

(19)



(11)

EP 4 443 089 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.04.2025 Bulletin 2025/16

(43) Date of publication A2:
09.10.2024 Bulletin 2024/41

(21) Application number: **24195706.7**

(22) Date of filing: **23.05.2018**

(51) International Patent Classification (IPC):
B26D 7/00 (2006.01) **B26D 7/24** (2006.01)
B26F 1/44 (2006.01) **D21J 3/00** (2006.01)
D21J 7/00 (2006.01) **F26B 3/00** (2006.01)
B26D 7/10 (2006.01) **F26B 3/04** (2006.01)
D21J 3/10 (2006.01)

(52) Cooperative Patent Classification (CPC):
B26F 1/44; B26D 7/10; D21J 3/00; D21J 7/00;
F26B 3/04; B26F 2001/4427

(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

(30) Priority: **26.05.2017 US 201715606992**
26.05.2017 US 201715606988

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
18805767.3 / 3 630 427

(71) Applicant: **Footprint International, LLC**
Gilbert, AZ 85233 (US)

(72) Inventors:

- **CHUNG, Yoke, Dou**
Gilbert, 85233 (US)
- **LEMBECK, Michael, Theodore**
Gilbert, 85233 (US)

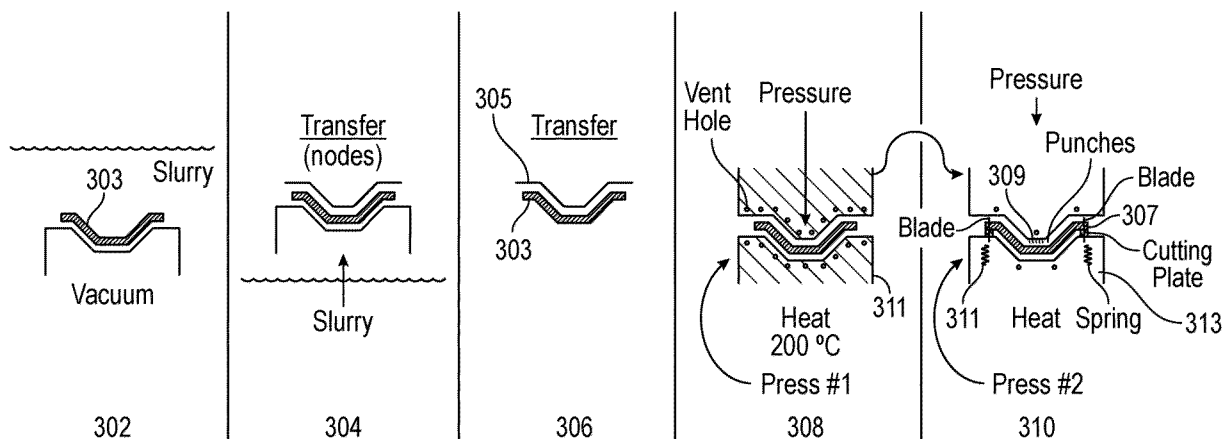
(74) Representative: **Murgitroyd & Company**
165-169 Scotland Street
Glasgow G5 8PL (GB)

(54) **METHODS AND APPARATUS FOR IN-LINE DIE CUTTING OF VACUUM FORMED MOLDED PULP CONTAINERS**

(57) Methods and apparatus for manufacturing a moulded fibre part include: immersing a wire mesh mould in a slurry bath comprising water and fibre particles; drawing a vacuum across the wire mesh mould to cause fibre particles to accumulate at the wire mesh mould

surface yielding a moulded fibre part; transferring the moulded part from the slurry bath to a die press assembly; and drying and die cutting the moulded part in the die press assembly.

300 →

**FIG. 3**



EUROPEAN SEARCH REPORT

Application Number

EP 24 19 5706

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
T	WO 2018/217920 A1 (FOOTPRINT INT INC [US]) 29 November 2018 (2018-11-29) -----		INV. B26D7/00 B26D7/24 B26F1/44 D21J3/00 D21J7/00 F26B3/00 B26D7/10 F26B3/04 D21J3/10
A	US 2003/136537 A1 (FREDERIKSEN JOHN HOFFMANN [US] ET AL) 24 July 2003 (2003-07-24) * paragraph [0013] - paragraph [0034]; figures 1-4b *	1-15	
A,D	EP 1 492 926 B1 (GRENIDEA TECHNOLOGIES PTE LTD [SG]) 11 April 2007 (2007-04-11) * paragraph [0014] - paragraph [0036]; figures 1-7 *	1	
A	US 2015/292154 A1 (ZHENG TIANBO [CN] ET AL) 15 October 2015 (2015-10-15) * paragraph [0080] - paragraph [0137]; figures 1-7-7 *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B26D B26F D21J F26B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		10 March 2025	Maier, Michael
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 24 19 5706

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.

10-03-2025

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2018217920 A1	29-11-2018	AU 2018271916 A1	16-01-2020
		AU 2024203692 A1	20-06-2024
		BR 112019024846 A2	16-06-2020
		CA 3064888 A1	29-11-2018
		CN 110891746 A	17-03-2020
		EP 3630427 A1	08-04-2020
		EP 4443089 A2	09-10-2024
		ES 2993445 T3	30-12-2024
		JP 7493448 B2	31-05-2024
		JP 2020523234 A	06-08-2020
US 2003136537 A1	24-07-2003	PL 3630427 T3	20-01-2025
		WO 2018217920 A1	29-11-2018
		-----	-----
		AT E315994 T1	15-02-2006
		AU 4639701 A	15-10-2001
		DE 60025550 T2	24-08-2006
		EP 1145822 A1	17-10-2001
		JP 2003529466 A	07-10-2003
		US 2003136537 A1	24-07-2003
		WO 0174564 A1	11-10-2001
EP 1492926 B1	11-04-2007	-----	-----
		AT E359397 T1	15-05-2007
		CN 1623022 A	01-06-2005
		DE 60219534 T2	27-12-2007
		EP 1492926 A1	05-01-2005
		US 2005150624 A1	14-07-2005
US 2015292154 A1	15-10-2015	WO 03074789 A1	12-09-2003
		-----	-----
		CN 103015273 A	03-04-2013
		EP 2937462 A1	28-10-2015
		US 2015292154 A1	15-10-2015
		WO 2014094603 A1	26-06-2014
		-----	-----