

Title (en)

Cooling of the trailing edge of a gas turbine airfoil

Title (de)

Kühlung der Abströmkante einer Gasturbinenschaufel

Title (fr)

Refroidissement du bord de fuite d'une aube de turbine à gaz

Publication

**EP 1167690 A1 20020102 (DE)**

Application

**EP 00113299 A 20000621**

Priority

EP 00113299 A 20000621

Abstract (en)

The gas turbine blade has a stepped offset (21) parallel to the blade axis and through it pass holes (19) leading from the cavity (12) of the blade to the face (17) of the offset, with the length (B) of the holes being at least half the width (A) of the trailing edge of the blade. The holes may widen in the direction of the trailing edge, especially into an oblong cross section parallel to the trailing edge. The face (25) of the trailing edge facing the pressure face (9) of the blade has ribs (23) along the width of the trailing edge so that a film cooling of this face is achieved by cooling air (27) emerging from the holes.

Abstract (de)

Die Erfindung betrifft eine hohle Gasturbinenschaufel (5) mit einer freistehenden Abströmkante (15), der auf der Druckseite (9) ein Versatz vorgelagert ist, durch den Bohrungen (19) mit einer Länge von mindestens der Hälfte der Abströmkantenbreite (A) führen. Hierdurch werden fertigungstechnische Vorteile mit aerodynamisch günstigem Verhalten kombiniert. <IMAGE>

IPC 1-7

**F01D 5/18**

IPC 8 full level

**F01D 5/18** (2006.01)

CPC (source: EP)

**F01D 5/186** (2013.01); **F01D 5/187** (2013.01); **F05D 2260/202** (2013.01); **F05D 2260/22141** (2013.01)

Citation (applicant)

- US 5468125 A 19951121 - OKPARA NNAWUIHE [US], et al
- EP 0892150 A1 19990120 - ABB RESEARCH LTD [CH]

Citation (search report)

- [X] US 5368441 A 19941129 - SYLVESTRO JOSEPH A [US], et al
- [X] US 5378108 A 19950103 - ZELESKY MARK F [US]
- [X] US 4303374 A 19811201 - BRADDY BRUCE T
- [A] US 6062817 A 20000516 - DANOWSKI MICHAEL J [US], et al
- [A] EP 0520714 A1 19921230 - GEN ELECTRIC [US]
- [A] US 5503529 A 19960402 - ANSELM GREGORY J [US], et al
- [A] EP 0978634 A1 20000209 - D ETUDE SOC NAT [FR]
- [A] US 4726735 A 19880223 - FIELD ROBERT E [US], et al

Cited by

CN112049690A; CN104379874A; WO2014004014A1; JP2008248733A; JP2006144785A

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)

**EP 1167690 A1 20020102**

DOCDB simple family (application)

**EP 00113299 A 20000621**