



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**25.12.2013 Bulletin 2013/52**

(51) Int Cl.:  
**B65H 54/20** (2006.01) **B65H 55/04** (2006.01)  
**B65H 65/00** (2006.01) **B65H 67/08** (2006.01)  
**B65H 49/12** (2006.01)

(43) Date of publication A2:  
**18.12.2013 Bulletin 2013/51**

(21) Application number: **13171015.4**

(22) Date of filing: **07.06.2013**

(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**

(71) Applicant: **TMT Machinery, Inc.**  
**Osaka-shi, Osaka 541-0041 (JP)**

(72) Inventor: **Yamamoto, Masato**  
**Kyoto, 612-8686 (JP)**

(30) Priority: **11.06.2012 JP 2012132156**  
**22.08.2012 JP 2012183227**

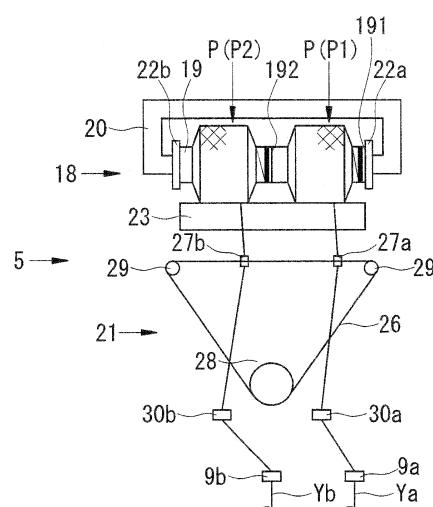
(74) Representative: **HOFFMANN EITLE**  
**Patent- und Rechtsanwälte**  
**Arabellastrasse 4**  
**81925 München (DE)**

(54) **Winding tube, packages wound on a tube and method for producing packages**

(57) [Problem to be Solved] An object is to provide a winding tube in which a yarn which is to be a tail yarn can be secured beforehand at winding start of a package when a plurality of packages are formed on the one winding tube by a winding device 18 of a false twisting machine.

[Solution] A winding tube 19 is held by one cradle 20 provided in a yarn winding device 18 of a false twisting machine 1000. Onto the winding tube 19, a plurality of supplied yarns Ya and Yb are wound so as to form a plurality of packages P. In the winding tube 19, at a position between a pair of adjacent packages P1 and P2 among the plurality of the packages P, a second capture part 192 is provided which captures a yarn winding start end YbS of at least one of the pair of the packages P1 and P2.

Fig. 3





## EUROPEAN SEARCH REPORT

Application Number  
EP 13 17 1015

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP H04 72274 A (KOUTSU SEISAKUSHIYO KK) 6 March 1992 (1992-03-06) * abstract; figures *	1-8	INV. B65H54/20 B65H55/04 B65H65/00 B65H67/08 B65H49/12
X	JP S61 83665 U (-) 2 June 1986 (1986-06-02) * figures *	1-4	
Y	JP S56 136760 A (HANDA KENJIROU) 26 October 1981 (1981-10-26) * abstract; figures *	1-4	
Y	JP S56 136760 A (HANDA KENJIROU) 26 October 1981 (1981-10-26) * abstract; figures *	5-8	
X	US 1 915 200 A (PARKS EDWARD F) 20 June 1933 (1933-06-20) * page 3, line 115 - page 4, line 2; figures *	1-8	
X	JP S48 34255 Y1 (-) 17 October 1973 (1973-10-17) * figures *	1-4	
X	JP S50 76158 U (-) 2 July 1975 (1975-07-02) * figures *	1-4	TECHNICAL FIELDS SEARCHED (IPC)
Y	DE 10 2008 038343 A1 (TMT MACHINERY INC [JP]) 5 March 2009 (2009-03-05) * paragraphs [0039], [0045] *	1-8	B65H
A,D	JP H10 212069 A (MURAKAMI KIKAI KK) 11 August 1998 (1998-08-11) * abstract; figures *	1,5,7,8	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 18 November 2013	Examiner Lemmen, René
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			

 1  
EPO FORM 1503 03.82 (P04C01)

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

EP 13 17 1015

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.

18-11-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP H0472274 A	06-03-1992	JP 2893470 B2 JP H0472274 A	24-05-1999 06-03-1992
JP S6183665 U	02-06-1986	NONE	
JP S56136760 A	26-10-1981	NONE	
US 1915200 A	20-06-1933	NONE	
JP S4834255 Y1	17-10-1973	NONE	
JP S5076158 U	02-07-1975	JP S5076158 U JP S5419405 Y2	02-07-1975 18-07-1979
DE 102008038343 A1	05-03-2009	NONE	
JP H10212069 A	11-08-1998	NONE	