(No Model.)

F. A. GRUNDY.

PIPE COUPLING.

No. 577,251. Patented Feb. 16, 1897.

Fig. 1.

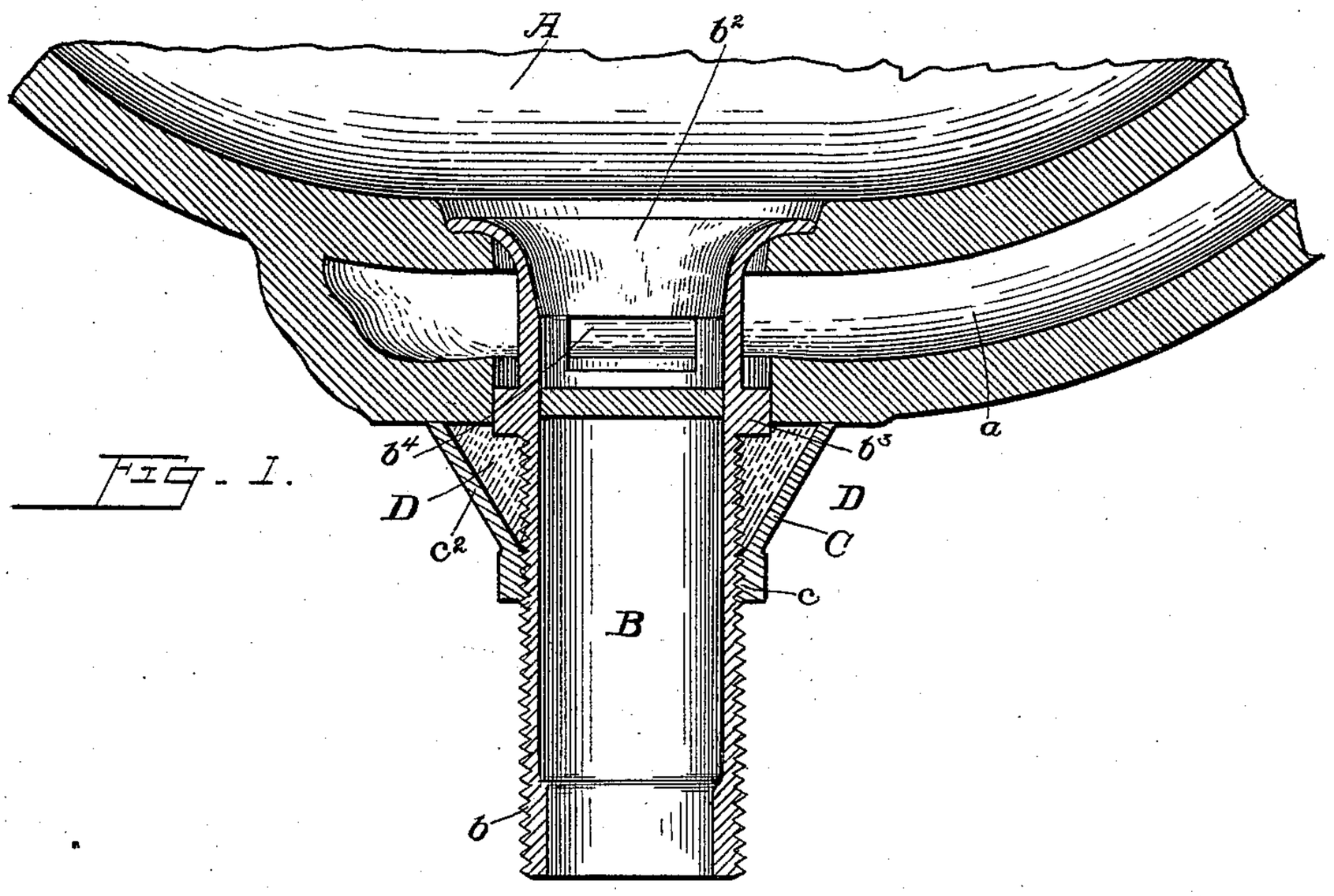
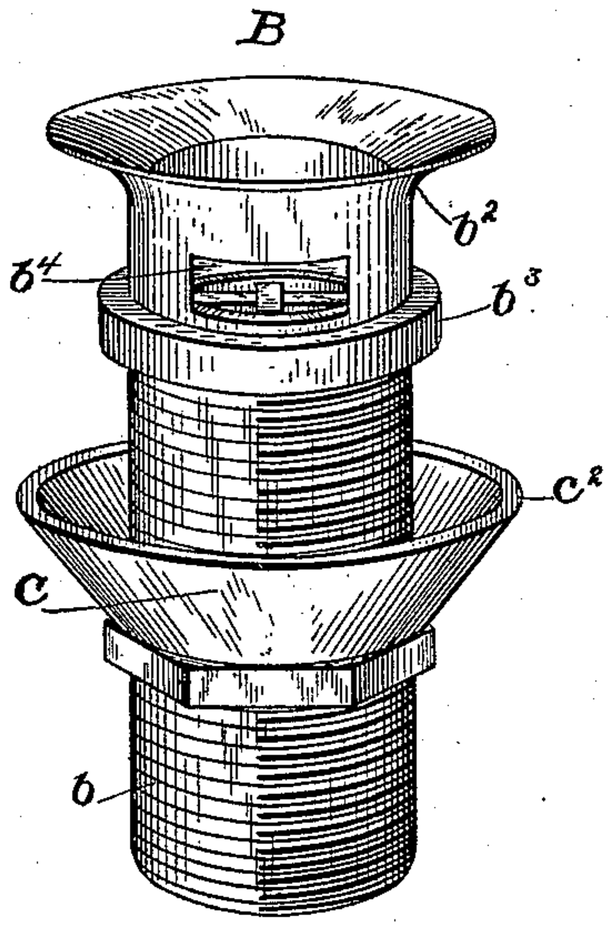


Fig. 2.



Witnesses:
F. S. Felt.
R. McElliott.

Inventor:
Frank A Grundy.
by W. E. Singleburgh
Attorney.

UNITED STATES PATENT OFFICE.

FRANK A. GRUNDY, OF PITTSBURG, PENNSYLVANIA.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 577,251, dated February 16, 1897.

Application filed July 25, 1896. Serial No. 600,469. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. GRUNDY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Pipe-Couplings, of which the following is a specification.

This invention relates to pipe-couplings, and more particularly to an improvement in the pipe connections between urinals or basins and the waste-pipe.

Heretofore in this class of connections it has been customary to provide a threaded socket adapted to fit within an opening in the bottom of the urinal or basin, and by the employment of a resilient gasket and a nut screwed on the threaded portion of the coupling to effect a water-tight union. It has been found in practice that this form of connection is not of a durable or lasting nature, for the reason that the strong acid in the urine or the action of water will eat away the gasket, and thus in a short time cause the union to leak, resulting in the formation of noxious odors and disease-bearing germs. It has also been customary to effect a water-tight closure between the coupling and the urinal or basin by means of a block of wood forced against the rear side of the urinal by a nut on the coupling. This arrangement is also open to the objection already noted and the further objection that by the wood absorbing the urine or water it will expand and crack the urinal or basin.

It is the object of the present invention to overcome the above-noted objections in a simple, inexpensive, and effective manner, and, furthermore, to provide a coupling which may be applied to the ordinary form of urinal or basin without requiring any change in the structure of the same.

In a coupling characterized by my invention I provide an ordinary coupling flared at one end to fit within the recess provided in the bottom of the urinal or basin, threaded at the other end and provided intermediately of its length with suitable openings registering with the flush-duct on the under side thereof. In lieu of the resilient gasket or block of wood referred to I employ a cup-shaped nut adapted to contain a suitable cement, which, by contacting with the under surface of the urinal or basin when the nut is seated, effects a water-tight union, and one that is impervious to the action of acid or moisture. The cement may be of any preferred kind, but for cheapness and easy adaptability to use plaster-of-paris is in most instances preferred. Further and specific details of construction will be hereinafter described.

In the accompanying drawings, forming a part of the specification and in which like letters of reference indicate corresponding parts, I have illustrated a preferred form of my invention as applied to a urinal, although it is to be understood that other forms of embodiment thereof may be employed without departing from the spirit of the same and applied to other sanitary structures than urinals.

In the drawings, Figure 1 is a view in transverse section through a portion of a urinal or basin and the flush-duct thereof, showing my improved form of coupling in place. Fig. 2 is a perspective detail view of the coupling detached from the urinal or basin.

Referring to the drawings, A designates a section of the urinal or basin, and *a* the overflow-duct thereof. As these parts are of the ordinary and well-known form of construction, further description thereof is deemed unnecessary.

B designates my improved coupling, comprising a threaded shank portion *b*, a flaring end portion b^2, adapted to fit within an annular recess formed within the bottom of the urinal or basin for the purpose, and b^3 a stop-collar which may be either integral with the shank or secured thereto and serving as a means to prevent lateral play of the shank within the opening. The coupling is provided between the collar and the flared mouth with openings b^4, registering with the overflow-duct for a purpose that will be understood. Fitting upon the shank is my improved nut C, comprising a threaded portion *c* for engaging the threads of the shank and a cup-shaped portion c^2 for containing the cement that is to effect the water-tight union. The cup portion of the nut is here shown as a truncated cone, but it is to be understood that other forms of cup may be employed without departing from the spirit of the invention.

In assembling the coupling and the urinal

or basin the shank is inserted through the opening thereof with the openings b^4 in register with the overflow-duct. The nut C is then screwed on the shank and the cup portion filled with cement, (indicated by D,) and the nut is screwed up tightly against the under side of the urinal or basin with the cement in intimate contact therewith, thereby effecting a water-tight and acid-proof joint. It will be seen that this form of coupling may be applied with greater facility and that it possesses great advantage over the forms in use, in that that the cement which takes the place of the gasket or other seal will effectually prevent any breaking of the bowl or basin when the nut is seated; also that danger of breaking the bowl by expansion will be entirely obviated.

While I have described my invention as applied solely to urinals, it will be understood that by dispensing with the openings b^4 the same may be used in connection with a water-closet, washstand, bath-tub, or other form of sanitary structure.

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

A pipe-coupling having a flaring mouth adapted to be seated in a recess in the part to which it is to be connected, openings in said pipe below the flaring mouth, a collar on said pipe, adapted to fit in an opening in the receptacle, a threaded shank extending the full length of the tube below the collar, a cup-shaped nut threaded on said shank, said cup adapted to be filled with cement, whereby a tight joint may be formed between the tube and the receptacle upon screwing up the nut.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

FRANK A. GRUNDY.

Witnesses:
W. J. WHITE,
JAS. C. PATCH.