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COMPOSITE COOLED ROTOR BLADE

by

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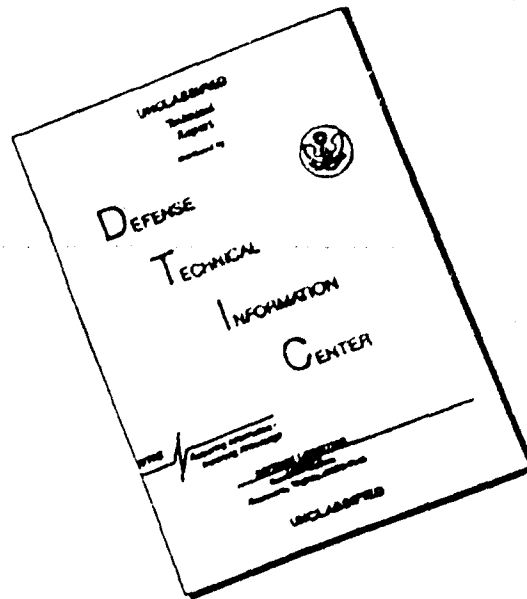
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## EDITED TRANSLATION

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By: N. Ya. Litvinov and V. S. Lyubinetskiy

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## COMPOSITE COOLED ROTOR BLADE

N. Ya. Litvinov and V. S. Lyubinetskiy

Composite cooled rotor blades of, for example, gas or steam turbines, consisting of a detachable tool with a coolant chamber and blading with profiled ducts, are known.

Unlike the above blade the blade described here consists of hollow cooled crosspieces set at different heights right up to the shroud web, forming a frame construction during assembly. This blade design increases static and vibration strength as well as operational reliability.

The figure shows the blade in cross section.

Blade foils 1 and 2 are attached to moveable joint 3 and joined to each other by hollow crosspiece 4, which is in the flow.

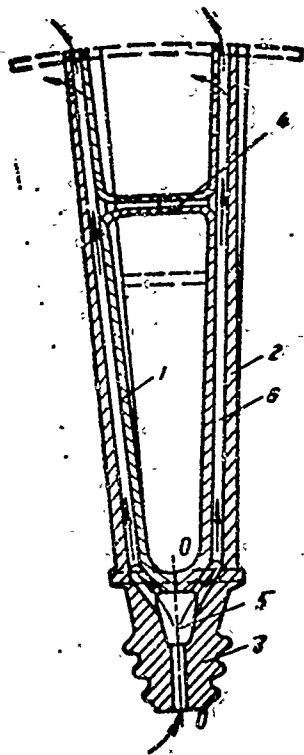
The crosspieces are located at different heights right up to the shroud web.

The joint contains chamber 5 for the coolant, which is joined with profiled canals 6 of the blade foils and the crosspiece.

### Object of the Invention

The composite cooled rotor blade of, for example, a gas or steam

turbine, consists of a detachable root with a chamber for a coolant and blade foils with profiled ducts. This blade is distinguished by the fact that in order to improve its static and vibrational strength and operational reliability, it is equipped with hollow cooled crosspieces, located at different heights right up to the shroud web and forming a frame construction upon assembly.



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13. ABSTRACT  An Author Certificate has been issued for a composite cooled blade, for example for a gas or steam turbine rotor, consisting of a detachable root with a coolant chamber and a blade section with profiled ducts. To increase static and vibration strength and operational reliability, the blade consists of hollow cooled cross pieces, located at different heights, thereby forming the frame structure during assembly. [Patent Abstract] [AP9011875]			

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