Title (en)

Cooled rotor blade

Title (de)

Gekühlte Rotorschaufel

Title (fr)

Aube de rotor refroidie

Publication

EP 1605136 A3 20090121 (EN)

Application

EP 05253258 A 20050527

Priority

US 85504904 A 20040527

Abstract (en)

[origin: EP1605136A2] A rotor blade (14) is provided that includes a root (20) and a hollow airfoil (22). The hollow airfoil has a cavity, a leading edge (32), and a tip (30). An internal passage configuration is disposed within the cavity that includes a first radial passage (92), a second radial passage (94), and a rib (96) disposed between the passages (92,94). The passages (92,94) and the rib (96) are contiguous with a tip endwall (98). The first radial passage (92) is disposed contiguous with the leading edge (32). A plurality of crossover apertures (74) are disposed in the rib (96). One of the crossover apertures (100) is disposed flush with the tip endwall (98). A conduit (42) is disposed within the root (20) that is operable to permit airflow through the root and into the passages. In some embodiments, an aperture (62,76) is disposed within the tip endwall (98) aligned with the first radial passage (92).

IPC 8 full level

F01D 5/18 (2006.01); **B63H 1/14** (2006.01); **F01D 5/20** (2006.01); **F02C 7/18** (2006.01)

CPC (source: EP US)

F01D 5/187 (2013.01 - EP US); **F01D 5/20** (2013.01 - EP US); F05D 2260/202 (2013.01 - EP US)

Citation (search report)

- [XY] EP 0899425 A2 19990303 - ASEA BROWN BOVERI [CH]
- [Y] EP 0896127 A2 19990210 - UNITED TECHNOLOGIES CORP [US]
- [A] US 5660524 A 19970826 - LEE CHING-PANG [US], et al
- [A] US 2003026698 A1 20030206 - FLODMAN DAVID ALLEN [US], et al

Cited by

EP1798374A3; FR2961552A1; EP2841711A4; US7632071B2; WO2011161357A1; EP1798374B1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR LV MK YU

DOCDB simple family (publication)

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