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SCROLL COMPRESSOR AND OLDHAM RING AND MATING COMPONENT FOR SCROLL COMPRESSOR

(57) Scroll compressor, Oldham ring and a mating component for the scroll compressor.

The Oldham ring (20) for a scroll compressor (1), comprises: an annular body (21); and one or more keys (22a, 22b, 23a, 23b) protruding from the annular body (21) along an axial direction of the annular body (21), wherein the key (22a) is configured to be engaged with a corresponding sliding slot (16a) of a mating component (10) and has a contact root (33, 34) and a circumferential

end surface (31, 32) to be engaged with the sliding slot (16a) whereby at least one of the keys (22a, 22b, 23a, 23b) is provided with a hollow portion (26a, 26a', 26a'', 26a''') located at the contact root (33, 34), and an engagement wall (35, 36) with a predetermined stiffness and being elastically deformable is formed between the hollow portion (26a, 26a', 26a'', 26a''') and the circumferential end surface (31, 32).

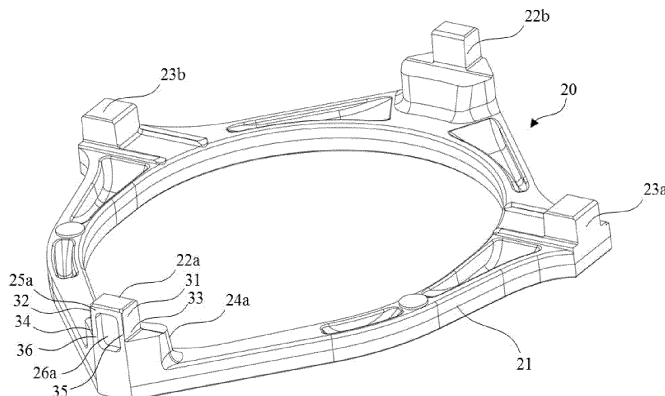


FIG. 4



EUROPEAN SEARCH REPORT

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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	JP H06 10853 A (MITSUBISHI ELECTRIC CORP) 21 January 1994 (1994-01-21) * paragraphs [0001], [0019], [0020]; figures 2A, 2B, 2C *	1-10, 15	INV. F01C17/06 F04C18/02
X	JP 2018 204488 A (DAIKIN IND LTD) 27 December 2018 (2018-12-27) * paragraphs [0002], [0035]; figures 1, 2, 5, 6, 10 *	1	
X	US 2021/246895 A1 (JUNG TAEKSU [KR] ET AL) 12 August 2021 (2021-08-12) * paragraph [0173] - paragraph [0189]; figures 1, 4, 6A-6C5 *	11-15	
A	US 2011/044833 A1 (DUNAEVSKY VALERY [US]) 24 February 2011 (2011-02-24) * paragraph [0035]; figures 1, 6 *	1-15	
A	US 2021/115923 A1 (JO CHANGEOL [KR] ET AL) 22 April 2021 (2021-04-22) * paragraph [0154]; figure 5 *	1-15	TECHNICAL FIELDS SEARCHED (IPC) F01C F04C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 January 2024	Examiner Descoubes, Pierre
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EP 23 19 7661

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22-01-2024

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP H0610853 A	21-01-1994	NONE	
JP 2018204488 A	27-12-2018	JP 6989756 B2	12-01-2022
		JP 2018204488 A	27-12-2018
US 2021246895 A1	12-08-2021	DE 102021201122 A1	12-08-2021
		KR 20210101470 A	19-08-2021
		US 2021246895 A1	12-08-2021
US 2011044833 A1	24-02-2011	NONE	
US 2021115923 A1	22-04-2021	CN 212928177 U	09-04-2021
		KR 20210047740 A	30-04-2021
		US 2021115923 A1	22-04-2021

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