

Title (en)  
BORING APPARATUS AND METHOD

Title (de)  
BOHRVORRICHTUNG UND VERFAHREN

Title (fr)  
APPAREIL ET PROCÉDÉ DE FORAGE

Publication  
**EP 3408490 B1 20231108 (EN)**

Application  
**EP 17744682 A 20170113**

Priority  
• US 201615008071 A 20160127  
• US 2017013393 W 20170113

Abstract (en)  
[origin: WO2017131969A1] A boring apparatus includes an upper member and a bit body configured to rotate relative to a pilot bit. A first end of the upper member is connected to a workstring. An inner cavity of the upper member includes a first radial cam surface. A first end of the bit body is connected to a second end of the upper member such that the bit body rotates with the upper member. A second end of the bit body includes a working face. The pilot bit includes a first end disposed within the inner cavity of the upper member, and includes a second radial cam surface configured to cooperate with the first radial cam surface to deliver a hammering force. The pilot bit extends through a central bore of the bit body, and includes an engaging surface on its second end configured to engage a formation surrounding the wellbore.

IPC 8 full level  
**E21B 10/26** (2006.01); **E21B 6/02** (2006.01); **E21B 10/28** (2006.01); **E21B 10/40** (2006.01); **E21B 17/07** (2006.01); **F16H 25/12** (2006.01); **F16H 25/22** (2006.01)

CPC (source: CN EP US)  
**E21B 4/10** (2013.01 - CN); **E21B 7/00** (2013.01 - CN); **E21B 10/26** (2013.01 - CN EP US); **E21B 10/28** (2013.01 - CN); **E21B 10/40** (2013.01 - CN EP)

Citation (examination)  
US 2998086 A 19610829 - DEMO MAX J

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2017131969 A1 20170803**; CA 3006024 A1 20170803; CA 3006024 C 20200721; CN 108463608 A 20180828; CN 108463608 B 20210115; CN 112343514 A 20210209; CN 112343514 B 20220729; EA 039489 B1 20220202; EA 201891605 A1 20181228; EP 3408490 A1 20181205; EP 3408490 A4 20191106; EP 3408490 B1 20231108; EP 3408490 C0 20231108

DOCDB simple family (application)  
**US 2017013393 W 20170113**; CA 3006024 A 20170113; CN 201780005271 A 20170113; CN 202011230053 A 20170113; EA 201891605 A 20170113; EP 17744682 A 20170113