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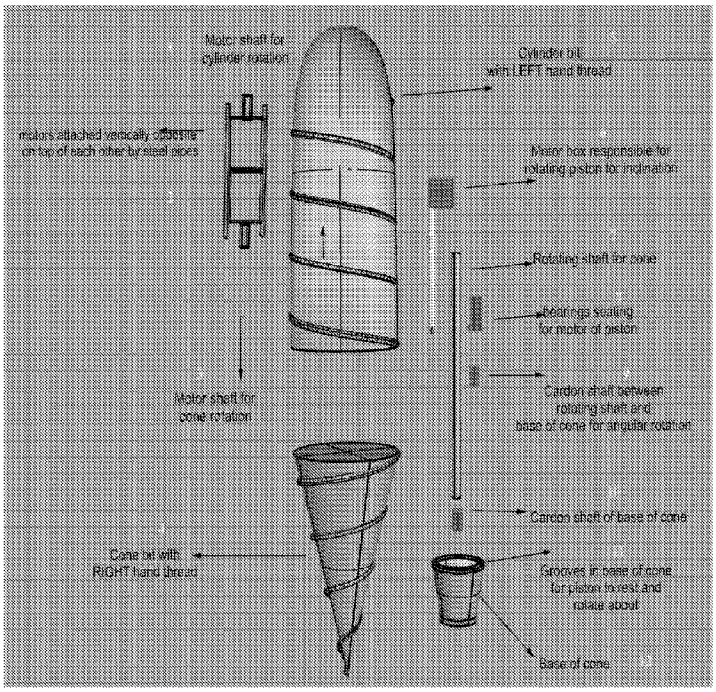
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(54) **Title:** AN ADVANCED AUTONOMOUS DRILLING TOOL



(57) **Abstract:** An advanced autonomous drilling tool consisting of a cone and a cylinder(As shown in the figure)helical spiral from the outside, the cylinder is helical from left to right and the cone is helical spiral from right to left. Inside the cylinder are two motors stuck together on bearings opposite each other vertically motor responsible for rotating the cone in the right direction The other is responsible for rotating the cylinder in the left direction. The machine is able to drill wells by itself without using long pipes connected to the drilling rig like what is used now. The helical shape gives depth with rotation and acts as a hook for the machine. The difference in the helical shape between the cylinder and the cone gives torque and counter torque The rotation is caused by the force of the tool in the layers of the earth and the rock layers and friction.

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LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

E21B 10/36(2006.01)i; ***E21B 10/44***(2006.01)i; ***E21B 10/66***(2006.01)i; **E21B 7/04**(2006.01)i; ***E21B 17/03***(2006.01)i; ***E21B 17/22***(2006.01)i; ***F16D 3/04***(2006.01)i

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 10/36; E21B 10/44; E21B 10/66; E21B7/04; E21B 17/03; E21B 17/22; F16D 3/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Rotary Drilling tool, Drill bits, Helix Cone, Helix Cylinder, Cardan shaft, Hydraulic shaft, gimbal mechanism, Opposite direction rotation, Duel Motor

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Espacenet, Google Scholar, Google Patents, Patentscope

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	CN 102011555 A (XINQIAO LI) 13 April 2011 (2011-04-13)	
Y	abstract ; claim 1	1 - 2
	US 8151907 B2 (MACDONALD DUNCAN CHARLES [US]) 10 April 2012 (2012-04-10)	
X	Whole document	8
Y		1 , 8
	RU 2648412 C2 (NESHNL OJLVEL VARKO L P [US]) 26 March 2018 (2018-03-26)	
X	abstract ; claim 1	3 - 7
Y		3 - 7
	US 6328119 B1 (HALLIBURTON ENERGY SERV INC [US]) 11 December 2001 (2001-12-11)	
X	abstract ; claims no. 1 , 2	6
Y		6

☐ 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
"D" document cited by the applicant in the international application
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"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	Date of mailing of the international search report
05 August 2024	**05 February 2025**

Name and mailing address of the ISA/EG	Authorized officer
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INTERNATIONAL SEARCH REPORT
Information on patent family members

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