

Title (en)  
Expandable ball seat

Title (de)  
Ausdehnbarer Kugelsitz

Title (fr)  
Siège extensible pour une bille

Publication  
**EP 2360347 A2 20110824 (EN)**

Application  
**EP 11154062 A 20110210**

Priority  
NO 20100211 A 20100211

Abstract (en)  
Apparatus for a drop ball activated device, where a ball seat (4) is concentrically and axially slidably disposed within an outer sleeve (1) having a first internal cylindrical surface, wherein the ball seat (4) comprises at least one radially extending lug (6), which in a first position extends radially inwards from the internal cylindrical surface, thereby defining a first ball seat diameter less than the diameter of the drop ball. The sleeve (1) comprises at least one groove (7) in its internal surface, and the lug (6) may be received in the groove (7), thereby defining a second ball seat diameter at least as large as the diameter of the drop ball (9).

IPC 8 full level  
**E21B 34/14** (2006.01)

CPC (source: EP NO US)  
**E21B 34/142** (2020.05 - EP NO US)

Cited by  
CN111425174A; EP2699760A4; GB2506265A; CN105164365A; AU2013395452B2; EA029960B1; GB2581695A; GB2581695B; US9366109B2; WO2012037661A1; WO2015039696A1; US9140097B2; US9970274B2; US10533397B2; US9797221B2; US10018015B2; US10077633B2; WO2019070359A1

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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2360347 A2 20110824; EP 2360347 A3 20140226; EP 2360347 B1 20180328**; CA 2731511 A1 20110811; CA 2731511 C 20180220; NO 20100211 A1 20110812; NO 2360347 T3 20180825; NO 338704 B1 20161003; SA 111320192 B1 20150423

DOCDB simple family (application)  
**EP 11154062 A 20110210**; CA 2731511 A 20110210; NO 11154062 A 20110210; NO 20100211 A 20100211; SA 111320192 A 20110212