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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))*

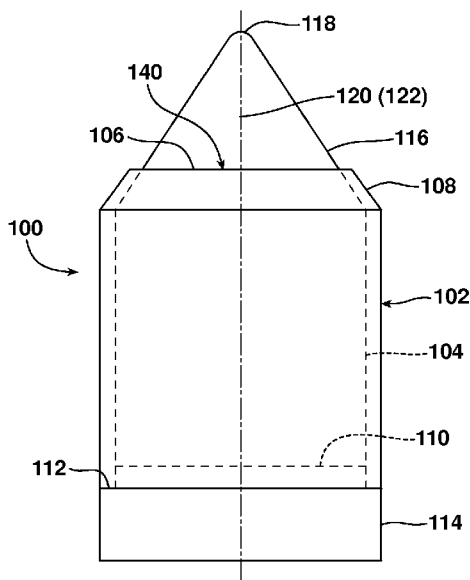
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— *with international search report (Art. 21(3))*

[Continued on next page]

(54) Title: MINING PICKS AND METHOD OF BRAZING MINING PICKS TO CEMENTED CARBIDE BODY

FIG. 1a



(57) Abstract: A tool (100) and a method of making the tool is disclosed. The tool comprises a sleeve (102) and a compact (104). The sleeve may have a proximal end (112), a distal end (106), a central axis (120), and a bore (140) extending from the proximal end to the distal end, the bore having an inner wall (210). The compact may have a base end (110) and an impact surface (116) spaced opposite to the base end. The compact may be substantially disposed within the bore of the sleeve. The proximal end may be disposed proximate the base end of the compact.



— *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))*

(88) **Date of publication of the international search report:**
13 August 2015

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/039896

A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B10/46 E21C35/18 E21B10/56 E21B10/567 E21B10/573
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)
E21B E21C

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	US 6 260 640 B1 (EINSET ERIK ODDMUND [US] ET AL) 17 July 2001 (2001-07-17) abstract figures 1-4 column 4, line 29 - column 5, line 16 -----	1,2,6-9
X	WO 93/25795 A1 (BAKER HUGHES INC [US]) 23 December 1993 (1993-12-23) abstract figures 1-8 page 11, line 27 - page 12, line 36 -----	1-3,6-9
X	US 8 439 137 B1 (GALLOWAY ROBERT K [US]) 14 May 2013 (2013-05-14) abstract figures 1-4 ----- -/-	1-3,8,9



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

"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

4 November 2014

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/039896

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.:

1-9

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/US2014/039896

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2011/005996 A2 (BAKER HUGHES INC [US]) 13 January 2011 (2011-01-13) abstract figures 1-9 page 24, line 27 - page 25, line 2 -----	1-5,8,9
E	WO 2014/081997 A2 (NAT OILWELL DHT LP [US]; VO THANG [US]; SUKENDRO TJANDRA [US]) 30 May 2014 (2014-05-30) abstract figures 1-19 -----	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/039896

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6260640	B1	17-07-2001	AT 299226 T 15-07-2005
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WO 2014081997	A2	30-05-2014	US 2014144709 A1 29-05-2014
			WO 2014081997 A2 30-05-2014

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-9

A tool comprising a sleeve having a bore, a central axis, and a compact, having an impact surface and a base surface, disposed within the bore.

2. claims: 10-24

A method providing a sleeve having a bore, a first central axis, and a compact, having a second central axis, and being inserted within the bore, and brazing a plug into the compact and the sleeve.
