

1) Family number: 69740613 (US2018216266A)

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Title: WIRE NETTING AND METHOD FOR PRODUCING A HELIX FOR A WIRE NETTING

Abstract: A wire netting, in particular a safety net, with a plurality of helices which are braided and at least one of which is manufactured of at least one single wire, a wire bundle, a wire strand, a wire rope and/or another longitudinal element with at least one wire comprising one first leg, one second leg and one bending region, wherein, in a front view perpendicularly to a main extension plane of the helix, the first leg extends with at least one first gradient angle with respect to a longitudinal direction of the helix, wherein, in a transverse view in parallel to the main extension plane of the helix and perpendicularly to the longitudinal direction of the helix, the bending region extends at least section-wise with a second gradient angle with respect to the longitudinal direction of the helix, wherein the second gradient angle differs from the first gradient angle.

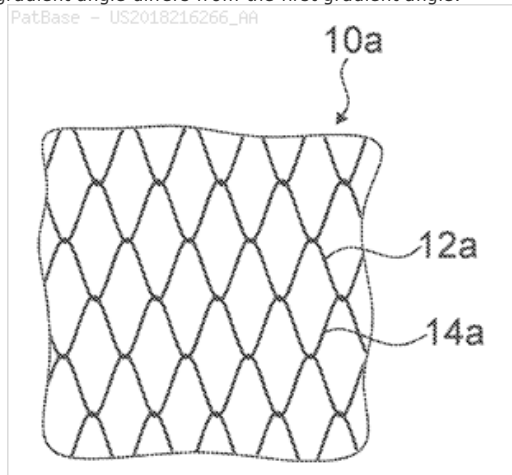
Classifications:

International (IPC 8-9): A01K61/00 B21D11/06 B21F15/04
B21F27/00 B21F27/02 B21F27/04 B21F3/02 D04C1/06 E01F7/04
E02D17/20 (Advanced/Invention)

International (IPC 1-7): B21F27/04 E01F7/04

CPC: B21F27/005 B21F27/02 B21D11/06 B21F27/00 B21F27/04
E01F7/04 D04C1/06 D10B2101/20 D10B2507/02

US: 1/1 87/8

**Family:**

Publication number	Publication date	Application number	Application date
AR110784 AA	20190502	AR2018P100204	20180129
AU2018200123 BA	20180726	AU20180200123	20180108
BR112019006839 A2	20190625	BR20191106839	20180116
CA3045972 AA	20190603	CA20183045972	20180116
CL2018000247 A1	20180629	CL20180000247	20180126
CN108372261 A	20180807	CN201810084319	20180129
CO20180000508 A1	20180719	CO20180000508	20180119
DE102017101756 B3	20180517	DE201710101756	20170130
EP3354799 A1	20180801	EP20180151838	20180116
ES2677169 AA	20180730	ES20180030080	20180129
ES2677169 BB	20190705	ES20180030080	20180129
FR3062322 A1	20180803	FR20180070091	20180129
ID201810315 A	20180921	ID2018P0000652	20180126
IN201827038678 A	20190719	IN201827038678	20181011
JP2018122359 A2	20180809	JP20180012883	20180129
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KR20190104224 A	20190906	KR20197024951	20180116
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PH2018000008 A	20180829	PH20180000008	20180108
PH2018000008 B	20180829	PH20180000008	20180108
PL424400 A1	20180813	PL20180424400	20180129
RU2664845 C1	20180823	RU20180103231	20180129
TW201834762 A	20181001	TW20180101102	20180111
TWI647025 B	20190111	TW20180101102	20180111
US2018216266 AA	20180802	US20180876491	20180122
US10145045 BB	20181204	US20180876491	20180122
WO18137964 A1	20180802	WO2018EP50959	20180116

Priority:

DE201710101756 20170130 WO2018EP50959 20180116 JP20180012883 20180129

Probable Assignee: GEOBRUGG AG

Assignee(s): (std): GEOBRUGG AG

Assignee(s): WENDELER GOGGELMANN CORINNA

Inventor(s): (std): WENDELER GOGGELMANN CORINNA ; WENDELER GEGGELMANN KORINNA ; CORINNA WENDELER
GOEGGELMANN ; WENDELER GOEGGELMANN CORINNA

Inventor(s): WENDELER G GGGELMANN CORINNA

Agent(s): SPRUSON AND FERGUSON; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; BEUCHAT BARROS AND PFENNIGER; JOSE ANDRES RINCON USCATEGUI; DAUB THOMAS; TORO FRANCISCO JAVIER; CABINET FLECHNER; IRMIGNI MYRIASANDRA NOERHADI MIP MSEL; ONDA MAKOTO; ONDA HIRONORI; ROMULO MABANTA BUENAVENTURA SAYOC AND DELOS ANGELES; EVROMARKPAT; POSZ LAW GROUP PLC; DAUB PATENT U RECHTSANWALTSKANZLEI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 28240610 (US2002108241A)

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Title: ROTATIONAL GRIP TWIST MACHINE AND METHOD FOR FABRICATING BULGES OF TWISTED WIRE ELECTRICAL CONNECTORS

Abstract: Bulges in a wire having helically coiled strands are formed by untwisting the strands in an anti-helical direction at a predetermined position, to form an electrical connector from a length of the stranded wire. The wire is gripped by moving two spaced apart clamp members to a closed position and thereafter rotating the clamp members relative to one another in at least one complete relative revolution in a direction which is anti-helical relative to the coiled strands to form the bulge. The wire is gripped and rotated in the anti-helical direction for a relative rotational interval of greater than one-half, and preferably three-fourths, of a complete relative revolution. Thereafter, during the remaining rotational interval of each relative revolution, the clamp members are opened to permit the wire to be advanced to the next position where a bulge is to be formed.

Classifications:

International (IPC 8-9): H01R43/28 (Advanced/Invention);

H01R43/28 (Core/Invention)

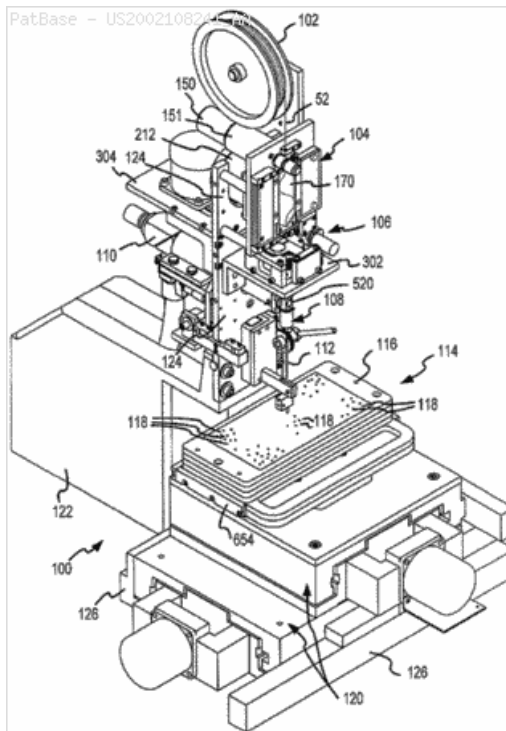
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Y10T29/5121 Y10T29/5187 Y10T29/5193 B21F7/00 H01R43/04 H01R43/28

European: H01R43/28 H01R9/09F3

US: 140/149 140/71.00R 140/71R 29/33.00F 29/33.00M 29/33F 29/33M 29/34.00D 29/34D 29/838 29/882 29/882P 29/884 298/820 57/2.3 57/23 57/293 57/64 72/299



Family:

Publication number	Publication date	Application number	Application date
US2002108241 AA	20020815	US20010782888	20010213
US2004163251 AA	20040826	US20040791556	20040302
US6729026 BB	20040504	US20010782888	20010213
US6971415 BB	20051206	US20040791556	20040302

Priority:

US20010782888 20010213 US20040791556 20040302

Probable Assignee: MEDALLION TECHNOLOGY LLC

Assignee(s): (std): GARCIA STEVEN E ; HARDEN JAMES A ; MEDALLION TECHNOLOGY LLC

Inventor(s): (std): GARCIA STEVEN E ; HARDEN JAMES A ; HARDEN JR JAMES A

Inventor(s): JR JAMES A ; HARDEN

Agent(s): JOHN R

3) Family number: 22164165 (US2705027A)

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Title: FULLY AUTOMATIC MACHINE FOR MAKING DOUBLE BODIED TORSION COILED SPRINGS

Abstract: (Claim 1) In an automatic spring making machine, the combination of two coiling heads rotatable about and axially movable along a common axis and having longitudinally spaced initial positions, a centrally located fixed first bending die having a front wire bending portion spaced forwardly from said axis and being formed with an opening registering with said axis, a second bending die at the front of the first die initially spaced therefrom and having a wire bending portion for cooperation with the front wire bending portion of the first die, an elongated non rotatable arbor member having an operative position wherein a winding portion thereof extends axially through said opening and at both sides of the first die, mechanism cyclically operable for feeding successive lengths of wire to a predetermined position between the first and second dies, mechanism cyclically operable after each wire feeding for moving the second die rearwardly to engage the fed wire and bend it around the front portion of the first die so as to form a bight portion embracing said first die and so as to form two rearwardly extending arms at the sides of said first die and adjacent the arbor member which mechanism thereafter serves to move the second die forwardly to disengage the wire, mechanism cyclically operable after each wire bending for moving said coiling heads axially toward each other and for rotating them so that they engage the arms of the

wire to Wind them on the winding portion of the arbor member so as to form coils at the sides of the first die which mechanism serves during coil winding to move the coiling heads away from each other in conformity with the increasing length of the coils as they are wound and which mechanism thereafter serves to return the coiling heads to their spaced initial positions. and mechanism cyclically operable after each coil winding for moving the arbor member axially out of its said operative position so as to disengage it from the wire coils and for thereafter returning the arbor means to its said operative position.

Classifications:

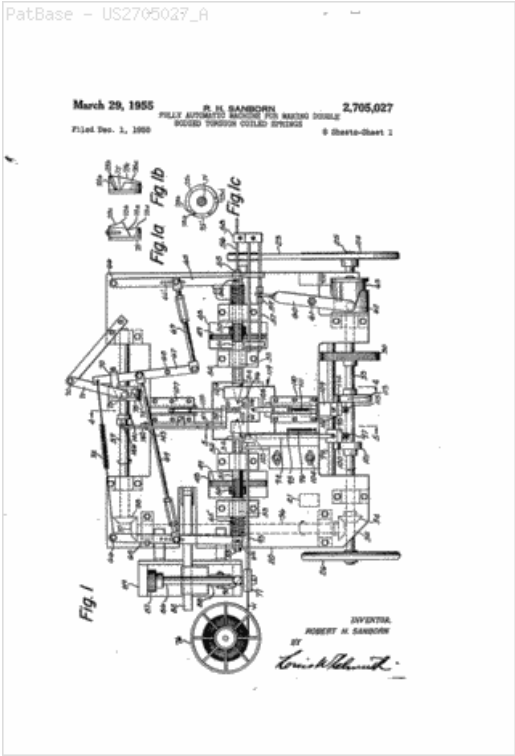
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B21F3/00 B21F35/00 (Core/Invention)

International (IPC 1-7): B21F3/02

CPC: B21F3/02 B21F3/04 B21F35/00

European: B21F3/02 B21F3/04 B21F35/00

US: 140/71R 140/89



Family:

Publication number	Publication date	Application number	Application date
US2705027 A	19550329	US19500198543	19501201

Priority:

US19500198543 19501201

Probable Assignee:

SANBORN ROBERT H

Assignee(s): (std):

SANBORN ROBERT H

Inventor(s): (std):

SANBORN ROBERT H

4) Family number: 1589289 (DE3028019A1) © PatBase

Title: STRONG WIRE NETTING PRODN. - DELIVERS SPRING STEEL WIRE FROM REEL VIA STRAIGHTENING MECHANISM TO MESH FORMING TOOLS

Abstract: The process forms wire netting of great strength with rhombic or square mesh on an automatic machine, the wire being delivered by a driving reel to mesh forming tools, while bending tools are provided for the edges of the finished wire mesh. Spring-steel wire unwound from a reel (1) is positively delivered in a guide (4) via a roller (2) and roller-type straightening mechanism (3) to the mesh forming tools and woven into mesh. The last meshes are then halted in the machine and the edges bent over.

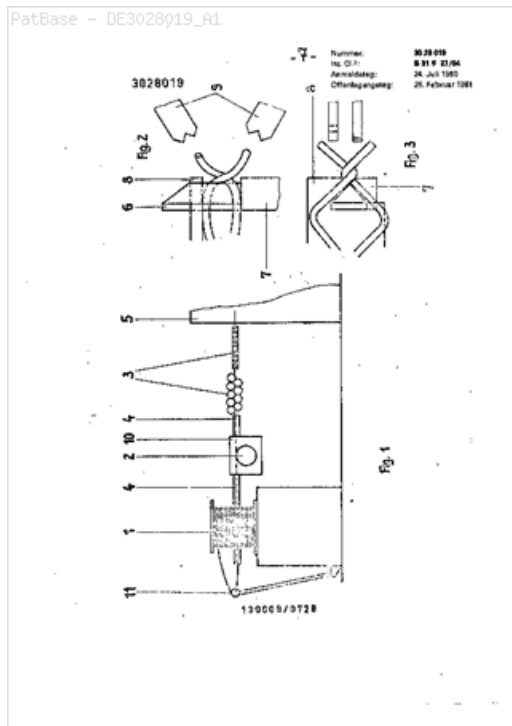
Classifications:

International (IPC 8-9): B21F27/04 (Advanced/Invention);
B21F27/00 (Core/Invention)

International (IPC 1-7): B21F27/04 B21F27/12

CPC: B21F27/04

European: B21F27/04

**Family:**

Publication number	Publication date	Application number	Application date
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DE3028019 A1	19810226	DE19803028019	19800724

Priority:

DD19790214882 19790809

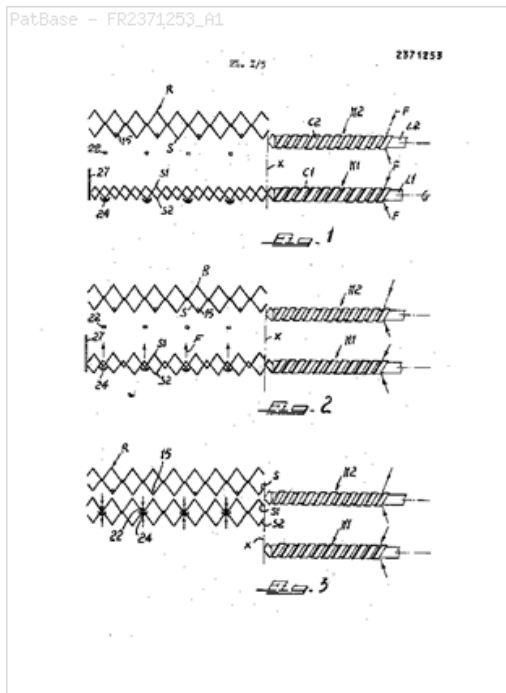
Probable Assignee: THAELMANN SCHWERMASCHBAU VEB**Assignee(s):** (std): THAELMANN SCHWERMASCHBAU VEB ; TOEPEL HARRY ; DRESSLER HELMUT**Assignee(s):** DRESSLER HELMUT DD ; SCHWERMASCHINENBAU ERNST THAELMANN MAGDEBURG DDR 3011 MAGDEBURG VEB ; TOEPEL HARRY DD ; VEB SCHWERMASCHINENBAU KOMBINAT ERNST THAELMANN MAGDEBURG DDR 3011 MAGDEBURG**Inventor(s):** (std): TOEPEL HARRY ; DRESSLER HELMUT**Inventor(s):** TOEPEL HARRY DD ; DRESSLER HELMUT DD**5) Family number: 1449751 (FR2371253A)**

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Title: MACHINE FOR WEAVING WIRE TRELLIS WORK - USES TWO PARALLEL SCREW FLIGHTS EACH PRODUCING INTERLACED DOUBLE WINDINGS

Abstract: The machine is used for weaving wire trellis work and has two screw flights parallel to each other, each producing lengths of interlaced double windings. These enable production to be increased without increasing the operating rate. Each screw flight has a flattened cross section and a suitable pitch groove (M1, M2) along its length. Two wires (F) are wound on, one fed from each side, each coil occupying a separate groove. As the coil lengths are wound off the screw flight, a pusher (22, 24) leads them together. The rotations of the double coils interweave both lengths, these being cut off at the required width.

Classifications:**International (IPC 8-9):** B21F27/04 (Advanced/Invention); B21F27/00 (Core/Invention)**International (IPC 1-7):** B21F27/02 B21F27/04**CPC:** B21F27/04**European:** B21F27/04

**Family:**

Publication number	Publication date	Application number	Application date
BE859955 A	19780215	BE19772056355	19771021
DE2745334 A1	19780427	DE19772745334	19771008
DE2745334 C2	19870409	DE19772745334	19771008
FR2371253 A1	19780616	FR19770032341	19771020
FR2371253 B1	19821126	FR19770032341	19771020
IT1069402 A	19850325	IT19760012856	19761021

Priority:

IT19760012856 19761021

Probable Assignee: ANGELI GIOVANNI T**Assignee(s):** (std): ANGELI GIOVANNI ; ANGELI GIOVANNI T ; ANGELI GIOVANNI TIZIANO ; TIZIANO ANGELI GIOVANNI**Assignee(s):** ANGELI GIOVANNI TIZIANO FAENZA IT**Inventor(s):** (std): ANGELI GIOVANNI TIZIANO**Inventor(s):** ANGELI GIOVANNI TIZIANO FAENZA IT ; TIZIANO ANGELI GIOVANNI**6) Family number: 19861837 (DE505020A)**

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Title: MASCHINE ZUR HERSTELLUNG FLACHER DRAHTSCHRAUBEN GROSSER DRAHTSTAERKE FUER
 VIERECKMASCHENGEFLECHT MACHINE FOR HERSTELLUNG FLAT WIRE SCREW BIG wire gauge FOR SQUARE MESH
 WEAVE (Machine translation)

Abstract: Source: DE505020A [DE] (Claim 1) 1. Maschine zur Herstellung flacher Drahtschrauben grosser Drahtstaerke fuer Viereckmaschengeflecht, dadurch gekenn zeichnet, dass ein in einem ortsfesten Ring (o) drehbar gelagerter Ringkoerper als Fuehrung fuer zwei Klemmbacken(1, h) dient, die durch eine staendig umlaufende, auf einer undrehbaren Achse (k=) gelagerte Scheibe (k) so gesteuert werden, dass sie den schrittweise durch eine schraeg verlaufende Bohrung der Achse zugefuehr ten Draht (c) zeitweise festklemmen, dann mit dem festgeklemmten Drahtstueck eine halbe Umdrehung ausfuehren und da nach den Draht freigel)en, worauf nach Vorschub des Drahtes der Arbeitsgang sich wiederholt. a. Maschine nach Anspruch r, dadurch gekennzeichnet, dass zur Begrenzung des Vorschubes des Drahtes ein verstellbarer Anschlag (e) am Maschinengestell vorge sehen ist, so dass Geflechte verschiedener NTaschemweiten hergestellt werden kdnnen.

Machine translation: (claim 1) 1 Machine for producing flat wire helical large Drahtstaerke for rectangular mesh, characterized in that a stationary in a ring (o) rotatably mounted Ringkoerper as a guide for two clamping jaws (1, h) is defined by a constantly rotating on a non-rotatable axis (k =) loaded siege disc (k) can be controlled so that the step by step through a slanted hole axis zugefuehr th wire (c) temporarily clamp it, execute it with the clamped Drahtstueck half a turn and then after the wire freigel)en, whereupon, after feeding of the wire of the operation is repeated. a machine according to claim r, characterized in that for limiting the advance of the wire, an adjustable stop (s) on the machine frame see provided so that kdnnen braids of different NTaschemweiten be prepared.

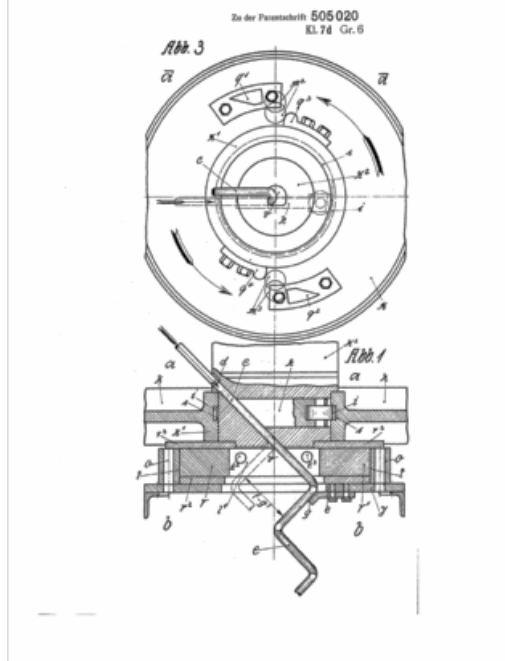
Classifications:

International (IPC 8-9): B21F27/04 (Advanced/Invention);
 B21F27/00 (Core/Invention)

International (IPC 1-7): B21F27/04

CPC: B21F27/04

European: B21F27/04

**Family:**

Publication number	Publication date	Application number	Application date
DE505020 A	19300812	DE1926B127327D	19260912

Priority:

DE1926B127327 19260912 DE1926B127327 19260912

Probable Assignee:

HEINRICH BAX

Assignee(s): (std):

HEINRICH BAX

7) Family number: 29596792 (US6279858B)

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Title: WOVEN WIRE NETTING FOR PROTECTION AGAINST ROCK FALLS OR FOR SECURING A TOP LAYER OF SOIL, AND METHOD AND DEVICE FOR PRODUCING SAME

Abstract: A wire netting, preferably used as a gravel screen or for protecting a soil surface layer is woven from corrosion-resistant wires and either fitted on the soil surface or secured in an almost upright position on a slope or something similar. The wires in the wire netting are manufactured from heavy-duty steel, which has a nominal strength in the region of 1000 to 2200 N/mm² and steel wire may be used for this for stranded wires or spring steel wire. The wire netting is manufactured from rectangular, diagonal netting and it has a three-dimensional, mattress-like structure.

Classifications:

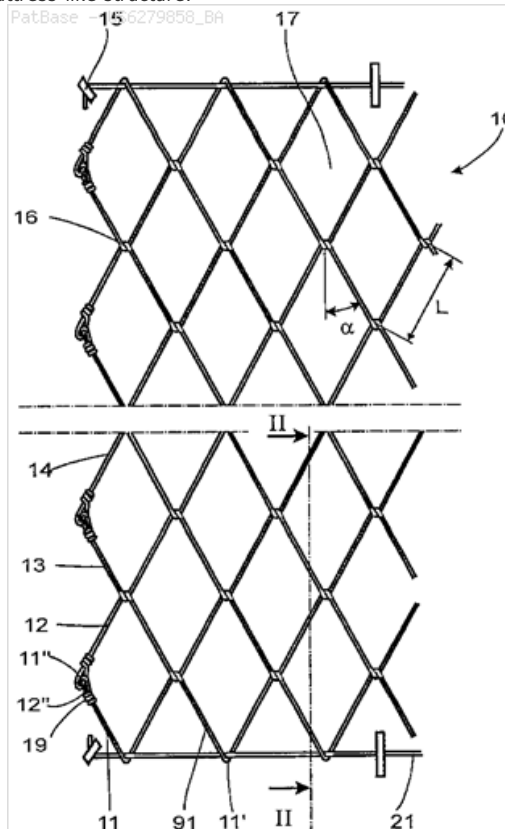
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International (IPC 1-7): B21D11/07 B21F15/00 B21F27/00 B21F27/02 B21J15/02 E01F7/04 E02B17/12 E02D E02D17/20 E21D11/14

CPC: Y02A10/24 E02D17/20 B21D11/07 E01F7/04

European: B21D11/07 E01F7/04 E02D17/20

US: 245/1 245/8 256/12.5 256/13 256/32 256/33 256/34 256/45 256/46 256/47



Family:

Publication number	Publication date	Application number	Application date
AT237717 E	20030515	AT19990900866T	19990202
AU199920442 A1	19990915	AU19990020442	19990202
AU751554 B2	20020822	AU19990020442	19990202
BRPI9904872 A	20000919	BR1999PI04872	19990202
CA2286196 AA	19991008	CA19992286196	19990202
CA2286196 C	20080715	CA19992286196	19990202
CH692921 A	20021213	CH19980000465	19980225
CN1152991 C	20040609	CN19998000172	19990202
CN1256734 A	20000614	CN19998000172	19990202
CZ298951 B6	20080319	CZ19990003752	19990202
CZ9903752 A3	20010214	CZ19990003752	19990202
DE59905038 D1	20030522	DE19995005038	19990202
EP0979329 A1	20000216	EP19990900866	19990202
EP0979329 B1	20030416	EP19990900866	19990202
EP0979329 B2	20091118	EP19990900866	19990202
ES2197601 T3	20040101	ES19990900866T	19990202
ES2197601 T5	20100318	ES19990900866T	19990202
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IL132182 A1	20021201	IL19990132182	19990202
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JP3630693 B2	20050316	JP19990542997T	19990202
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KR100434892 B1	20040607	KR19997009325	19991011
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NZ500062 A	20020531	NZ19990500062	19990202
PL212319 B1	20120928	PL19990336411	19990202
PL336411 A1	20000619	PL19990336411	19990202
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RU2229561 C2	20040527	RU19990124812	19990202
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Priority:

CH19980000465 19980225 CZ19990003752 19990202 JP19990542997 19990202
WO1999CH00044 19990202 JP19990542997T 19990202

Probable Assignee: FATZER AG

Assignee(s): (std): EICHER BERNHARD ; FATZER AG ; FATZER AG ROMANSHORN ; FATZER ROMANSHORN AG

Inventor(s): (std): EICHER BERNHARD ; AJKHER BERNKHARD ; EICHER B ; BERNHARD EICHER ; B EICHER

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; MACRAE AND CO; LUCHS WILLI; DR YITZHAK HESS AND PARTNERS

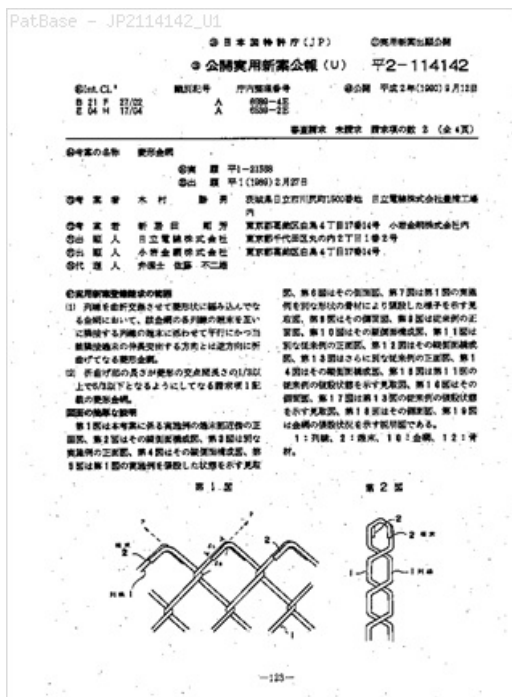
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8) Family number: 31116930 (JP7023072 Y2)

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Classifications:

International (IPC 8-9): B21F27/02 E04H17/04 (Advanced/Invention);
B21F27/00 E04H17/02 (Core/Invention)
International (IPC 1-7): B21F27/02 E04H17/04



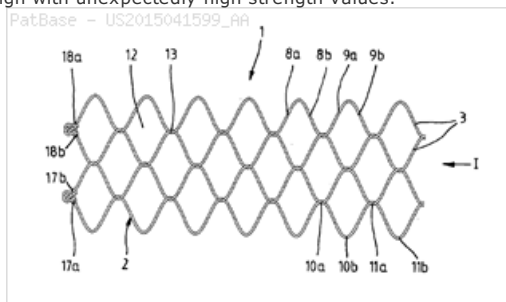
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JP2096895 Y	19961218	JP19890021568U	19890227
JP2114142 U1	19900912	JP19890021568U	19890227
JP7023072 Y2	19950531	JP19890021568U	19890227

JP19890021568U 19890227

Title: NET, IN PARTICULAR FOR PROTECTION, SAFETY, WATER-REARING OR ARCHITECTURAL PURPOSES, AND AN APPARATUS FOR PRODUCING THE NET

Abstract: A net, in particular for protection, safety, water-rearing or architectural purposes, is braided together from individual helically curved longitudinal elements (3) to form a braided structure. Individual longitudinal elements (3) curved into a cylinder or screw shape are twisted one inside the other with adjacent ones and compressed such that the braided structure is in more or less planar sheet-like form and the longitudinal elements (3) here each form more or less rectilinear limbs (8a, 8b; 9a, 9b) and curves (10a, 10b; 11a, 11b) therebetween. The curves (10a, 10b; 11a, 1b) between elongate limbs (8a, 8b; 9a, 9b) are inflected in kink form. This gives a net design with unexpectedly high strength values.

Classifications:
International (IPC 8-9): A01K61/00 A01K75/00 B21F27/00
 B21F27/02 B21F27/04 E01F7/04 E02B3/12
 E04H17/16 (Advanced/Invention);
 A01K61/00 E01F7/04 (Advanced/Non-invention);
 A01K61/00 B21F27/00 E01F7/00 (Core/Invention)
CPC: B21F27/005 B21F27/02 E02B3/124 A01K75/00 B21F27/04
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US: 1/1 245/8



Publication number	Publication date	Application number	Application date
AU2013224385 AA	20130829	AU20130224385	20130222
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW