

Title (en)  
METHOD AND APPARATUS FOR PRE-LOADING A PIEZOELECTRIC TRANSDUCER FOR DOWNHOLE ACOUSTIC COMMUNICATION

Title (de)  
VERFAHREN UND VORRICHTUNG ZUM VORSPANNEN EINES PIEZOELEKTRISCHEN WANDLERS FÜR AKUSTISCHE BOHRLOCHKOMMUNIKATION

Title (fr)  
PROCÉDÉ ET APPAREIL DE PRÉCHARGE D'UN TRANSDUCTEUR PIÉZOÉLECTRIQUE POUR COMMUNICATION ACOUSTIQUE EN FOND DE TROU

Publication  
**EP 3482044 A4 20200603 (EN)**

Application  
**EP 17826717 A 20170707**

Priority  
• US 201662360717 P 20160711  
• CA 2017050823 W 20170707

Abstract (en)  
[origin: WO2018010015A1] A downhole acoustic transmitter has a pre-loaded piezoelectric transducer, an enclosure in which the piezoelectric transducer is housed, a preload spring that biases the transducer against a first end coupling of the enclosure, and an adjustable preload means mounted to the enclosure such that a selected compressive force is applied to the preload spring, which in turn urges the transducer against a face of the first end coupling such that a mechanical preload is applied to the transducer. The position of the adjustable preload means and the spring compliance are selected so that the level of mechanical preload applied to the transducer compensates for an expected amount of flexing of the acoustic telemetry transmitter due to varying tension and compression applied to the transmitter, thereby maintaining an effective preload on the transducer.

IPC 8 full level  
**E21B 47/14** (2006.01); **E21B 47/16** (2006.01)

CPC (source: EP US)  
**E21B 47/16** (2013.01 - EP US); **E21B 47/26** (2020.05 - EP US)

Citation (search report)  
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• [A] WO 2015156768 A1 20151015 - KYLE DONALD [US], et al  
• [A] US 5274606 A 19931228 - DRUMHELLER DOUGLAS S [US], et al  
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Designated contracting state (EPC)  
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DOCDB simple family (application)  
**CA 2017050823 W 20170707**; CA 3030368 A 20170707; EP 17826717 A 20170707; US 201716316848 A 20170707