

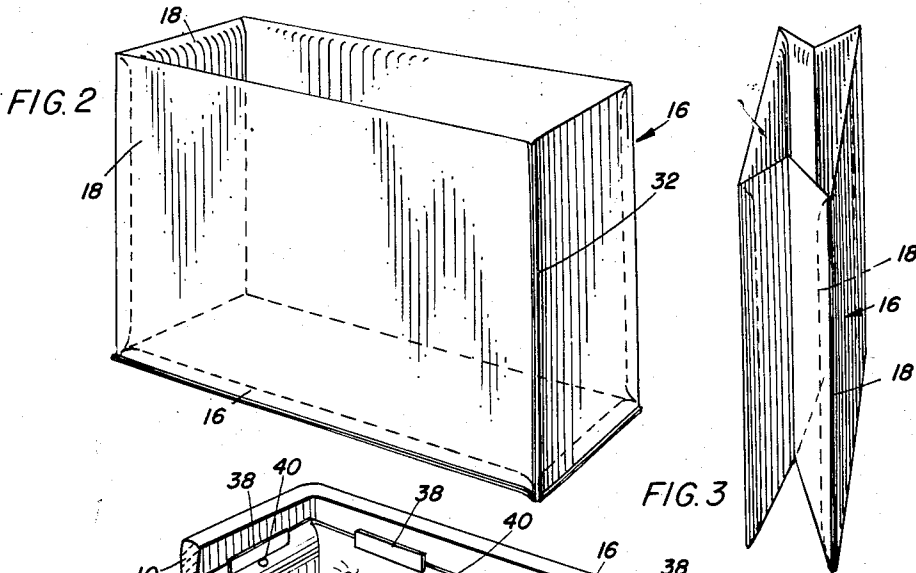
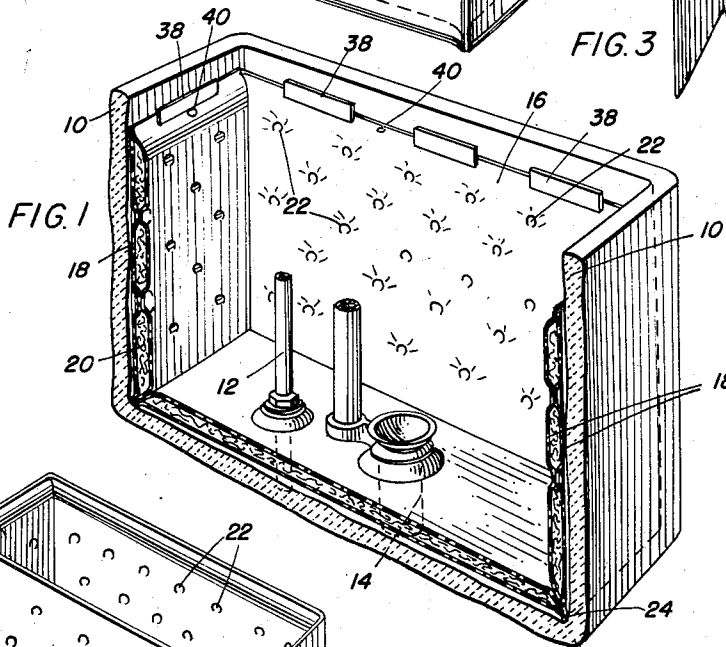
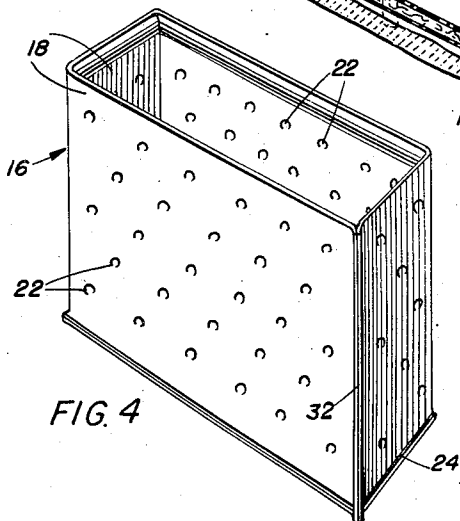
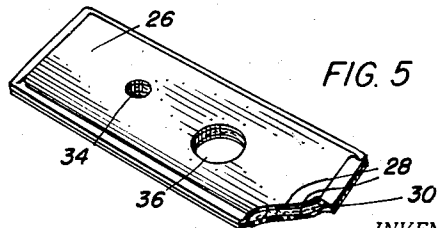
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FLUSHING TANK

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2,832,964

FLUSHING TANK

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8 Claims. (Cl. 4-68)

This invention relates in general to a flushing tank as used particularly in connection with a toilet bowl. The outer container of the flush tank is usually made from a vitreous material which is enameled both inside and out and subject to sweating which usually takes place during the summer causing beads of moisture to gather on the outer surface and to drip on the floor.

The present invention adds an inner wall to the tank which is composed of a double thickness of plastic material which is liquid-proof between which a heat insulating layer of fiber glass is enclosed. By extending the inner wall entirely around the sides of the outer container and at the bottom thereof and duly connecting the necessary pipes through the bottom of the inner wall and through the outer container in a well known manner, the outer container is insulated so that the sweating produced by a cooler liquid inside of a warmer container is obviated even in very warm weather.

An important object of the invention is to provide a flushing tank of this kind which is easily and inexpensively produced.

A further object of the invention is to provide an inner insulating wall which may be incorporated in the flushing tank when it is first built, erected or produced, but which may also be applied to an existing tank after it is set up and in use.

Still a further object of the invention is to provide a plastic double walled container having a fibrous material therein which is additionally held in place by fusing or attaching the opposite walls of the inner container together at intervals.

A still further object of the invention is to provide an inner plastic container for a flushing tank which comprises spaced walls separated by a felted layer of fiber glass.

A still further object of the invention is to provide a breathing opening in the top of the inner receptacle and means for supporting the upper edge of the inner container in the outer container.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawings in which,

Fig. 1 is a perspective view partly broken away of a flushing tank in accordance with this invention showing the walls in section.

Fig. 2 is a perspective view of an inner container in accordance with this invention in extended position for seating it within the outer container of a flushing tank.

Fig. 3 is a perspective view showing an inner container as in Fig. 2 in partially collapsed and folded condition.

Fig. 4 is a perspective view of an inner container with a plurality of welded contact points in the side walls for retaining insulating material between the walls; and

Fig. 5 is a perspective of a double bottom for the inner container having welded seams at the edges and openings therethrough for pipe connections.

In the present invention, a pad of fiber glass is enclosed in a double wall of polyvinyl which is liquid-proof and

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forms a complete enclosure for the sides as well as for the bottom by seaming or welding the bottom to the sides so that the entire inside of the tank will be covered by the fiber glass insulation encased in a double wall of polyvinyl or similar plastic material.

Referring now more particularly to the drawings, a flushing tank is shown having an outer container 10 usually of vitreous material with openings through the bottom through which a supply pipe 12 and a flush pipe 14 may be inserted in a well known manner.

Applied to the inside of the outer container is an inner container 16 comprising double walls 18 of plastic material between which is inserted a pad 20 of matted insulating material such as fiber glass.

The double walls 18 may be secured together at intervals such as heat sealed spots 22 which may be formed by compressing the opposite walls together with the insulation in place thereby sealing it against shifting or downward movement.

In producing the inner container, it may be made with a single piece of material constituting both the inner and outer walls 18 of a length equal to the sum of the lengths of all of the sides and of a width equal to twice the height of the walls. This piece is doubled upon itself with the fold at the top and the edges 24 are seamed together and to the edges of a separate bottom 26 which is also formed of double walls 28 separated by a layer 30 of fiber glass or similar insulation. The edges of the bottom are heat sealed or otherwise secured to the edges 24 of the sides and the ends of the side walls are joined by a single seam 32 at one corner of the container, thus producing a completely enclosed container with double walls throughout.

In the bottom, it is necessary to provide openings 34, 36 and any other insert for receiving the pipes 12 and 14 or any other connections which are also inserted through the outer container.

This inner container is designed to fit closely in an outer container so that there is substantially no space between the inner and outer containers; the inner container usually has sufficient stiffness although it is flexible to remain in place against the outer container against which it is also pressed by any water within the tank and in addition, a plurality of adhesive mounting strips 38 are applied to the upper folded edge of the inner container overlapping it and adhering to the inner surface of the outer container 10. In the upper edge of the inner container are one or more openings 40 to permit the free passage of air into and out of the inner container above the normal water line in the tank so that no liquid will be admitted between the walls of the inner container and the container will be free for a limited expansion and contraction due to the changing of the liquid level in the normal operation of the flushing tank.

While I have thus described a preferred construction in some detail, it should be regarded as an illustration or example rather than as a limitation or restriction of the invention, since various changes in the construction, combination, and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

1. A flushing tank having an outer wall subject to sweating and with inlet and drain pipes extending therethrough and a double walled inner container also having openings for the inlet and drain pipes therethrough, the inner container having flexible closely spaced liquid-proof walls of plastic material, and a matted fibrous insulating filler in a close fitting layer between the walls of the inner container.

2. A flushing tank in accordance with claim 1, in which

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the inner container has a pad of matted resilient fibrous insulating material between the walls thereof, spacing the walls apart, and the walls being heat treated to seal them together at intervals through the insulation and to hold the pads of insulation in place.

3. In a flushing tank in accordance with claim 1, the inner container comprising double walls of resilient fibrous insulating material at the sides, edges and bottom, the double walls being spaced apart throughout the receptacle by pads of matted resilient heat insulating material, and the side and end walls of this container being sealed together and to the bottom about the edges thereof to provide a complete insulation for the outer tank wall.

4. In a flushing tank in accordance with claim 3, the upper edge of the inner container having breathing openings therein to permit a limited expansion and contraction of the inner container due to the presence and absence of flushing liquid therein.

5. In a flushing tank in accordance with claim 3, the combination of plastic adhesive strip means applied to the upper edge of the inner container and also adhering to the inner surface of the outer tank wall adjacent the top thereof.

6. An insulating container for a flushing tank comprising a layer of flexible impervious plastic material folded upon itself to form a double wall for the sides and ends of a container and the ends of the layer heat sealed together, a pad of matted fibrous resilient insu-

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lating material between the said double walls and spacing the walls apart, a bottom for the container comprising double walls spaced apart by an insulating material and having pipe openings in the bottom, of which the edges are sealed together and the bottom edges sealed to the lower edges of the side walls to provide a completely fluid tight container sealed at the edges and open at the top.

7. An insulating container according to claim 6, in which the double side and end walls spaced apart by the heat insulating material have heat seals extending through and joining them at intervals to hold the insulation in place, and to prevent it from shifting or slipping within the walls.

8. In an insulating container for a flushing tank, a double walled plastic container extending about the sides and bottom, matted fibrous insulating material between the walls of the container to space them apart, the bottom having perforations through the double wall thereof to receive pipes therethrough, and the upper edge of the container having breathing openings to permit a limited expansion and contraction of the container.

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