

Europäisches Patentamt European Patent Office Office européen des brevets

(11) **EP 0 906 982 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **12.01.2000 Bulletin 2000/02**

(51) Int Cl.⁷: **D05C 11/08**

(43) Date of publication A2: **07.04.1999 Bulletin 1999/14**

(21) Application number: 98308100.1

(22) Date of filing: 05.10.1998

(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

(30) Priority: 03.10.1997 JP 27142597 U

(71) Applicant: HIRAOKA KOGYO CO. LTD. Hanno-shi Saitama-ken (JP)

(72) Inventors:

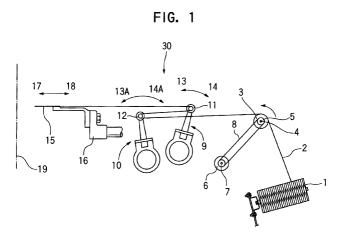
Hiranuma, Shunji
 Hanno-shi, Saitama-ken (JP)

- Takahashi, Tetsuya Suginami-ku, Tokyo (JP)
- Kojima, Katuo Hanno-shi, Saitama-ken (JP)
- Higuchi, Isao Ishioka-shi, Ibaraki-ken (JP)
- (74) Representative: Bucks, Teresa Anne et al BOULT WADE TENNANT,
 27 Furnival Street London EC4A 1PQ (GB)

(54) Embroidery/lace machine

(57) In the present invention, a shuttle type embroidery/lace machine includes a frontal thread storage means, a driven type-thread feeding means for feeding the frontal thread from the frontal thread storage means, a movable thread guide for advancing and retreating the frontal thread, a needle carrier for supporting the needles, a cloth frame, a shuttle, and a control unit for controlling said thread feeding means, said movable thread guide, said needle carrier, said cloth frame and said shuttle, characterized in that, said control unit controls said drive type thread feeding means so as to feed a

portion of an amount of the frontal thread actually necessary for the embroidering, and said shuttle type embroidery/lace machine further includes means for allowing the remainder of the amount of the frontal thread actually necessary for the embroidering to be fed by pulling the remainder of the amount of the frontal thread out of said frontal thread storage means due to a tension applied to the frontal thread produced by an insufficient amount of the frontal thread actually necessary for embroidering, stitches being formed by pulling both said frontal thread and a dorsal thread of said shuttle.





EUROPEAN SEARCH REPORT

Application Number EP 98 30 8100

	DOCUMENTS CONSIDERE Citation of document with indication		Relevant	CI ASSIEICATION OF THE
Category	of relevant passages	on, where appropriate,	to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	GB 177 317 A (DISNEY L 30 March 1922 (1922-03-	S) 30)	-3	D05C11/08
Υ	st the whole document st	4		
Υ	CH 115 089 A (HERTENSTE 1 June 1926 (1926-06-01 * the whole document *			
X	EP 0 795 638 A (LAESSER 17 September 1997 (1997 * the whole document *		-4	
X	DE 692 218 C (REINER R) 16 May 1940 (1940-05-16 * the whole document *			
A,D	EP 0 666 351 A (SAURER 9 August 1995 (1995-08- * the whole document *		-3	
				TECHNICAL FIELDS SEARCHED (Int.Cl.6)
				D05C
	1			
	The present search report has been	drawn up for all claims		
	Place of search	Date of completion of the search		Examiner
	THE HAGUE	19 November 1999	De	bard, M
X:pa Y:pa do A:te O:no P:int	CATEGORY OF CITED DOCUMENTS	T : theory or principle of E : earlier patent docu	underlying the	e invention blished on, or
X:pa Y:pa	rticularly relevant if taken alone rticularly relevant if combined with another	after the filing date D : document cited in t	the application	on .
A : te	cument of the same category chnological background	L : document cited for	other reason	s
O : no	on-written disclosure rermediate document	& : member of the san document	ne patent fam	nily, corresponding

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

EP 98 30 8100

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.

19-11-1999

DE 59700265 D 26-08-1 DE 692218 C NONE EP 0666351 A 09-08-1995 DE 4403365 A 10-08-1 AT 152789 T 15-05-1	NONE 2 0795638 A 17-09-1997 AT 182376 T 15-08-199 DE 59700265 D 26-08-199 E 692218 C NONE 2 0666351 A 09-08-1995 DE 4403365 A 10-08-199 AT 152789 T 15-05-199 DE 59402665 D 12-06-199 JP 8035162 A 06-02-199
EP 0795638 A 17-09-1997 AT 182376 T 15-08-1 DE 692218 C NONE EP 0666351 A 09-08-1995 DE 4403365 A 10-08-1 AT 152789 T 15-05-1	P 0795638 A 17-09-1997 AT 182376 T 15-08-1997 DE 59700265 D 26-08-1997 NONE P 0666351 A 09-08-1995 DE 4403365 A 10-08-1997 AT 152789 T 15-05-1997 DE 59402665 D 12-06-1997 JP 8035162 A 06-02-1997 NONE
DE 59700265 D 26-08-1 DE 692218 C NONE EP 0666351 A 09-08-1995 DE 4403365 A 10-08-1 AT 152789 T 15-05-1	DE 59700265 D 26-08-1995 P 0666351 A 09-08-1995 DE 4403365 A 10-08-1995 AT 152789 T 15-05-1990 DE 59402665 D 12-06-1990 JP 8035162 A 06-02-1990 DE 59402665 D 12-06-1990 DE 5940260 D 12-06-1990 DE 5940260 D 12-06-1990 DE 5940260 D 12-06-1990 DE 5940260 D 12-06-1990 D 12-06-1990 D 12-06-1990 D 12
EP 0666351 A 09-08-1995 DE 4403365 A 10-08-1 AT 152789 T 15-05-1	P 0666351 A 09-08-1995 DE 4403365 A 10-08-1995 AT 152789 T 15-05-1990 DE 59402665 D 12-06-1990 JP 8035162 A 06-02-1990
AT 152789 T 15~05~1	AT 152789 T 15-05-199 DE 59402665 D 12-06-199 JP 8035162 A 06-02-199

Consider the European Patent Office, No. 12/82