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(54) WRAPPING MACHINE AND ASSOCIATED PNEUMATIC SYSTEM

(57) A wrapping machine for wrapping trayed food products includes a plurality of pneumatic components that are actuatable by delivery of pressurized air to the pneumatic components. A pneumatic arrangement produces pressurized air for actuating the pneumatic components. The pneumatic arrangement is configured to reduce moisture in the pressurized air.

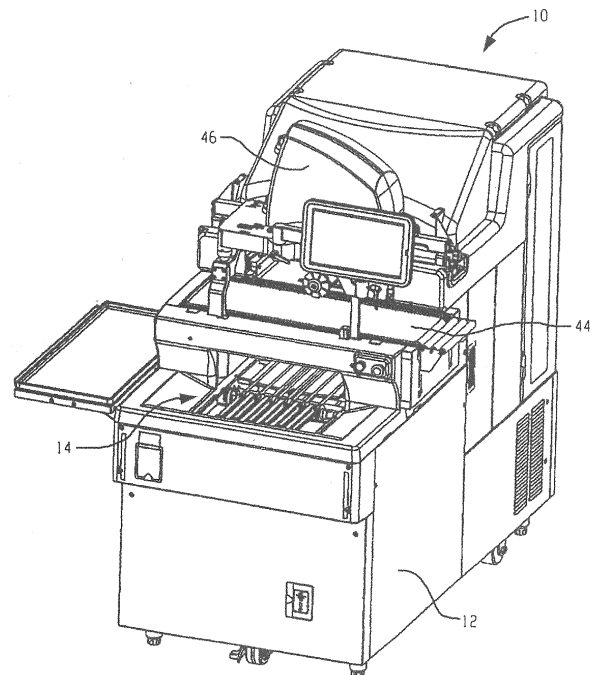


Fig. 1

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	JP 2013 133162 A (TERAOKA SEIKO KK) 8 July 2013 (2013-07-08) * figures 1-3 * * figures 9-10 * * abstract *	1-5	INV. B65B11/48 B65B25/06 B65B35/00 B65B65/00 B65B65/02
Y	JP 2012 237299 A (FUKUHARA CO LTD) 6 December 2012 (2012-12-06) * abstract * * figures 1-6 * * paragraph [0059] *	1-5	B65B11/00 F04B39/16 F04B41/02
Y	JP 3 223406 B2 (TOKICO LTD) 29 October 2001 (2001-10-29) * abstract * * figures 1-2 *	1,2,4	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65B F04B
-The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 11 January 2018	Examiner Damiani, Alberto
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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LACK OF UNITY OF INVENTION

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

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see sheet B

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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.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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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:

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None 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 invention first mentioned in the claims, namely claims:

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The present supplementary 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 (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

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

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1. claims: 1-5

Machine with first and second auto drain traps.

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2. claims: 6-9, 12

Machine wherein the drain outlet of the first receiver tank and the drain outlet of the second receiver tank feed to a common and controllable drain valve.

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3. claims: 10, 11

Machine with at least one heat transfer arrangement.

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4. claim: 13

Machine with a compressor and receiver tank of a specific capacity.

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5. claims: 14, 15

Machine with a pressurized air wand.

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-01-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2013133162 A	08-07-2013	NONE	
JP 2012237299 A	06-12-2012	JP 5544546 B2 JP 2012237299 A	09-07-2014 06-12-2012
JP 3223406 B2	29-10-2001	JP 3223406 B2 JP H07174073 A	29-10-2001 11-07-1995

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82