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 D01G35/00; crimping or curling of fibres, filaments or yarns D02G1/00; making chenille D03D, D04D3/00; testing yarns, rovings, slivers, fibres, or fibre webs G01)

Definition statement

This subclass/group covers:

the spinning or twisting of staple fibre yarns (i.e. comprising fibres of discrete length); e.g. cotton or wool spinning.

References relevant to classification in this subclass

This subclass/group does not cover:

The formation of continuous synthetic filaments	D01D, D01F

Informative references

Attention is drawn to the following places, which may be of interest for search:

Unwinding, paying-out, forwarding, winding or coiling filamentary material not intimately associated with spinning or twisting	B65H 49/00 - B65H 75/00

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Fibre	a relatively-short, elongated member of natural or artificial material
Filament:	an endless or quasi-endless, elongated member of natural (e.g. silk) or artificial material

Yarn	a unitary assembly of fibres, usually produced by spinning
Thread:	an assembly of yarns or filaments, usually produced by twisting
Drawing	stretching and elongating yarns or filaments
Draft:	the amount to which yarns or filaments are drawn

D01H 1/00

Spinning or twisting machines in which the product is wound-up continuously (open-end spinning machines D01H4/00; [N: doubling of yarns B65H54/00; doubled, plied or cabled threads D02G3/28, e.g. using hollow spindles D02G3/283; spin-twisting D02G3/281; threads with alternately "S" and "Z" direction of twist, e.g. self-twist process, D02G3/286; wrapping strands of filaments or staple fibres by a binder yarn D02G3/38])

Definition statement

This subclass/group covers:

the spinning processes where twist is inserted into a fibre strand, without interrupting the fibre strand.

Informative references

Attention is drawn to the following places, which may be of interest for search:

"open-end" technique, whereby the fibre strand is interrupted	D01H 4/00

D01H 1/003

[N: Twisting machines in which twist is imparted from the supply packages, e.g. uptwist]

Definition statement

This subclass/group covers:

the cases where the supply package provides the twist.

D01H 1/006

[N: Twisting machines in which twist is imparted at the paying-out and take-up stations]

Definition statement

This subclass/group covers:

the cases where twist comes from the collecting bobbin, and corresponds for example to ring spinning and similar processes.

D01H 1/02

ring type [N: (arrangements with two or more spinning or twisting devices in combination D01H/90)]

Definition statement

This subclass/group covers:

a spinning process in which a yarn is twisted and wound onto a revolving bobbin surrounded by a ring that moves up-and down, and caries a traveller set in motion by the yarn.

D01H 1/04

flyer type

Definition statement

This subclass/group covers:

a spinning process in which a yarn (typically coarse woollen yarn) is twisted by a rotating flyer arm, that winds it onto a bobbin that is free to rotate.

D01H 1/06

cap type

Definition statement

This subclass/group covers:

a spinning process in which a yarn (typically woollen yarn) is twisted and wound onto a revolving bobbin situated inside a stationary cap.

D01H 1/08

cup, pot or disc type, in which annular masses of yarn are formed by centrifugal action

Definition statement

This subclass/group covers:

centrifugal spinning, where a yarn mass (or cake) is formed inside or on a rotating element, e.g. a pot, which at the same time imparts twist and collects the yarn.

D01H 1/10

for imparting multiple twist, e.g. two-for-one twisting

Definition statement

This subclass/group covers:

twisting of several yarns, whereby one spindle turn causes several twist turns in the assembled yarn (obtained e.g. by multiple yarn reversal points in the yarn run path).

Informative references

Attention is drawn to the following places, which may be of interest for search:

Cabling	D02G 3/285

D01H 1/11

Spinning by false-twisting [N: (twisting by false-twisting D01H7/92; D02G3/28; increasing the strength of a roving or sliver by false-twisting D01H7/92, during drafting D01H5/28)]

Definition statement

This subclass/group covers:

spinning techniques like friction spinning or air jet spinning, provided there is no fibre flow interruption.

References relevant to classification in this group

This subclass/group does not cover:

Twisting by false twisting	D01H 7/92

Increasing the strength of a roving or sliver by false-twisting	D01H 7/92
Increasing the strength of a roving or sliver during drafting	D01H 5/28

D01H 1/115

using pneumatic means

Definition statement

This subclass/group covers:

air-jet spinning by false twist.

Special rules of classification within this group

If the disclosure of the document to be classified does not clearly identify if the fibre flow is interrupted or not in an air-jet spinning nozzle, this class is given jointly with D01H 4/02.

D01H 1/18

Supports for supply packages

Informative references

Attention is drawn to the following places, which may be of interest for search:

Unwinding or paying-out filamentary material in which packages do not rotate	B65H 49/02
Unwinding or paying-out filamentary material in which packages rotate	B65H 49/18

D01H 1/36

Package-shaping arrangements, e.g. building motions [N: e.g. control for the traversing stroke of ring rails; Stopping ring rails in a predetermined position]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Traversing devices, package-shaping arrangements	B65H 54/28

D01H 1/38

Arrangements for winding reserve lengths of yarn on take-up packages [N: or spindles], e.g. transfer tails

Informative references

Attention is drawn to the following places, which may be of interest for search:

Transfer tails in winding, coiling or depositing filamentary material	B65H 54/34

D01H 3/00

Spinning or twisting machines in which the product is wound-up intermittently, e.g. mules

Definition statement

This subclass/group covers:

a discontinuous spinning process in which the drafting and twisting stage is performed separately from the subsequent winding stage; e.g. spinning mule.

D01H 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 [N: (arrangements with two or more spinning or twisting devices of different types in combination D01H7/90)]

Definition statement

This subclass/group covers:

the spinning processes where twist is inserted into a fibre strand, whereby an interruption of the fibre strand takes place in order to insert twist; e.g. the fibres are taken out from the strand and blown into a rotor that turns at high speed.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Processes where the fibre strand stays continuous	D01H 1/00

D01H 4/02

imparting twist by a fluid, e.g. air vortex

Definition statement

This subclass/group covers:

open-end air jet spinning.

Special rules of classification within this group

If the disclosure of the document to be classified does not clearly identify if the fibre flow is interrupted or not in an air-jet spinning nozzle, this class is given jointly with D01H 1/115

D01H 4/04

imparting twist by contact of fibres with a running surface

Definition statement

This subclass/group covers:

open-end friction spinning.

D01H 4/30

Arrangements for separating slivers into fibres; Orienting or straightening fibres, [N: e.g. using guide-rolls]

Definition statement

This subclass/group covers:

the individualisation of fibres that are to be fed into the spinning region, e.g. by little opening rollers.

D01H 4/48

Piecing arrangements; Control therefor [N: (stopping roving

D01H13/18)]

Definition statement

This subclass/group covers:

the piecing in an open-end spinning machine, after a machine stop or spinning incident.

References relevant to classification in this group

This subclass/group does not cover:

Piecing arrangements not in conjunction with open-end spinning	D01H 15/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Methods of, or devices for, interconnecting successive lengths of material	B65H 69/00

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Piecing	joining of yarn ends.

D01H 5/00

Drafting machines or arrangements [N: Threading of roving into drafting machine] (arrangements in which draft is dependent on linear movement of take-up spindles, e.g. in mules, D01H3/00; devices for combing or orienting fibres for open-end spinning machines D01H4/30; [N: increasing the strength of a roving or sliver by false-twisting D01H7/92, during drafting D01H5/28, after drafting and before spinning according to groups D01H1/02 to D01H1/08, D01H7/90; depositing materials in cans after drafting B65H54/76])

Definition statement

This subclass/group covers:

drafting machines as stand alone, as well as drafting arrangements in spinning machines. Slivers are drafted into slivers, rovings or fibre strands by the action of progressively accelerating drafting cylinders.

References relevant to classification in this group

This subclass/group does not cover:

Arrangements in which draft is dependent on linear movement of take-up spindles, e.g. mules	D01H 3/00
Devices for combing or orienting fibres for open-end spinning machines	D01H 4/30

D01H 5/02

Gill boxes or other drafting machines employing fallers or like pinned bars (lubricating fibres in gill boxes D01G29/00)

Definition statement

This subclass/group covers:

drafting machines having fibre control arrangements placed between the drafting cylinders; said control elements are pinned bars. The machines themselves are called gill boxes, and are used in long staple (i.e. wool, flax) spinning preparation.

Synonyms and Keywords

In patent documents the following expressions/words "fallers" and "pinned bars" are often used as aynonyms

D01H 5/18

Drafting machines or arrangements without fallers or like pinned bars

Definition statement

This subclass/group covers:

drafting machines with other or no fibre control means between the drafting rollers, e.g. cotton preparation drafting machines or drafting arrangements on spinning machines.

D01H 5/32

Regulating or varying draft

Definition statement

This subclass/group covers:

means used to regulate the draft in predefined patterns or in response to irregularity detection.

D01H 5/44

Adjusting drafting elements, e.g. altering ratch

Definition statement

This subclass/group covers:

adjustment means to change distances between rollers or roller pairs.

D01H 5/46

Loading arrangements

Definition statement

This subclass/group covers:

means to exert a load or pressure on a roller or rollers, to ensure an adequate nipping of fibres.

D01H 5/56

Supports for drafting elements (saddles or top roller arms forming essential components of weighting arrangements D01H5/48)

Definition statement

This subclass/group covers:

the structures and frames that hold the drafting arrangement(s) in spinning machines.

D01H 5/58

Arrangements for traversing drafting elements (traversing arrangements for roving guides D01H13/06)

Definition statement

This subclass/group covers:

means to realise a lateral movement of drafting rollers, e.g. to reduce local wearing of rollers.

D01H 5/72

Fibre-condensing guides (guides for slivers, rovings, or yarns applicable solely for spinning, twisting, curling, or crimping purposes D01H13/04; [N: combined with false twisting before drafting or before spinning according to groups D01H1/02 to D01H1/08 : D01H7/92])

Definition statement

This subclass/group covers:

guides that are placed in or after the drafting zone, to control and narrow the path followed by the fibres.

Special rules of classification within this group

The term "compact spinning" refers to the use of a fibre condensing guide after the drafting zone of a ring spinning machine.

D01H 5/76

Loose-boss assemblies

Definition statement

This subclass/group covers:

roller assemblies that lie in a loose manner on the fibre strands in the drafting zone of a spinning machine, thereby exerting mild fibre control.

D01H 5/78

with flutes or other integral surface characteristics

Definition statement

This subclass/group covers:

rollers with structured surfaces, e.g. lower metallic drafting rollers with helical grooves in a drafting machine.

D01H 5/80

with covers; Cots or covers

Definition statement

This subclass/group covers:

roller with a generally soft coat like rubber, e.g. upper drafting rollers of a spinning machine.

D01H 5/84

Porcupines

Definition statement

This subclass/group covers:

needled rollers, used to control fibres in a drafting zone.

D01H 5/86

Aprons; Apron supports; Apron tensioning arrangements

Definition statement

This subclass/group covers:

aprons and arrangement with aprons to control fibres in a drafting zone.

D01H 7/16

Arrangements for coupling bobbins or like to spindles

Definition statement

This subclass/group covers:

arrangements for coupling bobbins or like to spindles of spinning machines.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Securing packages to supporting devices	B65H 49/36
Arrangements for supporting cores or formers at winding stations	B65H 54/54
Expansible spindles, mandrels or chucks	B65H 75/242

D01H 7/18

Arrangements on spindles for suppressing yarn balloons (thread guards or protectors D01H1/42)

Informative references

Attention is drawn to the following places, which may be of interest for search:

Guides for filamentary materials adapted to prevent excessive ballooning	B65H 57/22

D01H 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 [N: B65H67/00])[N: ; Combination of spinning-winding machine]

Definition statement

This subclass/group covers:

the logistical aspects taking place on empty or full bobbins and receptacles on spinning machines.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Coiling of slivers in cans or winding techniques of finished yarns onto bobbins	B65H 54/00
Replacing or removing cores, receptacles, or completed packages at paying-out, winding, or depositing stations	B65H 67/00

D01H 11/00

Arrangements for confining or removing dust, fly, or the like (cleaning of running surfaces in open-end spinning machines D01H4/22; separation in general B01D; cleaning in general B08B; air-conditioning F24F, e.g. by filtering F24F3/16)

Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements for confining or removing dust in yarn-winding machines	B65H 54/702
Drafting machines or arrangements	D01H 5/00

D01H 13/00

Other common constructional features, details or accessories (for open-end spinning D01H4/00)

Definition statement

This subclass/group covers:

auxiliary devices of spinning or twisting machines.

D01H 13/005

[N: Service carriages travelling along the machines (characteristics relating to the apparatus supported by the carriage, see relevant groups, e.g. D01H9/005, D01H9/10, D01H13/145, D01H15/00)]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Automatic winding machines having one or more servicing units moving along a plurality of fixed winding units	B65H 54/26

D01H 13/02

Roller arrangements not otherwise provided for

Informative references

Attention is drawn to the following places, which may be of interest for search:

Guides for filamentary materials, supports therefor	B65H 57/00

D01H 13/04

Guides for slivers, rovings, or yarns; Smoothing dies (fibre-condensing guides D01H5/72; [N: means to facilitate the unwinding of yarn in multiple-twist arrangements D01H7/866])

Informative references

Attention is drawn to the following places, which may be of interest for search:

Guides for filamentary materials, supports therefor	B65H 57/00

D01H 13/06

Traversing arrangements

Informative references

Attention is drawn to the following places, which may be of interest for search:

Traversing devices, package-shaping arrangements	B65H 54/28

D01H 13/10

Tension devices

Informative references

Attention is drawn to the following places, which may be of interest for search:

Adjusting or controlling tension in filamentary material	B65H 59/00

D01H 13/14

Warning or safety devices, e.g. automatic fault detectors, stop motions; [N: Monitoring the entanglement of slivers in drafting arrangements] (warning or safety devices for filamentary material, not intimately associated with spinning or like machines [N: B65H63/00]; safety devices of general application F16P; indicating devices of general application G08B)

Definition statement

This subclass/group covers:

warning and safety devices, as well as online measurement arrangements able to provide a warning signal; e.g. yarn breakage detection on ring spinning machine.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Warning or safety devices for filamentary material, not intimately associated with spinning or the like machines	B65H 63/00
Investigating or analysing materials by determining their chemical or physical properties	G01N

D01H 13/30

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

Informative references

Attention is drawn to the following places, which may be of interest for search:

Moistening, sizing, oiling, waxing, colouring or drying filamentary material as additional measures during package formation	B65H 71/00

D01H 13/32

All references from the title should be removed and be listed in a tabular form according to the IPC standards.

Definition statement

This subclass/group covers:

on-line quality control and measuring devices, like length or evenness measurement.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Measuring length, thickness or similar linear dimensions	G01B
Investigating or analysing materials by determining their chemical or physical properties	G01N
Applications or devices for metering predetermined lengths of running material	B65H 61/00

Special rules of classification within this group

If the measurement can lead to a warning or stop signal (e.g. in case of evenness lying outside an acceptable range), class D01H 13/14 is also given.

D01H 15/00

Piecing arrangements (for open-end spinning machines D01H4/48; in machines for producing textile fabrics, see the appropriate subclasses); [N: 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 D01H9/005)]

Definition statement

This subclass/group covers:

the piecing (repair) of yarn interruptions due to breakage or machine stop on machines other than open-end spinning machines D01H 4/48.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Methods of, or devices for, interconnecting successive lengths of material	B65H 69/00

D01H 17/00

Hand tools (cop-tube applying apparatus D01H9/12)

Definition statement

This subclass/group covers:

hand tools for spinning and twisting, e.g. yarn threaders, portable yarn splicers, hand tools for applying travellers to rings etc.