(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 256 540 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.07.2003 Bulletin 2003/29

(43) Date of publication A2:
13.11.2002 Bulletin 2002/46

(21) Application number: **02007669.1**

(22) Date of filing: **04.04.2002**

(51) Int Cl.[7]: **B65H 54/42**, B65H 54/38, B65H 54/52, B65H 54/36

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **11.05.2001 JP 2001140924**
06.02.2002 JP 2002029438

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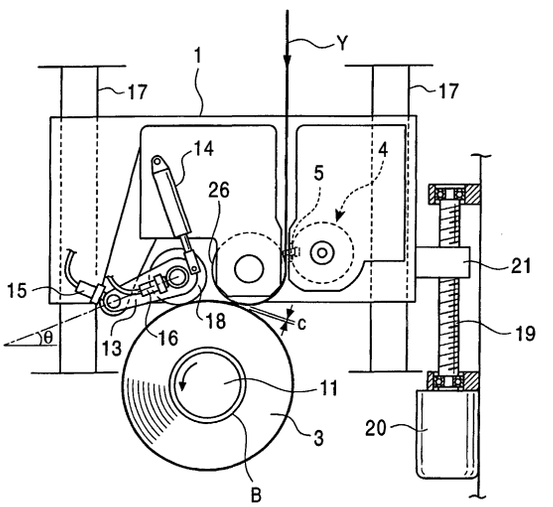
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(54) Yarn winding machine and yarn winding method

(57) Conventionally, in a yarn winding machine having a yarn feed roller wherein a contact roller is capable of being displaced relative to a roller supporting member, no consideration was made to the space between the yarn feed roller an the package formed leading to the problem that the winding form of the package was unsatisfactory.

The yarn winding machine comprises a contact roller (18) which rotates by contacting to the peripheral surface of the package (3), a yarn feed roller (26) which is provided to the upstream side of the contact roller (18) with a space (c) from the peripheral surface of the package (3), and rotates while contacting the yarn (Y) to the peripheral surface to supply the yarn (Y) to the package (3), a roller supporting member (1) for supporting the contact roller (18) and the yarn feed roller (26), and a roller supporting member position adjusting means for adjusting the position of the roller supporting member (1) in the direction the space (c) changes. In the yarn winding machine, contact roller (18) is supported capable of being displaced relative to the roller supporting member (1) in the direction the space (c) changes. The contact roller (18) is supported capable of being displaced relative to the roller supporting member (1), and a control means (30) is provided for controlling the roller supporting member position adjusting means so that the space (c) is to be constant irrespective of the package diameter (Fig. 2).

FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 02 00 7669

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 4 169 565 A (P. BLOK ET AL.) 2 October 1979 (1979-10-02)	1	B65H54/42 B65H54/38
X	* column 8, line 24 - column 9, line 10 * * column 10, line 49 - line 58 *	5,8	B65H54/52 B65H54/36
X	EP 0 927 694 A (MURATA KIKAI K.K.) 7 July 1999 (1999-07-07) * paragraph [0007]; claim 5 * * paragraphs [0026]-[0031] *	1-8	
D,A	US 4 106 710 A (H. SCHIPPERS ET AL.) 15 August 1978 (1978-08-15) * claim 1; figures *	1	
A	US 5 558 286 A (T. SUGIOKA ET AL.) 24 September 1996 (1996-09-24)		

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B65H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	27 May 2003	D'Hulster, E

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

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27-05-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4169565 A	02-10-1979	NL 7708149 A	24-01-1979
		DE 2860064 D1	13-11-1980
		DE 2861864 D1	15-07-1982
		EP 0000569 A1	07-02-1979
		EP 0000721 A1	21-02-1979
		IT 1106129 B	11-11-1985
		JP 1350179 C	28-11-1986
		JP 54038942 A	24-03-1979
		JP 61015020 B	22-04-1986
EP 927694 A	07-07-1999	JP 3225910 B2	05-11-2001
		JP 11193179 A	21-07-1999
		EP 0927694 A2	07-07-1999
		TW 455634 B	21-09-2001
US 4106710 A	15-08-1978	DE 2532165 A1	20-01-1977
		DE 2532169 B1	18-11-1976
		DE 2544773 A1	21-04-1977
		DE 7518741 U1	25-03-1976
		DE 7518742 U1	25-03-1976
		BR 7603789 A	08-02-1977
		CH 618401 A5	31-07-1980
		GB 1533446 A	22-11-1978
		IT 1061993 B	30-04-1983
		JP 1295598 C	26-12-1985
		JP 52037846 A	24-03-1977
		JP 60020308 B	21-05-1985
		FR 2355759 A1	20-01-1978
US 5558286 A	24-09-1996	CN 1091164 A ,B	24-08-1994
		DE 69402333 D1	07-05-1997
		DE 69402333 T2	17-07-1997
		EP 0606900 A2	20-07-1994
		JP 3224928 B2	05-11-2001
		JP 6263325 A	20-09-1994
		KR 239741 B1	15-01-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82