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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

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(54) **Title:** A FIBER-IMPREGNATING SYSTEM, A PULTRUSION DEVICE AND A METHOD OF PRODUCING COMPOSITE MATERIAL OF PULTRUSION

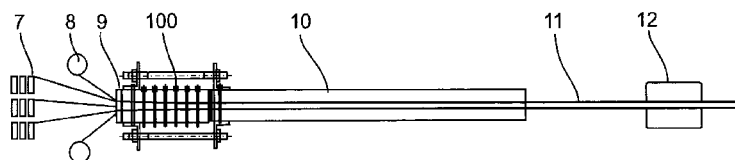


Fig. 8

(57) **Abstract:** The present invention relates to a fiber-impregnating system, comprising an infusion box (100) provided with a mold cavity that has an infusion cavity (102) for fibers to pass, an infusion hole (103) for resin infusion, and a resin passage (107) for communicating with the infusion cavity and the infusion hole, wherein the mold cavity further includes a compression segment (104) upstream of the infusion cavity, the compression segment having an entrance with a depth greater than or equal to a depth of its exit, the depth of the entrance and exit of the compression segment ranging from 0 to 2 mm. Moreover, the present invention also relates to a pultrusion device provided with the said fiber-impregnating system, and a method of producing composite material of pultrusion with the pultrusion device.

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2017/054064

A. CLASSIFICATION OF SUBJECT MATTER

INV. B29B15/12 B29C70/52
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B29B B29C

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 10 2012 007439 A1 (COMPOSITENCE GMBH [DE]) 17 October 2013 (2013-10-17)	1-8, 10-16, 18,20, 24,25, 27,31,32 19,33-41
Y	paragraphs [0039], [0044], [0045] figures 4,5	
X	EP 0 747 204 A2 (KUSIBAB ZBIGNIEW [US]; WERNER ROBERT I [US]; KUFNER JOHN L [US]; NOSIC) 11 December 1996 (1996-12-11)	1-18,21
Y	page 5, line 42 - line 53 page 6, line 23 - line 28 figures 2-5	19,25, 31-41
X	WO 98/58785 A1 (HYDRIL CO [US]) 30 December 1998 (1998-12-30)	1-13
Y	figure 5	25,31,32
	-/-	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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"E" earlier application or patent but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y	figure 3 column 2, line 37 - line 49 -----	41
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X	FR 2 541 629 A1 (SINGER EDOUARD [FR]) 31 August 1984 (1984-08-31) -----	14-18, 21,25, 26, 31-36,40
Y	page 4, line 12 - line 33 figures 1,2 -----	19,25-41
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Y	column 4, line 5 - line 32 figure 2 -----	19,33-41
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Y	CA 2 540 747 A1 (RESIN SYSTEMS INC [CA]) 22 September 2007 (2007-09-22) figure 1 -----	33-36, 40,41
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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/054064

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CAMPBELL F C ED - CAMPBELL FLAKE C: "Manufacturing processes for advanced composites, Pultrusion", 1 January 2004 (2004-01-01), MANUFACTURING PROCESSES FOR ADVANCED COMPOSITES, ELSEVIER ADVANCED TECHNOLOGY, OXFORD, GB, PAGE(S) 432 - 437, XP002640655, ISBN: 978-1-85617-415-2 figure 26 -----	33,37-41
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A	GB 1 120 041 A (METAL CONTAINERS LTD) 17 July 1968 (1968-07-17) page 1, line 50 - line 54 figures 3,4,5 -----	20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2017/054064

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13

Depth of compression segment

2. claims: 14-32

Distribution of resin

3. claims: 33-41

Integration within a pultrusion device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2017/054064

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Information on patent family members

International application No

PCT/EP2017/054064

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