



(11) **EP 1 029 818 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
06.09.2000 Bulletin 2000/36

(51) Int Cl.7: **B65H 23/06**

(43) Date of publication A2:
23.08.2000 Bulletin 2000/34

(21) Application number: **00109244.4**

(22) Date of filing: **08.09.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
 NL PT SE**

(30) Priority: **20.09.1996 JP 25049296**

(62) Document number(s) of the earlier application(s) in
 accordance with Art. 76 EPC:
97115567.6 / 0 831 048

(71) Applicant: **Kabushiki Kaisha Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**

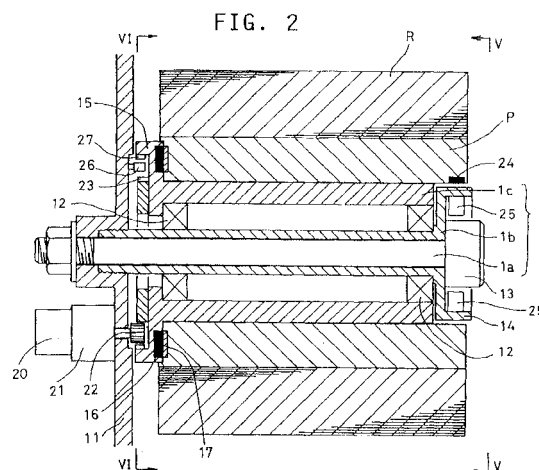
(72) Inventors:
 • **Yuyama, Shoji, c/o K. K. Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**

- **Nose, Hiroshi, c/o K. K. Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**
- **Yasunaga, Itsuo, c/o K. K. Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**
- **Etou, Naomichi, c/o K. K. Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**
- **Amano, Hirokazu, c/o K. K. Yuyama Seisakusho
 Toyonaka-shi, Osaka (JP)**

(74) Representative: **Grünecker, Kinkeldey,
 Stockmair & Schwanhäusser Anwaltssozietät
 Maximilianstrasse 58
 80538 München (DE)**

(54) **Roll of sheet for use with a drug packaging device**

(57) It is desired to prevent disalignment of the edges of a folded sheet by smoothly feeding the sheet while keeping tension fluctuations to a minimum when the sheet is unwound from a paper roll (R) set in a paper feed unit to a packaging unit even though the paper roll diameter decreases gradually as the sheet is unwound. A sheet length measuring sensor or rotary encoder is provided in the paper feed path through which the packaging sheet unwound from the paper roll is fed toward the packaging unit. An angle sensor (25) is provided which comprises Hall element sensors provided on a support shaft and magnets provided on a core pipe of the paper roll. Any change in the signals from one of these sensors relative to the signal from the other sensor is used to calculate the paper roll winding length, and the sheet tension is adjusted to an optimum, constant level by controlling the sheet braking force stepwise according to the roll diameter measured by the sensors.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 10 9244

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 4 199 118 A (BROWNING GERALD F ET AL) 22 April 1980 (1980-04-22) * column 2, line 50 - column 56; figures * ---	1	B65H23/06
A	EP 0 608 785 A (JAPAN TOBACCO INC) 3 August 1994 (1994-08-03) * column 7, line 12 - column 37; figures * ---	1	
A	US 4 477 398 A (HENRY JAMES W ET AL) 16 October 1984 (1984-10-16) * column 2, line 40 - column 3, line 23; figures * ---	1	
A	US 5 481 855 A (YUYAMA SHOJI) 9 January 1996 (1996-01-09) * the whole document * ---	1	
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 622 (M-1712), 28 November 1994 (1994-11-28) & JP 06 239428 A (ROHM CO LTD), 30 August 1994 (1994-08-30) * abstract * -----	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65H B65B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	29 June 2000	Haaken, W	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

EPO FORM 1503/03.82 (P04C01)

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

EP 00 10 9244

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.

29-06-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4199118 A	22-04-1980	NONE	
EP 0608785 A	03-08-1994	JP 6219615 A	09-08-1994
		DE 69411603 D	20-08-1998
		DE 69411603 T	11-03-1999
		US 5469869 A	28-11-1995
US 4477398 A	16-10-1984	NONE	
US 5481855 A	09-01-1996	NONE	
JP 06239428 A	30-08-1994	NONE	