

## SECTION D — TEXTILES; PAPER

### D01 NATURAL OR ARTIFICIAL THREADS OR FIBRES; SPINNING

**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)

#### Note(s)

Attention is drawn to the Note following the title of class D01.

#### Subclass index

##### SPINNING OR TWISTING MACHINES

With continuous wind-up; with intermittent wind-up.....	1/00, 3/00
Open-end spinning.....	4/00
Drafting machines or arrangements.....	5/00
Spinning or twisting arrangements.....	7/00

##### COMMON STRUCTURAL FEATURES, DETAILS, OR ACCESSORIES

Replacing bobbins; confining or removing dust or fly.....	9/00, 11/00
Other structural features, details, or accessories.....	13/00
Piecing arrangements; hand tools.....	15/00, 17/00

#### 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) [5]

- 1/02 • ring type
- 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
- 1/11 • Spinning by false-twisting [5]
- 1/115 • • using pneumatic means [5]
- 1/14 • Details (drafting arrangements D01H 5/00; twisting arrangements D01H 7/00)
- 1/16 • • Framework; Casings; Coverings
- 1/18 • • Supports for supply packages
- 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) [5]
- 1/22 • • • for rollers (regulating or varying draft D01H 5/32)
- 1/24 • • • for twisting 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 [2]
- 1/242 • • • • driven by toothed wheels [2]
- 1/243 • • • • driven by friction discs [2]
- 1/244 • • • • each spindle driven by an electric motor [2]

- 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
- 1/32 • • • • for complete machines
- 1/34 • • • • with two or more speeds; with variable-speed arrangements
- 1/36 • • Package-shaping arrangements, e.g. building motions
- 1/38 • • Arrangements for winding reserve lengths of yarn on take-up packages, e.g. transfer tails
- 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)
- 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)

**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 [5]**

**Note(s)**

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 [5]
- 4/04 • imparting twist by contact of fibres with a running surface [5]
- 4/06 • • co-operating with suction means (D01H 4/08, D01H 4/16 take precedence) [5]
- 4/08 • • Rotor spinning, i.e. the running surface being provided by a rotor [5]
- 4/10 • • • Rotors [5]
- 4/12 • • • Rotor bearings; Arrangements for driving or stopping (control therefor D01H 4/42) [5]
- 4/14 • • • • Rotor driven by an electric motor [5]
- 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 [5]
- 4/18 • • • Friction drums, e.g. arrangement of suction holes [5]
- 4/20 • • • Drum bearings; Arrangements for driving or stopping (control therefor D01H 4/42) [5]
- 4/22 • • Cleaning of running surfaces [5]
- 4/24 • • • in rotor spinning [5]
- 4/26 • • • in friction spinning [5]
- 4/28 • using electrostatic fields [5]
- 4/30 • Arrangements for separating slivers into fibres; Orienting or straightening fibres [5]
- 4/32 • • using opening rollers [5]
- 4/34 • • using air-jet streams [5]
- 4/36 • • with means for taking away impurities [5]
- 4/38 • Channels for feeding fibres to the yarn forming region [5]
- 4/40 • Removing running yarn from the yarn forming region, e.g. using tubes [5]
- 4/42 • Control of driving or stopping [5]
- 4/44 • • in rotor spinning [5]
- 4/46 • • in friction spinning [5]
- 4/48 • Piecing arrangements; Control therefor [5]
- 4/50 • • for rotor spinning [5]
- 4/52 • • for friction spinning [5]

- 5/00 Drafting machines or arrangements** (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)
- 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 (mules D01H 3/00; 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
- 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
- 5/52 • • • using fluid pressure
- 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)
- 5/58 • • 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
- 5/64 • • • Rollers or aprons with cleaning surfaces
- 5/66 • • • Suction devices
- 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)
- 5/74 • • • Rollers
- 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) [5]
- 7/02 • for imparting permanent twist
- 7/04 • • Spindles (spindle bearings, supports therefor, in general F16C)
- 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
- 7/24 • • 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 (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
- 7/58 • • • with driven rings
- 7/60 • • • Rings or travellers; Manufacture thereof not otherwise provided for (hand tools for applying travellers to rings D01H 17/02)
- 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
- 7/88 • • Hollow-spindle arrangements (D01H 7/86 takes precedence)
- 7/90 • • Arrangements with two or more twisting devices in combination (D01H 7/86, D01H 7/88 take precedence)
- 7/92 • for imparting transient twist

**Common features or details of, or accessories for, spinning or twisting machines of various kinds or types**

- 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)
- 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
- 9/06 • • • Removing yarn from centrifugal cups on to yarn carriers
- 9/08 • • Doffing arrangements independent of spinning or twisting machines
- 9/10 • • • Doffing carriages
- 9/12 • • • Manual cop-tube applying apparatus; Stands for cop-tube applying apparatus
- 9/14 • • for preparing machines for doffing of yarns (stop motions responsive to delivery of a measured length of material D01H 13/24)
- 9/16 • • Yarn-severing arrangements
- 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)
- 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) [5]
- 13/00 Other common constructional features, details, or accessories** (for open-end spinning D01H 4/00) [5]
- 13/02 • Roller arrangements not otherwise provided for
- 13/04 • Guides for slivers, rovings, or yarns; Smoothing dies (fibre-condensing guides D01H 5/72)
- 13/06 • • Traversing arrangements
- 13/08 • Twist arresters
- 13/10 • Tension devices
- 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 (warning or safety devices for filamentary material, not intimately associated with spinning or like machines B65H; safety devices of general application F16P; indicating devices of general application G08B)

D01H

- 13/16

- responsive to reduction in material tension, failure of supply, or breakage, of material
- 13/18

- • stopping supply only
- 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
- 13/30

- Moistening, sizing, oiling, waxing, colouring, or drying yarns or the like as incidental measures during spinning or twisting
- 13/32

- Counting, measuring, recording, or registering devices (in general, see in the appropriate subclass of section G, e.g. G01B)
- 15/00

**Piecing arrangements** (for open-end spinning machines D01H 4/48; in machines for producing textile fabrics, see the appropriate subclasses) [5]
- 15/007

- for two-for-one twisting machines [5]
- 15/013

- Carriages travelling along the machines [5]
- 17/00

**Hand tools** (cop-tube applying apparatus D01H 9/12)
- 17/02

- Arrangements for storing ring travellers; Devices for applying travellers to rings