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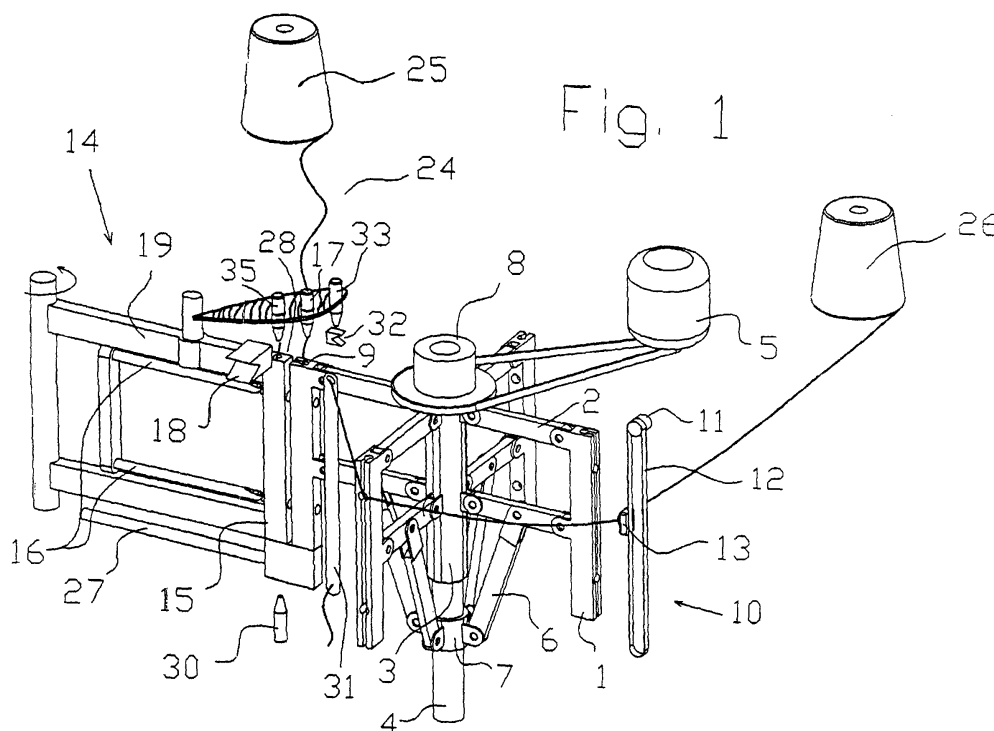
(30) Priority: 10.06.2002 ES 200201321

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(54) **Procedure and machine for winding and tying skeins**

(57) **"PROCEDURE AND MACHINE FOR WINDING AND TYING SKEINS"**, of the type used in the textile industry, for transferring to subsequent processes such as dyeing, mercerising, etc., in which, starting with a conventional bobbin, the machine is threaded and the yarn wound in the form of a skein (23) on a winding de-

vice (2) made up of three or more retractable blades (1) on which the yarn is distributed with the help of a thread guide (13) with alternating linear movement (10); following completion of the winding of the skein (23), it is tied in one or more places by means of an automatic tying device, with the start and finish-ends of the skein (23) being incorporated into one of the knots.





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EUROPEAN SEARCH REPORT

Application Number
EP 03 38 0086

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 3 656 215 A (TANNO NAOICHIRO) 18 April 1972 (1972-04-18) * column 2, line 23 - column 8, line 36; figures 1,2,10 *	1,3,7, 11,14	B65H54/58
A	US 3 762 661 A (LUCKE E) 2 October 1973 (1973-10-02) * column 3, line 43 - column 4, line 30; figures 1-6 *	1	
A	US 3 864 796 A (RISI WALTER ET AL) 11 February 1975 (1975-02-11) * column 1, line 24 - column 2, line 3; figures 1-5 *	1	
A	CH 603 471 A (GW MASCHINEN AG) 15 August 1978 (1978-08-15) * column 1, line 7 - column 2, line 5; figure 1 *	1	
X	US 3 825 196 A (YAMAZAKI S) 23 July 1974 (1974-07-23) * column 3, line 67 - column 6, line 20; figures 1,2 *	15-17	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65H
X	US 3 456 890 A (LUCKE ERNST) 22 July 1969 (1969-07-22) * column 3, line 11 - column 3, line 70; figures 1,4A,4B *	15,17	
A	US 3 918 659 A (PADGETT JR JOHN) 11 November 1975 (1975-11-11) * column 2, line 14 - column 2, line 32; figures 1-3 *	16	
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 8 January 2004	Examiner Fachin, F
<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>			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-14

Automated method for winding and tying skeins wherein the yarn is inserted manually in a thread guide and in a threading tube only once at the machine starting.

2. Claims: 15-22

Machine for winding and tying skeins with retractable blades made up of articulated parallelograms connected to a central tubular element having a threaded shaft.

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

EP 03 38 0086

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
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08-01-2004

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