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- (71) Applicant: **FASTENERS SOLUTIONS LIMITED**
[GB/GB]; 19/21 New Road, Willenhall, West Midlands
WV13 2BG (GB).
- (72) Inventor: **CENEY, Stanley**; Livingstone, 27 Cannon
Road, Wombourne, South Staffs WV5 9HR (GB).
- (74) Agent: **BARKER BRETTELL LLP**; 100 Hagley Road,
Edgbaston, Birmingham, West Midlands B16 8QQ (GB).

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[Continued on next page]

(54) Title: AN IMPROVED LOAD-INDICATING DEVICE

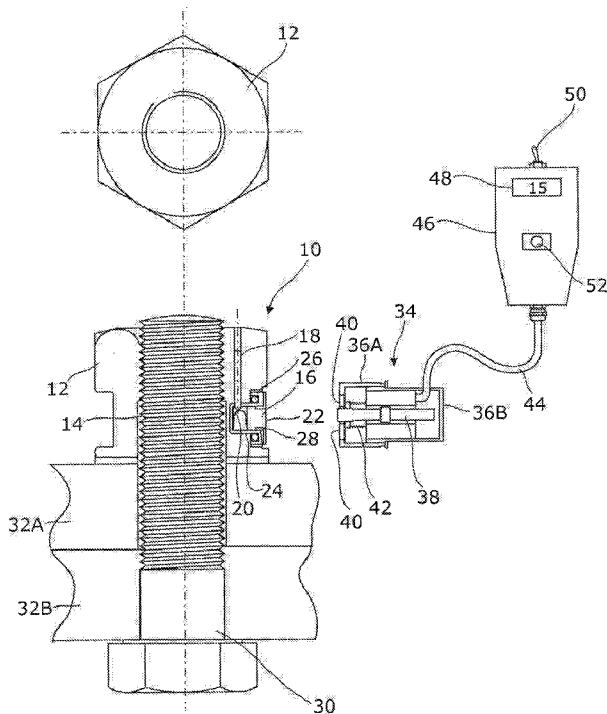


Figure 1

(57) Abstract: The present invention provides improved load-indicating devices for use with structural assemblies that require accurate tensioning of fastening components such as nuts and bolts. In one embodiment, the load-indicating device (10) comprises a body portion (12) defining a bore (14) extending therethrough, a movable member (16) disposed in at least part of the body portion (12) and configured to move in a direction substantially orthogonal to the axis of the bore (14), and an adjustment means (18) coupled to the movable member (16) and operable to displace the movable member (16) when the body portion (12) is compressed.





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- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2014/050018

A. CLASSIFICATION OF SUBJECT MATTER
INV. F16B31/02
ADD.
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)
F16B

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	GB 2 289 115 A (JAPAN DEV CONSULT [JP]) 8 November 1995 (1995-11-08) figures 1,2,4(A),4/B page 5, line 20 - page 9, line 16 page 11, lines 22-26 page 12, lines 18-23	1,4-13, 16,17 14,15
X	----- WO 2009/060270 A1 (NORDSINTER S R L [IT]; PIURI LORENZO [IT]) 14 May 2009 (2009-05-14) figures 1-5 page 8, line 17 - page 11, line 18	1-4,13, 17
Y	----- WO 2010/140002 A1 (ENERFAST LTD [GB]; HIRST JOHN ANDREW BRIAN [GB]) 9 December 2010 (2010-12-09) figures 3-4 -----	14,15

Further documents are listed in the continuation of Box C.

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
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- "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
8 May 2014

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Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer
Schandel, Yannick

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2014/050018

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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:

see additional sheet

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 an 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.:

1-17

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-17

All searchable claims relating to a load indicating device via mechanical detection

2. claims: 18-25

claims 18-25 relating to a load indicating device via visual detection

3. claims: 26-39

claims 26-39 relating to a load indicating device via electrical detection

4. claims: 40-58

claims 40-58 relating to a load indicating device via optical detection

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2014/050018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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