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(54) Title: SELF-VENTING CONTAINER WITH USER-CONTROLLED VALVE

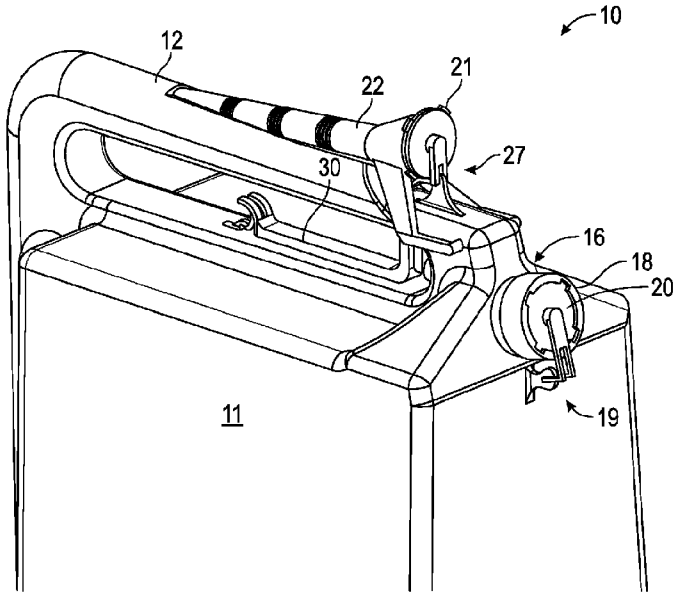

FIG. 1

(57) Abstract: A liquid container, meeting ail federal, state and local regulations, comprising a vessel with an opening and a self-venting spout which is mounted to the vessel in a manner allowing the spout, from a stowed position, to rotate into its operational position and coupling to the opening with a coupler. Both open ends of the spout are automatically covered when stowed. A valve assembly at the opening of the vessel is operated externally by a trigger located near the underside of the primary handle. The valve assembly controls flow of liquid out of the vessel and through the self-venting spout. Venting of the vessel Is allowed through a series of channels, respectively comprising an interior channel within the spout, an intake port, and an intake channel leading to the rear of the vessel above the liquid line. The vessel opening is covered by a lid mounted to the vessel that rotates into operational or stowed position and is sealed by the coupler.

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04 January 2018 (04.01.2018)

AMENDED CLAIMS
received by the International Bureau on 21 November 2017 (21.11.2017)

What is claimed is:

1. A portable liquid delivery apparatus comprising:

a liquid storage vessel, said liquid storage vessel comprising a single opening for both discharging liquid from said liquid storage vessel and for venting gas into said liquid storage vessel;

a liquid discharge valve;

a spout, said spout hingedly connected such that it can rotate to align with said opening of said liquid storage vessel; and

a handle, said handle comprising a recess having dimensions which create an interference fit with an outside of said spout.

2. The portable liquid delivery apparatus of claim 1 wherein said opening is at or near a top of said vessel.

3. The portable liquid delivery apparatus of claim 1 further comprising a vent valve.

4. The portable liquid delivery apparatus of claim 3 wherein said vent valve is communicably coupled to said liquid discharge valve.

5. The portable liquid delivery apparatus of claim 4 wherein said vent valve is connected to said liquid discharge valve via a connection that provides mechanical advantage.

6. A portable liquid delivery apparatus comprising:

a liquid storage vessel;

a liquid discharge valve; and

a vent valve, said vent valve communicably coupled to said liquid discharge valve via a connection that provides mechanical advantage.

7. The portable liquid delivery apparatus of claim 6 wherein said liquid storage vessel comprises a single opening configured to allow discharging liquid from said liquid storage vessel and simultaneously allowing vent gas to pass into said liquid storage vessel.

8. The portable liquid delivery apparatus of claim 6 further comprising a lid rotatably coupled to said portable liquid delivery apparatus.

9. A portable fuel container comprising:

a liquid storage vessel;

a liquid discharge valve, said liquid discharge valve configured to receive a fuel pump nozzle for filling said liquid storage vessel with fuel, by allowing an end portion of the fuel pump nozzle to push open the liquid discharge valve; and

wherein when said portable fuel container is used in its intended operating configuration, said liquid discharge valve is positioned such that liquid that is discharged from said portable fuel container passes through said liquid discharge valve.

10. The portable fuel container of claim 9 wherein said portable fuel container further comprises a vent valve, said vent valve communicably coupled to said liquid discharge valve via a connection that provides mechanical advantage.

11. The portable fuel container of claim 10 further comprising a spout connected to said portable fuel container via a hinge.

12. The portable fuel container of claim 11 wherein said hinge is positioned such that an inlet of said spout aligns with an outlet of said liquid storage vessel when said spout is rotated into a use position.

13. The portable fuel container of claim 11 further comprising a spout storage recess formed into a handle of said portable fuel container.

14. The portable fuel container of claim 13 further comprising a spout inlet cover hingedly connected to said liquid storage vessel.

15. A portable fuel container comprising:

a liquid storage vessel having only two openings, a first of said only two openings comprising a translating rod passing there through with a liquid-tight seal around it, and a second of said only two openings for both dispensing liquid from the fuel container and for filling the fuel container from a standard fuel pump nozzle; and

a liquid discharge valve disposed in fluid communication with said second opening, wherein said liquid storage vessel can be filled from the standard fuel pump nozzle without requiring a user to remove said liquid discharge valve from the flow path of the fuel; and

wherein when said portable fuel container is used in its intended operating configuration, said liquid discharge valve is positioned such that liquid that is discharged from said portable fuel container, passes through said liquid discharge valve.

16. The portable fuel container of claim 15 wherein said second opening further comprises an intake inlet disposed therein.

17. The portable fuel container of claim 15 further comprising a check valve in fluid communication with said liquid discharge valve.

18. A portable liquid delivery apparatus comprising:

a liquid storage vessel comprising an opening;

a neck extending from said opening; and

a coupler disposed about said neck, said coupler comprising a rim on a front face, said rim comprising a plurality of tab-receiving gaps formed therein, said tab-receiving gaps configured to mate with a structure having tabs disposed thereon.

STATEMENT UNDER ARTICLE 19

Independent claim 1 has been amended to further recite "a spout, said spout hingedly connected such that it can rotate to align with said opening of said liquid storage vessel; and a handle, said handle comprising a recess having dimensions which create an interference fit with an outside of said spout". The amendments are supported in the application as originally filed – see in particular paragraphs 29 -31 and Figs. 2 and 3 of the application as originally filed. The subject matter of claims 7 and 8 have been incorporated into amended independent claim 1. As noted in the Written Opinion, claim 8 was found to contain novelty, inventive step, and industrial applicability. Thus, amended claim 1, which now recites the limitations of former claim 8, is therefore now allowable.

Independent claim 1 has also been amended to avoid any confusion created by the phrase of "only one opening" so that it is clear that Applicant intends "a single opening for both discharging liquid from said liquid storage vessel and for venting gas into said liquid storage vessel".

Applicant has also amended dependent claim 10 to make its meaning more clear and avoid any confusion that may have been caused by the phrase of "only one opening".

Independent claim 12 has also been amended and now recites a "liquid discharge valve configured to receive a fuel pump nozzle for filling said liquid storage vessel with fuel, by allowing an end portion of the fuel pump nozzle to push open the liquid discharge valve; and wherein when said portable fuel container is used in its intended operating configuration, said liquid discharge valve is positioned such that liquid that is discharged from said portable fuel container passes through said liquid discharge valve". This amendment is supported by the application as originally filed – see in particular paragraphs 32 and 35 – particularly regarding discharge opening 46, and Figs. 6 and 8.

Claim 18 has also been amended to further recite "when said portable fuel container is used in its intended operating configuration, said liquid discharge valve is positioned such that liquid that is discharged from said portable fuel container, passes through said liquid discharge valve". Thus, the foregoing remarks with respect to claim 12 are equally applicable to claim 18 and are thus incorporated herein by reference. Claim 18 has also been amended to provide the missing "rod" term which was accidently omitted. It is believed that the addition of this word renders the claim more definite and clear.

Claim 21 has been amended to further recite "said tab-receiving gaps configured to mate with a structure having tabs disposed thereon". This amendment is supported by the application as originally filed – see the tabs 21 of paragraphs 0028 - 0030 and Figs. 1, 2, and 12. Claim 21 is further amended to replace the "tab-receiving openings" language with the more clear language of "tab-receiving gaps" as suggested and properly interpreted by the Authorized Officer in Box VIII of the Written Opinion.