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F23R 2900/00012; F23R 2900/03042

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(71) Applicant: **Rolls-Royce plc**
London N1 9FX (GB)

(72) Inventor: **Witham, Frederic**
Derby, DE24 8BJ (GB)

(74) Representative: **Rolls-Royce plc**
Intellectual Property Dept SinA-48
PO Box 31
Derby DE24 8BJ (GB)

(30) Priority: **13.09.2022 GB 202213352**

(54) **A COMBUSTOR ASSEMBLY**

(57) The present disclosure relates to a combustor assembly 16 for a gas turbine engine 10, the combustor assembly 16 comprising: a combustor wall 30 defining a combustion chamber 25 and comprising an opening periphery 33, the opening periphery 33 defining a first opening 32; a sealing element 34 comprising an annular body 35, the annular body 35 extending around a sealing element axis S and extending through the first opening 32, the sealing element 34 further comprising a flange 38 extending radially outward from the annular body 35 with respect to the axis S to a distal surface 58, the flange 38 slidably coupling the sealing element 34 and the combustor wall 30 and forming a seal or first partial seal be-

tween the sealing element 34 and the combustor wall 30, the annular body comprising an outer surface 37 and an inner surface 36, the inner surface 36 defining a second opening 49 configured to receive a fuel nozzle 40, wherein a first total clearance D_1, D_2 between the outer surface 37 and the opening periphery 33 in a first direction A is greater than a second total clearance d_1, d_2 between the outer surface 37 and the opening periphery 33 in a second direction B perpendicular to the first direction A such that the sealing element 34 is able to slide relative to the combustor wall 30 by a greater extent in the first direction A than in the second direction B.

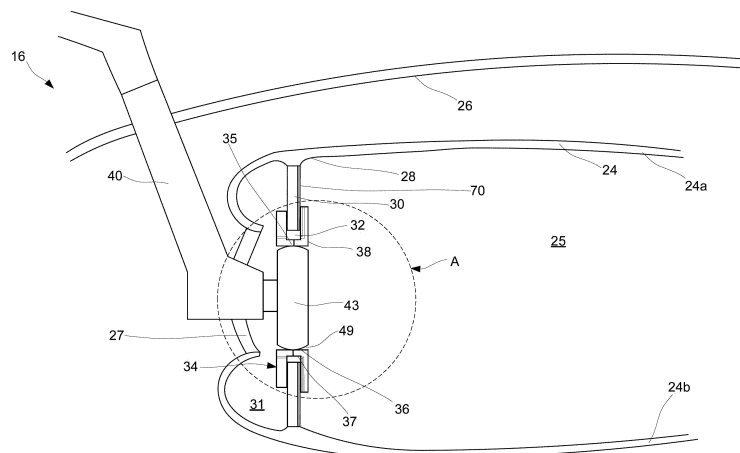


Figure 2



EUROPEAN SEARCH REPORT

Application Number

EP 23 18 5270

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2017/276356 A1 (MULCAIRE THOMAS G [GB]) 28 September 2017 (2017-09-28)	1-4, 6, 7, 13, 15	INV. F23R3/28
Y	* paragraphs [0041], [0043], [0044]; figures 3-5, 10 *	5	
Y	US 2021/102701 A1 (FREEMAN TED J [US] ET AL) 8 April 2021 (2021-04-08)	5	
A	* paragraphs [0065] - [0067]; figures 9-11 *	1	
A	US 2015/285497 A1 (SANDOVAL JONATHAN P [US]) 8 October 2015 (2015-10-08)	1	
A	* paragraphs [0049] - [0052], [0054]; figures 4-7 *	1	
A	US 2010/043448 A1 (LOHMUELLER STEVEN JOSEPH [US]) 25 February 2010 (2010-02-25)	1	
A	* paragraphs [0021] - [0024], [0033] - [0036]; figures 2a, 2b, 4a-4e *		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			F23R
Place of search			Examiner
Munich			Mougey, Maurice
Date of completion of the search			
10 January 2024			
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone			T : theory or principle underlying the invention
Y : particularly relevant if combined with another document of the same category			E : earlier patent document, but published on, or after the filing date
A : technological background			D : document cited in the application
O : non-written disclosure			L : document cited for other reasons
P : intermediate document			& : member of the same patent family, corresponding document

EPO FORM 1503 03/82 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-7, 13, 15

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 23 18 5270

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7, 13, 15

**Combustor sealing assembly with shapes of seal and dome
opening allowing relative movement**

2. claims: 8-12, 14

Combustor seal with flange including cooling air passage

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 23 18 5270

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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10-01-2024

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