

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims: 1-13, 20-22

A connection device, particularly a screw, for mechanically connecting at least one first and one second component, comprising at least one connection sensor, particularly a strain sensor, which is designed to detect at least one current parameter of a mechanical connection, wherein a current tightening force of the mechanical connection can be determined using said parameter, a temperature sensor for determining the temperature, and at least one transmission unit for wirelessly transmitting temperature data based on the temperature, and the current parameter and/or the current tightening force.

2. Claims: 14-19

A connection device, particularly a screw, for mechanically connecting at least one first and one second component, comprising at least one active connection sensor, particularly a strain sensor, which is designed to detect long-term variations of at least one parameter, particularly a tightening force, of a mechanical connection, and at least one passive connection sensor that is designed to detect short-term variations of the parameter of the mechanical connection.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: **1-13, 20-22**

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2017/081996

A. CLASSIFICATION OF SUBJECT MATTER		
<i>G01L 5/24</i> (2006.01)i; <i>G01L 1/22</i> (2006.01)i; <i>B23P 19/06</i> (2006.01)n		
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) G01L; H04Q; B23P		
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) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2011158806 A1 (ARMS STEVEN W [US] ET AL) 30 June 2011 (2011-06-30) paragraph [0131] - paragraph [0136] paragraph [0141] paragraph [0184]	1-5,8,13 9,11,12
X	WO 2011019318 A1 (STENLUND PETER [SE]) 17 February 2011 (2011-02-17) page 3, line 15 - page 5, line 16 page 7, line 26 - page 8, line 21 page 9, line 14 - line 19 page 12, line 14 - page 13, line 15	1-4,8-13
X	US 2007017295 A1 (OHTA HIROYUKI [JP] ET AL) 25 January 2007 (2007-01-25) paragraph [0053] - paragraph [0059] paragraph [0077] paragraph [0081]	1,3-7,13
X	WO 2016158586 A1 (NTN TOYO BEARING CO LTD [JP]) 06 October 2016 (2016-10-06) paragraph [0019] - paragraph [0020] paragraph [0026]; figure 1	1,3,4,8,9,12,13
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 20 April 2018		Date of mailing of the international search report 20 June 2018
Name and mailing address of the ISA/EP European Patent Office p.b. 5818, Patentlaan 2, 2280 HV Rijswijk Netherlands Telephone No. (+31-70)340-2040 Facsimile No. (+31-70)340-3016		Authorized officer Baas, Gert-Jan Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2015075823 A1 (SANNOHASHI CORP) 28 May 2015 (2015-05-28) paragraph [0020] - paragraph [0035]	1,3-5,8,9,13
X,P	& US 2017138387 A1 (SAIGO FUMITAKA [JP] ET AL) 18 May 2017 (2017-05-18) paragraph [0036] - paragraph [0051]	1,3-5,8,9,13
X	US 2010199816 A1 (KANEYAMA YASUNOBU [JP] ET AL) 12 August 2010 (2010-08-12) paragraph [0030] - paragraph [0038] paragraph [0043]	20-22
Y	US 2009207008 A1 (MALIS CRAIG STEVEN [US] ET AL) 20 August 2009 (2009-08-20) paragraph [0015] - paragraph [0021]	9,11,12

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/EP2017/081996

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
US	2011158806	A1	30 June 2011	NONE	
WO	2011019318	A1	17 February 2011	NONE	
US	2007017295	A1	25 January 2007	NONE	
WO	2016158586	A1	06 October 2016	JP 2016188769 A	04 November 2016
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				CN 101200057 A	18 June 2008
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				HK 1113666 A1	15 November 2013
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				JP 2008110414 A	15 May 2008
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				TW 200835578 A	01 September 2008
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