

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

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))	1/16	. . 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}
1/003	. {Twisting machines in which twist is imparted from the supply packages, e.g. up twist}	1/186	. . . {for supplying from cans}
1/006	. {Twisting machines in which twist is imparted at the paying-out and take-up stations}	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)
1/02	. ring type {arrangements with two or more spinning or twisting devices in combination D01H 7/90 }	1/22	. . . for rollers {of drafting machines; Roller speed control}(regulating or varying draft D01H 5/32)
1/025	. . {with a condensing device between drafting system and spinning unit}	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)
1/04	. flyer type		
1/06	. cap type		
1/08	. cup, pot or disc type, in which annular masses of yarn are formed by centrifugal action	1/241	. . . . driven by belt
1/10	. for imparting multiple twist, e.g. two-for-one twisting	1/242	. . . . driven by toothed wheels
		1/243	. . . . driven by friction discs
1/101	. . {in which multiple twist is imparted at the take-up stations}	1/244	. . . . each spindle driven by an electric motor
1/103	. . . {Two-for-one twisting}	1/26	. . . . with two or more speeds; with variable-speed arrangements
1/105	. . {Arrangements using hollow spindles, i.e. the yarns are running through the spindle of the unwound bobbins}	1/28	. . . for two or more machine elements possessing different characteristics but in operative association
1/106	. . . {Two-for-one twisting}	1/30	. . . . with two or more speeds; with variable-speed arrangements
1/108	. . . . {for two or more supply bobbins one on top of the other}	1/305	. . . . . {Speed control of the spindles in response to the displacements of the ring rail}
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)}	1/32	. . . 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)}
1/115	. . using pneumatic means		
1/14	. Details (drafting arrangements D01H 5/00 ; twisting arrangements D01H 7/00)		

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 }	4/10	. . . Rotors
1/365	. . . {for flyer type}	4/12	. . . Rotor bearings; Arrangements for driving or stopping (control therefor D01H 4/42)
1/38	. . Arrangements for winding reserve lengths of yarn on take-up packages {or spindles }, e.g. transfer tails	4/14	. . . . Rotor driven by an electric motor
1/385	. . . { Removing waste reserve lengths from spindles }	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)}
1/40	. . Arrangements for connecting continuously-delivered material to bobbins or the like	4/18	. . . Friction drums, e.g. arrangement of suction holes
1/42	. . Guards or protectors for yarns or threads, e.g. separator plates, anti-ballooning devices (anti-ballooning devices on spindles D01H 7/18)	4/20	. . . Drum bearings; Arrangements for driving or stopping (control therefor D01H 4/42)
1/422	. . . {Separator plates}	4/22	. . Cleaning of running surfaces
1/425	. . . {Anti-ballooning rings}	4/24	. . . in rotor spinning
1/427	. . . {Anti-ballooning cylinders, e.g. for two-for-one twist machine (with combined cleaning effect D01H 11/00)}	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 }
3/00	Spinning or twisting machines in which the product is wound-up intermittently, e.g. mules	4/32	. . using opening rollers {(stopping of rovings or slivers D01H 13/18)}
3/02	. Details (drafting arrangements D01H 5/00 ; twisting arrangements D01H 7/00)	4/34	. . using air-jet streams
3/04	. . Carriages; Mechanisms effecting carriage movements	4/36	. . with means for taking away impurities
3/06	. . . Carriages; Carriage rails; Squaring motions	4/38	. Channels for feeding fibres to the yarn forming region
3/08	. . . Drawing-out or taking-in motions	4/40	. Removing running yarn from the yarn forming region, e.g. using tubes
3/10	. . . Moving-creel arrangements, e.g. for twiners	4/42	. Control of driving or stopping
3/12	. . Package-shaping motions; Faller arrangements	4/44	. . in rotor spinning
3/14	. . Roller-driving arrangements	4/46	. . in friction spinning
3/16	. . Spindle-driving arrangements (spindles, spindle bearings, spindle supports D01H 7/04)	4/48	. Piecing arrangements; Control therefor {(stopping roving D01H 13/18)}
3/18	. . . Tin rollers; Driving arrangements intimately associated with tin rollers	4/50	. . for rotor spinning
3/20	. . . Spindle-driving arrangements during drawing-out or backing-off	4/52	. . for friction spinning
3/22	. . . Spindle-driving arrangements during taking-in	5/00	Drafting machines or arrangements {; Threading of roving into drafting machine}
3/24	. . . . Quadrant motions; Nosing motions	5/005	. {Arrangements for feeding or conveying the slivers to the drafting machine}
3/26	. . Driving or stopping arrangements not otherwise provided for; Locking motions (safety devices D01H 13/14); Control of machines }	5/02	. Gill boxes or other drafting machines employing fallers or like pinned bars
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)}	5/04	. . with pinned bars actuated by screw members
	NOTE	5/06	. . . Intersecting gill boxes
	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"	5/08	. . with bars connected by links, chains, or the like
4/02	. imparting twist by a fluid, e.g. air vortex	5/10	. . with pinned bars unconnected with each other but actuated through pressure of one against another
4/04	. imparting twist by contact of fibres with a running surface	5/12	. . Details
4/06	. . co-operating with suction means (D01H 4/08, D01H 4/16 take precedence)	5/14	. . . Pinned bars
4/08	. . Rotor spinning, i.e. the running surface being provided by a rotor	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
		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}
- 13/12 . Arrangements preventing snarls or inadvertent doubling of yarns

- 13/14 . Warning or safety devices, e.g. automatic fault detectors, stop motions {; Monitoring the entanglement of slivers in drafting arrangements}
- 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

- 15/00** **Piecing arrangements (for open-end spinning machines D01H 4/48){; 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**
 - 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