



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
07.06.2023 Bulletin 2023/23

(43) Date of publication A2:
15.03.2023 Bulletin 2023/11

(21) Application number: **22194840.9**

(22) Date of filing: **09.09.2022**

(51) International Patent Classification (IPC):

B31B 50/44 ^(2017.01) **B31B 50/26** ^(2017.01)
B31B 50/50 ^(2017.01) **B65D 5/20** ^(2006.01)
B65D 5/22 ^(2006.01) **B65D 5/24** ^(2006.01)
B65D 5/30 ^(2006.01) **B65D 5/56** ^(2006.01)
B65D 81/38 ^(2006.01) **B31B 100/00** ^(2017.01)
B31B 110/35 ^(2017.01) **B31B 120/40** ^(2017.01)

(52) Cooperative Patent Classification (CPC):

B31B 50/262; B31B 50/44; B31B 50/50;
B65D 5/22; B65D 5/24; B65D 5/248; B65D 5/566;
B31B 2100/0024; B31B 2110/35; B31B 2120/40

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **10.09.2021 SE 2151120**

(71) Applicant: **Lundgren Machinery AB**
245 65 Hjärrup (SE)

(72) Inventors:
• **Örnhed, Ola**
216 17 Limhamn (SE)
• **Schneider, Matthis**
223 54 Lund (SE)

(74) Representative: **AWA Sweden AB**
Box 5117
200 71 Malmö (SE)

(54) **METHOD AND APPARATUS FOR MANUFACTURING A DOUBLE-WALLED BOX FROM A DOUBLE-WALLED BLANK**

(57) A method (1000) for manufacturing a double-walled box from a double-walled blank (100), the blank (100) comprising: a first sheet (102) for forming the inside of the box, the first sheet (102) comprising a first set (104) of crease lines extending at an angle in relation to a second set (108) of crease lines for forming a first

pair (112) and a second pair (114) of opposing inner side wall sections (112, 114), an inner bottom wall section (116) and four inner corner sections (118), and an apparatus (200) for manufacturing a double-walled box (200) from a double-walled blank (100).

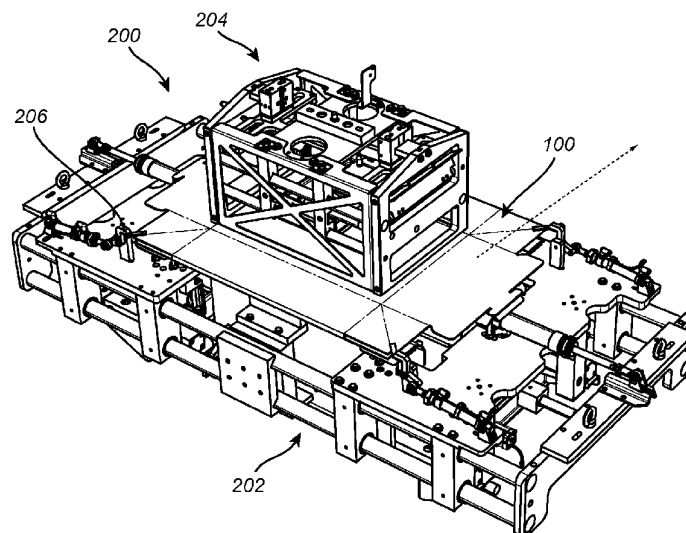


Fig. 4a



EUROPEAN SEARCH REPORT

Application Number

EP 22 19 4840

5

10

15

20

25

30

35

40

45

50

55

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	US 2 997 930 A (PIERCE JR CHESTER J) 29 August 1961 (1961-08-29)	1, 6, 7, 10, 14	INV. B31B50/44
A	* figures 1, 3-12 * * column 1, lines 10-16 * * column 2, lines 3-14, 30-33, 60-70 * * column 3, lines 8-20, 34-52 * * column 3, line 70 - column 4, line 13 * * column 7, line 24 - line 49 * -----	2-5, 8, 9, 11-13	B31B50/26 B31B50/50 B65D5/20 B65D5/22 B65D5/24 B65D5/30 B65D5/56 B65D81/38
Y	DE 362 194 C (HARRY BRIDGMAN SMITH) 25 October 1922 (1922-10-25)	1, 6, 7, 10, 14	ADD.
A	* page 1, lines 1-10 * * page 4, lines 44-73 * * figure 6 * -----	2-5, 8, 9, 11-13	B31B100/00 B31B110/35 B31B120/40
Y	US 2 714 344 A (BAKER THOMAS R) 2 August 1955 (1955-08-02)	1, 6, 7, 10, 14	
A	* column 1, lines 38-63 * * column 3, lines 10-21 * * column 3, line 66 - column 4, line 14 * * column 5, lines 27-39 * * column 6, lines 39-55 * * column 7, lines 45-51 * * figures 1-3, 6-13, 16 * -----	2-5, 8, 9, 11-13	TECHNICAL FIELDS SEARCHED (IPC)
A	EP 3 530 449 B1 (EUROPROGETTI SRL [IT]) 11 November 2020 (2020-11-11) * paragraphs [0002], [0025] - [0028] * * figures 5a-5h * -----	1-14	B31B B65D
A	DE 10 15 670 B (BALJAK CORP) 12 September 1957 (1957-09-12) * paragraphs [0027] - [0030], [0047] - [0051] * * figures 1-3, 8-12 * -----	1-14	
The present search report has been drawn up for all claims			

1

EPO FORM 1503 03.82 (P04C01)

Place of search

Munich

Date of completion of the search

27 April 2023

Examiner

Zeiler, Johannes

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



EUROPEAN SEARCH REPORT

Application Number

EP 22 19 4840

5

10

15

20

25

30

35

40

45

50

55

1

EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	AU 2014 233 552 B2 (OPAL PACKAGING AUSTRALIA PTY LTD [AU]) 21 November 2019 (2019-11-21) * figures 18-20, 27-28 * -----	1-14	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 27 April 2023	Examiner Zeiler, Johannes
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	

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

EP 22 19 4840

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.

27-04-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2997930 A	29-08-1961	GB 923191 A US 2997930 A	10-04-1963 29-08-1961
DE 362194 C	25-10-1922	NONE	
US 2714344 A	02-08-1955	NONE	
EP 3530449 B1	11-11-2020	NONE	
DE 1015670 B	12-09-1957	NONE	
AU 2014233552 B2	21-11-2019	AU 2014233552 A1 AU 2020201198 A1	09-04-2015 05-03-2020