

Title (en)
Turbomachine with shaft cooling

Title (de)
Strömungsmaschine mit gekühlter Rotorwelle

Title (fr)
Turbomachine avec arbre refroidie

Publication
EP 0984138 A3 20020123 (DE)

Application
EP 99810710 A 19990809

Priority
DE 19839592 A 19980831

Abstract (en)
[origin: EP0984138A2] The cooling blades (12) incorporate air guide channels which in the area of the blade points (15) issue into blow-out apertures (14). Cooling air (K) is thrust out of the blow-out apertures (14) and comes into contact with the rotor shaft (18) at high speed.

IPC 1-7
F01D 5/08; **F01D 25/12**; **F01D 5/18**

IPC 8 full level
F01D 5/08 (2006.01); **F01D 5/18** (2006.01); **F01D 11/10** (2006.01); **F01D 11/16** (2006.01)

CPC (source: EP US)
F01D 5/08 (2013.01 - EP US); **F01D 5/187** (2013.01 - EP US); **F01D 11/10** (2013.01 - EP US); **F01D 11/16** (2013.01 - EP US);
F05D 2260/201 (2013.01 - EP US)

Citation (search report)
• [XA] EP 0790390 A2 19970820 - ROLLS ROYCE PLC [GB]
• [A] US 3635586 A 19720118 - KENT NELSON H, et al
• [A] US 3703808 A 19721128 - STEARNS ELDON M
• [A] US 4213296 A 19800722 - SCHWARZ FREDERICK M [US]
• [A] PATENT ABSTRACTS OF JAPAN vol. 007, no. 133 (M - 221) 10 June 1983 (1983-06-10)

Cited by
EP3205817A1; WO2011054758A1; US8517676B2; EP2551490A1; US9004853B2; JP2013024248A

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
DE 19839592 A1 20000302; DE 59912702 D1 20051201; EP 0984138 A2 20000308; EP 0984138 A3 20020123; EP 0984138 B1 20051026;
US 6224328 B1 20010501

DOCDB simple family (application)
DE 19839592 A 19980831; DE 59912702 T 19990809; EP 99810710 A 19990809; US 37190499 A 19990811