

Title (en)  
Earth displacement drill

Title (de)  
Erdverdrängungsbohrer

Title (fr)  
Perçoir qui déplace la terre

Publication  
**EP 0855489 B1 20030402 (DE)**

Application  
**EP 98100239 A 19980108**

Priority  
DE 19702137 A 19970122

Abstract (en)  
[origin: CA2227602A1] The invention relates to an earth displacement drill comprising a drill tube (11) which can be driven to execute a rotary movement and a boring tip (12) rotationally fixedly connectable or connected thereto, wherein the boring tip has a cylindrical part (13) which adjoins the drill tube (11) and has at least two and preferably three helical strips uniformly distributed around the circumference, which climb upwardly at a shallow angle, with the flat side of the strips preferably extending at least substantially parallel to the radius at the relevant position and extending in particular only over a fraction of the circumference of the cylindrical part (13). The boring tip also has a tapering part (14) located beneath the cylindrical part and having at least two and preferably three arched surfaces (17) which are uniformly distributed around the tapering part. These arched surfaces expediently extend at least approximately parallel to the vertical (16) and preferably more steeply than the helical strips (15). Moreover, they preferably extend only over a fraction of the periphery of the tapered part (14) and preferably terminate radially outwardly at least in the vicinity of the start of an associated helical strip (15). Such an earth displacement drill is improved in accordance with the invention in that the arched surfaces (17) have lower edges (19) which adjoin flat helical surfaces (18) in an at least substantially step-free manner. The flat helical surfaces extend continuously to the lower edge (38) of the cylindrical part (13) and to the upper edge of the following arched surface (17) as viewed opposite to the direction of rotation (29). The flat helical surfaces (18) in each case form a step (20) with the following arched surface (17) as viewed opposite to the direction of rotation (29).

IPC 1-7  
**E21B 10/44**

IPC 8 full level  
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**E02D 5/38** (2013.01 - EP US); **E21B 7/201** (2013.01 - EP US); **E21B 10/44** (2013.01 - EP US)

Cited by  
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