

**CPC****COOPERATIVE PATENT CLASSIFICATION****B67C****CLEANING, FILLING WITH LIQUIDS OR SEMILIQUIDS, OR EMPTYING, OF BOTTLES, JARS, CANS, CASKS, BARRELS, OR SIMILAR CONTAINERS, NOT OTHERWISE PROVIDED FOR; FUNNELS****Guidance heading:****B67C 3/00**

**Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus; Filling casks or barrels with liquids or semiliquids** ([filling containers with liquids or semiliquids using apparatus other than bottling or like apparatus B65B 3/00](#))

## B67C 3/001

. {Cleaning of filling devices }

## B67C 3/002

.. {using cups or dummies to be placed under the filling heads }

## B67C 3/004

... {permanently attached to the filling machine and movable between a rest and a working position }

## B67C 3/005

.. { Cleaning outside parts of filling devices }

## B67C 3/007

. {Applications of control, warning or safety devices in filling machinery ([flow-control B67C 3/28](#)) }

## B67C 3/008

. { Bottling or like apparatus specially adapted to be transported, e.g. positioned on a truck or in a container }

## B67C 3/02

. Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus

## B67C 3/023

.. { Filling multiple liquids in a container ([B67C 3/208 takes precedence](#)) }

## B67C 3/026

... { Filling the liquids simultaneously }

## B67C 3/04

.. without applying pressure

## B67C 3/045

... { Apparatus specially adapted for filling bottles with hot liquids }

## B67C 3/06

.. using counterpressure, i.e. filling while the container is under pressure

## B67C 3/065

... {Filling siphons, e.g. carbonating beverages during filling ([siphons B67D 1/0456](#)) }

## B67C 3/08

... and subsequently lowering the counterpressure

## B67C 3/10

... preliminary filling with inert gases, e.g. carbon dioxide

## B67C 3/12

... Pressure-control devices

## B67C 3/14

... specially adapted for filling with hot liquids

## B67C 3/16

.. using suction

## B67C 3/18

.. using siphoning arrangements

## B67C 3/20

.. with provision for metering the liquids to be introduced, e.g. when adding syrups ([measuring volume, or volume flow, in general G01F](#) )

## B67C 3/202

... {by weighing }

## B67C 3/204

... {using dosing chambers }

B67C 3/206	...	{using arrangements of cylinders and pistons ( <a href="#">B67C 3/208</a> takes precedence) }
B67C 3/208	...	{specially adapted for adding small amounts of additional liquids, e.g. syrup }
B67C 3/22	..	Details
B67C 3/222	...	{Head-space air removing devices, e.g. by inducing foam }
B67C 3/223	....	{by squeezing the container elastically }
B67C 3/225	...	{ Means for filling simultaneously, e.g. in a rotary filling apparatus or multiple rows of containers }
B67C 3/24	...	Devices for supporting or handling bottles ( <a href="#">transport or storing devices in general B65G</a> )
B67C 3/242	....	{engaging with bottle necks ( <a href="#">B67C 3/26</a> takes precedence) }
B67C 3/244	....	{Bottle lifting devices actuated by jacks, e.g. hydraulic, pneumatic ( <a href="#">B67C 3/242</a> takes precedence) }
B67C 3/246	....	{Bottle lifting devices actuated by cams ( <a href="#">B67C 3/242</a> takes precedence) }
B67C 3/248	....	{Bottle lifting devices actuated by threads <a href="#">B67C 3/242</a> takes precedence }
B67C 3/26	...	Filling-heads; Means for engaging filling-heads with bottle necks
B67C 3/2608	....	{comprising anti-dripping means }
B67C 3/2611	.....	{to prevent dripping from sources other than the filling product, e.g. deflectors for vapours condensed on the outer surface of the filling device }
B67C 3/2614	....	{specially adapted for counter-pressure filling }
B67C 3/2617	.....	{the liquid valve being opened by mechanical or electrical actuation }
B67C 3/262	.....	{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening }
B67C 3/2622	.....	{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level ( <a href="#">level control in general G01F</a> ) }
B67C 3/2625	.....	{the liquid valve being opened automatically when a given counter-pressure is obtained in the container to be filled }
B67C 3/2628	.....	{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening }
B67C 3/2631	.....	{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level ( <a href="#">level control in general G01F</a> ) }
B67C 3/2634	....	{specially adapted for vacuum or suction filling }
B67C 3/2637	....	{comprising a liquid valve opened by relative movement between the container and the filling head }
B67C 3/264	.....	{and the filling operation being carried out manually }
B67C 3/2642	....	{specially adapted for sterilising prior to filling }
B67C 3/28	...	Flow-control devices, e.g. using valves ( { <a href="#">B67C 3/2617</a> , <a href="#">B67C 3/2625</a> , <a href="#">B67C 3/2637</a> take precedence }; <a href="#">valves in general F16K</a> )
B67C 3/281	....	{Profiled valve bodies for smoothing the flow at the outlet of the filling nozzle }
B67C 3/282	....	{ related to filling level control ( <a href="#">B67C 3/2617</a> , <a href="#">B67C 3/2625</a> take precedence) }
B67C 3/283	.....	{ using pressure sensing means }
B67C 3/284	.....	{ using non-liquid contact sensing means ( <a href="#">B67C 3/283</a> takes precedence) }

- B67C 3/285 . . . . . { using liquid contact sensing means ([B67C 3/283](#) takes precedence) }
- B67C 3/286 . . . . . { related to flow rate control, i.e. controlling slow and fast filling phases }
- B67C 3/287 . . . . . { related to flow control using predetermined or real-time calculated parameters }
- B67C 3/288 . . . . . { using master-slave controls }

- B67C 3/30 . Filling of barrels or casks
- B67C 3/32 . . using counterpressure, i.e. filling while the container is under pressure
- B67C 3/34 . . Devices for engaging filling-heads with filling-apertures

**B67C 7/00** **Concurrent cleaning, filling, and closing of bottles; Processes or devices for at least two of these operations**

- B67C 7/0006 . {Conveying; Synchronising }
- B67C 7/0013 . . {Synchronising }
- B67C 7/002 . . {General lay-out of bottle-handling machines }
- B67C 7/0026 . . {the containers travelling along a linear path }
- B67C 7/0033 . . . {the operation being performed batch-wise }
- B67C 7/004 . . {the containers travelling along a circular path }
- B67C 7/0046 . . . {Infeed and outfeed devices }
- B67C 7/0053 . . . . {using grippers ([for supporting bottle necks during filling B67C 3/242](#)) }
- B67C 7/0073 . {Sterilising, aseptic filling and closing ([B67C 3/2642](#) takes precedence) }
- B67C 7/008 . . {comprising a cleaning step between two closing steps }
- B67C 7/0086 . . {Sterilisation being restricted to the area of application of the closure }
- B67C 7/0093 . {Lever action devices operated by hand or foot }

**B67C 9/00** **Devices for emptying bottles, not otherwise provided for** {during preparation of alcoholic beverages except beer [C12G 1/00](#) }

**B67C 11/00** **Funnels, e.g. for liquids** ([filter funnels B01D 23/28](#); [volume flow-meters G01F](#) )

- B67C 11/02 . without discharge valves
- B67C 11/04 . with non-automatic discharge valves
- B67C 11/06 . with automatic discharge valves
- B67C 11/063 . . { for preventing spilling or dripping }
- B67C 11/066 . . { for preventing overflow of the filled container }

**Guidance heading:**

**B67C 2003/00** **Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus; Filling casks or barrels with liquids or semiliquids** ([filling containers with liquids or semiliquids using apparatus other than bottling or like apparatus B65B 3/00](#))

B67C 2003/02	. Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus
B67C 2003/22	.. Details
B67C 2003/221	... Automatic exchange of components
B67C 2003/226	... Additional process steps or apparatuses related to filling with hot liquids, e.g. after-treatment
B67C 2003/227	... Additional apparatus related to blow-moulding of the containers, e.g. a complete production line forming filled containers from preforms
B67C 2003/228	... Aseptic features
B67C 2003/26	... Filling-heads; Means for engaging filling-heads with bottle necks
B67C 2003/2602	.... Details of vent-tubes
B67C 2003/2605	..... Piston-like check valves
B67C 2003/2645	.... Means to avoid overfilling by preventing gas returning from the container into the filling tank via the liquid valve, e.g. mesh screens
B67C 2003/2648	.... Inflatable gaskets for sealingly engaging bottle necks or bodies
B67C 2003/2651	.... The liquid valve being carried by the vent tube
B67C 2003/2654	..... specially adapted for bottom filling, e.g. the liquid valve being located at the lowest part of the vent tube
B67C 2003/2657	.... specially adapted for filling cans
B67C 2003/266	.... Means for centering the container with the filling head
B67C 2003/2662	..... with means for detecting the presence of a container
B67C 2003/2665	.... Means for locking the filling head in a given position once engaged by a container
B67C 2003/2668	.... Means for adapting the filling head to various sizes of containers
B67C 2003/2671	.... Means for preventing foaming of the liquid
B67C 2003/2674	..... by creating a conical shaped flow directed to the container wall at the container neck height
B67C 2003/2677	..... by means of a deflector
B67C 2003/268	..... by means of a flow channel integral with the filling nozzle
B67C 2003/2682	.... by creating a conical shaped flow directed to the container wall just above the container bottom
B67C 2003/2685	.... Details of probes
B67C 2003/2688	.... Means for filling containers in defined atmospheric conditions
B67C 2003/2691	..... by enclosing one container in a chamber
B67C 2003/2694	..... by enclosing a set of containers in a chamber
B67C 2003/2697	..... by enclosing the container partly in a chamber
<b>B67C 2007/00</b>	<b>Concurrent cleaning, filling, and closing of bottles; Processes or devices for at least two of these operations</b>
B67C 2007/0006	. {Conveying; Synchronising }
B67C 2007/006	.. Devices particularly adapted for container filling
B67C 2007/0066	.. Devices particularly adapted for container closing
<b>B67C 2011/00</b>	<b>Funnels, e.g. for liquids (filter funnels <a href="#">B01D 23/28</a>; volume flow-meters <a href="#">G01F</a> )</b>

- B67C 2011/02
  - without discharge valves
- B67C 2011/022
  - · for draining oil from engines
- B67C 2011/025
  - · · with integral tool for opening the draining plug
- B67C 2011/027
  - · for filling oil into engines
- B67C 2011/20
  - comprising closures, e.g. stoppers, caps or lids
- B67C 2011/30
  - comprising venting means
- B67C 2011/40
  - comprising level indicating means