

Title (en)

Method and apparatus for cooling molten filaments in spinning apparatus.

Title (de)

Verfahren und Vorrichtung zur Abkühlung von aus der Schmelze gesponnenen Fäden.

Title (fr)

Méthode et dispositif pour refroidir les filaments filés au fondu.

Publication

EP 0334604 B1 19931124 (EN)

Application

EP 89302795 A 19890321

Priority

JP 7091588 A 19880324

Abstract (en)

[origin: EP0334604A2] A method for cooling molten filaments in a spinning apparatus where, a plurality of molten filaments (2) extruded from a die (1) are cooled by cooling air blown out from a cooling apparatus (3) and are taken up with a draft, wherein the temperature and/or volume of the cooling air blown from the cooling apparatus is controlled so that the cooling is performed stronger, in stages or continuously, from upstream to downstream.

IPC 1-7

D01D 5/088

IPC 8 full level

D01D 5/092 (2006.01); **D01D 5/088** (2006.01)

CPC (source: EP KR)

D01D 5/088 (2013.01 - EP); **D01D 5/092** (2013.01 - KR)

Cited by

DE29512001U1; CN102859052A; CN100342067C; CN114592244A; CN115182059A; EP1340843A1; CZ305424B6; US5928587A; CN112921420A; EP0957187A3; CN105612278A; EP3049562A4; CN100390334C; US5310514A; KR101143536B1; US6918750B2; US6444151B1; WO0198564A1; WO0063468A1; WO2011141427A1; WO2006024435A1; US7731876B2; US8182915B2; WO2004005594A1; WO9109162A1

Designated contracting state (EPC)

AT BE CH DE ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0334604 A2 19890927; EP 0334604 A3 19900314; EP 0334604 B1 19931124; EP 0334604 B2 19961127; AT E97704 T1 19931215; AU 3160889 A 19890928; AU 625777 B2 19920716; CA 1325088 C 19931214; CN 1022581 C 19931027; CN 1038135 A 19891220; DE 68910857 D1 19940105; DE 68910857 T2 19940317; DE 68910857 T3 19970410; HK 84794 A 19940826; JP 2674656 B2 19971112; JP H01246408 A 19891002; KR 890014793 A 19891025; KR 960006931 B1 19960525; NZ 228457 A 19911126

DOCDB simple family (application)

EP 89302795 A 19890321; AT 89302795 T 19890321; AU 3160889 A 19890322; CA 594757 A 19890323; CN 89101766 A 19890323; DE 68910857 T 19890321; HK 84794 A 19940818; JP 7091588 A 19880324; KR 890003689 A 19890324; NZ 22845789 A 19890322