



(19) **United States**

(12) **Patent Application Publication**
Ball

(10) **Pub. No.: US 2004/0103474 A1**

(43) **Pub. Date: Jun. 3, 2004**

(54) **CAP FOR SEALING A BATHTUB
OVERFLOW PORT FOR TESTING
PURPOSES**

Related U.S. Application Data

(63) Continuation of application No. 10/247,247, filed on
Sep. 19, 2002.

(75) Inventor: **William T. Ball**, Colorado Springs, CO
(US)

Publication Classification

Correspondence Address:
ZARLEY LAW FIRM P.L.C.
CAPITAL SQUARE
400 LOCUST, SUITE 200
DES MOINES, IA 50309-2350 (US)

(51) **Int. Cl.⁷** E03C 1/24
(52) **U.S. Cl.** 4/680

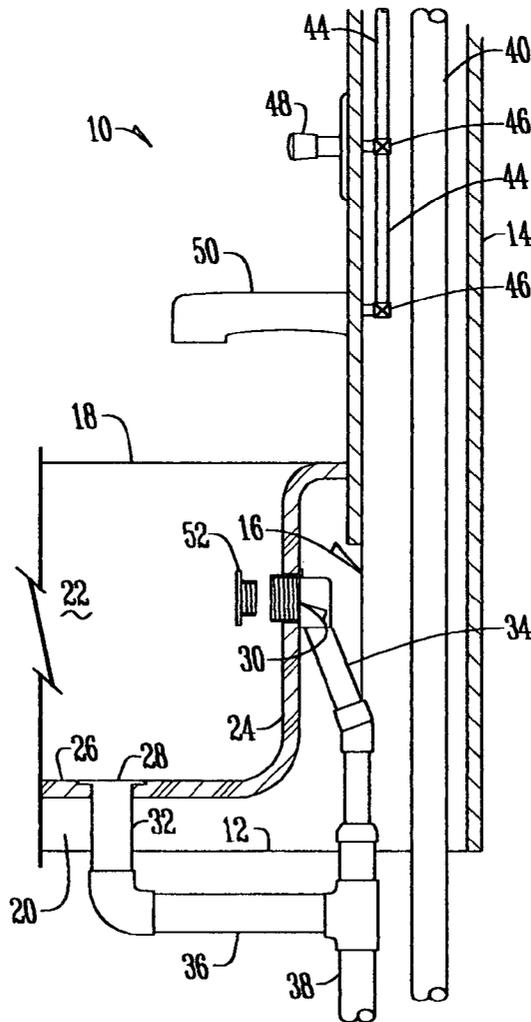
(73) Assignee: **WCM INDUSTRIES, INC.**, Colorado
Springs, CO

(57) **ABSTRACT**

(21) Appl. No.: **10/721,694**

A temporary closure for a bathtub overflow port, comprising
placing on the outer end of a drain pipe extending through
the overflow port a solid cap threaded on the outer end and
a cap with an outer face with an aperture thereon covered by
a sealing diaphragm.

(22) Filed: **Nov. 25, 2003**



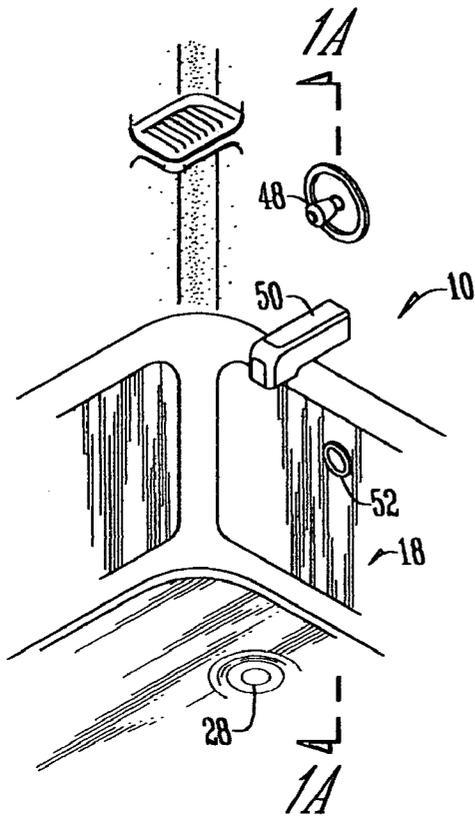


Fig. 1

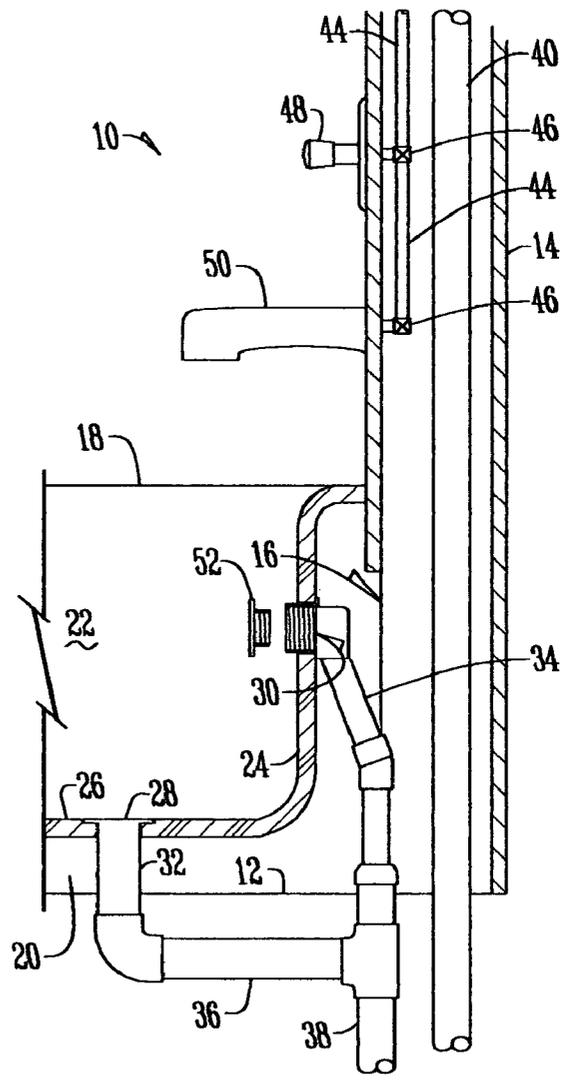
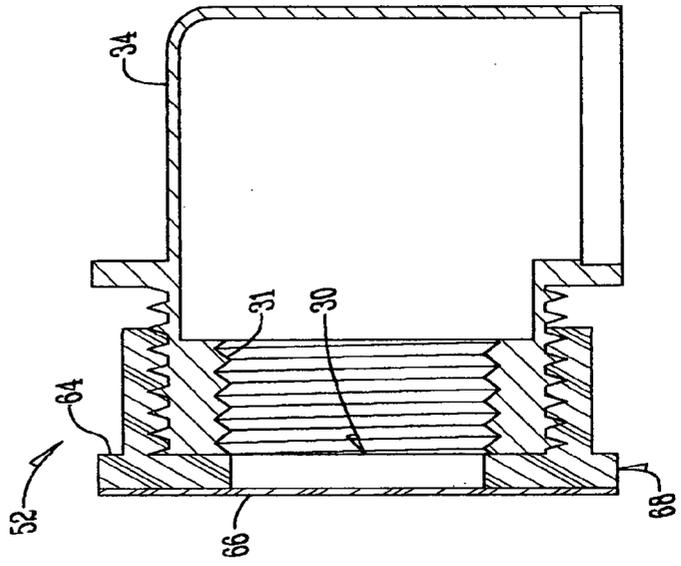
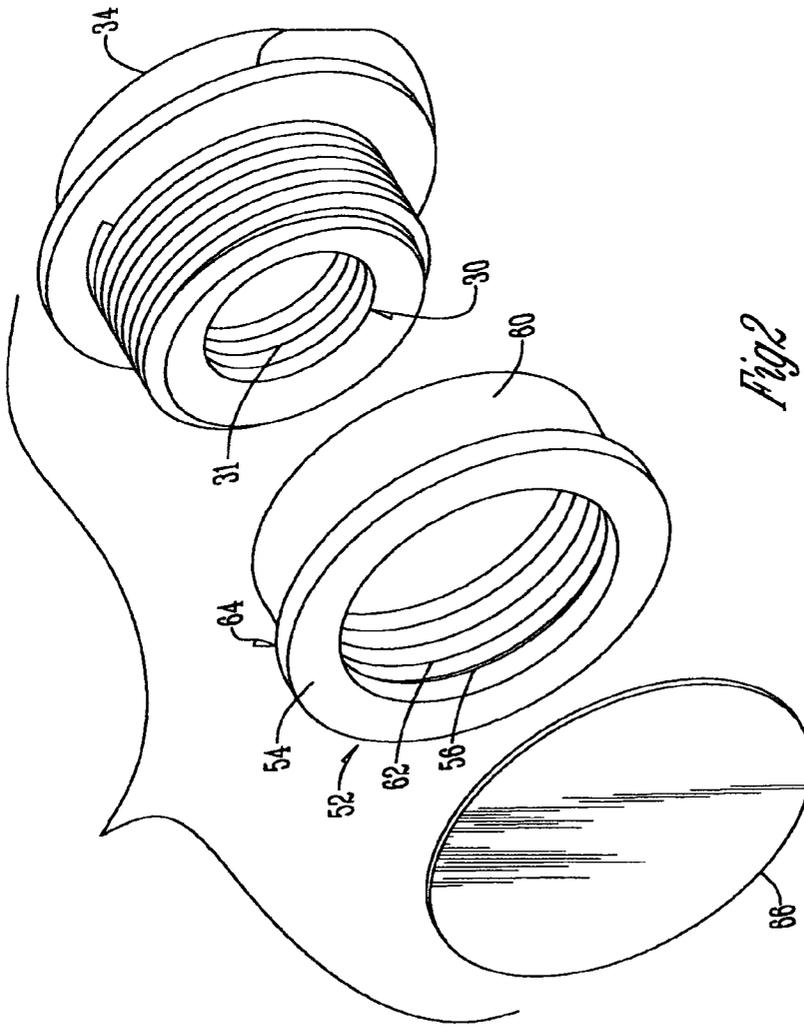


Fig. 1A



CAP FOR SEALLING A BATHTUB OVERFLOW PORT FOR TESTING PURPOSES

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of U.S. Patent Application Serial No. 10/247,247 filed Sep. 19, 2002.

BACKGROUND OF THE INVENTION

[0002] In new building construction, the plumbers prefer not to put the finished closure valves in the bottom of tubs, or the finished decorative plate over the overflow outlet at the end of the tub until the project is finished because these elements will be often damaged as the construction project is brought to a close. Further, the piping for both of the outlets need to be checked for leaks before the inspection process is completed. The test involves running water down the vent for the drain until it reaches a level above the tub and the tester then determines whether any of the piping leaks. Thus, when the testing operation arrives, a plug is put in the bottom drain of the tub and some sort of a seal plate is placed at the end of the tub on the overflow outlet.

[0003] Existing overflow plates have a center opening therein. There are either two or four small screw holes in the plate adjacent the center opening wherein two of the holes are used to hold the plate to the plumbing fixture. In some cases there is a fitting so that the screw hole is located directly in the middle of the access hole. In that case, that hole is in the way when the testing procedure is implemented. In any event, the testing procedure usually involves stuffing a balloon through the large center opening into the pipe in the wall and the pipe is sealed when the balloon is inflated. Further, existing seal plates normally have to be removed when the decorative plate is put on. The decorative plate is typically held by two screws which either use the screw openings of the plate or two additional openings in the case that four holes are provided.

[0004] Some efforts have been made to seal the overflow ports of bathtubs with a diaphragm, and then cut the diaphragm when the test is completed. (See U.S. Pat. No. 5,890,241). However, the system for including the diaphragm sometimes involves screws and tools, and is not always convenient to install or to remove after testing.

[0005] It is therefore a principal object of this invention to provide a seal for a bathtub overflow port that is very easy to install for testing purposes, and is easily made operable for overflow purposes when the testing is finished.

[0006] A further object of the invention is to provide a seal for a bathtub overflow port that is very economical to manufacture.

[0007] These and other objects will be apparent to those skilled in the art.

SUMMARY OF THE INVENTION

[0008] A temporary closure means for a bathtub overflow port, comprising placing on the outer end of a drain pipe extending through the overflow port a cap threaded on the outer end, with a sealing element on its outer surface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a partial perspective view of a conventional bathtub environment utilizing the invention of this application;

[0010] FIG. 1A is an enlarged scale sectional view taken on line 1A-1A of FIG. 1;

[0011] FIG. 2 is an exploded perspective view of the invention; and

[0012] FIG. 3 is a sectional view of the assembled components of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

[0013] With reference to FIGS. 1 and 1A, a conventional bathroom structure 10 has a floor 12, and a hollow wall 14 with a wall opening 16 therein. A conventional bathtub ("tub") 18 has a base 20 which rests upon floor 12. Sidewalls 22 extend upwardly from base 20 as does an end wall 24. A bottom 26 dwells in spaced relation to the floor 12.

[0014] A conventional drain port 28 is located in bottom 26. A conventional overflow port 30 is located in the end wall 24 (FIG. 2). A vertical drain pipe 32 extends downwardly from drain port 28, and overflow drain pipe 34 extends downwardly from overflow port 30. A horizontal pipe 36 connects pipes 32 and 34. A drain pipe 38 extends downwardly from the junction between pipes 34 and 36.

[0015] A conventional vertical vent pipe 40 is located within the hollow wall 14. Conventional water pipes 44 extend through hollow wall 40 and are connected to valve 46 which is interconnected to conventional control member 48 and faucet 50.

[0016] With reference to FIGS. 2 and 3, a cap 52 has an outer face 54 which has a cylindrical body 60 which has interior threads 62 and which are adapted to mate with the threads 31 of port 30 (FIG. 2). The cap 52 also has an annular flange 64 that extends radially outwardly from the open end of the cylindrical body 60. A thin sealing membrane 66 is affixed to the face 54 (FIG. 2) of cap 52 so as to seal the aperture in the cap when it is screwed into the threads 31 so that the cap can be effectively sealed against the port 30.

[0017] In operation, the cap 52 can either be removed from the port 30, or the thin sealing membrane 66 can be cut away so as to permit the attachment of the conventional overflow mechanisms.

[0018] It is therefore seen that the embodiments of this invention achieve at least all of the stated objectives.

What is claimed is:

1. An overflow system for a bathtub which has a bottom, and adjacent side and endwalls, a drain port in the bottom, and overflow port in an endwall, comprising,

a drain pipe adapted to be in communication with said drain port and said overflow port,

said drain pipe having an inverted L-shape, including a horizontal leg extending into and through the overflow part of the bathtub, and a vertical leg extending downwardly for connection to a fluid drain system,

threads on the horizontal leg extending through the overflow port, and

a cap threadably mounted on an end of the horizontal leg extending through the overflow port,

the cap having an opening in its circular planar end, with a thin sealing membrane secure to the cap and extending over the opening in the circular planar end.

2. A plumbing test system comprising,

a pipe having a first exposed end and second end in communication with a fluid source, wherein the first end comprises a threaded portion;

a cap assembly threadably mounted on the first end and wherein a portion of the cap assembly is composed of a material capable of sealing the first end when the cap is threaded onto the first end;

the cap assembly contains a cap having an opening in a planar end, with a sealing member secured to the cap and extending over the opening in the planar end. cap and extending over the opening in the planar end.

3. The device of claim 1 wherein the cap has a circular planar end with a perimeter terminating in an externally threaded annular flange for interconnection with internal threads on the horizontal leg.

* * * * *