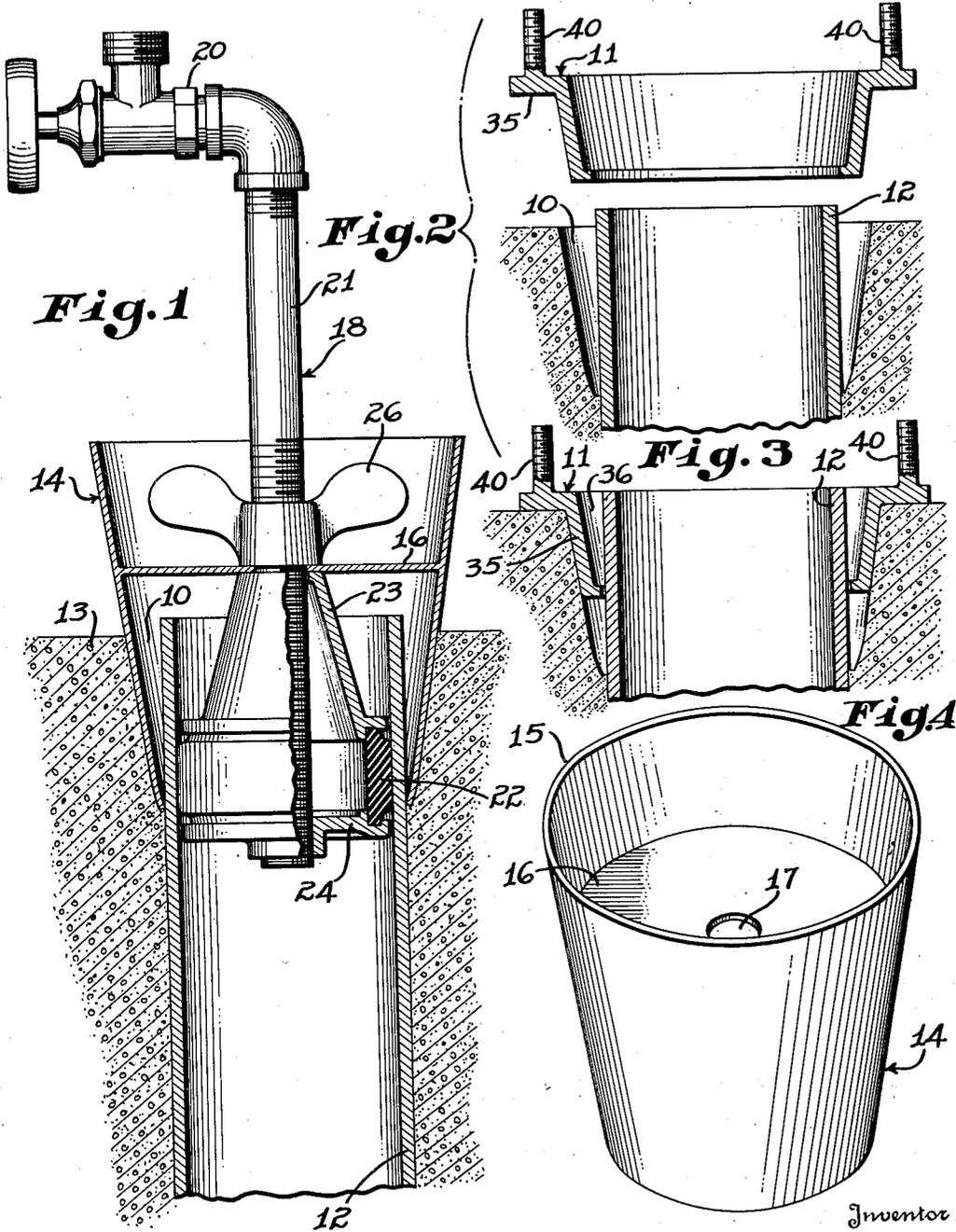


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APPARATUS FOR USE IN INSTALLING  
SOIL PIPE IN CONCRETE FLOORS  
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## APPARATUS FOR USE IN INSTALLING SOIL PIPE IN CONCRETE FLOORS

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The present invention relates to plumbing apparatus and has for one of its objects the provision of apparatus for facilitating greatly the installation of plumbing fixtures with respect to an associated soil pipe, especially in new building constructions wherein concrete or other flooring material is applied around the soil pipe.

In connection with the installation of plumbing fixtures, such as toilet bowls, in new buildings wherein concrete or other flooring materials are applied around the associated soil pipe, it is desirable that the fixture holding member may be easily placed in accurate position with respect to its associated soil pipe so that the fixture may be anchored to its holding member without difficulties. The fixture holding member is usually embedded in concrete, but in the process of pouring the concrete or when the concrete is in the process of hardening, the fixture holding member is often times unintentionally moved from its correct position, and consequently, difficulties are later encountered when an attempt is made to mount the plumbing fixture on its holding member.

It is, therefore, an object of the present invention to provide improved apparatus for assuring accurate position of a fixture holding member after concrete or other flooring material is poured around the associated soil pipe.

Another object of the present invention is to provide an improved tool which serves to define a predetermined annular opening around the end of a soil pipe when concrete or other flooring material is applied around the soil pipe.

A further object of the present invention is to provide an arrangement whereby the aforesaid tool is firmly maintained in position during the time that such concrete or flooring material is applied around the soil pipe.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. This invention itself, both as to its organization and manner of operation, together with further objects and advantages thereof, may be best understood by reference to the following description taken in connection with the accompanying drawings in which:

Figure 1 is a view in elevation and partly in section of an assembly of apparatus incorporating the present invention.

Figure 2 is a sectional view of the soil pipe and associated concrete shown in Figure 1 after the assembly of apparatus shown therein is removed, and further incorporates a correspond-

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ing sectional view of a fixture holding member which is applied in the annular space between the soil pipe and the concrete.

Figure 3 is a sectional view similar to Figure 2 but with the fixture holding member in place.

Figure 4 is a perspective view of a tool shown in Figure 1 embodying the present invention.

In accordance with the present invention, an annular conical shaped space 10 is provided within which the plumbing fixture holder 11 may be placed in correct aligned position with respect to the end of the soil pipe 12.

The annular space 10 is formed during the time the concrete 13 is poured and allowed to harden around the soil pipe 12, a shield member 14 being firmly maintained in adjusted position during such pouring and hardening periods. The shield member 14 comprises a hollow truncated conical member 15 having a web member 16 which serves as a fastening means intermediate the ends thereof with the plane of the web member 16 perpendicular to the longitudinal axis of the member 15. The member 16 has a centrally located aperture 17 through which a test plug assembly 18 may pass to hold the composite shield member 14 in adjusted position.

The test plug assembly 18 serves two purposes; namely, (1) to support shield member in adjusted position; and (2) to provide a fluid tight conduit and connection with the soil pipe 12, so that the soil pipe 12 and its connection with other soil pipe (not shown) may be suitably tested by applying thereto fluid under pressure which enters through the valve 20 and passes downwardly through the central pipe 21 into the soil pipe 12.

Resilient annular ring 22 abuts the inner surface of pipe 12 and maintains a fluid tight connection therebetween, this connection being maintained by maintaining mechanical pressure between the opposite edges of member 22. This mechanical pressure is applied by the bearing members 23 and 24 which serve as clamping members, member 23 being slidably mounted on pipe 21 and member 24 being screw threaded on pipe 21, such that by turning the fastening wing fastening nut 26 in the proper direction, members 23, 24 are drawn together thereby to squeeze the annular resilient ring member 22 into abutment with the inner wall of the soil pipe.

In the process of mounting the test plug 18 on the soil pipe 12, the web member 16 is interpositioned between the wing nut 26 and the adjacent end of clamping member 23 so that when the test plug is clamped into position for testing,

the shield member 14 is simultaneously clamped into position. Further, the nature of the connection between the test plug and the soil pipe allows adjustment of the position of the supported shield member 14. The inside diameter of the smaller end of the conical member 15 is substantially equal to the outside diameter of the soil pipe 12 so that preferably a close sliding fit exists therebetween so that during the pouring operation concrete is precluded from entering the soil pipe 12.

After the concrete has been poured to a level indicated in Figures 1 and 3 and then allowed to harden, the wing nut 26 is loosened thereby to release the pressure on the resilient member 22 to allow withdrawal of the test plug 18 with the shield member 14 assembled thereon.

The conical shape of the assembly 14 is important in that it allows easy withdrawal of the assembly even though the concrete is hardened around the outside of the shield 14.

It is apparent that the shield member 14, if desired, may be disassembled from the test plug assembly 18 by unscrewing the clamping member 24 off of the threaded pipe 21 in which case the resilient member 22, clamping member 23 and shield member 14 may in turn be removed from the open end of pipe 21.

After the annular space 10 is thus provided, the fixture clamping member 11 is placed therein with the underside of the annular flange member 35 in abutment with the upper surface of the concrete floor as indicated in Figure 3. In Figure 3, the annular space 36 between the fixture holding member 11 and soil pipe 12 is substantially filled with conventional material such as oakum and a lead ring to assure a water tight connection and to a certain extent, to prevent movement of the holding member 11 with respect to the soil pipe 12.

Screw threaded fastening members such as those indicated at 40 in Figures 2 and 3 may extend upwardly from the fixture holding member 11 for screw threadedly connecting the plumbing fixture to the holding member 11. These screw threaded members 40 themselves form no part of the present invention and may take different forms and shapes, for example, they may be integrally formed with the holding member 11 or they may extend through openings in such holding member 11 with the bottom ends thereof in direct contact with the concrete. In the latter case, it may be desirable to provide small recesses in the concrete floor within which the ends of such screw thread bolts 40 may extend.

While the particular embodiments of the present invention have been shown and described, it

will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broader aspects and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

I claim:

1. In an arrangement for anchoring plumbing fixtures in aligned position with respect to a soil pipe, the combination of, a shield member with a web member, and quickly attachable and detachable test plug means arranged to engage the inner surface of said soil pipe and to clamp said web member to support said shield member thereby.

2. An article of manufacture for use in anchoring plumbing fixtures in aligned position with respect to a soil pipe comprising: a hollow truncated conical member having a supporting member fastened thereto, said supporting member having an apertured portion aligned with the longitudinal axis of the truncated conical member, and a test plug passing through said apertured portion and releasably clamped to said supporting member.

3. An article of manufacture for use in anchoring plumbing fixtures in aligned position with respect to a soil pipe comprising a truncated hollow cylindrical member having its minimum side diameters substantially equal to the outside diameter of said soil pipe and having supporting means fastened thereto, and a test plug passing through said cylindrical member and releasably clamped to said supporting means.

4. An article of manufacture for use in anchoring plumbing fixtures in aligned position with respect to soil pipe comprising: a truncated conical shaped member having a hollow portion at its end of minimum diameter, the inside minimum diameter being substantially equal to the outside member of said soil pipe, and fastening means on said member, and a test plug passing through said conical shaped member and releasably clamped to said fastening means.

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