

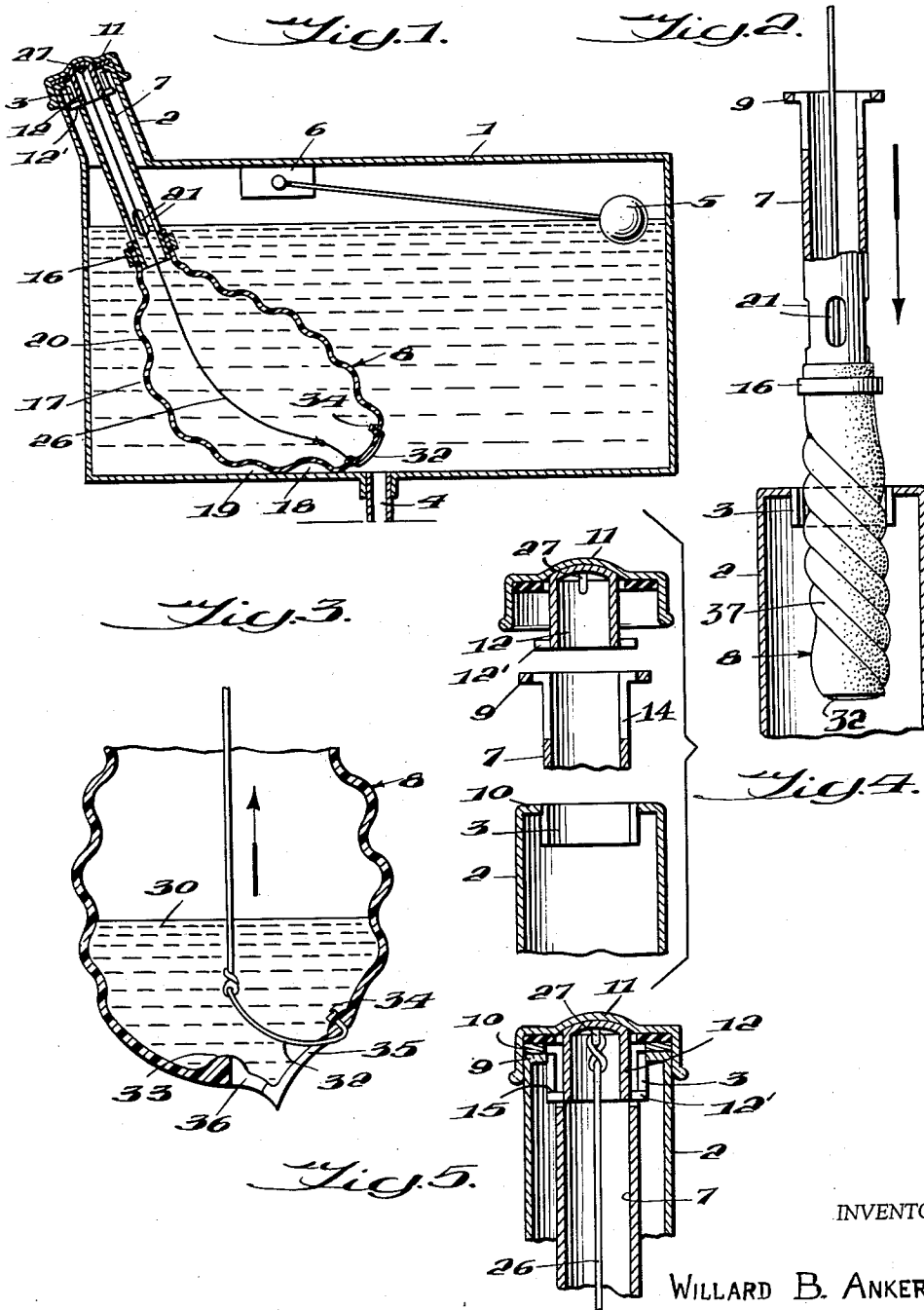
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W. B. ANKER

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MULTIPLE TANK ASSEMBLY

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INVENTOR

WILLARD B. ANKER

BY

B. P. Fishburn, Jr.
ATTORNEY

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MULTIPLE TANK ASSEMBLY

Willard B. Anker, 3428 Anker St., Alexandria, Va.

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1 Claim. (Cl. 158—46.5)

My invention relates to improvements in a multiple tank assembly.

An important object of the invention is to provide a flexible auxiliary tank to be arranged within the main tank, and means for severing the auxiliary tank for providing the auxiliary tank with a discharge opening.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a central vertical longitudinal section through the main and auxiliary tanks, and associated elements, with the severing wire in the outer position,

Figure 2 is a side elevation of the flexible auxiliary tank showing the manner of folding the auxiliary tank for insertion into the main tank,

Figure 3 is a central vertical longitudinal section through the auxiliary tank, parts broken away, showing the severing wire in the inner position,

Figure 4 is a central vertical longitudinal section through the inlet tube of the main tank, and associated elements, the same being separated, and,

Figure 5 is a similar view with the elements shown in Figure 4 assembled.

Referring to the drawings reference character 1 designates a main tank for fluid having an intake tube 2 with the conventional intumed inner sleeve 3 shown more particularly in Figs. 4 and 5. The main tank 1 is provided with the conventional discharge opening shown at 4 and the conventional depth gauge mechanism such as float 5 and the control device 6 operated thereby for controlling a remote electrically operated depth gauge.

The auxiliary tank of my invention consists of a tubular portion 7 and a bulbular portion 8 connected therewith. The tubular portion 7 is provided with a flat flange 9 at the top thereof as shown more clearly in Figs. 4 and 5 which flange is adapted to seat against the top of the main tank intake tube 2 as shown more clearly at 10 in Figs. 4 and 5. The top of the intake tube 2 is arranged to receive the closure cap 11 which is provided with the downwardly extending tube 12 having fingers 12' adapted to pass through bayonet slots in the upper end of the tubular portion 7 of the auxiliary tank as shown at 14 in Fig. 4 and engaged beneath the peripheral edge 15 of the intumed sleeve 3 for closing the opening of both the main tank and the auxiliary tank.

The tubular portion 7 of the auxiliary tank may be formed from metal or plastic or material which is resilient to the extent that when the tubular portion 7 is pushed into the intake tube 2 of the main tank, the tubular portion 7 will conform with any curvature which may exist in the intake tube 2 for moving the bulbular portion of the auxiliary tank into the interior of the main tank. I may connect the bulbular portion of the auxiliary tank with the tubular portion 7 in a variety of ways, for example, bulbular portion 8 may be detachably fastened to the lower end of tubular portion 7 by means of a clamping band represented at 16. Where the bul-

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bular portion 8 is connected through a band 16 with the tubular portion 7, the tubular portion 7 may be repeatedly used while the bulbular portion 8 may be renewed from time to time.

The bulbular portion 8 is preformed to provide a multiplicity of transversely extending corrugations 17 for the purpose of strengthening the auxiliary tank and also to insure against any tendency of the auxiliary tank, when filled with liquid, of forming a flat surface tending to overlay the discharge exit 4 of the main tank as shown, for example, in Fig. 1 for thereby impairing the operation thereof the main tank fuel feed system. The corrugations 17 insure spaced lineal contact throughout only a small portion of the outside wall of the bulbular portion of the auxiliary tank 8 with the bottom of the main tank 1. Thus there is always maintained spaced passages 18, 19, etc., underneath the bulbular portion 8 of the auxiliary tank 20 for the flow of fluid in the main tank around the auxiliary tank.

The tubular portion 7 of the auxiliary tank contains a multiplicity of ports 21 in the sides thereof above the connection thereto of the auxiliary tank 20 for the overflow of fluid from the auxiliary tank into the main tank. That is to say when the fluid is delivered through the intake of the main tank the fluid first fills the auxiliary tank as represented in Fig. 1 and then overflows into the main tank 1 through the ports 21. When the auxiliary tank is filled and the main tank has been exhausted of fluid and it is desired to use the contents of the auxiliary tank, the supply of fluid in the auxiliary tank is discharged into the main tank.

The cord 26 is connected to the interior of closure cap 11 and is connected with a rip cord or wire 32 at the end thereof, the rip cord or wire extending through the material of the bulbular portion 8 as represented at 33 and around the outside thereof to a fixed fastening 34 in the side of the bulbular portion 8. The cord 26 is attached at 27 to the cap 11. A pull exerted on cord 26 draws the rip cord or wire 32 upwardly against the resistance of the weight of the fluid 30 inside the auxiliary tank. The rip cord or wire 32 is sharp and cuts through the material of the bulbular portion 8 as represented at 35 in Fig. 3 providing a gap 36 in the bottom of the bulbular portion 8 through which the fluid contents 30 gravitate into the main tank 1. Inasmuch as the bulbular portion 8 is readily renewable with respect to the tubular portion 7 of the auxiliary tank 20 it is simply necessary to remove clamping band 16, detach the severed bulbular portion 8 and replace a fresh bladder or bulbular portion 8 on the end of the tubular portion 7 whereupon the auxiliary tank is ready to be placed back into operation.

It is believed from the foregoing that the operation of the auxiliary tank of my invention will be entirely clear. In summarizing the operation reference is made to Fig. 2 where the bulbular portion 8 of the auxiliary tank is shown folded or wrapped into an extremely small cross section area by several twists applied to the bladder as represented at 37 so that the bladder may be stuffed or pushed through the intake intumed sleeve 3 to a position inside the main tank 1 as shown in Fig. 2. The resiliency of the bladder 8 is such that it readily unwraps itself in the position shown in Fig. 1 ready to receive the fluid supplied to the main tank when closure cap 11 is removed. With closure cap 11 removed fluid is delivered through the intake tube 7 of the auxiliary tank 20 and passes into the bladder constituting the bulbular portion 8 of the auxiliary tank and fills the bulbular portion 8 as shown in Fig. 1 and then overflows through the ports 21 to fill the main tank 1.

When it is desired to discharge the liquid from the auxiliary tank, the cord is pulled, and this draws the

severing wire 32 inwardly, severing the bulbular portion 8, as shown in Figure 3, and the liquid passes through the discharge opening thus provided.

The flexible bulbular portion or auxiliary tank 8 may be formed of plastic material or material not subject to attack by the liquid in which it is immersed. Where the main tank is filled with gasoline, I contemplate using neoprene as the material for making the auxiliary tank 8.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

In a multiple tank assembly, a main tank including an inlet tube, an auxiliary tank including a second tube for insertion through said inlet tube, said second tube being provided at its outer end with a radial flange extending beyond the second tube to be mounted upon the inlet tube, said second tube having side openings near its inner end, a collapsible and expansible flexible receptacle having corrugations in its side, said receptacle having its upper end open to receive the lower end of the second tube, means to detachably clamp said upper open end to the second tube, the corrugated receptacle being adapted to be spirally folded upon itself to be inserted through the inlet tube with the second tube, a severing wire disposed at the bottom of the flexible re-

ceptacle and originally arranged upon the exterior of the bottom and having one end attached to said bottom and its opposite end extending through said bottom to the interior of said receptacle, a cap to be removably mounted upon the inlet tube, and a flexible cord secured to the cap and attached to the inner end of the severing wire, the arrangement being such that when the cap is removed from the inlet tube the movement of the cap may be employed to pull the cord which will cause the severing wire to be drawn from the exterior to the interior of the receptacle to sever the receptacle.

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