

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

Attention is drawn to the note following the title of Class [D01](#).

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 ( finishing by stretching [D02J 1/22](#) ) { [D01D 5/098](#) takes

- precedence }
- 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