(12)

## **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: **31.05.2006 Bulletin 2006/22** 

(51) Int Cl.: **B65H 69/04** (2006.01)

(11)

(43) Date of publication A2: 30.11.2005 Bulletin 2005/48

(21) Application number: 05102956.9

(22) Date of filing: 14.04.2005

(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

(30) Priority: 27.04.2004 NL 1026052

(71) Applicant: L&P Group B.V. 5504 EB Veldhoven (NL)

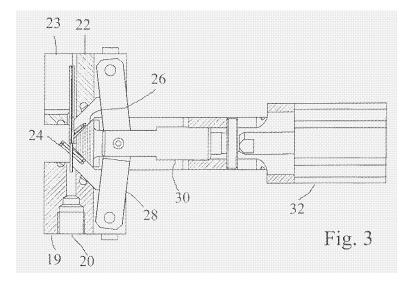
- (72) Inventor: Van der Horst, Gijsbertus Nicolaas Maria 5541 VK, Reusel (NL)
- (74) Representative: Smeets, Eugenius Theodorus J.
   M. et al
   c/o Octrooibureau Smeets,
   Poelhekkelaan 16
   5644 TN Eindhoven (NL)

## (54) Apparatus for tying a knot in one or more cords

(57) An apparatus for tying a knot on one or more cords comprises a knotting channel that is continuous in an active mode of the apparatus, the cord or cords being transported through said channel by an air drive so as to form a loose knot. The apparatus comprises two rigid end parts (19, 22), each comprising a slotted portion of the knotting channel and a connection (20) for the air drive, and furthermore a rigid intermediate part (26) that, in the active mode, closes off said slotted portions between the end parts so as to form portions of the knotting channel, making the knotting channel continuous by means of a recess in the intermediate part. A mechanism is further provided for moving the respective parts away

from one another into an inactive mode, such that the slotted portions become exposed and the loose knot can be tightened by a force applied to the cord or cords.

In particular, the end parts are arranged in an axial direction, and the intermediate part (26) extends in forward direction between said end parts (19, 22) transversely to said axial direction up to an end line in the active mode, said end parts substantially merging into one another at the location of said end line. Furthermore, the intermediate part widens from the end line transversely to the axial direction, and the inactive mode is achieved through a substantially non-rotational movement of at least two of said parts of the apparatus from the active mode in a direction away from said end line.





## **EUROPEAN SEARCH REPORT**

Application Number EP 05 10 2956

Category	Citation of document with indicatio of relevant passages	n, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
D,A	US 3 591 217 A (R. MELZ 6 July 1971 (1971-07-06 * the whole document *	ER) )	1,11	INV. B65H69/04	
D,A	WO 02/083540 A (CATS BE 24 October 2002 (2002-1 * claim 1; figures *		1,11		
A	US 3 336 063 A (J.H. RE 15 August 1967 (1967-08 * claim 1; figures *		1,11		
A	US 2 913 271 A (G. SACH 17 November 1959 (1959-				
				TECHNICAL FIELDS SEARCHED (IPC)	
				B65H A01G B65B A22C D03J	
	The present search report has been discovered.	own up for all alaims			
	The present search report has been dr			Evamina	
The Hague		Date of completion of the search 7 April 2006	D'H	Examiner Iulster, E	
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		E : earlier patent do after the filing da D : document cited L : document cited	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		
	-written disclosure		same patent family		

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

EP 05 10 2956

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.

07-04-2006

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 3591217	Α	06-07-1971	NONE			
WO 02083540	Α	24-10-2002	NL	1017822	C1	14-10-20
US 3336063	Α	15-08-1967	DE NL	1927597 6411624	U A	18-11-19 25-10-19
US 2913271	Α	17-11-1959	NONE			

FORM P0459

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