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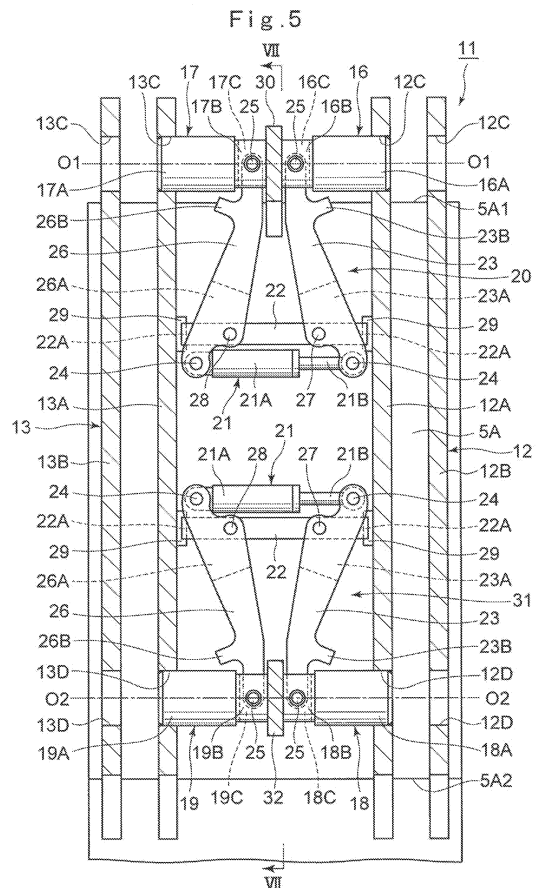
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(54) **Two-member connecting device, in particular for a multi-boom hydraulic excavator**

(57) Left and right upper centering members (33) and lower centering members (34) are provided at positions respectively opposing left and right second brackets (14), (15) in an extension boom (5B). As engaging groove portions (33C) of the upper centering members (33) are engaged with left and right upper connecting pins (16), (17), the left and right upper connecting pins (16), (17) can be centered with respect to left and right upper second pin insertion holes (14A), (15A), and can be smoothly inserted into these left and right upper second pin insertion holes (14A), (15A). In addition, as abutting groove portions (34C) of the lower centering members (34) are abutted against left and right lower connecting pins (18), (19), the left and right lower connecting pins (18), (19) can be centered with respect to left and right lower second pin insertion holes (14B), (15B), and can be smoothly inserted into these left and right lower second pin insertion holes (14B), (15B).



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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	US 2006/157605 A1 (RAMUN JOHN R [US] ET AL) 20 July 2006 (2006-07-20)	1	INV. E02F3/38 E02F3/96 E04G23/08 E02F3/36 B66C23/70
Y	* paragraph [0066] - paragraph [0070]; figures 7A,7B * * paragraph [0078]; figures 44-47 * -----	2	
Y	JP 2001 288769 A (CATERPILLAR MITSUBISHI LTD) 19 October 2001 (2001-10-19) * figure 10 * -----	2	
A	US 2009/008490 A1 (RAMUN JOHN R [US] ET AL) 8 January 2009 (2009-01-08) * figures 61,62 * -----	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			E02F E04G B66C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 April 2014	Examiner Papadimitriou, S
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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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
1, 2

- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1, 2

to realise a two-member connecting device with a means for preventing distortions of the pins that secure one member relative to the other.

2. claim: 3

to realise a two-member connecting device with a reduced weight.

3. claims: 4-7

to realise a two-member connecting device which can allow a rapid interconnection of the two members.

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-04-2014

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82