

Title (en)  
TOOL FOR MECHANICAL DRILLING, IN PARTICULAR FOR THE CONSTRUCTION OF TUNNELS, AND ITS CREATION METHOD

Title (de)  
WERKZEUG ZUM MECHANISCHEN BOHREN, INSBESONDERE FÜR DEN BAU VON TUNNELN, UND IHR ERSTELLUNGSVERFAHREN

Title (fr)  
OUTIL DE FORAGE MÉCANIQUE, EN PARTICULIER POUR LA CONSTRUCTION DE TUNNELS, ET SON PROCÉDÉ DE CRÉATION

Publication  
**EP 4095349 A1 20221130 (EN)**

Application  
**EP 22161389 A 20220310**

Priority  
IT 202100013493 A 20210525

Abstract (en)  
Described is a mechanical boring tool, in particular for excavating tunnels, which comprises, on a substantially cylindrical base body (5), extending along a central axis (X) and which is designed to be removably connected to the drive head of a machine for excavating tunnels, a series of cutting elements, wherein at least one (1) of the cutting elements has a connecting portion (3) with the base body (5), a tooth (2) protruding from the base body (5) and extending along a vertical direction (Y) substantially normal relative to the central axis (X) and a cutting edge (6) defined on an end portion of the tooth (2). The tooth (2) has at least one lateral profile (2a) which defines an upper angle (B) with the limiting line (Z) of the cutting edge (6). A particular feature of the invention is due to the fact that the upper angle (B) is substantially between 70° and 85°, inclusive, preferably between 73° and 84°, inclusive, more preferably between 75° and 81°, inclusive, even more preferably between 77° and 79°.

IPC 8 full level  
**E21C 35/183** (2006.01); **B22F 3/15** (2006.01); **B22F 5/00** (2006.01); **E21D 9/11** (2006.01)

CPC (source: EP)  
**C21D 1/26** (2013.01); **C21D 1/613** (2013.01); **C21D 6/002** (2013.01); **C21D 9/18** (2013.01); **C22C 38/22** (2013.01); **C22C 38/24** (2013.01); **E21C 35/1835** (2020.05); **E21C 35/1837** (2020.05); **E21D 9/11** (2013.01)

Citation (search report)

- [I] CN 109162725 A 20190108 - CHINA RAILWAY ENGINEERING EQUIPMENT GROUP CO LTD
- [I] CN 112342367 A 20210209 - XIAN THERMAL POWER RES INST CO
- [I] DE 19745164 A1 19990422 - BETEK BERGBAU & HARTMETALL [DE]
- [I] DE 102010060453 A1 20120119 - ELFGEN GERD [DE]
- [I] US 2017254199 A1 20170907 - RASCHKA JOACHIM [DE], et al
- [I] WO 2016018941 A1 20160204 - US SYNTHETIC CORP [US]
- [XI] GB 2158101 A 19851106 - SMITH INTERNATIONAL

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

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4095349 A1 20221130; EP 4095349 B1 20240131; EP 4095349 C0 20240131**

DOCDB simple family (application)  
**EP 22161389 A 20220310**