

Title (en)
SPRING WINDING AUTOMATIC MACHINE

Title (de)
FEDERWINDEAUTOMAT

Title (fr)
MACHINE AUTOMATIQUE POUR ENROULER LES RESSORTS

Publication
EP 1060041 A1 20001220 (DE)

Application
EP 99908796 A 19990108

Priority
• DE 19800671 A 19980110
• EP 9900071 W 19990108

Abstract (en)
[origin: US6374655B1] Spring coiling machine with a drive, a wire guide, a cutter mechanism and a coiler mechanism, in which the drive is adapted for optionally driving one or other of at least two wires sitting in the wire guide at the same time.

IPC 1-7
B21F 23/00; **B21F 3/02**

IPC 8 full level
B21F 3/02 (2006.01); **B21F 11/00** (2006.01); **B21F 23/00** (2006.01); **B21F 35/00** (2006.01)

CPC (source: EP US)
B21F 3/02 (2013.01 - EP US); **B21F 11/00** (2013.01 - EP US); **B21F 23/00** (2013.01 - EP US)

Citation (search report)
See references of WO 9934943A1

Designated contracting state (EPC)
AT BE DE DK ES FI FR GB GR IE IT LU NL PT SE

DOCDB simple family (publication)
US 6374655 B1 20020423; AT E229390 T1 20021215; CA 2318388 A1 19990715; CA 2318388 C 20061205; DE 19800671 A1 19990715; DE 19800671 C2 20021128; DE 59903740 D1 20030123; EP 1060041 A1 20001220; EP 1060041 B1 20021211; JP 2002500106 A 20020108; JP 4302884 B2 20090729; WO 9934943 A1 19990715

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US 58290900 A 20000918; AT 99908796 T 19990108; CA 2318388 A 19990108; DE 19800671 A 19980110; DE 59903740 T 19990108; EP 9900071 W 19990108; EP 99908796 A 19990108; JP 2000527376 A 19990108