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Logsdon

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[54] **WASHING MACHINE CONNECTION STRUCTURE**

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[51] **Int. Cl.** **A47b 77/06,** A47f 9/00

[58] **Field of Search** 312/229, 242, 230; 4/1

[56] **References Cited**

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[57] **ABSTRACT**

A washing machine connection structure can be manufactured so as to include a box-like cabinet having a front opening, a bottom shaped as a funnel so as to lead to a drain opening forming a part of the bottom, a pipe extension leading from this drain opening and internally extending outlet openings located above the bottom. The cabinet preferably carries means enabling it to be mounted in a wall between support members such as studs. When so mounted pipes may be inserted through the outlet opening and connected to the valves or faucets located within the cabinet. Water connections to a washing machine or the like may be made to such valves and a drain tube or hose from such machine may be inserted directly into the bottom so that waste water flowing through such a tube will flow through the drain opening.

4 Claims, 4 Drawing Figures

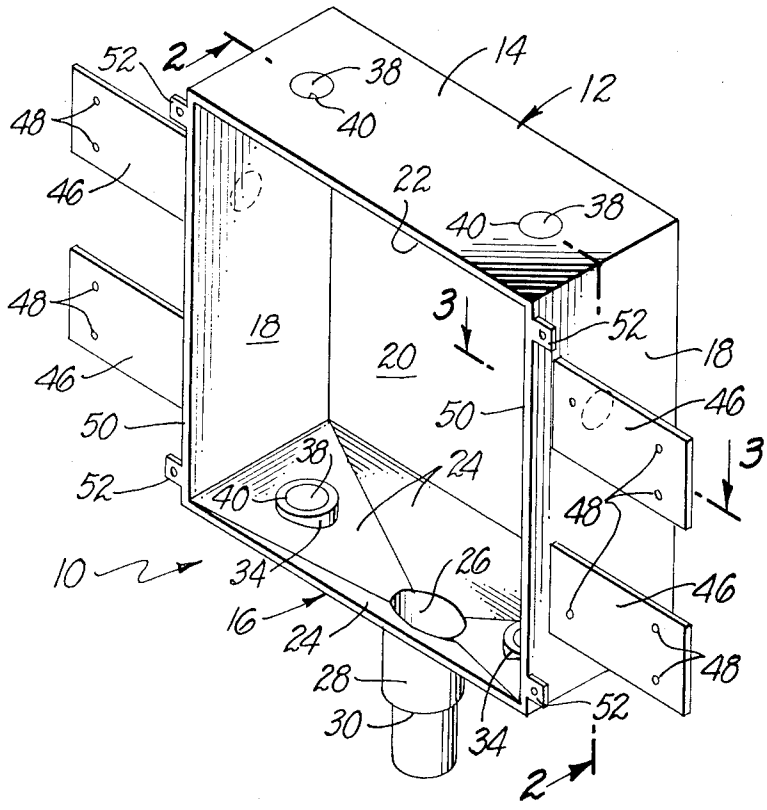


FIG. 1.

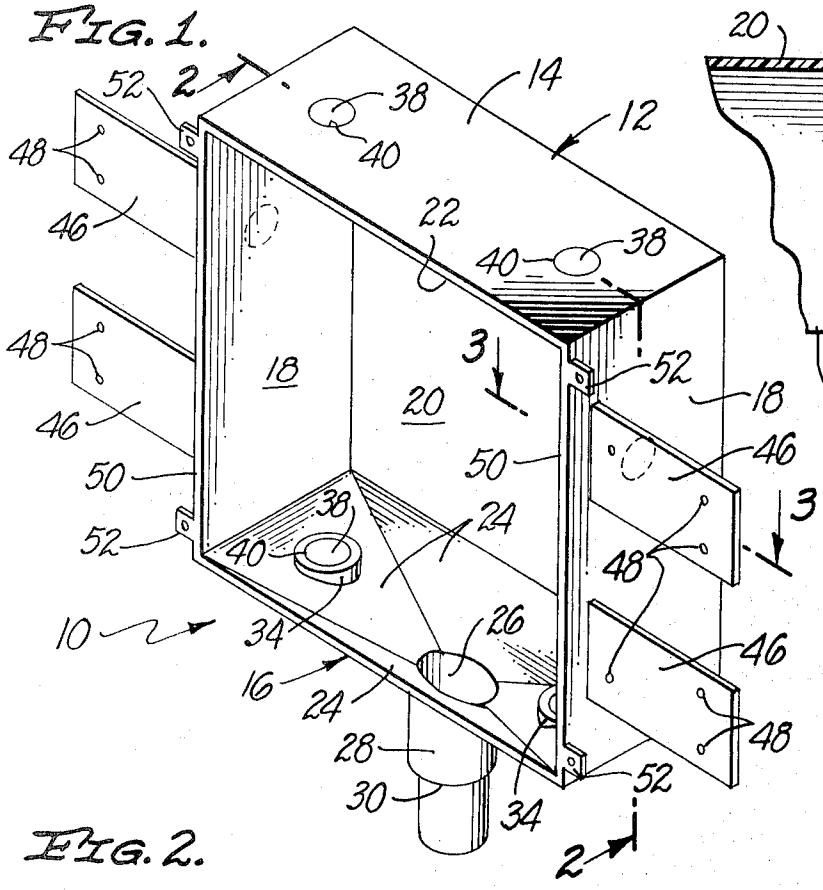


FIG. 3.

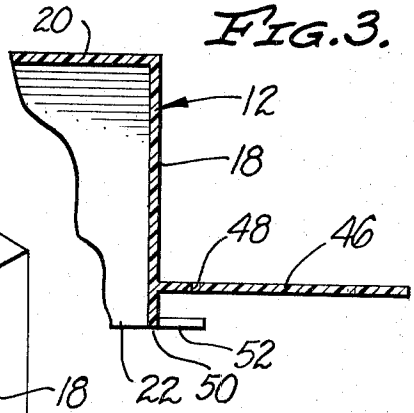


FIG. 2.

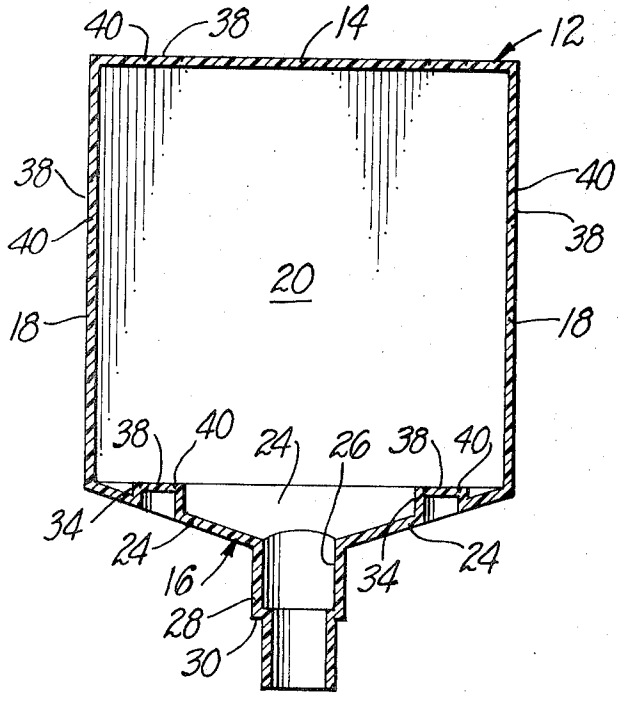
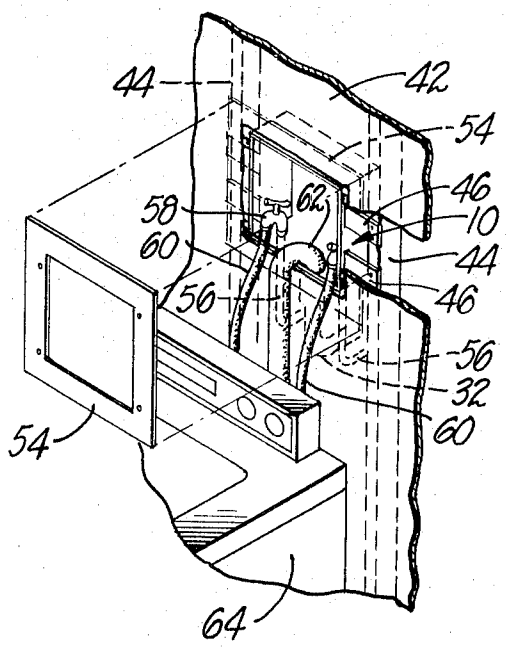


FIG. 4.



WASHING MACHINE CONNECTION STRUCTURE

BACKGROUND OF THE INVENTION

As civilization has progressed washing machines have been utilized in household structures with increasing frequency. At one time such machines were commonly used in basement and similar areas where space and appearance were not significant problems. At the present time, however, such washing machines are commonly being utilized in both kitchen, hallway and similar areas where space is somewhat limited and where appearance is frequently significant.

Such machines are commonly used in these areas in connection with hot and cold water valves extending from a wall and a large drain pipe extending upwardly from a floor adjacent to these valves along the exterior of a wall surface. The use of such drain pipes is considered to be particularly disadvantageous inasmuch as such a drain pipe occupies significant floor space and is not normally considered to be particularly attractive. If the valves in such a washing machine connection arrangement as indicated should leak or if there should be leakage between the connections between them and hoses from a washing machine there is significant danger of water accumulation on a floor. Such an accumulation can, of course, be somewhat messy. It can also lead to floor damage.

As a result of these considerations it is believed that there is a need for new and improved washing machine connection structures. More specifically, it is believed that there is a need for connection structure which will avoid an uneconomic utilization of floor space within a home or similar structure. Also, it is believed that there is a specific need for washing machine connection structures which effectively minimize the danger of leakage accumulating on a floor.

SUMMARY OF THE INVENTION

Broadly the present invention is intended to fulfill the needs indicated in the preceding discussion. More specifically, it is intended to provide washing machine connection structures: which can be easily and conveniently manufactured at a comparatively nominal cost, which can be easily installed within existing conventional walls with a minimum of difficulty, which when so installed avoid the problem of a drain pipe sticking out into a room or the like, and which also when so installed serve to accommodate any undesired leakage at water valves or faucets or at hose connections to such faucets.

In accordance with this invention these and various related objectives of it are achieved by providing a connection structure which includes or comprises a generally rectilinear, water impervious box-like cabinet having a top, a bottom, sides, a back and an open front. The bottom of this cabinet has and includes a pipe extension leading downwardly from the drain opening away from the bottom. The cabinet also includes several outlet openings located above the bottom. The structure further includes means for mounting the cabinet within a wall so that the open front is substantially flush with the surface of the wall.

BRIEF DESCRIPTION OF THE DRAWING

The use of a structure as indicated in the preceding paragraph is best explained with reference to the remainder of this specification, the appended claims and the accompanying drawing in which:

FIG. **1** is an isometric view of a presently preferred embodiment or form of a washing machine connection structure of the present invention;

FIG. **2** is a cross-sectional view taken at line **2—2** of FIG. **1**;

FIG. **3** is a partial cross-sectional view taken at line **3—3** of FIG. **2**;

FIG. **4** is an exploded isometric view indicating the use of the structure illustrated in the preceding figures in a wall in connection with a washing machine, part of this view being broken away.

The presently preferred washing machine connection structure illustrated in the drawing is a specific embodiment of a structure utilizing certain essentially intangible concepts as set forth and defined in the appended claims. These concepts can be utilized within a wide variety of somewhat differently appearing and somewhat differently constructed connection structures through the use or exercise of routine skill in the plumbing industry.

DETAILED DESCRIPTION

In the drawing there is shown a washing machine connection structure **10** in accordance with this invention which is preferably formed as an integral unit out of a water impervious, structurally strong polymer material such as common ABS plastic. This entire structure **10** may be conveniently formed of such material at a comparatively nominal cost utilizing established, conventional injection molding techniques. This structure **10** includes a centrally located box-like cabinet **12** having a top **14,** a bottom **16,** sides **18,** a back **20** and an open front **22.**

The bottom **16** is shaped generally as a funnel so as to include downwardly directed sloping walls **24** which lead to a centrally located drain opening **26.** This bottom **16** is preferably formed so as to include an integral pipe extension **28** leading downwardly from this drain opening **26.** In the embodiment of the invention shown this pipe extension **28** includes a stepped, sloping shoulder **30** which is spaced from the bottom **16.** It will be realized that this construction enables the structure **10** to be directly connected to conventional drain pipes of different diameters. In the drawing the portion of the extension **28** located beneath the shoulder **30** is directly connected to the drain pipe **32.** In connecting the extension **28** to a drain pipe of larger diameter than the pipe **32,** it is practical to saw off the extension **28** immediately above the shoulder **30.**

The structure **10** also preferably includes in the bottom **16** several vertically extending hollow bosses **34.** These bosses **34** terminate above the bottom **16** within the cabinet **12.** Preferably their hollow interiors correspond to the outer diameters of conventionally used water pipes so that conventional pipes may be inserted through them as shown into the interior of the cabint **12** after the structure **10** is installed. Preferably the uppermost extremities of the bosses **34** are initially closed off by small knock out pulgs **38** formed integrally with the cabinet **12.**

These plugs **38** are essentially disc-like structures separated from the bosses **34** by scored lines **40** which are comparatively weak. Preferably similar plugs **38** and lines **40** are formed integrally with the top **14**, and both of the sides **18** so that pipes **36** may be inserted into the cabinet **12** in several different manners from different directions. All of these plugs **38** are designed to be used in creating service outlet openings when they are severed from the remainder of the cabinet **12** by a hammer blow or the like.

The structure **10** also includes means for mounting this cabinet **12** in a building wall **42** between conventional building studs **44** so that the front opening **22** lies substantially flush with the exposed surface of the wall **42.** In the structure **10** shown, such means include extending tab-like brackets **46** which are formed integrally with the sides **18.** These brackets **46** may conveniently be formed with nail holes **48.** Preferably they are spaced back from the front edges **50** of the sides **18** a sufficient distance so that they may be covered by the wall **42** after they have been attached to the studs **44** by nails or similar fasteners.

If desired, the cabinet **12** may also include small fastener brackets **52** located at its corners so that a frame-like cover plate **54** may be secured to cover the edges **50** and so as to extend around the space between these edges **50** and the wall **42** in order to "finish off" the installation of this structure **10** so that it has a neat, functional appearance. When the structure **10** is not to be utilized for a prolonged period this plate **54** may be a solid plate instead of a frame-like plate.

When the structure **10** is used it is installed as shown generally between the studs **44** and two of the plugs **38** are removed. Conventional pipes **56** are then inserted into the interior of the cabinet **12** and mounted in a conventional manner exteriorly of this structure **10.** Conventional valves or faucets **58** may then be secured to the pipes **56** in a conventional manner. It will be noted that all of the plugs **38** are located so that wherever the pipes **56** are inserted that these pipes **56** will extend through openings into the cabinet **12** which are above the bottom **16** so that any leakage occurring from the faucets **58** will flow to the bottom **16** and through the drain opening **26.**

When the structure **10** has been installed in the manner indicated in the preceding discussion, conventional water hoses **60** and a conventional drain hose **62** from a washing machine **64** may be connected to the faucets **58** and inserted within the drain opening **26,** respectively. As the machine **64** is operated, the waste water will, of course, be conveyed through the drain opening **26.** Any leakage at such faucets **58** will tend to be accommodated without significant floor accumulation inasmuch as such leakage will primarily flow towards the bottom **16** and this drain opening **26.**

It will be realized from the aforegoing description that the structure **10** is a very simple, effective structure which achieves the fulfillment of needs as indicated in the preceding. This structure **10** avoids the use of a drain pipe located externally of a wall and, hence, provides for a neat appearance concurrently with the achievement of a saving of floor space.

I claim:

1. A washing machine connection structure for use in a wall between support members, said structure comprising:

an integrally formed water impervious plastic cabinet capable of fitting within a wall between support members, said cabinet having a top, a back, sides, an open front and a bottom,

two hollow upstanding bosses located in said bottom of said cabinet, said bosses being of a diameter such that a water pipe can be inserted through them,

said bottom having a funnel-like shape terminating in a bottom drain opening,

said bottom including a pipe-like extension which is adapted to be connected to a drain pipe leading downwardly from said drain opening away from said bottom,

means for mounting said cabinet within a wall between support members attached to said cabinet, said means permitting said cabinet to be mounted in a wall so that said front opening is exposed to the exterior of such a wall,

means providing service openings into the interior of said cabinet above said bottom and spaced from said front opening so that pipes may be inserted into said cabinet and valves may be mounted on said pipe within the interior of said cabinet,

said means providing service openings comprising knock out plugs capable of being removed from said cabinet by a physical blow located at the tops of said bosses and in said sides and in said tops.

2. A washing machine connection structure as claimed in claim **1** wherein:

said pipe-like extension includes a shoulder located intermediate its ends, said shoulder separating said pipe-like extension into two different parts of different diameters capable of being utilized with drain pipes of different diameters.

3. A washing machine connection structure as claimed in claim **1** wherein:

said means for mounting said cabinet are brackets formed integrally with said cabinet so as to extend outwardly from said sides of said cabinet, said brackets being spaced from the front of said cabinet so as to be capable of being covered by a wall during the use of said connection structure,

said cabinet includes means for attaching a frame surrounding said front opening located thereon,

said connection structure including a frame adapted to be attached to said cabinet through the use of said means for attaching, said frame being of larger dimension than said front opening so as to be capable of covering the area between the exterior of said cabinet and a wall during the use of said connection structure.

4. A washing machine connection structure as claimed in claim **3** wherein:

said pipe-like extension includes a shoulder located intermediate its ends, said shoulder separating said pipe-like extension into two different parts of different diameters capable of being utilized with drain pipes of different diameters.

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