

Title (en)

DEVICE FOR WITHDRAWING DUG MATERIAL FOR MAKING DEEP TRENCHES

Publication

EP 0353152 B1 19920617 (FR)

Application

EP 89402126 A 19890726

Priority

FR 8810067 A 19880726

Abstract (en)

[origin: JPH0243420A] PURPOSE: To remove spoil continuously by use of a crane whose height is some fraction of the depth of a trench, without stopping excavating operations by constructing a spoil removal conduit from a telescopic section and a flexible section supported on a pulley. CONSTITUTION: Removal of spoil from a trench 5 excavated by a rotary cutter machine 4 is effected through a conduit comprising a telescopic section 6 and a flexible section 7. As the trench 5 is excavated, the depth of the trench 5 becomes greater than the height of a crane 1, in which case this shortage is compensated by first causing a male element 6b enclosed in a female element 6a in the telescopic section 6 to project, then extending a cable 9 which supports a pulley 8 supporting the flexible section 7.

IPC 1-7

E02F 5/20; E21B 17/07; E21B 17/20; E21B 19/22; E21B 21/00

IPC 8 full level

E02F 5/02 (2006.01); **E02F 5/08** (2006.01); **E02F 5/20** (2006.01); **E02F 7/00** (2006.01); **E02F 7/10** (2006.01); **E21B 7/00** (2006.01);
E21B 17/07 (2006.01); **E21B 17/20** (2006.01); **E21B 19/22** (2006.01); **E21B 21/00** (2006.01); **E21D 1/06** (2006.01)

CPC (source: EP US)

E21B 7/003 (2013.01 - EP US); **E21B 17/07** (2013.01 - EP US); **E21B 17/20** (2013.01 - EP US); **E21B 19/22** (2013.01 - EP US);
E21B 21/01 (2013.01 - EP US)

Cited by

US10995563B2; US11136837B2

Designated contracting state (EPC)

AT BE CH DE ES FR GB IT LI

DOCDB simple family (publication)

EP 0353152 A1 19900131; EP 0353152 B1 19920617; AR 240708 A1 19900928; AT E77428 T1 19920715; CA 1317604 C 19930511;
CY 1717 A 19940506; DE 353152 T1 19900816; DE 68901826 D1 19920723; DE 68901826 T2 19930204; ES 2014203 A4 19900701;
ES 2014203 T3 19930316; FR 2634805 A1 19900202; FR 2634805 B1 19920410; HK 88693 A 19930903; JP H0243420 A 19900214;
JP H0739672 B2 19950501; RU 1838519 C 19930830; SG 46493 G 19930709; US 4971157 A 19901120

DOCDB simple family (application)

EP 89402126 A 19890726; AR 31449289 A 19890725; AT 89402126 T 19890726; CA 606573 A 19890725; CY 171794 A 19940506;
DE 68901826 T 19890726; DE 89402126 T 19890726; ES 89402126 T 19890726; FR 8810067 A 19880726; HK 88693 A 19930826;
JP 25285988 A 19881006; SG 46493 A 19930415; SU 4614692 A 19890725; US 38497689 A 19890725