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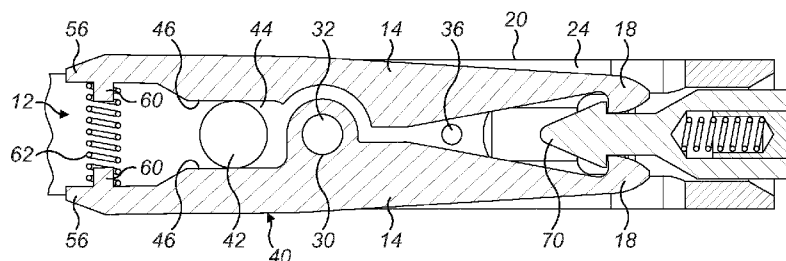
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(54) Title: SAFETY LATCH FOR A DOWNHOLE TOOL

**FIG. 4A**

(57) **Abstract:** A lockable overshot assembly for use in a wireline spearhead system for lowering and retrieving inner tube assemblies and other tools and equipment from a downhole location includes a pair of lifting dogs pivotally mounted to an overshot head on the lockable overshot assembly and configured for latching a spearhead. A locking arrangement mounted into the elongated body and engagable within the lifting dogs such that in a locked state the lifting dogs are in latched position and, in an unlocked state, allows said lifting dogs to move to the release position. The locking arrangement is a pin which can be moved laterally to be between the latching dogs to prevent them moving to the release position.

INTERNATIONAL SEARCH REPORT

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PCT/EP2014/058461

A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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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	WO 2012/119186 A1 (2IC AUSTRALIA PTY LTD [AU]; BEACH ANDREW [AU]; BLAKWAY BEN [AU]; MCLE) 13 September 2012 (2012-09-13) page 11, line 4 - page 13, line 16; figures 1-6	1-4,15
X	US 2009/242203 A1 (PARDEY HAROLD M [US]) 1 October 2009 (2009-10-01) paragraph [0026]; figures 7,8	1,3,15
X	US 2 296 397 A (ALFRED MUHLBACH) 22 September 1942 (1942-09-22) claim 1; figures 1-9	1,3,15
X	US 720 078 A (SMITH WASHINGTON [US] ET AL) 10 February 1903 (1903-02-10) claim 1; figures 1-4	1,3,15
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 1 719 144 A (STOKES JOHN C ET AL) 2 July 1929 (1929-07-02) abstract; figures 1-3 -----	1-15
A	WO 2010/140896 A1 (2K TOOLS AS [NO]; MIKALSEN KJELL [NO]; BOTNMARK KETIL [NO]) 9 December 2010 (2010-12-09) abstract; figures 2-4 -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2012119186 A1	13-09-2012	AU 2012225191 A1	12-09-2013
		CA 2828254 A1	13-09-2012
		WO 2012119186 A1	13-09-2012

US 2009242203 A1	01-10-2009	US 2009242203 A1	01-10-2009
		WO 2009123964 A1	08-10-2009

US 2296397 A	22-09-1942	NONE	

US 720078 A	10-02-1903	NONE	

US 1719144 A	02-07-1929	NONE	

WO 2010140896 A1	09-12-2010	EA 201171317 A1	30-05-2012
		GB 2482847 A	15-02-2012
		US 2012118560 A1	17-05-2012
		WO 2010140896 A1	09-12-2010
