Infringement Analysis Report

Title: Water Bottle

Reference number: xxxx

Submitted to: xxxx

Email: xxxx

4/17/2020

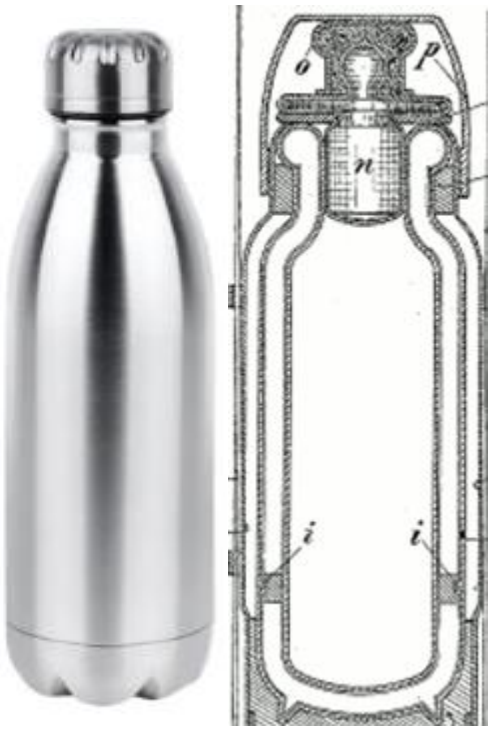
Contents

Key Features

F1. A water bottle comprises a double wall vacuum insulated stainless steel metal structure.

F2. The double wall vacuum insulated stainless steel metal structure is configured to create a cool within a vacuum in the container and a temporary distortion at the sidewall portion.

F3. A threaded cap is commonly used to close the mouth of the water bottle.



Executive Summary

A comprehensive patent search is conducted to identify the relevant documents. We have identified 3 relevant active patents, and the detailed analysis of each relevant publication is presented in this report. Additionally, 5 related patent publications, 5 In-active patent publications and 5 expired patent publications are also listed in this report.

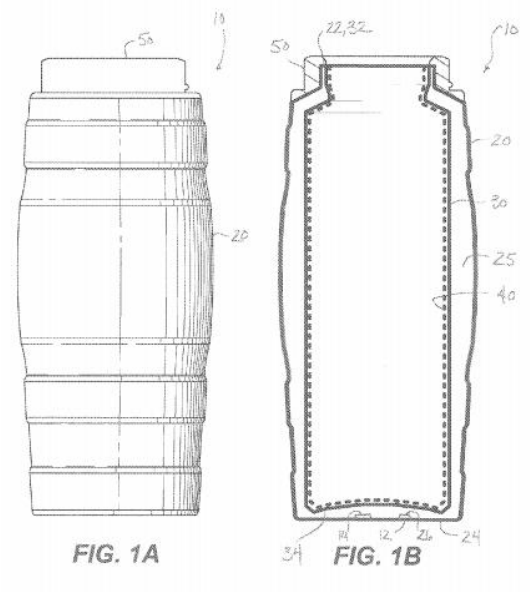
Results Summary Table:

D. No	Publication Number	Assignee	F1	F2	F3
D1	US9555948B2	Rubbermaid Inc	✓	✓	✓
D2	US9254063B2	Tervis Tumbler Co	✓	✓	✓
D3	US9750359B2	kah carl L C [US]	✓	✗	✗

Observation:

The active patent publications disclose a water bottle structure. Further, the water bottle comprises a double wall vacuum insulated stainless steel metal structure and which is configured to create a cool within a vacuum in the container and a temporary distortion at the sidewall portion is disclosed. Furthermore, the concept of a lid assembly is commonly used to close the mouth of the water bottle is also disclosed in the identified publications.

Relevant Patent Publications

Document Number	**D1**
Publication Number	US9555948B2
Title	Double-walled, vacuum-insulated container having inner coating cured at high temperature
Priority Date	December 9, 2013
Filing Date	December 9, 2013
Publication Date	January 31, 2017
Assignee	Rubbermaid Inc
Legal Status	**Patented Case – No maintenance fees are due at this time**
Family Members	CN104936491A, EP2897512A1, US2015158657A1, WO2015088583A1
Relevant Images	
Relevant Text to F1	**IN CLAIMS:** 1. A container manufacturing method, comprising: **forming a double-walled container having a plenum enclosed between an inner body and an outer body;** **creating a vacuum at least partially in the plenum using a seal having a**

	first melt point; applying a paint coating to an inside surface of the inner body after creating the vacuum, the paint coating having a drying temperature above a normal drying temperature of a conventional paint coating; and curing the paint coating with a temperature level, the temperature level being above the normal drying temperature of the conventional paint coating and being below the first melt point. 2. The method of claim 1, wherein **the inner body and the outer body comprise a stainless steel material.** **IN DISCRIPTION:** **Col. No.3, Lines 49 -54.** FIG. 1A illustrates **an elevational view of the dual-walled, vacuum-insulated container 10 according to the present disclosure. The container 10 can be used for various types of hot and cold beverages. The main construction of the container 10 is preferably stainless steel, although other metal materials can be used.**
Relevant Text to F2	**IN CLAIMS:** NOT DISCLOSED **IN DISCRIPTION:** **Col. No.4, Lines 52 -56.** **The paint coating 40 applied inside the liner 30 of the double-walled, vacuum-insulated container 10 and cured at an elevated temperature produces a durable, abrasive-resistant, and uniform surface for use with hot and cold beverages and food.**
Relevant Text to F3	**IN CLAIMS:** NOT DISCLOSED **IN DISCRIPTION:** **Col. No.3, Lines 54 -61.** Certain components, **such as a mouth 50 of the container 10 and any lid (not shown) may be composed of different materials**, such as injected molded plastic or the like. For its part, **the lid can thread onto the mouth 50 of the container 10, may sealably insert into the mouth 50, or may**

	affix by other known methods. The container 10 may also include a molded support of plastic or rubber disposed on the container's bottom end.

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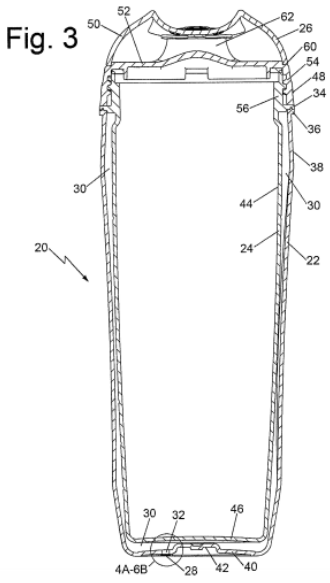
Document Number	**D2**
Publication Number	US9254063B2
Title	Double walled insulated container with rechargeable vacuum
Priority Date	February 21, 2012
Filing Date	February 21, 2012
Publication Date	February 9, 2016
Assignee	Tervis Tumbler Co
Legal Status	**Patented Case – No maintenance fees are due at this time**
Family Members	US2013213978A1
Relevant Images	
Relevant Text to F1	**IN CLAIMS:** 1. **A container comprising an outer member, an inner member, an insulating space and a vent assembly, said outer member being formed**

	of a plastic material and having a sidewall, said inner member being formed of a plastic material and having a sidewall, said inner member being disposed within said outer member with said insulating space being located between said sidewalls of said outer and inner members, said vent assembly being located in said outer member in communication with said insulating space and comprising a gas permeable member operable to equalize the internal pressure within said insulating space and the ambient atmospheric pressure surrounding said outer member, whereupon higher internal pressure within said insulating space can vent to the ambient atmosphere through said gas permeable member upon the occurrence of excess pressure within said insulating space when said container is heated, while enabling ambient air to pass through said gas permeable member back into said insulating space when said container is cooled, said vent assembly being configured to allow the passage of gases into said insulating space at all times while preventing liquids from entering into said insulating space at all times, said insulating space being configured to have some vacuum therein and wherein said vent assembly additionally comprises a valve arranged to equalize the internal pressure within said insulating space and the ambient atmospheric pressure surrounding the outer member. **IN DISCRIPTION:** **Col. No.3, Lines 15 -19.** **It must be pointed out at this juncture that the container 20 is merely illustrative of numerous double walled container products that make use of a pair of vessels separated by an insulating space to provide thermal insulation for the inner vessel.**
Relevant Text to F2	**IN CLAIMS:** 2. The container of claim 1 wherein said valve is arranged to allow higher internal pressure within said insulating space to vent to the ambient atmosphere when said container is heated, **and to close off to seal said insulating space to maintain said vacuum therein when said container is cooled.**

	IN DISCRIPTION: **Col. No.3, Lines 33-35.** **The inner vessel 24 is arranged to receive any type of liquid, e.g., cold water** or soda, hot tea or coffee, etc., **to maintain its temperature.** **Col. No.5, Lines 40 -45.** The membrane, being gas permeable, **but liquid impermeable prevents any liquids from gaining ingress into the insulating space while the valve member 70 is open (i.e., off of the valve seat). After the container is taken from the dishwasher, as it cools the pressure within the insulating space 30 begins to equalize.**
Relevant Text to F3	**IN CLAIMS:** 6. **The container of Claim 1 additionally comprising a lid assembly.** **IN DISCRIPTION:** **Col. No.3, Lines 35-40.** **The lid assembly 26, which will be described later is arranged to be opened to provide access to the contents of the container held within the inner vessel.** This enables the user to fill the container with some liquid when desired and to remove, e.g., drink or pour, the contents the container when desired.

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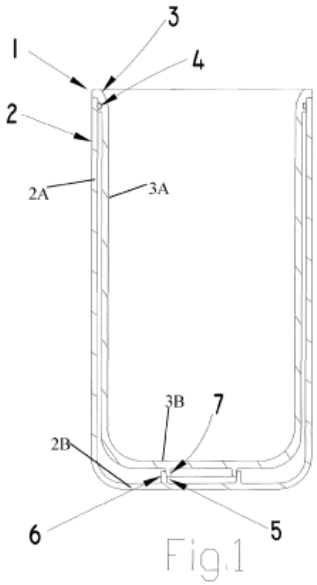
Document Number	**D3**
Publication Number	US9750359B2
Title	Double walled thermal container with ring seal
Priority Date	January 7, 2013
Filing Date	January 7, 2013
Publication Date	September 5, 2017
Assignee	KAH CARL L C [US]
Legal Status	**Patented Case – No maintenance fees are due at this time**

Family Members	US2013175278A1, US2017347820A1
Relevant Images	 Fig.1
Relevant Text to F1	**IN CLAIMS:** NOT DISCLOSED **IN DISCRIPTION:** **Col. No.2, Line 65 to Col. No.3, Line 3.** **A double walled thermal container 1 in accordance with an embodiment of the present disclosure is illustrated in FIG. 1. The container 1 preferably includes an outer container 2 in which an inner container 3 is mounted. FIG. 2 illustrates the outer container 2 alone while FIG. 3 illustrates the inner container 3 alone.**
Relevant Text to F2	NOT DISCLOSED
Relevant Text to F3	NOT DISCLOSED

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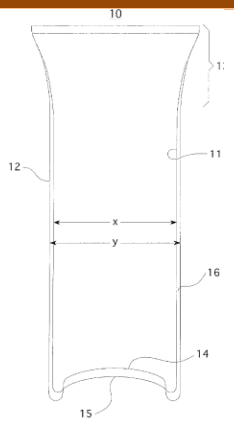
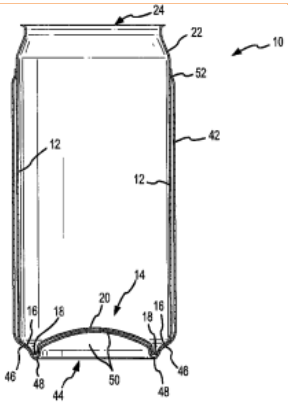
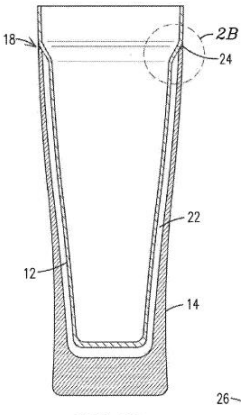
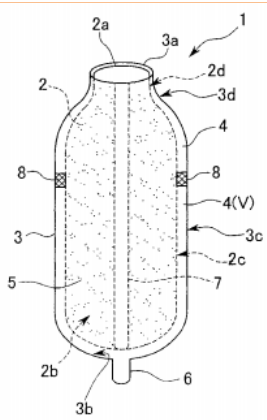
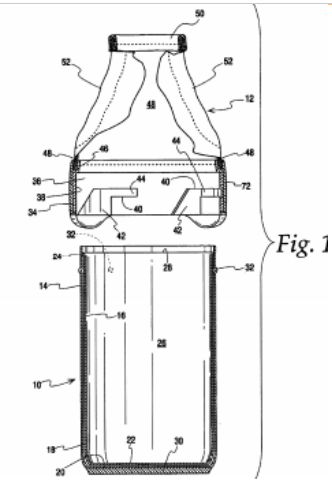
Related Patent Publications

D. No	Publication Number	Title	Relevant Images
1.	US8132687B2	Double-walled container and method of manufacture	 FIG. 1
2.	US8667662B2	Double walled beverage container and method of making same	
3.	US9750360B2	Double-walled glass insulated containers and method for producing same	 FIG. 2A

4.	US6648168B2	Insulated container	
5.	US6814252B2	Insulating enclosure for a necked beverage bottle	

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In-Active Patent Publications

D. No	Publication Number	Title	Legal Status
1.	US6206271B1	Method for sealing a vacuum double wall container made of metal and associated sealed thereof	Patent Expired Due to Non-Payment of Maintenance Fees Under 37 CFR 1.362
2.	US6168040B1	Double-wall insulated container	Patent Expired Due to Non-Payment of Maintenance Fees Under 37 CFR 1.362
3.	US20170367536A1	Stainless steel food service vessels	Abandoned -- Failure to Respond to an Office Action
4.	US20100108693A1	Insulated double-	Abandoned -- Failure to Respond to an

		walled disposable plastic cup	Office Action
5.	US20080006642A1	Double wall food storage container with optional insulator	Abandoned -- Failure to Respond to an Office Action

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Expired Patent Publications

D. No	Publication Number	Title	Legal Status
1.	US4997124A	Vacuum-insulated, double-walled metal structure and method for its production	Expired – Life time
2.	US4856174A	Method of making a stainless steel vacuum bottle with a silver mirrored surface	Expired – Life time
3.	US5588197A	Method of manufacturing metallic vacuum double-walled container	Expired – Life time
4.	US872795A	Double-walled vessel with a space for a vacuum between the walls.	Expired – Life time
5.	US5153977A	Method for making double-walled insulating metal container	Expired – Life time

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Search Strategy

Database:

Search was conducted in the following databases:

1. AcclaimIP
2. USPTO
3. Espacenet
4. GooglePatent
5. Google
6. Patented Scope (WIPO)

Keywords: Below mentioned different aspects and its synonyms are used in the search strategy:

ASPECTS						
I	II	III	IV	V	VI	VII
Water bottle	Double-walled steel metal	Vacuum insulation	Sidewall	Cooling water	Threaded Cap	Closing
Steel container	Double-walled Stainless steel	Thermal insulation	Sidewall Structure	Cold water	Lid	Opening
Vessel	Double-walled aluminum metal	Insulating space	Receptacle Side Wall	Chilled water	Closure	
Flask	Double walled thermal container		Hollow side wall	Cold beverage	Stopper	
Receptacle					Cover	

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Classification Codes:

CPC		
A47J41	A47J41/0077	A47J41/0077: Double walled vessels comprising a single

		insulating layer between inner and outer walls made of two vessels inserted in each other
B65D7	B65D7/22	B65D7/22: Containers having bodies formed by interconnecting or uniting two or more rigid, or substantially rigid, components made wholly or mainly of metal characterized by wall construction or by connections between walls with double walls, e.g. double end walls
B65D81	B65D81/3841	B65D81/3841: Containers, packaging elements, or packages, for contents presenting particular transport or storage problems, or adapted to be used for non-packaging purposes after removal of contents with thermal insulation rigid container in the form of a bottle, jar or like container formed with double walls, i.e. hollow
A47J41	A47J41/02	A47J41/02: Vacuum-jacket vessels, e.g. vacuum bottles
A47G19	A47G19/2288	A47G19/2288: Drinking vessels or saucers used for table service with means for keeping liquid cool or hot
A47J41	A47J41/028	A47J41/028: Constructional details of the elements forming vacuum space made of metal
B65D1	B65D1/0215	B65D1/0215: Bottles or similar containers with necks or like restricted apertures, designed for pouring contents characterized by material, e.g. composition, physical features multilayered
USPTO		
220	220/62.18	220: Receptacles 220/62.18: Hollow side wall
220	220/62.11	220: Receptacles 220/62.11: Receptacle Side Wall Made Of Two Or More Layers Of Material Permanently Attached Together
220	220/592.01	220: Receptacles 220/592.01: receptacle having means to facilitate maintaining contents above or below ambient temperature (e.g., compartment for holding a heat exchange medium)
220	220/592.17	220: Receptacles

		220/592.17: Drinking vessel
220	220/592.27	220: Receptacles 220/592.27: Vacuum insulation
220	220/660	220: Receptacles 220/660: Sidewall Structure

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********** END OF THE REPORT**********