

Title (en)

Device and process of laying ceramic tubes without excavation

Title (de)

Vorrichtung und Verfahren zum grabenlosen Verlegen von Steinzeugrohren

Title (fr)

Dispositif et procédé de pose de tubes céramiques sans excavation

Publication

EP 0860638 B1 20021106 (DE)

Application

EP 98102809 A 19980218

Priority

DE 19707286 A 19970224

Abstract (en)

[origin: EP0860638A1] The device comprises a drill bar (14) with a retractable head (16) and central holding shaft (18) aligned with the drill bar and to which a counter pressure plate (32) is fixed. A number of centering devices (22) extend radially outwards from the holding shaft (18). The holding shaft comprises different individual segments (18a,18b), which are connectable to one another by threads (20) or pin connections. The outer diameter of the retractable head (16) is equal to the outer diameter of the pipe (24) to be retracted or larger than it. On one individual segment of the holding shaft centering devices (22) are located in at least two positions axially spaced apart. Each centering device comprises a number of regulatable hydraulic cylinders which extend radially outwards from the holding shaft and can be regulated individually. The centering devices incorporate a number of leaf springs extending radially outwards from the holding shaft and having a curved shape.

IPC 1-7

F16L 1/028; E21B 7/04

IPC 8 full level

E21B 7/04 (2006.01); **E21B 7/30** (2006.01); **E21B 17/08** (2006.01); **E21B 17/10** (2006.01); **F16L 1/028** (2006.01)

CPC (source: EP)

E21B 7/30 (2013.01); **E21B 17/08** (2013.01); **E21B 17/10** (2013.01)

Citation (examination)

US 5403122 A 19950404 - GRANELLA BRUNO [CH]

Cited by

DE102007049606A1; DE102007049605B3; AU2005266534B2; CN111622771A; CN112780834A; EP2050920A3; DE102007049606B4; CN111734316A; CN104482297A; CN113446434A; EP2050919A2; US7824130B2; WO2006010549A1; EP2050920A2

Designated contracting state (EPC)

AT BE CH DE ES FR GB LI NL PT

DOCDB simple family (publication)

EP 0860638 A1 19980826; EP 0860638 B1 20021106; AT E227403 T1 20021115; DE 19707286 C1 19981119; DE 59806135 D1 20021212; ES 2202670 T3 20040401; PT 860638 E 20030131

DOCDB simple family (application)

EP 98102809 A 19980218; AT 98102809 T 19980218; DE 19707286 A 19970224; DE 59806135 T 19980218; ES 98102809 T 19980218; PT 98102809 T 19980218