

(12) International Application Status Report

Received at International Bureau: 09 May 2023 (09.05.2023)

Information valid as of: 17 October 2023 (17.10.2023)

Report generated on: 07 November 2024 (07.11.2024)

(10) Publication number:

WO2023/212794

(43) Publication date:

09 November 2023 (09.11.2023)

(26) Publication language:

Portuguese (PT)

(21) Application Number:

PCT/BR2023/050138

(22) Filing Date:

05 May 2023 (05.05.2023)

(25) Filing language:

Portuguese (PT)

(31) Priority number(s):

1020220088284 (BR)

(31) Priority date(s):

06 May 2022 (06.05.2022)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

F16D 66/02 (2006.01); **F16D 49/00** (2006.01); **B60T 17/22** (2006.01)

(71) Applicant(s):

INSTITUTO HERCÍLIO RANDON [BR/BR]; Estrada Municipal FR 58, s/n, Pavilhão 02, Linha Palmeiro, Área Rural, Farroupilha 95181899 Caixas do Sul (BR) *(for all designated states)*

(72) Inventor(s):

BOARETTO, Joel; Rua João Alcino Sturmer, 643 – AP 501 95032-180 Caxias do Sul (BR)
SCHMITZ, Alessandra Specht; R. Dos Manacás, n° 709, Apto. 702, B. Cinquentenário 95012-370 Caxias do Sul (BR)
GELLER, Arthur Gassen; Rua Ângelo Lourenço Tesser, 1258 - 256 95055-100 Caxias do Sul (BR)

(74) Agent(s):

REMER VILLAÇA & NOGUEIRA ASSESSORIA E CONSULTORIA DE PROPRIEDADE INTELECTUAL S/S; Rua Padre João Manuel, 755, 9º andar, conj. 92, Cerqueira César, São Paulo 01411-001 São Paulo (BR)

(54) Title (EN): DEVICE, SYSTEM AND METHOD FOR MONITORING WEAR OF FRICTION MATERIAL IN A DRUM BRAKE

(54) Title (FR): DISPOSITIF, SYSTÈME ET PROCÉDÉ DE SURVEILLANCE DE L'USURE D'UN MATÉRIAU DE FRICTION DANS UN FREIN À TAMBOUR

(54) Title (PT): DISPOSITIVO, SISTEMA E PROCESSO DE MONITORAMENTO DE DESGASTE DE MATERIAL DE ATRITO EM FREIO A TAMBOR

(57) Abstract:

(EN): The present invention describes a device for monitoring wear of friction material in a drum brake system, besides a system and method for monitoring wear of friction material, based on a relative movement between the adjuster and the shaft, this relative movement being correlated with the wear of the friction material. More specifically, a monitoring device is described comprising a sensor assembly that detects the relative movement between the adjuster and the shaft, and a processing unit that correlates the relative movement data with the wear of the friction material. The present invention pertains to the fields of automotive engineering, on-board electronics and braking and sensing systems.

(FR): La présente invention concerne un dispositif de surveillance de l'usure d'un matériau de friction dans un système de frein à tambour, ainsi qu'un système et un procédé de surveillance de l'usure du matériau de friction, se fondant sur un mouvement relatif entre ajusteur et axe, ce mouvement relatif étant mis en corrélation avec l'usure du matériau de friction. Plus particulièrement, l'invention concerne un dispositif de surveillance comprenant un ensemble de détection qui détecte le mouvement relatif entre ajusteur et axe, et une unité de traitement qui met en corrélation une donnée dudit mouvement relatif avec l'usure du matériau de friction. La présente invention relève des domaines de l'automobile, de l'électronique embarquée, des systèmes de freinage et des systèmes de détection.

(PT): A presente invenção descreve um dispositivo para monitoramento de desgaste de material de atrito em sistema freio a tambor, além de um sistema e processo para monitoramento de desgaste do material de atrito, com base em um movimento relativo

entre ajustador e eixo, sendo este movimento relativo correlacionado com o desgaste do material de atrito. Especificamente, é apresentado o dispositivo de monitoramento compreendendo um conjunto sensor que percebe o movimento relativo entre ajustador e eixo, e uma unidade de processamento que correlaciona um dado do dito movimento relativo com o desgaste do material de atrito. A presente invenção se situa nos campos da automobilística, eletrônica embarcada, sistemas de freio e sensoramento.

International search report:

Received at International Bureau: 08 August 2023 (08.08.2023) [BR]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM