

Title (en)
TELESCOPICALLY EXTENDING SHAFT

Title (de)
TELESKOPSCHAFT

Title (fr)
ARBRE À EXTENSION TÉLESCOPIQUE

Publication
EP 2422039 A4 20171115 (EN)

Application
EP 10766690 A 20100420

Priority
• FI 2010000027 W 20100420
• FI 20090150 A 20090420

Abstract (en)
[origin: WO2010122212A1] Telescopically extending shaft that comprises parts (1 - 3) conveying rotation movement and axial force and the extending and shortening of which shaft is achieved with the help of a power unit, such as a hydraulic cylinder (8) moving in one axial direction and the moveable, separate parts (1 - 3) of which shaft moving telescopically in relation to each other are arranged to move in an as such known way by using pulling elements (6); (7) and sheaves (26); (27) attached to the parts (1) and (2) adjusted in such a way that the first part (1) that can be moved straight with the help of a power unit (8) causes the movement of the second part (2) through the pulling element (6) and the sheave (26) attached to the first part and the sheave (27) attached to the second part (2) causes the movement of the third part (3) through the pulling element (7) starting from the first part (1). In order to retract the parts (1 - 3) of the shaft the arrangement comprises the first part (1) that can be pulled to a retraction direction with the help of the power unit (8) and comprises a pulling element (24) the first end of which is attached to the moveable part (25) of the power unit in which case the second end of the pulling element (24) is attached to the third part (3) in such a way that it first passes round the sheave (23) located fixed inside the shaft and then passes round the sheave (22) attached to the moveable part of the power unit (8).

IPC 8 full level
E21B 15/04 (2006.01); **B25J 18/02** (2006.01); **B66C 23/04** (2006.01); **E21B 17/07** (2006.01); **E21B 19/08** (2006.01)

CPC (source: EP FI)
B25J 18/025 (2013.01 - FI); **E21B 7/023** (2013.01 - FI); **E21B 15/04** (2013.01 - EP); **E21B 17/07** (2013.01 - EP); **E21B 19/084** (2013.01 - FI); **E21B 19/086** (2013.01 - EP FI)

Citation (search report)
• [A] JP H04221131 A 19920811 - KOMATSU MFG CO LTD
• [AD] US 4877091 A 19891031 - HOWELL JR RICHARD L [US]
• [A] JP H08337392 A 19961224 - TADANO LTD
• [A] JP H0323194 A 19910131 - FURUKAWA CO LTD
• [A] US 4217987 A 19800819 - GATTU NARAHARI [US], et al
• See references of WO 2010122212A1

Cited by
CN108291444A

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 MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
WO 2010122212 A1 20101028; EP 2422039 A1 20120229; EP 2422039 A4 20171115; FI 121893 B 20110531; FI 20090150 A0 20090420; FI 20090150 A 20101021

DOCDB simple family (application)
FI 2010000027 W 20100420; EP 10766690 A 20100420; FI 20090150 A 20090420