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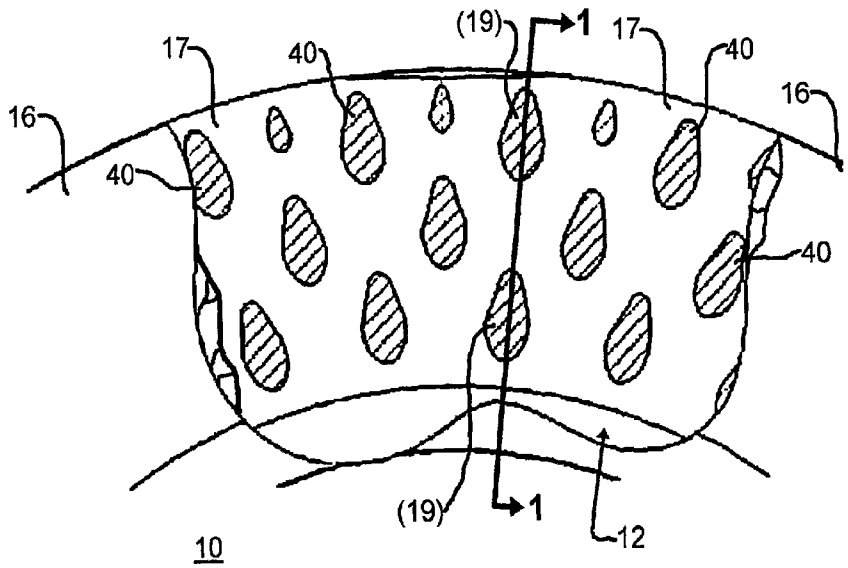

(57) Abstract: A rotor arrangement for the brake system of a vehicle has first and second annular rotor plates (16, 17) substantially in parallel, with a ventilated region (14)therebetween for cooling the rotor plates. A plurality of airfoil-shaped structures (40) is arranged in the ventilated region, each being coupled at one portion thereof to the first rotor plate, and at a second portion thereof to the second rotor plate, to maintain the first and second rotor plates in fixed spatial relation. The first and second rotor plates and the airfoil-shaped pillar structures (19) are integrally formed, the interior surfaces of the rotor plates being configured as an annular venturi that increases the air flow therebetween. The airfoil-shaped structures are configured as airfoil-shaped pillars (40) and fins (30) to form a corresponding plurality of effective venturi nozzles whereby the flow of air between the rotor plates is laminar and increased to enhance the cooling of the annular rotor plates.

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A. CLASSIFICATION OF SUBJECT MATTER
IPC: **F16D 65/12**(2006.01)

USPC: 188/218XL
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 188/218XL, 18A, 264A, 264AA, 71.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,865,167 A (Giorgetti et al.) 12 September 1989 (12.09.1989), Figure 2, Column 2, lines 33-59.	1-20
X	US 6,367,599 A (Kobayashi) 9 April 2002 (09.04.2002), Figure 2, Column 4, lines 38-67.	1-20
X	JP 2004-526923 A (Meroni et al.) 2 September 2004 (02.09.2004), Figures 7-9, Abstract	1-20
A	US 6,119,820 A (Steptoe et al.) 19 September 2000 (19.09.2000), Column 2, lines 42-44.	1-20
A	US 6,116,387 A (Kao et al.) 12 September 2000 (12.09.2000), column 3, lines 4-20.	1-20
X	US 5.542,503 A (Dunn et al.) 6 August 1996 (06.08.1996), Figure 5, column 5, lines 1-30.	1-20

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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