, and seat *k*, with cap E, having flange *i* and threaded tube *j*, and faucet F, borne by said cap, and having valve *n*, seating against said seat *k*, substantially as set forth.

6. The combination of urinal-bowl A, having tubular barrel B′ formed upon its bottom, with tube or spud D′, cap E′, and trap H, the tube D′ being joined to the belly of said trap, whereby the latter may be cleaned out through said barrel by removing said cap, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES E. BOYLE.

Witnesses:
AUTHUR C. FRASER,
GEORGE H. FRASER.