

Title (en)

Apparatus for controlling the axial component of running clearance in radial gas turbine engines.

Title (de)

Apparat zur Regelung der axialen Laufspielkomponente in Radialgasturbinen.

Title (fr)

Dispositif de réglage de la composante axiale du jeu de travail pour une turbine radiale à gaz.

Publication

**EP 0162340 A1 19851127 (EN)**

Application

**EP 85105154 A 19850426**

Priority

US 61047984 A 19840515

Abstract (en)

An apparatus for controlling the axial component of the running clearance between a radial inflow turbine and a cooperating turbine shroud. The turbine is fixed to a shaft which is rotatably supported at one end by a frame assembly (11, 31). The shaft and the turbine change in position in the axial direction relative to the shroud with changes in turbine operating temperature. The apparatus comprises a shroud mounting assembly (13), in which the shroud is attached to the mounting assembly, a turbine nozzle assembly (24), which is connected to the shroud mounting assembly, a slidable connection (29) between the turbine nozzle assembly and the frame, providing axial sliding movement, and struts (36) for controlling the axial position of the turbine nozzle assembly relative to the frame. The struts compensate for changes in the turbine axial position and control the relative axial displacement of the shroud. The struts fixedly connect the turbine nozzle assembly to the frame. The struts are positioned to be subjected to temperature changes corresponding to the turbine temperature changes and have a preselected axial length. The struts are also formed from a material having a preselected thermal expansion coefficient.

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CPC (source: EP)

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Citation (search report)

- [A] GB 842093 A 19600720 - POWER JETS RES & DEV LTD
- [A] US 2383948 A 19450904 - ALFORD JOSEPH S
- [A] US 2283176 A 19420519 - RUDOLPH BIRMANN
- [A] US 2429936 A 19471028 - KENNEY CLARENCE E, et al
- [A] US 1889554 A 19321129 - KENNEDY FRANK W
- [A] DE 1220671 C2 19670223
- [A] CH 268647 A 19500531 - ARMSTRONG SIDDELEY MOTORS LTD [GB]
- [A] US 3384345 A 19680521 - NORMAN NEATH, et al

Cited by

FR2860041A1; EP1519009A1; US7409831B2; US9291070B2

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