



- (51) **International Patent Classification:**
B21F 1/00 (2006.01) *E04C 5/06* (2006.01)
B21D 11/12 (2006.01)
- (21) **International Application Number:**
PCT/IB2009/054478
- (22) **International Filing Date:**
12 October 2009 (12.10.2009)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
BO2008A000637 15 October 2008 (15.10.2008) IT
- (71) **Applicant (for all designated States except US):**
SCHNELL S.P.A. [IT/IT]; via borghetto 2, I-63010
Montemaggiore al Metauro (PU) (IT).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** GALLUCCIO, An-
ton, Massimo [IT/IT]; c/o SCHNELL S.P.A., via
Borghetto 2, I-63010 Montemaggiore al Metauro (IT).
- (74) **Agent:** MANZELLA, Giovanni; C/o Manzella & Asso-
ciati S.a.s., Via Nosadella 9, I-40123 Bologna (IT).
- (81) **Designated States (unless otherwise indicated, for every
kind of national protection available):** AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) **Designated States (unless otherwise indicated, for every
kind of regional protection available):** ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished
upon receipt of that report (Rule 48.2(g))

(54) **Title:** METHOD AND APPARATUS FOR MANUFACTURING SPIRAL-REINFORCEMENTS FOR REINFORCED CONCRETE

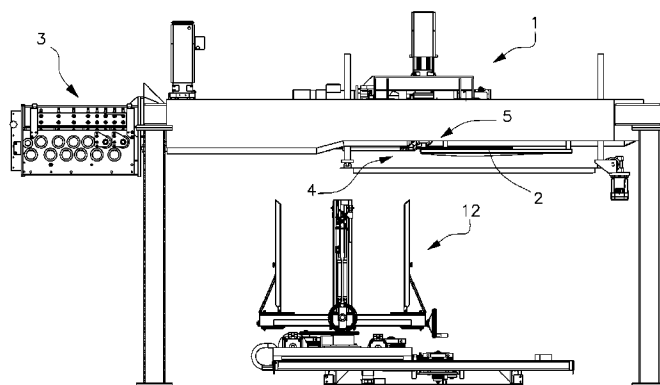


Fig.2

(57) **Abstract:** The method for manufacturing spiral reinforcements provides for feeding a metal wire (2) through a folding unit (5) provided with a central mandrel (7) and an eccentric folding pin (8), having parallel axis, and for performing successive folds of said metal wire (2) with respect to the longitudinal feed axis (A), to produce a succession of polygonal coils (20) designed to form a spiral-reinforcement (21) constituted by a sequence of perpendicular tracts (22) and of oblique tracts (23) with respect to the longitudinal axis (L) of the spiral. On at least one side of the polygonal coils (20), to form said oblique tracts (23), are made a first fold (23a) on a plane orthogonal to the axis of the mandrel (7) and of the eccentric folding pin (8) and at least a second fold (23b) extended in a third dimension suitably inclined with respect to the aforesaid plane.

WO 2010/044052 A2