

Search query (2): [SP]: 1-6. (canceled) 7. a circular hosiery knitting machine, particularly of the double cylinder type, with yarn finger for plated knitting, comprising at least one needle cylinder that has a plurality of axial grooves that each accommodate a needle, said needle cylinder being actuatable with a rotary motion about its own axis, arranged vertically, with respect to at least one feed or drop at which there are at least two yarn fingers for plated knitting, respectively a first yarn finger for dispensing a base yarn and a second yarn finger for dispensing a reinforcement yarn, said second yarn finger having an elongated body that comprises a dispensing end, located proximate to a longitudinal end thereof and provided with a passage for the reinforcement yarn to be dispensed to the needles of the machine arranged in said needle cylinder, and a remaining part of the body of the second yarn finger said second yarn finger being arrangeable so that said dispensing end thereof faces laterally the needle cylinder in the working area of the needles, wherein said dispensing end of the body of the second yarn finger can move on command with respect to the remaining part of the body of the second yarn finger, on a plane that is substantially perpendicular to the axis of the needle cylinder, along a direction that is substantially parallel to the tangent to said needle cylinder in the grip point, by the needles, of said reinforcement yarn dispensed by said second yarn finger. 8. the machine according to claim 7, wherein said dispensing end of the body of the second yarn finger can move on command, with respect to the remaining part of the body of the second yarn finger, from a dispensing start position to at least one plated knitting dispensing position, in which it is moved with respect to said dispensing start position along said direction in accordance with a direction of rotation of the needle cylinder with respect to said feed. 9. the machine according to claim 7, further comprising at least one fluid-operated cylinder, which is accommodated in said remaining part of the body of said second yarn finger and acts with its piston on said dispensing end of the body of the second yarn finger for its transition from said dispensing start position to said at least one plated knitting dispensing position. 10. a method for performing plated knitting on circular hosiery knitting machines, particularly double cylinder machines, comprising a step for dispensing two yarns to the needles of the machine by means of a first yarn finger and a second yarn finger arranged at a feed or drop of the machine and facing laterally the needle cylinder of the machine in the working area of the needles, respectively a first yarn finger for dispensing a base yarn and a second yarn finger for dispensing a reinforcement yarn, said second yarn finger having an elongated body that comprises a dispensing end, located proximate to one of its longitudinal ends and provided with a passage for the reinforcement yarn to be dispensed to the needles of the machine that are arranged in said needle cylinder, and a remaining part of the body of the second yarn finger said needle cylinder being actuatable with rotary motion about its own axis, which is arranged vertically, with respect to said feed, wherein during the dispensing of the reinforcement yarn the dispensing end of the body of the yarn of said second yarn finger, facing toward said needle cylinder, is moved, on a plane that is substantially perpendicular to the axis of the needle cylinder, along a direction that is substantially parallel to the tangent to said needle cylinder in the grip point, by the needles, of said reinforcement yarn dispensed by said second yarn finger. 11. the method according to claim 10, further comprising a dispensing start step and a plate knitting dispensing step, during said plate knitting dispensing step said dispensing end of the body of the second yarn finger being moved, with respect to its position during said dispensing start step, along said direction in accordance with the direction of rotation of the needle cylinder with respect to said feed. 12. the method according to claim 11, wherein the movement of said dispensing end of the body of the second yarn finger from the position occupied in said dispensing start step to the position occupied in said plate knitting dispensing step is actuated by moving said dispensing end with respect to the remaining part of the body of the second yarn finger along said direction.

Results: 19

Search history

Search PN=(WO2016116380) (Results 1)

1:

Search [SP]: 1-6. (canceled) 7. a circular hosiery knitting machine, particularly of the double cylinder type, with yarn finger for plated knitting, comprising at least one needle cylinder that has a plurality of axial grooves that each accommodate a needle, said needle cylinder being actuatable with a rotary motion about its own axis, arranged vertically, with respect to at least one feed or drop at which there are at least two yarn fingers for plated knitting, respectively a first yarn finger for dispensing a base yarn and a second yarn finger for dispensing a reinforcement yarn, said second yarn finger having an elongated body that comprises a dispensing end, located proximate to a longitudinal end thereof and provided with a passage for the reinforcement yarn to be dispensed to the needles of the machine arranged in said needle cylinder, and a remaining part of the body of the second yarn finger said second yarn finger being arrangeable so that said dispensing end thereof faces laterally the needle cylinder in the working area of the needles, wherein said dispensing end of the body of the second yarn finger can move on command with respect to the remaining part of the body of the second yarn finger, on a plane that is substantially perpendicular to the axis of the needle cylinder, along a direction that is substantially parallel to the tangent to said needle cylinder in the grip point, by the needles, of said reinforcement yarn dispensed by said second yarn finger. 8. the machine according to claim 7, wherein said dispensing end of the body of the second yarn finger can move on command, with respect to the remaining part of the body of the second yarn finger, from a dispensing start position to at least one plated knitting dispensing position, in which it is moved with respect to said dispensing start position along said direction in accordance with a direction of rotation of the needle cylinder with respect to said feed. 9. the machine according to claim 7, further comprising at least one fluid-operated cylinder, which is accommodated in said remaining part of the body of said second yarn finger and acts with its piston on said dispensing end of the body of the second yarn finger for its transition from said dispensing start position to said at least one plated knitting dispensing position. 10. a method for performing plated knitting on circular hosiery knitting machines, particularly double cylinder machines, comprising a step for dispensing two yarns to the needles of the machine by means of a first yarn finger and a second yarn finger arranged at a feed or drop of the machine and facing laterally the needle cylinder of the machine in the working area of the needles, respectively a first yarn finger for dispensing a base yarn and a second yarn finger for dispensing a reinforcement yarn, said second yarn finger having an elongated body that comprises a dispensing end, located proximate to one of its longitudinal ends and provided with a passage for the reinforcement yarn to be dispensed to the needles of the machine that are arranged in said needle cylinder, and a remaining part of the body of the second yarn finger said needle cylinder being actuatable with rotary motion about its own axis, which is arranged vertically, with respect to said feed, wherein during the dispensing of the reinforcement yarn the dispensing end of the body of the yarn of said second yarn finger, facing toward said needle cylinder, is moved, on a plane that is substantially perpendicular to the axis of the needle cylinder, along a direction that is substantially parallel to the tangent to said needle cylinder in the grip point, by the needles, of said reinforcement yarn dispensed by said second yarn finger. 11. the method according to claim 10, further comprising a dispensing start step and a plate knitting dispensing step, during said plate knitting dispensing step said dispensing end of the body of the second yarn finger being moved, with respect to its position during said dispensing start step, along said direction in accordance with the direction of rotation of the needle cylinder with respect to said feed. 12. the method according to claim 11, wherein the movement of said dispensing end of the body of the second yarn finger from the position occupied in said dispensing start step to the position occupied in said plate knitting dispensing step is actuated by moving said dispensing end with respect to the remaining part of the body of the second yarn finger along said direction. (Results 19)

1) Family number: 21184032 (US2304916A)

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Title: CIRCULAR KNITTING MACHINE

Priority: US19410378356 19410211

Family:	Publication number	Publication date	Application number	Application date
	US2304916 A	19421215	US19410378356	19410211

Probable Assignee: INTERWOVEN STOCKING CO

Assignee(s):(std): INTERWOVEN STOCKING CO

Assignee(s): INTERWOVEN STOCKING COMPANY

Inventor(s):(std): WELKER HAROLD R ; HILKER HARRISON F

International class D04B9/26 (Advanced/Invention);
(IPC 8-9): D04B9/00 (Core/Invention)

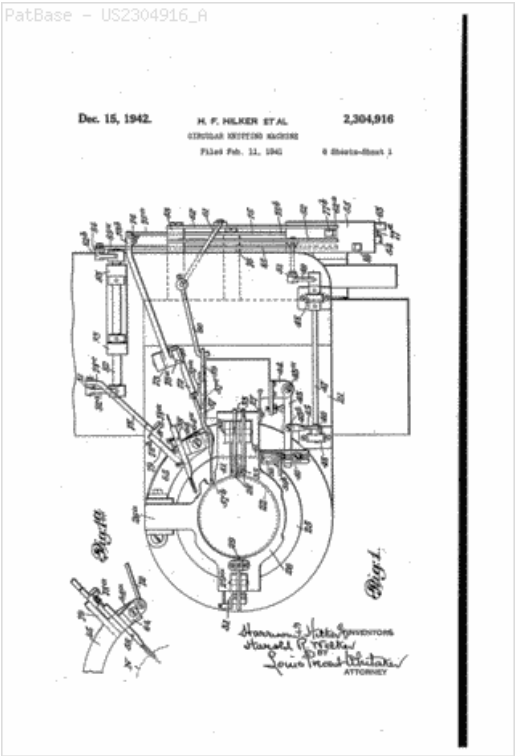
International class D04B9/34
(IPC 1-7):

CPC: D04B9/34 D04B15/60 D04B15/80
European class: D04B9/26 D04B9/28
US class: 66/134 66/136

[Classification Explorer](#)

Forward Citations: US5524459, US3803878, US3252307, US2869343, US2636366, US2426357, US2017370035,

Abstract:
1. In a circular knitting machine having a needle cylinder rotatable alternately in opposite directions relative to a cam block for manipulating the needles to knit in each direction of rotation, the combination of two thread guides for feeding thread to the needles in plating relation, one of said guides remaining in the same position in both directions of rotation and the other being freely movable in both directions by the pull of the thread being fed, to present the threads in proper relation for uniform plating in each direction of rotation.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2304916 A	19421215	LSGT	+	granted / extensions (spc, cpc, pte)	

2) Family number: 10644035 (US5524459A) © PatBase

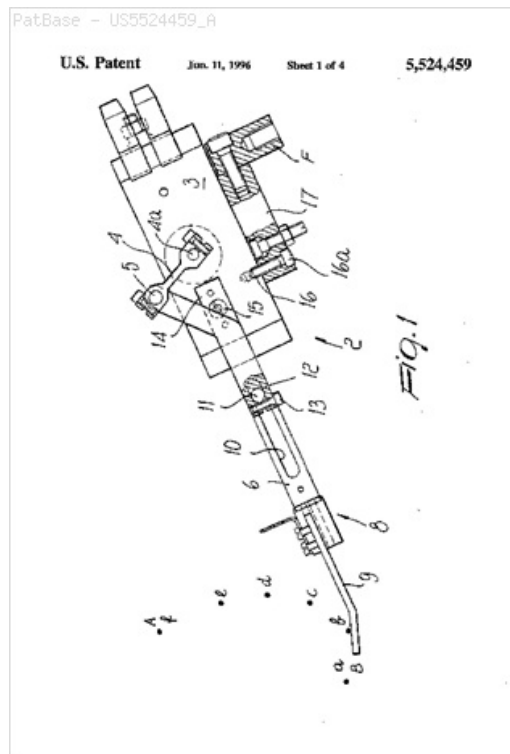
Title:	Device for positioning thread guides in selectable points in a circular knitting machine																																																
Priority:	IT1994BO00218 19940516																																																
Family:	<table><tr><th></th><th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr><tr><td></td><td>DE69505300 D1</td><td>19981119</td><td>DE19956005300</td><td>19950424</td></tr><tr><td></td><td>DE69505300 T2</td><td>19990325</td><td>DE19956005300T</td><td>19950424</td></tr><tr><td></td><td>EP0683259 A1</td><td>19951122</td><td>EP19950106081</td><td>19950424</td></tr><tr><td></td><td>EP0683259 B1</td><td>19981014</td><td>EP19950106081</td><td>19950424</td></tr><tr><td></td><td>HK1013855 A1</td><td>20000623</td><td>HK19980115217</td><td>19981223</td></tr><tr><td></td><td>ITBO940218 A0</td><td>19940516</td><td>IT1994BO00218</td><td>19940516</td></tr><tr><td></td><td>ITBO940218 A1</td><td>19951116</td><td>IT1994BO00218</td><td>19940516</td></tr><tr><td></td><td>US5524459 A</td><td>19960611</td><td>US19950426757</td><td>19950421</td></tr></table>					Publication number	Publication date	Application number	Application date		DE69505300 D1	19981119	DE19956005300	19950424		DE69505300 T2	19990325	DE19956005300T	19950424		EP0683259 A1	19951122	EP19950106081	19950424		EP0683259 B1	19981014	EP19950106081	19950424		HK1013855 A1	20000623	HK19980115217	19981223		ITBO940218 A0	19940516	IT1994BO00218	19940516		ITBO940218 A1	19951116	IT1994BO00218	19940516		US5524459 A	19960611	US19950426757	19950421
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	DE69505300 D1	19981119	DE19956005300	19950424																																													
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	US5524459 A	19960611	US19950426757	19950421																																													
Probable Assignee:	MATEC SRL																																																
Assignee(s):(std):	MATEC SPA ; MATEC SRL																																																
Assignee(s):	MATEC SRL VIA DELLE NAZIONI UNITE ; MATEC S P A ; MATEC S P A SCANDICCI IT ; MATEC S R L																																																
Inventor(s):(std):	BECONCINI PAOLO																																																
Inventor(s):	PAOLO BECONCINI ; BECONCINI PAOLO I 50100 FIRENZE IT																																																
Designated states:	DE FR GB																																																
International class (IPC 8-9):	D04B15/58 (Advanced/Invention); D04B15/38 (Core/Invention)																																																
International class (IPC 1-7):	D04B D04B15/38 D04B15/58																																																
CPC:	D04B15/58																																																
European class:	D04B15/58																																																
US class:	66/125R 66/136 66/14																																																

Cited documents: US4502299 A, US2959040 A, US2425243 A, US2304916 A, GB613596 A, EP0073745 A1, DE1560930 A1,

Forward Citations: WO16116380, US7836731, US6511305, US6295845, US6237372, US6190480, US6109069, US5615562, US2016130735, US2010180641, ES2168901, EP1136608, EP1136608, CN105908354, CN103255566,

Abstract:

A device for positioning thread guides in selectable points in a circular knitting machine, which has a unit for moving the thread guide closer or further away from the cylinder. The unit is a rod-and-crank system in which an intermediate region of the rod is slides guided with respect to a fixed slider. The end of the rod that supports the thread guide is adapted to move, as the crank is actuated, along a curved path from a spaced inactive position to an advanced thread delivery position. The unit is provided with elements for articulation to a fixed frame along an axis that is substantially parallel to the axis of the crank. An elastic return spring and an angular spacing piston are arranged between the unit and the frame and can be actuated selectively to move the thread position to different locations.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE69505300 D1	19991111	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69505300 D1	20040212	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69505300 T2	19990325	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69505300 T2	20150424	PEXP		Calculated Patent Term Expiry	
EP0683259 A1	19951122	LSPB	+	published / reissued	
EP0683259 A1	19960612	LSSE	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19960417
EP0683259 A1	19970820	LSSE	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19970704
EP0683259 A1	19980909	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : MATEC S.P.A.
EP0683259 B1	19981014	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0683259 B1	19991006	LSGT	+26N	NO OPPOSITION FILED	
EP0683259 B1	20020327	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20020327 YEAR OF FEE PAYMENT : 8
EP0683259 B1	20020424	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20020424 YEAR OF FEE PAYMENT : 8
EP0683259 B1	20020516	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL	COUNTRY OF REF DOCUMENT : DE

				OFFICE	PAYMENT DATE : 20020516 YEAR OF FEE PAYMENT : 8
EP0683259 B1	20030424	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20030424
EP0683259 B1	20031101	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031101
EP0683259 B1	20031217	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP
EP0683259 B1	20031231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031231
EP0683259 B1	20040130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0683259 B1	20150424	PEXP		Calculated Patent Term Expiry	
HK1013855 A1	20000623	LSPB	+	published / reissued	
HK1013855 A1	20041215	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	
HK1013855 A1	20181223	PEXP		Calculated Patent Term Expiry	
ITBO940218 A1	19951116	LSPB	+	published / reissued	
US5524459 A	19960611	LSGT	+	granted / extensions (spc, cpc, pte)	
US5524459 A	19950421	LSAS	AS	ASSIGNMENT	PARTY TYPE : OWNER OWNER : MATEC S.R.L., ITALY OLD PARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR : BECONCINI, PAOLO; REEL / FRAME : 007455/0861 EFFECTIVE DATE : 19950414
US5524459 A	19960529	LSGT	PAT1	Patented Case	
US5524459 A	19991220	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5524459 A	20031104	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5524459 A	20150421	PEXP		Calculated Patent Term Expiry	

3) Family number: 42931043 (US2010180641A)

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Title: KNITTING MACHINE FOR HOSIERY OR THE LIKE WITH DEVICE FOR FEEDING THE YARN TO THE NEEDLES

Priority: IT2007MI01742 20070911 EP20080803317 20080828 WO2008EP61291 20080828

Family:

Publication number	Publication date	Application number	Application date
AT521743 E	20110915	AT20080803317T	20080828
BRPI0816183 A2	20131126	BR2008PI16183	20080828
BRPI0816183 B1	20141202	BR2008PI16183	20080828
CN101802282 A	20100811	CN200880107050	20080828
CN101802282 B	20120523	CN200880107050	20080828
DE602008009153 D1	20111027	DE200860009153T	20080828
EP2188424 A1	20100526	EP20080803317	20080828
EP2188424 B1	20110824	EP20080803317	20080828
IN00611KN2010 A	20100813	IN2010KN00611	20100217
ITMI20071742 A1	20090312	IT2007MI01742	20070911
KR20100061447 A	20100607	KR20107003462	20080828
TW200934901 A	20090816	TW20080134911	20080911
TWI486496 B	20150601	TW20080134911	20080911
US2010180641 AA	20100722	US20080676432	20080828
US7836731 BB	20101123	US20080676432	20080828

VN11007 A1	20130225	VN20100000897	20080828
WO09033958 A1	20090319	WO2008EP61291	20080828

Probable Assignee: SANTONI SPA

Assignee(s):(std): LONATI ETTORE ; LONATI FAUSTO ; LONATI TIBERIO ; SANTONI AND C SPA

Assignee(s): SANTONI S P A ; SANTONI SPA

Inventor(s):(std): ETTORE LONATI ; FAUSTO LONATI ; TIBERIO LONATI ; LONATI TIBERIO ; LONATI FAUSTO ; LONATI ETTORE

Agent(s): SCHAUMBURG AND PARTNER PATENTANWALTE GBR; MODIANO MICAELA NADIA; SCULLY SCOTT MURPHY AND PRESSER PC; MODIANO MICAELA

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): D04B15/38 D04B15/54 D04B15/58 (Advanced/Invention); D04B15/38 D04B15/58 (Advanced/Non-invention); D04B15/38 (Core/Invention); D04B15/38 D04B15/58 (Core/Non-invention)

International class (IPC 1-7): D04B15/58

CPC: D04B15/80 D04B15/58

European class: D04B15/58

US class: 66/133 66/139 66/139P

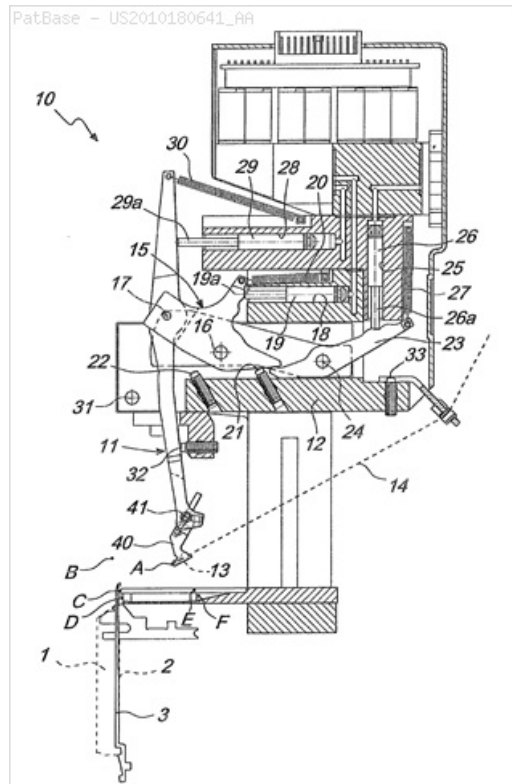
[Classification Explorer](#)

Cited documents: US6109069 A, US6000245 A, US5964106 A, US5524459 A, US5237841 A, US5056339 A, US5046333 A, US4391105 A, ITMI20010585 A1, IT20010585, GB2343200 A1, GB2073260 A1, GB2062017 A1, EP0533088 A2, DE3033039 A1,

Forward Citations: WO14203160, WO14203159, WO14203158, US2017370035, US2016130735, US2016122914, TWI591226, TWI591225, ITBS20130089, ITBS20130087, ITBS20130086, EP3011095, DE102010060521, CN105442174, CN105442174, CN104328593, CN104233613, CN104233611, CN104233611, CN101994207,

Abstract:

A knitting machine for hosiery comprising a needle holder having a plurality of vertical slots accommodating each a needle movable along the corresponding slot in order to form knitting, and a device for feeding the yarn to the needles, arranged above the needle holder and supporting at least one elongated vertical yarn finger, its lower end being located proximate to the needle work area and having a passage for dispensing the yarn to be fed to the needles. The device comprises a supporting block arranged laterally and above the needle holder to support a rotatable intermediate element. The intermediate element supports, so that it can rotate a corresponding yarn finger.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT521743 E	20110915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT521743 E	20120215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	

AT521743 E	20280828	PEXP		Calculated Patent Term Expiry	
BRPI0816183 A2	20140225	LSES	B65X	NOTIFICATION OF REQUIREMENT FOR PRIORITY EXAMINATION OF PATENT APPLICATION	
BRPI0816183 A2	20140318	LSES	+B65Y	GRANT OF PRIORITY EXAMINATION OF THE PATENT APPLICATION (REQUEST COMPLIES WITH DEC. 132/06 OF 20061117)	
BRPI0816183 A2	20140819	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0816183 B1	20141202	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 28/08/2008, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0816183 B1	20170704	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	
BRPI0816183 B1	20171031	LSLE	-B24J	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI, RESOLUTION 113/2013 ART. 12)	
BRPI0816183 B1	20280828	PEXP		Calculated Patent Term Expiry	
CN101802282 A	20100811	LSPB	+	published / reissued	
CN101802282 A	20100811	LSPB	+C06	PUBLICATION	
CN101802282 B	20120523	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101802282 B	20120523	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101802282 B	20280828	PEXP		Calculated Patent Term Expiry	
EP2188424 A1	20100526	LSPB	+	published / reissued	
EP2188424 A1	20100526	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100216
EP2188424 A1	20110824	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2188424 A1	20110831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2188424 A1	20110914	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2188424 A1	20111027	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602008009153 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20111027
EP2188424 A1	20111214	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20110824
EP2188424 A1	20111230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120125	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20110824
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EP2188424 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20111226
EP2188424 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : HR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20111224
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EP2188424 A1	20120215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 521743 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20110824
EP2188424 A1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20110824
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				FROM NAT. OFFICE TO EPO	TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LV NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
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EP2188424 A1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
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EP2188424 A1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824

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EP2188424 A1	20120629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110828
EP2188424 A1	20120801	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20120525
EP2188424 A1	20120920	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602008009153 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120525
EP2188424 A1	20120921	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20120817
EP2188424 A1	20130328	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2188424 A1	20130424	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20120828
EP2188424 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120831
EP2188424 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120831
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EP2188424 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20111024
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EP2188424 A1	20130628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111124

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EP2188424 A1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110824
EP2188424 A1	20151030	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150918 YEAR OF FEE PAYMENT : 8
EP2188424 A1	20151231	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20150625 YEAR OF FEE PAYMENT : 8
EP2188424 A1	20170301	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602008009153 COUNTRY OF REF DOCUMENT : DE
EP2188424 A1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170301
EP2188424 A1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160828
EP2188424 B1	20110824	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2188424 B1	20280828	PEXP		Calculated Patent Term Expiry	
IN00611KN2010 A	20100813	LSPB	+	published / reissued	
ITMI20071742 A1	20090312	LSPB	+	published / reissued	
KR20100061447 A	20100607	LSPB	+	published / reissued	
KR20100061447 A	20130821	LSSES	A201	REQUEST FOR EXAMINATION	
KR20100061447 A	20140729	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100061447 A	20150327	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
TW200934901 A	20090816	LSPB	+	published / reissued	
TWI486496 B	20150601	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI486496 B	20280911	PEXP		Calculated Patent Term Expiry	
US2010180641 AA	20100722	LSPB	+	published / reissued	
US7836731 BB	20101123	LSGT	+	granted / extensions (spc, cpc, pte)	
US7836731 BB	20100304	LSAS	AS	ASSIGNMENT	PARTY TYPE : OWNER OWNER : SANTONI S.P.A., ITALY OLD PARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNORS:LONATI, ETTORE; LONATI, TIBERIO; LONATI, FAUSTO; REEL/FRAME:024028/0633 EFFECTIVE DATE : 20100204
US7836731 BB	20101103	LSGT	PAT1	Patented Case	
US7836731 BB	20140320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7836731 BB	20180709	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7836731 BB	20280828	PEXP		Calculated Patent Term Expiry	
VN11007 A1	20130225	LSPB	+	published / reissued	
WO09033958 A1	20090319	LSPB	+	published / reissued	
WO09033958 A1	20100217	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20107003462 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09033958 A1	20100217	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 611/KOLNP/2010 COUNTRY OF REF DOCUMENT : IN
WO09033958 A1	20100304	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12676432 COUNTRY OF REF DOCUMENT : US
WO09033958 A1	20100312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09033958 A1	20131126	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0816183 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20100302

4) Family number: 8862155 (US5237841A)

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Title: THREAD FEED UNIT USING PNEUMATIC ACTUATORS

Priority: IT1991MI02475 19910919

Family:	Publication number	Publication date	Application number	Application date
	CZ9202864 A3	19930414	CS19920002864	19920917
	EP0533088 A2	19930324	EP19920115685	19920914
	EP0533088 A3	19930421	EP19920115685	19920914
	IT1251328 B	19950508	IT1991MI02475	19910919
	ITMI912475 A0	19910919	IT1991MI02475	19910919
	ITMI912475 A1	19930320	IT1991MI02475	19910919
	JP5214644 A2	19930824	JP19920244353	19920914
	US5237841 A	19930824	US19920944656	19920914

Probable Assignee: LONATI SPA

Assignee(s):(std): LONATI SRL ; LONATI SPA

Assignee(s): LONATI SRL VIA OSCULATI ; LONATI S R L ; LONATI SOCIETA A RESPONSABILITA LIMITATA

Inventor(s):(std): ETTORE LONATI ; FAUSTO LONATI ; LONATI FRANCESCO ; LONATI ETTORE ; LONATI FAUSTO ;
FRANCESCO LONATI ; LONATI TIBERIO ; TIBERIO LONATI

Designated states: DE FR GB

International class (IPC 8-9): D04B15/38 D04B15/48 D04B15/58 D04B15/60 D04B9/32 D04B9/46 (Advanced/Invention);
D04B (Subclass/Invention)

International class (IPC 1-7): D04B15/38 D04B15/48 D04B15/58 D04B15/60 D04B9/32 D04B9/46

CPC: D04B15/60

European class: D04B15/60

US class: 66/139 66/140R

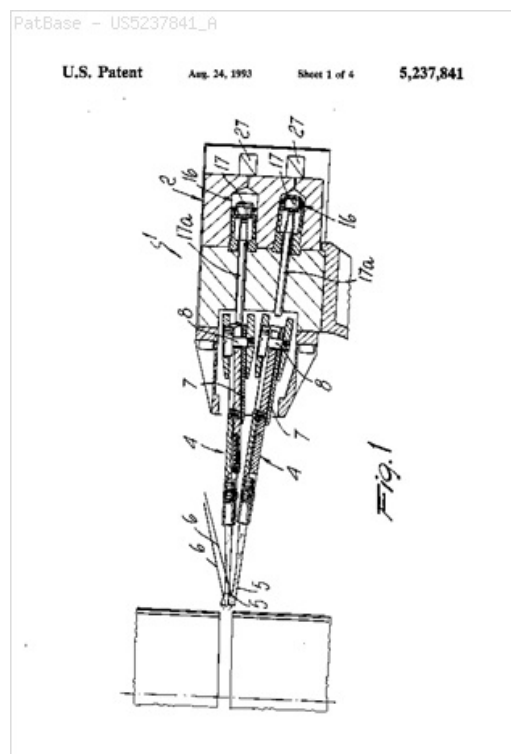
[Classification Explorer](#)

Cited documents: US4385507 A, US4233826 A, US3605444 A, US3500663 A, US2885874 A, GB2007728 A1, GB1259187 A, FR2380211 A1, EP0026425 A2, DE825445 A, DE825445 A, DE3005805 A1,

Forward Citations: WO16116380, WO14203160, WO09033958, WO08037339, US7861559, US7836731, US6810696, US2016130735, US2016122914, US2015013393, US2010180641, US2004216495, TWI486496, TWI434970, KR200467945, KR101395172, KR101044629, KR100908489, KR100893563, ITBS20130089, CN104233613, CN101994207,

Abstract:

The thread feed unit has a supporting block which can be associated with a knitting machine laterally to the needle cylinder or cylinders and is provided with at least one thread guide which has a body provided with an elongated configuration associated with a supporting element and slidable along a direction substantially parallel to its longitudinal extension. The supporting element is associated with the supporting block for oscillation about an oscillation axis transverse to the sliding direction of the thread guide body. A first thread guide actuator is provided and controllably acts on the supporting element to oscillate the thread guide about the oscillation axis, and a second actuator controlling the thread guide body to slide it longitudinally with respect to the supporting element. The first actuator and the second actuator are associated with the supporting block and can be actuated independently of one another.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CZ9202864 A3	19930414	LSPB	+	published / reissued	
EP0533088 A2	19930324	LSPB	+	published / reissued	
EP0533088 A3	19931124	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19930917
EP0533088 A3	19940615	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : LONATI S.P.A.
EP0533088 A3	19950920	LSWD	-18W	APPLICATION WITHDRAWN	DATE APPLICATION WITHDRAWN : 19950725
IT1251328 B	19950508	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1251328 B	19950508	LSGT	0001	GRANTED	
IT1251328 B	19991027	LSFE	TA	FEE PAYMENT DATE (SITUATION AS OF EVENT DATE), DATA COLLECTED SINCE 19931001	EFFECTIVE DATE : 19971028
IT1251328 B	20110919	PEXP		Calculated Patent Term Expiry	
ITMI912475 A1	19930320	LSPB	+	published / reissued	
JP5214644 A2	19930824	LSPB	+	published / reissued	
US5237841 A	19930824	LSGT	+	granted / extensions (spc, cpc, pte)	
US5237841 A	19921120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LONATI S.R.L., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:LONATI, FRANCESCO; LONATI, ETTORE; LONATI, FAUSTO;

US5237841 A	19930811	LSGT	PAT1	Patented Case	
US5237841 A	19970824	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5237841 A	19971104	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19970827
US5237841 A	20180126	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5237841 A	20120914	PEXP		Calculated Patent Term Expiry	

5) Family number: 22514239 (US2934923A)

© PatBase

Title:

Priority:

Family:

Probable Assignee:

Assignee(s):(std):

Inventor(s):(std):

International class
(IPC 8-9):

International class
(IPC 1-7):

CPC:

European class:

US class:

[Classification Explorer](#)

Cited documents:

Forward Citations:

TRIPLE PLATED HOSE

US19570702136 19571211

Publication number	Publication date	Application number	Application date
 US2934923 A	19600503	US19570702136	19571211

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ELWELL REED C

D04B1/26 (Advanced/Invention);
D04B1/22 (Core/Invention)

D04B11/22 D04B9/46

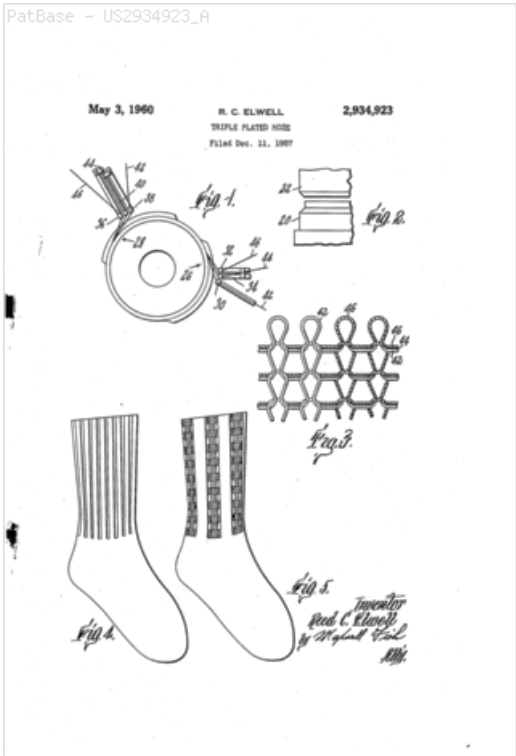
D04B1/126 D04B9/34 D04B1/26 D10B2403/0114

D04B1/26 N10B403/0114

66/188 66/202

US391005 A, US2789422 A, US2468668 A, US1858814 A, US1811849 A,
WO07065729, WO07065729, US9255351, US5417091, US4267710, US3828585, US3307379,
US3250095, US3184758, US2017370035, US2012122364,

Abstract:
(Claim 1) 1. A circular knit stocking including leg, foot, heel and toe portions, the leg and foot portions of said stocking being knitted with three yarns knitted in a single knitting wave in plating relation, including an intermediate stretch control nylon yarn, and two exterior yarns comprising a face yarn, and a lining yarn disposed respectively outwardly and inwardly of the intermediate stretch control nylon yarn, at ledst the leg portion of said stock- ing having vertically extending areas spaced about the eiretim-Ference of said stocking in which certain wale loops are drawn to the back side of the fabric and in which certain other wale loops are drawn to the face side of the fab c for the knitting of stretch rib patterns, said plating relation being maintained f6r said wale loops drawn to the face side of the fabric, and being further maintained but in the reverse order for said loops drawn to the back side of the fabric.



Legal status (INPADOC)

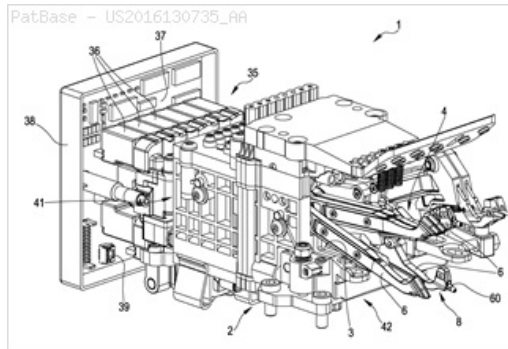
[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US2934923 A	19600503	LSGT	+	granted / extensions (spc, cpc, pte)	

6) Family number: 58124337 (US2016130735A) © PatBase

Title:	DEVICE FOR FEEDING THREAD TO NEEDLES OF A KNITTING MACHINE																																																																									
Priority:	IT2013BS00086 20130621	EP20140738629 20140617	WO2014IB62287 20140617																																																																							
Family:	<table><tr><th></th><th>Publication number</th><th>Publication date</th><th>Application number</th><th>Application date</th></tr><tr><td></td><td>BR112015031571 A2</td><td>20170725</td><td>BR20151131571</td><td>20140617</td></tr><tr><td></td><td>CN104233611 A</td><td>20141224</td><td>CN201310456594</td><td>20130929</td></tr><tr><td></td><td>CN104233611 B</td><td>20160907</td><td>CN201310456594</td><td>20130929</td></tr><tr><td></td><td>DE602014031335 D1</td><td>20180927</td><td>DE201460031335T</td><td>20140617</td></tr><tr><td></td><td>EP3011095 A1</td><td>20160427</td><td>EP20140738629</td><td>20140617</td></tr><tr><td></td><td>EP3011095 B1</td><td>20180829</td><td>EP20140738629</td><td>20140617</td></tr><tr><td></td><td>IN201637001938 A</td><td>20160408</td><td>IN201637001938</td><td>20160119</td></tr><tr><td></td><td>ITBS20130086 A1</td><td>20141222</td><td>IT2013BS00086</td><td>20130621</td></tr><tr><td></td><td>KR20160021884 A</td><td>20160226</td><td>KR20167001718</td><td>20140617</td></tr><tr><td></td><td>TW201510308 A</td><td>20150316</td><td>TW20140121371</td><td>20140620</td></tr><tr><td></td><td>TWI591225 B</td><td>20170711</td><td>TW20140121371</td><td>20140620</td></tr><tr><td></td><td>US2016130735 AA</td><td>20160512</td><td>US20140899324</td><td>20140617</td></tr><tr><td></td><td>WO14203158 A1</td><td>20141224</td><td>WO2014IB62287</td><td>20140617</td></tr></table>					Publication number	Publication date	Application number	Application date		BR112015031571 A2	20170725	BR20151131571	20140617		CN104233611 A	20141224	CN201310456594	20130929		CN104233611 B	20160907	CN201310456594	20130929		DE602014031335 D1	20180927	DE201460031335T	20140617		EP3011095 A1	20160427	EP20140738629	20140617		EP3011095 B1	20180829	EP20140738629	20140617		IN201637001938 A	20160408	IN201637001938	20160119		ITBS20130086 A1	20141222	IT2013BS00086	20130621		KR20160021884 A	20160226	KR20167001718	20140617		TW201510308 A	20150316	TW20140121371	20140620		TWI591225 B	20170711	TW20140121371	20140620		US2016130735 AA	20160512	US20140899324	20140617		WO14203158 A1	20141224	WO2014IB62287	20140617
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Probable Assignee:	SANTONI SPA																																																																									
Assignee(s):(std):	SANTONI AND C SPA																																																																									
Assignee(s):	SANTONI S P A ; LONATI ADELE ; LONATI ANDREA ; LONATI FRANCESCO ; LONATI MATTEO ; SANTONI SPA																																																																									
Inventor(s):(std):	ETTORE LONATI ; FAUSTO LONATI ; LONATI ETTORE ; LONATI FAUSTO ; LONATI TIBERIO ; TIBERIO LONATI																																																																									
Inventor(s):	LONATI TIBERIO DECEASED																																																																									
Agent(s):	GALASSI ALESSANDRO																																																																									
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Forward Citations:	US9683321, US2016215419, US2016122914, CN104532463,																																																																									

Abstract:
A device (1) for feeding thread to the needles (N) of a knitting machine, the device comprising a body (2) destined to be associated to a needle-bearing organ of the knitting machine, and provided with at least a housing seating (3) configured such as to movably house the thread guide means (4) in the body. The device is provided with thread guide means (4), movably housed in the housing seating (3) and comprising a first lever (5), a thread guide (6) and a second lever (10). The first lever is rotatably mounted to the body (2) such as to be able to rotate about a first rotation axis (X); the thread guide is rotatably mounted to the first lever (5) so as to be able to rotate, with respect to the first lever, about a second rotation axis (Y). The thread guide extends longitudinally between a rear end (7) and a front end (8); the front end (8) extends and emerges from the seating (3) in the direction of the needle-bearing organ, and defines at least a passage (61) for a thread to be dispensed to the needles (N) of the needle-bearing organ; the thread guide is further provided with a guide portion (9). The second lever (10) is rotatably mounted to the body (2) so as to be rotatable about a third rotation axis (Z) and extends between an activating end (11) and a guide end (12), to which the guide portion (9) of the thread guide is maintained slidably in contact. The thread guide means further comprise activating means which controlledly move the first (5) and the second lever (10) so as to position the thread guide (6) in a plurality of operating positions with respect to the needle-bearing organ of the knitting machine.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN104233611 A	20141224	LSPB	+	published / reissued	
CN104233611 A	20141224	LSPB	+C06	PUBLICATION	
CN104233611 B	20160907	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104233611 B	20160907	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104233611 B	20330929	PEXP		Calculated Patent Term Expiry	
EP3011095 A1	20160427	LSPB	+	published / reissued	
EP3011095 A1	20160427	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20151218
EP3011095 A1	20161123	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20161019
EP3011095 A1	20180523	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20180424
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IN201637001938 A	20160408	LSPB	+	published / reissued	
ITBS20130086 A1	20141222	LSPB	+	published / reissued	
KR20160021884 A	20160226	LSPB	+	published / reissued	
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KR20160021884 A	20181128	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
TW201510308 A	20150316	LSPB	+	published / reissued	
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US2016130735 AA	20160512	LSPB	+	published / reissued	
US2016130735 AA	20160107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SANTONI S.P.A., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LONATI, ETTORE; LONATI, FAUSTO; REEL/FRAME:037429/0531 EFFECTIVE DATE : 20151222
US2016130735 AA	20170425	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LONATI, ADELE, ITALY OLDPARTY : DECLARATION REGARDING OWNERSHIP OF INVENTOR'S RIGHTS; ASSIGNOR:LONATI, TIBERIO; REEL/FRAME:042327/0891 EFFECTIVE DATE : 20170420
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7) Family number: 56087364 (US2015245951A)

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Title: METHOD FOR PRODUCING A TUBULAR COMPRESSION ITEM, AND ITEM THEREBY OBTAINED
Priority: FR20120058771 20120919 EP20130774722 20130904 WO2013FR52039 20130904
Family:

Publication number	Publication date	Application number	Application date
BR112015006072 A2	20170704	BR20151106072	20130904
CN104640525 A	20150520	CN201380048574	20130904
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WO14044945 A1	20140327	WO2013FR52039	20130904
ZA201501895 A	20160629	ZA20150001895	20130904

Probable Assignee: THUASNE
Assignee(s):(std): THUASNE ; TJUASN
Inventor(s):(std): AURELIA RUER ; CATTIAUX GERARD ; CONVERT REYNALD ; GERARD CATTIAUX ; KATTIO ZHERALD ; KONVER REJNALD ; MOTE PASKAL ; MOTET PASCAL ; PASCAL MOTET ; REYNALD CONVERT ; RJUER ORELIA ; RUER AURELIA
Agent(s): CBDL PATENTANWAELTE; BALESTA PIERRE; VEIGA MIKEL; CABINET BEAU DE LOMENIE; CENK SEVINC
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): A61F A61F13/08 D04B D04B1/26 D04B15/18 (Advanced/Invention)
CPC: D04B15/18 A61F13/08 D04B1/265 A61F13/00004 A61F13/00038 D04B1/26 D04B1/106 D04B1/18
US class: 2/240 66/107 66/178A 66/232 66/35

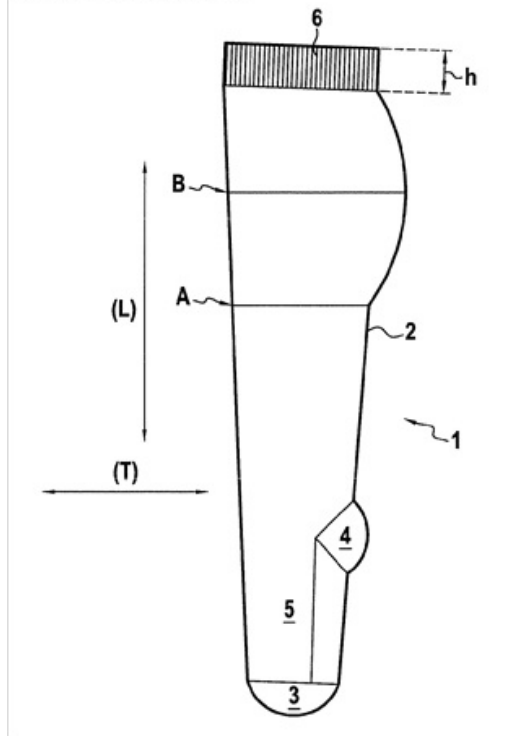
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Forward Citations: WO17068039, US9534324, US2015308021, US2015128652, FR3045317, DE102016125409, CN106715773,

Abstract:

The object of the present invention is a method for manufacturing a tubular compression item (1), having at least one leg part (2), one foot tip (3), one heel (4) and one foot (5), comprising a first step for knitting the leg part (2) and the foot (5) with at least one mesh thread (7) on a twin cylinder knitting machine during which an elastic weft thread (8) is inserted between two rows of ribbed stitches (n)ss(p) and (n')ss(p') every 1/1 to 1/5 rows of stitches of the leg part (2) and of the foot (5), on at least 50 percent by number of the number (m) of needles without forming any tuck stitch or loop stitch.

**Legal status (INPADOC)**

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN104640525 A	20150520	LSPB	+	published / reissued	
CN104640525 A	20150520	LSPB	+C06	PUBLICATION	
CN104640525 B	20180504	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN104640525 B	20330904	PEXP		Calculated Patent Term Expiry	
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ES2608044 T3	20330904	PEXP		Calculated Patent Term Expiry	
FR2995525 A1	20140321	LSPB	+	published / reissued	
FR2995525 B1	20141010	LSGT	+	granted / extensions (spc, cpc, pte)	
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FR2995525 B1	20170922	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 6
FR2995525 B1	20180924	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 7

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IN02433DN2015 A	20150904	LSPB	+	published / reissued	
PL2897562 T3	20170331	LSGT	+	granted / extensions (spc, cpc, pte)	
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RU2604448 C2	20161210	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2604448 C2	20330904	PEXP		Calculated Patent Term Expiry	
TN2015000083 A1	20160629	LSPB	+	published / reissued	
TR201618750 T4	20170123	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201618750 T4	20330904	PEXP		Calculated Patent Term Expiry	
US2015245951 AA	20150903	LSPB	+	published / reissued	
US2015245951 AA	20150511	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THUASNE, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: CONVERT, REYNALD; RUER, AURELIA; CATTIAUX, GERARD; AND OTHERS; SIGNING DATES FROM 20150427 TO 20150429; REEL/FRAME: 035603/0570
US2015245951 AA	20170906	LSES	NFA1	Non Final Action Mailed	
US2015245951 AA	20180306	LSES	NFA1	Non Final Action Mailed	
WO14044945 A1	20140327	LSPB	+	published / reissued	
WO14044945 A1	20150309	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14426793 COUNTRY OF REF DOCUMENT : US
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ZA201501895 A	20160629	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201501895 A	20330903	PEXP		Calculated Patent Term Expiry	

8) Family number: 51227394 (US2013233024A)

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Title:	DOUBLE-CYLINDER CIRCULAR MACHINE, PARTICULARLY FOR KNITTING HOSIERY ITEMS OR THE LIKE, WITH SIMPLIFIED ACTUATION MECHANISM			
Priority:	IT2010MI02227 20101202	EP20110773697 20110922	WO2011EP66530 20110922	
Family:	Publication number	Publication date	Application number	Application date
	BR112013013049 A2	20160809	BR20131113049	20110922
	CN103249882 A	20130814	CN201180058040	20110922
	CN103249882 B	20151125	CN201180058040	20110922
	CO6741148 A2	20130830	CO20130130655	20130528

DE602011010002 D1	20141030	DE201160010002T	20110922
EA023677 B1	20160630	EA20130090640	20110922
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EP2646609 B1	20140917	EP20110773697	20110922
ES2514343 T3	20141028	ES20110773697T	20110922
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IN01409KN2013 A	20140328	IN2013KN01409	20130509
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JP5764218 B2	20150812	JP20130541256T	20110922
KR101873948 B1	20180703	KR20137014745	20110922
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MX2013006211 A1	20130715	MX20130006211	20110922
MX340149 B	20160628	MX20130006211	20110922
TH151770 A	20160603	TH20131002886	20110922
UA108266 C2	20150410	UA20130006159	20110922
US2013233024 AA	20130912	US20110988402	20110922
US8833108 BB	20140916	US20110988402	20110922
WO12072296 A1	20120607	WO2011EP66530	20110922
ZA201303622 A	20140129	ZA20130003622	20130517

Probable Assignee: LONATI SPA

Assignee(s):(std): LONATI ETTORE ; LONATI FAUSTO ; LONATI SPA ; LONATI TIBERIO

Assignee(s): LONATI S P A

Inventor(s):(std): LONATI ETTORE ; LONATI FAUSTO ; LONATI TIBERIO

Inventor(s): TIBERIO LONATI ; ETTORE LONATI ; FAUSTO LONATI

Agent(s): MODIANO MICAELA NADIA; PONTI ADELAIDA; HUSCH BLACKWELL LLP; MODIANO MICAELA

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): D04B D04B15/00 D04B15/99 D04B9/10 D04B9/46 (Advanced/Invention); D04B9/00 D04B9/10 (Core/Invention)

CPC: D04B15/00 D04B15/99 D04B9/10

European class: D04B9/10

US class: 66/14 66/17 66/18

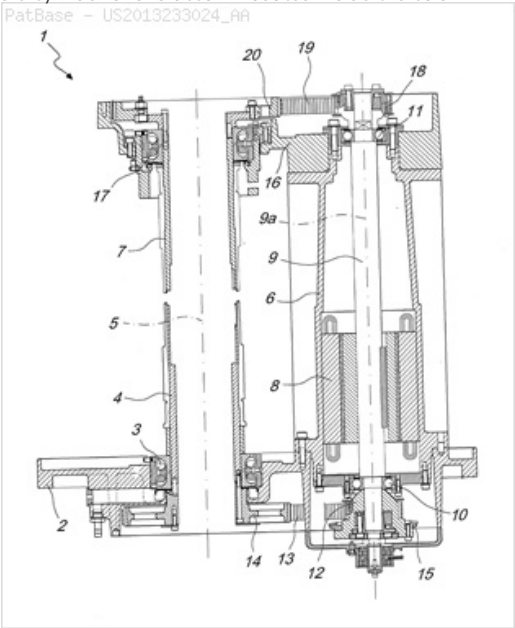
[Classification Explorer](#)

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Forward Citations: WO13041268, US8833108, US2015354108, US2013233024, US10011928, CN107109728,

Abstract:

A double-cylinder circular machine, particularly for knitting hosiery items, with simplified actuation mechanism, comprising a supporting structure which comprises a footing, which supports a lower needle cylinder, and a column which extends substantially vertically, protrudes upwardly from the footing and supports an upper needle cylinder, which is arranged above and coaxially with respect to the lower needle cylinder, and further comprising elements for the actuation of the lower needle cylinder and of the upper needle cylinder with a rotary motion about a common axis, the actuation elements comprising an electric motor which is connected kinematically to the lower needle cylinder and to the upper needle cylinder and is accommodated inside the column.



Patent	Date recorded	Event group	Code	Event	Details
CN103249882 A	20130814	LSPB	+	published / reissued	
CN103249882 A	20130814	LSPB	+C06	PUBLICATION	
CN103249882 B	20151125	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103249882 B	20151125	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103249882 B	20310922	PEXP		Calculated Patent Term Expiry	
CO6741148 A2	20130830	LSPB	+	published / reissued	
CO6741148 A2	20140822	LSGT	+FG	APPLICATION GRANTED	
EA023677 B1	20160630	LSGT	+	granted / extensions (spc, cpc, pte)	
EA023677 B1	20170630	LSLE	-MM4A	LAPSE OF A EURASIAN PATENT DUE TO NON-PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	COUNTRY OF REF DOCUMENT : AM COUNTRY OF REF DOCUMENT : AZ COUNTRY OF REF DOCUMENT : KG COUNTRY OF REF DOCUMENT : KZ COUNTRY OF REF DOCUMENT : MD COUNTRY OF REF DOCUMENT : TJ COUNTRY OF REF DOCUMENT : TM
EA023677 B1	20310922	PEXP		Calculated Patent Term Expiry	
EA201390640 A1	20140130	LSPB	+	published / reissued	
EP2646609 A1	20131009	LSPB	+	published / reissued	
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EP2646609 A1	20140514	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20140417
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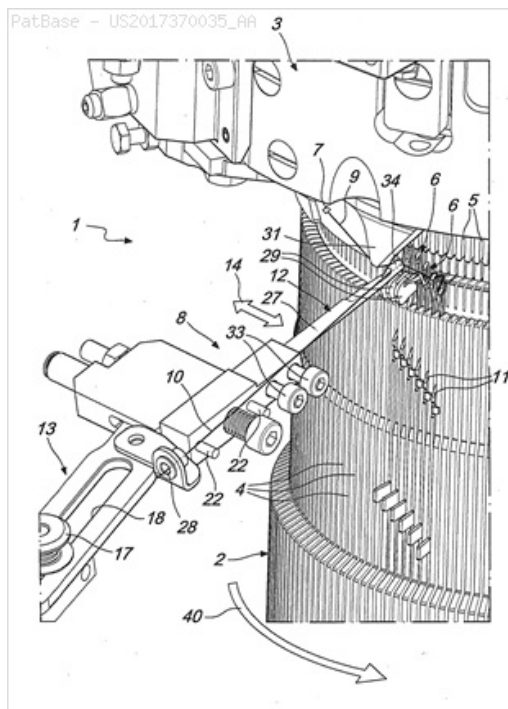
9) Family number: 63002409 (US2017370035A)

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Title:	CIRCULAR HOSIERY KNITTING MACHINE, PARTICULARLY OF THE DOUBLE CYLINDER TYPE, WITH YARN FINGER FOR PLATED KNITTING																																																											
Priority:	IT2015MI00037 20150119		WO2016EP50831 20160115																																																									
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Probable Assignee:	LONATI SPA																																																											
Assignee(s):(std):	LONATI SPA																																																											
Assignee(s):	LONATI S P A																																																											
Inventor(s):(std):	ETTORE LONATI ; FAUSTO LONATI ; FRANCESCO LONATI ; LONATI ETTORE ; LONATI FAUSTO ; LONATI FRANCESCO																																																											
Agent(s):	JOSE ANDRES RINCON USCATEGUI; MODIANO MICAELA NADIA; KOHNO TAKAO; MODIANO MICAELA ET AL																																																											
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW																																																											
International class (IPC 8-9):	D04B15/06 D04B15/14 D04B15/32 D04B15/48 D04B15/58 (Advanced/Invention); D04B15/58 (Core/Invention)																																																											
CPC:	D04B15/48 D04B15/06 D04B15/14 D04B15/32 D04B15/58																																																											
Classification Explorer																																																												
Cited documents:	US7836731 BB, US6109069 A, US2988907 A, US2959040 A, US2934923 A, US2304916 A, US1933408 A, JP11315454, GB997390 A, GB811781 A, GB1416596 A, EP0683259 A1, EP0533088 A2, CN1159494 A, CN103917706 A, CN103249882 A,																																																											
Forward Citations:	US2016130735, US2015245951,																																																											

Abstract:

A circular hosiery knitting machine, particularly of the double cylinder type, with yarn finger for plated knitting, comprising at least one needle cylinder and a first yarn finger for dispensing a base yarn and a second yarn finger for dispensing a reinforcement yarn; the dispensing end of the body of the second yarn finger can move on command with respect to the remaining part of the body of the second yarn finger, on a plane that is substantially perpendicular to the axis of the needle cylinder, along a direction that is substantially parallel to the tangent to the needle cylinder in the grip point, by needles, of a reinforcement yarn dispensed by the second yarn finger.

**Legal status (INPADOC)**

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CN107109728 A	20170829	LSPB	+	published / reissued	
CN107109728 A	20170829	LSPB	PB01	PUBLICATION	
CO20170007855 A2	20180328	LSPB	+	published / reissued	
EA201791646 A1	20171229	LSPB	+	published / reissued	
EP3247831 A1	20171129	LSPB	+	published / reissued	
EP3247831 A1	20171129	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170807
EP3247831 A1	20180815	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20180720
IN201737027390 A	20171013	LSPB	+	published / reissued	
JP2018505971 T2	20180301	LSPB	+	published / reissued	
KR20170104601 A	20170915	LSPB	+	published / reissued	
MX2017009388 A1	20171012	LSPB	+	published / reissued	
SV2017005482 A	20171017	LSPB	+	published / reissued	
TH177285 A	20180628	LSPB	+	published / reissued	
US2017370035 AA	20171228	LSPB	+	published / reissued	
US2017370035 AA	20170711	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LONATI S.P.A., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LONATI, ETTORE; LONATI, FAUSTO; LONATI, FRANCESCO; REEL/FRAME:042966/0008 EFFECTIVE DATE : 20170706

WO16116380 A1	20160728	LSPB	+	published / reissued	
WO16116380 A1	20170713	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017537291 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16116380 A1	20170720	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16116380 A1	20170802	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : NC2017/0007855 COUNTRY OF REF DOCUMENT : CO
WO16116380 A1	20170818	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20177023114 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16116380 A1	20180313	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112017013671 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20170623

10) Family number: 3982411 (GB1416596A)

© PatBase

Title:

Priority:

Family:

Probable Assignee:

Assignee(s):(std):

Assignee(s):

International class (IPC 8-9):

International class (IPC 1-7):

CPC:

European class:

Classification Explorer

Forward Citations:

METHOD OF FORMING A CLOSED TOE POUCH IN A SOCK OR OTHER HOSIERY KNITWORK IN A TWO CYLINDER CIRCULAR KNITTING MACHINE A TWO CYLINDER CIRCULAR KNITTING MACHINE FOR PERFORMING THE METHOD AND HOSIERY KNITWORK WITH A CLOSED TOE POUCH PRODUCED BY THE METHOD IN THE MACHINE

CS19730001070 19730214

Publication number	Publication date	Application number	Application date
 CS163993 B1	19751107	CS19730001070	19730214
 GB1416596 A	19751203	GB19730039700	19730822
 IT1006334 A	19760930	IT19740020389	19740211

ELITEX ZAVODY TEXTILNIHO

ELITEX ZAVODY TEXTILNIHO

ELITEX ZAVODY TEXTILNIHO STROJI RENSTVI GENERALNI ; ELITEX ZAVODY TEXTILNIHO STROJI RENSTVI GENERALNI REDITE ; ELITEX

D04B9/56 (Advanced/Invention);
D04B9/00 (Core/Invention)

D04B1/24 D04B9/54 D04B9/56

D04B9/56

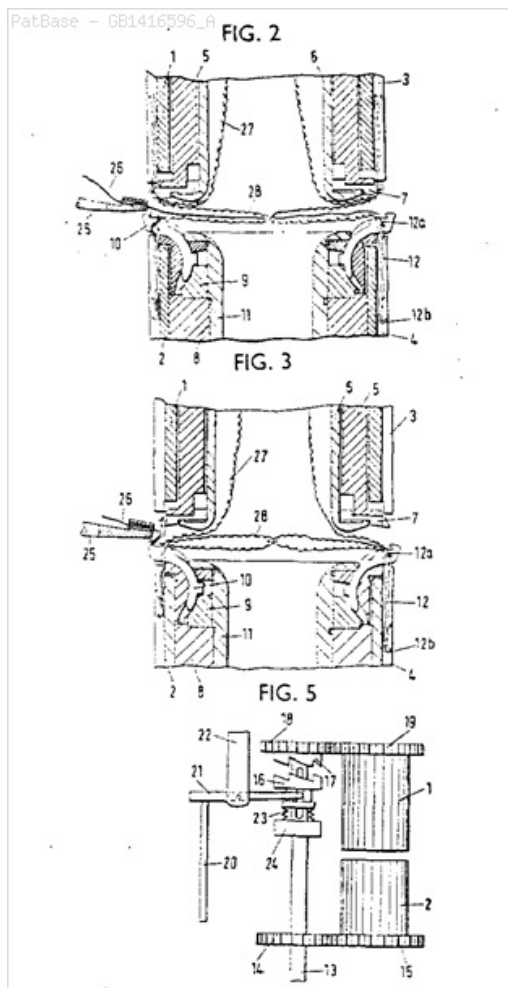
D04B9/56

[Classification Explorer](#)

WO07112831, CN107109728,

Abstract:

1416596 Knitting ELITEX ZAVODY TEXTILNIHO STROJIRENSTVI GENERALNI REDITELSTVI 22 Aug 1973 [14 Feb 1973] 39700/73 Headings D1C and D1K The toe of a sock or the like knitted on a two-cylinder knitting machine is closed by holding the body of the article in the upper cylinder, forming a double welt with its end courses held on the needles of the two cylinders so that one cylinder can be rotated relative to the other to twist the welt and bind yarn round it to close it after which the needles in the upper cylinder are transferred to the lower cylinder and a securing course is knitted. The machine has a drive with a clutch so that the cylinders may be rotated relative to one another and to a yarn guide. The clutch comprises a part 16 rotatable with shaft 13 which drives the lower cylinder and controlled from the main cam drum by a linkage so as to engage it with and disengage it from clutch part 17 of gear wheel 18 which drives the gear wheel 19 of the upper cylinder. During knitting, yarn is fed by guide 25 and single jersey is knitted on cylinder 2 after which the needles are divided 1:1 between the upper and lower cylinders.

**Legal status (INPADOC)**

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CS163993 B1	19751107	LSGT	+	granted / extensions (spc, cpc, pte)	
CS163993 B1	19880214	PEXP		Calculated Patent Term Expiry	
GB1416596 A	19751203	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1416596 A	19760324	LSOP	414F	NOTICE OF OPPOSITION GIVEN (SECT. 14/1949)	
GB1416596 A	19761103	LSRV	CSNS	APPLICATION OF WHICH COMPLETE SPECIFICATION HAVE BEEN ACCEPTED AND PUBLISHED, BUT PATENT IS NOT SEALED	
GB1416596 A	19930822	PEXP		Calculated Patent Term Expiry	
IT1006334 A	19760930	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1006334 A	19940211	PEXP		Calculated Patent Term Expiry	

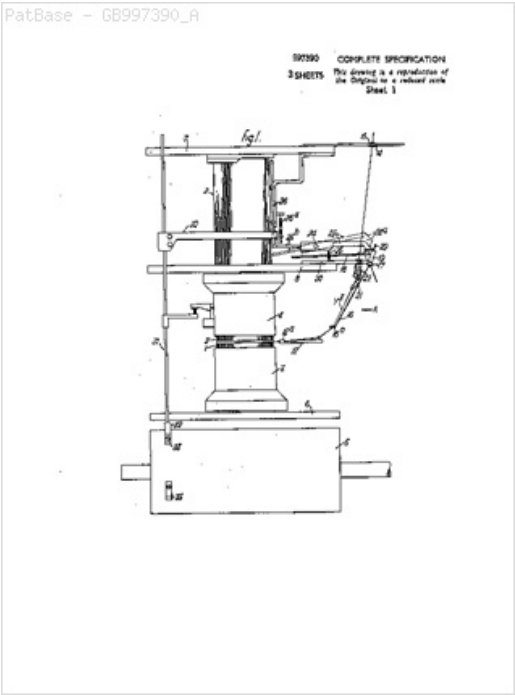
11) Family number: 22265418 (GB997390A)

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Title:	Improvements in seamless knitted footwear machines and in articles produced on the same			
Priority:	GB19610014430 19610421			
Family:	Publication number	Publication date	Application number	Application date
	GB997390 A	19650707	GB19610014430	19610421
Probable Assignee:	CORAH ST MARGARET LTD N			
Assignee(s):(std):	CORAH ST MARGARET LTD N			
Assignee(s):	N CORAH ST MARGARET LIMITED ; N CORAH ST MARGARET LTD			
Inventor(s):(std):	WELLS HARRY			
International class (IPC 8-9):	D04B9/10 (Advanced/Invention); D04B9/00 (Core/Invention)			
International class (IPC 1-7):	D04B9/10			
CPC:	D04B9/10			

European class: D04B9/10
Classification Explorer
Forward Citations: US2017370035,

Abstract:
997,390. Knitting-machines. N. CORAH (ST. MARGARET) Ltd. April 19, 1962 [April 21, 1961], No. 14430/61. Heading D1C. In a superposed cylinder circular knitting machine having a yarn take-up wire associated with a trapper actuated thereby mechanical means are provided which are operable when knitting a heel or toe pouch, in timed relationship with the reciprocatory movements of the needle cylinders to act on the wire to open the trapper and release the yarn before the first knitting needle in the heel or toe group draws on the yarn. An individual take-up wire 16 is provided for each backing yarn and plating yarn. Each wire is pivoted at 17 and is biased rearwardly by a spring 18 to swing backwards momentarily and allow the trapper 21, 22 to close at each reversal of the needle cylinders. Fingers 23, one for each wire, pivoted at 24 have tails 23a which may be depressed by a slide 26 operated by a cam on the upper needle cylinder 2 to move their operative ends 23a away from pins 29 mounted on the pivot blocks 19 of the wires 16. At the end of the forward swing of each wire 16 the slide 26 rises to allow the finger ends 23a to descend into abutment with each pin 29 to positively push the latter back and move the wire forward to separate the trapper elements 21, 22 and release the clamping action on the yarn passing through the eye of the wire 16. The slide 26 then moves downwards to lift the ends 23a of the fingers clear of the pins 19 before the wires 16 swing back. A cam 33 on the main control drum 5 actuates mechanism 30, 31, 32 to depress the slide 26 and render the fingers 23 inoperative when a heel or toe pouch is not being knitted. The feeder 9, which has a hole 10 (see Fig. 3) receiving a face yarn Y¹ and a loop 11 for receiving a backing yarn Y², feeds the yarns during the reciprocatory knitting of a heel or toe pouch and during the rotary knitting of the leg, instep and foot bottom of a footwear article. A second yarn feeder 12 is provided to feed a third yarn Y³ during the knitting of the pouches. The yarn Y² may be a nylon backing yarn, while plating yarns Y¹ and Y³ may be of "Orlon" (Registered Trade Mark). It is stated that the edges of the forward and reverse stitch cams may be recessed (Fig. 4, not shown), to relieve the yarns of unnecessary tension during knitting.



Legal status (INPADOC)
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
GB997390 A	19650707	LSGT	+	granted / extensions (spc, cpc, pte)	
GB997390 A	19810421	PEXP		Calculated Patent Term Expiry	

12) Family number: 30992446 (US1933408A) © PatBase

Title:	CIRCULAR KNITTING MACHINE			
Priority:	GB19300020306 19300704			
Family:	Publication number	Publication date	Application number	Application date
	GB360451 A	19311104	GB19300020306	19300704
	US1933408 A	19331031	US19310548174	19310701
Probable Assignee:	HAROLD WARNER GODDARD			
Assignee(s):(std):	ALFRED BUSWELL GEORGE ; ARTHUR BENTLEY PERCIVAL ; CARLYLE HERBERT WAINWRIGHT ; CHARLES FREDERICK MANGER ; CHARLES VICCAR'S GODDARD ; FREDERICK MANGER CHARLES ; HERBERT WAINWRIGHT CARLYLE ; PERCIVAL ARTHUR BENTLEY ; JOSEPH HOLLAND GODDARD ; GEORGE ALFRED BUSWELL ; DOROTHY GODDARD ; HAROLD WARNER GODDARD			
Inventor(s):(std):	ALFRED BUSWELL GEORGE ; ARTHUR BENTLEY PERCIVAL ; FREDERICK MANGER CHARLES ; HERBERT WAINWRIGHT CARLYLE			
Inventor(s):	MANGER CHARLES FREDERICK ; WAINWRIGHT CARLYLE HERBERT ; BENTLEY PERCIVAL ARTHUR ; BUSWELL GEORGE ALFRED			
International class (IPC 8-9):	D04B15/58 (Advanced/Invention); D04B15/38 (Core/Invention)			
International class	D04B15/58 D04B9/10			

(IPC 1-7):

CPC: D04B15/58

European class: D04B15/58

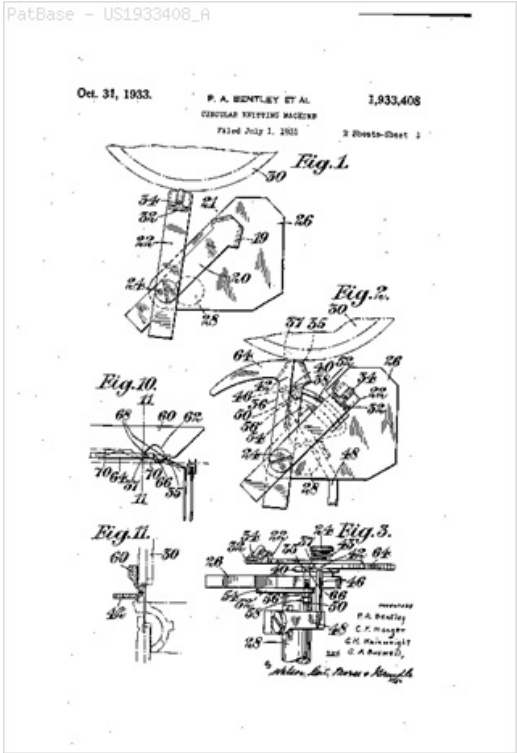
US class: 66/136

[Classification Explorer](#)

Forward Citations: WO16116380, US4998418, US2720092, US2616276, US2425243,

Abstract:

360,451. Knitting-machines. BENTLEY, P. A., GODDARD, J. H., MANGER, C. F., WAINWRIGHT, C. H., BUSWELL, G. A., GODDARD, C. V., GODDARD, H. W., and GODDARD, D., Komet Works, New Bridge Street, Leicester. July 4, 1930, Nos. 20306/30 and 9895/31. Addition to 280,612, [Class 74 (ii), Knitting and c [Class 74 (ii).] The unitary yarnfeeding device of the parent Specification, for a superposed needle-cylinder machine, is provided with a yarn-guiding slot 32 or other passage providing spaced guiding surfaces, one or other of which guides the yarn during reciprocatory knitting, and a second yarn-guiding passage 34 spaced midway between the spaced guiding surfaces. A feeding device for feeding two yarns wherein one yarn-guiding passage 37 may be adjusted with respect to the other passage 35 may also be provided. In one form the arm 42 containing the passage 37 is raised or lowered with respect to the needle cylinders by a lever 48 and pin 46, while the arm 40 with the passage 35 is held at one level by a stud 50 passing through a slot 52 in a stationary plate 26. In a modification, a passage such as 34 is held over the slot 32 by an arm which permits adjustment of the position of the passage 34 axially of the machine, and lengthwise of the arm 22. The machine may have a latch guard 60 as described in Specification 247,334, and to prevent striking of the latches by the feeders an arm 64 carried by, or formed integral with, the arm 42 is provided which closes the lower portion of the V-shaped recess 62 in the latch guard when the feeding device is in operative and inoperative positions. The ends of the slot 32 may be curved upwardly.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB360451 A	19311104	LSGT	+	granted / extensions (spc, cpc, pte)	
GB360451 A	19500704	PEXP		Calculated Patent Term Expiry	
US1933408 A	19331031	LSGT	+	granted / extensions (spc, cpc, pte)	

13) Family number: 22845455 (US2959040A)

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Title: CIRCULAR KNITTING MACHINES OF THE SUPERIMPOSED NEEDLE CYLINDER TYPE

Priority: 19570823 US19580756094 19580820

Family:	Publication number	Publication date	Application number	Application date
	US2959040 A	19601108	US19580756094	19580820

Probable Assignee: WILDT AND CO LTD

Assignee(s):(std): WILDT AND CO LTD

Assignee(s): WILDT AND COMPANY LIMITED

Inventor(s):(std): PERCY SAUNDERS ALFRED

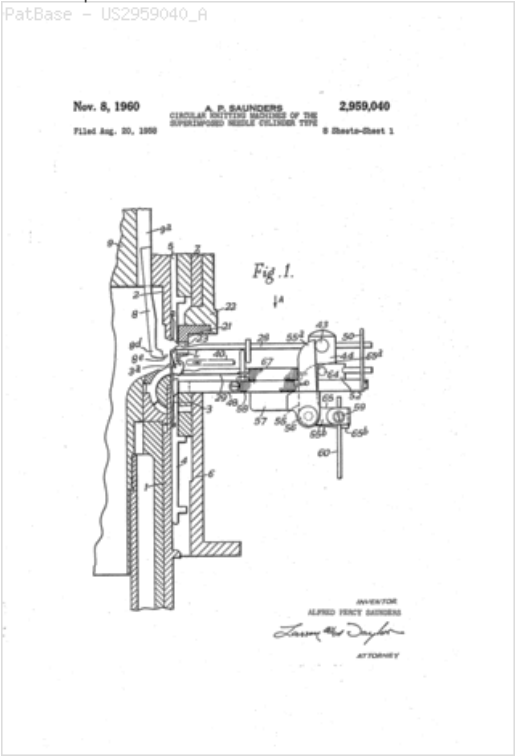
Inventor(s): SAUNDERS ALFRED PERCY

International class D04B9/10 (Advanced/Invention);
(IPC 8-9): D04B9/00 (Core/Invention)

International class A01K31/06 D04B9/12
(IPC 1-7):

CPC: D04B9/10
European class: D04B9/10
US class: 66/112 66/134 66/14 66/91
Classification Explorer
Cited documents: US2757526 A, US2719416 A, US2430792 A,
Forward Citations: US5524459, US4606202, US4233823, US3888094, US3283539, US3277672, US2017370035,

Abstract:
(Claim 1) A circular knitting machine comprising, in combination, a rotary bottom needle cylinder, a superimposed rotary top needle cylinder, double-ended latch needles for operation in the said cylinders, bottom and top sliders in the cylinders for actuating the needles and for transferring the same from one cylinder to the other according to knitting requirements, terry instruments for the production of elongated sinker loops, a bed located concentrically within the top needle cylinder for accommodation of the said terry instruments, means for operating the terry instruments conjointly with the operation of needles in the bottom cylinder, a fixed latch guard presenting an inner face for engagement with open latches of needles in both cylinders for the purpose of preventing closure of such latches, said latch guard having formed therein a circumferentially extending gap, at least one yarn guide provided below the latch guard for feeding in beneath the lower edge thereof a main yarn for engagement by needles in the bottom cylinder, at least one thread feeder in the form of a hnger for temporarily supplying to needles in the bottom cylinder and over operative terry instruments a terry thread to be knitted together with the said main yarn, a terry thread trapping and severing device disposed at the outside of the gapped latch guard and in a low position beneath the latter, automatically actuated and controlled means for moving the terry thread feeder from the low position at which the trapping and severing device is provided to a high feeding position in which the terry thread is fed through the gap in the latch guard to appropriate needles and over the said operative terry instruments, and also for retracting the said feeder away from the circumferential gap to the low non-feeding position to etiect withdrawal of the terry thread from knitting, such with. drawal being from the inside of the latch guard to the low position on the outside thereof where the terry thread is taken into the trapping and severing device, and means for automatically actuating the said device so as to trap and sever the withdrawn thread.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2959040 A	19601108	LSGT	+	granted / extensions (spc, cpc, pte)	

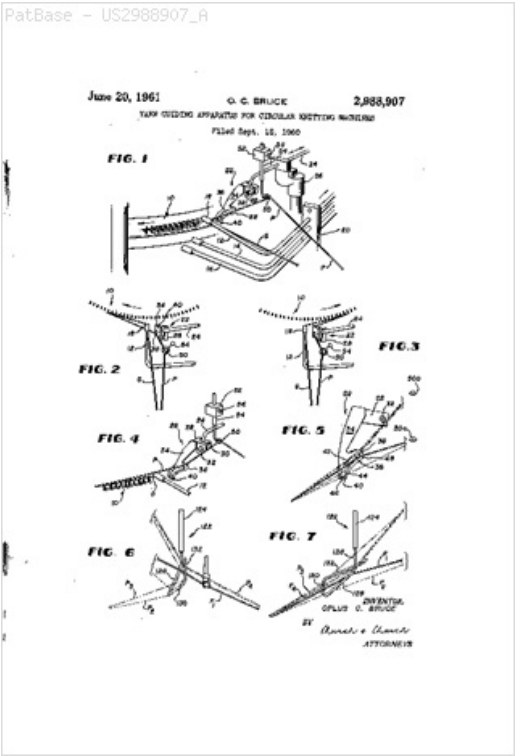
14) Family number: 20212471 (US2988907A)

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Title:	YARN GUIDING APPARATUS FOR CIRCULAR KNITTING MACHINES			
Priority:	US19600056498 19600916			
Family:	Publication number	Publication date	Application number	Application date
	GB972503 A	19641014	GB19610033309	19610918
	US2988907 A	19610620	US19600056498	19600916
Probable Assignee:	PRINCETON HOSIERY MILLS INC			
Assignee(s):(std):	PRINCETON HOSIERY MILLS INC			
Inventor(s):(std):	CLINTUS BRUCE OPLUS			
Inventor(s):	BRUCE OPLUS CLINTUS			
International class	D04B15/58 (Advanced/Invention);			
(IPC 8-9):	D04B15/38 (Core/Invention)			
International class	D04B15/58 D04B9/32			
(IPC 1-7):				
CPC:	D04B15/58			

European class: D04B15/58
US class: 66/136
[Classification Explorer](#)
Cited documents: US2402744 A, US1255851 A, US1023311 A,
Forward Citations: WO16116380, US3930386, US3226956, US3226955,

Abstract:
972,503. Yarn guides. PRINCETON HOSIERY MILLS Inc. Sept. 18, 1961 [Sept. 16, 1960], No. 33309/61. Heading D1C. A knitting machine with selectable ground yarn guides 12 has a plating yarn guide 22 that feeds the plating yarn P to the cylinder 10 at the same relative position to the yarn fed from the guide 12, irrespective of the direction of rotation of the cylinder 10. The guide 22 has a slot 36 whose upper end 38 is above, and whose lower end 40 is below the guide 12, the slot 36 curving inwardly, downwardly and circumferentially away from the guide 12. In Fig. 6 the plating yarn guide 122 is bent from a rod 128. In operation, and with the yarn P passing below the guide 12, for clockwise operation (Fig.2, not shown) the yarn P contacts the end 38 of the slot 36, for anti-clockwise operation (Fig. 3 not shown) the yarn P slides down the slot 36 to contact its bottom 40 to give the same relative feed angle. If it is desired to feed the yarn P from above the guide 12 (Fig. 4, not shown) an adjustable eyelet 50 is raised.



Legal status (INPADOC)
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Patent	Date recorded	Event group	Code	Event	Details
GB972503 A	19641014	LSGT	+	granted / extensions (spc, cpc, pte)	
GB972503 A	19810918	PEXP		Calculated Patent Term Expiry	
US2988907 A	19610620	LSGT	+	granted / extensions (spc, cpc, pte)	

15) Family number: 53328487 (US2015096332A)

© PatBase

Title: DOUBLE-CYLINDER CIRCULAR MACHINE FOR PRODUCING TUBULAR KNITTED MANUFACTURES, PARTICULARLY FOR MAKING HOSIERY ITEMS OR THE LIKE
Priority: IT2011MI01681 20110919 EP20120740566 20120723 WO2012EP64383 20120723
Family:

Publication number	Publication date	Application number	Application date
BR112014006410 A2	20170404	BR20141106410	20120723
CN103917706 A	20140709	CN201280054689	20120723
CN103917706 B	20160824	CN201280054689	20120723
CO6910174 A2	20140331	CO20140059497	20140319
DE602012010674 D1	20151022	DE201260010674T	20120723
EA027003 B1	20170630	EA20140090651	20120723
EA201490651 A1	20140730	EA20140090651	20120723
EP2758574 A1	20140730	EP20120740566	20120723
EP2758574 B1	20150916	EP20120740566	20120723
ES2551267 T3	20151117	ES20120740566T	20120723
HR20151265 T1	20151218	HR20150001265	20151124
IN00510KN2014 A	20140502	IN2014KN00510	20140311
ITMI20111681 A1	20130320	IT2011MI01681	20110919
JP2014530303 T2	20141117	JP20140531140T	20120723
JP6005746 B2	20161012	JP20140531140T	20120723

KR20140075747 A	20140619	KR20147010383	20120723
MX2014003297 A1	20140528	MX20140003297	20120723
MX340982 B	20160801	MX20140003297	20120723
TH145147 A	20160205	TH20141001435	20120723
TR201515515 T4	20151221	TR20150015515T	20120723
UA112322 C2	20160825	UA20140003612	20120723
US2015096332 AA	20150409	US20120345299	20120723
US9481952 BB	20161101	US20120345299	20120723
WO13041267 A1	20130328	WO2012EP64383	20120723
ZA201401980 A	20150930	ZA20140001980	20140318

Probable Assignee: LONATI SPA

Assignee(s):(std): LONATI ETTORE ; LONATI FAUSTO ; LONATI FRANCESCO ; LONATI SPA ; LONATI TIBERIO

Assignee(s): LONATI S P A

Inventor(s):(std): ETTORE LONATI ; FAUSTO LONATI ; LONATI FAUSTO ; LONATI ETTORE ; LONATI FRANCESCO ; LONATI DECEASED TIBERIO ; LONATI TIBERIO ; TIBERIO LONATI ; LONATI TIBERIO FINADO

Agent(s): MODIANO MICAELA NADIA; PONTI ADELAIDA; KOHNO TAKAO; MINE MANAP; HUSCH BLACKWELL LLP; MODIANO MICAELA

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): D04B D04B15/16 D04B15/88 D04B15/94 D04B9/10 D04B9/46 (Advanced/Invention); D04B9/10 (Core/Invention)

CPC: D04B15/94 D04B15/16 D04B9/10

US class: 66/17 66/18

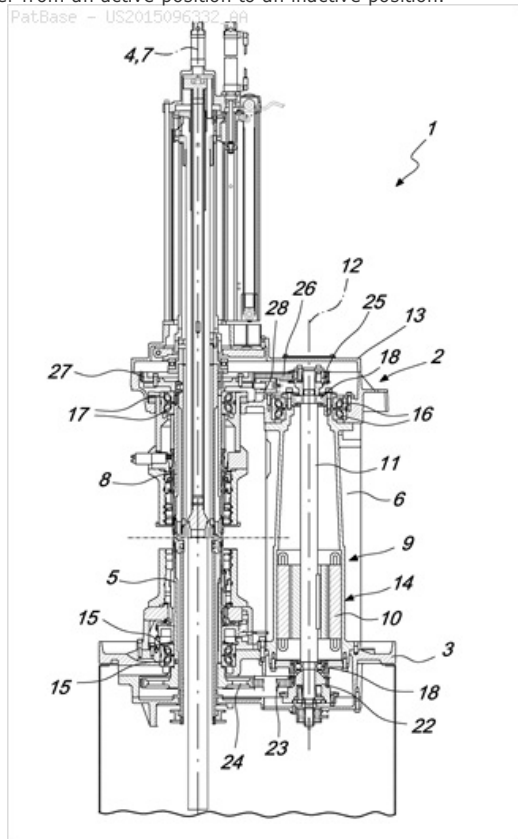
[Classification Explorer](#)

Cited documents: WO09112347 A1, WO09112346 A1, US6698250 BB, US5187951 A, US4028910 A, US2506968 A, US2258927 A, US2003233852 AA, US2001052248 AA, US02258927, KR101003082 B1, JP5239744 A2, JP2009079322 A2, GB372510 A, GB2288819 A1, CN201212088 Y, CN201155021 Y, CN101809213 A,

Forward Citations: US8833108, US2015354108, US2013233024, US10011928, CN107109728,

Abstract:

A double-cylinder circular machine for producing tubular knitted manufactures, particularly for making hosiery items or the like, which comprises a supporting structure which is provided with a footing for resting on the ground which supports, so that it can rotate about its own vertically-oriented axis, a lower needle cylinder. The supporting structure comprises at least one column which is extended substantially vertically, protrudes upward from the footing and supports, so that it can rotate about its own axis, an upper needle cylinder, the upper needle cylinder is supported, so that it can rotate about its own axis, by an arm, which in turn is supported by the column, elements being provided for the rotation of the arm about the axis of the main shaft with respect to the column to provide the transition of the upper needle cylinder from an active position to an inactive position.



Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CN103917706 A	20140709	LSPB	+	published / reissued	

CN103917706 A	20140709	LSPB	+C06	PUBLICATION	
CN103917706 B	20160824	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103917706 B	20160824	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103917706 B	20320723	PEXP		Calculated Patent Term Expiry	
CO6910174 A2	20140331	LSPB	+	published / reissued	
EA027003 B1	20170630	LSGT	+	granted / extensions (spc, cpc, pte)	
EA027003 B1	20180330	LSLE	-MM4A	LAPSE OF A EURASIAN PATENT DUE TO NON- PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	COUNTRY OF REF DOCUMENT : AM COUNTRY OF REF DOCUMENT : AZ COUNTRY OF REF DOCUMENT : KG COUNTRY OF REF DOCUMENT : KZ COUNTRY OF REF DOCUMENT : TJ COUNTRY OF REF DOCUMENT : TM
EA027003 B1	20320723	PEXP		Calculated Patent Term Expiry	
EA201490651 A1	20140730	LSPB	+	published / reissued	
EP2758574 A1	20140730	LSPB	+	published / reissued	
EP2758574 A1	20140730	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140317
EP2758574 A1	20150429	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150401
EP2758574 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : HR PAYMENT DATE : 20160621 YEAR OF FEE PAYMENT : 5
EP2758574 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160530 YEAR OF FEE PAYMENT : 5
EP2758574 A1	20161230	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160628 YEAR OF FEE PAYMENT : 5
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EP2758574 B1	20150916	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2758574 B1	20150930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2758574 B1	20151007	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2758574 B1	20151015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 749923 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20151015
EP2758574 B1	20151022	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012010674 COUNTRY OF REF DOCUMENT : DE
EP2758574 B1	20151117	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2551267 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :

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EP2758574 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151216
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EP2758574 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151217
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EP2758574 B1	20160215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 749923 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150916
EP2758574 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916

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EP2758574 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160118
EP2758574 B1	20160617	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602012010674 COUNTRY OF REF DOCUMENT : DE
EP2758574 B1	20160824	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20160617
EP2758574 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20160620 YEAR OF FEE PAYMENT : 5
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				NATIONAL OFFICE	PAYMENT DATE : 20160620 YEAR OF FEE PAYMENT : 5
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EP2758574 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20170201	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602012010674 COUNTRY OF REF DOCUMENT : DE
EP2758574 B1	20170228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2758574 B1	20170322	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160723
EP2758574 B1	20170331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170201
EP2758574 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160801
EP2758574 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160731
EP2758574 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160731
EP2758574 B1	20170428	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170331
EP2758574 B1	20170503	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2758574 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160723
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EP2758574 B1	20170831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170530 YEAR OF FEE PAYMENT : 6
EP2758574 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : HR PAYMENT DATE : 20170713 YEAR OF FEE PAYMENT : 6
EP2758574 B1	20171031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20170814 YEAR OF FEE PAYMENT : 6
EP2758574 B1	20171130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20170712 YEAR OF FEE PAYMENT : 6
EP2758574 B1	20171130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170720 YEAR OF FEE PAYMENT : 6
EP2758574 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20120723
EP2758574 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20160731
EP2758574 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20180831	LSFE	+PGFP	POSTGRANT: ANNUAL	COUNTRY OF REF DOCUMENT

				FEES PAID TO NATIONAL OFFICE	: IT PAYMENT DATE : 20180509 YEAR OF FEE PAYMENT : 7
EP2758574 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : AL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150916
EP2758574 B1	20181031	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180802 YEAR OF FEE PAYMENT : 7
EP2758574 B1	20181130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20180716 YEAR OF FEE PAYMENT : 7
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EP2758574 B1	20181130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180712 YEAR OF FEE PAYMENT : 7
EP2758574 B1	20320723	PEXP		Calculated Patent Term Expiry	
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ES2551267 T3	20320723	PEXP		Calculated Patent Term Expiry	
HR20151265 T1	20151218	LSPB	+	published / reissued	
IN00510KN2014 A	20140502	LSPB	+	published / reissued	
ITMI20111681 A1	20130320	LSPB	+	published / reissued	
JP2014530303 T2	20141117	LSPB	+	published / reissued	
JP2014530303 T2	20141003	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140912
JP2014530303 T2	20150414	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150414
JP2014530303 T2	20160106	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160105
JP2014530303 T2	20160404	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160401
JP2014530303 T2	20160808	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014530303 T2	20160816	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160816
JP2014530303 T2	20160915	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160907
JP2014530303 T2	20160916	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6005746 COUNTRY OF REF DOCUMENT : JP
JP6005746 B2	20161012	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6005746 B2	20160818	LSGT	+A01	特許査定書 Decision of patent grant	
JP6005746 B2	20160913	LSFE	R100	特許料納付書 Patent fee payment form	

JP6005746 B2	20160916	LSGT	+R150	特許証 Patent certificate	
JP6005746 B2	20320723	PEXP		Calculated Patent Term Expiry	
KR20140075747 A	20140619	LSPB	+	published / reissued	
KR20140075747 A	20180614	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
MX2014003297 A1	20140528	LSPB	+	published / reissued	
MX2014003297 A1	20160801	LSGT	+FG	GRANT OR REGISTRATION	
MX340982 B	20160801	LSGT	+	granted / extensions (spc, cpc, pte)	
MX340982 B	20320723	PEXP		Calculated Patent Term Expiry	
TH145147 A	20160205	LSPB	+	published / reissued	
TR201515515 T4	20151221	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201515515 T4	20320723	PEXP		Calculated Patent Term Expiry	
UA112322 C2	20160825	LSGT	+	granted / extensions (spc, cpc, pte)	
UA112322 C2	20320723	PEXP		Calculated Patent Term Expiry	
US2015096332 AA	20150409	LSPB	+	published / reissued	
US2015096332 AA	20140527	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LONATI S.P.A., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LONATI, ETTORE; LONATI, FAUSTO; REEL/FRAME:032968/0250 EFFECTIVE DATE : 20140526
US9481952 BB	20161101	LSGT	+	granted / extensions (spc, cpc, pte)	
US9481952 BB	20161012	LSGT	PAT1	Patented Case	
US9481952 BB	20330708	PEXP		Calculated Patent Term Expiry (PTA 350 days)	
WO13041267 A1	20130328	LSPB	+	published / reissued	
WO13041267 A1	20140319	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014531140 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13041267 A1	20140319	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13041267 A1	20140319	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14059497 COUNTRY OF REF DOCUMENT : CO
WO13041267 A1	20140417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201490651 COUNTRY OF REF DOCUMENT : EA
WO13041267 A1	20140418	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20147010383 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13041267 A1	20140418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : A201403612 COUNTRY OF REF DOCUMENT : UA
WO13041267 A1	20141117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14345299 COUNTRY OF REF DOCUMENT : US
WO13041267 A1	20170404	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014006410

COUNTRY OF REF DOCUMENT
: BR
KIND CODE OF REF
DOCUMENT : A2
DESIGNATED STATE(S) :
EFFECTIVE DATE : 20140318

ZA201401980 A	20150930	LSGT	+	granted / extensions (spc, cpc, pte)
ZA201401980 A	20340317	PEXP		Calculated Patent Term Expiry

16) Family number: 30246702 (US5718128A)

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Title: Double-cylinder circular knitting machine for hosiery and the like, with improved needle actuation
Priority: IT1995MI02694 19951220

Family:	Publication number	Publication date	Application number	Application date
	 CN1159494 A	19970917	CN19961023162	19961220
	 CZ9603706 A3	19970716	CZ19960003706	19961217
	 EP0780502 A2	19970625	EP19960119461	19961204
	 EP0780502 A3	19981111	EP19960119461	19961204
	 IT1277121 B1	19971104	IT1995MI02694	19951220
	 ITMI952694 A0	19951220	IT1995MI02694	19951220
	 ITMI952694 A1	19970620	IT1995MI02694	19951220
	 JP9188947 A2	19970722	JP19960341599	19961220
	 KR19970043451 A	19970726	KR19960066705	19961217
	 US5718128 A	19980217	US19960753977	19961204

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Assignee(s):(std): MATEC S R L ; MATEC SRL

Assignee(s): MATEC SRL VIA DELLE NAZIONI UNITE ; MATETSUKU SARL ; MATEC SPA ; MATEC S P A

Inventor(s):(std): ETOORE RONAATEI ; ETTORE LONATI ; FRANCESCO LONATI ; FUAUSUTO RONAATEI ; FURANCHIESUKO RONAATEI ; LONATI ETTORE ; LONATI FAUSTO ; LONATI FRANCESCO ; LONATI TIBERIO ; TEIBERIO RONAATEI ; TIBERIO LONATI

Agent(s): NAGAI HIROSHI

Designated states: DE ES FR GB IT

International class (IPC 8-9): D04B15/32 D04B15/58 D04B9/00 D04B9/10 D04B9/46 (Advanced/Invention);
D04B15/08 D04B15/14 (Advanced/Non-invention);
D04B15/00 D04B15/38 D04B9/00 (Core/Invention)

International class (IPC 1-7): D04B15/14 D04B15/32 D04B15/58 D04B9/00 D04B9/10 D04B9/46

CPC: D04B15/325

European class: D04B15/32C

US class: 66/13 66/14 66/140 66/8

[Classification Explorer](#)

Cited documents: US2375475 A, US2366405 A, US2327398 A, US1929075 A, US1852256 A, US1437109 A, GB1082623 A, DE524740 A, DE1266914 B,

Forward Citations: US9365962, US8474288, US8365557, US2012131721, US2010095709, KR100922320, CN107109728, CN106087228, CN103946432, CN103194848, CN102644153, CN102471962,

Abstract:

Double-cylinder circular knitting machine for hosiery or the like. The machine comprises a lower needle cylinder having a substantially vertical axis and an upper needle cylinder that is arranged above and coaxially with respect to the lower needle cylinder. A plurality of axial grooves is formed in the skirt of the needle cylinders and each groove accommodates a double-beak needle that can move axially along the corresponding groove. In each one of the grooves there is a lower pusher, which is arranged below the needle and faces the lower head of the needle with its upper end, and an upper pusher, which is arranged above the needle and faces the upper head of the needle with its lower end. Cams are provided for the actuation of the lower pushers and of the upper pushers to make them slide upwards or downwards in their respective grooves to push up or down the interposed needles located in the lower or in the upper needle cylinder or to transfer the needles from the lower to the upper needle cylinder or vice versa.

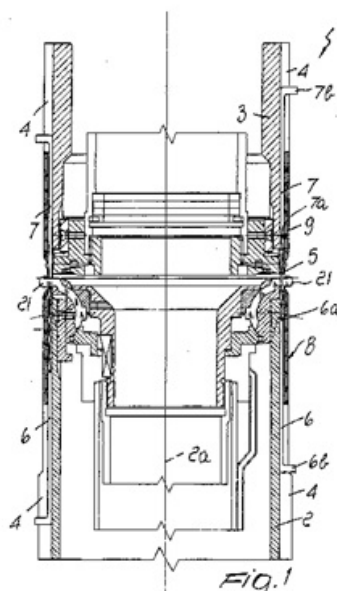


FIG. 1

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1159494 A	19970917	LSPB	+	published / reissued	
CN1159494 A	19970917	LSPB	+C06	PUBLICATION	
CN1159494 A	19990929	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
CZ9603706 A3	19970716	LSPB	+	published / reissued	
EP0780502 A2	19970625	LSPB	+	published / reissued	
EP0780502 A2	19980909	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : MATEC S.P.A.
EP0780502 A3	19990303	LSWD	-18W	APPLICATION WITHDRAWN	DATE APPLICATION WITHDRAWN : 19981229
IT1277121 B1	19971104	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1277121 B1	19971104	LSGT	0001	GRANTED	
IT1277121 B1	20151220	PEXP		Calculated Patent Term Expiry	
ITMI952694 A1	19970620	LSPB	+	published / reissued	
JP9188947 A2	19970722	LSPB	+	published / reissued	
KR19970043451 A	19970726	LSPB	+	published / reissued	
US5718128 A	19980217	LSGT	+	granted / extensions (spc, cpc, pte)	
US5718128 A	19961204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MATEC S.R.L., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LONATI, FRANCESCO; LONATI, TIBERIO; LONATI, ETTORE; AND OTHERS; REEL/FRAME:008288/0606 EFFECTIVE DATE : 19961119

US5718128 A	20020219	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5718128 A	20020319	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5718128 A	20020416	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20020217
US5718128 A	20161204	PEXP		Calculated Patent Term Expiry	

17) Family number: 20385791 (US2873592A)

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Title: CIRCULAR KNITTING MACHINE

Priority: US19540445295 19540723

Family:	Publication number	Publication date	Application number	Application date
	DE1154897 B	19630926	DE1955F017978	19550719
	GB811781 A	19590415	GB19550021262	19550722
	US2873592 A	19590217	US19540445295	19540723

Probable Assignee: FIDELITY MACHINE CO INC

Assignee(s):(std): FIDELITY MACHINE CO INC ; FIDELITY MACHINE COMPANY INC ; SINGER FIDELITY INC

Inventor(s):(std): WALTER LARKIN ; LARKIN WALTER

International class (IPC 8-9): D04B9/26 (Advanced/Invention);
D04B9/00 (Core/Invention)

International class (IPC 1-7): D04B9/06

CPC: D04B1/106 D04B1/26 D04B9/26 D04B9/28

European class: D04B9/26 D04B9/28

US class: 66/135 66/144 66/146 66/15 66/180 66/25

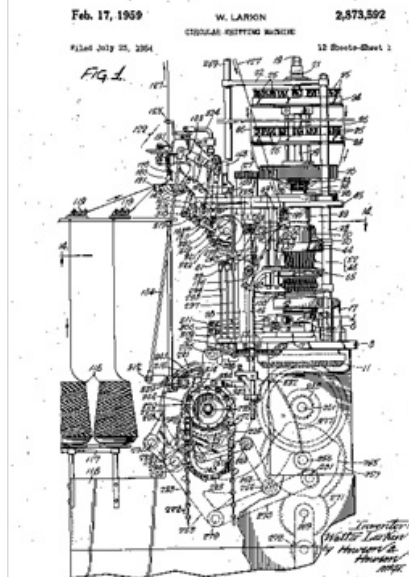
[Classification Explorer](#)

Cited documents: US868332 A, US834763 A, US2723545 A, US2660041 A, US2625028 A, US2618444 A, US2411422 A, US2375474 A, US2307969 A, US2204417 A, US2141042 A, US2132135 A, US2101006 A, US1993248 A, US1841249 A, US1120578 A, DE817340 A, DE682471 A, DE653735 A,

Forward Citations: US5823012, US4287726, GB2260343, CN107109728,

Abstract:

811,781. Knitting-machines. FIDELITY MACHINE CO. Inc. July 22, 1955 [July 23, 1954], No. 21262/55. Class 74 (2). For use in producing seamless hosiery along the length of which rib and non-rib portions immediately succeed each other, a cylinder and dial machine has, operatively associated with those cylinder needles which are selected to take part in rib knitting, plating fingers which can introduce wrap yarn into both the rib and the non- rib fabrics. Rocking plating fingers 57 alternate with rocking needles 46 on a dial 2 and so are opposite and co-operate with those cylinder needles 3 which co-operate with the dial needles in rib knitting. Thus plating wrap yarn can be introduced, for patterning purposes, into both rib and non-rib sections of the work. The wrap guides bear frangible butts 61 and are rocked, for wrapping, by a cam 67 traversible along the length of the wrap guide shanks, to vary the selection. The wrap yarns are fed from spools 25 carried in a structure 24 rotating with the machine and pass, on their way to the plating finger eyes, through the convolutions of a pair of coiled springs 102, 103 through openings 106 left between the teeth of a gear wheel 26 which rotates a shaft 19 carrying the needle dial 2 and the structure 24, and down guide slots 33 formed by the insertion of blades in other slots formed in a sleeve 32 secured to the shaft. The dial needles are rocked by cams in a cam ring 44; and in one half of the dial the needle butts 52 are of greater height than those 52a in the other half. The needle cylinder 1 is axially adjustable. Yarns for the base fabric, plain or rib, is supplied from spools 116, through tensioning devices 119 and guides 121, to a yarn change mechanism 122 by the use of which circumferential strips may be produced or yarn of one weight substituted for yarn of another weight. Thence, the selected yarn passes upwardly, through guides 123, 124 to a tension finger 335 and then downwardly to the needles, through other guides of which two, with the finger 335, form part of a stop motion system. The finger 335 is movable up and down a rod 339, to vary the length of yarn between yarn changer and needles, in accordance with changes between rib and non-rib knitting or with changes in yarn weight, to ensure that all knots formed in yarn changing shall lie substantially down the centre line of the back of the stocking. The yarn change mechanism comprises a group of ten yarn fingers 145, each guiding one ground yarn. A cam 168 is traversible, to bring it over any one of five consecutive fingers; and the finger assembly is itself traversible to bring either of the sub-groups of five fingers within the range of the cam's traverse. Thus the cam can be brought over any yarn finger and caused to swing it upwardly, to bring its yarn into the path of an oscillatory sweep 186, so that both it and the yarn 127 being fed are carried up to a yarn cutter and knoter, the new yarn being substituted for the old. The various operations of the machine are controlled by chains 222, 223, 224 and a drum 221. Speed regulation is obtained by electronic means under control of a potentiometer actuated by a ring cam at one end of the drum. In the stocking of Fig. 24, the rib top 203 embodies circumferential stripes 205, 206, 207, 208 produced by changes in the ground yarn, and a diamond design 209 produced by use of the plating fingers: the non- rib part 204 contains circumferential ground yarn stripes 212, 213 and, between thin, vertical stripes 211 produced by the plating fingers. In Fig. 25, the rib turn-down top 214 embodies circumferential stripes; and in the non-rib leg the design is produced by sequential use of the ground yarn selecting mechanism and the plating mechanism.

**Legal status (INPADOC)**

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE1154897 B	19630926	LSPB	+	published / reissued	
GB811781 A	19590415	LSGT	+	granted / extensions (spc, cpc, pte)	
GB811781 A	19750722	PEXP		Calculated Patent Term Expiry	
US2873592 A	19590217	LSGT	+	granted / extensions (spc, cpc, pte)	

18) Family number: 14902908 (US6122939A)

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Title: Process and apparatus for reducing the lead-in thread length in circular knitting machines
Priority: IT1998MI00529 19980316 IT1998MI01179 19980327 IT1998MI01179 19980527
 IT1998MI01235 19980603 KR19990008824 19990316

Family:	Publication number	Publication date	Application number	Application date
	■ CN1233675 A	19991103	CN19991003700	19990316
	■ DE69907556 D1	20030612	DE19996007556	19990308
	■ EP0943714 A2	19990922	EP19990103939	19990308
	■ EP0943714 A3	20000705	EP19990103939	19990308
	■ EP0943714 B1	20030507	EP19990103939	19990308
	■ IT1298628 B1	20000112	IT1998MI00529	19980316
	■ ITMI980529 A1	19990916	IT1998MI00529	19980316
	■ ITMI981179 A1	19991129	IT1998MI01179	19980527
	■ ITMI981235 A1	19991203	IT1998MI01235	19980603
	■ JP11315454 A2	19991116	JP19990070962	19990316
	■ KR19990077931 A	19991025	KR19990008824	19990316
	■ RU99105572 A	20010520	RU19990105572	19990315
	■ TW436543 B	20010528	TW19990103757	19990311
	■ US6122939 A	20000926	US19990265871	19990311

Probable Assignee: LONATI SPA
Assignee(s):(std): LONATI SPA ; MATEC SPA ; MATEC SRL
Assignee(s): LONATI S P A ; LONATI S P A BRESCIA ; MATEC S P A ; MATEC S R L SCANDICCI
Inventor(s):(std): LONATI TIBERIO ; LONATI FRANCESCO ; LONATI FAUSTO ; LONATI ETTORE
Inventor(s): ETTORE LONATI ; FRANCESCO LONATI ; TIBERIO LONATI
Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
International class (IPC 8-9): D04B15/38 D04B15/58 D04B15/60 D04B9/10 D04B9/24 D04B9/46 (Advanced/Invention); D04B (Subclass/Invention)
International class (IPC 1-7): D04B15/38 D04B15/58 D04B35/00 D04B9/12 D04B9/24
CPC: D04B15/60
European class: D04B15/58 D04B15/60

US class: 66/145R 661/45R

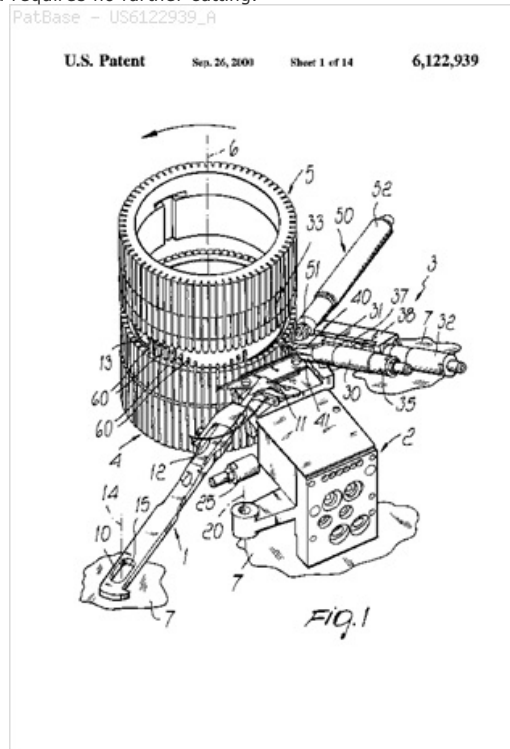
[Classification Explorer](#)

Cited documents: US5943883 A, US5186027 A, US3803878 A, US3760608 A, EP0464770 A1, DE3325102 A1, DE19511949 A1, DD281433 A5,

Forward Citations: US9365962, US6901776, US6810694, US6735988, US2016130735, US2016122914, US2005076682, CZ299171, CN107109728, CN106120143, CN106087228, CN103946432,

Abstract:

A process and an apparatus for reducing the length of the lead-in thread in double-cylinder circular hosiery-making or knitting machines in which the thread, fed by a corresponding thread guide, is clamped at its end, before knitting begins, by a thread cutting and clamping device which laterally faces the needle cylinders of the machine downstream of the position of the thread guide, relative to the direction in which the needle cylinders rotate about their own axis, with respect to the thread guide and to the cutting and clamping device. The process consists in keeping the thread clamped by the cutting and clamping device even after the thread has been taken up by the needles at the beginning of the knitting process, and in cutting the portion of thread which, at the beginning of the knitting process, lies between the first needle that took up the thread and the point where the thread is clamped in the cutting and clamping device. The thread is cut by means of a lead-in cutting device adjacent to the first needle that took up the thread and therefore the lead-in is very short and requires no further cutting.



Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1233675 A	19991103	LSPB	+	published / reissued	
CN1233675 A	19991103	LSPB	+C06	PUBLICATION	
CN1233675 A	20011205	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
DE69907556 D1	20040108	LSWD	-8332	NO LEGAL EFFECT FOR DE	
EP0943714 A2	19990922	LSPB	+	published / reissued	
EP0943714 A2	20000322	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : LONATI S.P.A.
EP0943714 A2	20000322	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : MATEC S.P.A.
EP0943714 A3	20010228	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20001227
EP0943714 A3	20010314	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	TEXT : AT BE CH LI
EP0943714 B1	20030507	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0943714 B1	20030507	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030507
EP0943714 B1	20030507	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : MATEC S.P.A.
EP0943714 B1	20030507	LSAS	RAP1	TRANSFER OF RIGHTS OF AN APPLICATION	PARTYTYPE : OWNER OWNER : LONATI S.P.A.
EP0943714 B1	20030507	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0943714 B1	20030808	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030808
EP0943714 B1	20040308	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040308
EP0943714 B1	20040428	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20040210
EP0943714 B1	20041027	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP
EP0943714 B1	20190308	PEXP		Calculated Patent Term Expiry	
IT1298628 B1	20000112	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1298628 B1	20000112	LSGT	0001	GRANTED	
IT1298628 B1	20180316	PEXP		Calculated Patent Term Expiry	
ITMI980529 A1	19990916	LSPB	+	published / reissued	
ITMI981179 A1	19991129	LSPB	+	published / reissued	
ITMI981235 A1	19991203	LSPB	+	published / reissued	
JP11315454 A2	19991116	LSPB	+	published / reissued	
KR19990077931 A	19991025	LSPB	+	published / reissued	
KR19990077931 A	20040317	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
RU99105572 A	20010520	LSPB	+	published / reissued	
TW436543 B	20010528	LSGT	+	granted / extensions (spc, cpc, pte)	
TW436543 B	20010926	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW436543 B	20040711	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON- PAYMENT OF FEES	
TW436543 B	20190311	PEXP		Calculated Patent Term Expiry	
US6122939 A	20000926	LSGT	+	granted / extensions (spc, cpc, pte)	
US6122939 A	19990311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LONATI S.P.A., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

ASSIGNORS:LONATI,
FRANCESCO; LONATI, ETTORRE;
LONATI, TIBERIO; AND OTHERS;
REEL/FRAME:009820/0411
EFFECTIVE DATE : 19990305

US6122939 A	19990311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MATEC S.P.A., ITALY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LONATI, FRANCESCO; LONATI, ETTORRE; LONATI, TIBERIO; AND OTHERS; REEL/FRAME:009820/0411 EFFECTIVE DATE : 19990305
US6122939 A	20000908	LSGT	PAT1	Patented Case	
US6122939 A	20040927	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6122939 A	20041123	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20040926
US6122939 A	20180123	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6122939 A	20190311	PEXP		Calculated Patent Term Expiry	

19) Family number: 34661982 (US6109069A)

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Title: Yarn guide unit especially for circular double cylinder hosiery machines

Priority: IT1998BS00078 19981030

Family:	Publication number	Publication date	Application number	Application date
	ES1044681 UA	20000601	ES19990002672U	19991025
	ES1044681 Y1	20001016	ES19990002672U	19991025
	ES1044681 YA	20001016	ES19990002672U	19991025
	GB2343200 A1	20000503	GB19990024093	19991012
	GB2343200 B2	20020918	GB19990024093	19991012
	GB9924093 A0	19991215	GB19990024093	19991012
	IT1303461 B1	20001106	IT1998BS00078	19981030
	ITBS980078 A1	20000430	IT1998BS00078	19981030
	US6109069 A	20000829	US19990421587	19991020

Probable Assignee: SANTONI SPA

Assignee(s):(std): SANGIACOMO S P A ; SANGIACOMO SPA

Assignee(s): SANTONI SPA

Inventor(s):(std): SANGIACOMO FULVIO

Inventor(s): FULVIO SANGIACOMO

International class (IPC 8-9): D04B15/58 (Advanced/Invention);
D04B15/38 (Core/Invention);
D04B (Subclass/Invention)

International class (IPC 1-7): D04B15/58 D04B15/60

CPC: D04B15/58

European class: D04B15/58

US class: 66/133 66/18

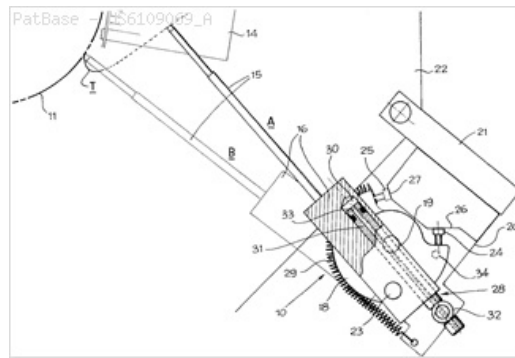
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Cited documents: US5524459 A, US5239845 A, US5056339 A, US2399729 A, GB2256441 A1, GB2058152 A1, GB1222796 A, EP0073745 A1,

Forward Citations: WO09033958, US7836731, US7213420, US6295845, US6237372, US2017370035, US2016130735, US2016122914, US2010180641, US2006010931, US2003131635, US2003089136, TWI486496, EP1136608, EP1136608,

Abstract:

The invention relates to a yarn guide unit particularly for circular double cylinder hosiery machines in which a yarn guide rod is borne on a block (16) eccentrically pivoted on a rotating disk (18) which can move between two extreme angular positions corresponding to the engaged working and disengaged positions of the yarn guides. Rotation of the disk with the block is brought about in one direction by a pneumatic actuator (28) incorporated in the block (16) and in the opposite direction by a return spring attached to the disk.



Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
ES1044681 UA	20000601	LSPB	+	published / reissued	
ES1044681 Y1	20001016	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1044681 Y1	20091025	PEXP		Calculated Patent Term Expiry	
ES1044681 YA	20001016	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1044681 YA	20091025	PEXP		Calculated Patent Term Expiry	
GB2343200 A1	20000503	LSPB	+	published / reissued	
GB2343200 B2	20020918	LSGT	+	granted / extensions (spc, cpc, pte)	
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IT1303461 B1	20001106	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1303461 B1	20001106	LSGT	0001	GRANTED	
IT1303461 B1	20181030	PEXP		Calculated Patent Term Expiry	
ITBS980078 A1	20000430	LSPB	+	published / reissued	
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US6109069 A	20040129	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6109069 A	20080226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6109069 A	20080919	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SANTONI S.P.A., ITALY OLDPARTY : MERGER; ASSIGNORS:SANGIACOMO S.P.A.; SANTONI S.P.A.; REEL/FRAME:021547/0639 EFFECTIVE DATE : 20061212
US6109069 A	20120829	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6109069 A	20120924	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6109069 A	20121016	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120829

US6109069 A	20191020	PEXP	Calculated Patent Term Expiry
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