

B67C

CLEANING, FILLING WITH LIQUIDS OR SEMILIQUIDS, OR EMPTYING, OF BOTTLES, JARS, CANS, CASKS, BARRELS, OR SIMILAR CONTAINERS, NOT OTHERWISE PROVIDED FOR; FUNNELS

Definition statement

This place covers:

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](#)).

Concurrent cleaning (or sterilizing), filling, and closing of bottles; Processes or devices for at least two of these operations.

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

Funnels, e.g. for liquids (filter funnels [B01D 29/085](#); volume flow-meters [G01F](#)).

References

Limiting references

This place does not cover:

Heat treatment of liquids, i.e. pasteurising or sterilising	A23L 3/00
Disinfecting or sterilising as such of objects	A61L 2/00
Mixing of liquids	B01F
Filling bags, sacks, cartons, pouches, cups, etc.	B65B
Filling medical containers such as ampoules, vials, syringes or the like	B65B 3/003
Forming and filling of bottles in a mould	B65B 3/022
Devices for transferring samples or any liquids to, in, or from, the analysis apparatus, e.g. suction devices, injection devices	G01N 35/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pasteurising or sterilising of liquids	A23L 3/00
Sterilising or disinfecting of objects:	A61L 2/00 , A61L 2202/23
Sorting containers according to e.g. fill level	B07C 5/3404
Forming and filling of bottles in a mould	B65B 3/022
Pressurizing filled containers	B65B 31/04
Nozzles with flow cut-off means	B65B 39/001
Preservation of foods in combination with packaging	B65B 55/00
Grippers	B65G 47/847 , B65G 47/90 , B08B 9/426 , B29C 49/4205
Safety devices for opening doors or panels	F16P 3/08

Filling of gas bottles	F17C 13/00
Liquid level control in general	G01F
Measuring volume, or volume flow, in general	G01F 1/00 - G01F 25/00
Weighing of fluids	G01G 17/04
Detection/Investigating the presence of flaws or contamination in a container or its contents	G01N 21/90
Total factory automation	G05B 19/418
Vending machines including the filling of containers (e.g. WO2008037974)	G07F 11/00 , G07F 13/00

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

Definition statement

This place covers:

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.

Concurrent cleaning (or sterilizing), filling, and closing of bottles; Processes or devices for at least two of these operations.

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

Funnels, e.g. for liquids (filter funnels [B01D 29/085](#); volume flow-meters [G01F](#)).

References

Limiting references

This place does not cover:

Filling containers with liquids or semi-liquids using apparatus other than bottling or like apparatus	B65B 3/00
Detection/Investigating the presence of flaws or contamination in a container or its contents	G01N 21/90

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pasteurising or sterilising of liquids	A23L 3/00
Sterilising or disinfecting of objects	A61L 2/00 , A61L 2202/23
Mixing of liquids	B01F
Sorting containers according to e.g. fill level	B07C 5/3404

Grippers	B08B 9/426 , B29C 49/4205 , B65G 47/487 , B65G 47/90
Filling bags, sacks, cartons, pouches, cups, etc.	B65B
Filling medical containers such as ampoules, vials, syringes or the like	B65B 3/003
Forming and filling of bottles in a mould	B65B 3/022
Pressurizing filled containers	B65B 31/04
Nozzles with flow cut-off means	B65B 39/001
Preservation of foods in combination with packaging	B65B 55/00
Safety devices for opening doors or panels	F16P 3/08
Devices for transferring samples or any liquids to, in, or from, the analysis apparatus, e.g. suction devices, injection devices	G01N 35/00

Special rules of classification

Pressure-control in counter-pressure filling classified in [B67C 3/12](#).

Flow control devices classified in [B67C 3/28](#).

Filling heads specially adapted for filling cans are also classified in [B67C 2003/2657](#).

Constructional details of bottling equipment or filling machines are classified in [B67C 3/22](#), e.g. frame or support details, or [B67C 3/22](#), e.g. automatic exchange of components.

Constructional details of filling heads are also classified in [B67C 3/26](#).

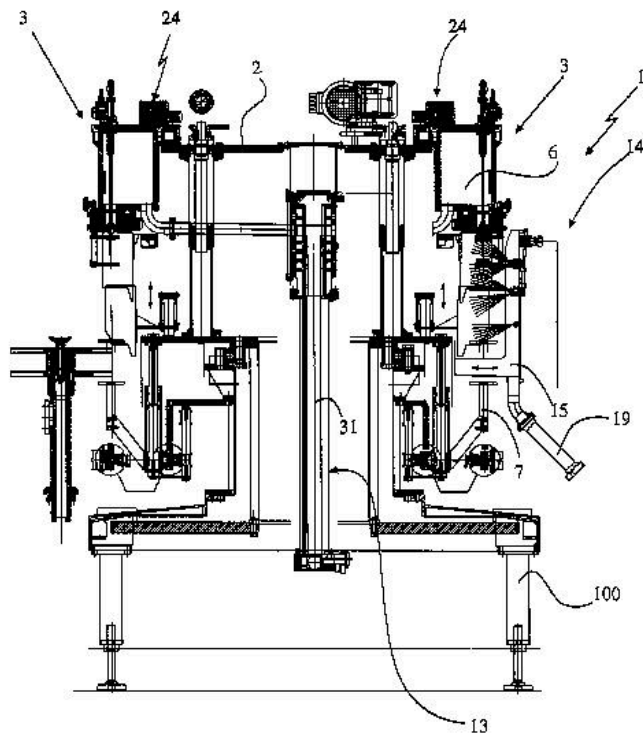
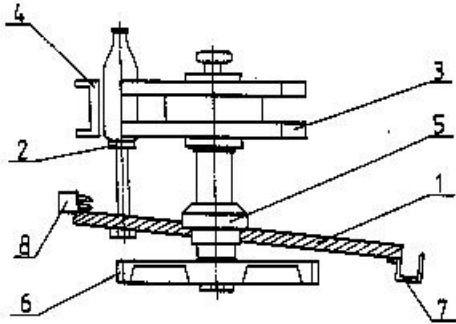
Classes [B67C 3/2617](#) and [B67C 3/2625](#) and subgroups also comprise documents not explicitly directed to counter-pressure filling.

B67C 3/001

{Cleaning of filling devices}

Definition statement

This place covers:

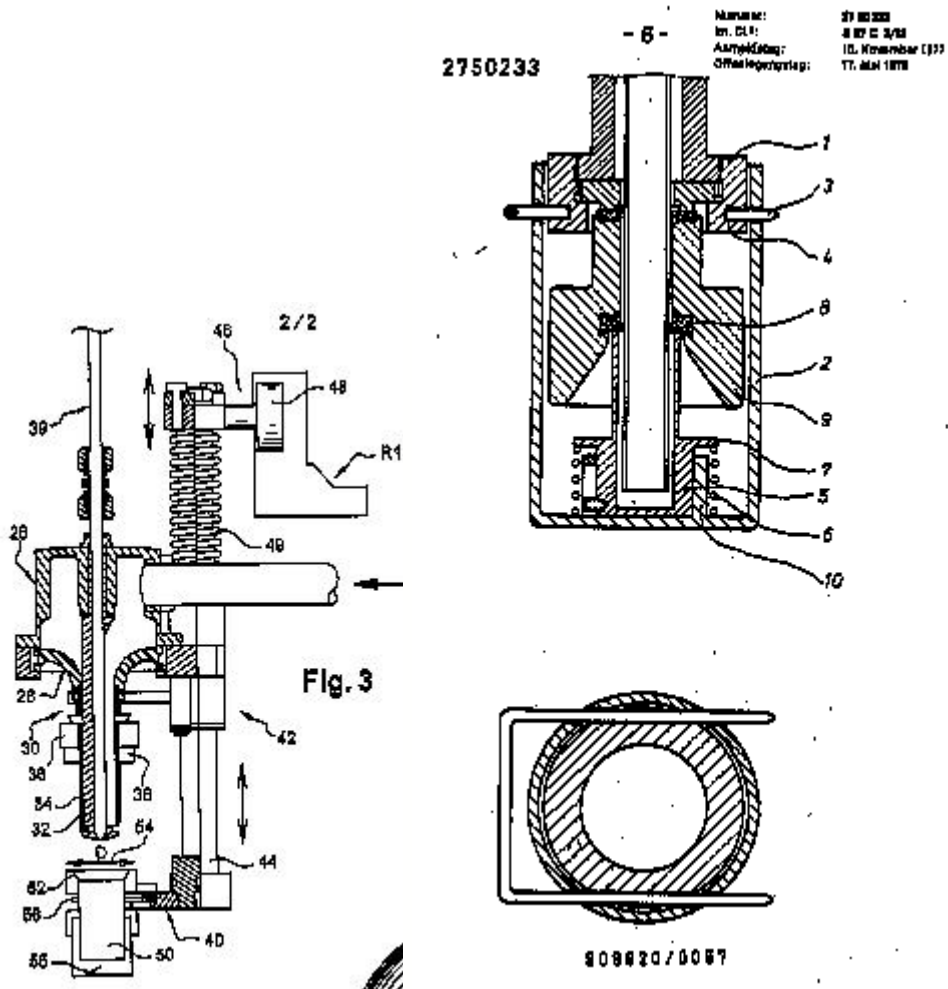


B67C 3/002

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

Definition statement

This place covers:

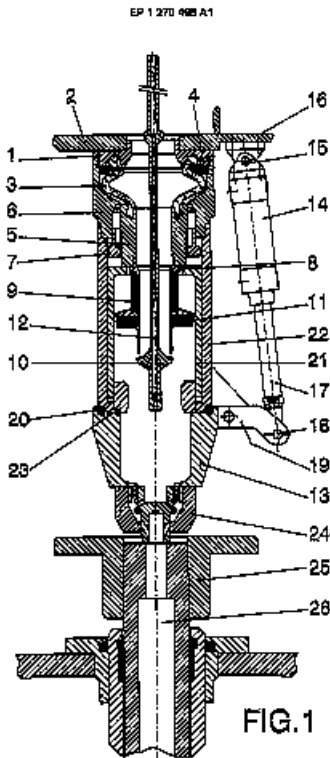
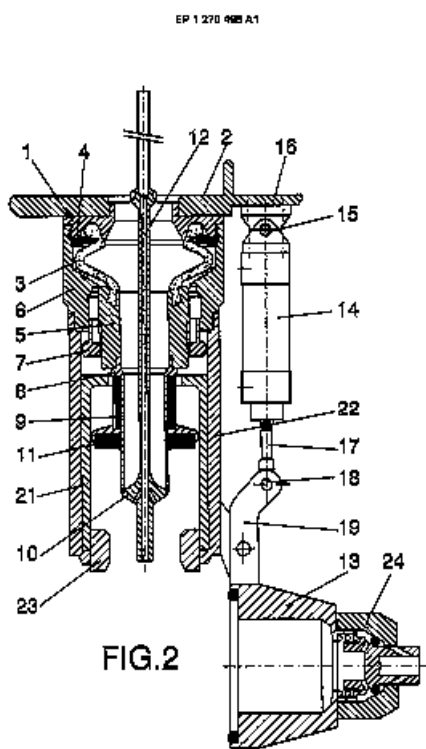


B67C 3/004

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

Definition statement

This place covers:

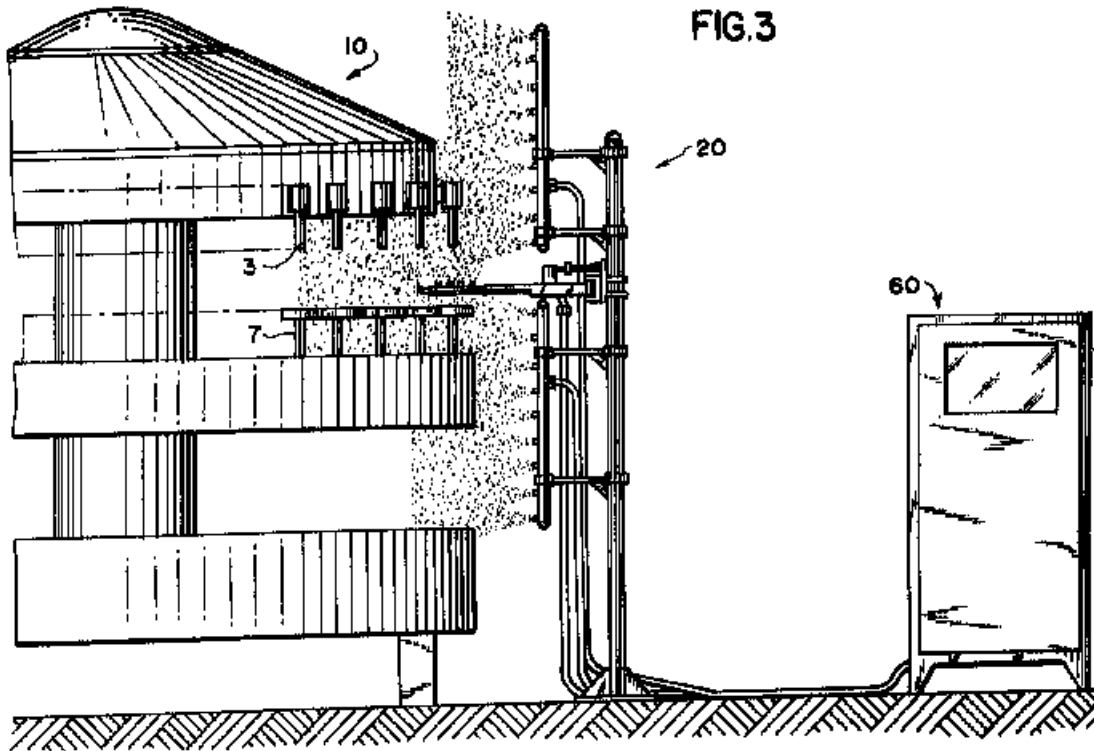


B67C 3/005

{Cleaning outside parts of filling devices}

Definition statement

This place covers:



B67C 3/007

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

Definition statement

This place covers:

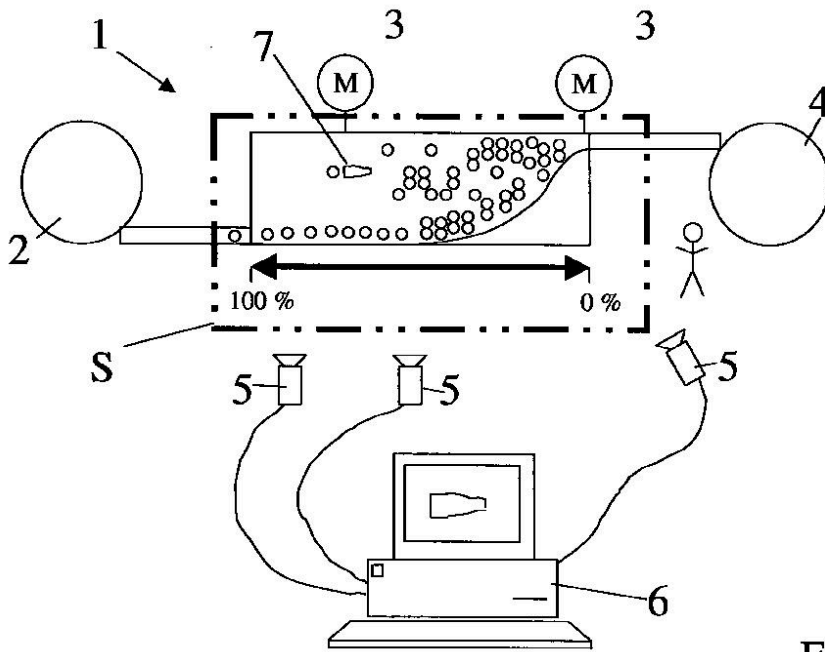


FIG. 1

EP 2 332 845 A1

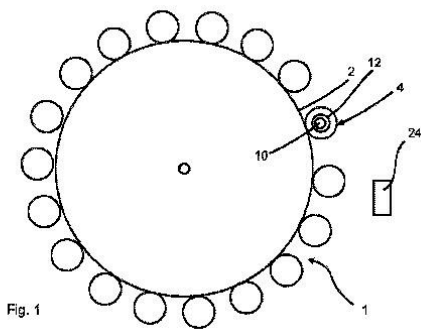


Fig. 1

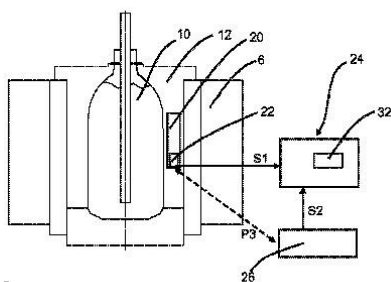


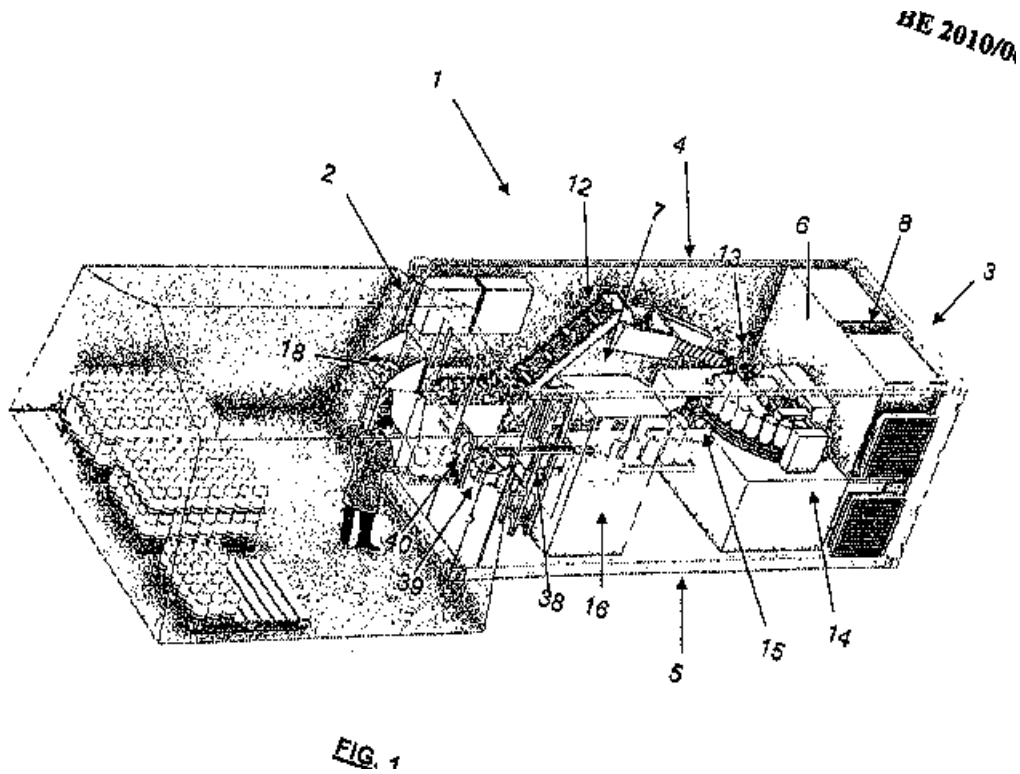
Fig. 2

B67C 3/008

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

Definition statement

This place covers:



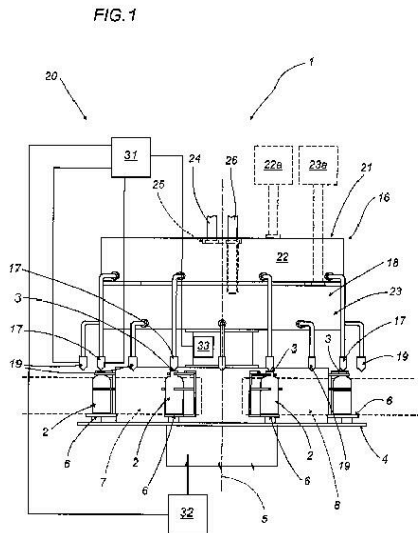
B67C 3/02

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

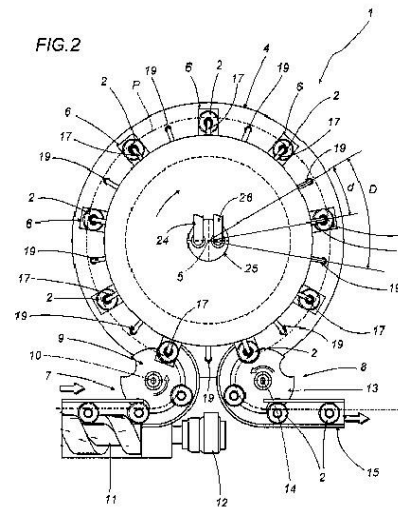
Definition statement

This place covers:

EP 1 702 880 A1



EP 1 702 880 A1

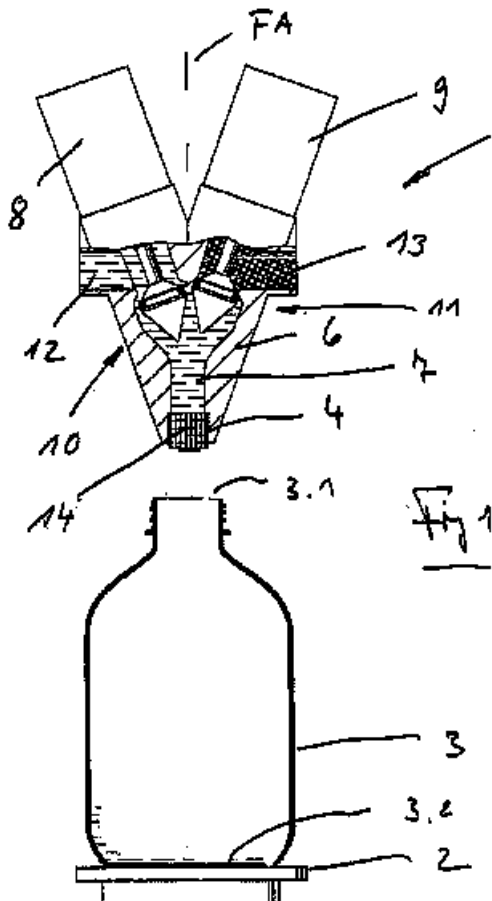


B67C 3/023

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

Definition statement

This place covers:



B67C 3/026

{Filling the liquids simultaneously}

Definition statement

This place covers:

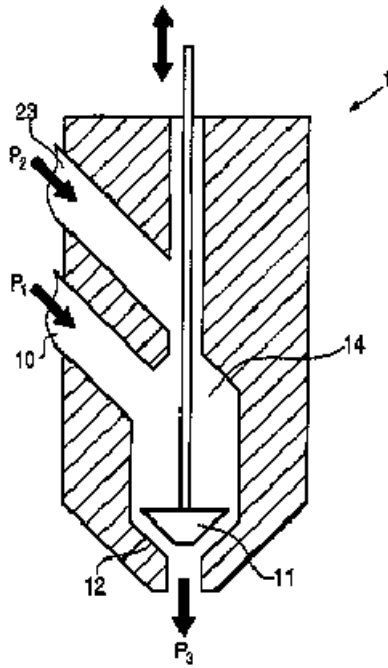


FIG. 2

B67C 3/04

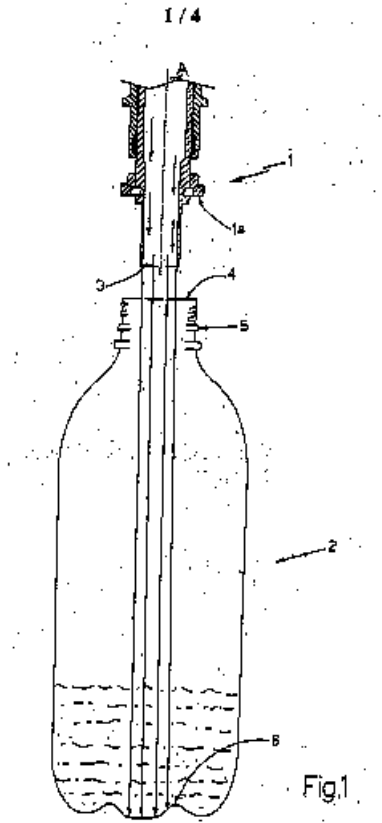
without applying pressure

Definition statement

This place covers:

WPO 34/01/036145

PCT/IB2010/010437

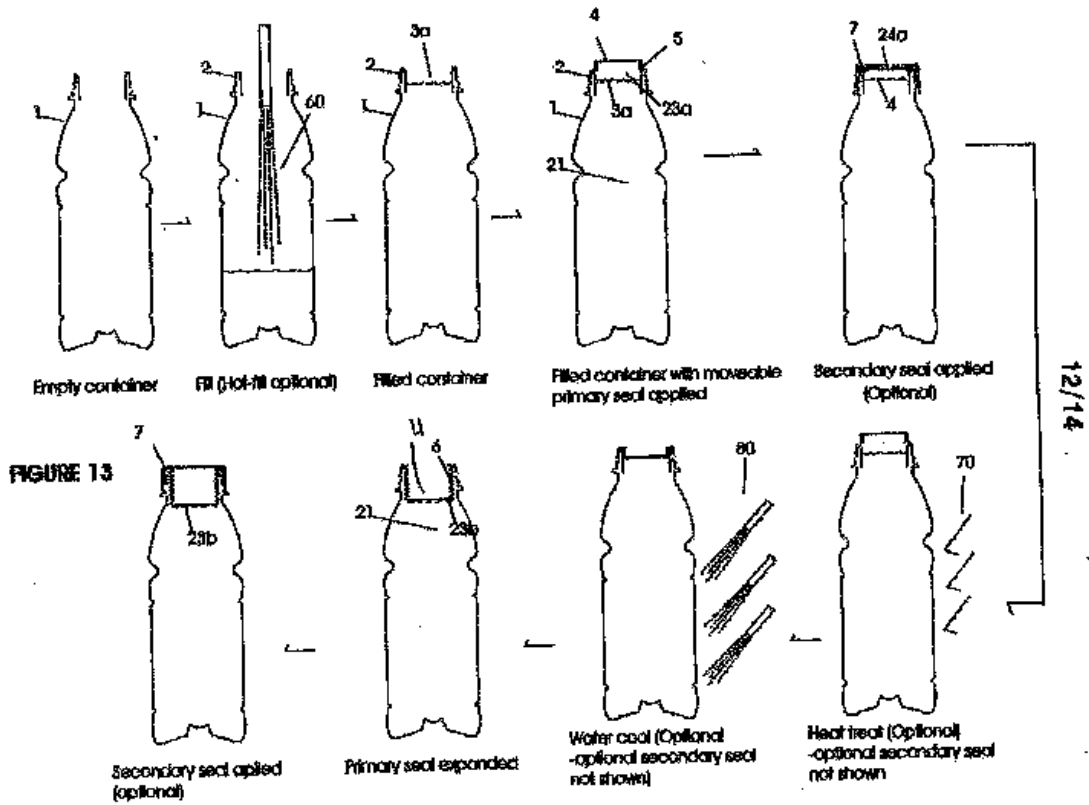


B67C 3/045

{Apparatus specially adapted for filling bottles with hot liquids}

Definition statement

This place covers:



WIPO 2005/095082

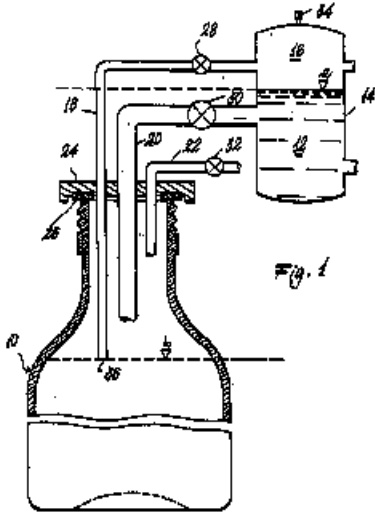
PCT/NZ2013/000038

B67C 3/06

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

Definition statement

This place covers:

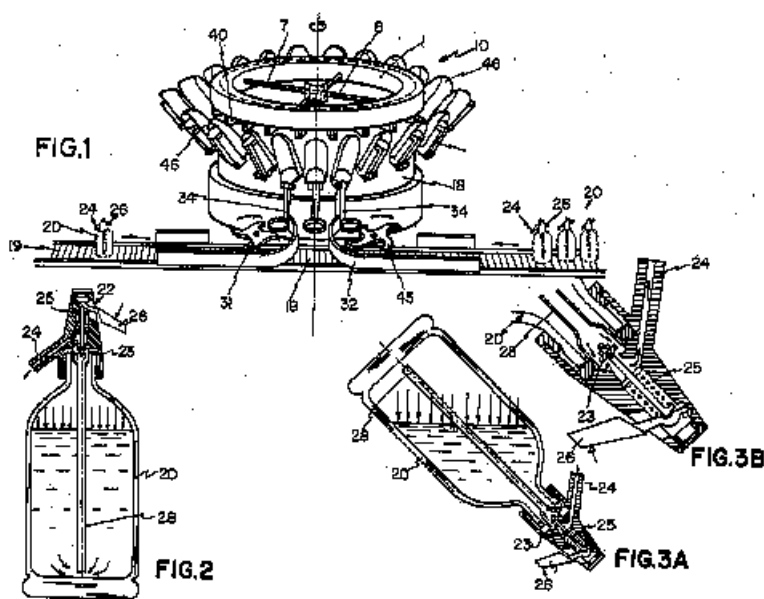


B67C 3/065

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

Definition statement

This place covers:



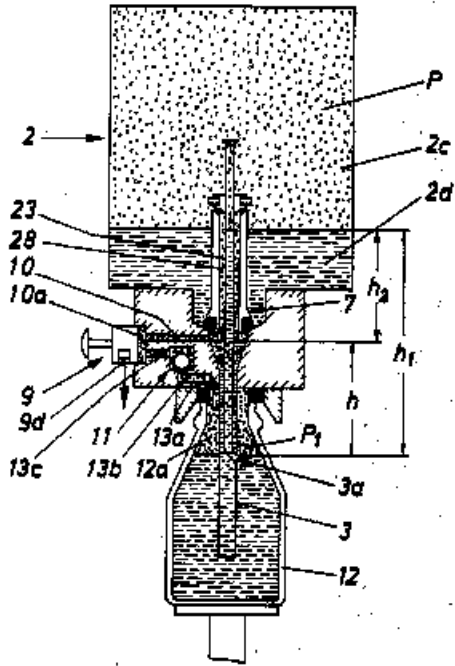
U.S. Patent Mar. 28, 1989 Sheet 1 of 3 4,815,505

B67C 3/08

and subsequently lowering the counterpressure

Definition statement

This place covers:

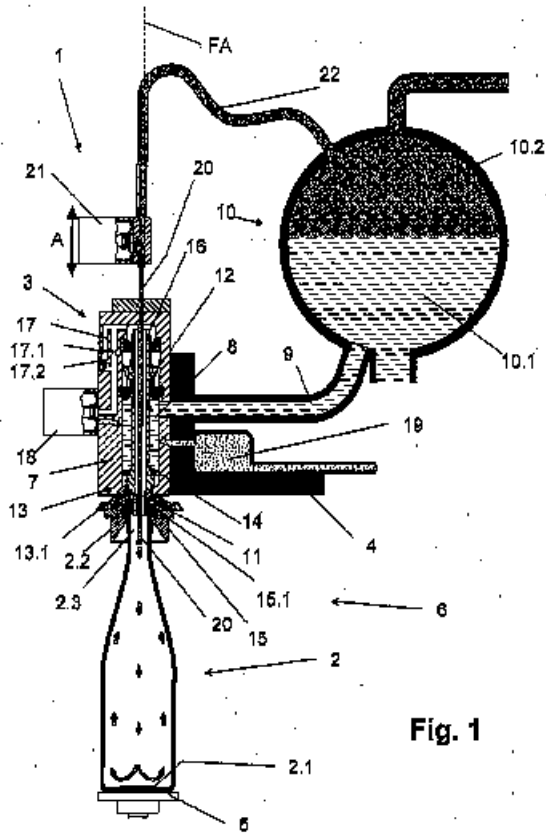


B67C 3/10

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

Definition statement

This place covers:



B67C 3/12

Pressure-control devices

Definition statement

This place covers:

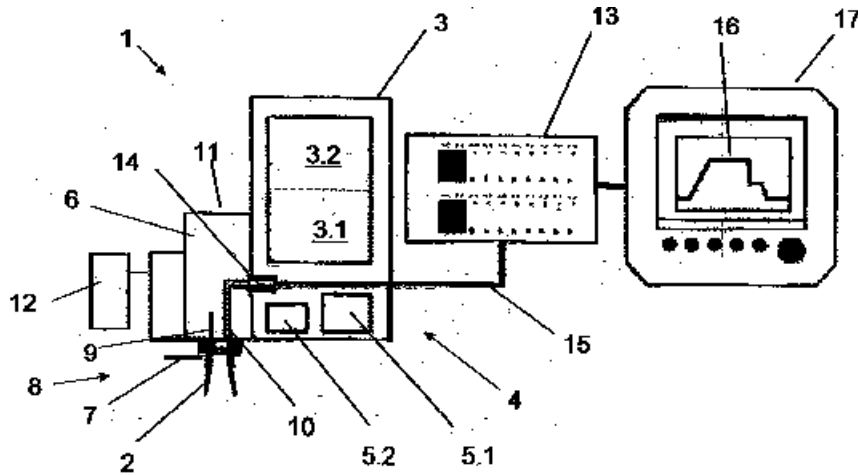


Fig. 1

DE 10 2010 006 028 A1 2011.07.28
Anhängende Zeichnungen

B67C 3/14

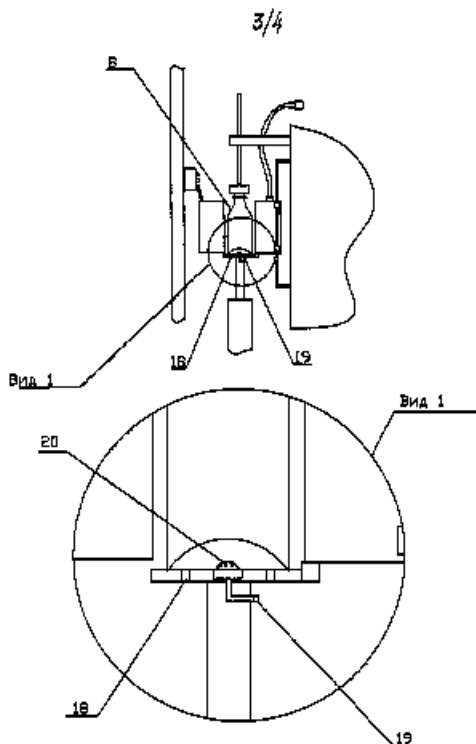
especially adapted for filling with hot liquids

Definition statement

This place covers:

WO 2005/070814

PCT/EP2004/000015



B67C 3/16

using suction

Definition statement

This place covers:

EP 0 737 844 A1

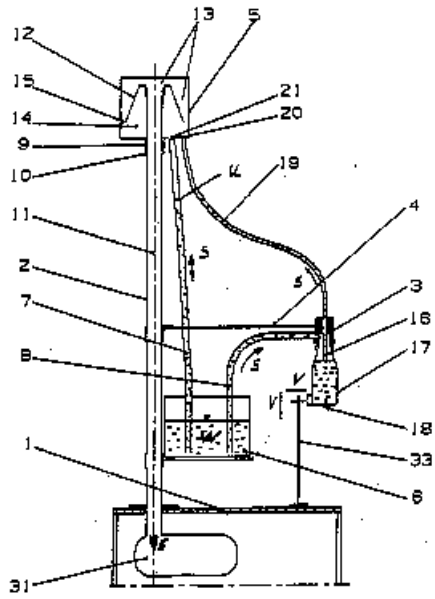


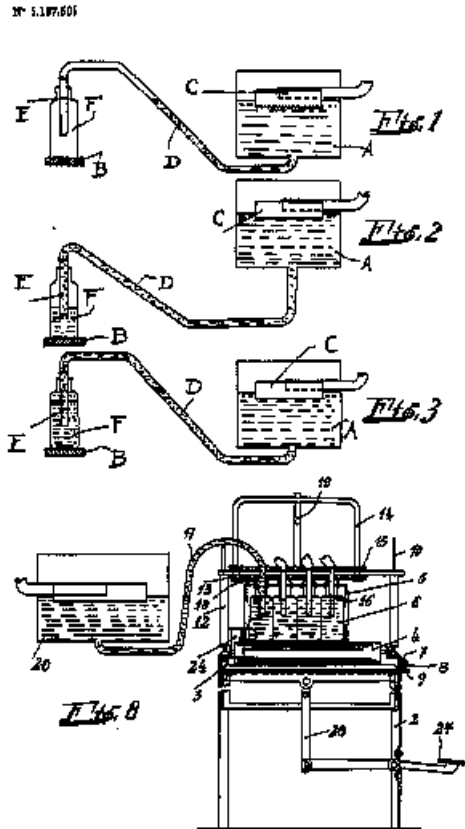
Fig. 1

B67C 3/18

using siphoning arrangements

Definition statement

This place covers:

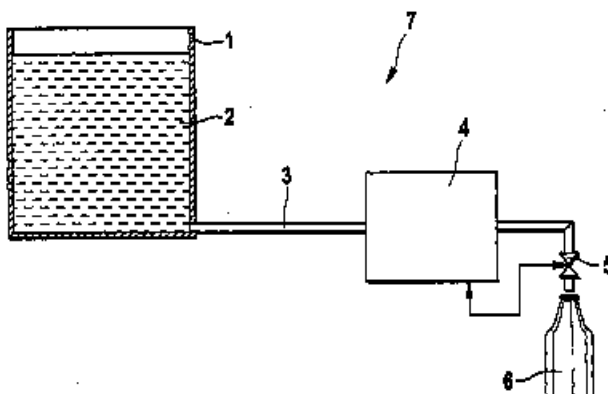


B67C 3/20

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

Definition statement

This place covers:



B67C 3/202

{by weighing}

Definition statement

This place covers:

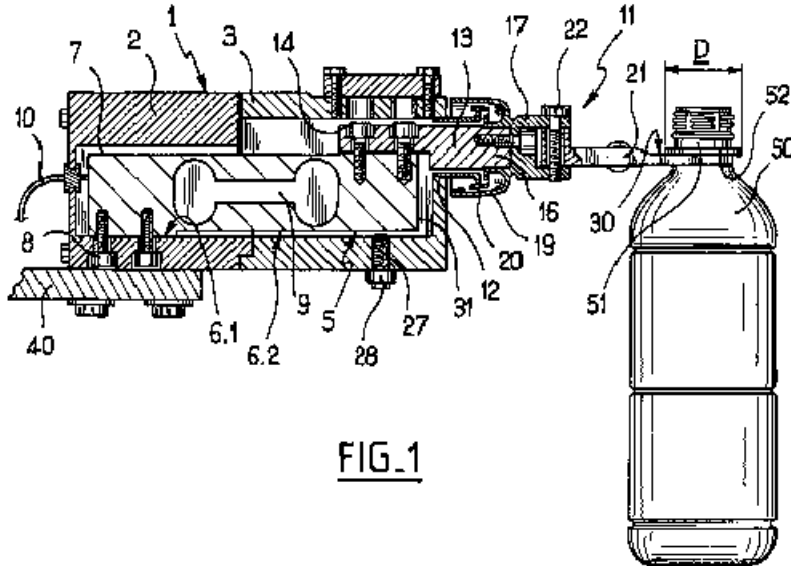


FIG. 1

B67C 3/204

{using dosing chambers}

Definition statement

This place covers:

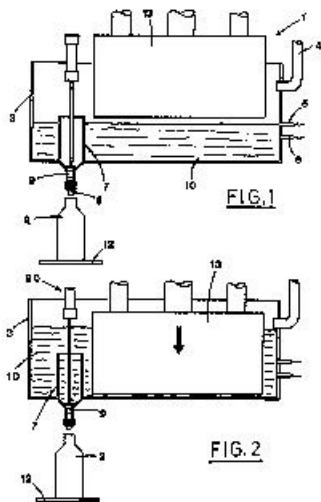


FIG. 1

FIG. 2

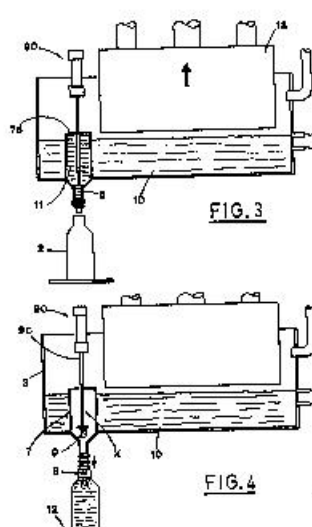


FIG. 3

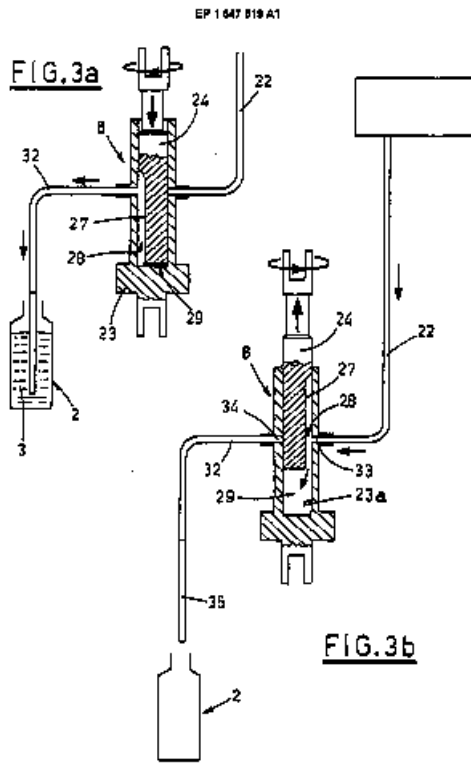
FIG. 4

B67C 3/206

{using arrangements of cylinders and pistons ([B67C 3/208](#) takes precedence)}

Definition statement

This place covers:

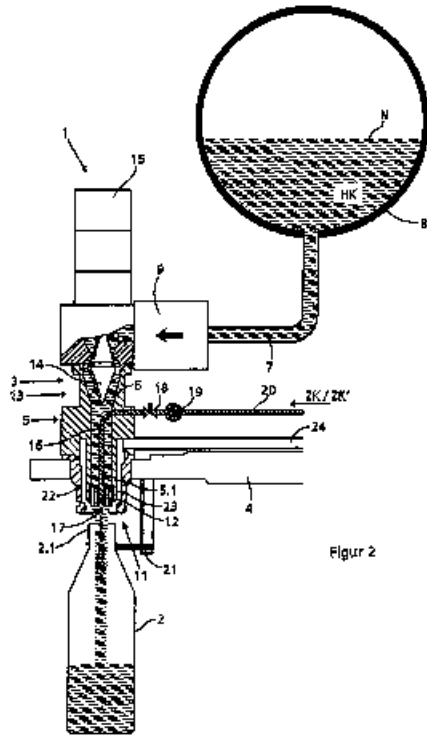


B67C 3/208

{specially adapted for adding small amounts of additional liquids, e.g. syrup}

Definition statement

This place covers:



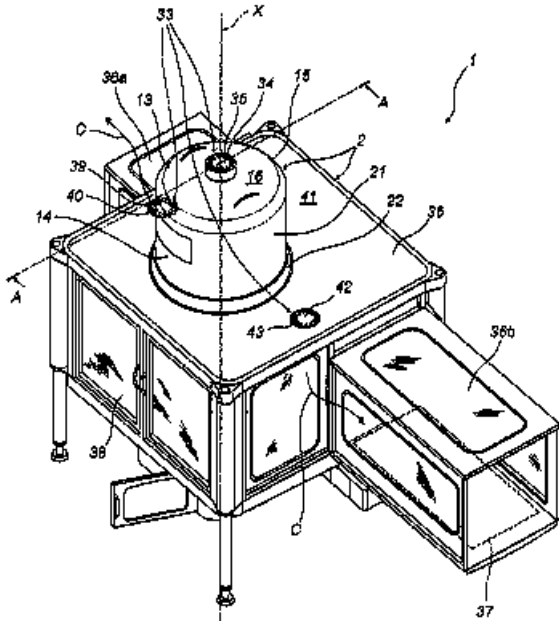
B67C 3/22

Details

Definition statement

This place covers:

FIG. 1

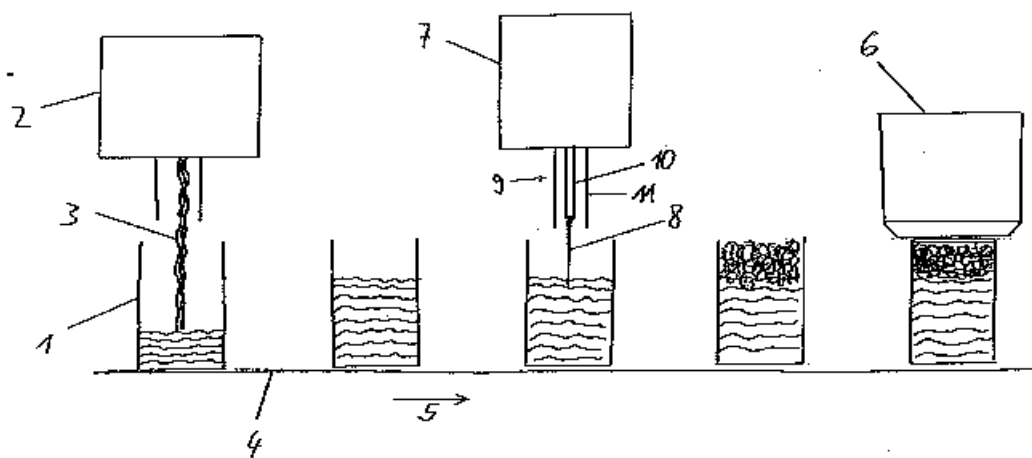


B67C 3/222

{Head-space air removing devices, e.g. by inducing foam}

Definition statement

This place covers:



EP 0 575 494 A1

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

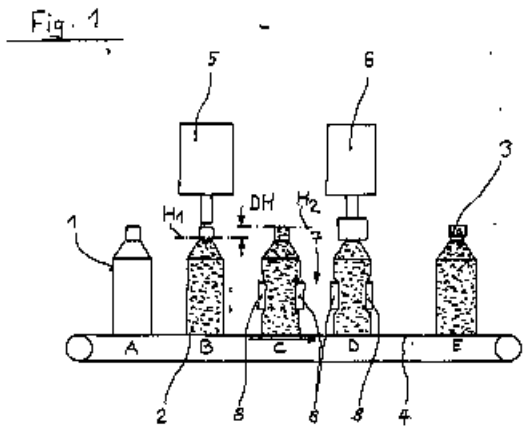
Topping-up containers or receptacles to ensure complete filling	B65B 3/24
Adding fluids for preventing deformation of filled and closed containers	B65B 31/006

B67C 3/223

{by squeezing the container elastically}

Definition statement

This place covers:

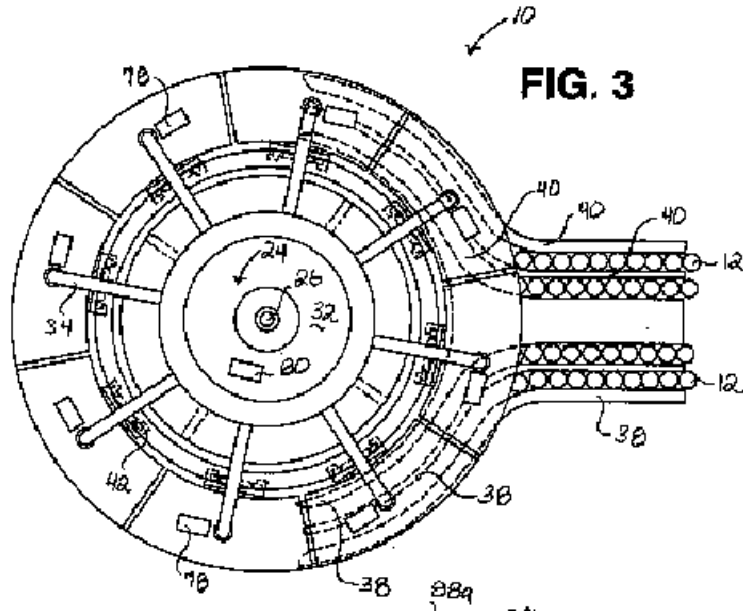


B67C 3/225

{Means for filling simultaneously, e.g. in a rotary filling apparatus or multiple rows of containers}

Definition statement

This place covers:



B67C 3/24

Devices for supporting or handling bottles (transport or storing devices in general [B65G](#))

Definition statement

This place covers:

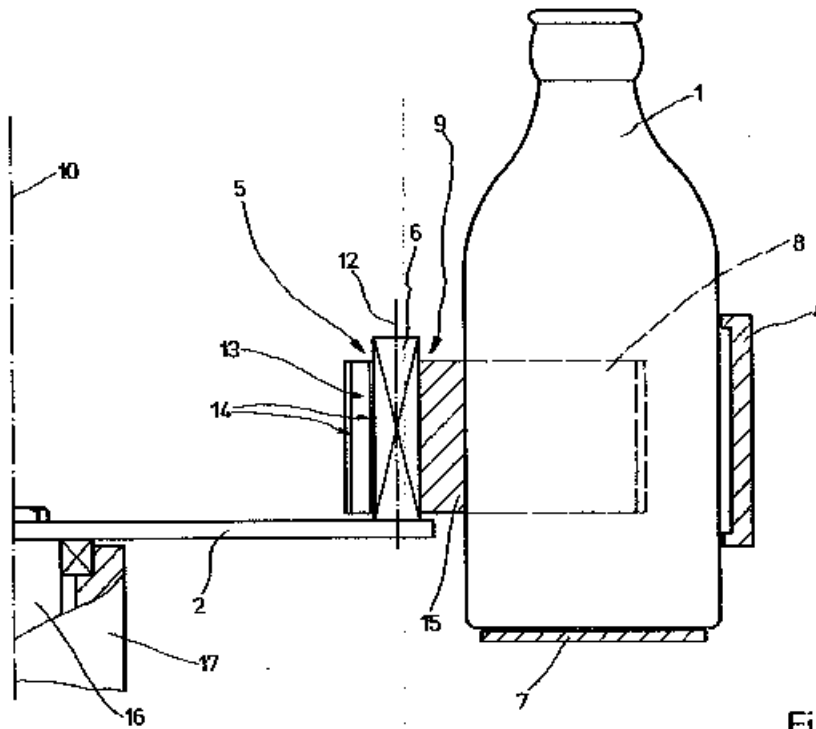


Fig. 2

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

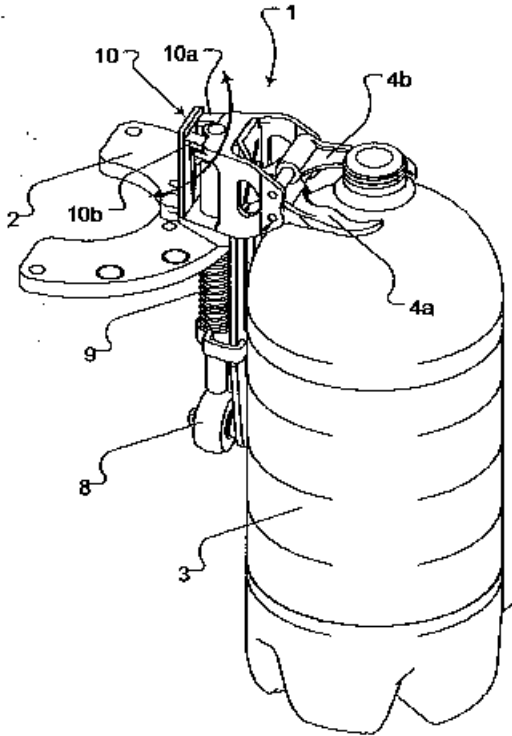
Pucks used as container carrier in handling devices such as conveyors	B65G 2201/0261
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B67C 3/242

{engaging with bottle necks ([B67C 3/26](#) takes precedence)}

Definition statement

This place covers:

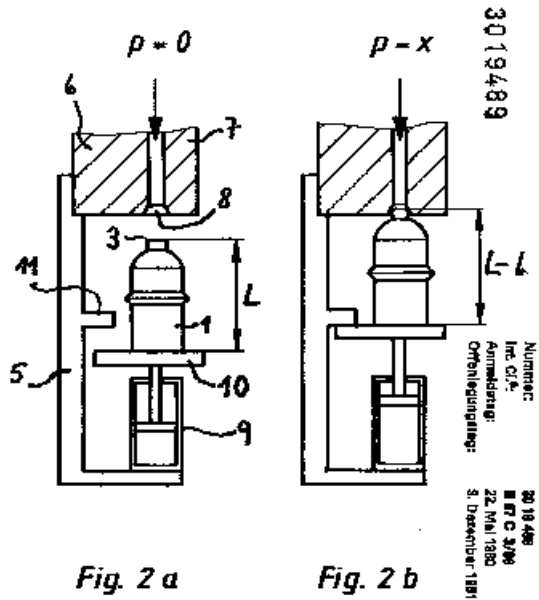


B67C 3/244

{Bottle lifting devices actuated by jacks, e.g. hydraulic, pneumatic ([B67C 3/242](#) takes precedence)}

Definition statement

This place covers:

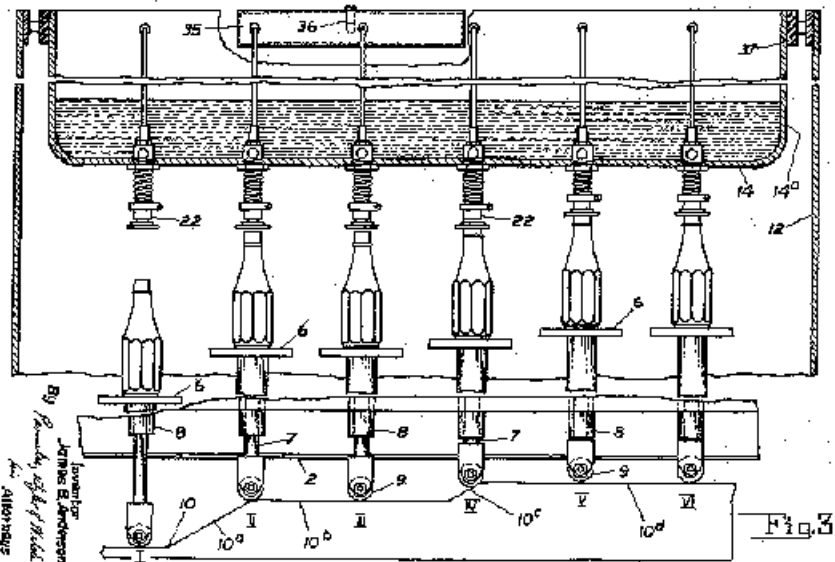
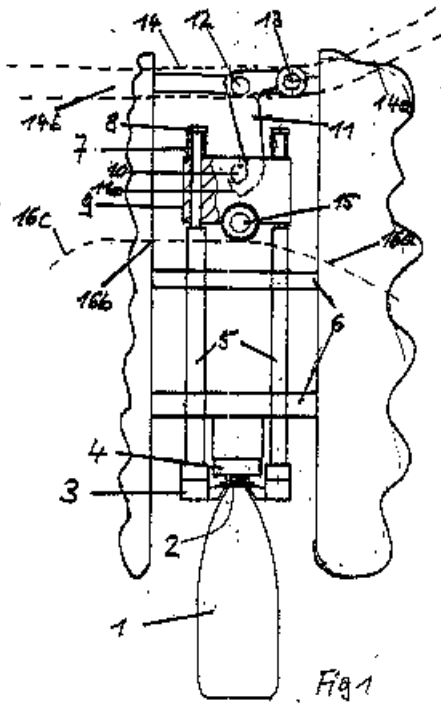


B67C 3/246

{Bottle lifting devices actuated by cams ([B67C 3/242](#) takes precedence)}

Definition statement

This place covers:



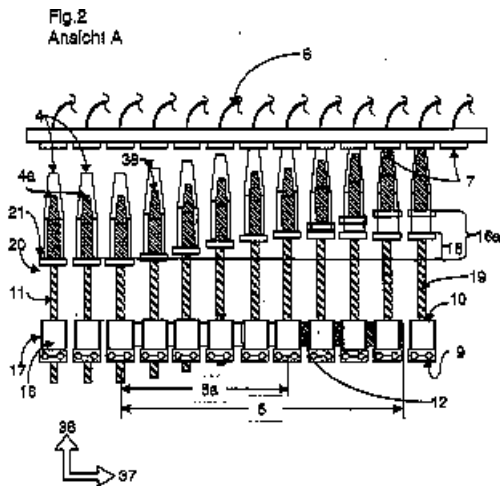
Inventor:
James B. Anderson
By: *[Signature]*
Attorneys

B67C 3/248

{Bottle lifting devices actuated by threads ([B67C 3/242](#) takes precedence)}

Definition statement

This place covers:

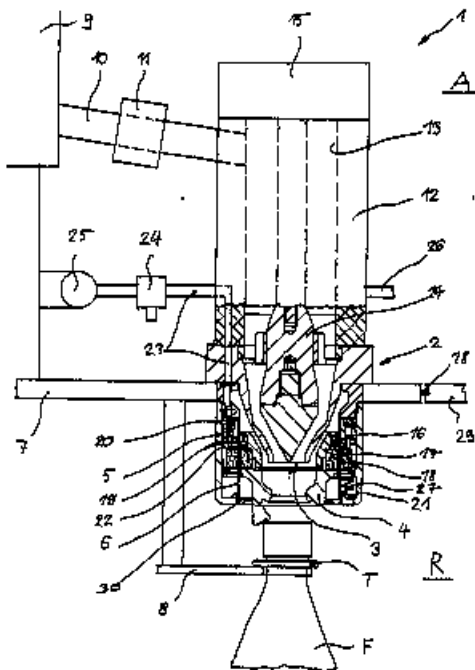


B67C 3/26

Filling-heads; Means for engaging filling-heads with bottle necks

Definition statement

This place covers:

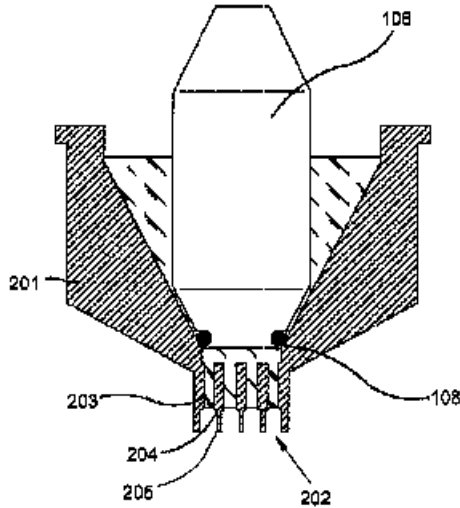


B67C 3/2608

{comprising anti-dripping means}

Definition statement

This place covers:

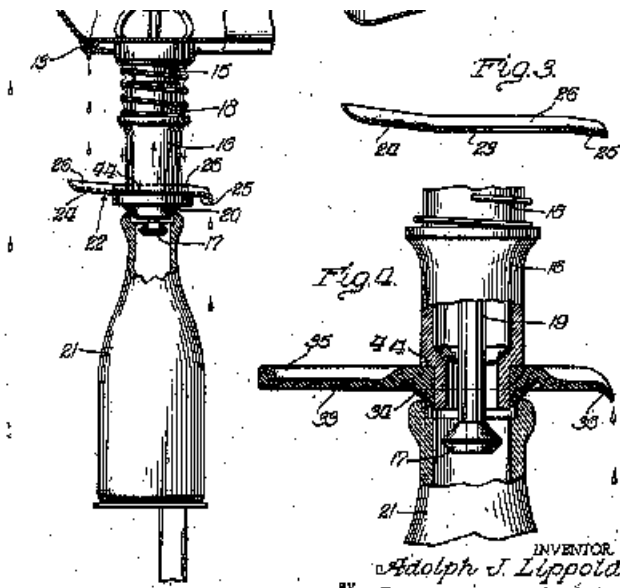


B67C 3/2611

{to prevent dripping from sources other than the filling product, e.g. deflectors for vapours condensed on the outer surface of the filling device}

Definition statement

This place covers:

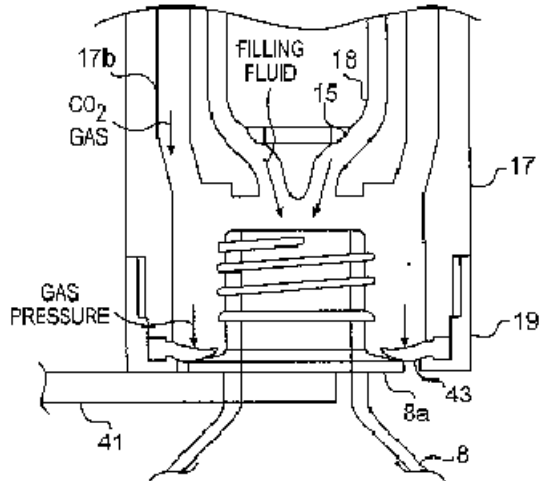


B67C 3/2614

{specially adapted for counter-pressure filling}

Definition statement

This place covers:

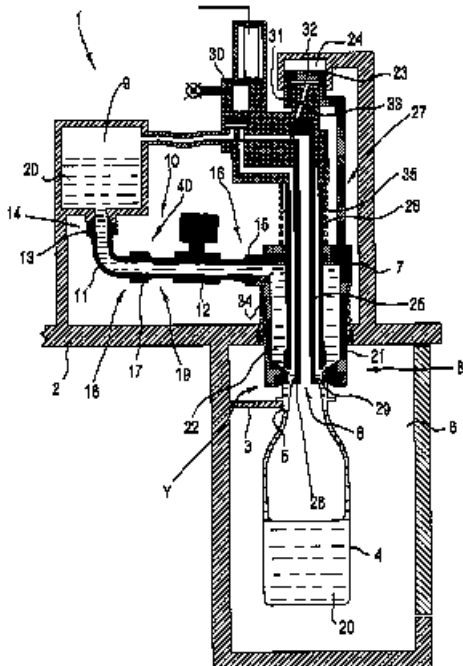


B67C 3/2617

{the liquid valve being opened by mechanical or electrical actuation}

Definition statement

This place covers:

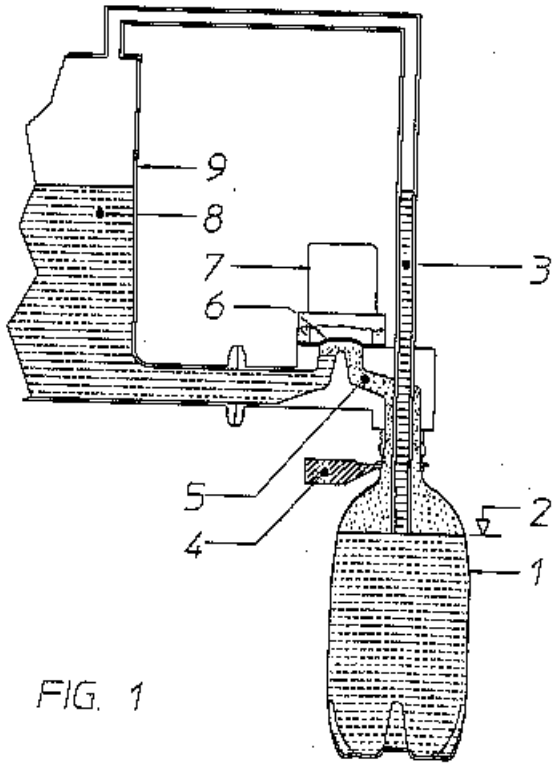


B67C 3/262

{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening}

Definition statement

This place covers:

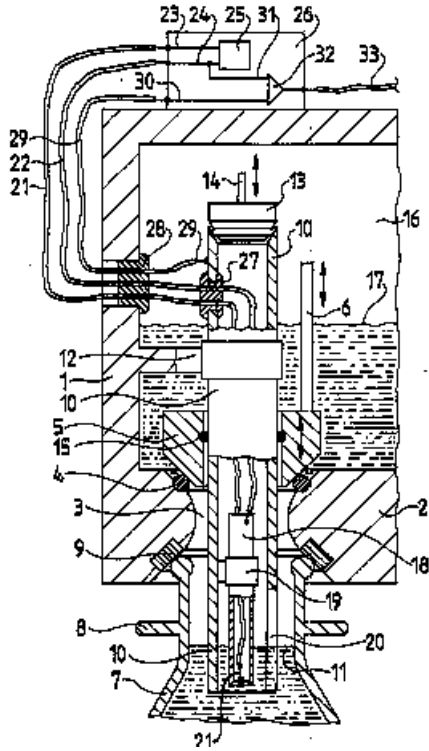


B67C 3/2622

{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level (level control in general [G01F](#))}

Definition statement

This place covers:

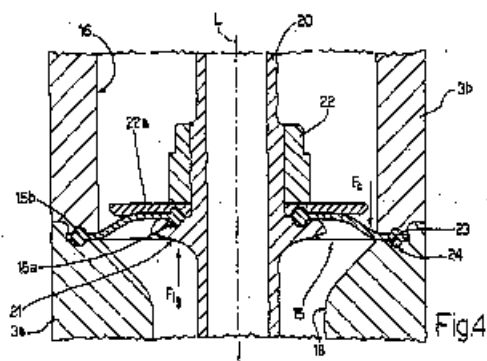
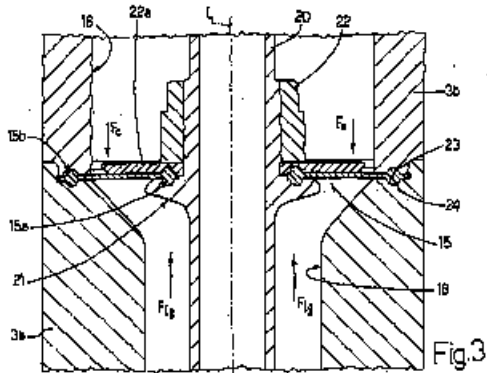


B67C 3/2625

{the liquid valve being opened automatically when a given counter-pressure is obtained in the container to be filled}

Definition statement

This place covers:



B67C 3/2628

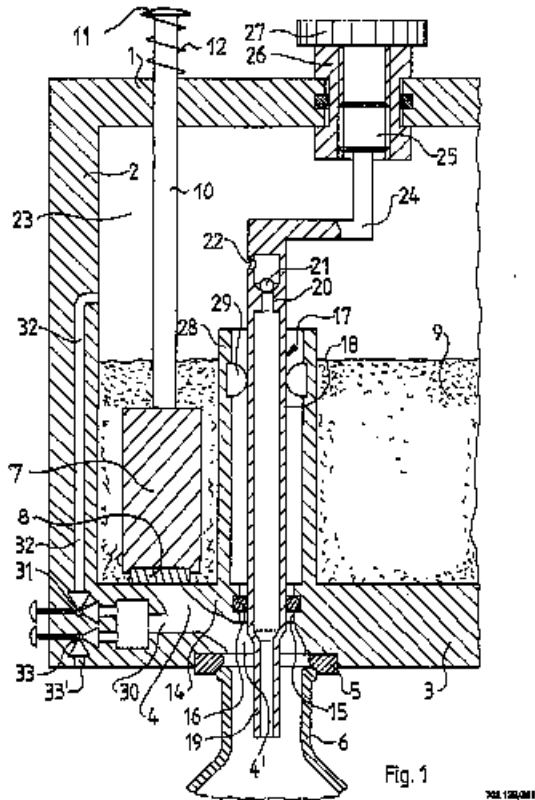
{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening}

Definition statement

This place covers:

ZEICHNUNGEN BLATT 1

Numer: DE 196 09 804 01
Int. Cl. B 67 C 3/28
Veröffentlichung: 18. September 1997



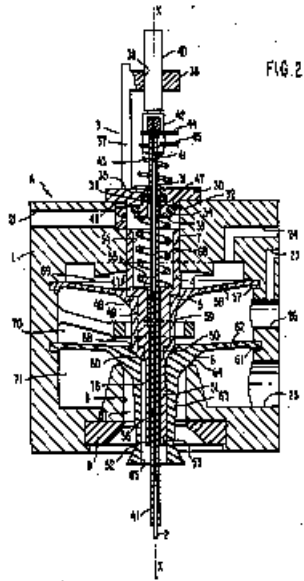
B67C 3/2631

{and the filling operation stopping when probes, e.g. electrical or optical probes, sense the wanted liquid level (level control in general [G01F](#))}

Definition statement

This place covers:

U.S. Patent Nov. 29, 1988 Sheet 2 of 6 4,787,427

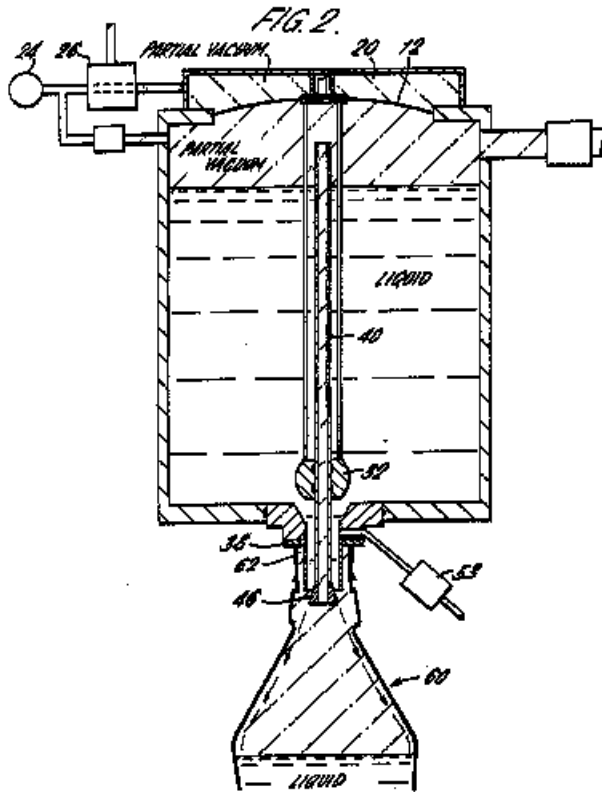


B67C 3/2634

{specially adapted for vacuum or suction filling}

Definition statement

This place covers:

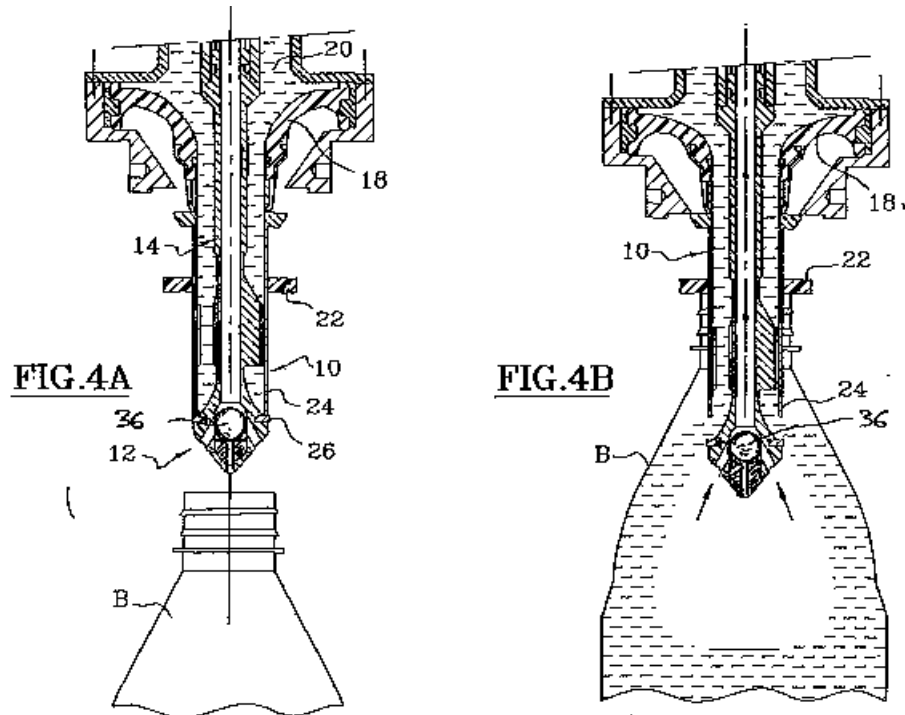


B67C 3/2637

{comprising a liquid valve opened by relative movement between the container and the filling head}

Definition statement

This place covers:

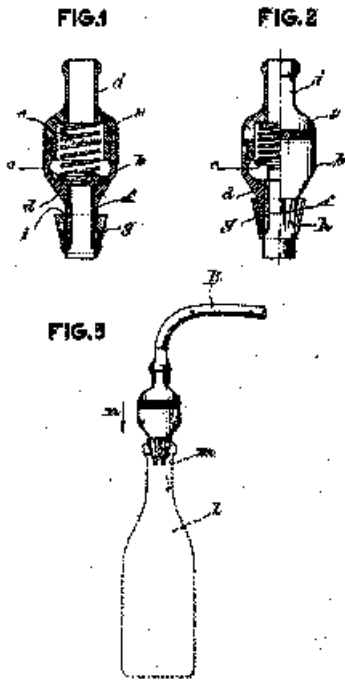


B67C 3/264

{and the filling operation being carried out manually}

Definition statement

This place covers:

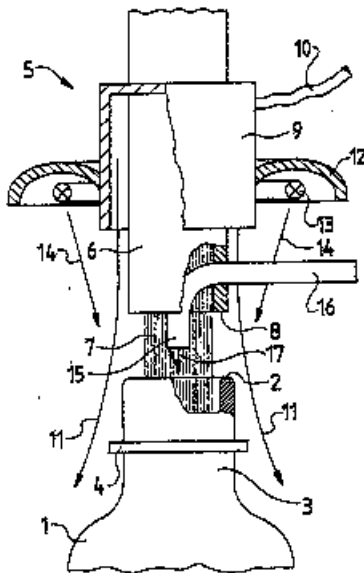
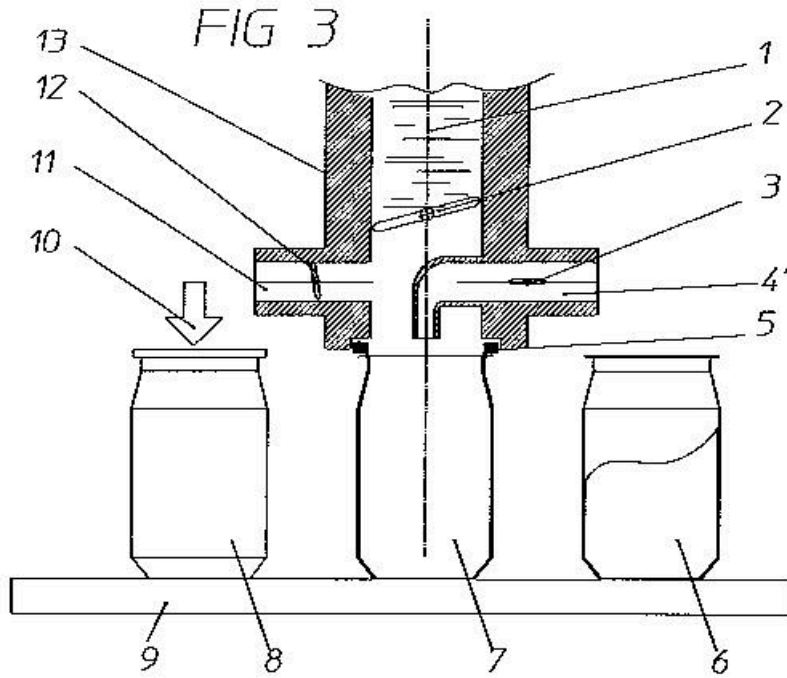


B67C 3/2642

{specially adapted for sterilising prior to filling}

Definition statement

This place covers:

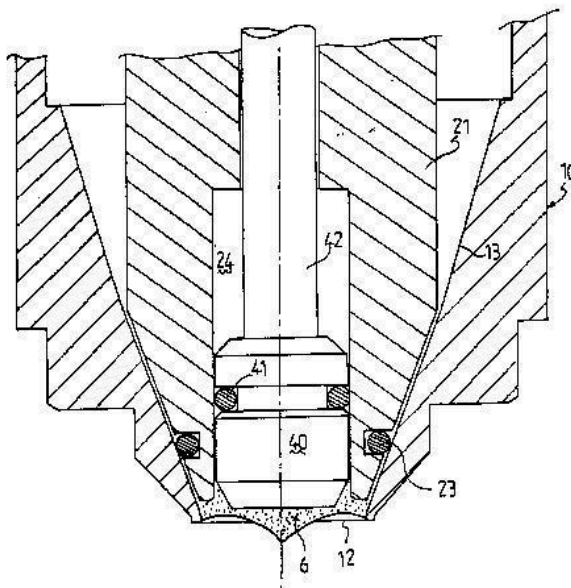
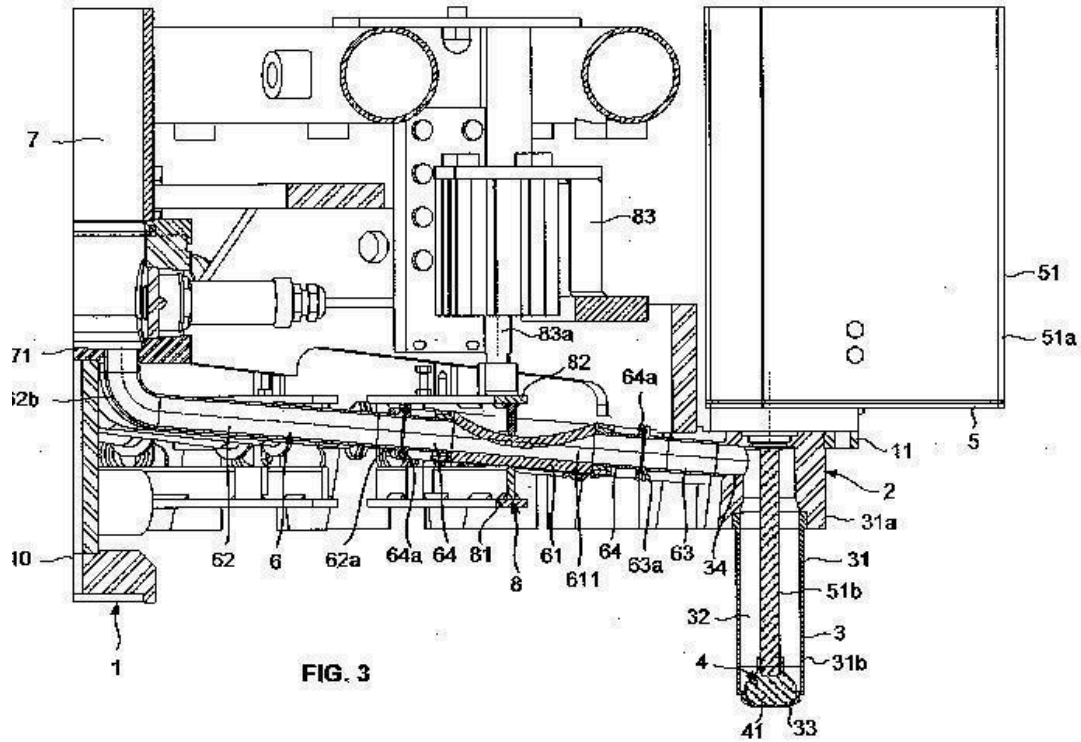


B67C 3/28

Flow-control devices, e.g. using valves ({[B67C 3/2617](#), [B67C 3/2625](#), [B67C 3/2637](#) take precedence}; valves in general [F16K](#))

Definition statement

This place covers:



B67C 3/281

{Profiled valve bodies for smoothing the flow at the outlet of the filling nozzle}

Definition statement

This place covers:

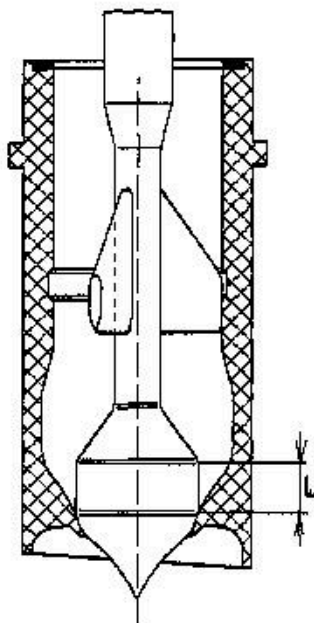


FIG. 6.

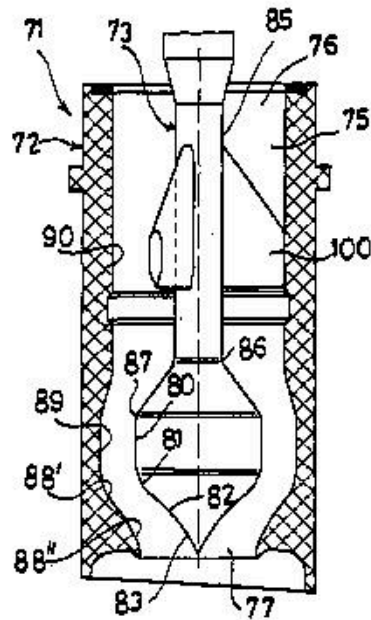


FIG. 5.

B67C 3/283

{using pressure sensing means}

Definition statement

This place covers:

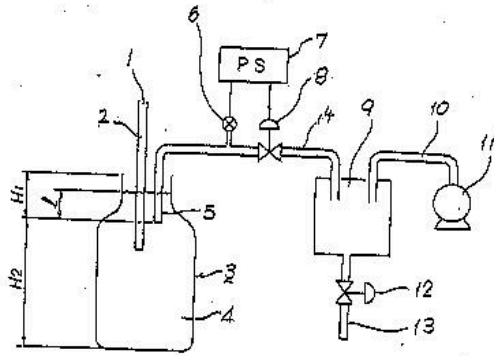


Fig. 1

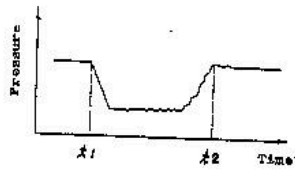


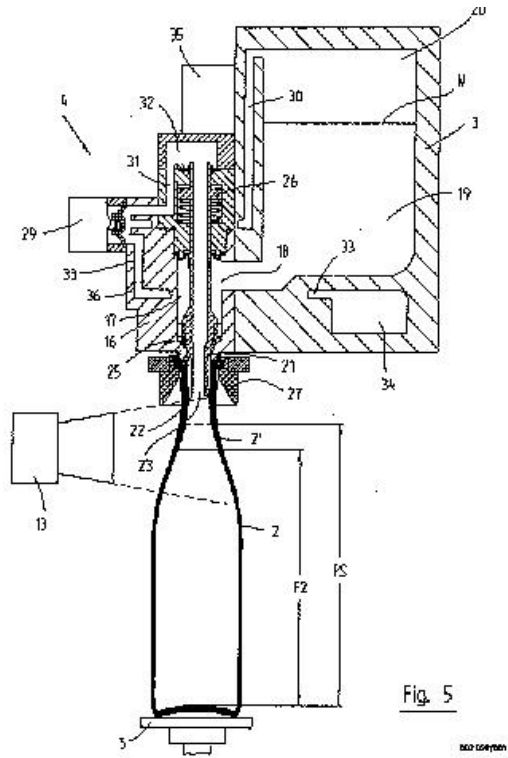
Fig. 2

B67C 3/284

{using non-liquid contact sensing means ([B67C 3/283](#) takes precedence)}

Definition statement

This place covers:

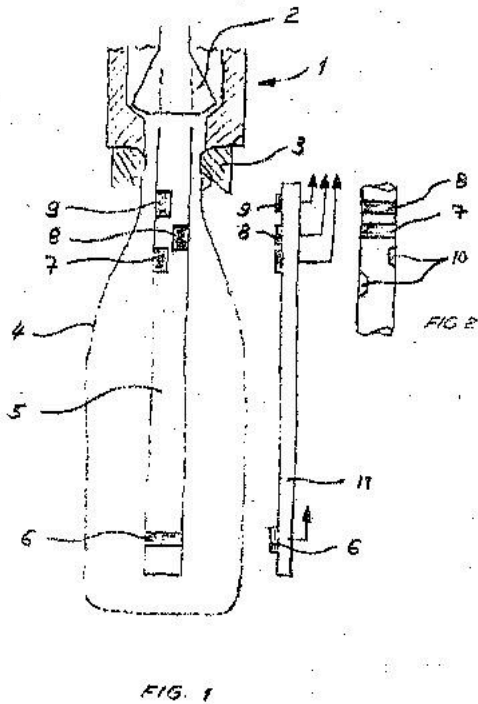


B67C 3/285

{using liquid contact sensing means (B67C 3/283 takes precedence)}

Definition statement

This place covers:

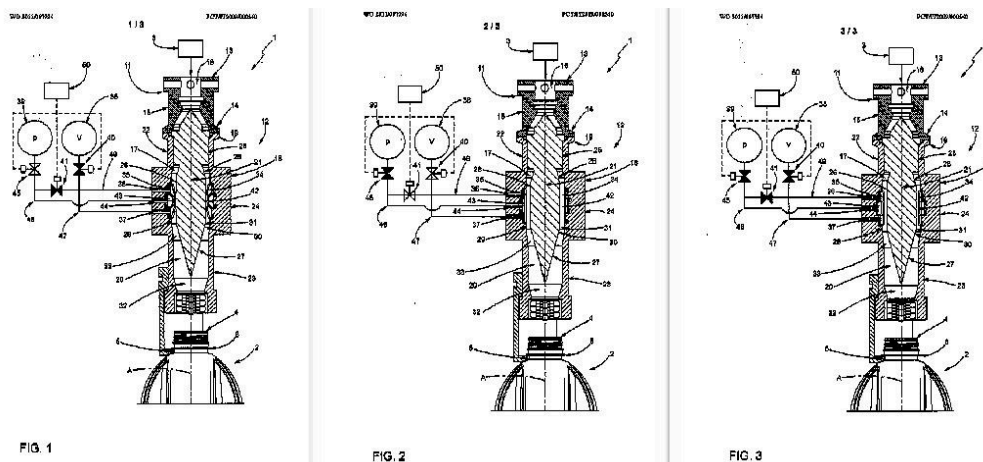


B67C 3/286

{related to flow rate control, i.e. controlling slow and fast filling phases}

Definition statement

This place covers:

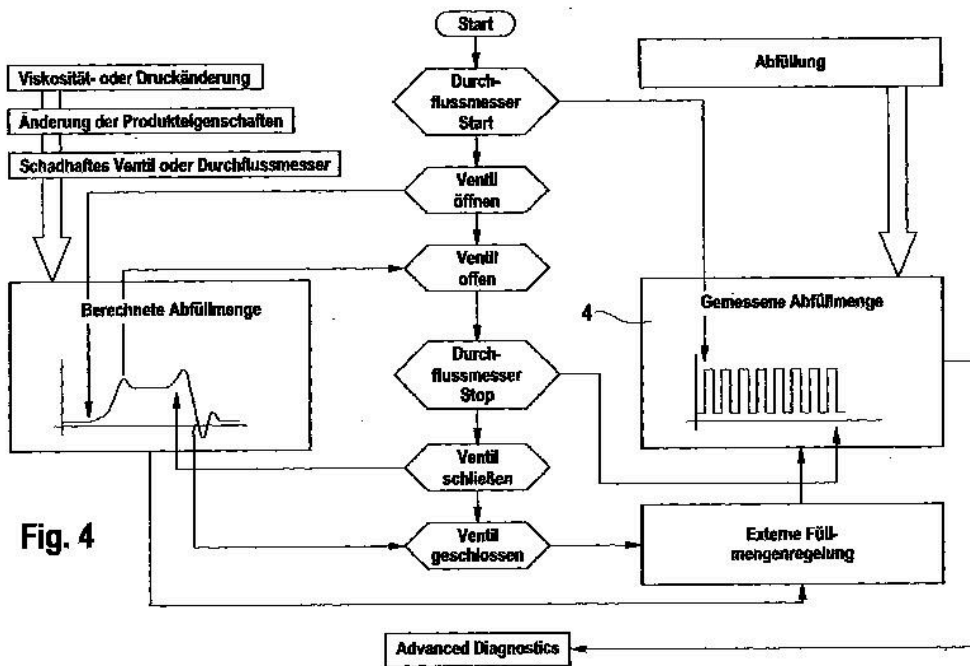


B67C 3/287

{related to flow control using predetermined or real-time calculated parameters}

Definition statement

This place covers:



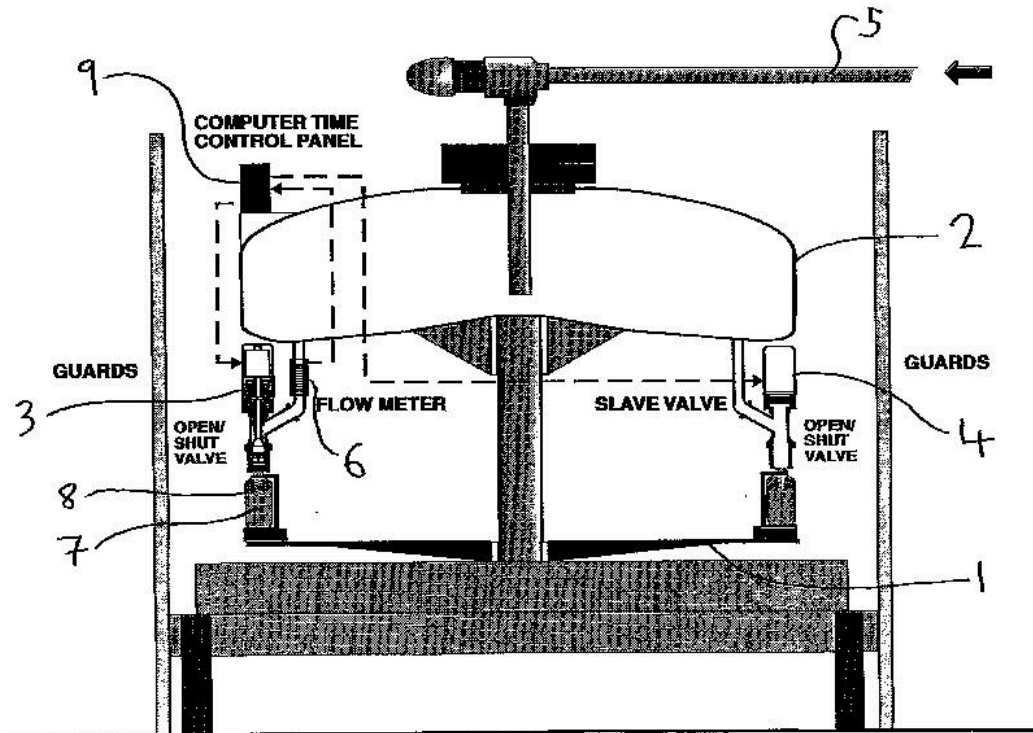
EICHUNGEN SEITE 3
 Nummer: DE 101 49 479 A1
 Int. Cl. 7: B 67 C 3/28
 Offenlegungstermin: 17. April 2009

B67C 3/288

{using master-slave controls}

Definition statement

This place covers:

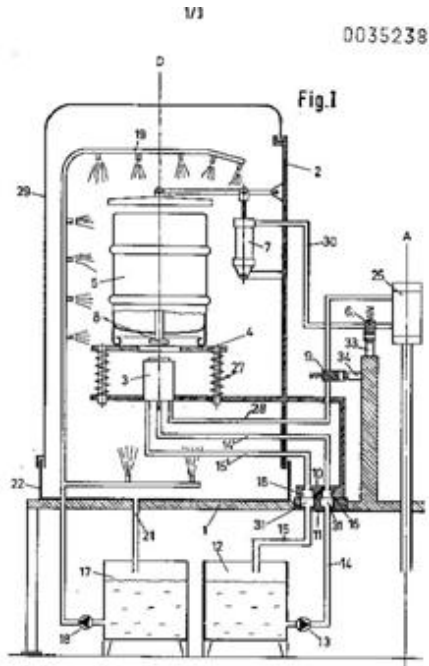


B67C 3/30

Filling of barrels or casks

Definition statement

This place covers:



Patent Application Publication May 13, 2004

US 2004/0089373 A1

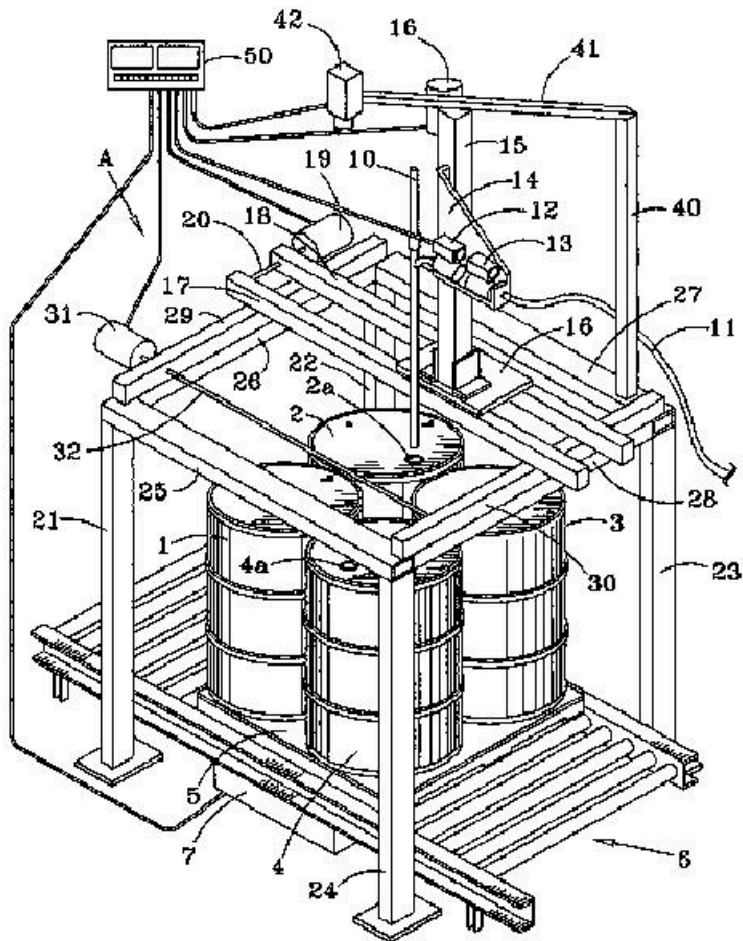


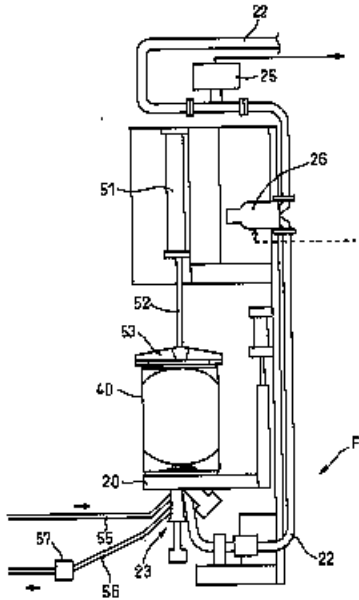
FIG. 1

B67C 3/32

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

Definition statement

This place covers:

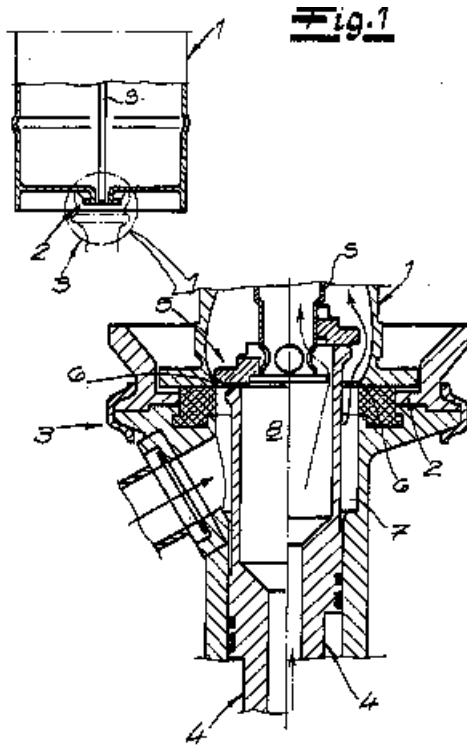


B67C 3/34

Devices for engaging filling-heads with filling-apertures

Definition statement

This place covers:



B67C 7/00

Concurrent cleaning, filling, and closing of bottles; Processes or devices for at least two of these operations

Definition statement

This place covers:

Details of conveying or synchronising.

Sterilising, aseptic filling and closing.

Lever action devices operated by hand or foot.

References

Limiting references

This place does not cover:

Heat treatment of liquids, i.e. pasteurising or sterilising	A23L 3/00
Details about sterilising processes or apparatuses as such, only in combination with some form of subsequent process in/of a bottling line	A61L 2/00
Disinfecting or sterilising as such of objects	A61L 2/00
Mixing of liquids	B01F

Forming and filling of bottles in a mould	B65B 3/022
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Informative references

Attention is drawn to the following places, which may be of interest for search:

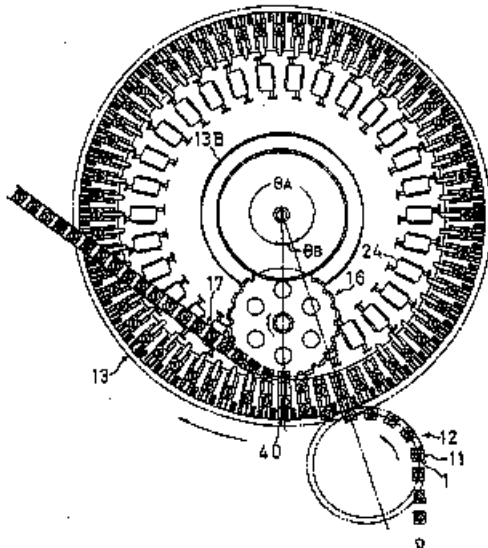
Pasteurising or sterilising of liquids	A23L 3/00
Sterilising or disinfecting of objects	A61L 2/00
Cleaning in general	B08B
Cleaning of containers	B08B 9/20
Details related to subsequent processes of blow moulding and filling	B29C 49/00
Preservation of foods in combination with packaging	B65B 55/00
Packaging in aseptic tunnels	B65B 55/025
Packaging in aseptic chambers	B65B 55/027
Conveying of containers in general	B65G
Grippers	B65G 47/847 , B65G 47/90 , B08B 9/426 , B29C 49/4205

B67C 7/0006

{Conveying; Synchronising}

Definition statement

This place covers:



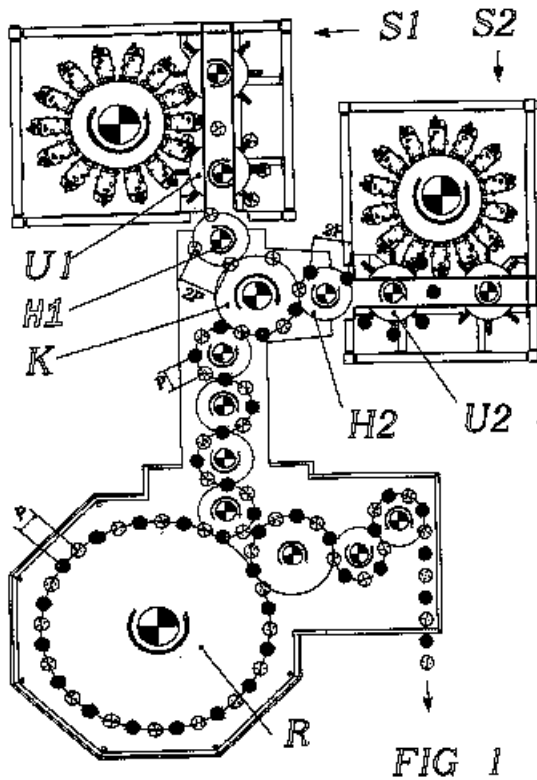
B67C 7/0013

{Synchronising}

Definition statement

This place covers:

WO 2006097796 U3 PCT/IB2006/000115

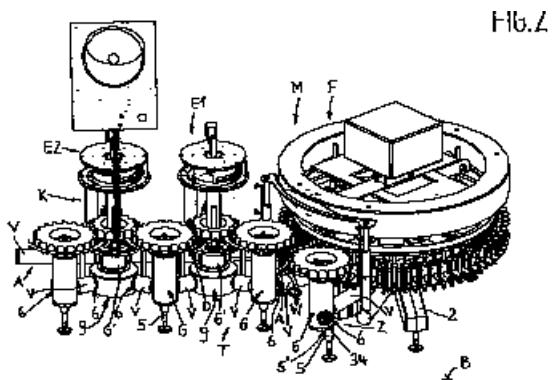


B67C 7/002

{General lay-out of bottle-handling machines}

Definition statement

This place covers:



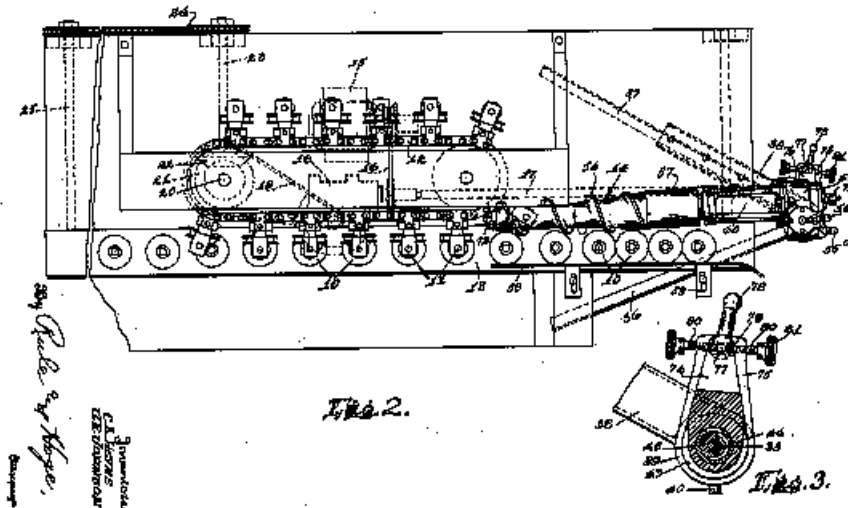
DE 20 2002 002 870 U1 2004 12 10

B67C 7/0026

{the containers travelling along a linear path}

Definition statement

This place covers:

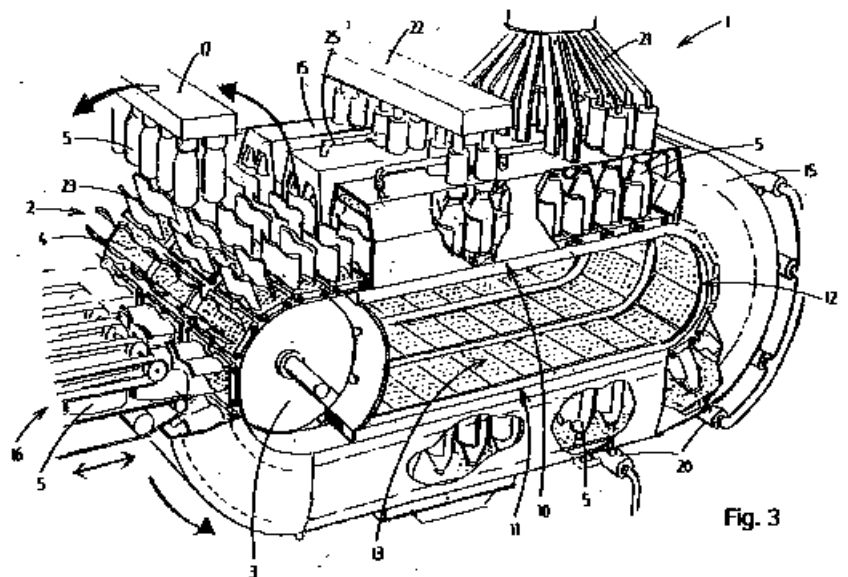


B67C 7/0033

{the operation being performed batch-wise}

Definition statement

This place covers:

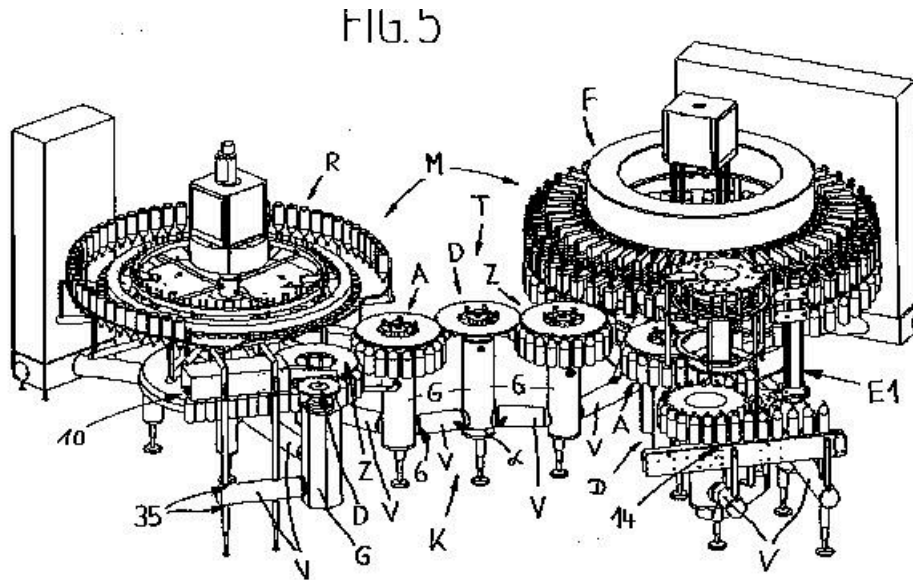


B67C 7/004

{the containers travelling along a circular path}

Definition statement

This place covers:

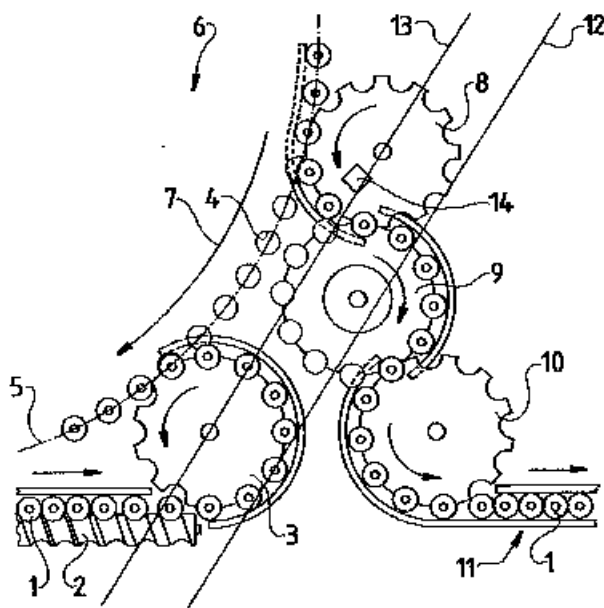


B67C 7/0046

{Infeed and outfeed devices}

Definition statement

This place covers:



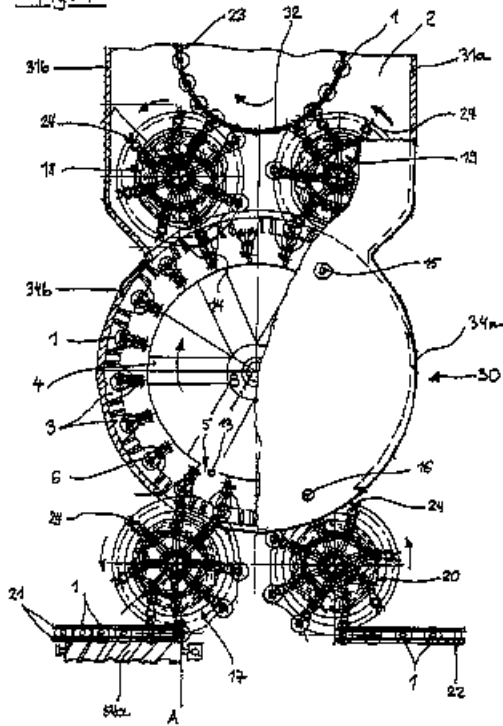
B67C 7/0053

{using grippers (for supporting bottle necks during filling [B67C 3/242](#))}

Definition statement

This place covers:

Fig. 1

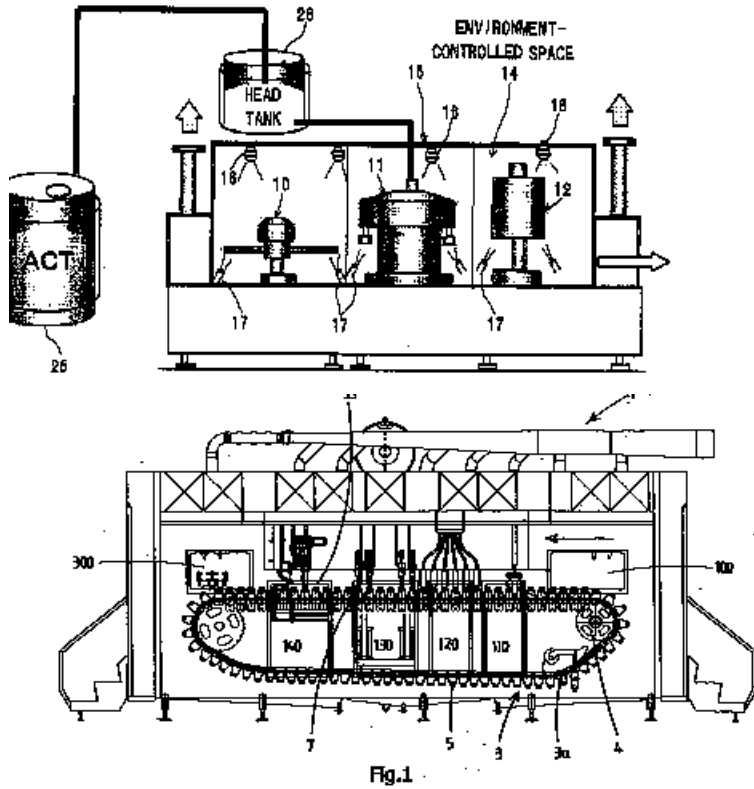


B67C 7/0073

{Sterilising, aseptic filling and closing ([B67C 3/2642](#) takes precedence)}

Definition statement

This place covers:

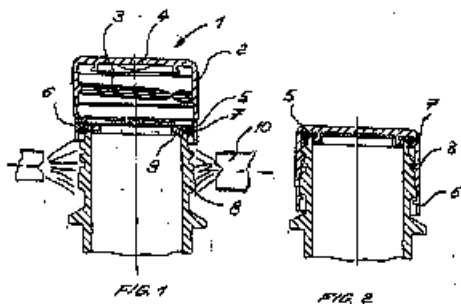


B67C 7/008

{comprising a cleaning step between two closing steps}

Definition statement

This place covers:

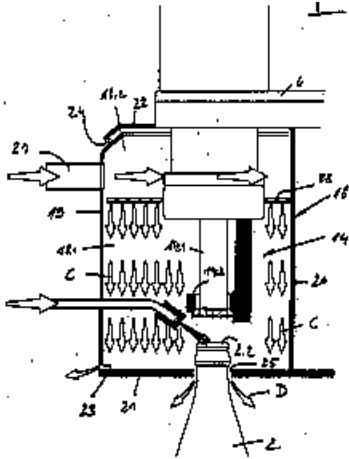


B67C 7/0086

{Sterilisation being restricted to the area of application of the closure}

Definition statement

This place covers:

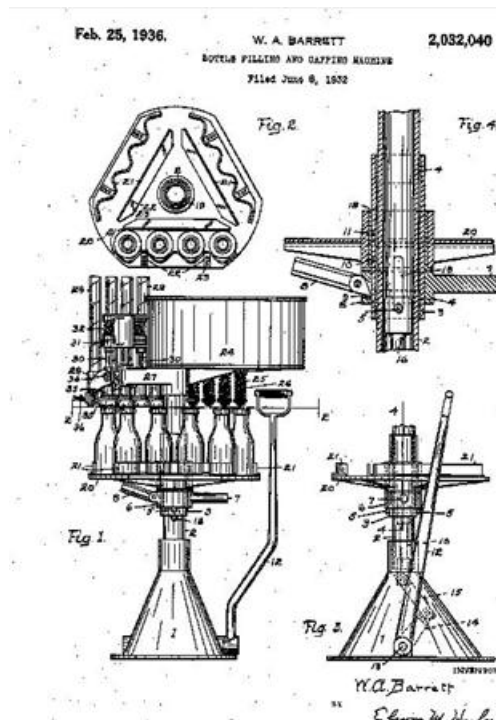


B67C 7/0093

{Lever action devices operated by hand or foot}

Definition statement

This place covers:



B67C 9/00

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

Definition statement

This place covers:

Illustrative examples of subject matter classified in this group:

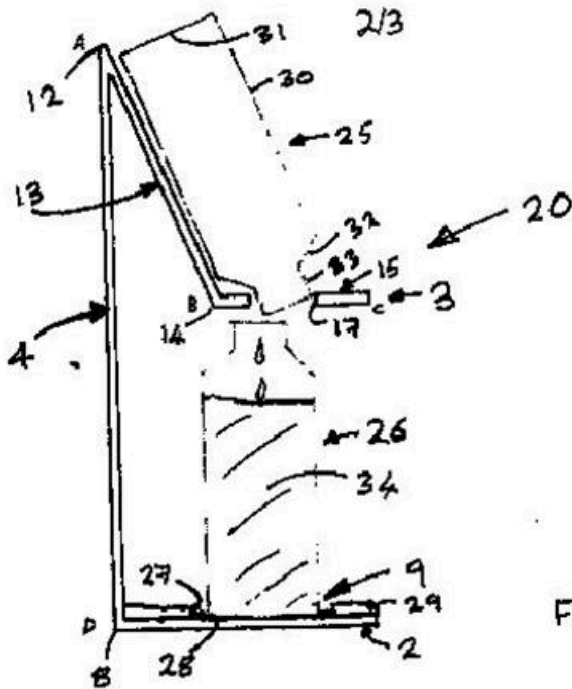
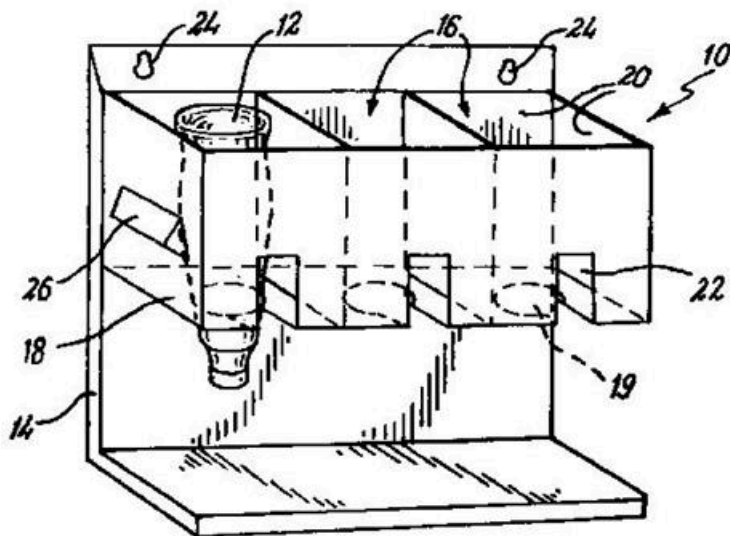


FIG. 3



FT&I

B67C 11/00

Funnels, e.g. for liquids (filter funnels [B01D 29/085](#); volume flow-meters [G01F](#))

Definition statement

This place covers:

Funnels without discharge valves.

Funnels with non-automatic discharge valves.

Funnels with automatic discharge valves.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Devices for aerating of wine	B01F
Funnels for introducing articles or materials in containers or wrappers	B65B 39/00
Filling or draining lubricant of or from machines or engines	F01M 11/04
Measuring spoons or scoops	G01F 19/002

B67C 11/02

without discharge valves

Definition statement

This place covers:

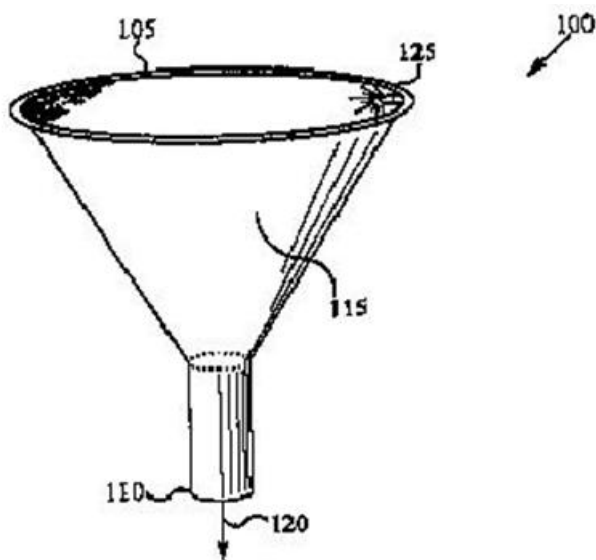
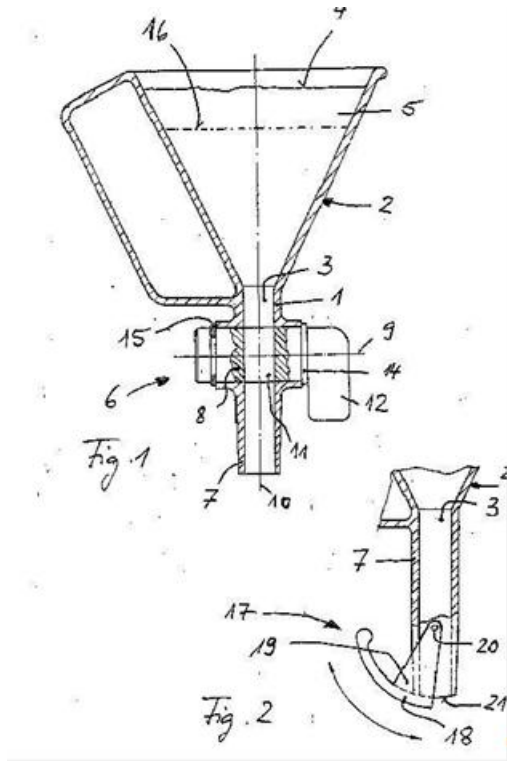


Fig. 1B

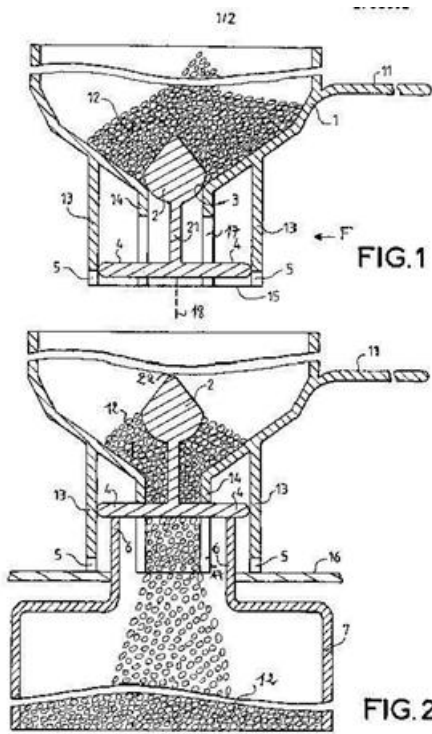
B67C 11/04**with non-automatic discharge valves****Definition statement***This place covers:*

B67C 11/06

with automatic discharge valves

Definition statement

This place covers:

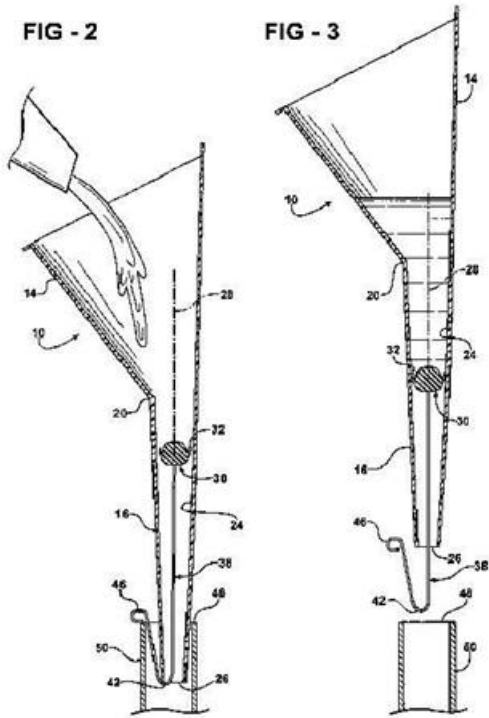


B67C 11/063

{for preventing spilling or dripping}

Definition statement

This place covers:



B67C 11/066

{for preventing overflow of the filled container}

Definition statement

This place covers:

