

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 December 2007 (06.12.2007)

PCT

(10) International Publication Number
WO 2007/140275 A3

(51) International Patent Classification:
B21C 47/02 (2006.01) **B65H 81/06** (2006.01)

(21) International Application Number:
PCT/US2007/069687

(22) International Filing Date: 24 May 2007 (24.05.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/420,703 26 May 2006 (26.05.2006) 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, BH, 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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, MT, 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

(88) Date of publication of the international search report:
9 April 2009

(54) Title: APPARATUS, SYSTEM, AND METHOD FOR MAINTAINING PART ORIENTATION DURING MANUFACTURING

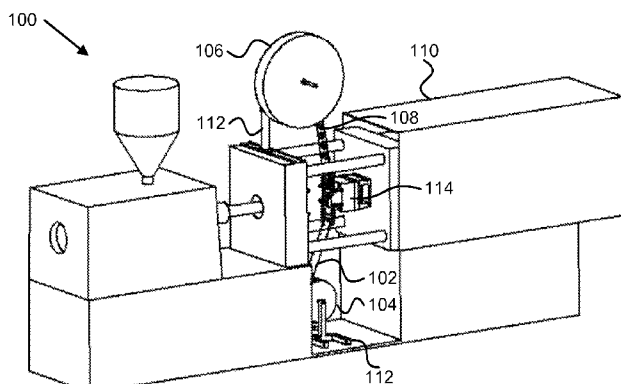


FIG. 1A

(57) Abstract: An apparatus, system, and method are disclosed for maintaining orientation of a manufactured part (108) during a manufacturing process. The apparatus, system, and method include uncoiling a carrier (102) from at least one supply reel (104) and feeding the carrier (102) into a manufacturing machine (110) used by a manufacturing process to form a manufactured part (103). The apparatus, system, and method include forming the manufactured part (108) onto at least one prong (116) protruding from the carrier (102). The at least one prong (116) and the carrier (102) maintain orientation of the manufactured part (108) with respect to the carrier (102).

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/69687

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B21C 47/02; B65H 81/06 (2008.04)

USPC - 242/448

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)

IPC(8): B21C 47/02; B65H 81/06 (2008.04)

USPC: 242/448

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 242/430 and generally all classes as limited by search terms below

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(USPT,PGPB,EPAB,JPAB); Google Scholar

Search Terms Used: web, reel, take-up, supply, reel, spool, wheel, manufacturing, parts, continuous, orientation, alignment, conveyor, carry.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,967,841 A (Bianca et al.) 19 October 1999 (19.10.1999); fig 9, 10, col 9 ln 38-col 10 ln 20	1-20
A	US 2004/0093721 A1 (Watson) 20 May 2004 (20.05.2004); fig 2a; col 3 ln 15-53	1-20
A	US 5,019,209 A (Hiraide et al.) 28 May 1991 (28.05.1991); fig 6; col 6 ln 55-col 7 ln 5	1-20



Further documents are listed in the continuation of Box C.



* Special categories of cited documents:

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

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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

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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

19 September 2008 (19.09.2008)

Date of mailing of the international search report

29 SEP 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
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PCT OSP: 571-272-7774