

Title (en)

Air vortex spinning device with arrangements for assisting piecing

Title (de)

Wirbelluft-Spinnvorrichtung mit Einrichtungen zum hälfen beim Anspinnen

Title (fr)

Métier à filer à vortex d'air avec dispositif pour assister de rattache

Publication

**EP 1291457 A3 20030723 (EN)**

Application

**EP 02018723 A 20020821**

Priority

- JP 2001269015 A 20010905
- JP 2001278407 A 20010913

Abstract (en)

[origin: EP1291457A2] The present invention relates to a spinning device that can discharge and piece yarn more successfully and realize high speed spinning. The spinning device comprises an air spinning nozzle 27 for generating vortex air current in and around a tip part 24 of a hollow guide shaft member 20 and an assistant nozzle 36 for generating vortex air current in a yarn passage 29 of the hollow guide shaft member 20, wherein the assistant nozzle 36 is tilted downstream to a plain P orthogonal to the yarn passage 29. The suitable tilt angle  $\theta$  of the assistant nozzle is  $10 \text{ degrees} \leq \theta \leq 35 \text{ degrees}$  preferably 20 degrees. This is because the vortex air current generated by the assistant nozzle develops a strong tendency to flow downstream and the power to suck a fiber bundle to the yarn passage becomes strong. Moreover, the vortex air current to the downstream direction and to the rotating direction are balanced suitably and yarn strength of the discharged fascinated yarn becomes strong, so that the problems such as yarn breakage are prevented. <IMAGE>

IPC 1-7

**D01H 4/02**; **D01H 1/115**; **D01H 4/48**

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CPC (source: EP)

**D01H 1/115** (2013.01); **D01H 4/02** (2013.01); **D01H 15/002** (2013.01)

Citation (search report)

- [Y] EP 1072702 A2 20010131 - MURATA MACHINERY LTD [JP]
- [Y] US 4637207 A 19870120 - DERICHS JOSEF [DE]
- [A] PATENT ABSTRACTS OF JAPAN vol. 017, no. 394 (C - 1088) 23 July 1993 (1993-07-23)

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**EP 1291457 A2 20030312**; **EP 1291457 A3 20030723**; CN 1407153 A 20030402; JP 2003155630 A 20030530

DOCDB simple family (application)

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