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## EUROPEAN PATENT APPLICATION

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54 **Aseptic filling machine.**

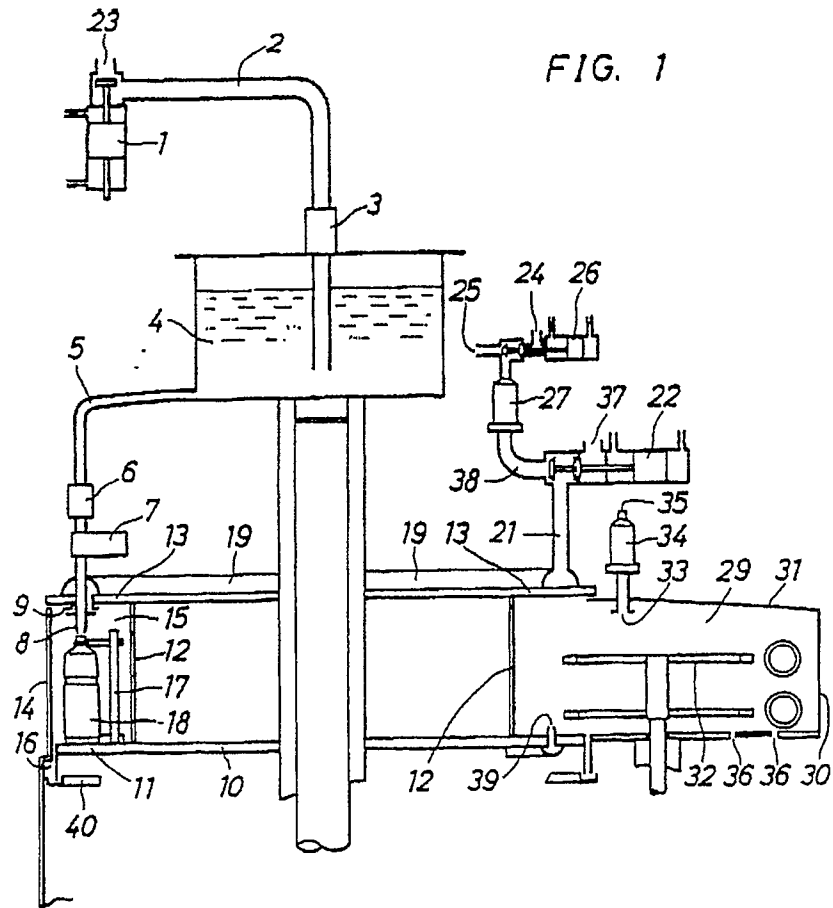
57 Disclosed is an aseptic filling machine comprising a filling zone (15) defined by walls, a vessel-supporting mechanism arranged in the filling zone (15), a content-filling nozzle (8, 8a) arranged in the filling zone, a pipe passage (5, 5a) for supplying the content to the filling nozzle, an air blow-out opening (9, 9a) for producing a positive pressure locally in the filling zone, a fluid passage-forming connecting member (20, 20a) for detachably connecting the filling nozzle (8, 8a) and the air blow-out opening (9, 9a), and a changeover mechanism (22, 22a) for connecting the air blow-out opening (9, 9a) alternatively to an aseptic air supply source and a tank for recovering a cleaning liquid or a sterilizing fluid, wherein the air blow-out opening (9, 9a) forms a part

of a pipe passage for recovering the cleaning liquid or sterilizing fluid.

In this filling machine, the filling zone (15) is defined and localized by walls (11, 12, 13, 14), and a positive pressure can be produced and maintained very easily in the filling zone (15). Furthermore, since the aseptic air supply pipe passage is utilized as a part of the cleaning liquid or sterilizing fluid recovery pipe passage, the aseptic air supply pipe passage and the content filling pipe passage or content feed passage can be simultaneously cleaned or sterilized by one mechanism and an excellent contamination-preventing effect can be attained by a simple structure and mechanism.

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FIG. 1





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# EUROPEAN SEARCH REPORT

Application Number

EP 90 11 2041

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                     |                                                                                                  |                                                                                                                                                                                                                                                                                       |                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Category                                                                                                                                                                                                                | Citation of document with indication, where appropriate, of relevant passages                    | Relevant to claim                                                                                                                                                                                                                                                                     | CLASSIFICATION OF THE APPLICATION (Int. Cl.5) |
| Y                                                                                                                                                                                                                       | EP-A-0 162 968 (SHIKOKU KAKOOKI)<br>* Page 5; figures 1,3,5 *                                    | 1,2                                                                                                                                                                                                                                                                                   | B 67 C 3/00<br>B 65 B 55/02                   |
| A                                                                                                                                                                                                                       | ---                                                                                              | 9,12                                                                                                                                                                                                                                                                                  |                                               |
| Y                                                                                                                                                                                                                       | EP-A-0 257 668 (TETRA DEV-CO)<br>* Column 7, lines 45-58; figures 1,2 *                          | 1,2                                                                                                                                                                                                                                                                                   |                                               |
| A                                                                                                                                                                                                                       | ---                                                                                              | 9,12                                                                                                                                                                                                                                                                                  |                                               |
| A                                                                                                                                                                                                                       | US-A-3 977 445 (WHITE)<br>* Abstract; figure *                                                   | 3                                                                                                                                                                                                                                                                                     |                                               |
| A                                                                                                                                                                                                                       | ---                                                                                              |                                                                                                                                                                                                                                                                                       |                                               |
| A                                                                                                                                                                                                                       | US-A-4 353 398 (WEILER et al.)<br>* Column 4, lines 22-34; column 12, lines 58-68; figures 1,5 * | 1-4                                                                                                                                                                                                                                                                                   |                                               |
| A                                                                                                                                                                                                                       | ---                                                                                              |                                                                                                                                                                                                                                                                                       |                                               |
| A                                                                                                                                                                                                                       | EP-A-0 180 540 (INGKO GmbH)<br>* Page 2, lines 9-24; page 14, line 16<br>- page 15, line 16 *    | 1,9,12                                                                                                                                                                                                                                                                                |                                               |
| A                                                                                                                                                                                                                       | ---                                                                                              |                                                                                                                                                                                                                                                                                       |                                               |
| A                                                                                                                                                                                                                       | FR-A-2 166 720 (MECAPLAST)<br>* Page 2, lines 28-35; claim 1; figure 1 *                         | 9                                                                                                                                                                                                                                                                                     |                                               |
|                                                                                                                                                                                                                         | -----                                                                                            |                                                                                                                                                                                                                                                                                       |                                               |
| The present search report has been drawn up for all claims                                                                                                                                                              |                                                                                                  |                                                                                                                                                                                                                                                                                       | TECHNICAL FIELDS SEARCHED (Int. Cl.5)         |
|                                                                                                                                                                                                                         |                                                                                                  |                                                                                                                                                                                                                                                                                       | B 67 C<br>B 65 B                              |
| Place of search<br>THE HAGUE                                                                                                                                                                                            |                                                                                                  | Date of completion of the search<br>05-09-1990                                                                                                                                                                                                                                        | Examiner<br>SCHELLE, J.                       |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                             |                                                                                                  |                                                                                                                                                                                                                                                                                       |                                               |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                  | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>-----<br>& : member of the same patent family, corresponding document |                                               |



## CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid,  
namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

## x LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions,  
namely:

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- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,  
namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims,

namely claims: 1-8, 9-11, 12-13



#### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-8,9-11,12-13: Aseptic filling machines provided with an air blow-out opening forming part of a pipe passage for recovering a cleaning liquid or sterilizing fluid.
2. Claims 14-17: A rotary aseptic filling machine characterized by the construction of the walls defining the filling zone and by the arrangement of the air blow-out opening.