

Title (en)  
TURBINE AIRFOIL COMPONENT AND COMPONENTS

Title (de)  
TURBINENSCHAUFELBAUTEIL UND BAUTEILE

Title (fr)  
COMPOSANT D'AUBE DE TURBINE ET COMPOSANTS

Publication  
**EP 3767074 A1 20210120 (EN)**

Application  
**EP 20188996 A 20140205**

Priority  

- US 201313760107 A 20130206
- EP 14706400 A 20140205
- US 2014014858 W 20140205

Abstract (en)  
A cooling channel (36, 36B, 63-66) cools inner surfaces (48, 50) of exterior walls (41, 43) of a component (20, 60). Interior side surfaces (52, 54) of the channel converge to a waist (W2), forming an hourglass shaped transverse profile (46). The inner surfaces (48, 50) may have this (44) aligned with the coolant flow (22). The fins may have a transverse profile (56A, 56B) highest at mid-width of the inner surfaces (48, 50). Turbulators (92) may be provided on the side surfaces (52, 54) of the channel, and may urge the coolant flow toward the inner surfaces (48, 50). Each turbulator (92) may have a peak (97) that defines the waist of the cooling channel. Each turbulator may have a convex upstream side (93). Hiese elements increase coolant flow in the corners (C) of the channel to more uniformly and efficiently cool the exterior walls (41, 43).

IPC 8 full level  
**F01D 5/18** (2006.01)

CPC (source: EP RU)  
**F01D 5/187** (2013.01 - EP); **F01D 5/18** (2013.01 - RU); **F05D 2250/131** (2013.01 - EP); **F05D 2260/2214** (2013.01 - EP); **F05D 2260/22141** (2013.01 - EP)

Citation (applicant)  

- US 98555311 A 20110106
- US 7141812 B2 20061128 - APPLEBY MICHAEL [US], et al
- US 7410606 B2 20080812 - APPLEBY MICHAEL P [US], et al
- US 7411204 B2 20080812 - APPLEBY MICHAEL [US], et al

Citation (search report)  

- [XAY] US 2012177503 A1 20120712 - LEE CHING-PANG [US], et al
- [XAY] EP 2258925 A2 20101208 - ROLLS ROYCE PLC [GB]
- [XAY] EP 1630353 A2 20060301 - ROLLS ROYCE PLC [GB]
- [XAY] US 6837683 B2 20050104 - DAILEY GEOFFREY M [GB]

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DOCDB simple family (publication)  
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