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COOLED WORKING BLADE OF A GAS TURBINE, (U)

MAY 77 A A KANTSEPOLSKIY, S Z KOPELEV

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by

A. A. Kantsepol'skiy, S. Z. Kopelev



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EDITED TRANSLATION

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COOLED WORKING BLADE OF A GAS TURBINE

By: A. A. Kantsepol'skiy, S. Z. Kopelev

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Block	Italic	Transliteration	Block	Italic	Transliteration
А а	<i>А а</i>	A, a	Р р	<i>Р р</i>	R, r
Б б	<i>Б б</i>	B, b	С с	<i>С с</i>	S, s
В в	<i>В в</i>	V, v	Т т	<i>Т т</i>	T, t
Г г	<i>Г г</i>	G, g	У у	<i>У у</i>	U, u
Д д	<i>Д д</i>	D, d	Ф ф	<i>Ф ф</i>	F, f
Е е	<i>Е е</i>	Ye, ye; E, e*	Х х	<i>Х х</i>	Kh, kh
Ж ж	<i>Ж ж</i>	Zh, zh	Ц ц	<i>Ц ц</i>	Ts, ts
З э	<i>З э</i>	Z, z	Ч ч	<i>Ч ч</i>	Ch, ch
И и	<i>И и</i>	I, i	Ш ш	<i>Ш ш</i>	Sh, sh
Й й	<i>Й й</i>	Y, y	Щ щ	<i>Щ щ</i>	Shch, shch
К к	<i>К к</i>	K, k	Ъ ъ	<i>Ъ ъ</i>	"
Л л	<i>Л л</i>	L, l	Ы ы	<i>Ы ы</i>	Y, y
М м	<i>М м</i>	M, m	Ь ь	<i>Ь ь</i>	'
Н н	<i>Н н</i>	N, n	Э э	<i>Э э</i>	E, e
О о	<i>О о</i>	O, o	Ю ю	<i>Ю ю</i>	Yu, yu
П п	<i>П п</i>	P, p	Я я	<i>Я я</i>	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
 When written as ë in Russian, transliterate as yë or ë.
 The use of diacritical marks is preferred, but such marks may be omitted when expediency dictates.

GREEK ALPHABET

Alpha	Α α	•	Nu	Ν ν
Beta	Β β		Xi	Ξ ξ
Gamma	Γ γ		Omicron	Ο ο
Delta	Δ δ		Pi	Π π
Epsilon	Ε ε	•	Rho	Ρ ρ ϑ
Zeta	Ζ ζ		Sigma	Σ σ ς
Eta	Η η		Tau	Τ τ
Theta	Θ θ	•	Upsilon	Υ υ
Iota	Ι ι		Phi	Φ φ ϕ
Kappa	Κ κ	•	Chi	Χ χ
Lambda	Λ λ		Psi	Ψ ψ
Mu	Μ μ		Omega	Ω ω

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English
sin	sin
cos	cos
tg	tan
ctg	cot
sec	sec
cosec	csc
sh	sinh
ch	cosh
th	tanh
cth	coth
sch	sech
csch	csch
arc sin	sin ⁻¹
arc cos	cos ⁻¹
arc tg	tan ⁻¹
arc ctg	cot ⁻¹
arc sec	sec ⁻¹
arc cosec	csc ⁻¹
arc sh	sinh ⁻¹
arc ch	cosh ⁻¹
arc th	tanh ⁻¹
arc cth	coth ⁻¹
arc sch	sech ⁻¹
arc csch	csch ⁻¹
—	
rot	curl
lg	log

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COOLED WORKING BLADE OF A GAS TURBINE

A. A. Kantsepol'skiy, S. Z. Kopelev

Cooled working blades of a gas turbine with a root, for example, of the fir-tree type, in which there is an aperture for the supply of cooling air, are known.

The proposed blade differs from the known ones by the fact that on the edges of the root end continuous projections are made with transverse slots for a footing which fixes the blade in an axial direction.

This making of the blade decreased leakage of cooling air.

The described blade is illustrated in the drawing.

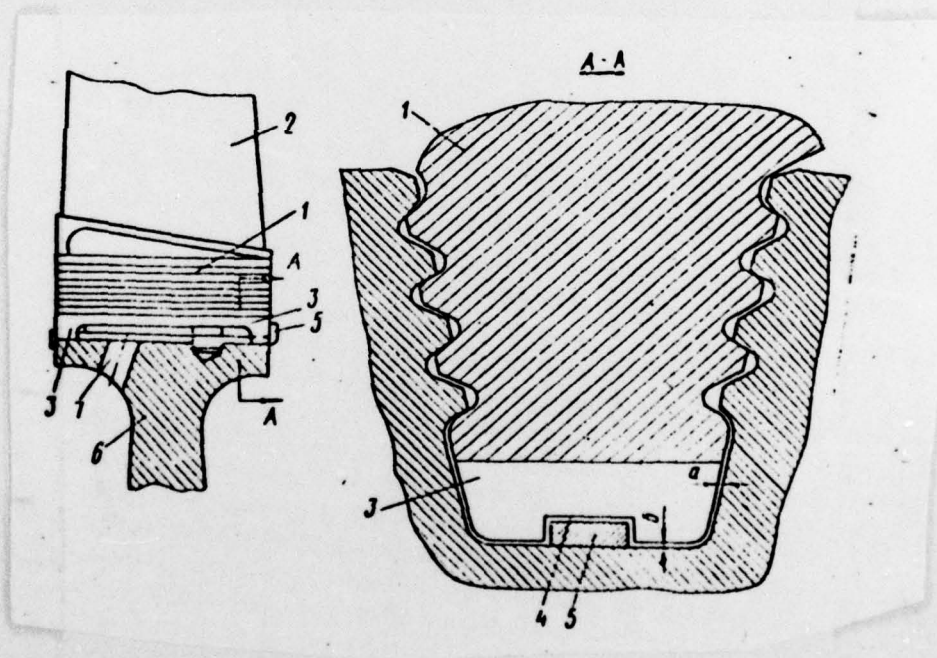
On the root 1 of the blade 2 two projections 3 are made on the edges of the end, on which a slot 4 is made for placing the footing 5 which fixes the blade in an axial direction.

These projections are made so that the gaps a and b are minimum and less than the gaps in the remaining part of the joint. Packing can be achieved with the aid of plates (instead of projections) inserted in the slot in the blade. Between the root and the disk 6 of the turbine a cavity is created, thanks to which

the cooling air, flowing through the aperture 7 in the disk cannot leak outside the rotor.

Subject of the Invention

A cooled working blade of a gas turbine with a root, for example of the fir-tree type, in which an aperture is made for supply of cooling air, is distinguished by the fact that for the purpose of decreasing the leakage of cooling air, continuous projections are made with transverse slots on the edges of the root end for a footing which fixes the blade in an axial direction.



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