



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
01.10.2003 Bulletin 2003/40

(51) Int Cl.7: **D03D 49/06**

(43) Date of publication A2:
11.04.2001 Bulletin 2001/15

(21) Application number: **00120680.4**

(22) Date of filing: **21.09.2000**

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

(72) Inventor: **Sainen, Tsutomu,**
Tsudakoma Kogyo Kabushiki Kaisha
Kanazawa-shi, Ishikawa-ken 921-8650 (JP)

(74) Representative: **Müller-Boré & Partner**
Patentanwälte
Grafinger Strasse 2
81671 München (DE)

(30) Priority: **07.10.1999 JP 28743299**

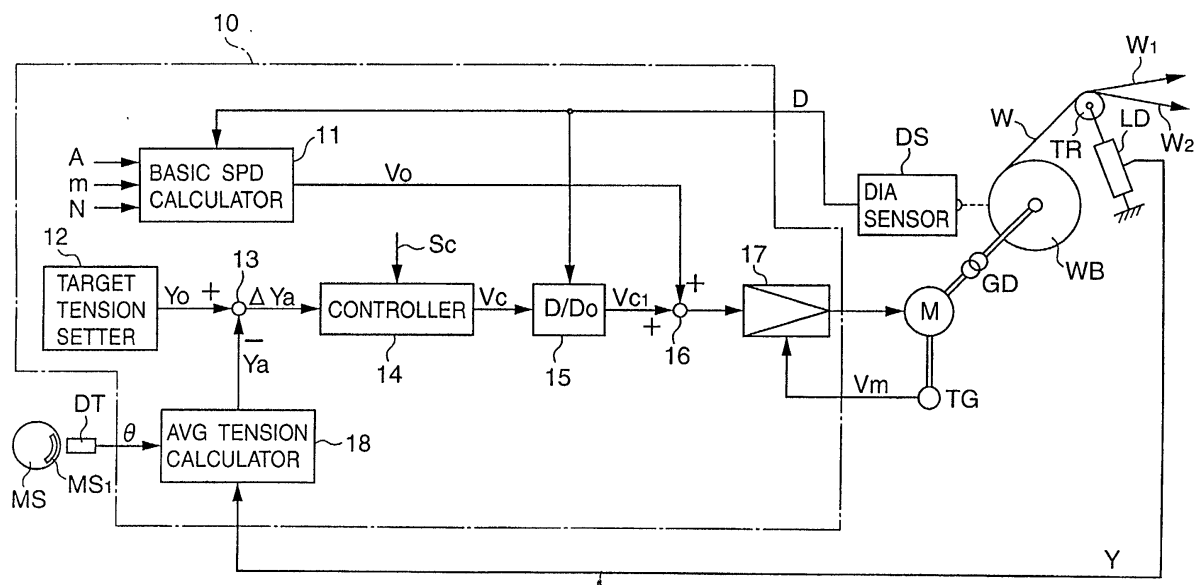
(71) Applicant: **TSUDAKOMA KOGYO KABUSHIKI
KAISHA**
Kanazawa-shi, Ishikawa-ken 921-8650 (JP)

(54) **A let-off control device for a weaving machine**

(57) A let-off control device for a weaving machine comprises a basic speed calculator (11), an average tension calculator (18), controller (14) and a control amplifier (17) to drive a let-off motor (M). The controller (14) operates in synchronism with an operating cycle deter-

mined by a clock signal (Sc), independently of operating cycle of the average tension calculator (18), with no likelihood that substantial control parameters will fluctuate due to variations in the operation speed of the weaving machine.

FIG. 1





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 12 0680

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	CH 654 351 A (REGATRON AG) 14 February 1986 (1986-02-14) * claim 1 *	1	D03D49/06
A	EP 0 376 338 A (TOYODA AUTOMATIC LOOM WORKS ;TOYODA CHUO KENKYUSHO KK (JP)) 4 July 1990 (1990-07-04) * claim 1 *	1	
A	US 4 619 294 A (ASAI TAKESHI ET AL) 28 October 1986 (1986-10-28) * claim 2 *	1	
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 18, 5 June 2001 (2001-06-05) & JP 01 148842 A (TOYOTA CENTRAL RES & DEV LAB INC;TOYOTA AUTOM LOOM WORKS LTD), 12 June 1989 (1989-06-12) * abstract *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			D03D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		8 August 2003	D'Souza, J
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 B2 (P04C01)

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

EP 00 12 0680

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.

08-08-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
CH 654351	A	14-02-1986	CH	654351 A5	14-02-1986
EP 0376338	A	04-07-1990	JP	2182945 A	17-07-1990
			JP	2894709 B2	24-05-1999
			DE	68927799 D1	03-04-1997
			DE	68927799 T2	02-10-1997
			EP	0376338 A2	04-07-1990
			KR	9200649 B1	20-01-1992
			US	5024253 A	18-06-1991
US 4619294	A	28-10-1986	JP	1756971 C	23-04-1993
			JP	4047058 B	31-07-1992
			JP	60155757 A	15-08-1985
			DE	3576971 D1	10-05-1990
			EP	0151940 A2	21-08-1985
JP 01148842	A	12-06-1989	JP	7026283 B	22-03-1995