Title (en)

PROCESS AND SPINNING DEVICE FOR MAKING MICROFILAMENTS.

Title (de)

VERFAHREN UND SPINNVORRICHTUNG ZUR HERSTELLUNG VON MIKROFILAMENTEN.

Title (fr)

PROCEDE ET DISPOSITIF DE FILAGE POUR LA PRODUCTION DE MICROFILAMENTS.

Publication

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Application

EP 90917481 A 19901203

Priority

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Abstract (en)

[origin: US5310514A] PCT No. PCT/DE90/00941 Sec. 371 Date Jun. 19, 1992 Sec. 102(e) Date Jun. 19, 1992 PCT Filed Dec. 3, 1990 PCT Pub. No. WO91/09162 PCT Pub. Date Jun. 27, 1991.An improved process and apparatus are provided for producing fine microfilaments of a melt-spinnable polymeric material having a silk-like character. The molten polymeric material is melt extruded through a plurality of extrusion orifices, is passed from the extrusion orifices while surrounded by a stream of headed air that surrounds and flows parallel with the molten polymeric material, is passed through a solidification zone wherein cooling air is transversely blown to contact the same, and a pulling force is exerted on the resulting solidified microfilamentary material which is applied below the solidification zone so a to accomplish substantial drawing of the polymeric material intermediate the extrusion orifices and its transformation in to a solidified microfilamentary material. The formation at a high rate of 4,000 to 6,000 meters per minute of quality fine microfilaments of less than 1 dtex per filament (e.g., 0.33 dtex) is made possible. Preferably, the stream of heated air that surrounds the molten polymeric material immediately after the melt extrusion is provided at a temperature that approximates the temperature of the molten filamentary material.

Abstract (fr)

Procédé de production de microfilaments de très faible diamètre pour des fils synthétiques ou des nappes de monofils continus, selon lequel les microfilaments sont extraits et étirés, sous grande vitesse d'extraction, à travers un trou de filage, à partir de filières alimentées avec une matière en fusion. Il est prévu d'exposer les microfilaments, immédiatement après leur sortie du trou de filage, à un courant d'air chaud entourant le microfilament à la manière d'une enveloppe. On obtient ainsi un refroidissement en continu des microfilaments, de sorte qu'en dépit d'une vitesse d'extraction élevée, on évite des cassures de filaments et qu'en outre , les vitesses d'extraction du dispositif de filage peuvent être maintenues, même à de très faibles diamètres.

IPC 1-7

D01D 5/088; D01F 6/00

IPC 8 full level

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CPC (source: EP KR US)

D01D 4/025 (2013.01 - EP US); **D01D 5/08** (2013.01 - KR); **D01D 5/084** (2013.01 - EP US); **D01D 5/088** (2013.01 - KR); **D01D 5/0985** (2013.01 - EP US); **D04H 3/02** (2013.01 - EP US); **D04H 3/16** (2013.01 - EP US)

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