

Title (en)

DEVICE FOR PRODUCING COILS FROM SPRING STEEL MATERIAL.

Title (de)

VORRICHTUNG ZUM HERSTELLEN VON WICKELN AUS FEDERSTAHLGEWIRK.

Title (fr)

DISPOSITIF DE FABRICATION DE ROULEAUX EN UN TISSU D'ACIER A RESSORTS.

Publication

**EP 0515581 B1 19940504**

Application

**EP 91914185 A 19910205**

Priority

- DE 4004187 A 19900212
- EP 9100218 W 19910205

Abstract (en)

[origin: WO9112100A1] A device for the automatic production of spring steel coils comprises a cutting station (14), a winding spindle (16) and a conveyor arm (20) reciprocating between the cutting station and the winding spindle (16) and fitted with material gripping wires (36) on the underside which are inclined obliquely forward.

IPC 1-7

**B21F 33/00**; **B21C 47/32**; **B65H 19/28**

IPC 8 full level

**B21C 47/32** (2006.01); **B21F 33/00** (2006.01); **B65H 19/28** (2006.01)

CPC (source: EP US)

**B21C 47/32** (2013.01 - EP US); **B21F 33/002** (2013.01 - EP US); **B65H 19/28** (2013.01 - EP US); **Y10T 29/5198** (2015.01 - EP US)

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB IT LI NL SE

DOCDB simple family (publication)

**WO 9112100 A1 19910822**; CA 2075800 A1 19910813; CA 2075800 C 20001128; DE 4004187 A1 19910814; DE 4004187 C2 19990311; DE 59101578 D1 19940609; EP 0515581 A1 19921202; EP 0515581 B1 19940504; US 5319833 A 19940614

DOCDB simple family (application)

**EP 9100218 W 19910205**; CA 2075800 A 19910205; DE 4004187 A 19900212; DE 59101578 T 19910205; EP 91914185 A 19910205; US 91582292 A 19920728