

Title (en)
A turbine blade.

Title (de)
Turbinenschaufel.

Title (fr)
Aube de turbine.

Publication
EP 0023025 A1 19810128 (EN)

Application
EP 80104153 A 19800716

Priority
JP 9042679 A 19790718

Abstract (en)
A turbine blade (10) having such a profile that (A) a straight line (H) is drawn such that (a) said straight line passes a point of intersection (J) between an extension of a first straight line (F) which, together with a second straight line in parallel with the axis of a circular blade array, defines an inlet angle (α_1) and an extension of a third straight line which, together with a fourth straight line in parallel with said axis, defines an outlet angle (α_2), (b) said straight line (H) is in parallel with said axis, and (c) said straight line (H) is spaced apart from the outlet end of the blade (10) by a distance greater than one half of the chord length (C) thereof; and (B) that at the point of intersection (P) between said straight line (H) and the center line (A) of the flow passage between adjacent blades, said point being the flow direction changing point, the smallest width (Sp) of the flow passage is less than about 0.4 times the width (t) of said flow passage at the inlet thereof.

IPC 1-7
F01D 5/14

IPC 8 full level
F01D 5/14 (2006.01)

CPC (source: EP)
F01D 5/141 (2013.01); **F05D 2240/301** (2013.01)

Citation (search report)

- DE 1272305 B 19680711 - SIEMENS AG
- US 3475108 A 19691028 - ZICKUHR WALEMAR
- FR 616250 A 19270129 - BROWN
- GB 550393 A 19430106 - OSCAR ANTON WIBERG
- [A] FRERICHS A.: "Über Gestaltung und Systematik neuerer Schaufelprofile für Dampf- und Gasturbinen", VDI-ZEITSCHRIFT, vol. 93, no. 27, 21 September 1951 (1951-09-21), DÜSSELDORF, DE, pages 872 - 873
- [A] IMBACH H.E.: "Berechnung der kompressiblen, reibungsfreien Unterschallströmung durch ebene Schaufelgitter", BROWN BOVERI MITTEILUNGEN, vol. 51, no. 12, 12 December 1964 (1964-12-12), BADEN, CH, pages 752 - 761
- [A] VON WALDEMAR ZICKUHR: "Ermittlung der zweckmässigsten Hauptabmessungen von Überdruckdampfturbinen", SIEMENS ZEITSCHRIFT, vol. 5, 5 May 1954 (1954-05-05), ERLANGEN, DE, pages 189 - 196
- [A] SPECHTENHAUSER A.: "Modern Industrial Turbine Blading", BROWN BOVERI MITTEILUNGEN, vol. 63, no. 6, 6 June 1976 (1976-06-06), BADEN, CH, pages 339 - 346
- [A] VON OTTO-ADALBERT VON SCHWERDTNER: "Strömungsuntersuchungen an Turbinenschaufeln", SIEMENS ZEITSCHRIFT, vol. 41, 1967, ERLANGEN, DE, pages 113 - 119
- [A] VON WALDEMAR ZICKUHR: "Ein vereinfachtes Verfahren zur Angenäherten Bestimmung der Dicke der Schaufelprofile von Turbomaschinen", SIEMENS ZEITSCHRIFT, vol. 8, 8 August 1959 (1959-08-08), ERLANGEN, DE, pages 516 - 520

Cited by
US5172210A; US5108942A; US8142162B2; WO2007010329A1; EP1915514B1

Designated contracting state (EPC)
CH DE FR

DOCDB simple family (publication)
EP 0023025 A1 19810128; **EP 0023025 B1 19890315**; DE 3072147 D1 19890420; JP S5614802 A 19810213; JP S6259203 B2 19871210

DOCDB simple family (application)
EP 80104153 A 19800716; DE 3072147 T 19800716; JP 9042679 A 19790718