



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**22.11.2017 Bulletin 2017/47**

(51) Int Cl.:  
**D01H 13/30 (2006.01) D01G 99/00 (2010.01)**

(43) Date of publication A2:  
**13.09.2017 Bulletin 2017/37**

(21) Application number: **16175529.3**

(22) Date of filing: **21.06.2016**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**  
Designated Validation States:  
**MA MD**

(71) Applicant: **GTM USA Corporation**  
**New York, NY 10016 (US)**

(72) Inventor: **Bashir, Zaki**  
**New York, NY New York NY-10016 (US)**

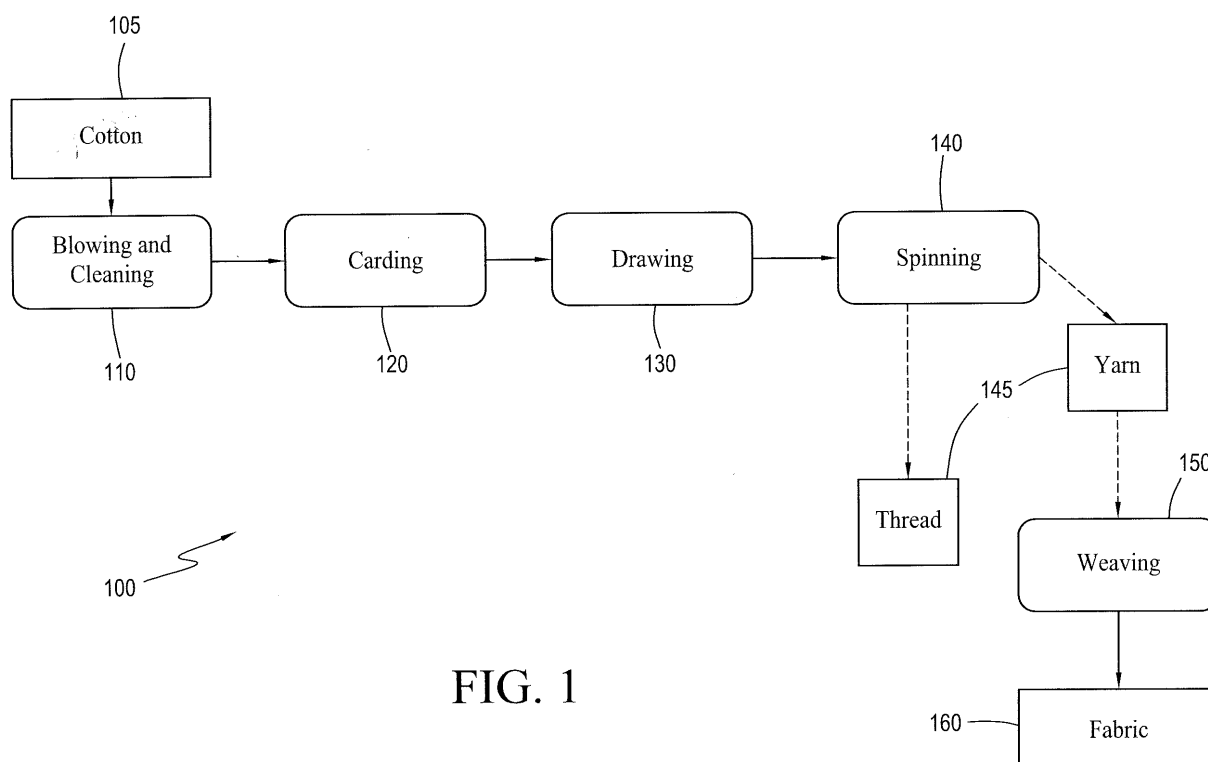
(74) Representative: **Wilson Gunn**  
**Blackfriars House**  
**The Parsonage**  
**5th Floor**  
**Manchester M3 2JA (GB)**

(30) Priority: **25.01.2016 US 201615005083**

(54) **LOW TEMPERATURE FIBER SPINNING AND TEXTILE FINISHING METHOD**

(57) Methods for spinning, weaving, and finishing fabric and/or cloth containing cotton fibers are disclosed. The methods of the invention are performed at lower ambient, solution and/or working temperatures than is pre-

viously known in the art. The reduced temperature processing improves various qualities of the resulting textile products and fabrics and lowers costs of operating the processing facility.



**FIG. 1**



## EUROPEAN SEARCH REPORT

Application Number  
EP 16 17 5529

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	<p>FONTENEAU-TAMIME O., FRYDRYCH R., DRÉAN J.-Y.: "Carded Spinning of Sticky Cotton Part I: Stickiness Effects on Productivity", TEXTILE RESEARCH JOURNAL, vol. 71, no. 11, November 2001 (2001-11), pages 1023-1030, XP002771680, DOI: 10.1177/004051750107101114 * Materials and Methods Conditions and Operating Procedure; page 1023 - page 1024 *</p>	1-4,14	<p>INV. D01H13/30 D01G99/00</p>
X	<p>TAYLOR ROBERT A., AND GRAHAM JOHN S.: "The Influence of Front-Roll Coverings on the Spinning Strength of Cotton", TEXTILE RESEARCH INSTITUTE, vol. 49, no. 12, 1 December 1979 (1979-12-01), pages 717-723, XP002771681, DOI: 10.1177/004051757904901207 * table I *</p>	1,14	<p>TECHNICAL FIELDS SEARCHED (IPC)</p>
X	<p>PILLAY K.P.R.: "Effect of Ambient Atmospheric Conditions During Spinning on Yarn Properties and Spinning Efficiency Part I: Effect of Ambient Conditions on End Breaks", TEXTILE RESEARCH JOURNAL, vol. 41, no. 1, 1 January 1971 (1971-01-01), pages 11-15, XP002771682, DOI: 10.1177/004051757104100103 * page 11 - page 12; table II.A *</p>	1,14	<p>D02G D01G D01H</p>
<p><del>The present search report has been drawn up for all claims</del></p>			
Place of search		Date of completion of the search	Examiner
Munich		4 July 2017	Pollet, Didier
<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 ..... &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number  
EP 16 17 5529

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	SCHICHT H.: "Air conditioning for Brazil's textile industry", INTERNATIONAL JOURNAL OF REFRIGERATION, vol. 2, no. 6, November 1979 (1979-11), pages 229-233, XP002771683, DOI: 10.1016/0140-7007(79)90088-4 * page 230; table 2 *	1,14	
X	PILLAY K.P.R.: "Effect of Ambient Atmospheric Conditions During Spinning on Yarn Properties and Spinning Efficiency Part II: Effect of Ambient Conditions on Yarn Properties", TEXTILE RESEARCH JOURNAL, vol. 41, no. 1, 1 January 1971 (1971-01-01), pages 16-21, XP002771684, DOI: 10.1177/004051757104100104 * page 16 - page 17; table I *	1,14	
X	MURRAY EDWARD A., MOORE JOHN W. AND WILLIAMS SIMON: "Studies of the Treatment of Cotton in Sliver Form II. Effect of Syton: Spinning Studies", TEXTILE RESEARCH JOURNAL, vol. 17, no. 11, 1 November 1947 (1947-11-01), pages 616-621, XP002771685, DOI: 10.1177/004051754701701103 * page 618; examples 9-10; table III *	1,14	
<del>The present search report has been drawn up for all claims</del>			TECHNICAL FIELDS SEARCHED (IPC)
Place of search <b>Munich</b>		Date of completion of the search <b>4 July 2017</b>	Examiner <b>Pollet, Didier</b>
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	

EPO FORM 1503 03.82 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number  
EP 16 17 5529

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	"Handbook of Air Conditioning Heating and Ventilating" In: Stamper Eugene and Koral Richard L.: "Handbook of Air Conditioning Heating and Ventilating Third Edition", 1979, Industrial Press Inc, New York, XP002771686, ISBN: 0-8311-1124-0 pages 2-134-2-135, * tables 19-20 * -----	1,14	
			TECHNICAL FIELDS SEARCHED (IPC)
<del>The present search report has been drawn up for all claims</del>			
Place of search		Date of completion of the search	Examiner
Munich		4 July 2017	Pollet, Didier
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	

EPO FORM 1503 03.82 (P04C01)



Application Number

EP 16 17 5529

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

**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:

1-4(completely); 14(partially)

☐ The present supplementary 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 (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 16 17 5529

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: 1-4(completely); 14(partially)

A method for manufacturing yarn or thread including cotton fibers and yarn obtained by said method, comprising spinning cotton fibers into yarn or thread at an ambient temperature of 25-30°C.

---

## 2. claims: 5-10(completely); 13, 14(partially)

A method for manufacturing fabric including cotton fibers and fabric obtained by said method, comprising weaving yarn containing cotton fibers into a fabric at an ambient temperature of 25-30°C.

---

## 3. claims: 11, 12(completely); 13(partially)

A method of processing fabric containing cotton fibers, comprising bleaching the fabric 8-10 hours in a bleaching liquor at 35-40°C and washing said fabric in a washing solution at 85-95°C.

---