

Title (en)

Carburized wire and method for producing the same

Title (de)

Aufgekohlter Draht und Verfahren zu dessen Herstellung

Title (fr)

Fil cémenté et son procédé de fabrication

Publication

EP 1652943 A1 20060503 (EN)

Application

EP 05109964 A 20051025

Priority

US 97581104 A 20041027

Abstract (en)

A method is taught for processing low carbon steel wire (10) into high carbon steel wire having improved characteristics for use in vehicle tire construction and other applications, including increased wire strength, corrosion resistance and rubber adherence. Low carbon steel wire is carburized to raise carbon content, resulting in increased strength and corrosion resistance. According to other aspects of the invention, the carburization process may occur in the presence of rubber adherence agents (23), which adhere to the steel wire (10), resulting in improved steel rubber adherence in a single processing step.

IPC 8 full level

C21D 8/06 (2006.01); **B29D 30/00** (2006.01); **B60C 9/00** (2006.01)

CPC (source: EP US)

C21D 8/06 (2013.01 - EP US); **C21D 9/525** (2013.01 - EP US); **C23C 8/22** (2013.01 - EP US); **C23C 8/44** (2013.01 - EP US);
C23C 8/64 (2013.01 - EP US); **C23C 12/00** (2013.01 - EP US); **C23C 24/00** (2013.01 - EP US); **C23C 26/00** (2013.01 - EP US)

Citation (search report)

- [A] US 4651513 A 19870324 - DAMBRE PAUL [BE]
- [A] US 5688597 A 19971118 - KOHNO MASATSUGU [JP]
- [A] US 2004069394 A1 20040415 - ARMELLIN GIANCARLO [IT], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 011, no. 368 (M - 647) 2 December 1987 (1987-12-02)
- [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 457 (C - 644) 16 October 1989 (1989-10-16)

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 1652943 A1 20060503; BR PI0504509 A 20060627; CN 101818319 A 20100901; CN 1796591 A 20060705; CN 1796591 B 20110413;
US 2006086430 A1 20060427; US 2008041497 A1 20080221

DOCDB simple family (application)

EP 05109964 A 20051025; BR PI0504509 A 20051018; CN 200510118512 A 20051027; CN 201010163334 A 20051027;
US 85333407 A 20070911; US 97581104 A 20041027