

**CPC****COOPERATIVE PATENT CLASSIFICATION****D01D****MECHANICAL METHODS OR APPARATUS IN THE  
MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS,  
FIBRES, BRISTLES OR RIBBONS****NOTE**

1. Attention is drawn to the note following the title of Class [D01](#).
2. Apparatus specially adapted for the manufacture of carbon filaments are classified in group [D01F 9/12](#)

**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[D01D 5/10](#) covered by [D01D 5/08](#) and subgroups

**D01D 1/00**

**Treatment of filament-forming or like material** (working of plastics or substances in a plastic state, in general [B29](#))

D01D 1/02

- . Preparation of spinning solutions

D01D 1/04

- . Melting filament-forming substances

D01D 1/06

- . Feeding liquid to the spinning head (constructions of pumps [F04](#))

D01D 1/065

- .. {Addition and mixing of substances to the spinning solution or to the melt; Homogenising}

D01D 1/09

- .. Pressure, temperature or feeding rate regulation

D01D 1/10

- . Filtering or de-aerating the spinning solution or melt

D01D 1/103

- .. {De-aerating}

D01D 1/106

- .. {Filtering}

**D01D 4/00**

**Spinnerette packs; Cleaning thereof** ({[D01D 5/0069](#)}, [D01D 5/24](#), [D01D 5/253](#), [D01D 5/28](#) take precedence)

D01D 4/02

- . Spinnerettes (alloys therefor [C22C](#))

D01D 4/022

- .. {Processes or materials for the preparation of spinnerettes}

D01D 4/025

- .. {Melt-blowing or solution-blowing dies}

D01D 4/027

- .. {Spinnerettes containing inserts}

D01D 4/04

- . Cleaning spinnerettes or other parts of the spinnerette packs (cleaning in general [B08B](#))

D01D 4/06

- . Distributing spinning solution or melt to spinning nozzles

D01D 4/08

- . Supporting spinnerettes or other parts of spinnerette packs

**D01D 5/00**

**Formation of filaments, threads, or the like**

D01D 5/0007

- . {Electro-spinning (non-woven fabrics produced by electro-spinning [D04H 1/728](#))}

D01D 5/0015

- .. {characterised by the initial state of the material}

- D01D 5/0023 . . . {the material being a polymer melt}
- D01D 5/003 . . . {the material being a polymer solution or dispersion ([D01D 5/0053](#) takes precedence)}
- D01D 5/0038 . . . . {the fibre formed by solvent evaporation, i.e. dry electro-spinning}
- D01D 5/0046 . . . . {the fibre formed by coagulation, i.e. wet electro-spinning}
- D01D 5/0053 . . . {the material being a low molecular weight compound or an oligomer, and the fibres being formed by self-assembly}
- D01D 5/0061 . . {characterised by the electro-spinning apparatus}
- D01D 5/0069 . . . {characterised by the spinning section, e.g. capillary tube, protrusion or pin}
- D01D 5/0076 . . . {characterised by the collecting device, e.g. drum, wheel, endless belt, plate or grid ([D01D 5/0046](#) takes precedence)}
- D01D 5/0084 . . . . {Coating by electro-spinning, i.e. the electro-spun fibres are not removed from the collecting device but remain integral with it, e.g. coating of prostheses}
- D01D 5/0092 . . . {characterised by the electrical field, e.g. combined with a magnetic fields, using biased or alternating fields}
- D01D 5/02 . Starting the formation
- D01D 5/04 . Dry spinning methods {([D01D 5/0038](#) takes precedence)}
- D01D 5/06 . Wet spinning methods {([D01D 5/0046](#) takes precedence)}
- D01D 5/08 . Melt spinning methods {([D01D 5/0023](#) takes precedence)}
- D01D 5/082 . . {of mixed yarn}
- D01D 5/084 . . Heating filaments, threads or the like, leaving the spinnerettes
- D01D 5/088 . . Cooling filaments, threads or the like, leaving the spinnerettes
- D01D 5/0885 . . . {by means of a liquid}
- D01D 5/092 . . . in shafts or chimneys
- D01D 5/096 . . Humidity control, or oiling, of filaments, threads or the like, leaving the spinnerettes
- D01D 5/098 . . with simultaneous stretching
- D01D 5/0985 . . . {by means of a flowing gas (e.g. melt-blowing)}
- D01D 5/10 . . using organic materials

### **WARNING**

This group is no longer used for the classification of new documents as from July 2011. The backlog of this group is being continuously reclassified to [D01D 5/08](#) and its subgroups

- D01D 5/11 . Flash-spinning
- D01D 5/12 . Stretch-spinning methods {([D01D 5/098](#) takes precedence)}finishing by stretching [D02J 1/22](#))
- D01D 5/14 . . with flowing liquid { or gaseous} stretching media{, e.g. solution-blowing}
- D01D 5/16 . . using rollers, or like mechanical devices, e.g. snubbing pins
- D01D 5/18 . by means of rotating spinnerets
- D01D 5/20 . with varying denier along their length

- D01D 5/22 . with a crimped or curled structure; with a special structure to simulate wool ([producing crimped or curled effect in filaments or threads after formation D02G 1/00](#))
- D01D 5/23 . . by asymmetrical cooling of filaments, threads, or the like, leaving the spinnerettes
- D01D 5/24 . with a hollow structure; Spinnerette packs therefor ([D01D 5/38 takes precedence; producing tubes of plastic material B29D](#); addition of agents forming hollow filaments [D01F 1/08](#))
- D01D 5/247 . . Discontinuous hollow structure or microporous structure
- D01D 5/253 . with a non-circular cross section; Spinnerette packs therefor ([D01D 5/38 takes precedence](#))
- D01D 5/26 . Formation of staple fibres ([by flash-spinning D01D 5/11](#))
- D01D 5/28 . while mixing different spinning solutions or melts during the spinning operation; Spinnerette packs therefor
- D01D 5/30 . . Conjugate filaments; Spinnerette packs therefor
- D01D 5/32 . . . Side-by-side structure; Spinnerette packs therefor
- D01D 5/34 . . . Core-skin structure; Spinnerette packs therefor
- D01D 5/36 . . . Matrix structure; Spinnerette packs therefor
- D01D 5/38 . Formation of filaments, threads, or the like during polymerisation
- D01D 5/40 . by applying a shearing force to a dispersion or solution of filament formable polymers, e.g. by stirring
- D01D 5/42 . by cutting films into narrow ribbons or filaments or by fibrillation of films { [or filaments](#)}
- D01D 5/423 . . {[by fibrillation of films or filaments](#)}
- D01D 5/426 . . {[by cutting films](#)}
- D01D 7/00** **Collecting the newly-spun products** {([D01D 5/0076 takes precedence](#))}(collecting newly-spun products with the imparting of twist [D01H](#))
- D01D 7/02 . in centrifugal spinning pots
- D01D 10/00** **Physical treatment of artificial filaments or the like during manufacture, i.e. during a continuous production process before the filaments have been collected** ([finishing D02J](#))
- D01D 10/02 . Heat treatment ([heating for finishing D02J 13/00](#))
- D01D 10/04 . Supporting filaments or the like during their treatment
- D01D 10/0409 . . {[on bobbins](#)}
- D01D 10/0418 . . {[as cakes or similar coreless thread packages](#)}
- D01D 10/0427 . . {[as hanks](#)}
- D01D 10/0436 . . {[while in continuous movement](#) ([forwarding filamentary material B65H 51/00](#))}
- D01D 10/0445 . . . {[using rollers with mutually inclined axes](#)}
- D01D 10/0454 . . . {[using reels](#)}
- D01D 10/0463 . . . {[the filaments being maintained parallel](#)}
- D01D 10/0472 . . . {[the filaments being supported on endless bands](#)}
- D01D 10/0481 . . . {[the filaments passing through a tube](#)}
- D01D 10/049 . . {[as staple fibres](#)}
- D01D 10/06 . Washing or drying

**D01D 11/00**

**Other features of manufacture**

**D01D 11/02**

- . Opening bundles to space the threads or filaments from one another

**D01D 11/04**

- . Fixed guides

**D01D 11/06**

- . Coating with spinning solutions or melts

**D01D 13/00**

**Complete machines for producing artificial threads**

**D01D 13/02**

- . Elements of machines in combination