

Title (en)

Interchangeable bit system for directional boring

Title (de)

System mit auswechselbarem Bohrmeissel zum Richtungsbohren

Title (fr)

Système de trépan interchangeable pour forage directionnel

Publication

EP 1083292 A1 20010314 (EN)

Application

EP 00119678 A 20000908

Priority

US 39377899 A 19990910

Abstract (en)

A directional boring bit assembly of the invention includes a headpiece (12) having a rear portion configured for attachment to and removal from a front end of a generally cylindrical drill head section (15). The headpiece (12) preferably has a passage therethrough for conveying fluid therein from the drill head section (15) to a fluid ejection port on the headpiece, and a frontwardly opening lengthwise socket (30). A bit (14) having a front portion configured for directional boring and a rear portion configured for sliding insertion into the socket (30) is held in the socket by a manually removable retainer such as a roll pin. The roll pin secures the bit (14) in the socket so that sliding movement of the rear portion of the bit (14) out of the socket (30) is prevented during directional boring with the bit assembly. The directional boring bit assembly of the invention provides interchangeability of bit styles in combination with a more secure system for mounting the bit. <IMAGE>

IPC 1-7

E21B 7/06; **E21B 17/046**

IPC 8 full level

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CPC (source: EP US)

E21B 7/064 (2013.01 - EP); **E21B 10/60** (2013.01 - EP); **E21B 10/62** (2013.01 - EP US)

Citation (applicant)

- US 4953633 A 19900904 - HERMANS WILLEM F [NL]
- US 5242026 A 19930907 - DEKEN ARTHUR D [US], et al
- US 5778991 A 19980714 - RUNQUIST RANDY R [US], et al
- US 5647448 A 19970715 - SKAGGS ROGER DEAN [US]
- US 5799740 A 19980901 - STEPHENSON BRENT G [US], et al
- US 5899283 A 19990504 - COX DAVID M [US]
- US 4907658 A 19900313 - STANGL GERALD A [US], et al
- US 5253721 A 19931019 - LEE DOUGLAS W [US]
- US 37339500 A

Citation (search report)

- [A] EP 0691484 A1 19960110 - GEISSLER & KUPER GMBH [DE]
- [DA] EP 0857853 A2 19980812 - RAILHEAD UNDERGROUND PRODUCTS [US]

Cited by

CN106869804A; ITTV20120182A1; CN114991684A

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