

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 September 2006 (08.09.2006)

PCT

(10) International Publication Number
WO 2006/092666 A3

(51) International Patent Classification:

B29C 41/08 (2006.01) *B29C 41/42* (2006.01)
B29C 41/36 (2006.01) *B29C 33/46* (2006.01)
B29C 41/52 (2006.01)

(21) International Application Number:

PCT/IB2005/004148

(22) International Filing Date:

7 November 2005 (07.11.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/625,480 5 November 2004 (05.11.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

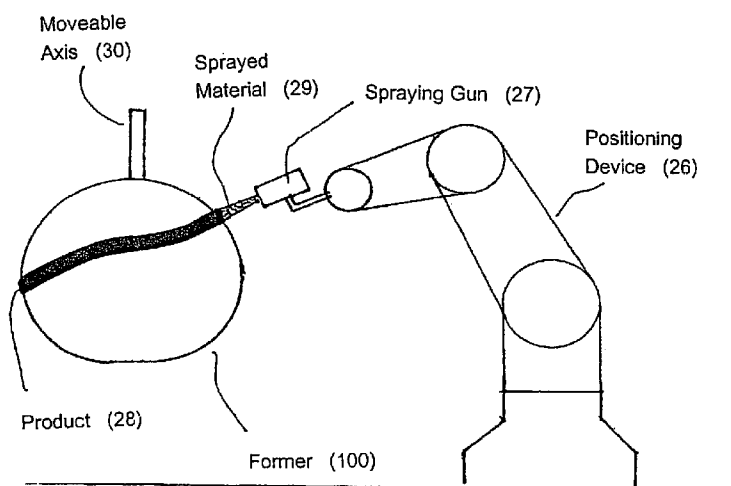
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS TO PRODUCE STRETCHABLE PRODUCTS



(57) Abstract: The invention provides methods and apparatus for producing flexible, stretchable, and/or elastic products comprised principally of material such as natural elastomers and other synthetic polymers. The method and apparatus for producing stretchable products by spraying product material over a workpiece former, and method and apparatus for creating perforated products by spraying product material over a perforated surface or partly breathable surface, The invention also provides methods and apparatus for making double sided fibre coating of the product and, or to at least coating the product surface on the side facing the wall without the need for removing the product from the wall. The method and apparatus also enable easy removal of the product from the former. Workpiece formers are also provided.

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(88) Date of publication of the international search report:

8 March 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2005/004148

A. CLASSIFICATION OF SUBJECT MATTER

INV. B29C41/08 B29C41/36 B29C41/52 B29C41/42 B29C33/46

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)

B29C A41C A41D D21J D04H A41B B05D B05B

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 265 077 A (KEITH DAVID BEBB * JOHNSON) 22 September 1993 (1993-09-22)	1,6-8, 11-13, 15,17, 21,22, 24-26,28
Y	page 4, lines 12-14; figure 2	4,20, 42-44, 65-67, 70,71
Y	page 5, lines 2-20; figure 4 DE 20 41 764 A1 (TRIUMPH-UNIVERSA GMBH; TRIUMPH-UNIVERSA GMBH, BERN, CH) 11 March 1971 (1971-03-11) page 3, lines 1-12; claims 8,9 page 2, line 15 - line 24 ----- -/--	4



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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

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"O" document referring to an oral disclosure, use, exhibition or other means

"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

Date of the actual completion of the international search

24 November 2006

Date of mailing of the international search report

04/12/2006

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INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2005/004148

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 965 901 A (ROBERT EDWARD CHAPMAN; GEOFFREY PARKER WADDINGTON) 6 August 1964 (1964-08-06) page 3, lines 19-70	20
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Y	claims; figures	40, 42-44, 57,61, 63, 65-67, 70-73
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Y	US 3 027 273 A (SACKS HENRY W) 27 March 1962 (1962-03-27) claims 6-12	57
Y	US 5 645 884 A (HARLOW JR ALBERT L [US] ET AL) 8 July 1997 (1997-07-08)	72,73
A	column 2, line 39 - line 57; figures column 13, line 17 - column 14, line 41; claims	76-80,89
X	US 3 032 774 A (WADE WORTH) 8 May 1962 (1962-05-08) column 4, line 58 - column 5, line 7; figures column 3, lines 29-34	1,6,11, 12,15
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Y	page 1, paragraph 6 - page 2, paragraph 30; figures	
Y	GB 2 074 085 A (TELFORD SAFETY GLOVE CO LTD) 28 October 1981 (1981-10-28)	1,6-8, 11-13, 15, 17-19, 21,22, 24,26,28
	page 1, line 54 - line 110	
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INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2005/004148

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 223 101 A (FINE ET AL) 16 September 1980 (1980-09-16) column 1, line 35 - column 2, line 30; figures 1-4 column 5, line 15 - line 53 -----	1,9-11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2005/004148

Box 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 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 fee, this Authority did not invite payment of any additional fee.
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.:
1, partially 4-28, 36-44, 50-93
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.
- ☒ 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, and partially 4-28

method for producing a stretchable workpiece with a fibre-coated surface.

2. claims: 2, partially 4-14,17-19,24-25 and 28, entirely 45 and 46, and partially 47-49

method and apparatus for producing a stretchable workpiece using a former with at least one perforation.

3. claims: 3, partially 4-10,12,15-19,22-25 and 28, and entirely 94-100

method and apparatus for producing a stretchable workpiece using a former, comprising at least one breathable element, and fluid under pressure

4. claims: 29,30-35 and partially 47-49

workpiece former and method of dislodging a workpiece from its surface.

5. claims: 36-44,50-93

apparatus and method for producing a stretchable workpiece using a former, a spraying system and a positioning device.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2005/004148

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