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(54) Yarn processing method and apparatus

(57) The filaments of a false twisted multifilament textile yarn (14) are intermingled to increase their cohesion, and the residual torque in the yarn (14) is reduced, by forwarding the yarn (14) along a yarn path (11) through a duct (2, 13) in a nozzle body (10, 12), and directing a fluid flow (8, 9, 18) into the duct (2) transversely of the yarn path (11) with the yarn path (11) centrally disposed relative to the fluid flow (8, 9, 18) to intermingle the filaments and simultaneously directing the fluid flow (8, 9) to swirl around the yarn path (11) to re-

duce the residual torque. This is achieved by directing two fluid flows (8,9) in opposed, overlapping directions but offset relative to each other, or by directing the fluid flow (18) towards a base surface (17) of the duct (13) which is planar and inclined laterally of the duct (13) out of the perpendicular (21) to the direction (20) of fluid flow (18). A yarn threading slot (6, 22) extends longitudinally of the body (10, 12) and communicates with the duct (2, 13) and the exterior of the body (10, 12). The slot (6, 22) has a curved profile between the duct (2, 13) and an enlarged inlet (3, 24) at the exterior of the body (10, 12).

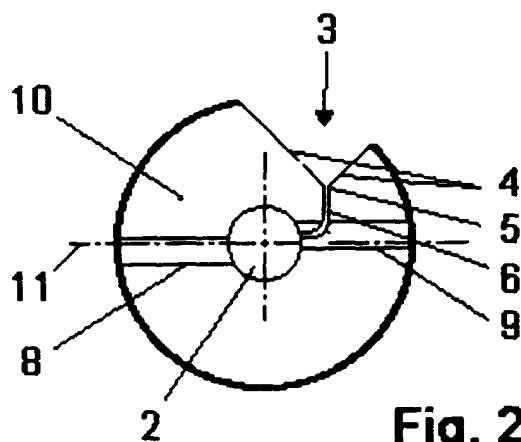
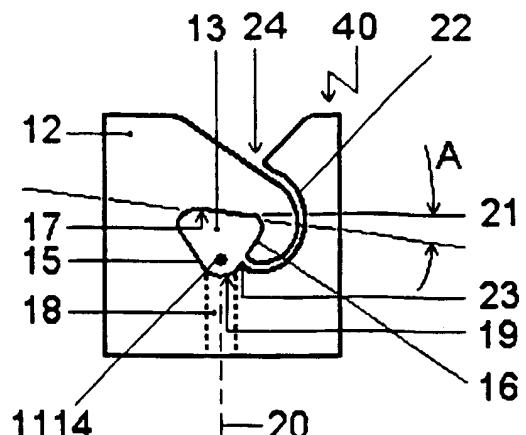


Fig. 2





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EUROPEAN SEARCH REPORT

Application Number
EP 97 30 3861

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 3 443 292 A (DAVIS EUGENE L JR) 13 May 1969 * figure 1 *	5,6	D02J1/08 D02G1/16
X	US 3 727 274 A (WHITE R) 17 April 1973 * figure 2 *	5,6	
X	US 3 750 242 A (BRENNER D ET AL) 7 August 1973 * figures 1-4 *	5,6	
A	US 4 430 780 A (SEAR STUART B ET AL) 14 February 1984 * figure 3 *	5-14	
A	US 4 251 904 A (SANO TAKAO ET AL) 24 February 1981 * figure 3 *	5-14	
D,A	EP 0 140 526 A (FIBREGUIDE LTD) 8 May 1985 * figure 12 *	1-15	

The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	5 July 1999	Barathe, R	
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			
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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05-07-1999

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3443292	A	13-05-1969	NONE		
US 3727274	A	17-04-1973	CA	956091 A	15-10-1974
US 3750242	A	07-08-1973	NONE		
US 4430780	A	14-02-1984	NONE		
US 4251904	A	24-02-1981	JP	1311558 C	11-04-1986
			JP	55067030 A	20-05-1980
			JP	59032572 B	09-08-1984
			JP	1305885 C	13-03-1986
			JP	55067031 A	20-05-1980
			JP	60024851 B	14-06-1985
			EP	0011441 A	28-05-1980
EP 0140526	A	08-05-1985	NONE		