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(72) Inventors:  
• **Tanaka, Yoshihiro**  
**Kiryu-shi, Gunma-ken (JP)**  
• **Aihara, Takatsugu**  
**Kiryu-shi, Gunma-ken (JP)**

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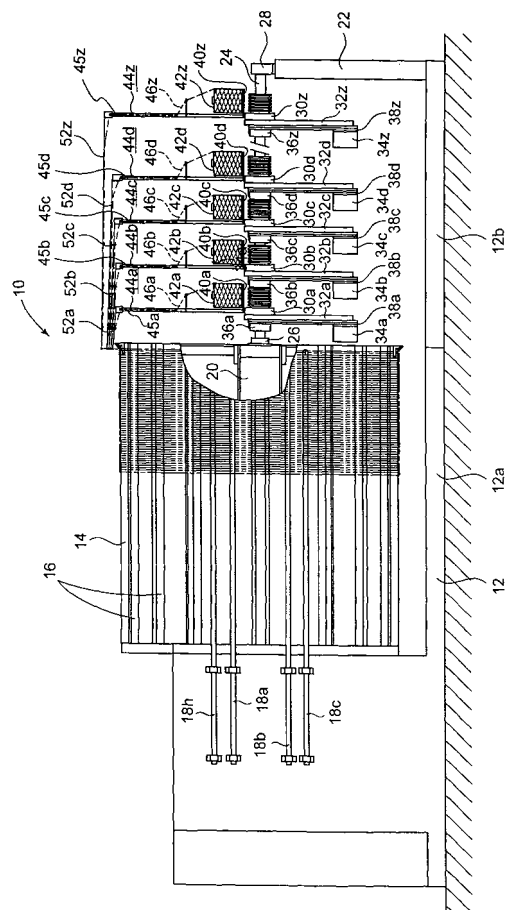
(74) Representative: **Martini, Lazzaro**  
**Studio Brevetti Ing. Dr. Lazzaro Martini s.r.l.**  
**Via dei Rustici 5**  
**50122 Firenze (IT)**

(71) Applicant: **SUZUKI WARPERS LTD.**  
**Kiryu-shi,**  
**Gunma-ken (JP)**

(54) **Sample warper with series yarn guide mechanism and warping method**

(57) There is provided a sample warper (10) with a series yarn guide mechanism comprising: a warper drum (14); a plurality of conveyor belts (16) movably provided on a peripheral side face of the warper drum; a plurality of yarn guide units (44a-44z) arranged in series opposing to a front face of the warper drum, and a plurality of yarn feed bobbins (42a-42z) each mounted on the respective yarn guide units (44a-44z), wherein the plural yarn guide units (44a-44z) each repeats rotation and suspension thereof, whereby yarns (46a-46z) pulled out from the yarn feed bobbins (42a-42z) are wound on the conveyor belts in a preset yarn arrangement order. According to the present invention, such an advantage can be achieved that installation of the conventional yarn selection device can be omitted, such troubles as yarn loosening during yarn exchanging, failure in yarn selecting operation, and suspension due to yarn breaking when yarn selecting or the like can be solved, and pattern warping performed by simultaneous warping of a plurality of yarns is made possible so that the warping can be performed efficiently in a short time.

**FIG.1**





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# EUROPEAN SEARCH REPORT

Application Number  
EP 04 42 5699

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	DE 196 05 924 A1 (KARL MAYER TEXTILMASCHINENFABRIK GMBH, 63179 OBERTSHAUSEN, DE) 21 August 1997 (1997-08-21) -----		D02H3/00
A	US 5 590 448 A (LENZEN ET AL) 7 January 1997 (1997-01-07) -----		
A,D	EP 0 375 480 A (SUZUKI WAPER LTD) 27 June 1990 (1990-06-27) -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			D02H
The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>10 November 2005</b>	Examiner <b>Van Gelder, P</b>
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	

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

EP 04 42 5699

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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10-11-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19605924 A1	21-08-1997	IT T0970124 A1	14-08-1998
US 5590448 A	07-01-1997	CH 690782 A5	15-01-2001
		DE 4422098 A1	11-01-1996
		IT 1276438 B1	31-10-1997
		JP 2657155 B2	24-09-1997
		JP 8060477 A	05-03-1996
EP 0375480 A	27-06-1990	DE 68915415 D1	23-06-1994
		DE 68915415 T2	22-12-1994
		ES 2056241 T3	01-10-1994
		JP 1767706 C	11-06-1993
		JP 2169737 A	29-06-1990
		JP 4057776 B	14-09-1992
		KR 9410462 B1	22-10-1994
		US 4972562 A	27-11-1990