Dec. 16, 1941. M. HEDMARK 2,266,035

PLUMBING

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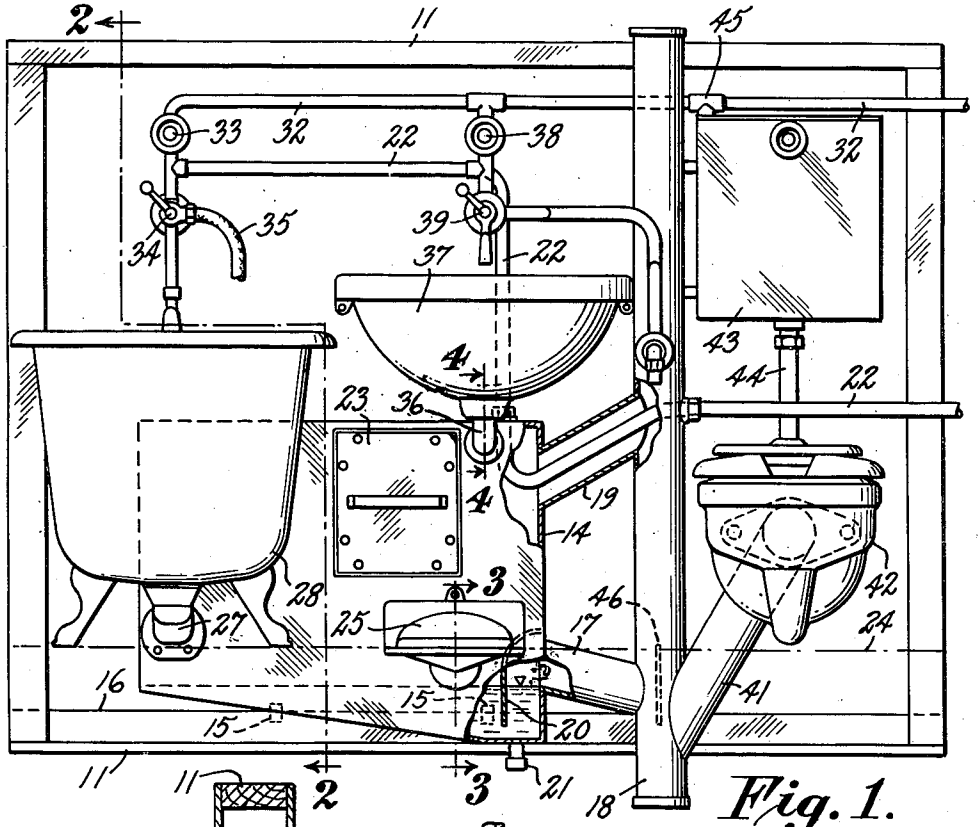


Fig. 1.

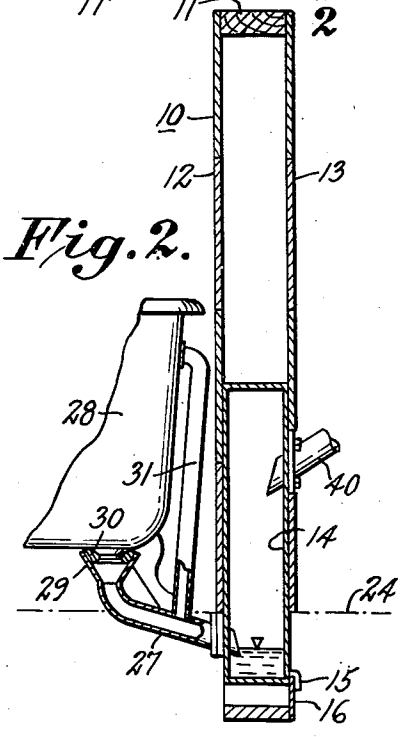


Fig. 2.

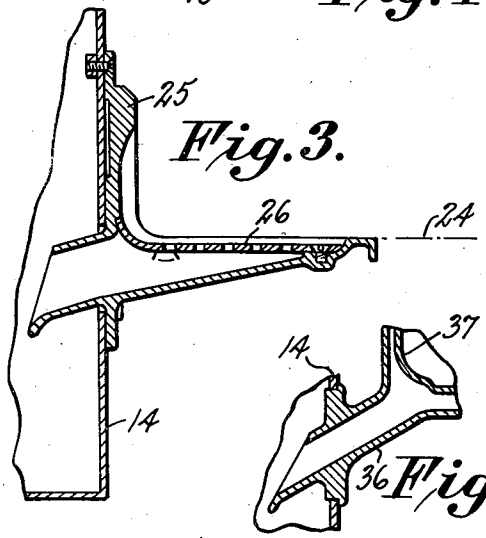


Fig. 3.

Fig. 4.

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PLUMBING

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8 Claims. (Cl. 4—211)

My invention relates to plumbing, and more particularly to unitary structure, including a drain tank, which is adapted to be connected to the various plumbing fixtures of a bathroom and to the sewerage and water supply systems of a building.

In accordance with my invention there is provided a wall panel or section within which is disposed the drain tank and which carries the necessary water and drain pipes. This panel is adapted to form a portion of a wall. The drain tank has a wall of sufficient dimensions to receive the drainage of all of the plumbing fixtures in a direct way.

Further objects and advantages of my invention will be apparent from the following description, considered in connection with the accompanying drawing, which forms part of this specification and of which:

Fig. 1 is a side view, partially in cross-section, of a preferred embodiment of my invention;

Fig. 2 is a cross-sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a cross-sectional view on an enlarged scale taken on the line 3—3 of Fig. 1; and

Fig. 4 is a cross-sectional view on an enlarged scale taken on the line of 4—4 of Fig. 1.

Referring to the drawing, reference character 10 designates generally a wall section or panel and comprises a frame 11 carrying wall boards 12 and 13 which are spaced apart so as to provide a hollow panel.

Disclosed within this panel is a drain tank 14 of generally rectangular shape, with the exception that the bottom is preferably inclined as shown clearly in Fig. 1. As will be seen, the length and height of this tank in the plane of the wall section is greater than its thickness perpendicular to that plane. Tank 14 is provided with hooks 15 which engage the upper edges of a reinforcing strip 16, preferably of metal, which is carried by the frame 11.

A conduit 17 communicates with one end of the tank 14 a short distance above the bottom and extends downwardly to join a vertically disposed drain pipe 18. A conduit 19 communicates with the upper part of the tank and extends upwardly to join the drain 18. Preferably, conduits 17 and 19 are integral with both the tank 14 and the drain 18, whereby a unitary structure is provided. A baffle 20 is provided within the tank adjacent to the end of pipe 17 and is arranged to provide a liquid trap to prevent the entrance of sewer gas from the drain 18 into the tank. A plug 21 may be provided at the lowest point of tank 14, in order to completely drain the tank, if necessary, as for purposes of repair.

The pipe 22 is carried by the panel and is arranged to be connected to the hot water supply system of the building. This pipe extends within the conduit 19 for the purpose of heating the air therein so that it will rise through the conduit 19 and pass into the upper end of the drain 18, which is adapted to be connected to a ventilation pipe extending through the roof of the building.

The upper part of the tank 14 is provided with an opening of substantial size which is normally closed by a cover member 23. The purpose for this opening is to permit cleaning of the interior of the tank and is preferably located entirely above the level of the liquid maintained in the trap at the bottom of the tank.

The tank is preferably so arranged as to extend below the floor level 24. A floor drain 25, shown more in detail in Fig. 3 is arranged to discharge into the tank. This drain is preferably provided with a grating 26 which is sunk slightly below the floor level.

A drain 27 communicates with the tank 14 and with the outlet of a bathtub 28. If desired, the upper end of the drain 27 may be funnel shaped, as is shown at 29, while the outlet of the bathtub may be provided with a packing 30 arranged to seat within the funnel. An overflow conduit 31 extends from drain 27 to near the top of the bathtub.

A pipe 32, carried by the panel, is adapted to be connected to the cold water supply system. Hot water pipe 22 and cold water pipe 32 are connected through suitable mixing valves 33 and 34 so as to supply water at the desired temperature to either the bathtub 28 or to a hose 35. This hose may be connected to a shower spray.

A drain 36 communicates with the upper part of tank 14 and is connected to the discharge of a wash basin 37. Water at the proper temperature is supplied to the basin through the mixing valves 38 and 39.

Should it be desirable to provide plumbing fixtures on the opposite side of wall panel 10, such as a kitchen sink, a drain connection 40 may be connected to the tank on the opposite side thereof from drains 25, 27, and 36.

A drain 41 is preferably integral with drain 18 and is connected to a toilet bowl 42 which is supported thereby and hence forms part of the unitary structure. A flush tank 43 is supported by the panel and connected to the bowl 42 by means of conduit 44. Tank 43 is connected to

the cold water pipe 32 by means of a T fitting 45. A baffle 46 is provided in drain 18 opposite the end of conduit 17 for purpose of preventing the suction, caused by the rapid flow of water through the conduit 41, from emptying the trap in the bottom of tank 14.

It will thus be seen that I have provided a unitary arrangement which may be assembled at the factory and shipped complete and ready for installation in a building. Included in this unitary arrangement are the drain tank and all connections required for the usual bathroom fixtures, which on place of installation can be mounted in their positions in a simple way.

While I have shown and described a more or less specific embodiment of my invention, it is to be understood, that this has been done for the purpose of illustration only and is not to be considered as limiting the scope of my invention, which is to be determined by the appended claims.

What I claim is:

1. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits from a plurality of plumbing fixtures connected to said tank, a trap formed in the lower part of said tank and connected to a waste pipe, the length and height of said tank being greater than its width, whereby the tank fits within the narrow confines of the wall while having sufficient capacity above said trap to accommodate the simultaneous discharge from said plumbing fixtures, and at least a portion of said tank being disposed above the floor level of the adjacent room.

2. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, a plurality of adjacently positioned plumbing fixtures, said tank extending the distance between the fixtures, a short drain conduit connecting each fixture directly with said tank, a trap formed in the lower part of said tank and connected to a waste pipe, said tank being sufficiently narrow to fit within the wall and being of sufficient length and height to have a capacity above said trap capable of accommodating the simultaneous discharge from said plumbing fixtures, and at least part of said tank being disposed above the floor level of the adjacent room.

3. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits from a plurality of plumbing fixtures connected to said tank, a trap formed in the lower part of said tank, a combined waste and ventilating pipe extending vertically adjacent to said tank, and connected integrally thereto by means of conduits communicating with the lower and upper parts of said tank, said tank being sufficiently narrow to fit within the wall and being of sufficient length and height to have a capacity above said trap capable of accommodating the simultaneous discharge from said plumbing fixtures, and at least the upper portion of said tank being disposed above the floor level of the adjacent room.

4. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits from a plurality of plumbing fixtures connected to said tank, a trap formed in the lower part of said tank and connected to a waste pipe, the length and height of said tank being greater than its width, whereby the tank fits within the narrow confines of the wall while having sufficient capacity above said trap to accommodate the simultaneous discharge from said plumbing fixtures, and at least a portion of said tank being disposed above the floor level of the adjacent room, said tank being formed with a cleaning opening located above said trap and above said floor level, and a removable fluid tight closure for said opening.

5. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits from a plurality of plumbing fixtures connected to said tank, the length and height of said tank being greater than its width, whereby the tank fits within the narrow confines of the wall while having sufficient capacity above said trap to accommodate the simultaneous discharge from said plumbing fixtures, said tank extending both above and below the floor level of the adjacent room, a trap formed in the lower part of said tank below said floor level and connected to a waste pipe, and a floor drain connected to said tank above said trap.

6. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits connected to opposite sides of said tank leading from plumbing fixtures on opposite sides of said wall, a trap formed in the lower part of said tank and connected to a waste pipe, the length and height of said tank being greater than its width, whereby the tank fits within the narrow confines of the wall while having sufficient capacity above said trap to accommodate the simultaneous discharge from said plumbing fixtures, and at least a portion of said tank being disposed above the floor level of the adjacent room.

7. In a device of the class described, a drain tank adapted to be mounted in the wall of a building, drain conduits from a plurality of plumbing fixtures connected to said tank, a trap formed in the lower part of said tank, a combined waste and ventilating pipe extending vertically adjacent to said tank, and connected integrally thereto by means of conduits communicating with the lower and upper parts of said tank, a drain connection for a toilet bowl integral with said combined waste and ventilating pipe, said tank being sufficiently narrow to fit within the wall and being of sufficient length and height to have a capacity above said trap capable of accommodating the simultaneous discharge from said plumbing fixtures, and at least the upper portion of said tank being disposed above the floor level of the adjacent room.

8. In a device of the class described, a wall section, a drain tank within and supported by said wall section, drain conduits from a plurality of plumbing fixtures connected to and supported by said tank, a trap formed in the lower part of said tank, a waste pipe connected to said trap and supported by said tank, the length and height of said tank being greater than its width, whereby the tank fits within the narrow confines of said wall section while having sufficient capacity above said trap to accommodate the simultaneous discharge from said plumbing fixtures, at least a portion of said tank being disposed above the floor level of the adjacent room, and water conduits supported by said wall section for supplying water to said plumbing fixtures.

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