

Title (en)

DEVICE AND METHOD TO REDUCE BREAKDOWN/FRACTURE INITIATION PRESSURE

Title (de)

VORRICHTUNG UND VERFAHREN ZUR VERRINGERUNG VON DURCHBRECHUNGS-/RISSINITIIERUNGSDRUCK

Title (fr)

DISPOSITIF ET PROCÉDÉ DE RÉDUCTION DE LA PRESSION DE RUPTURE/D'AMORCE DE FRACTURE

Publication

**EP 2231990 A4 20121003 (EN)**

Application

**EP 08860256 A 20081212**

Priority

- US 2008086679 W 20081212
- US 1294107 P 20071212

Abstract (en)

[origin: WO2009076635A2] A slim perforating gun includes a plurality of shape charges; a positioning device that orients the perforating gun in relation to a down direction of a deviated well; the shaped charges being positioned inside the perforating gun and aimed in predetermined directions with respect to the down direction of the deviated well; wherein a ratio of the outer diameter of the slim perforating gun to the inner diameter of a casing used in connection with the slim perforating gun is from .85 to .30.

IPC 8 full level

**E21B 43/117** (2006.01)

CPC (source: EP GB US)

**E21B 43/117** (2013.01 - EP GB US); **E21B 43/119** (2013.01 - EP GB US); **E21B 43/26** (2013.01 - EP GB US)

Citation (search report)

- No further relevant documents disclosed
- See references of WO 2009076635A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2009076635 A2 20090618**; **WO 2009076635 A3 20100107**; CN 101896682 A 20101124; EP 2231990 A2 20100929; EP 2231990 A4 20121003; GB 201011481 D0 20100825; GB 2471026 A 20101215; US 2011024117 A1 20110203

DOCDB simple family (application)

**US 2008086679 W 20081212**; CN 200880120525 A 20081212; EP 08860256 A 20081212; GB 201011481 A 20081212; US 74755308 A 20081212