



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 579 966 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
28.09.2005 Bulletin 2005/39

(51) Int Cl.7: **B26D 7/08, B26D 7/01**

(21) Application number: **05075238.5**

(22) Date of filing: **31.01.2005**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL BA HR LV MK YU

(71) Applicant: **Equipment Poler, S.I.**
17850 Besalu (ES)

(72) Inventor: **Bastidas Salvado, Joaquim**
17820 Banyoles (ES)

(30) Priority: **24.03.2004 ES 200400719 P**

(74) Representative: **Ponti Sales, Adelaida et al**
Consell de Cent, 322
08007 Barcelona (ES)

(54) **Fabric cutting system**

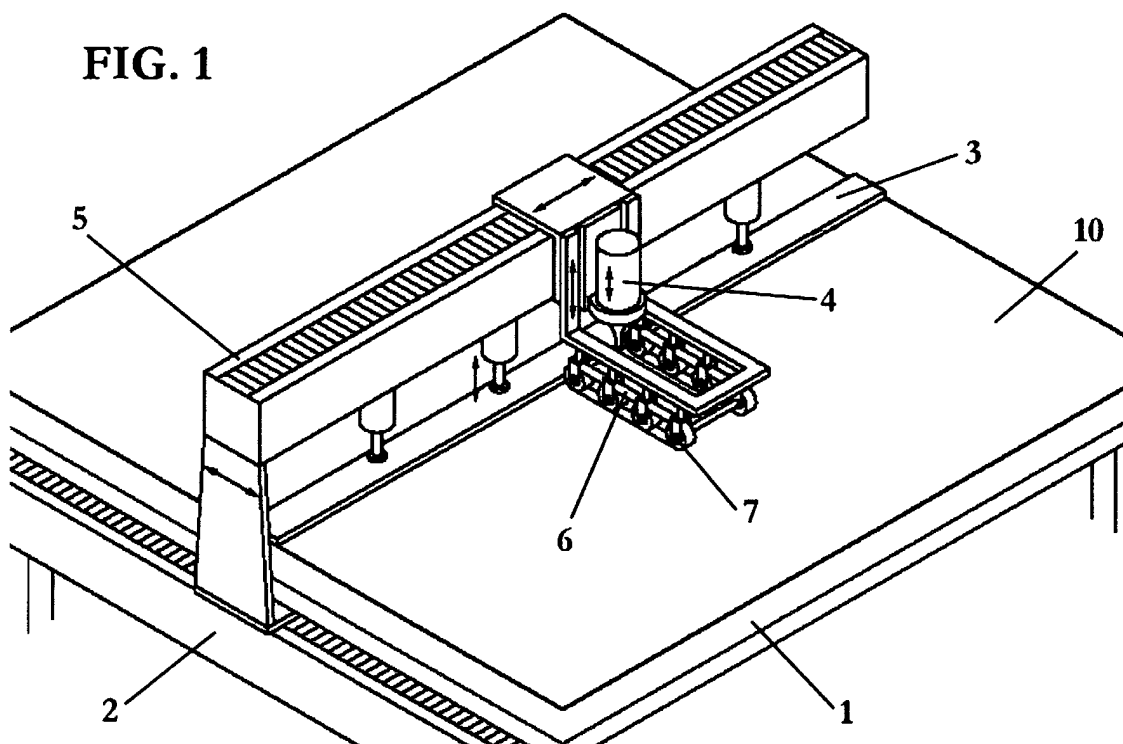
(57) The cutting system comprises cutting means (4) transversal and longitudinally movable, and it is characterised in that said cutting means (4) are ultrasound cutting means.

Said cutting system comprises transversal and lon-

gitudinal holding means (3,6) for the fabric vertically movable.

It permits to cut transversal and longitudinally fabrics without the necessity to change the position of the fabric to be cut.

FIG. 1



EP 1 579 966 A1

Description

[0001] The present invention refers to a fabric cutting system, which permits to cut a fabric longitudinal and transversely by ultrasounds without the necessity of moving it.

BACKGROUND OF THE INVENTION

[0002] The fabric cutting machines presently known comprise a table on which the fabric to be cut is extended and a cutting head movable transversely with respect to the table.

[0003] This cutting head is mounted movably on a transverse guide fixed to the table, so that when the fabric to be cut is unwind, the head cuts transversely the fabric.

[0004] A drawback of the cutting machines presently known is that they only cut the fabric transversely, and the position of the fabric must be changed to cut longitudinally the fabric.

[0005] Another drawback of this type of machines is that the fabric is cut when the fabric is unwind from the reel where it is wound.

[0006] To solve this drawbacks, it was devised the guiding device of the cutting head disclosed in the Spanish Utility Model U200201392, of the same applicant as the present application. In this Utility Model, the cutting head is movable transversal and longitudinally along the table where the fabric to be cut is placed. However, the cutting head disclosed in this document is conventional, i.e. it is a blade, which presents the drawback that does not avoid that the fabric can fray in the cut zone.

DESCRIPTION OF THE INVENTION

[0007] The cutting system of the invention permits to solved said drawbacks, and it presents another advantages that will be described.

[0008] The fabric cutting system of the present invention comprises cutting means transversal and longitudinally movable, and it is characterised in that said cutting means are ultrasound cutting means.

[0009] Advantageously, the cutting system comprises transversal and longitudinal holding means for the fabric.

[0010] According to a preferred embodiment, said transversal holding means for the fabric comprises a transversal plate vertically movable and said longitudinal holding means comprises a pair of rotatable strips, placed at both sides of the cutting means.

[0011] Advantageously, said strips are vertically movable.

[0012] Preferably, said strips comprise a plurality of pressure rollers.

[0013] Also advantageously, said cutting means comprises an ultrasound head.

[0014] Thanks to the system of the present invention,

the cut can be made by ultrasounds without the necessity of moving the fabric.

[0015] The ultrasound cut permits to weld the cutting zone, avoiding the possible subsequent fray of it.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] For a better understanding of what have been described, some drawings are attached in which, only diagrammatically and as a non-limitative example, it is shown a practical case of embodiment.

Fig. 1 is a perspective view of a cutting machine according to the system of the present invention in a position previous to the cutting of the fabric;

Fig. 2 is a perspective view of a cutting machine according to the system of the present invention, cutting the fabric transversally; and

Fig. 3 is a perspective view of a cutting machine according to the system of the present invention, cutting the fabric longitudinally.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0017] As can be seen in the drawings, the machine of the system of the present invention comprises a table 1 on which the fabric 10 to be cut is placed.

[0018] At both sides of the table 1 there are placed longitudinal guides 2, along which a transversal guide 5 moves, which comprises a ultrasound cutting head 4.

[0019] Said transversal guide 5 also comprises a holding transversal plate 3, vertically movable, and holding strips 6 also vertically movable.

[0020] Said holding plate 3 is used to hold the fabric 10 when it is cut transversally, as can be seen in fig. 2.

[0021] The holding strips 6 are used to hold the fabric 10 when it is cut longitudinally, as can be seen in fig. 3.

[0022] Said holding strips 6 are two, one placed at each side of the head 4, and rotate when the head 4 moves. Said strips 6 comprise a plurality of pressure rollers 7.

[0023] As can be seen in fig. 2 and 3, when the transversal cut is done, the holding plate 3 is in its lower position and the strips 6 are in their upper position, and when the longitudinal cut is done, the position of the plate and the strips is the reverse position.

[0024] Even though reference is made to a specific embodiment of the invention, it is evident for a person skilled in the art that in the cutting system described can be made numerous variations and modifications, and that all cited details can be substituted by other technically equivalent ones, without departing from the scope of protection defined by the enclosed claims.

Claims

1. Fabric cutting system, which comprises cutting

means (4) transversal and longitudinally movable,
characterised in that said cutting means (4) are
ultrasound cutting means.

2. Cutting system according to claim 1, **characterised
in that** it comprises transversal holding means (3)
for the fabric. 5
3. Cutting system according to claim 1 or 2, **charac-
terised in that** it comprises longitudinal holding
means (6) for the fabric. 10
4. Cutting system according to claim 2, **characterised
in that** said transversal holding means for the fabric
comprises a transversal plate (3) vertically mova- 15
ble.
5. Cutting system according to claim 3, **characterised
in that** said longitudinal holding means comprises
a pair of rotatable strips (6), placed at both sides of 20
the cutting means (4).
6. Cutting system according to claim 5, **characterised
in that** said strips (6) are vertically movable. 25
7. Cutting system according to claim 5 or 6, **charac-
terised in that** said strips (6) comprise a plurality
of pressure rollers (7).
8. Cutting system according to anyone of the previous 30
claims, **characterised in that** said cutting means
comprises an ultrasound head (4).

35

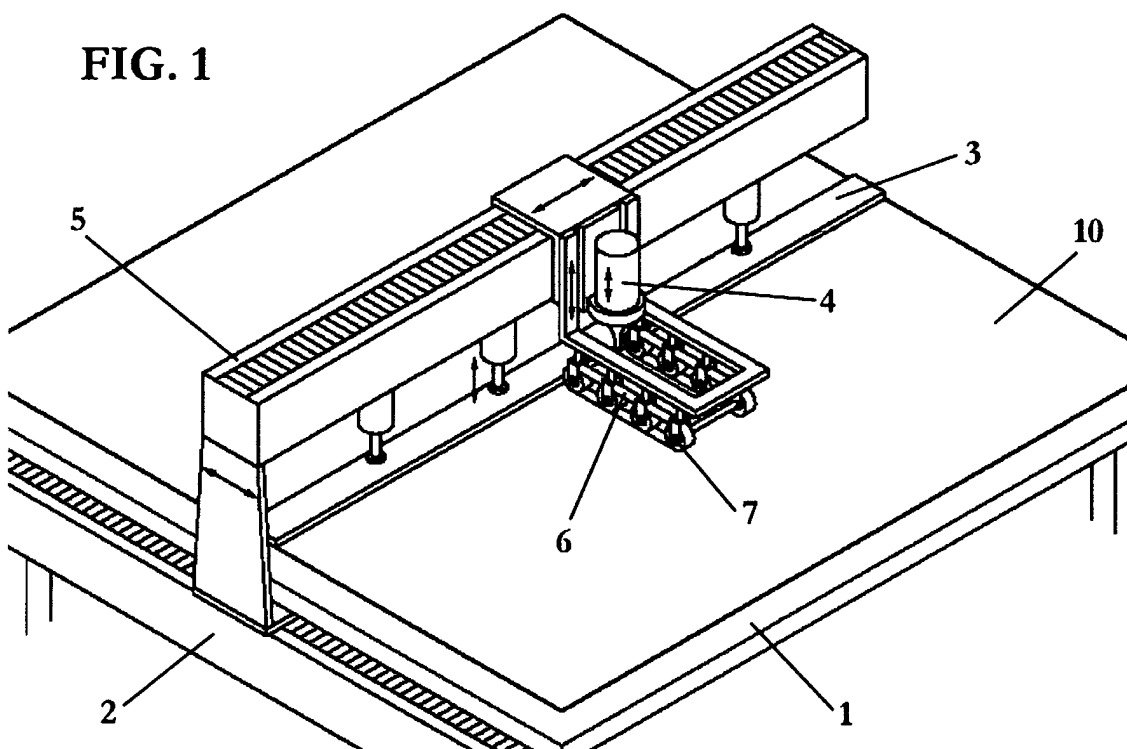
40

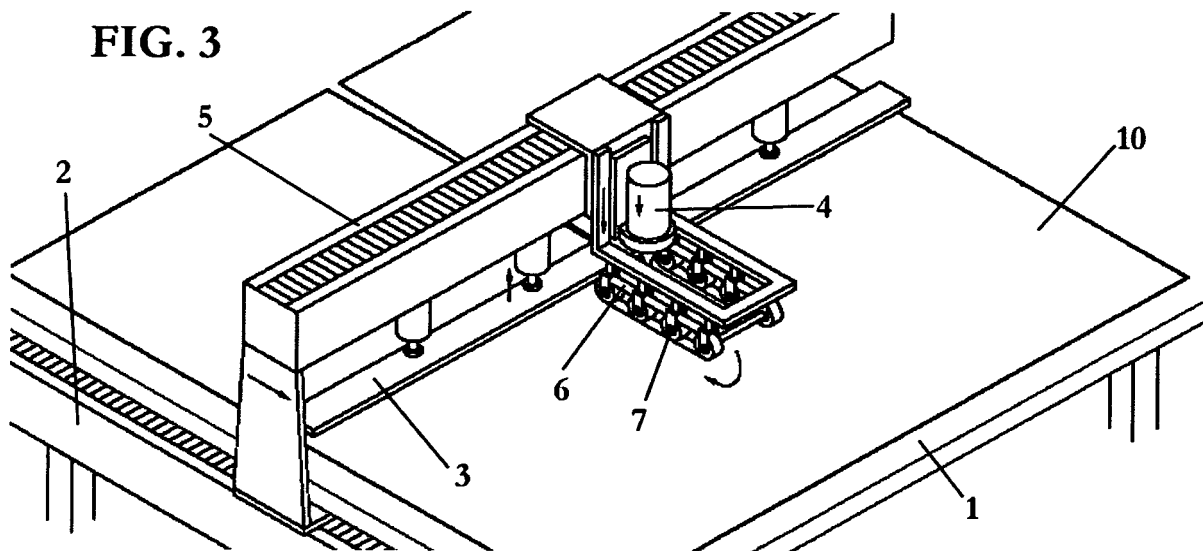
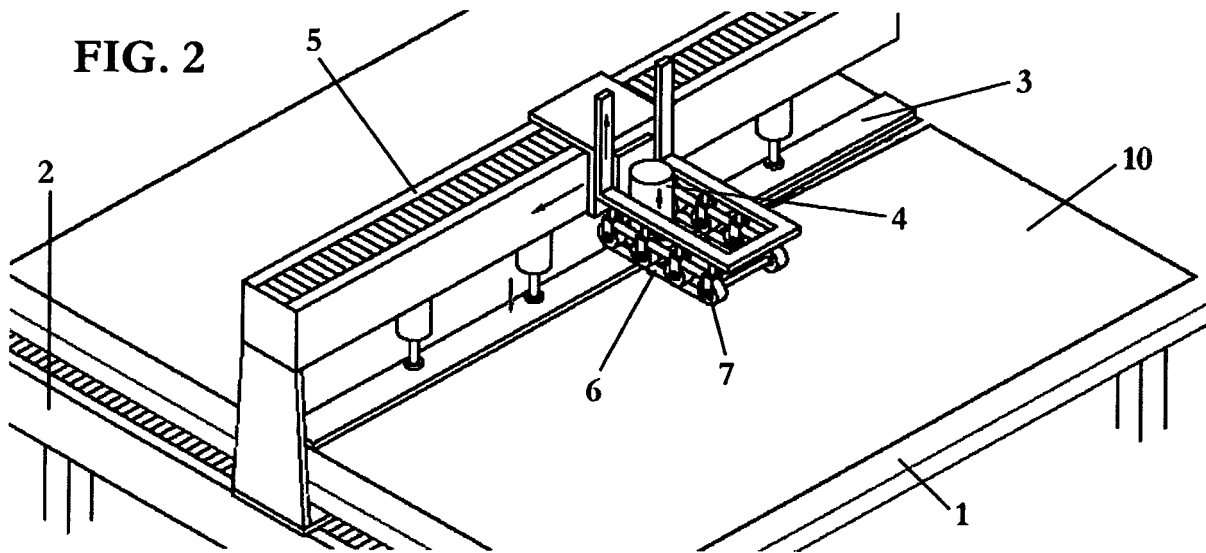
45

50

55

FIG. 1







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 07 5238

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)
X	US 4 596 171 A (GERBER ET AL) 24 June 1986 (1986-06-24)	1-3,8	B26D7/08 B26D7/01
Y	* column 3, line 5 - column 3, line 7; figures *	4	
Y	----- US 4 742 742 A (YOKOE ET AL) 10 May 1988 (1988-05-10) * column 3, line 51 - column 4, line 48; figures *	4	
X	----- EP 0 202 676 A (INVESTRONICA S.A) 26 November 1986 (1986-11-26) * page 6 - page 9; figures *	1-3,8	
X	----- US 5 061 331 A (GUTE ET AL) 29 October 1991 (1991-10-29) * column 5, line 23 - column 6, line 68; figures *	1-3,8	
X	----- GB 2 328 895 A (JANET * STOYEL) 10 March 1999 (1999-03-10) * page 8; figures *	1,8	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
X	----- GB 2 087 290 A (GERBER GARMENT TECHNOLOGY INC) 26 May 1982 (1982-05-26) * abstract; figures *	1,8	B26D
A	----- EP 1 151 834 A (COMELZ S.P.A) 7 November 2001 (2001-11-07) * paragraph [0012] - paragraph [0016]; figures *	5	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 July 2005	Examiner Canelas, R.F.
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	

1
EPO FORM 1503 03.82 (P04C01)

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

EP 05 07 5238

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.

12-07-2005

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4596171	A	24-06-1986	DE	3437908 A1	09-05-1985
			ES	8603313 A1	16-04-1986
			FR	2553699 A1	26-04-1985
			GB	2148175 A ,B	30-05-1985
			JP	1143384 U	02-10-1989
			JP	7042639 Y2	04-10-1995
			JP	60099600 A	03-06-1985

US 4742742	A	10-05-1988	JP	4037759 Y2	04-09-1992
			JP	62134698 U	25-08-1987
			JP	62061498 U	16-04-1987
			AU	570595 B2	17-03-1988
			AU	6360386 A	09-04-1987
			CA	1271407 A1	10-07-1990
			DE	3680277 D1	22-08-1991
			EP	0218197 A2	15-04-1987
			HK	97194 A	23-09-1994
			KR	9002395 Y1	26-03-1990
			SG	89994 G	14-10-1994

EP 0202676	A	26-11-1986	ES	8706339 A1	01-09-1987
			AT	60536 T	15-02-1991
			CA	1278506 C	02-01-1991
			DE	3530886 A1	27-11-1986
			DE	3677255 D1	07-03-1991
			DK	224586 A ,B,	23-11-1986
			EP	0202676 A2	26-11-1986
			FI	861976 A ,B,	23-11-1986
			IE	57384 B1	12-08-1992
			JP	62019397 A	28-01-1987

US 5061331	A	29-10-1991	NONE		

GB 2328895	A	10-03-1999	GB	2294656 A	08-05-1996

GB 2087290	A	26-05-1982	DE	3143030 A1	03-06-1982
			ES	8301727 A1	01-04-1983
			FR	2498514 A1	30-07-1982
			HK	83386 A	14-11-1986
			IT	1146717 B	19-11-1986
			JP	1636217 C	31-01-1992
			JP	2001640 B	12-01-1990
			JP	57089600 A	03-06-1982
			JP	3264300 A	25-11-1991
			KR	8501083 B1	27-07-1985

EPO FORM P0459

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

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

EP 05 07 5238

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.

12-07-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1151834 A	07-11-2001	IT MI20000954 A1	02-11-2001
		BR 0101656 A	18-12-2001
		EP 1151834 A2	07-11-2001

EPO FORM P0459

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