

Title (en)

METHOD AND DEVICE FOR CONTROLLED FILLING AND INSPECTION OF BLAST HOLES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR KONTROLLIERTEN BEFÜLLUNG UND INSPEKTION VON SPRENGLÖCHERN

Title (fr)

PROCÉDÉ ET DISPOSITIF DE REMPLISSAGE CONTRÔLÉ ET D'INSPECTION DES TROUS DE MINE

Publication

EP 3885694 B1 20221109 (DE)

Application

EP 20165157 A 20200324

Priority

EP 20165157 A 20200324

Abstract (en)

[origin: US2021310780A1] A method and apparatus for controlled charging of blasting boreholes with a flowable/pourable explosive, in particular in open-cast mining, includes: providing a radar head with at least one radar unit operated in a non-rock penetrating frequency range; arranging the radar head on a pulling element; introducing the radar head into the borehole in that the radar head is lowered into the blasting borehole in an arrangement at the pulling means from an upper aperture opening of the blasting borehole; and detecting at least one measurement value comprising a base distance of the radar head from the blasting borehole base and/or a charge level distance to determine the charge level of the explosive in the blasting borehole; and/or comprising the shape of the jacket section over at least a portion of the depth of the blasting borehole by means of the operation of at least one of the radar units.

IPC 8 full level

F42D 1/10 (2006.01); **F42D 3/04** (2006.01)

CPC (source: EP US)

E21B 47/04 (2013.01 - US); **E21B 47/047** (2020.05 - US); **E21B 47/08** (2013.01 - US); **E21B 47/085** (2020.05 - US); **E21B 47/26** (2020.05 - US); **F42D 1/10** (2013.01 - EP US); **F42D 3/04** (2013.01 - EP); **E21B 7/007** (2013.01 - US); **E21B 47/01** (2013.01 - US); **E21B 47/024** (2013.01 - US); **E21B 47/09** (2013.01 - US); **E21B 2200/20** (2020.05 - US)

Cited by

CN115083254A

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)

EP 3885694 A1 20210929; **EP 3885694 B1 20221109**; AU 2021201833 A1 20211021; CL 2021000735 A1 20210910; US 11988086 B2 20240521; US 2021310780 A1 20211007

DOCDB simple family (application)

EP 20165157 A 20200324; AU 2021201833 A 20210324; CL 2021000735 A 20210324; US 202117210708 A 20210324