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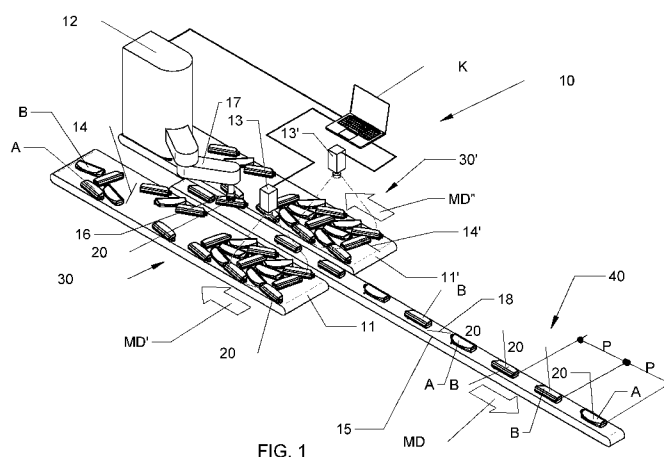


FIG. 1

(57) Abstract: Device configured for realizing a continuous and ordered flow (40) of containers (20), having respective filling openings (22) and a main axis (X-X), comprising - at least one feed transport system (11, 11'), configured for advancing, along a feed direction (MD', MD''), a respective flow (30, 30') of containers (20) with the respective main axes (X-X) randomly oriented, - an output transport system (15), arranged for advancing said continuous and ordered flow (40) of said containers (20) along an output direction (MD) parallel to the feed direction (MD', MD''), - at least one control means (13, 13') capable of detecting the position and orientation of the main axis (X-X) of each container (20) lying on the surface (14) of said at least one feed transport system (11, 11'), at least one gripping means (12, 12') controlled by said at least one control means (13, 13') and capable of picking up (16, 16') said containers (20) from said at least one feed transport system (11, 11') and to release them on said output transport system (15) in said continuous and ordered flow (40) with the respective main axes (X-X) parallel to each other.



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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X Y | JP H10 138181 A (SHIBUYA KOGYO CO LTD) 26 May 1998 (1998-05-26) figures 1,2,3,7 | 1,4,5, 8-15 2,3 |
| X | JP H06 305551 A (SHIBUYA KOGYO CO LTD) 1 November 1994 (1994-11-01) camera 7, control unit 8; figures 1,2,4,5,7 | 1,5-15 |
| Y | EP 2 174 551 A1 (CABINPLANT AS [DK]) 14 April 2010 (2010-04-14) figures 2A,2B,3 | 2,3 |
| A | US 4 530 430 A (PETERLINI FRANCO [IT]) 23 July 1985 (1985-07-23) column 1, lines 9-13; figure 1 | 5,11,12 |

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Information on patent family members

| |
|---|
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|---|

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|-----------------------------|
| JP H10138181 | A | 26-05-1998 | NONE |
| | | | |
| JP H06305551 | A | 01-11-1994 | JP 3314890 B2 19-08-2002 |
| | | | JP H06305551 A 01-11-1994 |
| | | | |
| EP 2174551 | A1 | 14-04-2010 | CA 2739996 A1 15-04-2010 |
| | | | EP 2174551 A1 14-04-2010 |
| | | | EP 2348870 A1 03-08-2011 |
| | | | MA 32772 B1 01-11-2011 |
| | | | US 2011207388 A1 25-08-2011 |
| | | | WO 2010040802 A1 15-04-2010 |
| | | | |
| US 4530430 | A | 23-07-1985 | DE 3223472 A1 10-02-1983 |
| | | | FR 2510083 A1 28-01-1983 |
| | | | IT 1138105 B 17-09-1986 |
| | | | US 4530430 A 23-07-1985 |
| | | | |