

## 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  | <a href="#">A23B 2/00</a>  |
| Disinfecting or sterilising as such of objects   | <a href="#">A61L 2/00</a>  |
| Mixing of liquids  | <a href="#">B01F</a>       |
| Filling bags, sacks, cartons, pouches, cups, etc.  | <a href="#">B65B</a>       |
| Filling medical containers such as ampoules, vials, syringes or the like   | <a href="#">B65B 3/003</a> |
| Forming and filling of bottles in a mould  | <a href="#">B65B 3/022</a> |
| Devices for transferring samples or any liquids to, in, or from, the analysis apparatus, e.g. suction devices, injection devices | <a href="#">G01N 35/00</a> |

##### Informative references

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

|   |  |
|---|--|
| Pasteurising or sterilising of liquids              | <a href="#">A23B 2/00</a>  |
| Sterilising or disinfecting of objects:             | <a href="#">A61L 2/00</a> , <a href="#">A61L 2202/23</a>   |
| Sorting containers according to e.g. fill level     | <a href="#">B07C 5/3404</a>  |
| Forming and filling of bottles in a mould           | <a href="#">B65B 3/022</a>   |
| Pressurizing filled containers                      | <a href="#">B65B 31/04</a>   |
| Nozzles with flow cut-off means                     | <a href="#">B65B 39/001</a>  |
| Preservation of foods in combination with packaging | <a href="#">B65B 55/00</a>   |
| Grippers  | <a href="#">B65G 47/847</a> ,<br><a href="#">B65G 47/90</a> , <a href="#">B08B 9/426</a> ,<br><a href="#">B29C 49/4205</a> |
| Safety devices for opening doors or panels          | <a href="#">F16P 3/08</a>  |

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

## **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 | <a href="#">B65B 3/00</a>  |
| Detection/Investigating the presence of flaws or contamination in a container or its contents         | <a href="#">G01N 21/90</a> |

### **Informative references**

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

|   |  |
|---|--|
| Pasteurising or sterilising of liquids          | <a href="#">A23B 2/00</a>                                |
| Sterilising or disinfecting of objects          | <a href="#">A61L 2/00</a> , <a href="#">A61L 2202/23</a> |
| Mixing of liquids                               | <a href="#">B01F</a>                                     |
| Sorting containers according to e.g. fill level | <a href="#">B07C 5/3404</a>                              |

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

### Special rules of classification

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

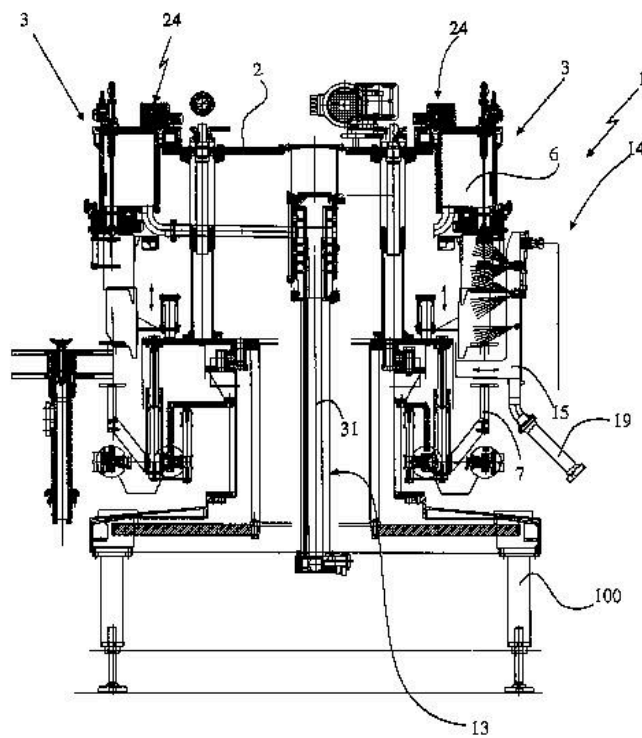
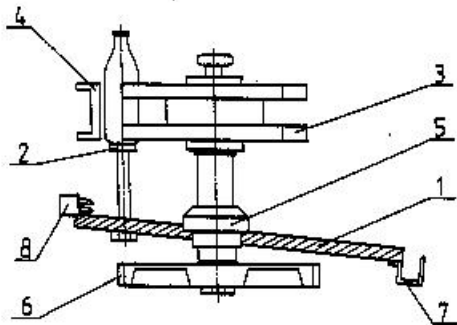
Flow control devices classified in [B67C 3/28](#).

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.

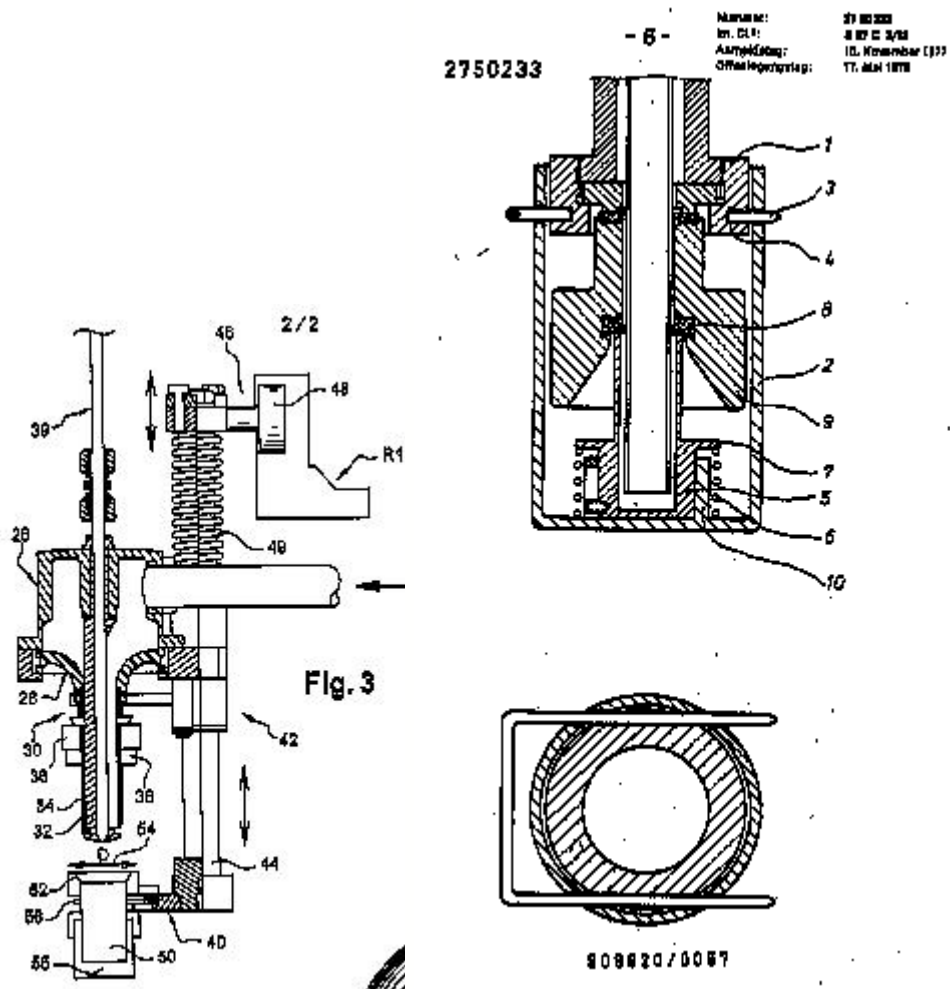
**B67C 3/001****{Cleaning of filling devices}****Definition statement***This place covers:*

**B67C 3/002**

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

**Definition statement**

*This place covers:*

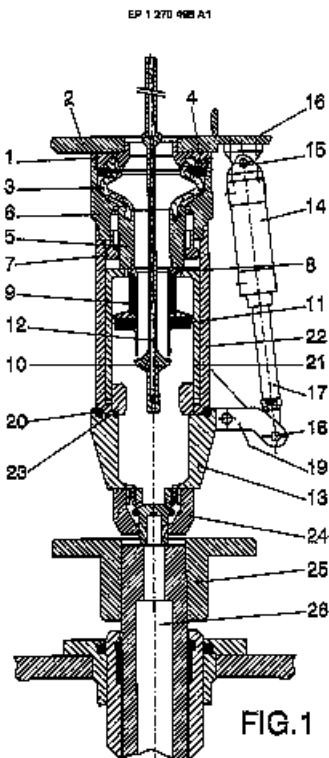
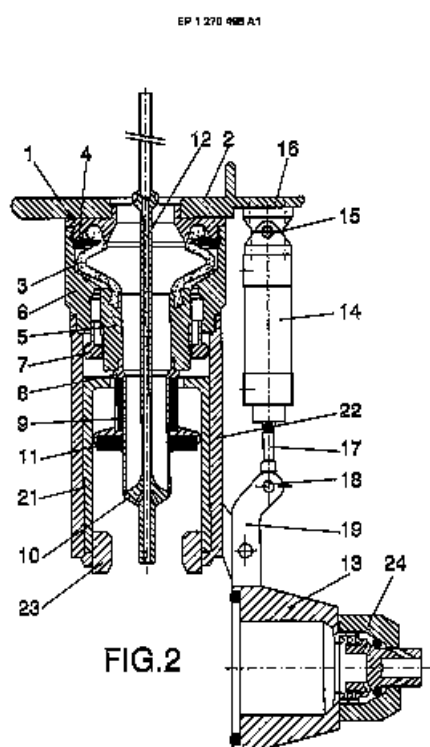


**B67C 3/004**

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

**Definition statement**

*This place covers:*

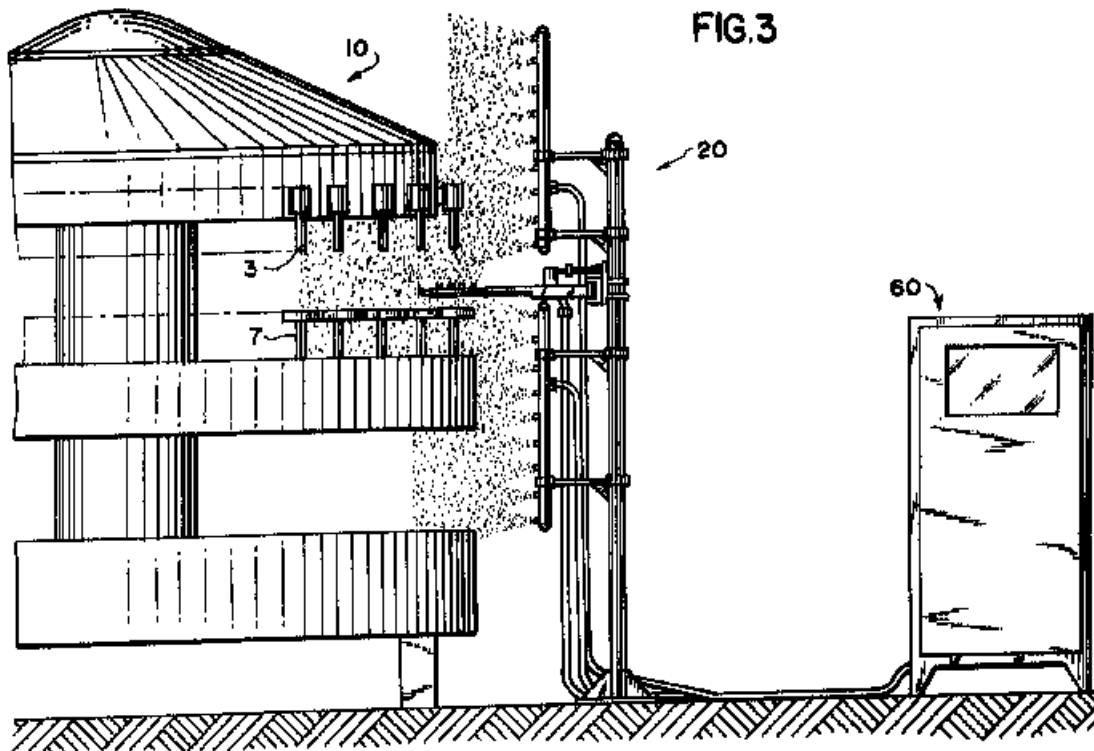


## B67C 3/005

{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:*

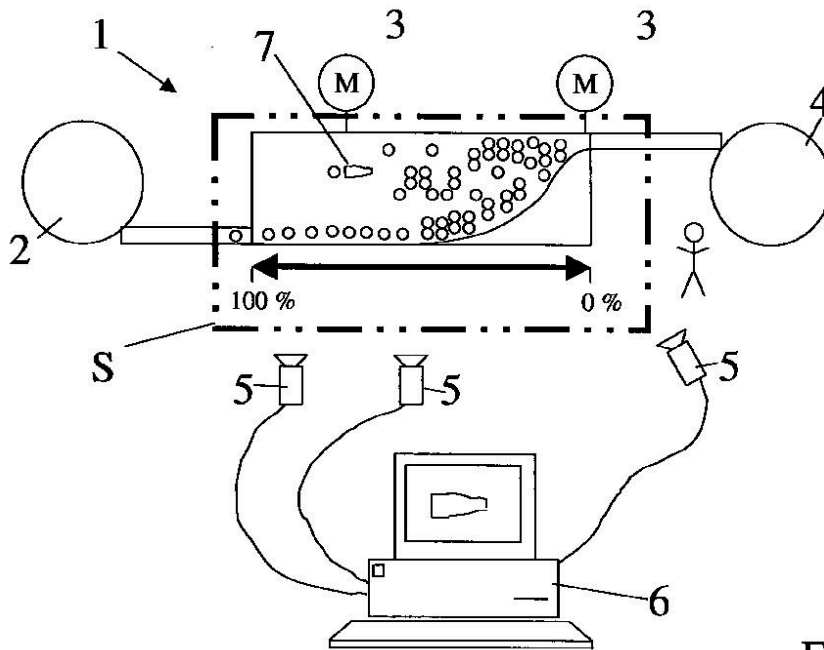


FIG. 1

EP 2 332 545 A1

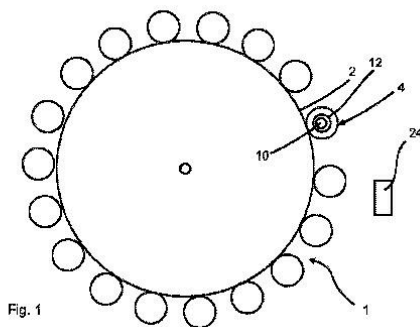


Fig. 1

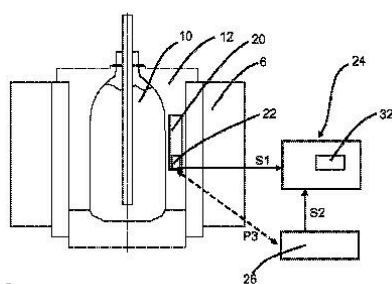


Fig. 2

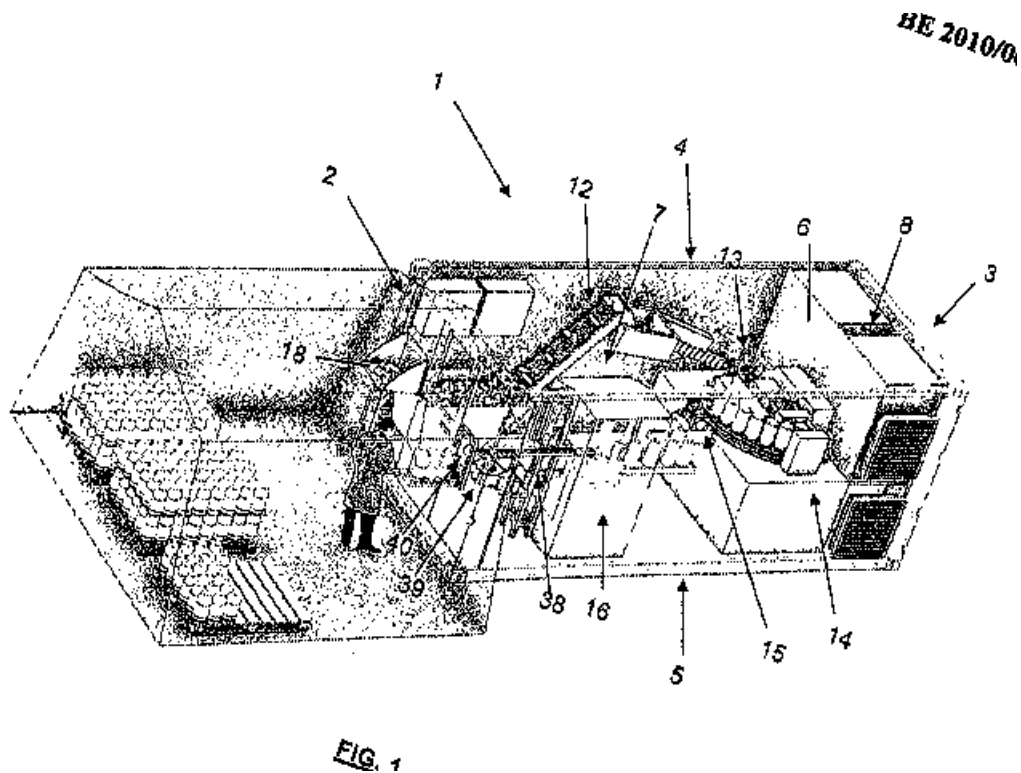


**B67C 3/008**

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

**Definition statement**

*This place covers:*



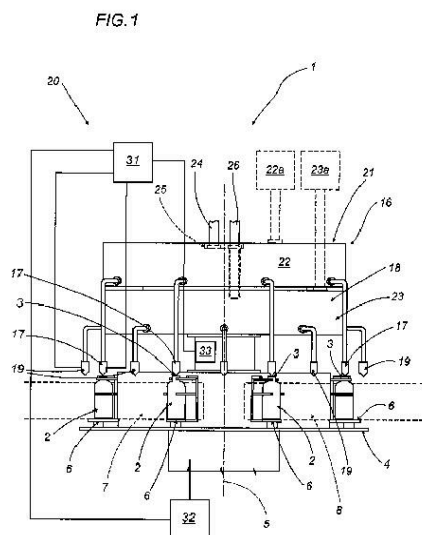
**B67C 3/02**

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

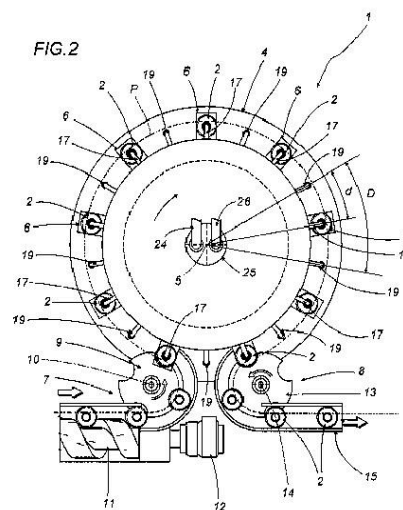
**Definition statement**

*This place covers:*

EP 1 702 880 A1



EP 1 702 880 A1

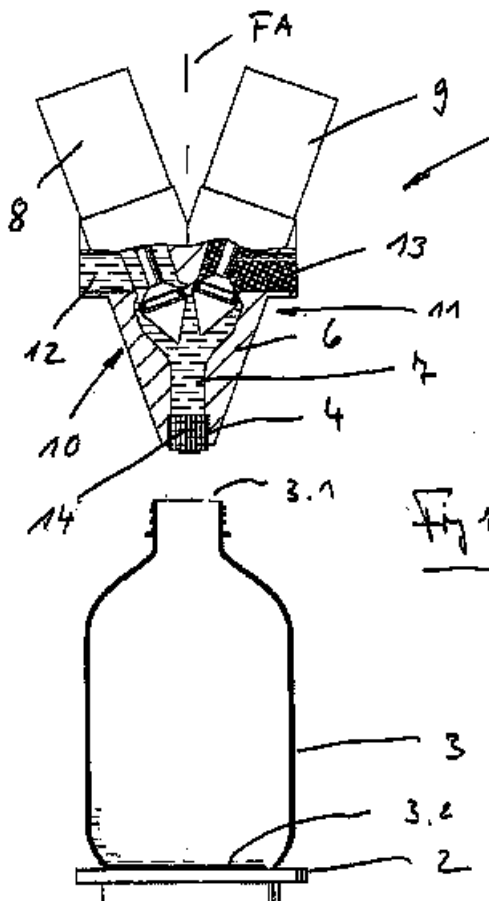


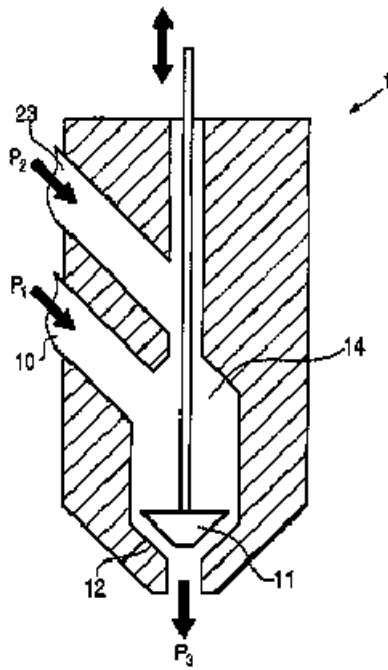
**B67C 3/023**

{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

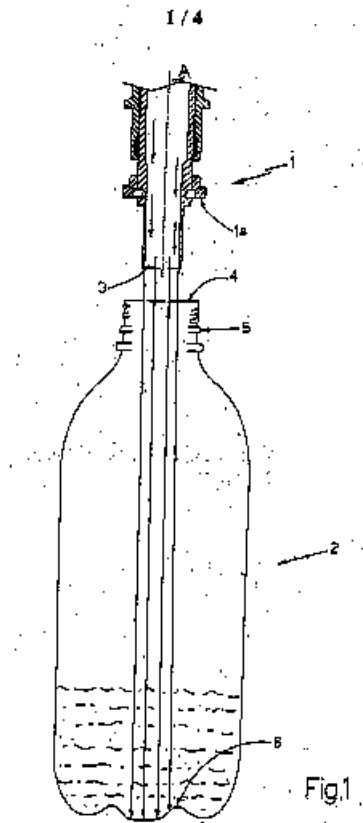
without applying pressure

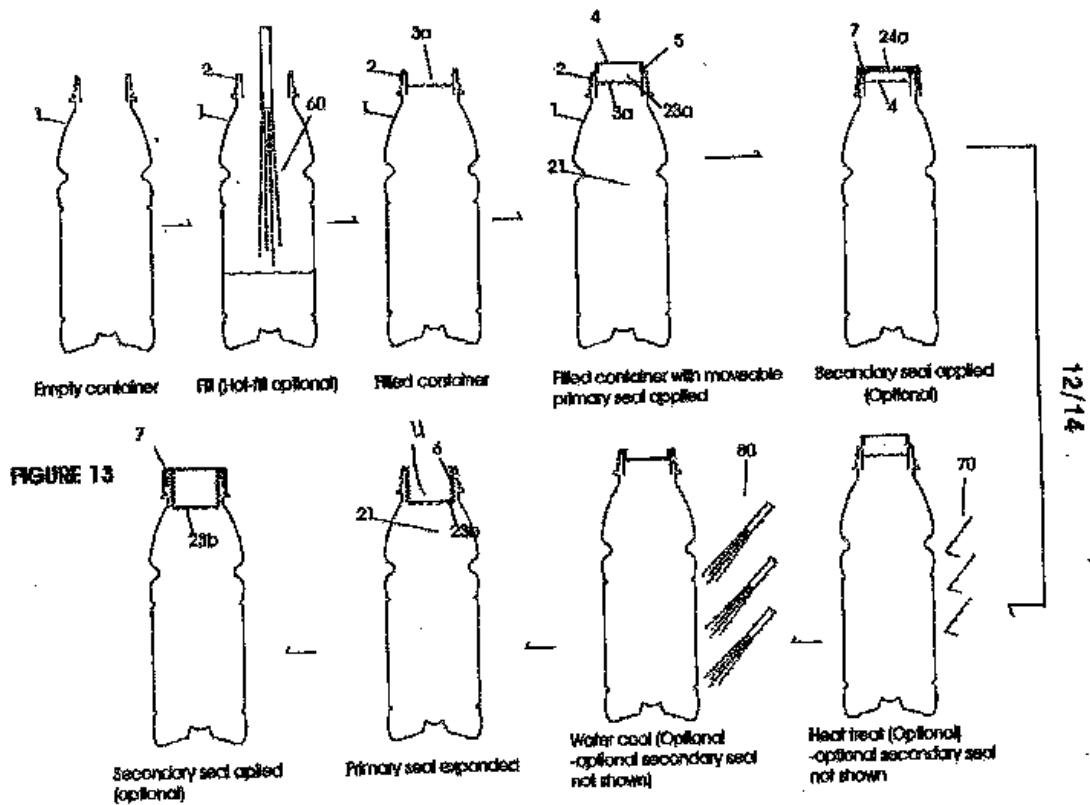
### Definition statement

*This place covers:*

WPO 34/01/034545

PCT/IL24/079103 637



**B67C 3/045****{Apparatus specially adapted for filling bottles with hot liquids}****Definition statement***This place covers:*

W/O 2005/085082

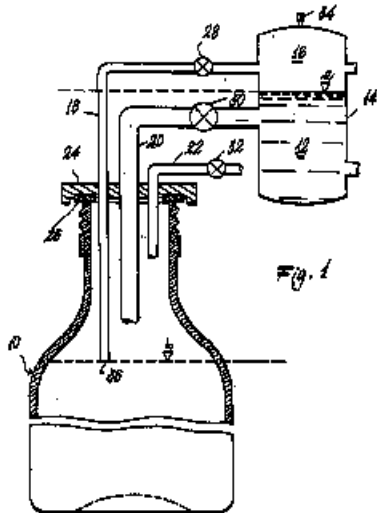
PCT/NZ2013/000038

**B67C 3/06**

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

**Definition statement**

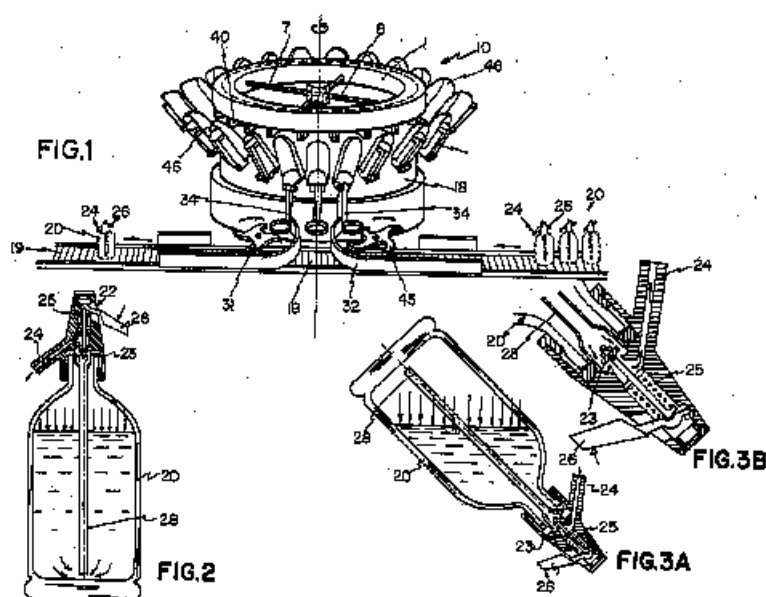
*This place covers:*

**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

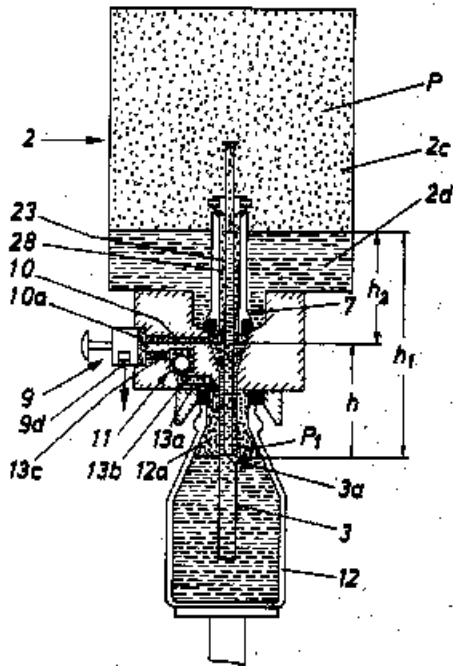
4,815,505

**B67C 3/08**

and subsequently lowering the counterpressure

**Definition statement**

*This place covers:*



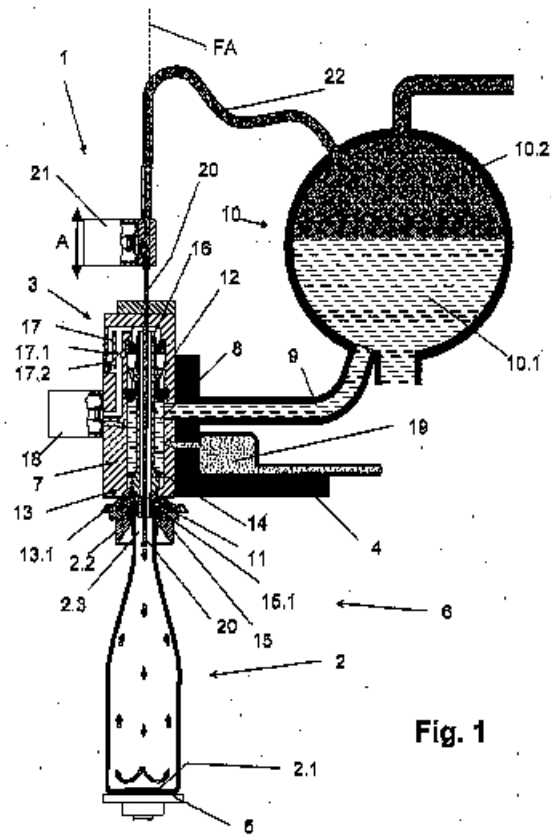


**B67C 3/10**

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

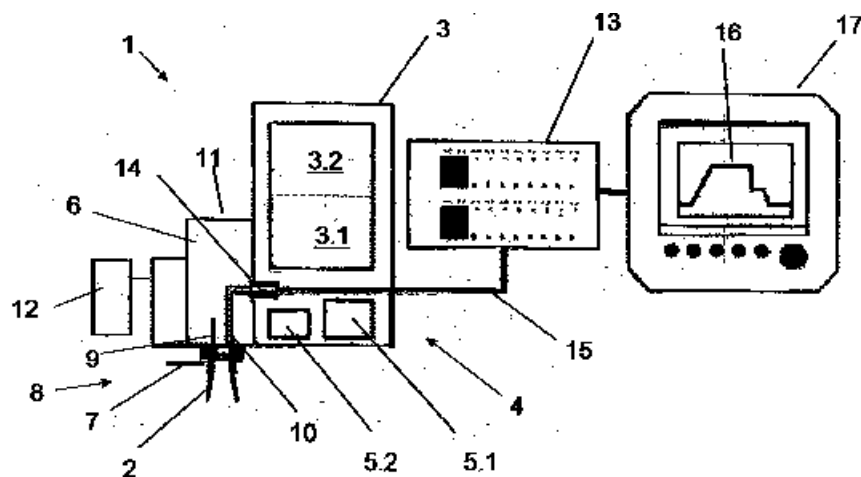
## Definition statement

*This place covers:*



**B67C 3/12****Pressure-control devices****Definition statement**

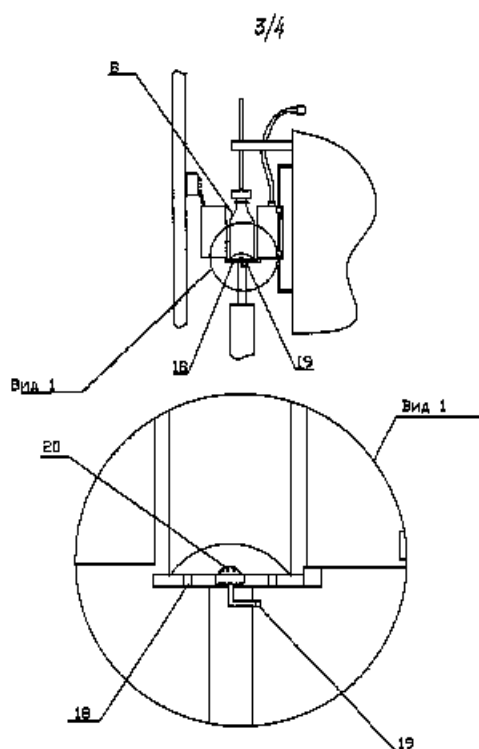
*This place covers:*

**Fig. 1****B67C 3/14****specially adapted for filling with hot liquids****Definition statement**

*This place covers:*

WG 2005A/70814

PCT/BR02/004000015



DE 10 2010 006 028 A1 2011.07.28  
Anhängende Zeichnungen

**B67C 3/16****using suction****Definition statement***This place covers:*

EP 0 737 844 A1

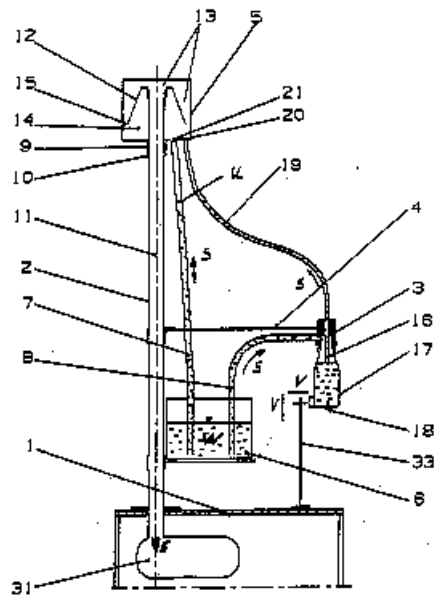


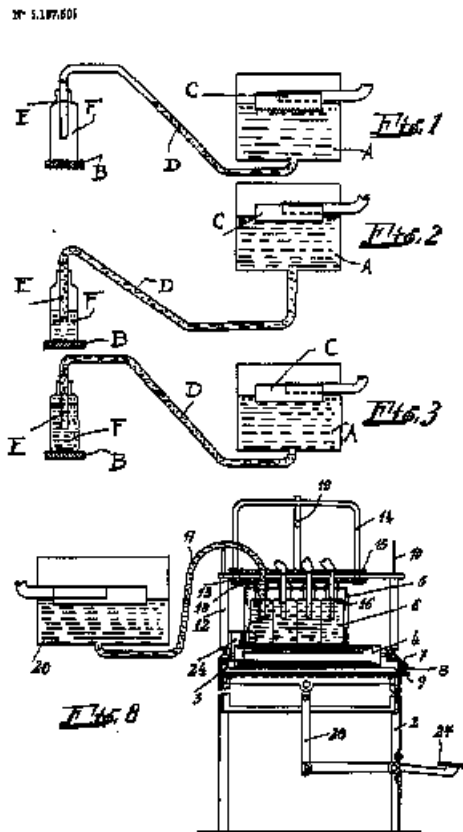
Fig. 1

**B67C 3/18**

using siphoning arrangements

**Definition statement**

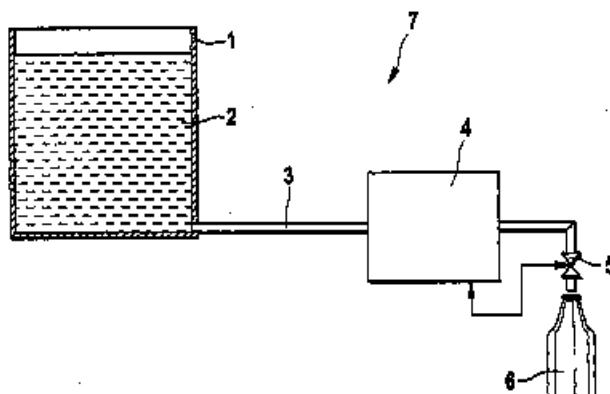
*This place covers:*

**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](#))

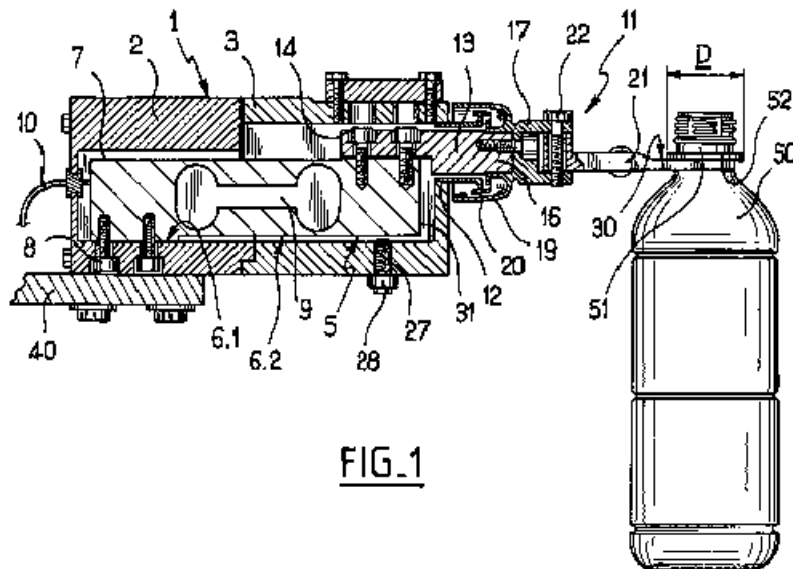
**Definition statement**

*This place covers:*

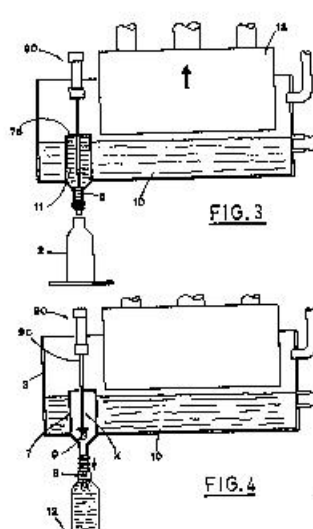
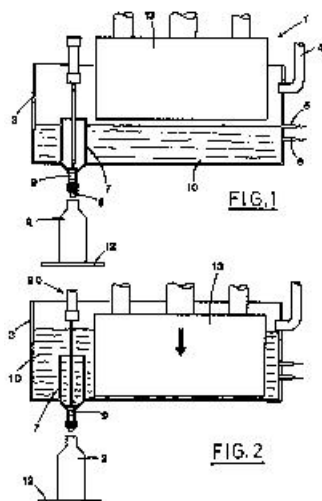


**B67C 3/202**

{by weighing}

**Definition statement***This place covers:***B67C 3/204**

{using dosing chambers}

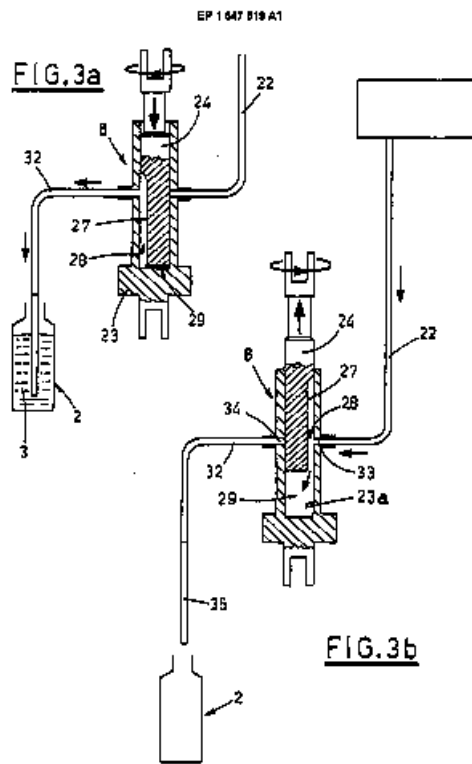
**Definition statement***This place covers:*

**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:*

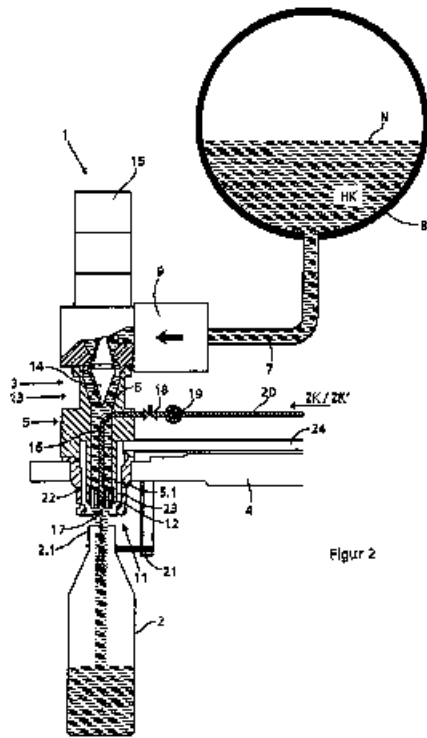
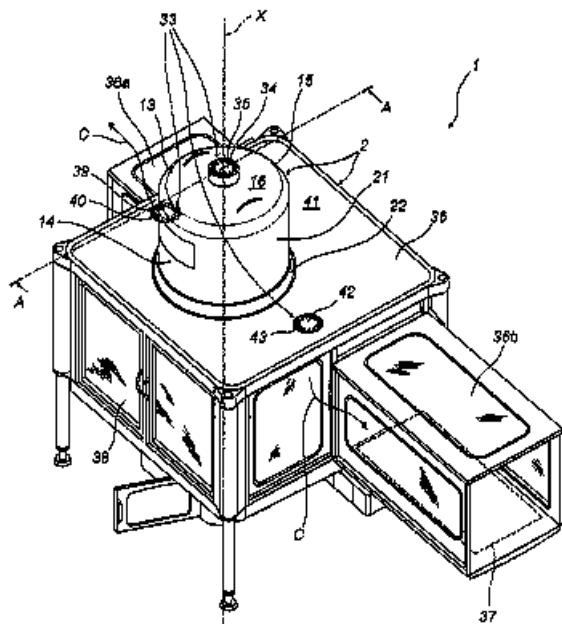


Figure 2

**B67C 3/22****Details****Definition statement**

*This place covers:*

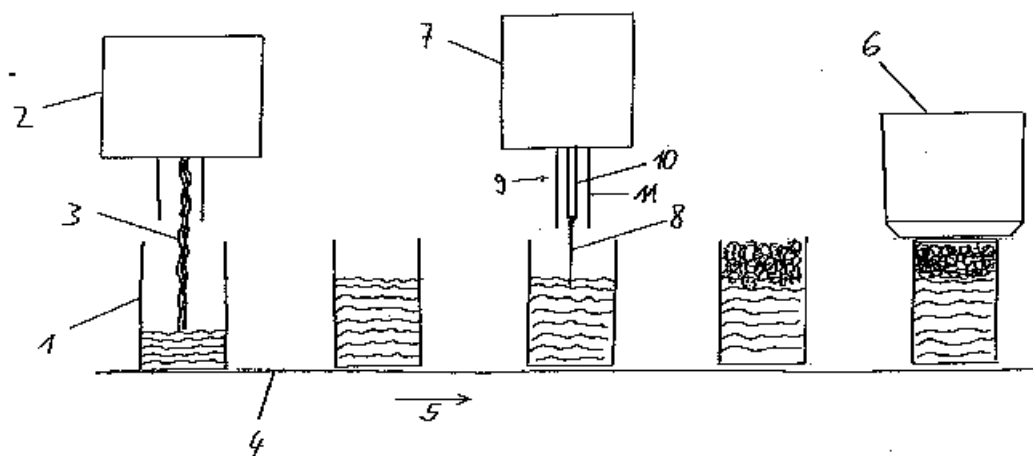
FIG. 1

**B67C 3/222**

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

**Definition statement**

*This place covers:*



EPC 576 494 A1



## References

### Informative references

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

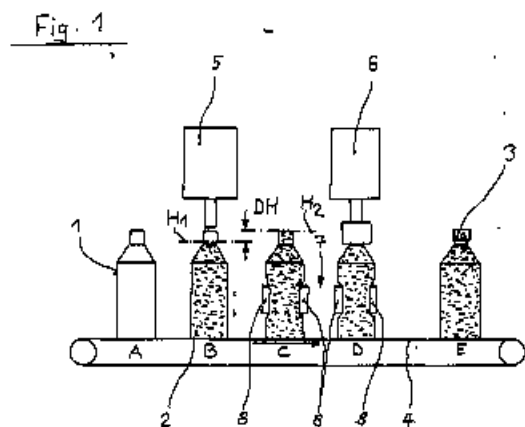
|  |                             |
|--|-----------------------------|
| Topping-up containers or receptacles to ensure complete filling          | <a href="#">B65B 3/24</a>   |
| Adding fluids for preventing deformation of filled and closed containers | <a href="#">B65B 31/006</a> |

## B67C 3/223

{by squeezing the container elastically}

### Definition statement

This place covers:

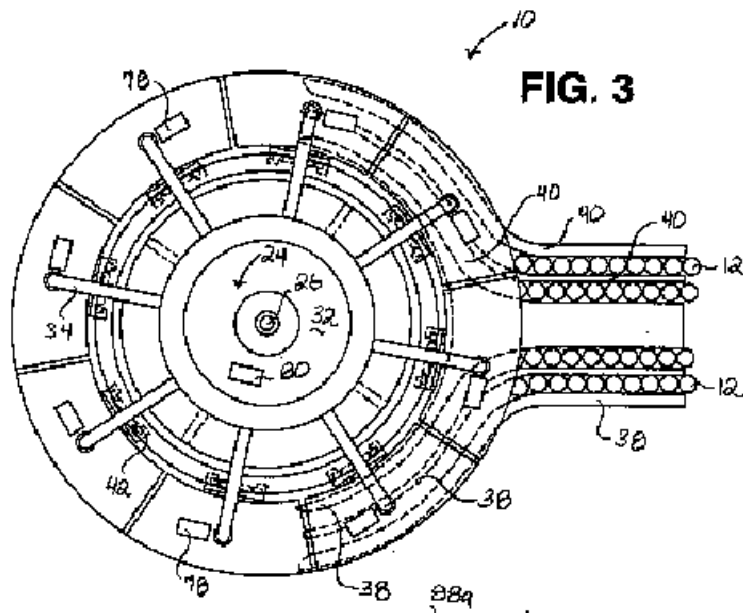


**B67C 3/225**

{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:*

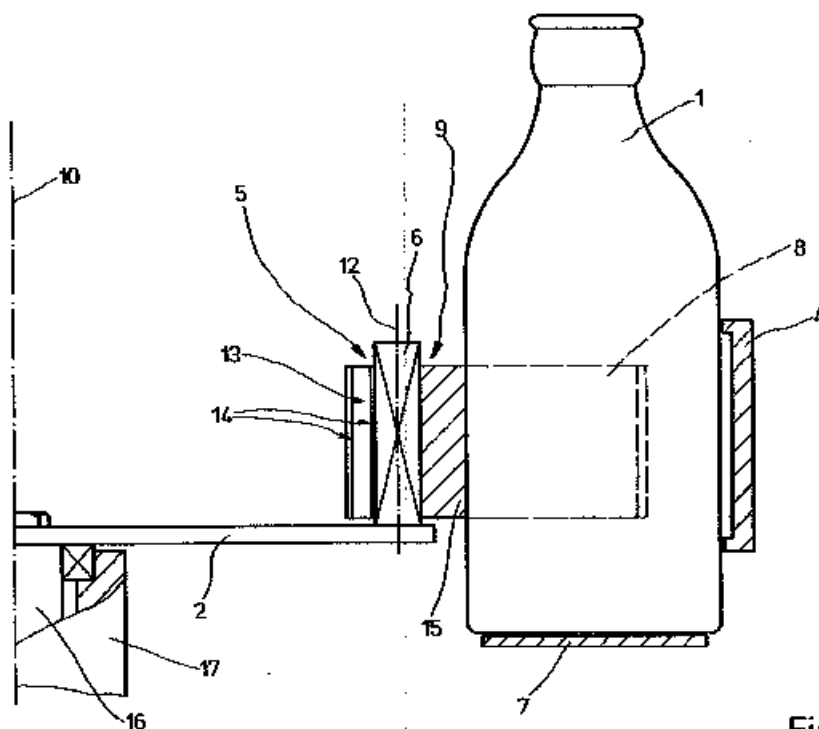


Fig. 2

**References****Informative references**

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

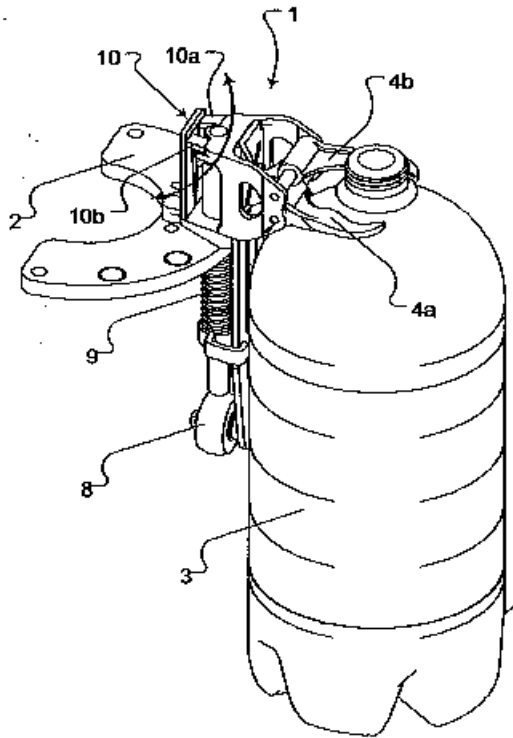
|   |                                |
|---|--------------------------------|
| Pucks used as container carrier in handling devices such as conveyors | <a href="#">B65G 2201/0261</a> |
|---|--------------------------------|

## B67C 3/242

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

### Definition statement

*This place covers:*

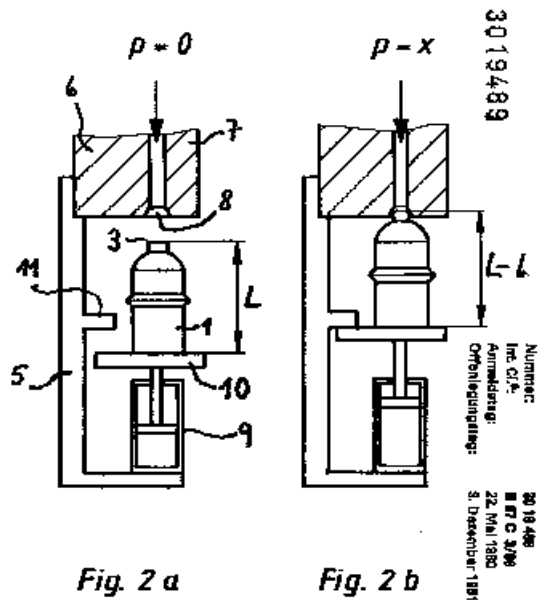


**B67C 3/244**

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

**Definition statement**

*This place covers:*

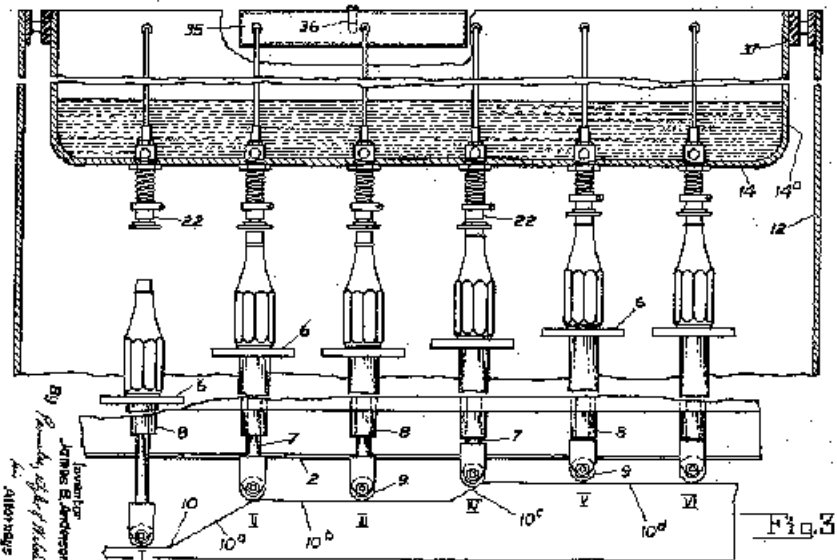
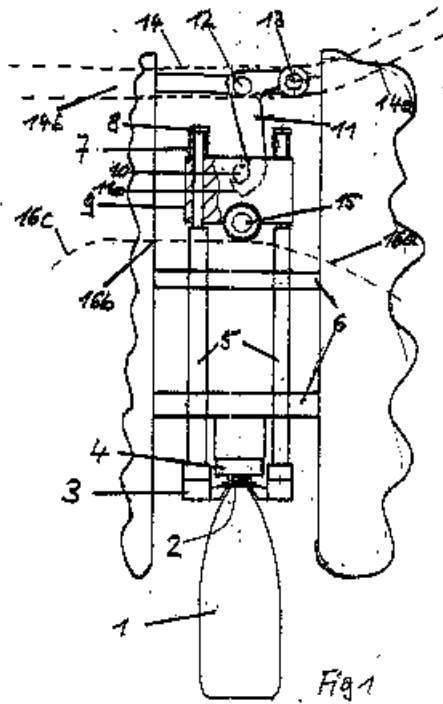


**B67C 3/246**

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

**Definition statement**

*This place covers:*

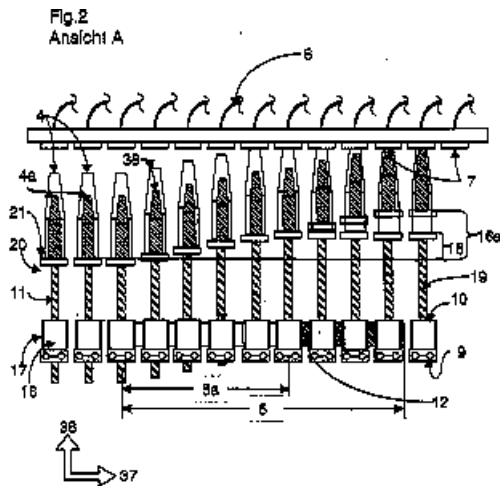


**B67C 3/248**

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

## Definition statement

*This place covers:*

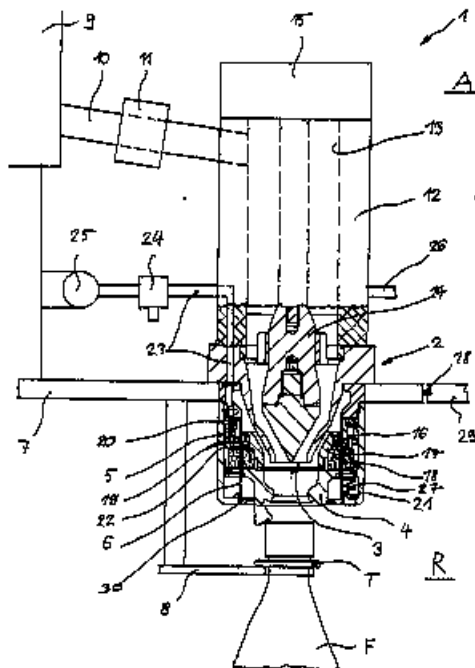


**B67C 3/26**

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

## Definition statement

*This place covers:*

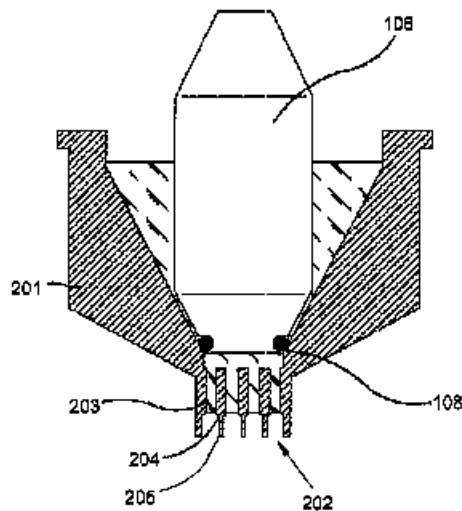


**B67C 3/2608**

{comprising anti-dripping means}

**Definition statement**

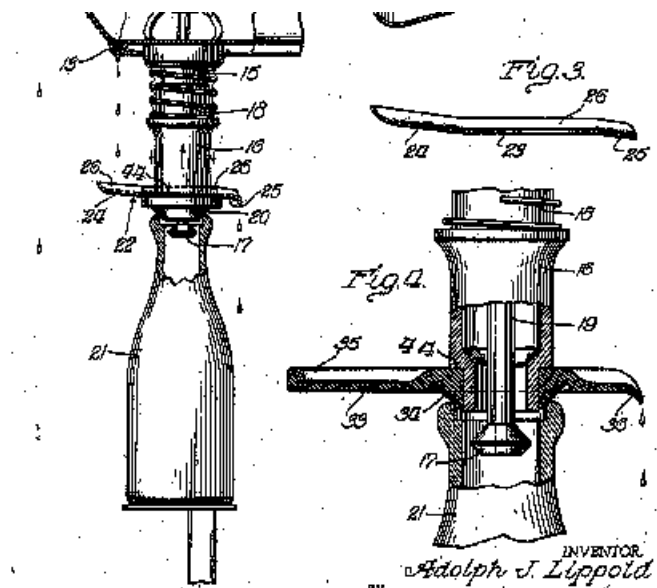
*This place covers:*

**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:*



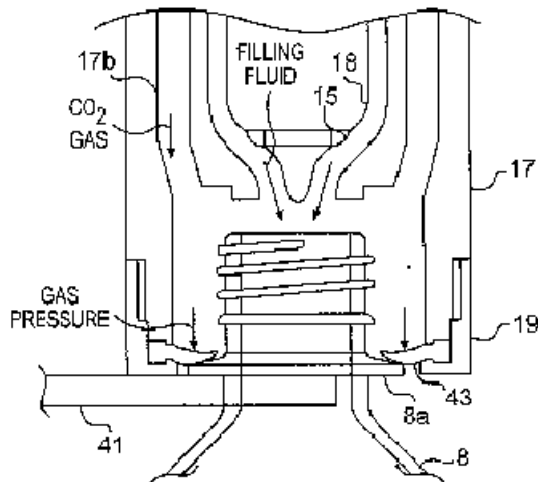


**B67C 3/2614**

{specially adapted for counter-pressure filling}

**Definition statement**

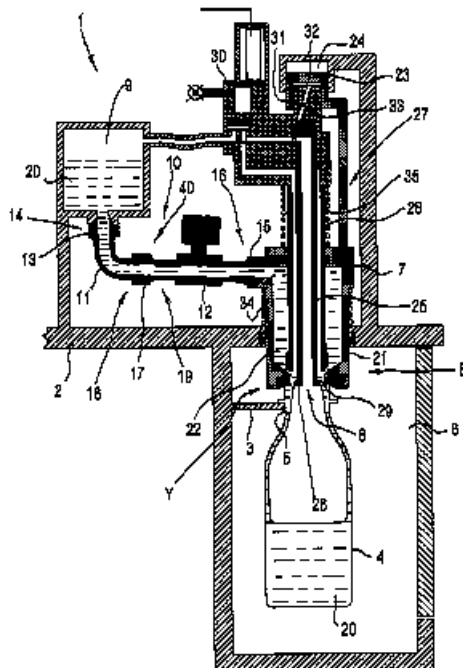
*This place covers:*

**B67C 3/2617**

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

**Definition statement**

*This place covers:*

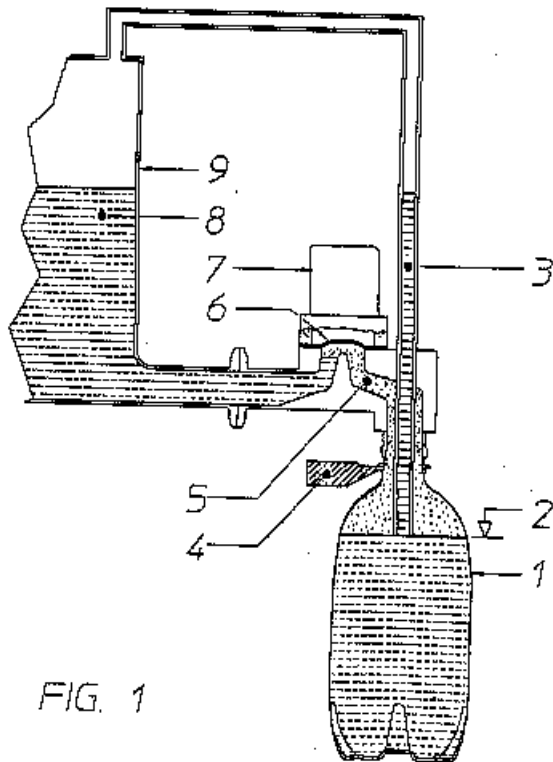


**B67C 3/262**

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

**Definition statement**

*This place covers:*

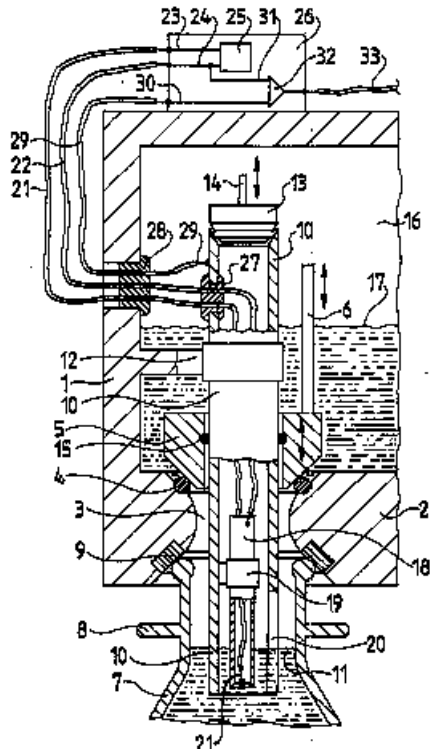


**B67C 3/2622**

{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:*

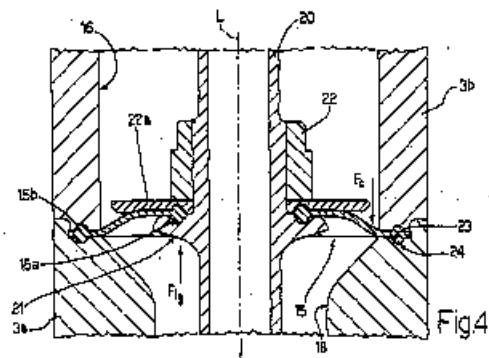
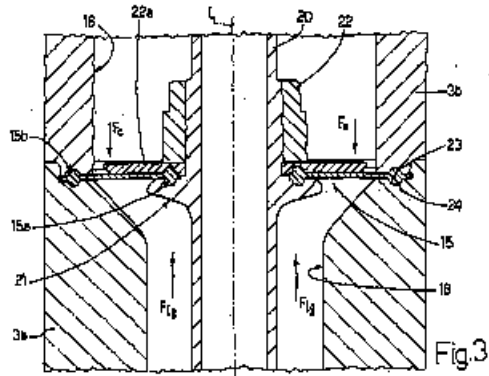


**B67C 3/2625**

**{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**

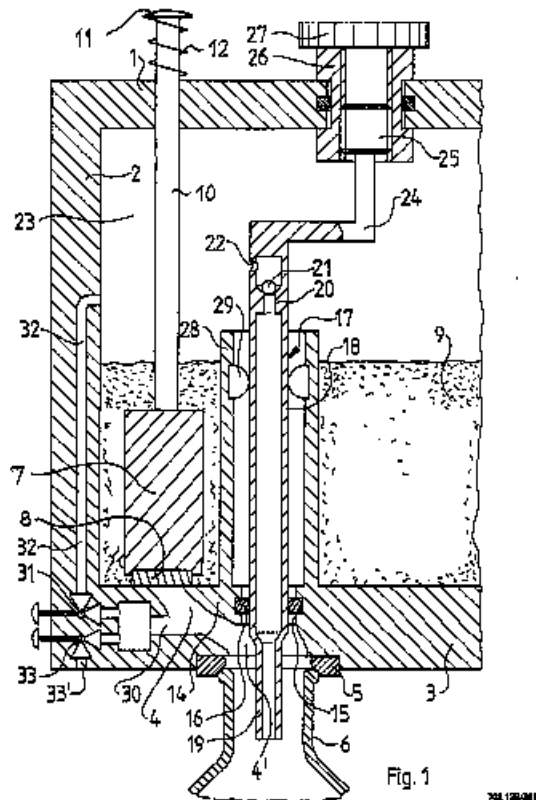
{and the filling operation stopping when the liquid rises to a level at which it closes a vent opening}

**Definition statement**

*This place covers:*

BEZUGSNUMMERN SEITE 1

Nummer: DE 196 08 854 01  
Int. Cl. B 67 C 3/26  
Veröffentlichungsdatum: 18. September 1997



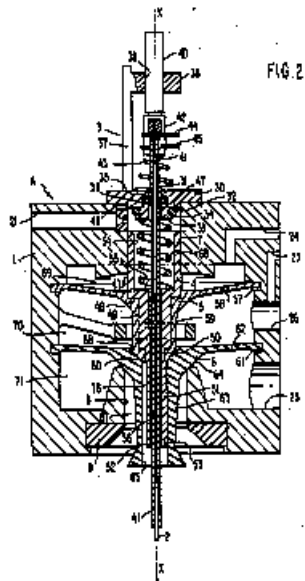
**B67C 3/2631**

{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

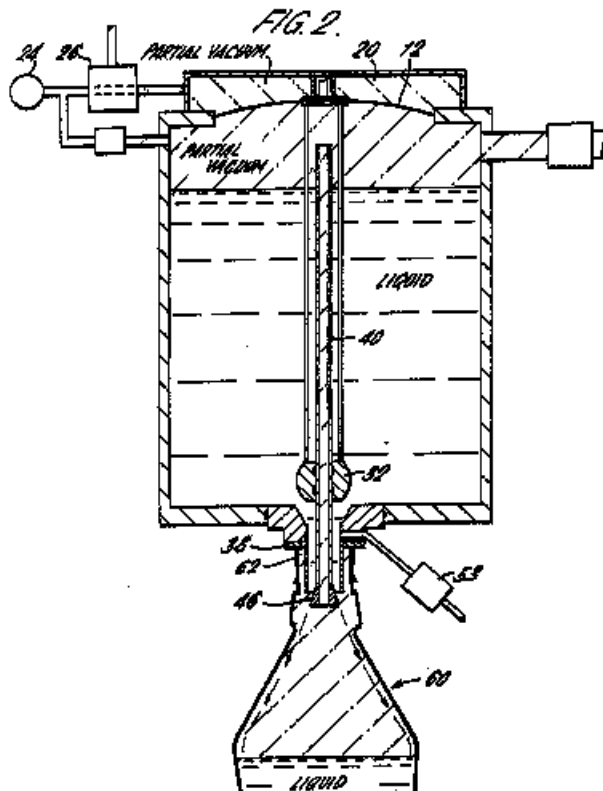


**B67C 3/2634**

{specially adapted for vacuum or suction filling}

**Definition statement**

This place covers:

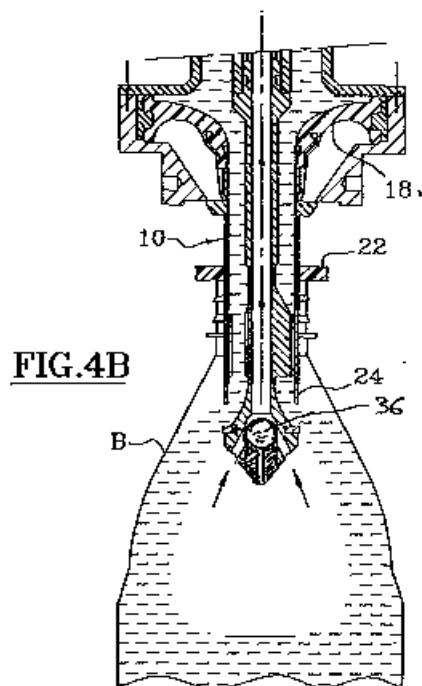
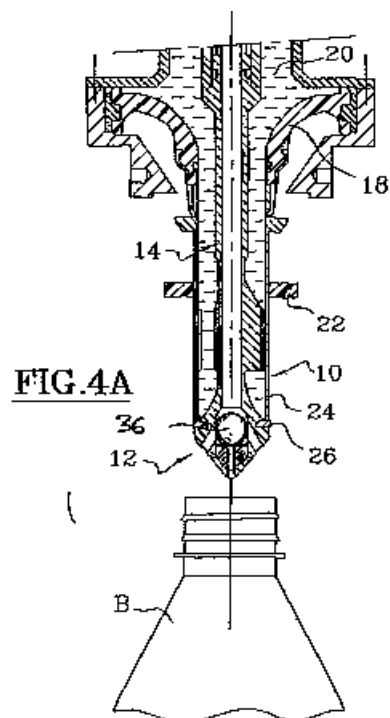


**B67C 3/2637**

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

**Definition statement**

*This place covers:*



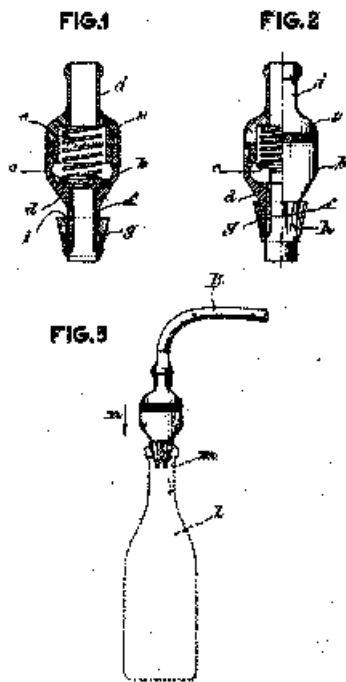


**B67C 3/264**

{and the filling operation being carried out manually}

**Definition statement**

*This place covers:*

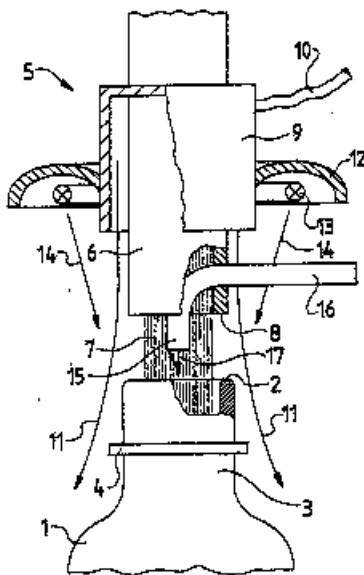
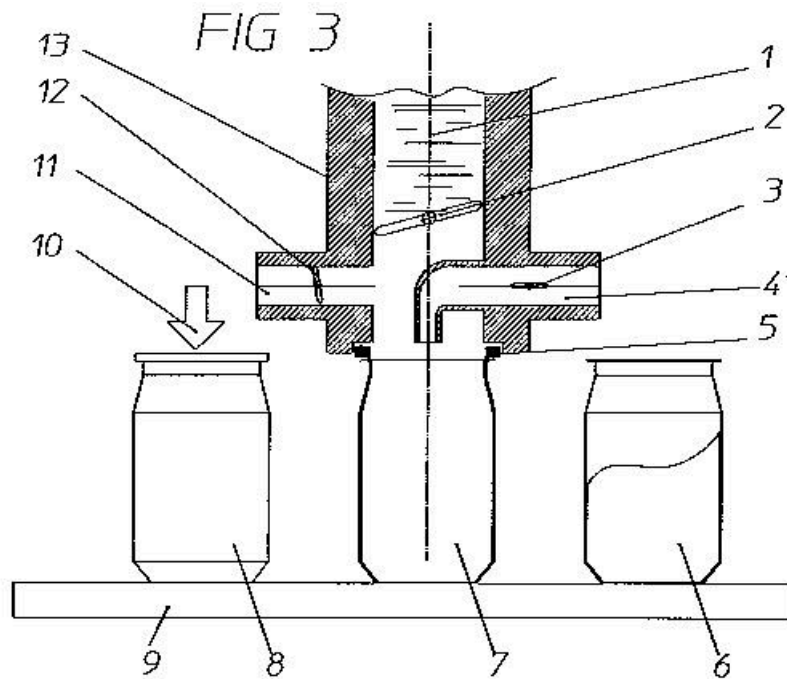


**B67C 3/2642**

{specially adapted for sterilising prior to filling}

**Definition statement**

*This place covers:*

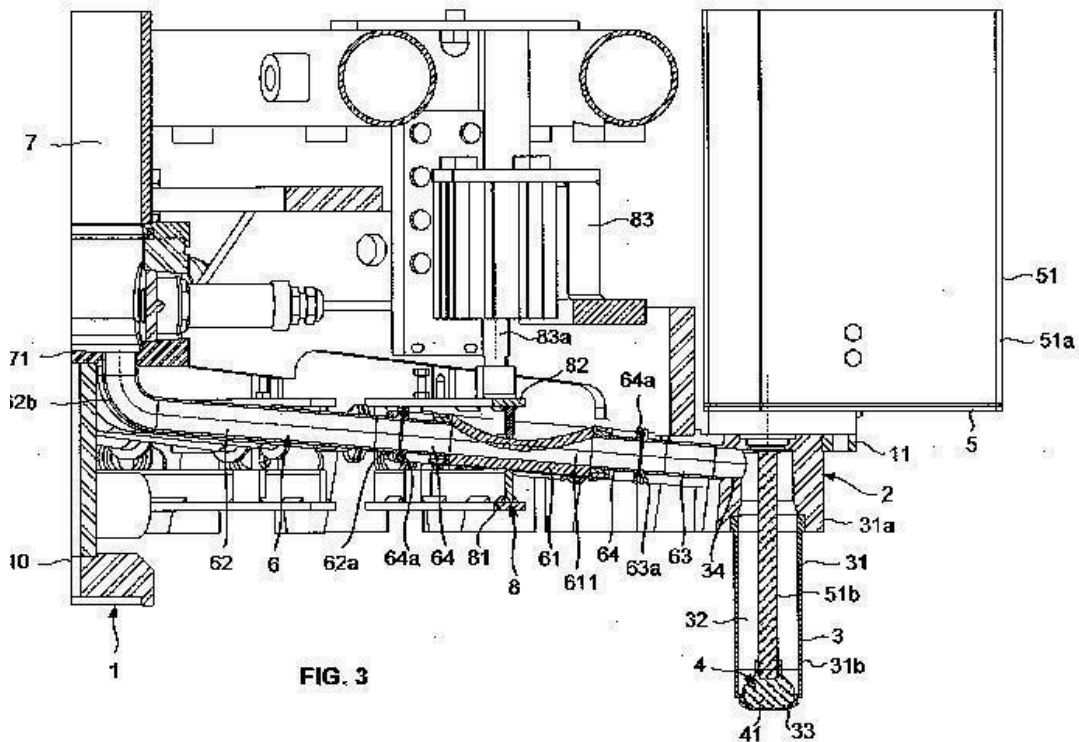
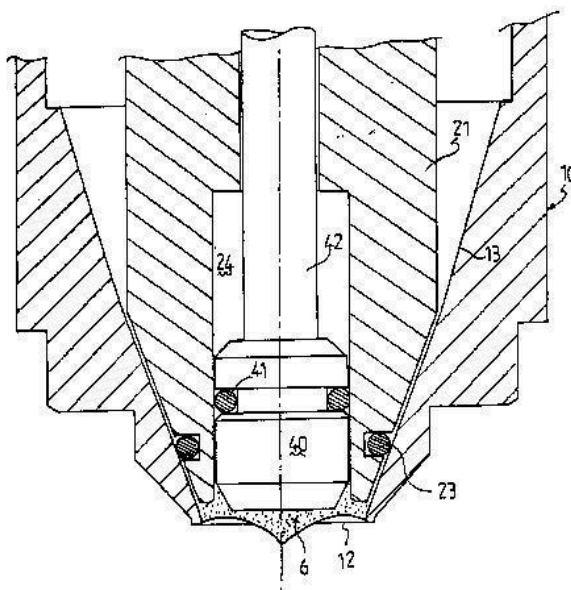


**B67C 3/28**

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:*

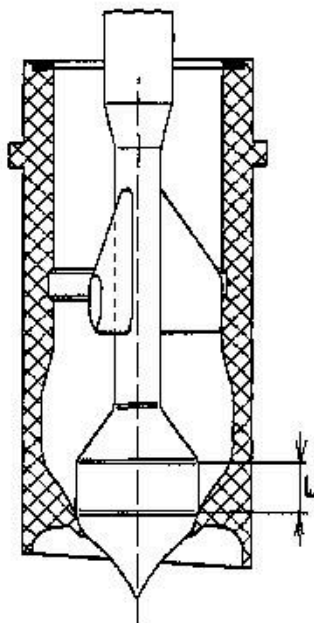
**FIG. 3****FIG. 2b**

**B67C 3/281**

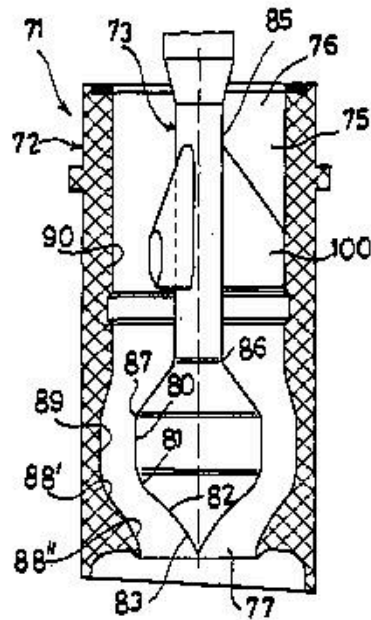
{Profiled valve bodies for smoothing the flow at the outlet of the filling nozzle}

**Definition statement**

*This place covers:*



**FIG. 6.**



**FIG. 5.**

**B67C 3/283**

{using pressure sensing means}

**Definition statement**

*This place covers:*

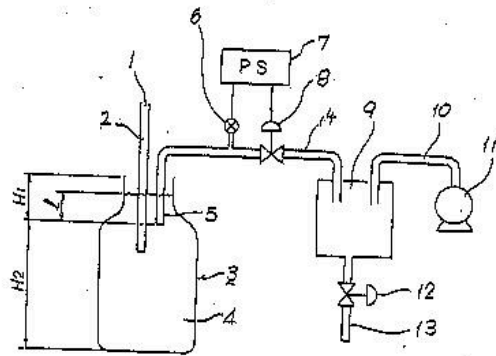


Fig. 1

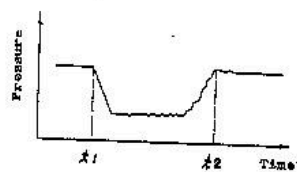


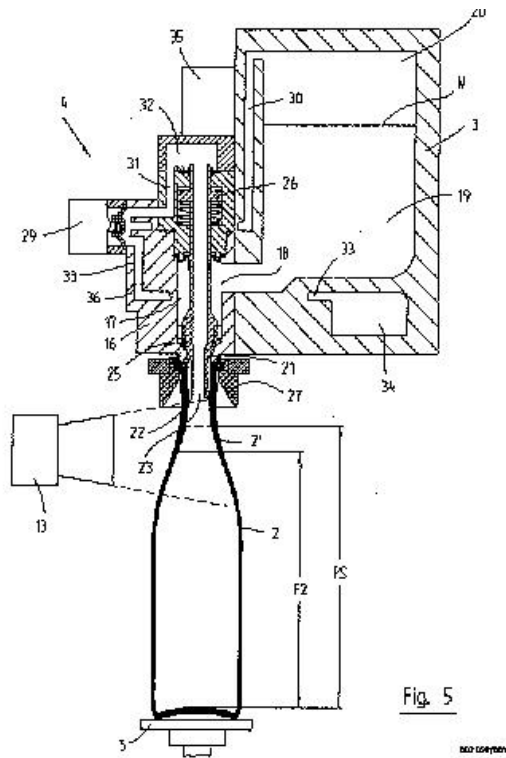
Fig. 2

**B67C 3/284**

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

**Definition statement**

*This place covers:*

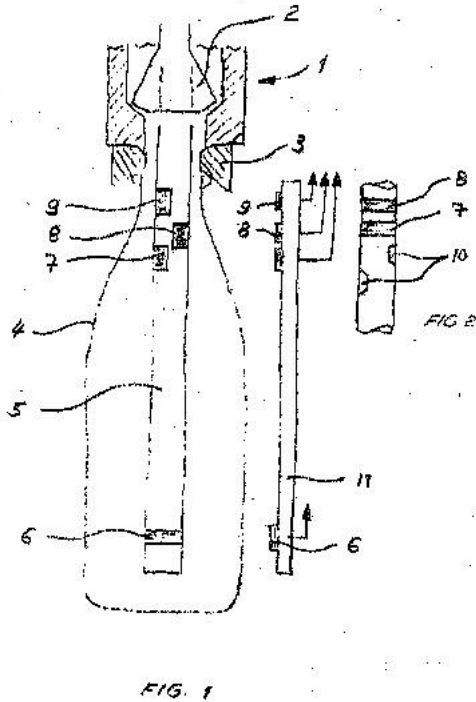


**B67C 3/285**

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

**Definition statement**

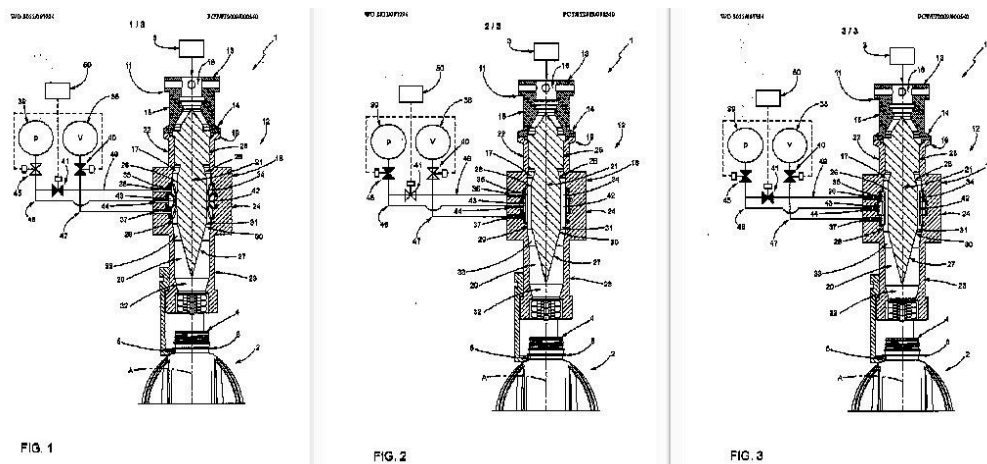
*This place covers:*

**B67C 3/286**

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

**Definition statement**

*This place covers:*

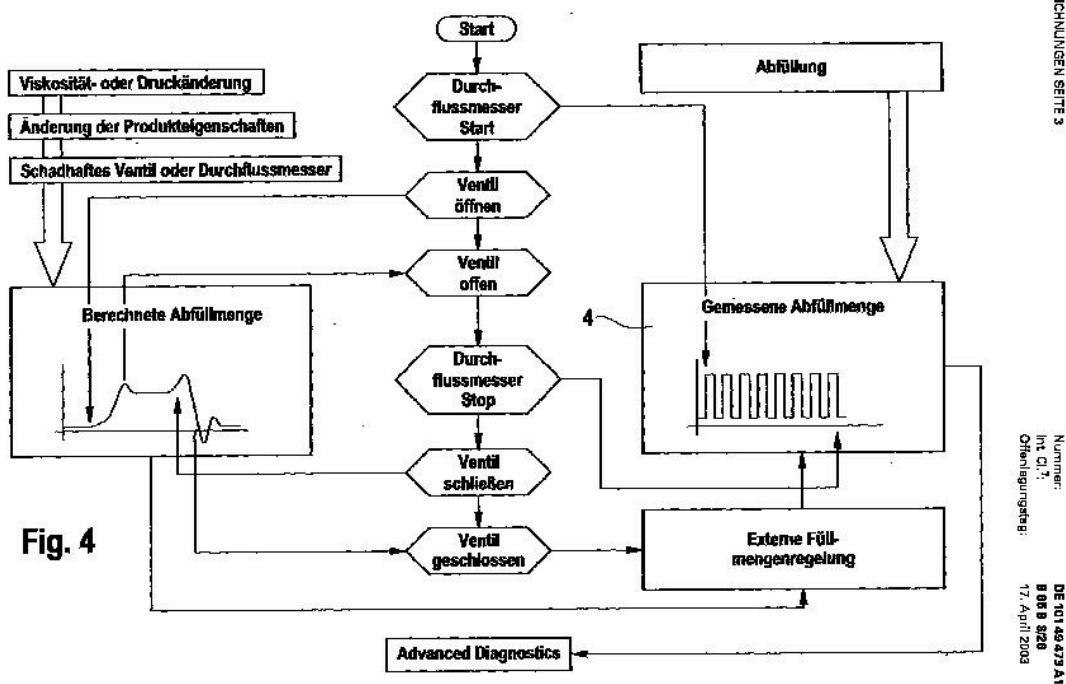


**B67C 3/287**

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

## Definition statement

*This place covers:*



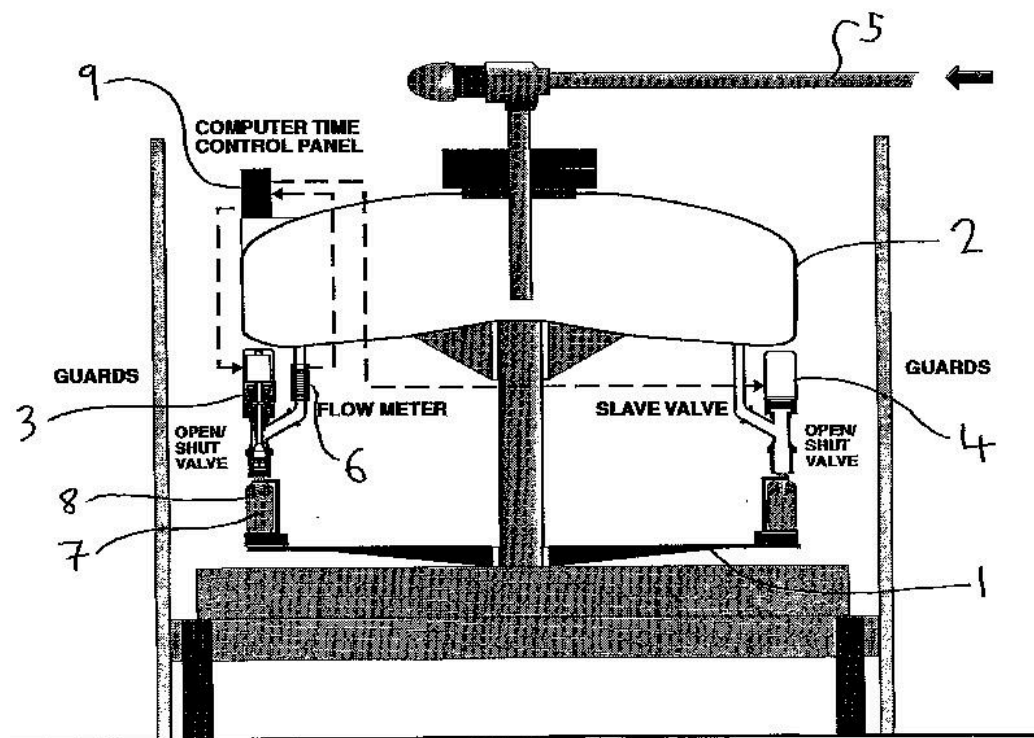


**B67C 3/288**

{using master-slave controls}

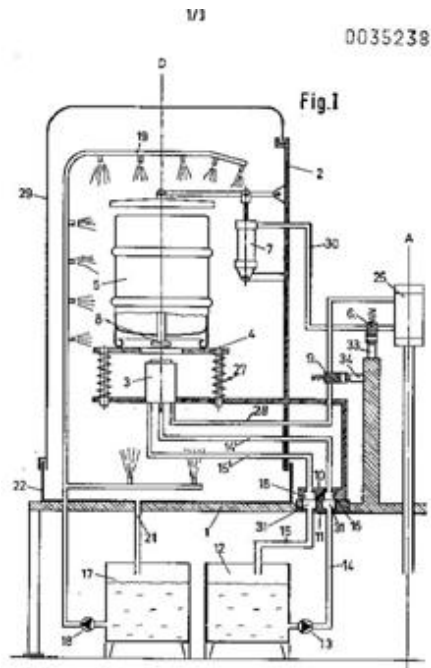
**Definition statement**

*This place covers:*



**B67C 3/30****Filling of barrels or casks****Definition statement**

*This place covers:*



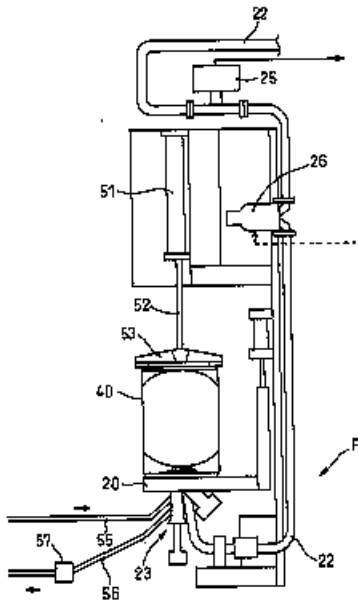


**B67C 3/32**

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

**Definition statement**

*This place covers:*

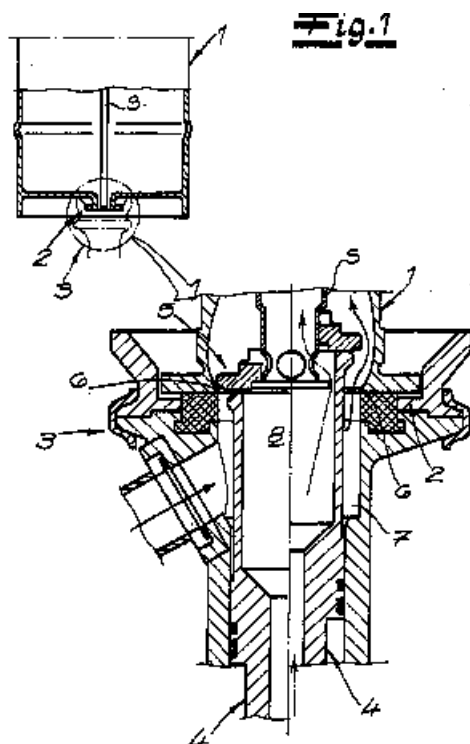


## B67C 3/34

### 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  | <a href="#">A23B 2/00</a> |
| Details about sterilising processes or apparatuses as such, only in combination with some form of subsequent process in/of a bottling line | <a href="#">A61L 2/00</a> |
| Disinfecting or sterilising as such of objects   | <a href="#">A61L 2/00</a> |
| Mixing of liquids  | <a href="#">B01F</a>      |

|   |                            |
|---|----------------------------|
| Forming and filling of bottles in a mould | <a href="#">B65B 3/022</a> |
|---|----------------------------|

### **Informative references**

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

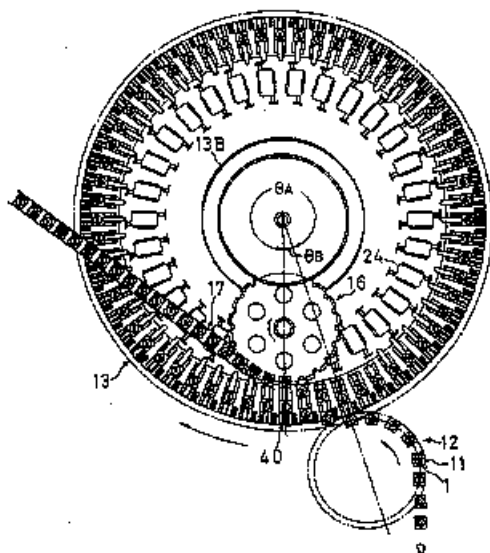
|  |  |
|--|--|
| Pasteurising or sterilising of liquids                               | <a href="#">A23B 2/00</a>  |
| Sterilising or disinfecting of objects                               | <a href="#">A61L 2/00</a>  |
| Cleaning in general  | <a href="#">B08B</a>   |
| Cleaning of containers   | <a href="#">B08B 9/20</a>  |
| Details related to subsequent processes of blow moulding and filling | <a href="#">B29C 49/00</a>   |
| Preservation of foods in combination with packaging                  | <a href="#">B65B 55/00</a>   |
| Packaging in aseptic tunnels   | <a href="#">B65B 55/025</a>  |
| Packaging in aseptic chambers  | <a href="#">B65B 55/027</a>  |
| Conveying of containers in general                                   | <a href="#">B65G</a>   |
| Grippers   | <a href="#">B65G 47/847</a> ,<br><a href="#">B65G 47/90</a> , <a href="#">B08B 9/426</a> ,<br><a href="#">B29C 49/4205</a> |

## **B67C 7/0006**

**{Conveying; Synchronising}**

### **Definition statement**

*This place covers:*



**B67C 7/0013**

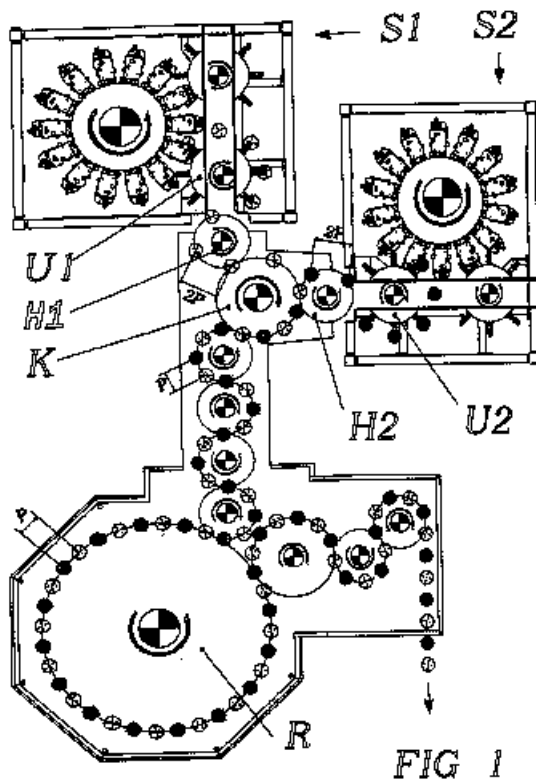
{Synchronising}

**Definition statement***This place covers:*

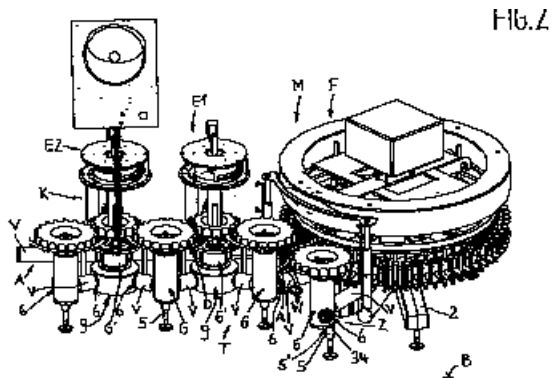
WO 2006/097796

1/3

PCT/IB2006/000115

**B67C 7/002**

{General lay-out of bottle-handling machines}

**Definition statement***This place covers:*

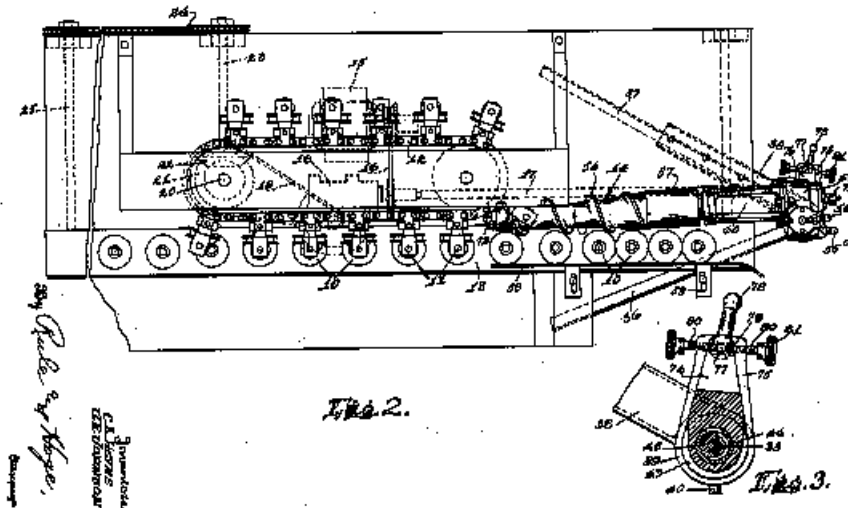
DE 20 2003 002 870 U1 2004.12.10

**B67C 7/0026**

{the containers travelling along a linear path}

**Definition statement**

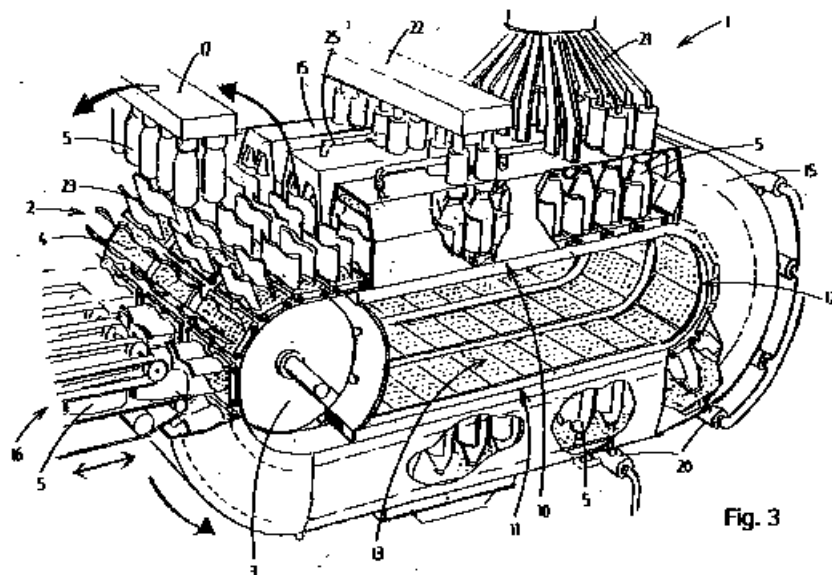
*This place covers:*

**B67C 7/0033**

{the operation being performed batch-wise}

**Definition statement**

*This place covers:*



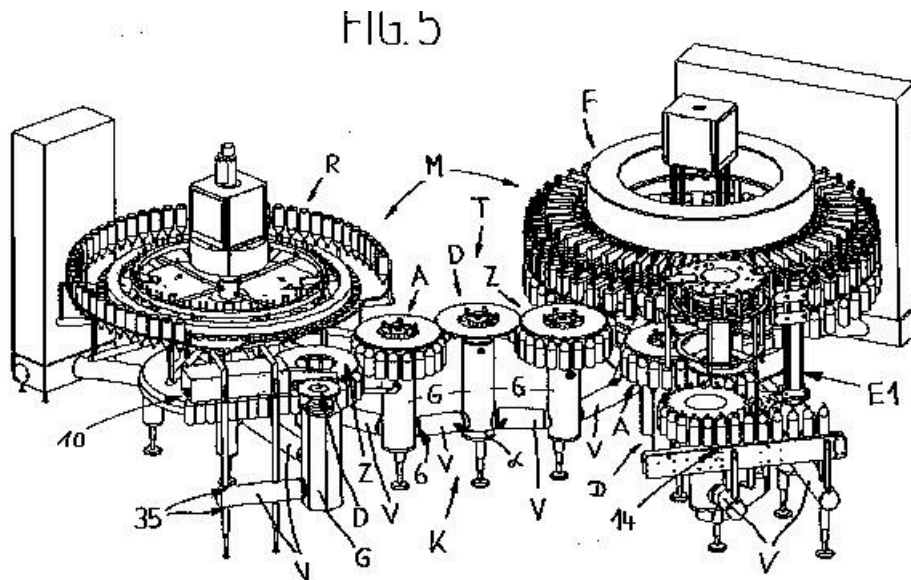


**B67C 7/004**

{the containers travelling along a circular path}

**Definition statement**

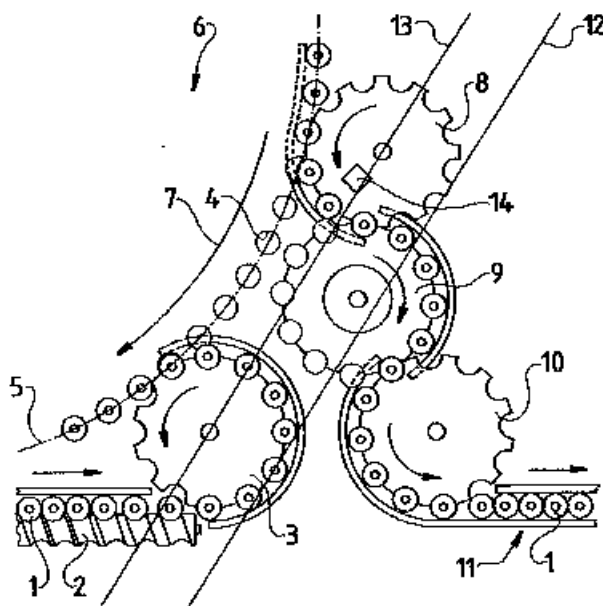
*This place covers:*

**B67C 7/0046**

{Infeed and outfeed devices}

**Definition statement**

*This place covers:*



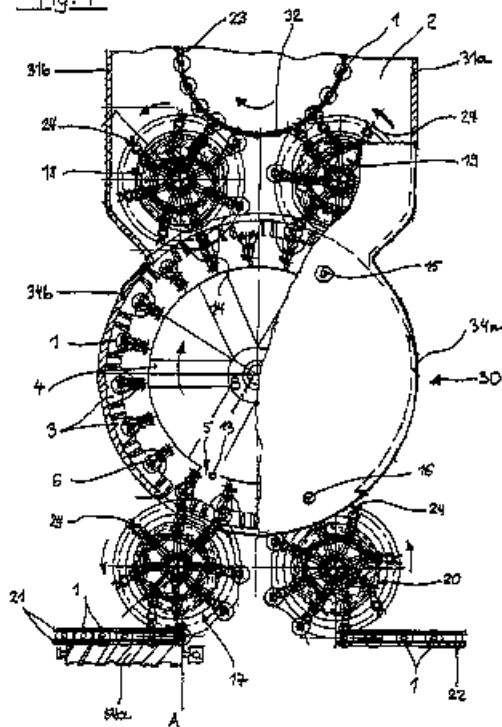
**B67C 7/0053**

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

**Definition statement**

*This place covers:*

Fig. 1

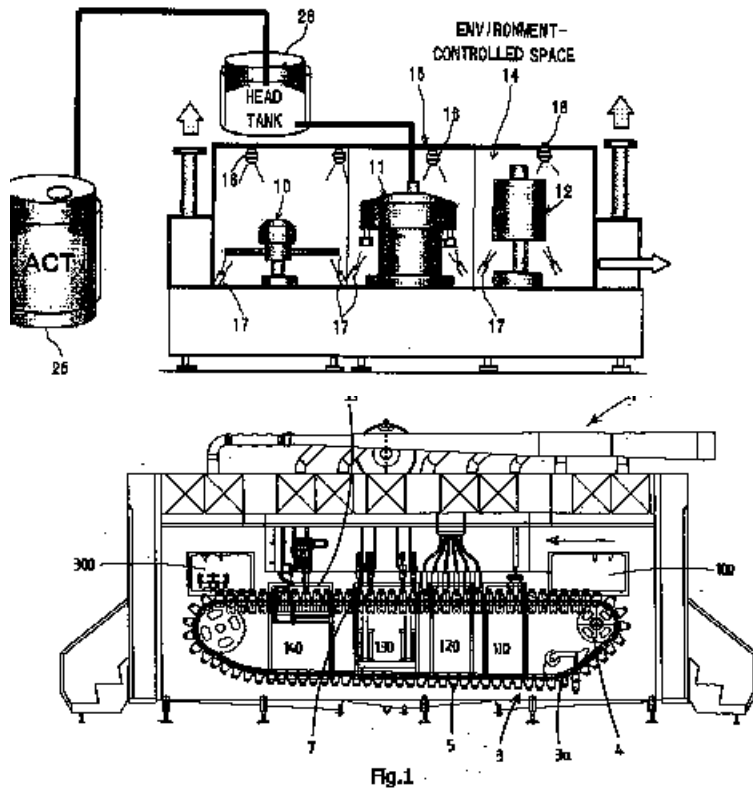


**B67C 7/0073**

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

**Definition statement**

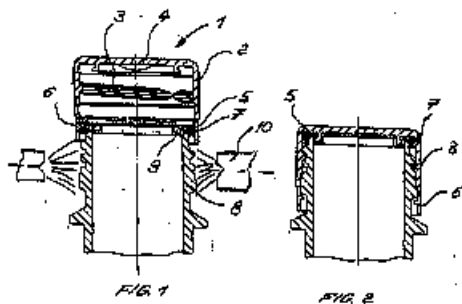
*This place covers:*

**B67C 7/008**

{comprising a cleaning step between two closing steps}

**Definition statement**

*This place covers:*

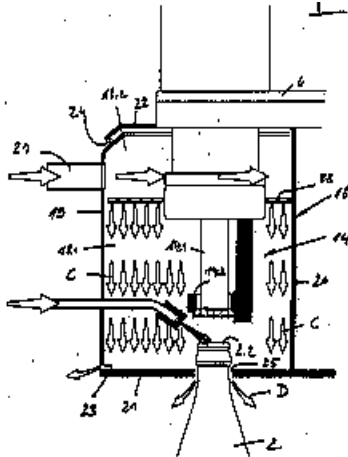


**B67C 7/0086**

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

**Definition statement**

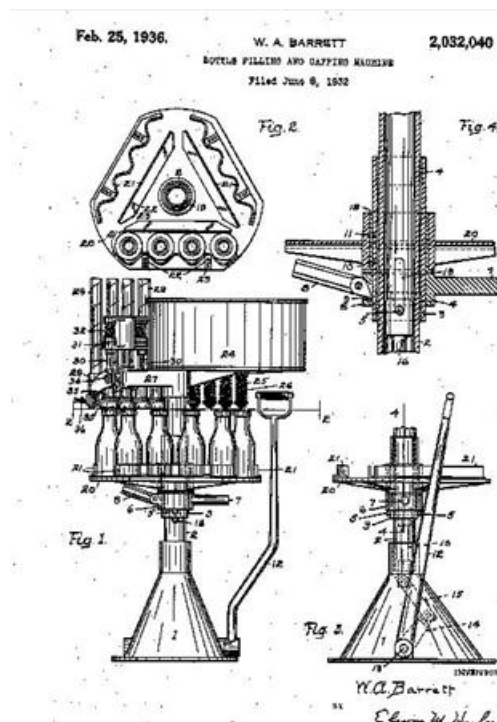
*This place covers:*

**B67C 7/0093**

{Lever action devices operated by hand or foot}

**Definition statement**

*This place covers:*



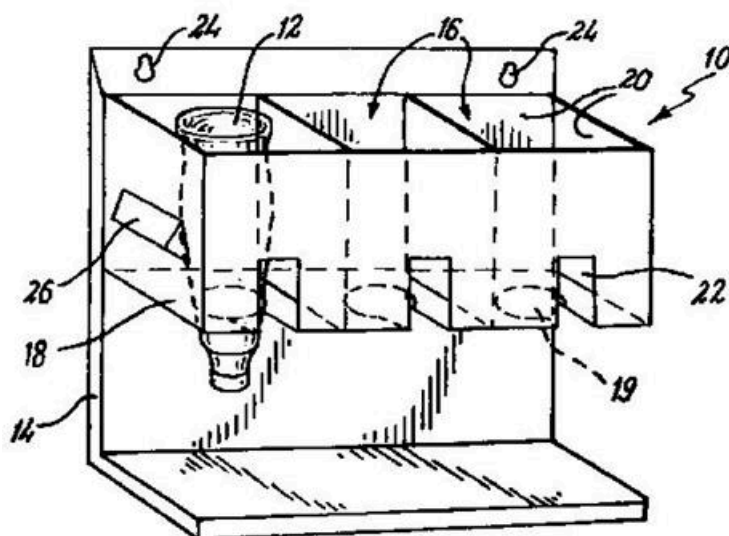
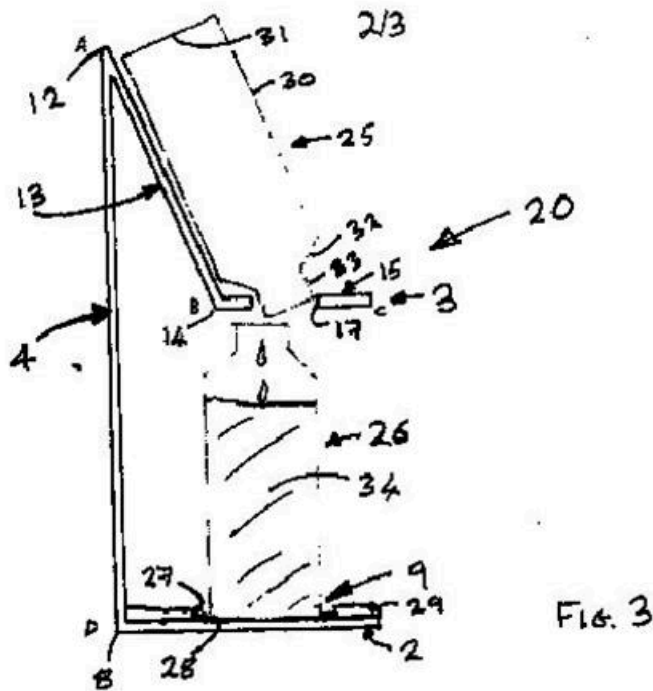
**B67C 9/00**

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:



**FIEL**

**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:*

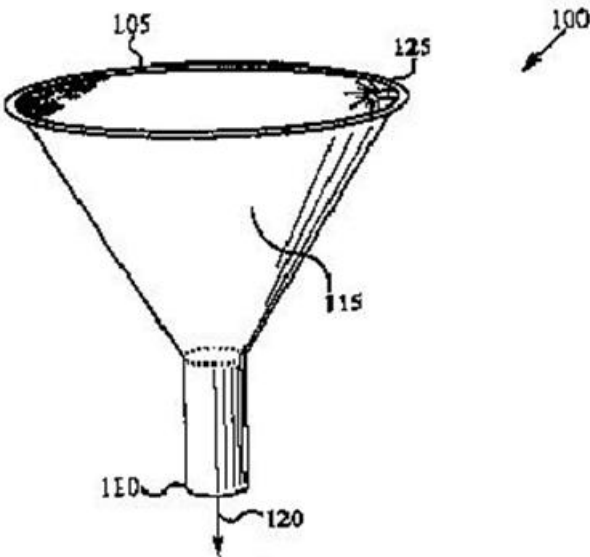
|   |                             |
|---|-----------------------------|
| Devices for aerating of wine  | <a href="#">B01F</a>        |
| Funnels for introducing articles or materials in containers or wrappers | <a href="#">B65B 39/00</a>  |
| Filling or draining lubricant of or from machines or engines            | <a href="#">F01M 11/04</a>  |
| Measuring spoons or scoops  | <a href="#">G01F 19/002</a> |

**B67C 11/02**

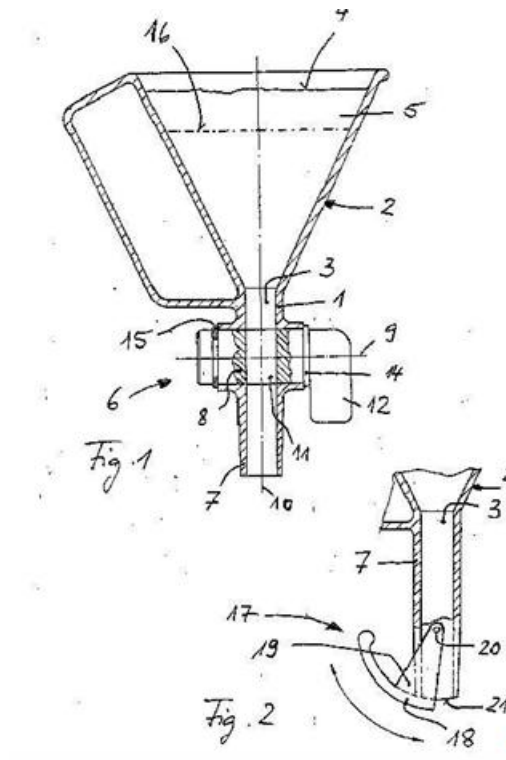
**without discharge valves**

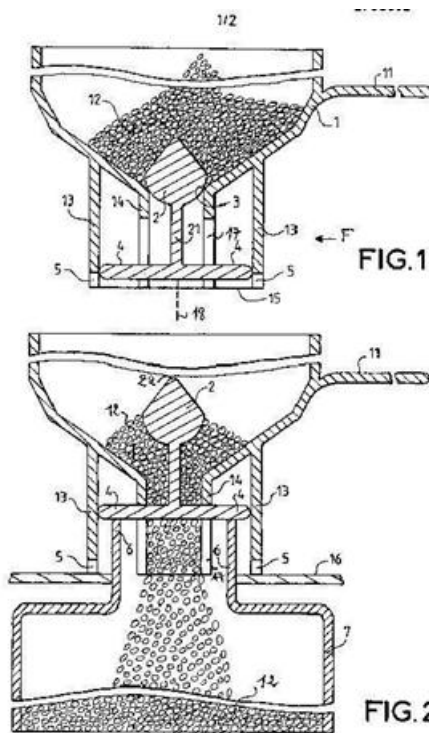
**Definition statement**

*This place covers:*

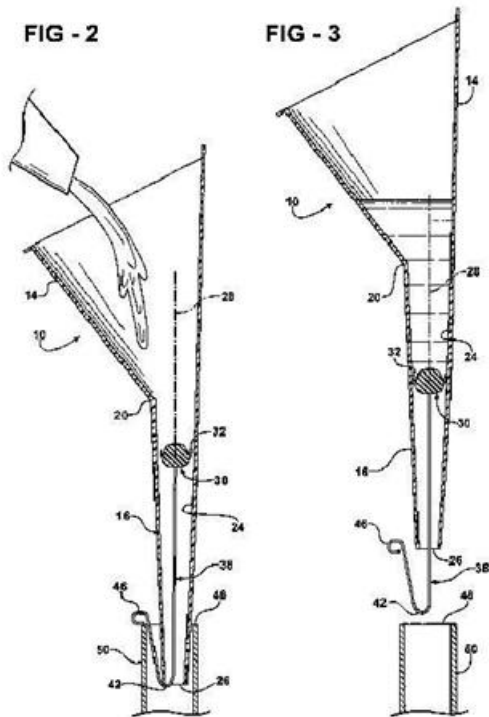


**Fig. 1B**

**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:*

