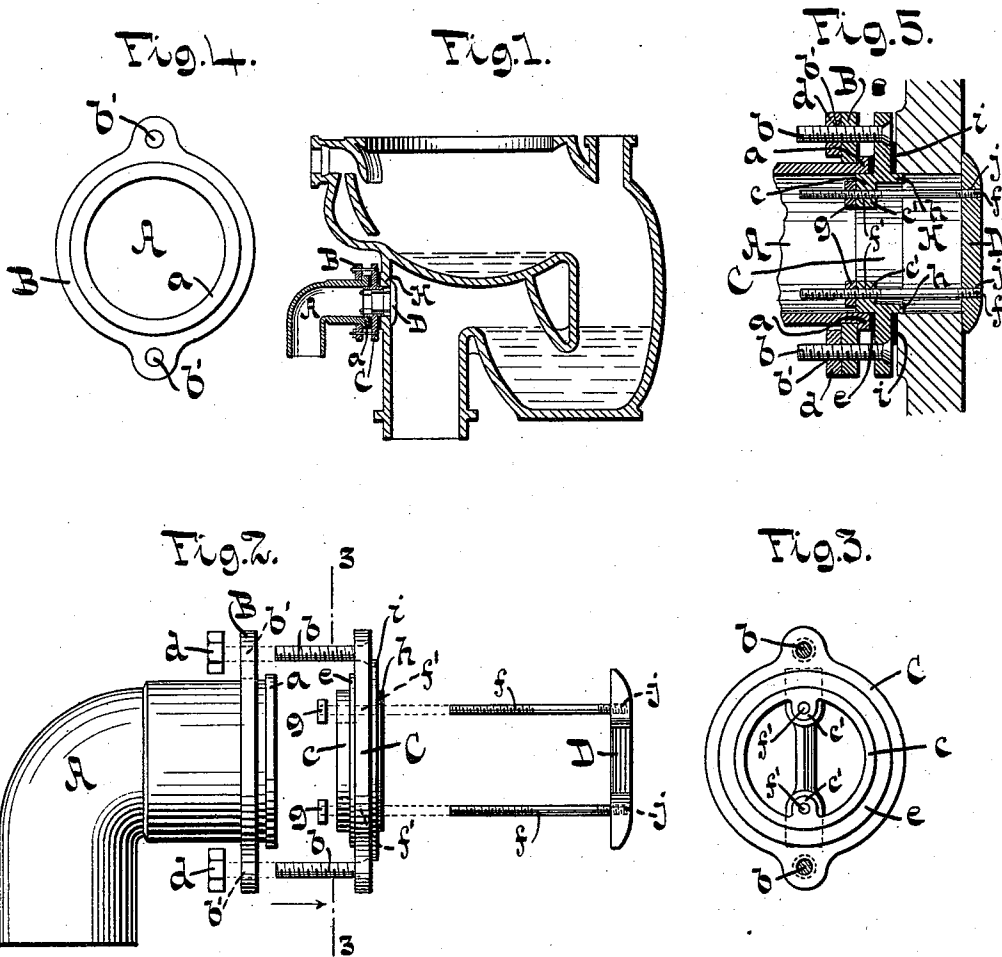


(No Model.)

C. J. PHILLIPS.  
REPAIR COUPLING.

No. 532,989.

Patented Jan. 22, 1895.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CORNELIUS J. PHILLIPS, OF NEW YORK, N. Y.

## REPAIR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 532,989, dated January 22, 1895.

Application filed February 5, 1894. Serial No. 499,154. (No model.)

*To all whom it may concern:*

Be it known that I, CORNELIUS J. PHILLIPS, a citizen of the United States of America, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Repair-Couplings, of which the following is a specification.

My invention has reference to repair connections and especially to devices for replacing the connections, when the flush or ventilating horns of water closets are broken.

It consists essentially in a repair connection composed of a bridge-piece adapted to span the orifice, an exterior coupling-piece and two studs connecting the bridge piece with the coupling-piece,—one of which studs is removably secured in the bridge piece to permit the latter to be passed through the orifice from the exterior.

The nature of my said invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a vertical cross-section of a water closet with repair connection. Fig. 2 is a side elevation on a larger scale showing the several parts of the connection disconnected. Fig. 3 is a section in the plane 3—3. Fig. 4 is an end view of the coupling-piece and pipe-connection. Fig. 5 is a sectional elevation of the repair connection as applied.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring to the drawings, the letter A designates a pipe-connection, which in this example is shown in the form of an elbow, but which, according to circumstances, may be in the form of any other known fitting, either straight or bent. To this pipe-connection is fitted loosely a coupling flange B provided with bolt holes  $b' b'$  and adapted to bear against a shoulder  $a$  formed on the end of the pipe connection.

C is a coupling-piece, shown in this example to be in the form of a flange, which is centered with reference to the pipe connection A by a collar  $c$ .

$b b$  are bolts adapted to pass through the

coupling-piece C and through the bolt holes  $b' b'$  in the flange B.

$d d$  are the nuts for the bolts  $b b$ .

$e$  is a washer carried by the collar  $c$  and forming a packing between the end of the pipe-connection and the coupling-piece.

D is a bridge-piece adapted to span the orifice H (Figs. 1, 2 and 5). Said bridge-piece is provided with two studs  $f f$  screwed into tap holes  $j j$  therein and adapted to pass through bolt holes  $f' f'$  formed in ears  $c' c'$  projecting from the interior of the coupling-piece.

$g g$  are the nuts for the studs  $f f$ , and  $i$  is a washer carried on a collar  $h$  of the coupling-piece and forming a packing between the latter and the horn of the water-closet.

The methods of applying the repair connection will vary with the character of the article with which the joint is made. If the interior of the article can be conveniently reached the connection is separated, as shown in Fig. 2. The bridge-piece together with the studs  $f f$  are placed in position from the interior and the coupling-piece and bridge-piece drawn tightly upon the wall by the nuts  $g g$ . The pipe-connection is then secured to the coupling-piece by bolts  $b b$  and nuts  $d d$ . If the interior of the article is not readily accessible, one of the studs  $f f$  is unscrewed from the bridge-piece D and the latter is passed from the exterior through the orifice at an angle. The stud is then replaced and the connection completed as before. Of course in either case the broken horn or other part, must first be trimmed true to afford a bearing surface for the coupling-piece.

In place of the loose flange B, bolts  $b b$  and nuts  $d d$  for securing the pipe-connection to the coupling-piece C, the pipe-connection and coupling-piece may be provided with screw threads.

I do not herein claim a single T headed screw threaded bolt adapted to engage by its head the inner walls of the closet and to project outwardly and engage an aperture in a bar extending across a nipple adapted to cover the intake orifice.

What I claim as new is—

1. A repair connection consisting of a bridge-piece adapted to span the orifice, a hollow coupling-piece and two studs connecting the bridge-piece with the coupling-piece,—  
5 one of which studs is removably secured in the bridge-piece to permit the latter to be passed through the orifice from the exterior, substantially as described.

2. A repair connection consisting of a  
10 bridge-piece adapted to span the orifice, a hollow coupling-piece provided with perforated, internal ears, and two studs connecting the bridge-piece with the coupling-piece,—  
15 the bridge-piece to permit the latter to be passed through the orifice from the exterior, substantially as described.

3. A repair connection consisting of a bridge-piece adapted to span the orifice, a  
20 hollow coupling-piece provided with perforated internal ears and with means for secur-

ing a pipe connection thereto, and studs secured in said bridge-piece and adapted to pass through the ears of the coupling, substantially as described.

4. A repair connection consisting of a  
25 bridge-piece adapted to span the orifice, and provided with two studs, one of which is removable from said bridge-piece, a coupling-piece provided with bolt holes for the passage  
30 of the studs, nuts fitting the studs, a pipe-connection, a loose flange on the same, and bolts and nuts for connecting the flange with the coupling-piece, substantially as described.

In testimony that I claim the foregoing as  
35 my invention I have signed my name, in presence of two witnesses, this 23d day of January, 1894.

CORNELIUS J. PHILLIPS.

Witnesses:

CHAS. W. THOMAS,  
KLAS. H. TERNSTEDT.