



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 16 80 78 90

Classification of the application (IPC):
E21B 33/134, E21B 37/08, E21B 43/116, E21B 41/00

Technical fields searched (IPC):
E21B

| DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|-------------------------------------|---|-------------------|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim |
| X | WO 2015034369 A1 (HYDRA SYSTEMS AS [NO]) 12 March 2015 (2015-03-12) * page 1, lines 6-9; figures 2-6 * * page 4, lines 1-25 * * page 6, lines 15, 30 - page 7, line 34 * * page 8, lines 19, 27-30 * | 1-10, 15 |
| A | WO 2013133719 A1 (HYDRA SYSTEMS AS [NO]) 12 September 2013 (2013-09-12) * figure 6 * | 1-15 |
| A | WO 2015023190 A1 (HYDRA SYSTEMS AS [NO]) 19 February 2015 (2015-02-19) * figure 5 * | 1-15 |
| A | US 2013312963 A1 (LARSEN ARNE GUNNAR [NO] ET AL) 28 November 2013 (2013-11-28) * figures 4-6 * | 1-15 |
| A | WO 2015026239 A2 (ARCHER OIL TOOLS AS [NO]) 26 February 2015 (2015-02-26) * figures 1-4 * | 1-15 |
| A | EP 2770161 A1 (EM HOLDING GMBH & CO KG [DE]) 27 August 2014 (2014-08-27) * figure 1 * | 1-15 |

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

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|---------------------------|--|-------------------------------|
| Place of search Munich | Date of completion of the search 13 December 2018 | Examiner Georgescu, Mihnea |
|---------------------------|--|-------------------------------|

CATEGORY OF CITED DOCUMENTS

| | |
|---|--|
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| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date | |
|---|----|---------------------|----------------------------|---------------------|------------|
| WO 2015034369 | A1 | 12-03-2015 | AU | 2014315748 A1 | 03-03-2016 |
| | | | CA | 2923158 A1 | 12-03-2015 |
| | | | EP | 3042035 A1 | 13-07-2016 |
| | | | GB | 2531684 A | 27-04-2016 |
| | | | NO | 339191 B1 | 14-11-2016 |
| | | | US | 2016201430 A1 | 14-07-2016 |
| | | | WO | 2015034369 A1 | 12-03-2015 |
| WO 2013133719 | A1 | 12-09-2013 | AU | 2013228113 A1 | 04-09-2014 |
| | | | CA | 2866367 A1 | 12-09-2013 |
| | | | DK | 2823142 T3 | 20-02-2017 |
| | | | EA | 201491290 A1 | 29-05-2015 |
| | | | EP | 2823142 A1 | 14-01-2015 |
| | | | GB | 2514278 A | 19-11-2014 |
| | | | GB | 2519240 A | 15-04-2015 |
| | | | MY | 167549 A | 12-09-2018 |
| | | | NO | 339082 B1 | 14-11-2016 |
| | | | US | 2015021025 A1 | 22-01-2015 |
| | | | WO | 2013133719 A1 | 12-09-2013 |
| WO 2015023190 | A1 | 19-02-2015 | AU | 2014307131 A1 | 18-02-2016 |
| | | | CA | 2920967 A1 | 19-02-2015 |
| | | | EP | 3033479 A1 | 22-06-2016 |
| | | | GB | 2530701 A | 30-03-2016 |
| | | | NO | 336038 B1 | 27-04-2015 |
| | | | US | 2016194937 A1 | 07-07-2016 |
| | | | WO | 2015023190 A1 | 19-02-2015 |
| US 2013312963 | A1 | 28-11-2013 | AU | 2012205885 A1 | 16-08-2012 |
| | | | CA | 2822383 A1 | 19-07-2012 |
| | | | DK | 2569506 T3 | 24-07-2017 |
| | | | EA | 201391008 A1 | 30-01-2014 |
| | | | EP | 2569506 A1 | 20-03-2013 |
| | | | GB | 2499172 A | 07-08-2013 |
| | | | GB | 2502504 A | 27-11-2013 |
| | | | NO | 335972 B1 | 07-04-2015 |
| | | | US | 2013312963 A1 | 28-11-2013 |
| | | | WO | 2012096580 A1 | 19-07-2012 |
| WO 2015026239 | A2 | 26-02-2015 | AU | 2014309518 A1 | 03-03-2016 |
| | | | DK | 3036395 T3 | 06-11-2017 |
| | | | EP | 3036395 A2 | 29-06-2016 |
| | | | WO | 2015026239 A2 | 26-02-2015 |



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| Patent document cited in search report | | Publication date | Patent family member(s) | | Publication date |
|---|----|---------------------|----------------------------|---------------|---------------------|
| EP 2770161 | A1 | 27-08-2014 | EP | 2770161 A1 | 27-08-2014 |
| | | | ES | 2581903 T3 | 08-09-2016 |
| | | | PL | 2770161 T3 | 30-12-2016 |
| | | | US | 2014231546 A1 | 21-08-2014 |