

Title (en)

SWIVEL ASSEMBLY FOR A PNEUMATIC UNDERGROUND PIERCING TOOL

Publication

EP 0462821 A3 19930127 (EN)

Application

EP 91305550 A 19910619

Priority

US 54105490 A 19900620

Abstract (en)

[origin: EP0462821A2] A swivel assembly for supporting a valve sleeve in a cavity of a striker in a pneumatic underground piercing tool. A valve supporting means supports the valve sleeve on a valve body by cooperating spherical seat and bearing members to allow angular movement between the valve sleeve and valve body. A retaining mechanism is provided for resiliently securing the valve supporting means to the valve body.
<IMAGE>

IPC 1-7

E21B 4/14

IPC 8 full level

E21B 4/14 (2006.01)

CPC (source: EP)

E21B 4/145 (2013.01)

Citation (search report)

- [A] GB 1530857 A 19781101 - INST GOR DELA SIBIR OTDEL AN S
- [AD] US 4662457 A 19870505 - BOUPLON EDWARD J [US]
- [A] GB 1170167 A 19691112 - INST GORNOGO DELA SIBIRSKOGO O [RU]
- [A] EP 0301287 A2 19890201 - SCHMIDT PAUL
- [A] EP 0224859 A1 19870610 - PIERCE AIRROW INTERNATIONAL IN [US]

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Designated contracting state (EPC)

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DOCDB simple family (publication)

EP 0462821 A2 19911227; EP 0462821 A3 19930127

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