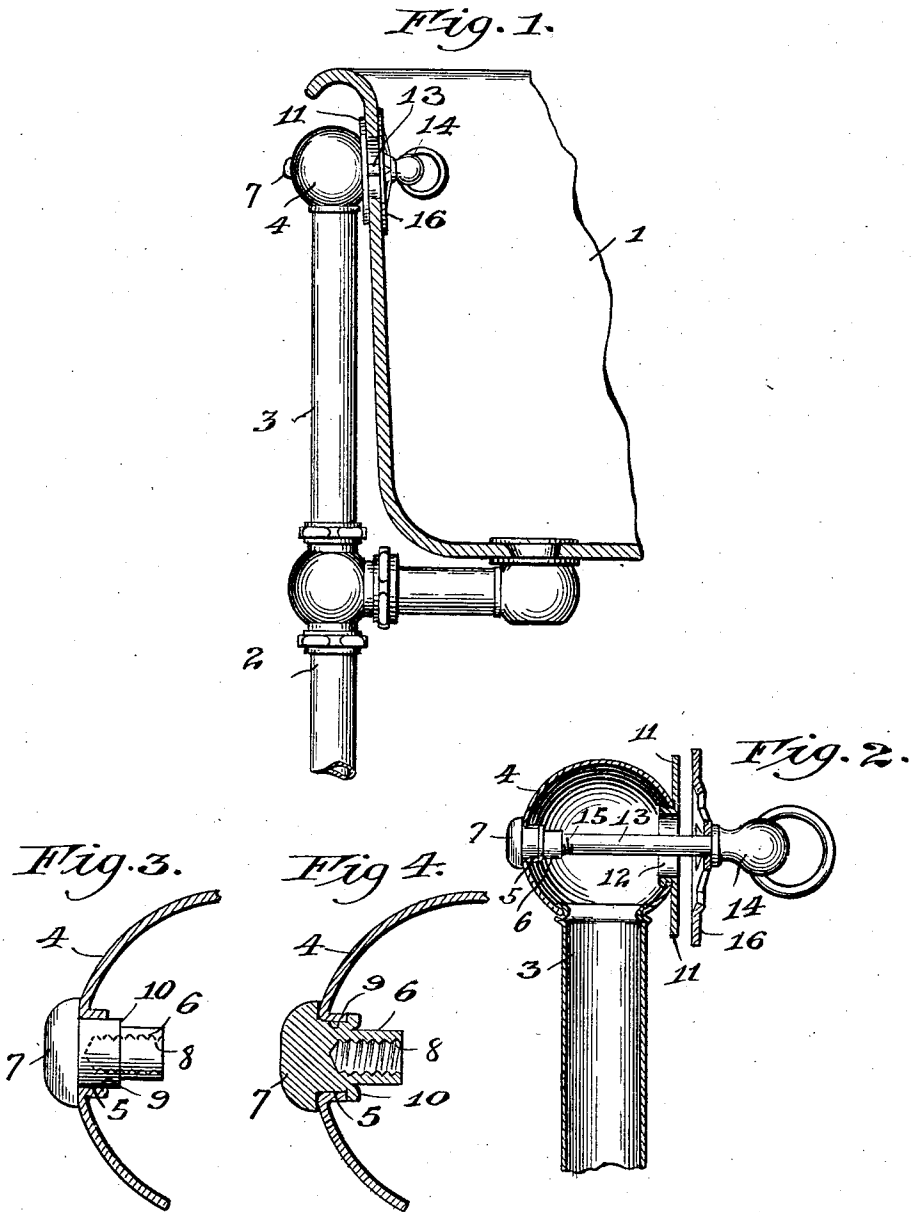


W. J. FROST.
INTERNAL CLAMP.
APPLICATION FILED JAN. 22, 1910.

969,098.

Patented Aug. 30, 1910.



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UNITED STATES PATENT OFFICE.

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INTERNAL CLAMP.

969,098.

Specification of Letters Patent. **Patented Aug. 30, 1910.**

Application filed January 22, 1910. Serial No. 539,510.

To all whom it may concern:

Be it known that I, WALTER J. FROST, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Internal Clamps, of which the following is a specification.

This invention relates to improvements in internal clamps and in the specific embodiment is shown as applied to a bath tub fixture.

The salient object of the invention is to provide an internal clamp which can be applied to a sheet metal union which permits of the use of thinner metal than heretofore.

A subsidiary object of the invention is to provide a construction which can be readily and economically made and is particularly reliable in its clamping or locking functions.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claim.

In the drawings—Figure 1 is a side elevation of a bath tub fixture shown as applied to a bath tub and equipped with my invention; Fig. 2 is an enlarged vertical axial sectional view of the fixture and showing more particularly the construction of the clamp; Figs. 3 and 4 are detail sectional views showing the manner of fastening the socketed stud to the ball or union member.

Describing the specific embodiment of the invention shown, 1 designates as a whole the bath tub, 2 the drain pipe fixture, the upper vertical pipe 3 of which is provided at its upper end with a ball or union member 4, the fixture as a whole including the ball being preferably made of drawn sheet metal. For economy of construction the union member is made of relatively thin metal which will not permit of any screw threaded connection in the wall of the union member. Accordingly, the side wall of the union member 4 is apertured as shown at 5 to receive a socketed stud 6 provided at

its outer end with a rivet head 7 and internally screw threaded as shown at 8. To secure this socketed stud in position the union member is provided with an internally thickened portion 9 and the stud is provided with a shoulder 10 which fits against the thickened portion 9 as shown more clearly in Fig. 3. When the parts are in the position just described, the shoulder portion of the stud is subjected to the operation of the punch and the former is flanged or crimped into the position as shown in Fig. 4, thus effectively securing the stud in position. The head of the stud, is, of course, sufficiently large to prevent its passing through the aperture 5. Upon the opposite side of the union member is suitably secured a collar or flange member 11 having a nipple-like extension 12 which is expanded into the union member so as to secure the flange in position. The adjacent side wall of the tub is apertured to receive a locking bolt 13 having an enlarged head 14 and screw threaded outer end 15. Between the inner side of the tub and the head of the bolt is interposed a skeleton-like disk or washer 16.

To clamp the union member to the tub the bolt or male member is screw threaded into the locking stud or female member and the parts clamped tightly in position.

The invention is not limited to the details of construction shown except as set forth in the appended claim.

I claim as my invention:

The combination with a sheet metal hollow body, of a female member, a male member having detachable screw threaded engagement with said female member, one of said members extending into the side of said sheet metal body and flanged thereto, and the other of said members extending through the opposite side of the sheet metal body member.

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