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(11) **EP 1 146 002 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
02.04.2003 Bulletin 2003/14

(43) Date of publication A2:
17.10.2001 Bulletin 2001/42

(21) Application number: **01108877.0**

(22) Date of filing: **09.04.2001**

(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: **12.04.2000 JP 2000115881**
24.08.2000 JP 2000253989

(71) Applicant: **Murata Kikai Kabushiki Kaisha**
Minami-ku, Kyoto-shi, Kyoto 601 (JP)

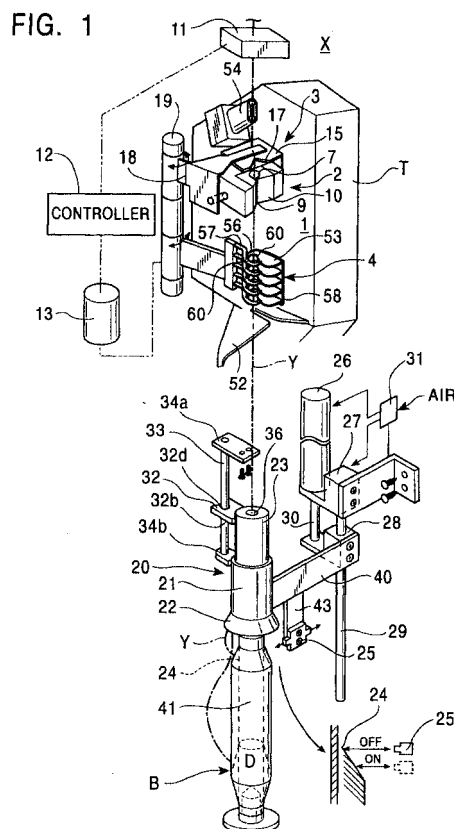
(51) Int Cl.7: **B65H 54/70, D01H 1/115,**
B65H 59/10, B65H 59/28,
D02J 1/08, D02J 1/14,
D01H 7/92

(72) Inventors:
• **Kimura, Hidetoshi**
Roureru Couto Muromachi 310
Nakagyo-ku, Kyoto-shi, Kyoto (JP)
• **Todo,, Yuji**
Nagaokakyo-shi, Kyoto (JP)
• **Takayasu, Koji**
Uji-shi, Kyoto (JP)

(74) Representative: **Liedl, Christine, Dipl.-Chem. et al**
Hansmann & Vogeser
Patentanwälte
Postfach 70 08 60
81308 München (DE)

(54) **Automatic winder and hairiness suppressing device**

(57) The present invention provides an automatic winder having a hairiness suppressing device that can stably provide a function of suppressing hairinesses of a spun yarn. The present invention provides an automatic winder comprising a hairiness suppressing device 1 including nozzle means 2 having a yarn passage 7 for allowing a spun yarn Y to pass therethrough, the nozzle means twisting the spun yarn Y by means of a whirling current obtained by injecting a gas through the yarn passage 7, wherein tension control means is provided for controlling tension of the spun yarn Y supplied to the nozzle means 2 at a substantially constant value (Fig. 1).





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EUROPEAN SEARCH REPORT

Application Number
EP 01 10 8877

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
P, X	EP 1 013 803 A (MURATA MACHINERY LTD) 28 June 2000 (2000-06-28) * the whole document *	6-9	B65H54/70 D01H1/115 B65H59/10 B65H59/28
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 165 (M-1238), 21 April 1992 (1992-04-21) & JP 04 012972 A (MURATA MACH LTD), 17 January 1992 (1992-01-17) * abstract *	6-9	D02J1/08 D02J1/14 D01H7/92
A	US 5 351 472 A (OHASHI KENJI) 4 October 1994 (1994-10-04) * claims; figures *	1-9	
A	GB 2 085 040 A (DU PONT) 21 April 1982 (1982-04-21) * the whole document *	1-9	
A	DD 95 904 A (GABLER G SCHROTH G OLZOG) 20 February 1973 (1973-02-20) * the whole document *	1-5	
			TECHNICAL FIELDS SEARCHED (Int.CI.7)
			D01H B65H D02J D02G
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 4 February 2003	Examiner Barathe, R
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			

EPO FORM 1503 03 82 (P04C01)

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

EP 01 10 8877

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
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04-02-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1013803	A	28-06-2000	JP 2000191236 A	11-07-2000
			JP 2000272832 A	03-10-2000
			JP 2001139231 A	22-05-2001
			CN 1258768 A	05-07-2000
			EP 1013803 A2	28-06-2000
			KR 2000052562 A	25-08-2000
			US 6332311 B1	25-12-2001

JP 04012972	A	17-01-1992	NONE	

US 5351472	A	04-10-1994	JP 1948562 C	10-07-1995
			JP 3211171 A	13-09-1991
			JP 6076175 B	28-09-1994
			DE 4100448 A1	11-07-1991
			IT 1244638 B	08-08-1994

GB 2085040	A	21-04-1982	AR 228462 A1	15-03-1983
			AT 396485 B	27-09-1993
			AT 430381 A	15-01-1993
			AU 542954 B2	28-03-1985
			AU 7615681 A	22-04-1982
			BE 890656 A1	07-04-1982
			BR 8106421 A	22-06-1982
			CA 1171263 A1	24-07-1984
			CH 656899 A5	31-07-1986
			DE 3140069 A1	06-05-1982
			DK 444681 A ,B,	09-04-1982
			ES 8301292 A1	16-02-1983
			FI 813107 A ,B,	09-04-1982
			FR 2491506 A1	09-04-1982
			GR 75372 A1	13-07-1984
			IE 51938 B1	29-04-1987
			IT 1139635 B	24-09-1986
			JP 1665488 C	19-05-1992
			JP 3017939 B	11-03-1991
			JP 57095332 A	14-06-1982
			MX 158015 A	29-12-1988
			NL 8104566 A ,B,	03-05-1982
			US 4505013 A	19-03-1985
			YU 236983 A1	30-04-1986
			YU 241681 A1	29-02-1984
			ZA 8106907 A	25-05-1983

DD 95904	A	20-02-1973	DD 95904 A1	20-02-1973

EPO FORM P0459

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