

Title (en)

Device for storing and loading reinforced rods for the front and vault of a tunnel

Title (de)

Vorrichtung zur Lagerung und Beladung von verstärkten Stäben für die Front und das Gewölbe eines Tunnels

Title (fr)

Dispositif de stockage et chargement des tiges renforcées pour le front et la voûte d'un tunnel

Publication

EP 0953725 A3 20030122 (EN)

Application

EP 99107628 A 19990416

Priority

IT TO980370 A 19980430

Abstract (en)

[origin: EP0953725A2] Device for storing and loading reinforced rods for the front and vault of a tunnel mounted on a machine for the preventive consolidation of excavations in tunnels in correspondence to a working unit (19) of the machine, which is in turn mounted in correspondence to one end of telescopic standards (14, 15) hinged to the frame (10) of the machine itself, comprising a number of tubes (39) flanking each other containing the rods (36, 37, 38) for feeding to the working unit (19) singularly and selectively by means of a tapered conveyor (34) with a funnel (35); thrusting means (44) with fingers (40, 41, 42) which are longitudinally spaced are positioned in correspondence to the ends of each rod (36, 37, 38) opposite those fitted into the conveyor (34). <IMAGE>

IPC 1-7

E21B 19/14; **E21D 20/00**

IPC 8 full level

E21D 20/00 (2006.01); **E21B 19/08** (2006.01); **E21B 19/20** (2006.01)

CPC (source: EP US)

E21B 19/20 (2013.01 - EP); **E21D 20/006** (2013.01 - EP US)

Citation (search report)

- [A] US 5720582 A 19980224 - MORRISON WARD D [US], et al
- [A] EP 0470061 A2 19920205 - ATLAS COPCO CONSTR & MINING [SE]
- [DA] US 5152638 A 19921006 - TREVISANI DAVIDE [IT]
- [A] EP 0424733 A1 19910502 - CASAGRANDE SPA [IT]
- [A] US 3677345 A 19720718 - SIZER PHILLIP S
- [A] DATABASE WPI Section Ch Week 199724, Derwent World Patents Index; Class H01, AN 1997-259454, XP002222569 & US 5795107 A 19980818 - EDMONDSON MICHAEL [AU], et al

Cited by

US10995563B2; US11136837B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0953725 A2 19991103; **EP 0953725 A3 20030122**; **EP 0953725 B1 20040609**; AT E268862 T1 20040615; ES 2222636 T3 20050201; IT TO980370 A1 19991030; JP 2000002097 A 20000107; JP 4397998 B2 20100113

DOCDB simple family (application)

EP 99107628 A 19990416; AT 99107628 T 19990416; ES 99107628 T 19990416; IT TO980370 A 19980430; JP 12505099 A 19990430