

Title (en)
BOREHOLE SEALING DEVICE

Title (de)
BOHRLOCHVERSCHLUSSVORRICHTUNG

Title (fr)
DISPOSITIF DE FERMETURE DE TROU DE FORAGE

Publication
EP 3827156 B1 20211208 (DE)

Application
EP 19756105 A 20190725

Priority
• DE 102018118121 A 20180726
• EP 2019070023 W 20190725

Abstract (en)
[origin: WO2020021002A1] The invention relates to a borehole sealing device for performing drilling in a borehole while controlling the water outlet from the borehole, having a basic pipe (1) and a sleeve (7) which is located longitudinally movably on the outer face of the basic pipe (1). A spring (11) is arranged between the basic pipe (1) and the sleeve (7) such that a longitudinal displacement of the sleeve (7) relative to the basic pipe (1) in one of the longitudinal directions is possible only by overcoming the spring force. A radially expandable elastomeric element (24) is fixed on the outer face of the borehole sealing device such that the elastomeric element is axially connected to or adjoins the sleeve (7), such that a displacement of the sleeve (7) in the longitudinal direction against the spring force brings about a reduction in the radial dimensions of the elastomeric element (24) and a displacement of the sleeve (7) in the longitudinal direction corresponding to the spring force brings about a radial expansion of the elastomeric element (24), which effects sealing relative to an outer pipe (25) arranged around the borehole sealing device. The wall of the basic pipe (1) has one or more radial passages (3) which open into a piston chamber (14) between the outer face of the basic pipe (1) and the inner face of the sleeve (7). The piston chamber (14) is closed on both sides in the longitudinal direction, and the displacement of the sleeve (7) in the longitudinal direction against the spring force can be brought about by a fluid which was supplied during the drilling entering the piston chamber (14) between the outer face of the basic pipe (1) and the inner face of the sleeve (7).

IPC 8 full level
E21B 33/128 (2006.01)

CPC (source: EP)
E21B 33/128 (2013.01)

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 2020021002 A1 20200130; DE 102018118121 A1 20200130; EP 3827156 A1 20210602; EP 3827156 B1 20211208;
EP 3827156 B8 20220112

DOCDB simple family (application)
EP 2019070023 W 20190725; DE 102018118121 A 20180726; EP 19756105 A 20190725