

# CPC COOPERATIVE PATENT CLASSIFICATION

## D TEXTILES; PAPER

### TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

#### D01 NATURAL OR MAN-MADE THREADS OR FIBRES; SPINNING

(NOTE omitted)

#### D01H SPINNING OR TWISTING (twisting oakum [D01G 35/00](#); crimping or curling of fibres, filaments, or yarns [D02G 1/00](#))

##### WARNING

{In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}

##### Kinds or types of spinning or twisting machines; Drafting machines or arrangements; Twisting arrangements

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| <p><b>1/00</b> Spinning or twisting machines in which the product is wound-up continuously (open-end spinning machines <a href="#">D01H 4/00</a> {; doubling of yarns <a href="#">B65H 54/00+T</a>; doubled, plied or cabled threads <a href="#">D02G 3/28</a>, e.g. using hollow spindles <a href="#">D02G 3/283</a>; spin-twisting <a href="#">D02G 3/281</a>; threads with alternately "S" and "Z" direction of twist, e.g. self-twist process, <a href="#">D02G 3/286</a>; wrapping strands of filaments or staple fibres by a binder yarn <a href="#">D02G 3/38</a>})</p> <p>1/003 . {Twisting machines in which twist is imparted from the supply packages, e.g. up twist}</p> <p>1/006 . {Twisting machines in which twist is imparted at the paying-out and take-up stations}</p> <p>1/02 . ring type {arrangements with two or more spinning or twisting devices in combination <a href="#">D01H 7/90</a>}</p> <p>1/025 . . {with a condensing device between drafting system and spinning unit}</p> <p>1/04 . flyer type</p> <p>1/06 . cap type</p> <p>1/08 . cup, pot or disc type, in which annular masses of yarn are formed by centrifugal action</p> <p>1/10 . for imparting multiple twist, e.g. two-for-one twisting</p> <p><b><u>WARNING</u></b></p> <p>Group <a href="#">D01H 1/10</a> is impacted by reclassification into group <a href="#">D07B 3/022</a>.</p> <p>Groups <a href="#">D01H 1/10</a> and <a href="#">D07B 3/022</a> should be considered in order to perform a complete search.</p> <p>1/101 . . {in which multiple twist is imparted at the take-up stations}</p> <p>1/103 . . . {Two-for-one twisting}</p> <p>1/105 . . {Arrangements using hollow spindles, i.e. the yarns are running through the spindle of the unwound bobbins}</p> <p>1/106 . . . {Two-for-one twisting}</p> <p>1/108 . . . . {for two or more supply bobbins one on top of the other}</p> | <p>1/11 . Spinning by false-twisting {(twisting by false-twisting <a href="#">D01H 7/92</a>; <a href="#">D02G 3/28</a>; increasing the strength of a roving or sliver by false-twisting <a href="#">D01H 7/92</a>, during drafting <a href="#">D01H 5/28</a>)}</p> <p>1/115 . . using pneumatic means</p> <p>1/14 . Details (drafting arrangements <a href="#">D01H 5/00</a>; twisting arrangements <a href="#">D01H 7/00</a>)</p> <p>1/16 . . Framework; Casings; Coverings {Removal of heat; Means for generating overpressure of air against infiltration of dust; Ducts for electric cables}</p> <p>1/162 . . . {for ring type}</p> <p>1/164 . . . {for flyer type}</p> <p>1/166 . . . {for two-for-one type}</p> <p>1/168 . . . {Arrangements for the sound-dampening of the machines (in general <a href="#">G10K 11/00</a>)}</p> <p>1/18 . . Supports for supply packages</p> <p>1/183 . . . {Overhead suspension devices}</p> <p>1/186 . . . {for supplying from cans}</p> <p>1/20 . . Driving or stopping arrangements (for open-end spinning machines <a href="#">D01H 4/12</a>, <a href="#">D01H 4/20</a>, <a href="#">D01H 4/42</a>; safety devices <a href="#">D01H 13/14</a>)</p> <p>1/22 . . . for rollers {of drafting machines; Roller speed control}(regulating or varying draft <a href="#">D01H 5/32</a>)</p> <p>1/24 . . . for twisting {or spinning} arrangements, e.g. spindles (braking arrangements for spindles <a href="#">D01H 7/22</a>; interrelated flyer and bobbin drive mechanisms <a href="#">D01H 7/50</a>)</p> <p>1/241 . . . . driven by belt</p> <p>1/242 . . . . driven by toothed wheels</p> <p>1/243 . . . . driven by friction discs</p> <p>1/244 . . . . each spindle driven by an electric motor</p> <p>1/26 . . . . with two or more speeds; with variable-speed arrangements</p> <p>1/28 . . . for two or more machine elements possessing different characteristics but in operative association</p> <p>1/30 . . . . with two or more speeds; with variable-speed arrangements</p> <p>1/305 . . . . . {Speed control of the spindles in response to the displacements of the ring rail}</p> <p>1/32 . . . for complete machines</p> |
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| <p>1/34 . . . . with two or more speeds; with variable-speed arrangements {, e.g. <a href="#">variation of machine speed according to growing bobbin diameter (responsive to reduction in material tension D01H 13/16)</a>}</p> <p>1/36 . . Package-shaping arrangements, e.g. building motions {, e.g. <a href="#">control for the traversing stroke of ring rails; Stopping ring rails in a predetermined position</a>}</p> <p>1/365 . . . {for flyer type}</p> <p>1/38 . . Arrangements for winding reserve lengths of yarn on take-up packages {or spindles}, e.g. transfer tails</p> <p>1/385 . . . {<a href="#">Removing waste reserve lengths from spindles</a>}</p> <p>1/40 . . Arrangements for connecting continuously-delivered material to bobbins or the like</p> <p>1/42 . . Guards or protectors for yarns or threads, e.g. separator plates, anti-ballooning devices (<a href="#">anti-ballooning devices on spindles D01H 7/18</a>)</p> <p>1/422 . . . {Separator plates}</p> <p>1/425 . . . {Anti-ballooning rings}</p> <p>1/427 . . . {Anti-ballooning cylinders, e.g. for two-for-one twist machine (<a href="#">with combined cleaning effect D01H 11/00</a>)}</p> <p><b>3/00 Spinning or twisting machines in which the product is wound-up intermittently, e.g. mules</b></p> <p>3/02 . Details (<a href="#">drafting arrangements D01H 5/00; twisting arrangements D01H 7/00</a>)</p> <p>3/04 . . Carriages; Mechanisms effecting carriage movements</p> <p>3/06 . . . Carriages; Carriage rails; Squaring motions</p> <p>3/08 . . . Drawing-out or taking-in motions</p> <p>3/10 . . . Moving-creel arrangements, e.g. for twiners</p> <p>3/12 . . Package-shaping motions; Faller arrangements</p> <p>3/14 . . Roller-driving arrangements</p> <p>3/16 . . Spindle-driving arrangements (<a href="#">spindles, spindle bearings, spindle supports D01H 7/04</a>)</p> <p>3/18 . . . Tin rollers; Driving arrangements intimately associated with tin rollers</p> <p>3/20 . . . Spindle-driving arrangements during drawing-out or backing-off</p> <p>3/22 . . . Spindle-driving arrangements during taking-in</p> <p>3/24 . . . . Quadrant motions; Nosing motions</p> <p>3/26 . . Driving or stopping arrangements not otherwise provided for; Locking motions (<a href="#">safety devices D01H 13/14</a>); <a href="#">Control of machines</a>}</p> <p><b>4/00 Open-end spinning machines or arrangements for imparting twist to independently moving fibres separated from slivers; Piecing arrangements therefor; Covering endless core threads with fibres by open-end spinning techniques {arrangements with two or more spinning or twisting devices of different types in combination D01H 7/90}</b></p> <p><b>NOTE</b></p> <p>In this group, the expression "open-end spinning" covers such expressions as "break spinning", "ringless spinning", "rotor spinning" and "friction spinning", but does not cover the expression "spinning by false-twisting"</p> <p>4/02 . imparting twist by a fluid, e.g. air vortex</p> | <p>4/04 . imparting twist by contact of fibres with a running surface</p> <p>4/06 . . co-operating with suction means (<a href="#">D01H 4/08, D01H 4/16 take precedence</a>)</p> <p>4/08 . . Rotor spinning, i.e. the running surface being provided by a rotor</p> <p>4/10 . . . Rotors</p> <p>4/12 . . . Rotor bearings; Arrangements for driving or stopping (<a href="#">control therefor D01H 4/42</a>)</p> <p>4/14 . . . . Rotor driven by an electric motor</p> <p>4/16 . . Friction spinning, i.e. the running surface being provided by a pair of closely spaced friction drums, e.g. at least one suction drum {(false twisting with friction drums <a href="#">D01H 1/11</a>)}</p> <p>4/18 . . . Friction drums, e.g. arrangement of suction holes</p> <p>4/20 . . . Drum bearings; Arrangements for driving or stopping (<a href="#">control therefor D01H 4/42</a>)</p> <p>4/22 . . Cleaning of running surfaces</p> <p>4/24 . . . in rotor spinning</p> <p>4/26 . . . in friction spinning</p> <p>4/28 . using electrostatic fields</p> <p>4/30 . Arrangements for separating slivers into fibres; Orienting or straightening fibres {, e.g. <a href="#">using guide-rolls</a>}</p> <p>4/32 . . using opening rollers {(stopping of rovings or slivers <a href="#">D01H 13/18</a>)}</p> <p>4/34 . . using air-jet streams</p> <p>4/36 . . with means for taking away impurities</p> <p>4/38 . Channels for feeding fibres to the yarn forming region</p> <p>4/40 . Removing running yarn from the yarn forming region, e.g. using tubes</p> <p>4/42 . Control of driving or stopping</p> <p>4/44 . . in rotor spinning</p> <p>4/46 . . in friction spinning</p> <p>4/48 . Piecing arrangements; Control therefor {(stopping roving <a href="#">D01H 13/18</a>)}</p> <p>4/50 . . for rotor spinning</p> <p>4/52 . . for friction spinning</p> <p><b>5/00 Drafting machines or arrangements {; Threading of roving into drafting machine}</b></p> <p>5/005 . {Arrangements for feeding or conveying the slivers to the drafting machine}</p> <p>5/02 . Gill boxes or other drafting machines employing fallers or like pinned bars</p> <p>5/04 . . with pinned bars actuated by screw members</p> <p>5/06 . . . Intersecting gill boxes</p> <p>5/08 . . with bars connected by links, chains, or the like</p> <p>5/10 . . with pinned bars unconnected with each other but actuated through pressure of one against another</p> <p>5/12 . . Details</p> <p>5/14 . . . Pinned bars</p> <p>5/16 . . . Framework; Casings; Coverings</p> <p>5/18 . Drafting machines or arrangements without fallers or like pinned bars</p> <p>5/20 . . in which fibres are controlled by contact with stationary or reciprocating surfaces</p> <p>5/22 . . in which fibres are controlled by rollers only</p> <p>5/24 . . . with porcupines or like pinned rotary members</p> <p>5/26 . . in which fibres are controlled by one or more endless aprons</p> |
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- 5/28 . . in which fibres are controlled by inserting twist during drafting
- 5/30 . . incorporating arrangements for severing continuous filaments, e.g. in direct spinning (converting tows to slivers or yarns [D01G 1/06](#))
- 5/32 . . Regulating or varying draft
- 5/34 . . . by manual adjustments
- 5/36 . . . according to a pre-arranged pattern, e.g. to produce slubs
- 5/38 . . . in response to irregularities in material {; [Measuring irregularities](#)}
- 5/385 . . . . {employing hydraulic or pneumatic time-delay devices}
- 5/40 . . . . employing mechanical time-delay devices
- 5/42 . . . . employing electrical time-delay devices
- 5/44 . . Adjusting drafting elements, e.g. altering ratch
- 5/46 . . Loading arrangements
- 5/48 . . . using weights
- 5/50 . . . using springs
- 5/505 . . . . {for top roller arms}
- 5/52 . . . using fluid pressure
- 5/525 . . . . {for top roller arms}
- 5/54 . . . using magnetic arrangements
- 5/56 . . Supports for drafting elements
- 5/565 . . . {Top roller arms}
- 5/58 . . Arrangements for traversing drafting elements
- 5/60 . . Arrangements maintaining drafting elements free of fibre accumulations
- 5/62 . . . Non-rotary cleaning pads or plates; Scrapers
- 5/625 . . . . {in cooperation with suction or blowing means}
- 5/64 . . . Rollers or aprons with cleaning surfaces
- 5/645 . . . . {in cooperation with suction or blowing means}
- 5/66 . . . Suction devices {exclusively; ([D01H 5/625](#) and [D01H 5/645](#) take precedence; in cooperation with thread breakage detecting means [D01H 13/1691](#))}
- 5/68 . . . . Suction end-catchers
- 5/70 . . Constructional features of drafting elements
- 5/72 . . . Fibre-condensing guides
- 5/74 . . . Rollers {or roller bearings}
- 5/76 . . . . Loose-boss assemblies
- 5/78 . . . . with flutes or other integral surface characteristics
- 5/80 . . . . with covers; Cots or covers
- 5/82 . . . . Arrangements for coupling roller sections
- 5/84 . . . . Porcupines
- 5/86 . . . Aprons; Apron supports; Apron tensioning arrangements
- 5/88 . . . . Cradles; Tensors
- 7/00** **Spinning or twisting arrangements (for open-end spinning [D01H 4/00](#))**
- 7/02 . . for imparting permanent twist
- 7/04 . . Spindles
- 7/041 . . . {Spindles with sliding contact bearings ([D01H 7/045](#) takes precedence)}
- 7/042 . . . {Spindles with rolling contact bearings ([D01H 7/045](#) takes precedence)}
- 7/044 . . . {Spindles with fluid bearings}
- 7/045 . . . . {Spindles provided with flexible mounting elements for damping vibration or noise, or for avoiding or reducing out-of-balance forces due to rotation (in general [F16F 15/00](#))}
- 7/047 . . . . {with springs}
- 7/048 . . . . {with means using plastic deformation of members}
- 7/06 . . . Stationary spindles with package-holding sleeves
- 7/08 . . . Mounting arrangements
- 7/10 . . . . Spindle supports; Rails; Rail supports, e.g. poker guides
- 7/12 . . . . Bolsters; Bearings
- 7/14 . . . . Holding-down arrangements
- 7/16 . . . Arrangements for coupling bobbins or like to spindles
- 7/18 . . . Arrangements on spindles for suppressing yarn balloons
- 7/20 . . . Lubricating arrangements
- 7/22 . . . Braking arrangements
- 7/2208 . . . . {using mechanical means}
- 7/2216 . . . . . {with one or two manually actuated shoe-brakes acting on a part of the whorl}
- 7/2225 . . . . . {the braking means surrounding nearly the whole periphery of the whorl}
- 7/2233 . . . . . {by suppressing the driving means, e.g. by declutching}
- 7/2241 . . . . . . {the belt being moved off the driven whorl}
- 7/225 . . . . . . {and the spindle being braked simultaneously}
- 7/2258 . . . . . . {the pivoted spindle being pulled off the belt}
- 7/2266 . . . . . . {and braked simultaneously}
- 7/2275 . . . . . {using hydraulically or pneumatically operated brakes}
- 7/2283 . . . . . {using electromagnetically operated brakes}
- 7/2291 . . . . . {characterised by the control of braking means, e.g. operated by a yarn break-detector or tension device}
- 7/24 . . . Flyer or like arrangements
- 7/26 . . . Flyer constructions
- 7/28 . . . . arranged to guide material over exterior of legs
- 7/30 . . . . with guide channels formed in legs, e.g. slubbing flyers
- 7/32 . . . . . with pressing devices
- 7/34 . . . . with haul pulleys or like arrangements
- 7/36 . . . . with traversing devices
- 7/38 . . . . Ring flyers
- 7/40 . . . Flyer supports, e.g. rails
- 7/42 . . . Arrangements coupling flyers to spindles
- 7/44 . . . Drag arrangements for bobbins or flyers
- 7/46 . . . Devices attached to, or integral with, flyers for temporarily increasing twist in material passing to them
- 7/48 . . . Eyes or like guiding arrangements ([D01H 7/46](#) takes precedence)
- 7/50 . . . Interrelated flyer and bobbin drive mechanisms, e.g. winding-on motions for cotton-roving frames
- 7/52 . . . Ring-and-traveller arrangements
- 7/54 . . . with fixed rings

- 7/56 . . . with freely-rotatable rings; with braked or dragged rings {; [Lubricating arrangements therefor](#)}
- 7/565 . . . . {with fluid bearings}
- 7/58 . . . with driven rings {; [Bearings or braking arrangements therefor](#)}
- 7/585 . . . . {by fluid driving means}
- 7/60 . . . Rings or travellers; Manufacture thereof not otherwise provided for {; [Cleaning means for rings](#)}
- 7/602 . . . . {Rings}
- 7/604 . . . . {Travellers}
- 7/606 . . . . . {Driving means for travellers}
- 7/608 . . . . . {Cleaning means for travellers}
- 7/62 . . . Arrangements providing lubricant for travellers
- 7/64 . . . Ring supports, e.g. ring rails
- 7/66 . . Cap arrangements
- 7/68 . . . Cap constructions
- 7/70 . . . Arrangements for supporting caps on spindles
- 7/72 . . . Bobbin-supporting arrangements, e.g. bobbin rails
- 7/74 . . Cup or like arrangements
- 7/76 . . . Rotary discs
- 7/78 . . . Constructions of cups, e.g. spinning boxes
- 7/80 . . . . adapted to collect wet yarns
- 7/82 . . . Casings or guards for rotary cups or the like
- 7/84 . . . Spindles or yarn carriers for co-operation with rotary cups
- 7/86 . . Multiple-twist arrangements, e.g. two-for-one twisting devices {[Threading of yarn; Devices in hollow spindles for imparting false twist](#)}
- 7/862 . . . {Arrangements for holding the bobbin in a fixed position}
- 7/864 . . . {Coupling devices between the fixed and the rotative parts}
- 7/866 . . . {Means to facilitate the unwinding of yarn}
- 7/868 . . . {Yarn guiding means, e.g. guiding tubes}
- 7/88 . . Hollow-spindle arrangements ([D01H 7/86 takes precedence](#))
- 7/90 . . Arrangements with two or more {spinning or} twisting devices {of different types} in combination ([D01H 7/88 takes precedence](#))
- 7/92 . . for imparting transient twist {, i.e. false twist ([D01H 1/11 takes precedence](#))}
- 7/923 . . {by means of rotating devices}
- 7/926 . . {by means of traversing devices}

**Common features or details of, or accessories for, spinning or twisting machines of various kinds or types** ([drafting arrangements D01H 5/00; twisting arrangements D01H 7/00](#))

- 9/00 Arrangements for replacing or removing bobbins, cores, receptacles, or completed packages at paying-out or take-up stations {; Combination of spinning-winding machine}**
- 9/001 . {Bobbin-taking arrangements}
- 9/003 . . {Graspers operating under the action of a fluid}
- 9/005 . {for removing empty packages or cans and replacing by completed (full) packages or cans at paying-out stations; also combined with piecing of the roving}
- 9/006 . . {for two-for-one twist type machines}
- 9/008 . . {for cans}

- 9/02 . . for removing completed take-up packages and replacing by bobbins, cores, or receptacles at take-up stations; Transferring material between adjacent full and empty take-up elements
- 9/04 . . Doffing arrangements integral with spinning or twisting machines
- 9/043 . . . {for cap type machines}
- 9/046 . . . {for flyer type machines}
- 9/06 . . . Removing yarn from centrifugal cups on to yarn carriers
- 9/08 . . Doffing arrangements independent of spinning or twisting machines
- 9/10 . . . Doffing carriages {; [Loading carriages with cores](#)}
- 9/12 . . . Manual cop-tube applying apparatus; Stands for cop-tube applying apparatus
- 9/14 . . for preparing machines for doffing of yarns {, e.g. [raising cops prior to removal](#)}
- 9/16 . . Yarn-severing arrangements {, e.g. for [cutting transfer tails; Separating of roving in flyer](#)}
- 9/18 . . for supplying bobbins, cores, receptacles, or completed packages to, or transporting from, paying-out or take-up stations ([D01H 9/10 takes precedence](#)){; [Arrangements to prevent unwinding of roving from roving bobbins \(transporting full yarn bobbins to subsequent machines B65H 67/06+T\)](#)}
- 9/182 . . {Overhead conveying devices}
- 9/185 . . {Transporting cans}
- 9/187 . . {on individual supports, e.g. pallets}

**11/00 Arrangements for confining or removing dust, fly or the like** ([cleaning of running surfaces in open-end spinning machines D01H 4/22](#))

- 11/001 . {Hand tools used for cleaning the machines}
- 11/003 . . {with a rotary pin}
- 11/005 . {with blowing and/or suction devices ([in general A47L 7/00; in cooperation with thread breakage detecting means D01H 13/1691](#))}
- 11/006 . . {travelling along the machines}
- 11/008 . {with static field means}

**13/00 Other common constructional features, details or accessories**

- 13/005 . {Service carriages travelling along the machines ([characteristics relating to the apparatus supported by the carriage, see relevant groups, e.g. D01H 9/005, D01H 9/10, D01H 13/145, D01H 15/00](#))}
- 13/02 . Roller arrangements not otherwise provided for
- 13/04 . Guides for slivers, rovings, or yarns; Smoothing dies ([fibre-condensing guides D01H 5/72](#) {; means to facilitate the unwinding of yarn in multiple-twist arrangements [D01H 7/866](#))}
- 13/045 . . {Guide tube}
- 13/06 . . Traversing arrangements
- 13/08 . Twist arresters
- 13/10 . Tension devices
- 13/102 . . {Regulating tension by regulating delivery of yarn from supply package ([D01H 13/108 takes precedence](#))}
- 13/104 . . {Regulating tension by devices acting on running yarn and not associated with supply or take-up devices}
- 13/106 . . . {for double-twist spindle}



13/108	. . {Regulating tension by regulating speed of driving mechanisms of unwinding, paying-out, forwarding, winding or depositing devices, e.g. automatically in response to variations in tension}	13/308	. . {by applying solids, e.g. wax}
13/12	. Arrangements preventing snarls or inadvertent doubling of yarns	13/32	. Counting, measuring, recording or registering devices
13/14	. Warning or safety devices, e.g. automatic fault detectors, stop motions {; Monitoring the entanglement of slivers in drafting arrangements}	<b>15/00</b>	<b>Piecing arrangements (for open-end spinning machines <a href="#">D01H 4/48</a>); Automatic end-finding, e.g. by suction and reverse package rotation; Devices for temporarily storing yarn during piecing (piecing of rovings in combination with replacing of completed packages or cans <a href="#">D01H 9/005</a>)</b>
13/145	. . {set on carriages travelling along the machines; Warning or safety devices pulled along the working unit by a band or the like}	15/002	. {for false-twisting spinning machines}
13/16	. . responsive to reduction in material tension, failure of supply, or breakage, of material	15/004	. {for centrifugal spinning machines}
13/1608	. . . {where the paying-out and take-up stations are stopped at one and the same time}	15/007	. for two-for-one twisting machines
13/1616	. . . {characterised by the detector}	15/013	. Carriages travelling along the machines
13/1625	. . . . {Electro-mechanical actuators}	<b>17/00</b>	<b>Hand tools</b>
13/1633	. . . . {Electronic actuators}	17/02	. Arrangements for storing ring travellers; Devices for applying travellers to rings
13/1641	. . . . . {Capacitor sensing means}		
13/165	. . . . . {Photo-electric sensing means}		
13/1658	. . . . . {Associated actuators with mutual actuation, e.g. for two or more running yarns}		
13/1666	. . . . . {Lighting or luminous devices making easier the setting of the breakage of yarns}	<b>2700/00</b>	<b>Spinning or twisting machines; Drafting devices</b>
13/1675	. . . . . {Pencil of rays on side of machines}	2700/01	. Preparatory spinning machines
13/1683	. . . . . {Pneumatic sensing means}	2700/20	. Spinning mules; Transmissions
13/1691	. . . {Thread breakage detector means associated with pneumatic cleaning devices, e.g. suction of broken end of yarn}	2700/202	. . Carriages or their movement; Lubrication
13/18	. . . stopping supply only	2700/205	. . Spindles or spindle control in spinning mules
13/181	. . . . {by stopping supply packages}	2700/207	. . Yarn delivery rollers; Drawing systems for spinning mules; Silver rollers
13/182	. . . . {by raising or lifting of one of the drafting cylinders, e.g. by removing of the loading means}	2700/21	. Piecing or cleaning in spinning mules
13/183	. . . . {the yarn moving out of its normal path, e.g. by lateral diverting}	2700/22	. Winding devices for spinning mules
13/185	. . . . {a plate moving in the nip of drafting or guiding cylinders}	2700/24	. Spinning or twisting machines of different kinds
13/186	. . . . {guiding or drafting cylinders moving by gravity when a yarn breakage occurs}	2700/242	. . Spinning or twisting devices wherein twist is created during winding
13/187	. . . . {using means stopping the driving of the drafting, guiding cylinders, e.g. friction clutches}	2700/245	. Conception or fabrication of drafting cylinders
13/188	. . . . {by cutting or clamping yarns or rovings}	2700/247	. Guiding means for veil or sliver on drafting systems
13/20	. . responsive to excessive tension or irregular operation of apparatus		
13/22	. . responsive to presence of irregularities in running material		
13/24	. . responsive to delivery of a measured length of material, completion of winding of a package or filling of a receptacle		
13/26	. Arrangements facilitating the inspection or testing of yarns or the like in connection with spinning or twisting		
13/28	. Heating or cooling arrangements {for yarns (removal of heat from machines <a href="#">D01H 1/16</a> )}		
13/30	. Moistening, sizing, oiling, waxing, colouring, or drying yarns or the like as incidental measures during spinning or twisting		
13/302	. . {Moistening, e.g. for wet spinning}		
13/304	. . {Conditioning during spinning or twisting (for carding or combing <a href="#">D01G 99/005</a> )}		
13/306	. . {by applying fluids, e.g. steam or oiling liquids}		