

Title (en)  
INTERNAL FERRULE OF AN AXIAL TURBINE-ENGINE COMPRESSOR

Title (de)  
STATOR-INNENRING EINES KOMPRESSORS EINES AXIALEN TURBOTRIEBWERKS

Title (fr)  
VIROLE INTERNE DE COMPRESSEUR DE TURBOMACHINE AXIALE

Publication  
**EP 3023595 A1 20160525 (FR)**

Application  
**EP 15190957 A 20151022**

Priority  
BE 201400820 A 20141118

Abstract (en)  
[origin: CA2909256A1] A segmented internal shroud of a low-pressure compressor for an axial-flow turbomachine has an axial tubular wall, and a row of apertures formed in the axial wall. Each aperture has opposing edges situated to either side of a stator blade positioned in the aperture for the purpose of its attachment. The axial wall includes a radial flange which passes through the apertures in the circumferential direction of the shroud, so as to form a mechanical link between the opposing edges of the apertures. This mechanical seal permits the opposing edges to be joined together through each aperture, which may help improve the rigidity and the sealing. The shroud exhibits an E-shaped profile forming a sandwich structure with the annular sealing ribs of the rotor, or sealing lips. A method for the assembly of stator blades includes positioning the blade in radial abutment against the transverse radial flange.

Abstract (fr)  
L'invention a trait à une virole interne (28) segmentée de compresseur basse pression de turbomachine axiale. La virole comprend : une paroi tubulaire axiale (32), et une rangée d'ouvertures (34) formées dans la paroi axiale (32). Chaque ouverture (34) présente des bords opposés (36) placés de part et d'autre d'une aube statorique (26) positionnée dans l'ouverture (34) en vue de sa fixation. La paroi axiale (32) comprend une bride radiale (38) qui traverse les ouvertures (34) selon la direction circonférentielle de la virole (28), de sorte à former un lien mécanique entre les bords opposés (36) des ouvertures. Ce joint mécanique permet de lier les bords opposés (36) au travers de chaque ouverture (34), ce qui améliore la rigidité et l'étanchéité. La virole (28) présente un profil en E formant une alternance avec les nervures annulaires (44) d'étanchéité du rotor (12), ou lèchettes. L'invention traite également d'un procédé d'assemblage d'aubes statoriques (26) venant en butée radiale contre la bride radiale traversante (38).

IPC 8 full level  
**F01D 9/04** (2006.01); **F01D 11/00** (2006.01)

CPC (source: EP RU US)  
**F01D 9/041** (2013.01 - RU US); **F01D 9/042** (2013.01 - EP RU US); **F01D 9/06** (2013.01 - US); **F01D 11/001** (2013.01 - EP RU US); **F01D 11/122** (2013.01 - RU US); **F04D 29/164** (2013.01 - EP); **F05D 2220/30** (2013.01 - US); **F05D 2240/11** (2013.01 - US); **F05D 2240/12** (2013.01 - US); **F05D 2300/40** (2013.01 - EP US); **F05D 2300/603** (2013.01 - US)

Citation (applicant)  
• EP 2075414 A1 20090701 - TECHSPACE AERO [BE]  
• EP 1419849 A1 20040519 - GEN ELECTRIC [US]

Citation (search report)  
• [A] EP 1419849 A1 20040519 - GEN ELECTRIC [US]  
• [A] US 2006013685 A1 20060119 - ELLIS CHARLES A [US], et al  
• [A] EP 1227218 A2 20020731 - GEN ELECTRIC [US]

Cited by  
EP3409902A1; FR3091720A1; FR3091725A1; WO2020148489A1; FR3088671A1; CN113167125A; CN108979738A; BE1025283B1; US11525367B2; WO2020099762A1; US10746036B2; US11585230B2

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