

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 (unwinding, paying-out, forwarding, winding or coiling filamentary material not intimately associated with spinning or twisting [B65H](#); cores, formers, supports or holders for coiled or wound material, e.g. bobbins [B65H](#); twisting oakum [D01G 35/00](#); crimping or curling of fibres, filaments or yarns [D02G 1/00](#); making chenille [D03D](#), [D04D 3/00](#); testing yarns, rovings, slivers, fibres, or fibre webs [G01](#))

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

- 1/00 Spinning or twisting machines in which the product is wound-up continuously** (open-end spinning machines [D01H 4/00](#) {; doubling of yarns [B65H 54/00+T](#); doubled, plied or cabled threads [D02G 3/28](#), e.g. using hollow spindles [D02G 3/283](#); spin-twisting [D02G 3/281](#); threads with alternately "S" and "Z" direction of twist, e.g. self-twist process, [D02G 3/286](#); wrapping strands of filaments or staple fibres by a binder yarn [D02G 3/38](#))
- 1/003 . {Twisting machines in which twist is imparted from the supply packages, e.g. uptwist}
- 1/006 . {Twisting machines in which twist is imparted at the paying-out and take-up stations}
- 1/02 . ring type {(arrangements with two or more spinning or twisting devices in combination [D01H 7/90](#))}
- 1/025 . . {with a condensing device between drafting system and spinning unit}
- 1/04 . flyer type
- 1/06 . cap type
- 1/08 . cup, pot or disc type, in which annular masses of yarn are formed by centrifugal action
- 1/10 . for imparting multiple twist, e.g. two-for-one twisting

WARNING

Group [D01H 1/10](#) is impacted by reclassification into group [D07B 3/022](#).

Groups [D01H 1/10](#) and [D07B 3/022](#) should be considered in order to perform a complete search.

- 1/101 . . {in which multiple twist is imparted at the take-up stations}
- 1/103 . . . {Two-for-one twisting}
- 1/105 . . {Arrangements using hollow spindles, i.e. the yarns are running through the spindle of the unwound bobbins}
- 1/106 . . . {Two-for-one twisting}

- 1/108 {for two or more supply bobbins one on top of the other}
- 1/11 . Spinning by false-twisting {(twisting by false-twisting [D01H 7/92](#); [D02G 3/28](#); increasing the strength of a roving or sliver by false-twisting [D01H 7/92](#), during drafting [D01H 5/28](#))}
- 1/115 . . using pneumatic means
- 1/14 . Details (drafting arrangements [D01H 5/00](#); twisting arrangements [D01H 7/00](#))
- 1/16 . . Framework; Casings; Coverings {Removal of heat; Means for generating overpressure of air against infiltration of dust; Ducts for electric cables}
- 1/162 . . . {for ring type}
- 1/164 . . . {for flyer type}
- 1/166 . . . {for two-for-one type}
- 1/168 . . . {Arrangements for the sound-dampening of the machines (in general [G10K 11/00](#))}
- 1/18 . . Supports for supply packages
- 1/183 . . . {Overhead suspension devices}
- 1/186 . . . {for supplying from cans}
- 1/20 . . Driving or stopping arrangements (for open-end spinning machines [D01H 4/12](#), [D01H 4/20](#), [D01H 4/42](#); safety devices [D01H 13/14](#))
- 1/22 . . . for rollers {of drafting machines; Roller speed control}(regulating or varying draft [D01H 5/32](#))
- 1/24 . . . for twisting {or spinning} arrangements, e.g. spindles (braking arrangements for spindles [D01H 7/22](#); interrelated flyer and bobbin drive mechanisms [D01H 7/50](#))
- 1/241 driven by belt
- 1/242 driven by toothed wheels
- 1/243 driven by friction discs
- 1/244 each spindle driven by an electric motor
- 1/26 with two or more speeds; with variable-speed arrangements
- 1/28 . . . for two or more machine elements possessing different characteristics but in operative association

- 1/30 with two or more speeds; with variable-speed arrangements
- 1/305 {Speed control of the spindles in response to the displacements of the ring rail}
- 1/32 . . . for complete machines
- 1/34 with two or more speeds; with variable-speed arrangements {, e.g. variation of machine speed according to growing bobbin diameter (responsive to reduction in material tension [D01H 13/16](#))}
- 1/36 . . Package-shaping arrangements, e.g. building motions {, e.g. control for the traversing stroke of ring rails; Stopping ring rails in a predetermined position}
- 1/365 . . . {for flyer type}
- 1/38 . . Arrangements for winding reserve lengths of yarn on take-up packages {or spindles}, e.g. transfer tails
- 1/385 . . . {Removing waste reserve lengths from spindles}
- 1/40 . . Arrangements for connecting continuously-delivered material to bobbins or the like
- 1/42 . . Guards or protectors for yarns or threads, e.g. separator plates, anti-ballooning devices (anti-ballooning devices on spindles [D01H 7/18](#))
- 1/422 . . . {Separator plates}
- 1/425 . . . {Anti-ballooning rings}
- 1/427 . . . {Anti-ballooning cylinders, e.g. for two-for-one twist machine (with combined cleaning effect [D01H 11/00](#))}
- 3/00 Spinning or twisting machines in which the product is wound-up intermittently, e.g. mules**
- 3/02 . Details (drafting arrangements [D01H 5/00](#); twisting arrangements [D01H 7/00](#))
- 3/04 . . Carriages; Mechanisms effecting carriage movements
- 3/06 . . . Carriages; Carriage rails; Squaring motions
- 3/08 . . . Drawing-out or taking-in motions
- 3/10 . . . Moving-creel arrangements, e.g. for twiners
- 3/12 . . Package-shaping motions; Faller arrangements
- 3/14 . . Roller-driving arrangements (drafting arrangements of general application in spinning machines [D01H 5/18](#))
- 3/16 . . Spindle-driving arrangements (spindles, spindle bearings, spindle supports [D01H 7/04](#))
- 3/18 . . . Tin rollers; Driving arrangements intimately associated with tin rollers
- 3/20 . . . Spindle-driving arrangements during drawing-out or backing-off
- 3/22 . . . Spindle-driving arrangements during taking-in
- 3/24 Quadrant motions; Nosing motions
- 3/26 . . Driving or stopping arrangements not otherwise provided for; Locking motions (safety devices [D01H 13/14](#)); Control of machines}

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](#))}

NOTE

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"

- 4/02 . imparting twist by a fluid, e.g. air vortex
- 4/04 . imparting twist by contact of fibres with a running surface
- 4/06 . . co-operating with suction means ([D01H 4/08](#), [D01H 4/16](#) take precedence)
- 4/08 . . Rotor spinning, i.e. the running surface being provided by a rotor
- 4/10 . . . Rotors
- 4/12 . . . Rotor bearings; Arrangements for driving or stopping (control therefor [D01H 4/42](#))
- 4/14 Rotor driven by an electric motor
- 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 [D01H 1/11](#))}
- 4/18 . . . Friction drums, e.g. arrangement of suction holes
- 4/20 . . . Drum bearings; Arrangements for driving or stopping (control therefor [D01H 4/42](#))
- 4/22 . . Cleaning of running surfaces
- 4/24 . . . in rotor spinning
- 4/26 . . . in friction spinning
- 4/28 . using electrostatic fields
- 4/30 . Arrangements for separating slivers into fibres; Orienting or straightening fibres {, e.g. using guide-rolls}
- 4/32 . . using opening rollers {(stopping of rovings or slivers [D01H 13/18](#))}
- 4/34 . . using air-jet streams
- 4/36 . . with means for taking away impurities
- 4/38 . Channels for feeding fibres to the yarn forming region
- 4/40 . Removing running yarn from the yarn forming region, e.g. using tubes
- 4/42 . Control of driving or stopping
- 4/44 . . in rotor spinning
- 4/46 . . in friction spinning
- 4/48 . Piecing arrangements; Control therefor {(stopping roving [D01H 13/18](#))}
- 4/50 . . for rotor spinning
- 4/52 . . for friction spinning

- 5/00 Drafting machines or arrangements {Threading of roving into drafting machine}**(arrangements in which draft is dependent on linear movement of take-up spindles, e.g. in mules, [D01H 3/00](#); devices for combing or orienting fibres for open-end spinning machines [D01H 4/30](#) {; increasing the strength of a roving or sliver by false-twisting [D01H 7/92](#), during drafting [D01H 5/28](#), after drafting and before spinning according to groups [D01H 1/02](#) - [D01H 1/08](#), [D01H 7/90](#); depositing materials in cans after drafting [B65H 54/76](#) + T))
- 5/005 . {Arrangements for feeding or conveying the slivers to the drafting machine}
- 5/02 . Gill boxes or other drafting machines employing fallers or like pinned bars (lubricating fibres in gill boxes [D01G 29/00](#))
- 5/04 . . with pinned bars actuated by screw members
- 5/06 . . . Intersecting gill boxes
- 5/08 . . with bars connected by links, chains, or the like
- 5/10 . . with pinned bars unconnected with each other but actuated through pressure of one against another
- 5/12 . . Details
- 5/14 . . . Pinned bars
- 5/16 . . . Framework; Casings; Coverings
- 5/18 . Drafting machines or arrangements without fallers or like pinned bars
- 5/20 . . in which fibres are controlled by contact with stationary or reciprocating surfaces
- 5/22 . . in which fibres are controlled by rollers only
- 5/24 . . . with porcupines or like pinned rotary members
- 5/26 . . in which fibres are controlled by one or more endless aprons
- 5/28 . . in which fibres are controlled by inserting twist during drafting ({spinning by false-twisting [D01H 1/11](#)}; mules [D01H 3/00](#) {; twisting by false-twisting [D01H 7/92](#)}; constructions of false-twist devices [D02G 1/04](#))
- 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 (saddles or top roller arms forming essential components of weighting arrangements [D01H 5/48](#))
- 5/565 . . . {Top roller arms}
- 5/58 . . Arrangements for traversing drafting elements (traversing arrangements for roving guides [D01H 13/06](#))
- 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 (guides for slivers, rovings, or yarns applicable solely for spinning, twisting, curling, or crimping purposes [D01H 13/04](#) {; combined with false twisting before drafting or before spinning according to groups [D01H 1/02](#) - [D01H 1/08](#) : [D01H 7/92](#)))
- 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 ({bearings for hollow spindles [D01H 7/88](#)}; spindle bearings, supports therefor, in general [F16C](#))
- 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 (thread guards or protectors [D01H 1/42](#))

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 (multiple-twist arrangements [D01H 7/86](#))
 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 ({variation of machine speed according to growing bobbin diameter [D01H 1/34](#)}; package-building mechanisms [D01H 1/36](#))
 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 (hand tools for applying travellers to rings [D01H 17/02](#)) {; 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 (poker guides or other rail supports [D01H 7/10](#))
 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 (poker guides or other rail supports [D01H 7/10](#))
 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 (removing yarn from centrifugal cups on to yarn carriers [D01H 9/06](#))
 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 1/006](#)}, [D01H 7/86](#), [D01H 7/88](#) take 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 (arrangements of general interest in the winding of filamentary material {[B65H 67/00](#) }){; **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}(stop motions responsive to delivery of a measured length of material [D01H 13/24](#))
- 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](#); separation in general [B01D](#); cleaning in general [B08B](#); air-conditioning [F24F](#), e.g. by filtering [F24F 3/16](#), [F24F 8/10](#))**
- 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 (for open-end spinning [D01H 4/00](#))**
- 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}
- 13/12 . Arrangements preventing snarls or inadvertent doubling of yarns ([suction end-catchers \[D01H 5/68\]\(#\)](#))
- 13/14 . Warning or safety devices, e.g. automatic fault detectors, stop motions; {Monitoring the entanglement of slivers in drafting arrangements}; (safety devices of general application [F16P](#); indicating devices of general application [G08B](#))
- 13/145 . . {set on carriages travelling along the machines; Warning or safety devices pulled along the working unit by a band or the like}
- 13/16 . . responsive to reduction in material tension, failure of supply, or breakage, of material
- 13/1608 . . . {where the paying-out and take-up stations are stopped at one and the same time}
- 13/1616 . . . {characterised by the detector}
- 13/1625 {Electro-mechanical actuators}
- 13/1633 {Electronic actuators}
- 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}
- 13/1675 {Pencil of rays on side of machines}
- 13/1683 {Pneumatic sensing means}
- 13/1691 . . . {Thread breakage detector means associated with pneumatic cleaning devices, e.g. suction of broken end of yarn}
- 13/18 . . . stopping supply only
- 13/181 {by stopping supply packages}
- 13/182 {by raising or lifting of one of the drafting cylinders, e.g. by removing of the loading means}
- 13/183 {the yarn moving out of its normal path, e.g. by lateral diverting}
- 13/185 {a plate moving in the nip of drafting or guiding cylinders}
- 13/186 {guiding or drafting cylinders moving by gravity when a yarn breakage occurs}
- 13/187 {using means stopping the driving of the drafting, guiding cylinders, e.g. friction clutches}
- 13/188 {by cutting or clamping yarns or rovings}
- 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 \[D01H 1/16\]\(#\)](#))}
- 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 [D01G 99/005](#))}
- 13/306 . . {by applying fluids, e.g. steam or oiling liquids}
- 13/308 . . {by applying solids, e.g. wax}

- 13/32 . Counting, measuring, recording or registering devices (in general, [see the appropriate subclass of Section G](#), e.g. {G01B 21/12, G01N 33/36})
- 15/00** **Piecing arrangements** (for open-end spinning machines [D01H 4/48](#); in machines for producing textile fabrics, [see the appropriate subclasses](#)); **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 [D01H 9/005](#))
- 15/002 . {for false-twisting spinning machines}
- 15/004 . {for centrifugal spinning machines}
- 15/007 . for two-for-one twisting machines
- 15/013 . Carriages travelling along the machines
- 17/00** **Hand tools** (cop-tube applying apparatus [D01H 9/12](#))
- 17/02 . Arrangements for storing ring travellers; Devices for applying travellers to rings

2700/00 **Spinning or twisting machines; Drafting devices**

- 2700/01 . Preparatory spinning machines
- 2700/20 . Spinning mules; Transmissions
- 2700/202 . . Carriages or their movement; Lubrication
- 2700/205 . . Spindles or spindle control in spinning mules
- 2700/207 . . Yarn delivery rollers; Drawing systems for spinning mules; Silver rollers
- 2700/21 . Piecing or cleaning in spinning mules
- 2700/22 . Winding devices for spinning mules
- 2700/24 . Spinning or twisting machines of different kinds
- 2700/242 . . Spinning or twisting devices wherein twist is created during winding
- 2700/245 . Conception or fabrication of drafting cylinders
- 2700/247 . Guiding means for veil or sliver on drafting systems