



(51) International Patent Classification:

E04H 17/16 (2006.01) *E04H 4/06* (2006.01)
E06B 11/02 (2006.01)

(21) International Application Number:

PCT/AU2013/001517

(22) International Filing Date:

23 December 2013 (23.12.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2012905690 24 December 2012 (24.12.2012) AU

(71) Applicant: HUNTER PRODUCTS PTY LTD [AU/AU];
Level 2, 424 Warrigal Road, Moorabbin, VIC 3189 (AU).

(72) Inventors: HUNTER, Jeff; 46 Bay Street, Brighton, VIC
3186 (AU). HUNTER, Luke; 1001/107 Beach Street, Port
Melbourne, VIC 3207 (AU). HUNTER, James; 435
Beach Road, Beaumaris, VIC 3193 (AU).

(74) Agent: WARDEN-HUTTON, Paul, David; Houlihan2,
Level 1, 70 Doncaster Road, Balwyn, North Victoria 3104
(AU).

(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, BN, 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, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: MODULAR FENCE COMPRISING SELF-CLOSING GATE

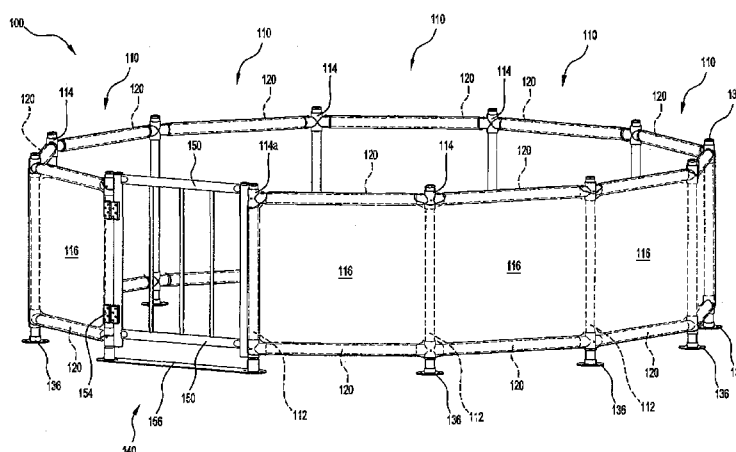


FIG. 9

(57) Abstract: A fence comprising a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section, a self-closing gate section comprising a self-closing manual release mechanism, a gate which swings open and shut to provide access to an interior of an area enclosed by the fence and each of two terminal modular sections on either side of the self-closing gate section comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages is disclosed. The fence may further comprise a brace for ensuring the gate can swing open and shut. The brace may comprise an arch or a support plate extending between the two terminal modular sections on either side of the self-closing gate section. The fence may find application to pools including above-ground pools and may be constructed to comply with Safety Standards.



TITLE

MODULAR FENCE COMPRISING SELF-CLOSING GATE

FIELD

[001] THIS INVENTION described herein relates generally to a modular fence comprising a self closing gate. In particular, the invention is directed to a modular fence comprising a self closing gate and a screen which complies with relevant Safety Standards, although the scope of the invention is not necessarily limited thereto.

BACKGROUND

[002] Above-ground pools can be cost effectively manufactured and installed in a larger number of locations compared to in-ground pools. Additionally, above-ground pools offer other advantages such as, they can be easier to maintain and to clean. Above-ground pools can also be emptied out and stored away to open up space for other activities or play-equipment.

[003] While they offer many advantages, above-ground pools present, like in-ground pools, a drowning hazard. One measure often taken, and legally required in some areas, is to fence the pool.

[004] The proper installation of a fence negates many of the advantages of an above-ground pool. This is also true of other measures required to meet other requirements such as, a minimum distance from climbing points to the fence and from the fence to the above-ground pool.

SUMMARY

[005] The present invention is broadly directed to a modular fence comprising a self closing gate. The present inventors have recognised that the installation of a conventional fence negates many of the advantages of having a pool, in particular an above-ground pool. From their diligent study and their recognition of this problem, the present inventors have provided a modular fence comprising a self-closing gate.

[006] Although the invention finds particular application to a fence for a pool it is not restricted to that application and may also find application to fencing of other areas such as, play areas for a child or pet, garden, grassed areas or any site where fencing is required such as, a building site or crowd control area.

[007] A preferred advantage of the invention is that it provides a safe and cost-effective fence for a pool. Another preferred advantage of the invention is that the fence complies

with standards and laws for a pool fence.

[008] In one aspect, there is provided a fence comprising:

a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section;

a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide access to an interior of an area enclosed by the fence; and

each of two terminal modular sections on either side of the self-closing gate section comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages.

[009] In a second aspect the invention provides a kit comprising the modular fence of the first aspect and may optionally further comprise one or more of a pool cover, one or more anchor for securing to the attachment point and the ground, an anchoring band and/or an above ground pool.

[010] In a third aspect the invention provides a method of fencing an area comprising installing the fence of the first aspect around the area to be fenced.

[011] In a fourth aspect the invention provides a method of assembling a fence comprising:

joining a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section, each of two terminal modular sections comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages; and

joining to the two terminal modular sections a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide access to an interior of an area enclosed by the fence, to thereby assemble the fence.

[012] In a fifth aspect the invention provides a method of fencing an area comprising:

joining a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section, each of two terminal modular sections comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages; and

joining to the plurality of modular sections a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide

access to an interior of an area enclosed by the fence, to thereby fence the area.

[013] According to any one of the above aspects the fence may comprise a brace for ensuring the gate can swing open and shut. The brace may comprise an arch or a support plate extending between the two terminal modular sections on either side of the self-closing gate section.

[014] The arch may comprise two arch uprights and an arch brace.

[015] In embodiments comprising an arch, each of the terminal modular sections may comprise a gate arch linkage.

[016] The support plate may comprise an elongate body and a reinforced connection at either end for secure attachment to the terminal modular sections.

[017] The support plate may be weighted.

[018] According to any one of the above aspects the one or more anchor points on the terminal modular sections may be comprised on a footing of the one or more support strut.

[019] According to any one of the above aspects the one or more anchor points on the terminal modular sections may be comprised on the support plate.

[020] In one embodiment the reinforced connections comprise an elongated connection for joining to one or both of the terminal modular sections.

[021] The elongated connection may comprise an elongated male female connection.

[022] The elongated female connection may comprise a length greater than 50 mm; greater than or equal to 55mm; greater than or equal to 60 mm; greater than or equal to 65 mm; or greater than or equal to 70mm.

[023] According to any one of the above aspects each modular section comprises one or more reinforced connection between a support strut and a footing.

[024] According to any one of the above aspects one or more of the linkages comprises a reinforced connection.

[025] In a particular embodiment of any above aspect, a manual release mechanism is comprised on self-closing gate section or a part thereof in a position which complies with a relevant safety standard.

[026] According to this particular embodiment, the fence may be packaged unassembled with the manual release mechanism installed in the safety standard compliant position or there may be one or more marking or connection comprised on self-closing gate section for installation of manual release mechanism in the safety standard compliant position.

[027] According to any one of the above aspects, each modular section may comprise an individual modular screen.

[028] According to any one of the above aspects the screen covering the modular sections may comprise a one-piece screen for covering each modular section of the plurality of modular sections.

[029] According to any of the above aspects the screen may be any suitable material such as, a lattice, film or a mesh.

[030] According to any one of the above aspects the film may comprise a plastic film and fibreglass mesh.

[031] According to any one of the above aspects the screen may be secured to the modular sections by one or more peg or pin.

[032] Each of the one or more peg or pin may be secured by an interference fit or by a screw-in thread.

[033] In one embodiment of any above aspect the self-closing gate-section also comprises a barrier. In a preferred embodiment the self-closing gate-section barrier comprises a solid panel.

[034] According to any of the above aspects one or more, or each, non-terminal modular section may also comprise one or more anchor points.

[035] According to any one of the above aspects, each modular section may also comprise one or more side strut which connects to a section linkage.

[036] According to any of the above aspects the fence may be for a pool such as, an above-ground pool or an in-ground pool.

[037] According to any of the above aspects the fence may be for a child or pet play area.

[038] According to any of the above aspects the fence may be for grass, a plant, tree or garden.

[039] According to any of the above aspects two or more opposing modular sections may also comprise one or more attachment point for an anchoring band.

[040] According to any of the above aspects the anchoring band may traverse the assembled modular fence diameter to attach to opposing modular sections and be positioned under a pool surrounded by the assembled modular fence.

[041] According to any of the above aspects when assembled the modular fence may comprise any shape including, circular, oval, quadrilateral, pentagonal, hexagonal,

dodecagonal or other polygonal shape of three or more sides.

[042] According to any of the above aspects the one or more support strut, section linkages, screen and side struts may be comprised of a plastic material.

[043] According to any of the above aspects the one or more support struts, section linkages and side struts may be comprised of a metal or metal alloy such as, steel.

[044] According to any of the above aspects the one or more section linkages may comprise two or more intersection linkages or a plurality of section linkages.

[045] According to any of the above aspects the self-closing gate section may also comprise one or more of: one or more hinge; one or more gate section support strut; and one or more gate section side struts.

[046] As used herein, except where the context requires otherwise, the term “comprise” and variations of the term, such as “comprising”, “comprises” and “comprised”, are not intended to exclude further additives, components, integers or steps.

BRIEF DESCRIPTION OF THE DRAWINGS

[047] In order that the present invention may be readily understood and put into practical effect, reference will now be made to the accompanying illustrations, wherein like reference numerals refer to like features and wherein:

[048] FIG. 1 shows a first embodiment of a fence according to the invention.

[049] FIG. 2 shows from inside the fence, a perspective view of part of a fence according to the first embodiment.

[050] FIG. 3 shows from outside the fence, adjoining modular sections according to the first embodiment of the invention.

[051] FIG. 4 shows a top linkage of two modular sections according to first embodiment of the invention.

[052] FIG. 5 shows a bottom linkage of two modular sections according to the first embodiment of the invention.

[053] FIGS. 6-7 show outside and inside views, respectively, of a self-closing gate section according to the first embodiment of the invention.

[054] FIG. 8 shows one embodiment of a hinge for use with the fence according to one embodiment of the invention.

[055] FIG. 9 shows a fence according to a second embodiment of the invention.

[056] FIG. 10 shows, from inside the fence, a perspective view of adjoining sections of a

fence according to the second embodiment of the invention.

[057] FIG. 11 shows, from outside the fence, adjoining sections according to the second embodiment of the invention.

[058] FIG. 12 shows, from outside the fence, a perspective view of a gate section according to the second embodiment of the invention.

[059] FIG. 13 shows, from inside the fence, a perspective view of a gate section showing a manual release mechanism according to the second embodiment of the invention.

[060] FIG. 14 shows a hinge according to the second embodiment of the invention.

[061] FIG. 15 shows a peg according to the second embodiment of the invention.

DETAILED DESCRIPTION

[062] Recognising the problem that exists in providing cost-effective fences, the inventors have produced a modular fence that is cost-effective and easily installed and removed. Further, as exemplified herein, the modular fence comprises a self-closing gate to advantageously provide access and also secure the fenced area.

[063] Although the invention will be described with reference to a pool fence, the fence of the invention finds broad application to all areas that may be fenced. Other examples include play areas for children or pets, garden or grassed areas or any site where fencing is required such as, a building site or crowd control area. A crowd control area is one in which a crowd gathers or is expected to gather, such as, a concert, festival or other entertainment or sporting event.

[064] As used herein "ground" refers to the surface on which the fence is installed and encompasses surfaces such as grassed, concreted, paved, timber decked and gravel surfaces.

[065] FIGS. 1-8 show a first embodiment of a fence 100 comprising a plurality of modular sections 110 and a self-closing gate section 140.

[066] As shown in FIGS. 1-3 and 5 each modular section 110 comprises a support strut 112, a plurality of linkages 114 and a screen 116 covering the modular section 110.

[067] In the embodiment shown in FIGS. 1-8, strut 112 is linear and is installed perpendicular to the ground. From the teaching herein a skilled person is readily able to select a suitable length and shape for support strut 112.

[068] In the embodiment shown in FIGS. 1-8, each modular section 110 also comprises several anchor points 118 which are used to secure support struts 112 to the ground. A peg, bolt or other fastener (not shown) may secure to anchor points 118 on footing 136 which is

comprised on support struts 111. FIGS. 1-8 show each support strut 110 to comprise four anchor points. In other embodiments each support strut 110 comprising anchor points 118 may comprise one, two, three, five, six or more anchor points.

[069] In the embodiment shown in FIGS. 1-8, each linkage 114 comprises a three-way connector which may be referred to as a T-connector or a Y-connector. Each linkage 114 joins one support strut 112 to two side struts 120, one either side of strut 112.

[070] FIG.2 shows a view from inside fence 100 and shows that in this embodiment, lattice 116 is mounted on the outside surface of support struts 112.

[071] Screen 116 is shown to be comprised of a one-piece lattice which covers all modular sections 110. In another embodiment each modular section 110 comprises an individual piece of lattice 116.

[072] The two adjoining modular sections 110 shown in full in FIG. 2 share a common support strut 112. Terminal modular sections 110, adjacent gate section 140, share one support strut 112 with neighbouring non-terminal modular sections 110 and comprise a terminal support strut 112 immediately adjacent to gate section 140.

[073] In the embodiment shown in FIGS. 1-8, screen 116 is a lattice. In other embodiments screen 116 may be comprised of a mesh or film. Importantly, to comply with pool safety standards screen 116 is robust enough to prevent penetration by a child.

[074] From FIG. 2 it can also be seen that each linkage 114 may comprise a linkage cap 134 for safety and aesthetic purposes.

[075] FIG. 3 is a partial cut-away view showing sections 110 of fence 100 with and without screen 116.

[076] The embodiment shown in FIGS. 1-3 show support struts 112 to connect at the top and bottom to linkages 114 and to side struts 120.

[077] While the embodiment of FIGS. 1-8 shows each modular section 110 to comprise two linkages 114, one top and one bottom, other embodiments may comprise a different number of linkages 114. From the teaching herein, a skilled person is readily able to select an appropriate number of struts 110, 120 and linkages 114 to construct the desired fence shape.

[078] FIG. 4 shows a portion of the material used for the screen 116 and support strut 112 in isolation as well as the connection of support strut 112, linkage 114 and top side struts 120.

[079] FIG. 5 shows connection of support strut 112, linkage 114 and bottom side struts 120.

[080] In other embodiments support strut 112 may only connect to one of a top or bottom support strut 112.

[081] Fence 100 may also comprise band attachment points 122 (not shown) on opposing modular sections for attachment of an anchoring band (not shown). The anchoring band may traverse the assembled modular fence diameter to attach to the opposing modular sections and be positioned under the pool to further secure fence 100.

[082] FIGS. 6-8 show self-closing gate section 140 comprising a self-closing manual release mechanism 142 and gate 144 joined to two terminal modular sections 110. The modular sections 110 that join to self-closing gate section 140 effectively end the chain of modular sections 110 and are therefore called terminal modular sections 110.

[083] While mechanism 142 is described as being comprised on gate section 140, the skilled person will understand that one of the terminal modular sections 110 must comprise a component for mechanism 142 to engage with.

[084] In order to provide a secure fence 100 and to ensure gate 144 can swing open and shut, terminal struts 112, comprised on terminal modular section 110 and immediately adjacent gate section 140, comprise one or more anchor points 146 for secure attachment to the ground. In this manner, one or more anchor points 146 on terminal modular sections 110 are compulsory. This distinguishes anchor points 146 from anchor points 118 which may not be present on each and every non-terminal modular section 110.

[085] In this first illustrated embodiment, arch 126 also serves to space apart terminal modular sections 110 so that gate 144 can swing open and shut. Arch 126 is joined to the terminal modular sections by arch connections 124 which also join terminal support strut 112 to a top side strut 120.

[086] Arch 126 comprises arch uprights 128 and arch brace 130 to ensure terminal modular sections 110 remain sufficiently spaced apart to allow gate 144 to swing open and shut and to allow a person to walk through the gateway.

[087] Self-closing gate section 140 also comprises hinges 154 to attach to one of the terminal modular sections 110. Hinges 154 are secured on one of the terminal support struts immediately adjacent to self-closing gate section 140 on one of the terminal modular sections 110 and to one of the gate section support struts 148.

[088] Hinges 154 are tension hinges which self-close gate 144 so self closing manual release mechanism 142 is engaged to prevent gate 144 opening without manual operation of mechanism 142. In other embodiments, the self-closing action may be due to another bias, such as a spring secured to the gate 144 and to a terminal modular section 110.

[089] On the other gate section support strut 148 the handle of self-closing manual release mechanism 142 is disposed to engage with the adjacent terminal modular section 110 when in a closed state. In the embodiment of FIGS. 1-8, manual release mechanism 148 is a conventional top-pull latch, which may be opened by pulling part of mechanism 148 upwards.

[090] To make gate section 140 impenetrable so as to comply with, for example Pool Fencing Safety Standards, gate 144 comprises a gate section screen 152. In the embodiment shown screen 152 comprises a plurality of ribs 153.

[091] Supporting screen 152, gate 144 further comprises gate section support struts 148 and gate section side struts 150.

[092] In the embodiment shown both terminal modular sections 110 comprise four anchor points 146. In other embodiments each terminal support strut 110 comprising anchor points 146 may comprise one, two, three, five, six or more anchor points.

[093] FIGS. 6-8 also show terminal modular sections 110 to comprise a terminal linkage 114a which joins terminal support strut 112 to a single side strut 120.

[094] FIG. 8 shows screen 116 attached to an intersection linkage by a peg or pin 132 inserted through an attachment point on screen 116 and into a side strut 120 and secured by an interference fit. In other embodiments screen 116 may be an integral moulded part of modular section 110 or may be attached by an alternate fastener such as, one or more bolt, screw or tie.

[095] In this first illustrated embodiment shown in FIGS. 1-8, support struts 112, linkages 114, 114a, 124, side struts 120, screen 116, arch 126, peg or pin 132, footing 136 and gate 144 are comprised of polyvinyl chloride. Based on the teachings herein a skilled person is readily able to select other suitable materials such as other polymeric materials such as polypropylene and polyethylene.

[096] FIGS. 9-15 show a second embodiment of a fence 100 according to the invention.

[097] From FIGS. 9-11 it can be seen that screen 116 in the second embodiment comprises a one-piece screen 116 that is secured onto each modular section using pegs or

pins 132.

[098] The one-piece screen 116 shown in this second embodiment comprises a film. The film is a polymeric film comprising a fibreglass mesh. The particular film used in this second embodiment comprises a heavy duty polyvinyl chloride (PVC) coated mesh. Although not transparent in this embodiment, in other embodiments one-piece screen may be transparent or partially transparent.

[099] FIGS. 10 and 11 show partial cut away views of fence 100 of the second embodiment with part of screen 116 omitted to show the connection to modular sections 110. The top and bottom side struts 120 of each modular section 110 are received in top and bottom channels of screen 116. Screen 116 can be shaped and sized to any shape or size fence 100 to be constructed.

[0100] Rather than, or in addition to, these channels, in other embodiments one-piece screen 116 may further comprise another type of fastener such as, a hook and loop fastener to allow one-piece screen 116 to be wrapped around the top 120 and, optionally, bottom side struts 120.

[0101] In this second embodiment one-piece screen 116 is shown attached to each modular section 110. If an appropriately secure attachment is possible, one-piece screen does not have to be attached to each modular section 110.

[0102] Returning to FIG. 9, rather than a brace comprising an arch 126, fence 100 of the second embodiment comprises a brace comprising a support plate 156.

[0103] Support plate 156 extends along the ground between the two terminal support struts 112 to securely space terminal support struts 112 apart so gate 144 can swing open and shut.

[0104] The attachment of support plate 156 to terminal modular sections 110 can be best seen in FIG. 12, which shows the elongate body of support plate 156 comprising a reinforced connection 158 at each end. Reinforced connection 158 comprises an elongated female connection 160. Elongated female connection 160 comprises a length of 70 mm. In other embodiments, the length of the elongate female connection 158 comprises greater than 50 mm; greater than or equal to 55 mm; greater than or equal to 60 mm; greater than or equal to 65 mm or greater than or equal to 70 mm. Connection 158 is reinforced to provide a more secure fit and to ensure self-closing gate section 140 will not topple over during use.

[0105] In another embodiment, the reinforced female connection 160 may be comprised on

terminal support struts 112 which mate with support plate 156. In which case support plate 156 will comprise a reinforced or elongated male connection.

[0106] In still other embodiments, other types of reinforced connection 158 are present, instead of, or in addition to the reinforced male-female connection such as, a series of fasteners on different points along the length of the mating support strut 112.

[0107] In yet another embodiment, one or more of the following connectors also comprises such a dimensioned reinforced connection: linkages 114, 114a, 124 and the connection between support struts 112 and footing 136. In a preferred embodiment, all connections comprised in fence 100 comprise such a dimensioned reinforced connection.

[0108] Although not shown, in other embodiments support plate 156 may be weighted. The weighting may comprise constructing support plate of a heavy material or increasing the thickness to thereby increase the weight. Alternatively, support plate 156 may be hollow to allow filling, and thereby weighting, with a weighting material such as, sand and/or water.

[0109] The inventors also envisage an embodiment in which support plate 156 is integral with terminal support struts 112. However, the integral arrangement is not suited to compact packing and shipping. The integral support plate 156 – terminal support strut 112 arrangement may be formed by joining these two components together or by forming them integrally. The joining may be by welding, gluing or other suitable.

[0110] FIGS. 9 and 12 show gate section screen 152 to comprise the additional feature of a gate section barrier 162 which in this embodiment comprises a solid panel comprised of poly (methylmethacrylate) (PMMA). In other embodiments other materials may be used, however it is to be understood that transparent or partially transparent polymeric panels are advantageous in terms of visibility.

[0111] Barrier 162 is attached to gate 144 by gate section barrier connector 164 which comprises gate section barrier receiving plate 166 disposed on support struts 148 in which receiving plate orifice 168 (not shown) is positioned for receiving gate section barrier fastener 170. Fastener 170 comprises a bolt. In other embodiments, other types of fasteners may be utilised such as, one or more screw, tie, clamp or latch.

[0112] While manual release mechanism 142 can only be partially seen from the outside view of self-closing gate section 140 shown in FIG. 12, the inside view of FIG. 13 shows manual release mechanism 142 clearly. In this embodiment, manual release mechanism 142 comprises a side pull latch located on the inside of gate section 140.

[0113] FIG. 14 shows hinges 154 which in the second embodiment also comprise tension hinges which act to self-close gate 100 as described with reference to the first embodiment.

[0114] FIG. 15 shows peg or pin 132 ready for insertion into connector 114. Although not described with reference to the first embodiment, peg or pin 132 shown in FIG. 15 also comprises a peg shaft 132a, peg tip 132b and peg head 132c. Unlike, the first embodiment, in this second embodiment peg or pin 132 comprises a screw-in thread (not shown) and tool engaging surface 132d so that a screw driver may be used to secure peg or pin 132 in fence 100. Peg or pin 132 of the second embodiment also comprises a skirt 132a for safety and aesthetic reasons.

[0115] Peg or pin 132 is shown to be received in linkage 114. In other embodiments, peg or pin 132 may be received in side struts 120 or support struts 112.

[0116] In the second embodiment, support struts 112, linkages 114, 114a, 124, side struts 120, screen 116, support plate 156, footing 136 and gate 144 are comprised of steel. The inventor has found that manufacture of fence 100 from steel is more cost-effective than using polymeric materials.

[0117] In the second embodiment pegs or pins 132 are comprised of polymeric material. In other embodiments pegs or pins 132 are comprised of a metal or metal alloy, however it is desirable skirt 132 is comprised of polymeric or similarly pliant material.

[0118] Fence 100 has a circular shape in the first embodiment and a dodecagonal shape in the second embodiment. In other embodiments when assembled the modular fence 100 may comprise any shape including, circular, oval, quadrilateral or other polygonal shape of three or more sides. From the teachings herein a skilled person is readily able to shape struts 112, 120, linkages 114, 114a, 124, screen 116, arch 126, support plate 156 and if required the components of self-closing gate section 140 to achieve a desired shape.

[0119] Fence 100 is shown to have one side entirely made up by gate section 140. In other embodiments, gate section 140 comprises only part of a side of gate 100 with the remainder of that side comprising one or two terminal modular sections 110.

[0120] The inventors have also provided a kit which comprises modular fence 100 and which may optionally further comprise one or more of a pool cover, one or more anchor for securing to the attachment point and the ground, the anchoring band and/or an above ground pool.

[0121] The invention also provides a method of fencing an area comprising installing fence

100 around an area to be fenced. Fence 100 may be for a pool such as, an above-ground pool or an in-ground pool. Fence 100 when used to fence such a pool has particular advantages as it complies with the strict safety standards that are required by law in countries such, as Australia.

[0122] Fence 100 is preferably constructed to comply with relevant Safety Standards. For example, fence 100 may be constructed to comply with Australian Safety Standards, under which modular sections 110 and self-closing gate section 140 comprise a minimum height of 1.2 metres. Additionally, self-closing gate section 140 is outward opening, self-closing from any position and won't reopen unless the manual release mechanism 142 is operated. Manual release mechanism 142 may be positioned 1.5 metres above the ground or be positioned inside fence 100, can only be reached over or through fence 100, is 150 mm below the top of fence 100 (no hand holes), or at least 150 mm away from the edge of any hand hole opening. Fence 100 may also comprise no hand hole lower than 1.2 metres above the ground.

[0123] In this preferable embodiment of the invention, fence 100 may be packaged and sold with self closing manual release mechanism 142 installed in that position or there may be one or more marking or connection comprised on self-closing gate section 140 and/or one or both terminal modular sections 110 for installation of self closing manual release mechanism 142 during assembly. The one or more marking or connection may comprise one or more receiving hole for attachment of self closing manual release mechanism 142.

[0124] From the teaching herein a skilled person is readily able to select a suitable self closing manual release mechanism 142 including suitable top pull latches and side-pull latches. Although not shown, manual release mechanism 142 may comprise a lock. The teaching herein is also sufficient for a skilled person to safely position manual release mechanism 142 to comply with relevant Safety Standards.

[0125] From a disassembled state, fence 100 may be assembled by joining a plurality modular sections 110 and self-closing gate section 140 to thereby fence the area to be fenced. The various modular sections 110 and gate section 140 may themselves be assembled from components described herein.

[0126] Fence 100 is not limited to this application however, and may be applied to fence a child or pet play area or a grassed area, a plant, tree or garden.

[0127] Throughout the specification the aim has been to describe the preferred

embodiments of the invention without limiting the invention to any one embodiment or specific collection of features. It will therefore be appreciated by those of skill in the art that, in light of the instant disclosure, various modifications and changes can be made in the particular embodiments exemplified without departing from the scope of the present invention.

CLAIMS

1. A fence comprising:
 - a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section;
 - a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide access to an interior of an area enclosed by the fence; and
 - each of two terminal modular sections on either side of the self-closing gate section comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages.
2. The fence of claim 1 further comprising a brace for ensuring the gate can swing open and shut.
3. The fence of claim 2 wherein the brace comprises an arch or a support plate extending between the two terminal modular sections on either side of the self-closing gate section.
4. The fence of claim 3 wherein the brace comprises a support plate comprising an elongate body and a reinforced connection at either end for secure attachment to the terminal modular sections.
5. The fence of any one of the preceding claims further comprising a manual release mechanism comprised on self-closing gate section or a part thereof in a position which complies with a relevant safety standard.
6. The fence of claim 5 wherein the fence may be packaged unassembled with the manual release mechanism installed in the safety standard compliant position or there may be one or more marking or connection comprised on self-closing gate section for installation of manual release mechanism in the safety standard compliant position.
7. A method of assembling a fence comprising:
 - joining a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section, each of two terminal modular sections comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages; and
 - joining to the two terminal modular sections a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide

access to an interior of an area enclosed by the fence, to thereby assemble the fence.

8. The method of claim 7 further comprising joining a brace for ensuring the gate can swing open and shut to the two terminal modular sections.

9. The method of claim 8 wherein the brace comprises an arch or a support plate extending between the two terminal modular sections on either side of the self-closing gate section.

10. The method of claim 9 wherein the brace comprises a support plate comprising an elongate body and a reinforced connection at either end for secure attachment to the terminal modular sections.

11. The method of any one of claims 7 to 10 further comprising a manual release mechanism comprised on self-closing gate section or a part thereof in a position which complies with a relevant safety standard.

12. The method of claim 11 further comprising attaching the manual release mechanism in the safety standard compliant position using one or more marking or connection comprised on self-closing gate section.

13. A method of fencing an area comprising:

joining a plurality of modular sections, each modular section comprising one or more support struts, one or more section linkages and a screen covering the modular section, each of two terminal modular sections comprising one or more anchor points for secure attachment to the ground and one or more terminal linkages; and

joining to the plurality of modular sections a self-closing gate section comprising a self-closing manual release mechanism and a gate which swings open and shut to provide access to an interior of an area enclosed by the fence, to thereby fence the area.

14. The method of claim 13 further comprising joining a brace for ensuring the gate can swing open and shut to the two terminal modular sections.

15. The method of claim 14 wherein the brace comprises an arch or a support plate extending between the two terminal modular sections on either side of the self-closing gate section.

16. The method of claim 15 wherein the brace comprises a support plate comprising an elongate body and a reinforced connection at either end for secure attachment to the terminal modular sections.

17. The method of any one of claims 13 to 16 further comprising a manual release

mechanism comprised on self-closing gate section or a part thereof in a position which complies with a relevant safety standard.

18. The method of claim 17 further comprising attaching the manual release mechanism in the safety standard compliant position using one or more marking or connection comprised on self-closing gate section.

19. A kit comprising the modular fence of any one of claims 1 to 6 and optionally further comprising one or more of: a pool cover; one or more anchor for securing to the attachment point and the ground; an anchoring band; and/or an above ground pool.

20. A method of fencing an area comprising installing the fence of the claim 1 around the area to be fenced.

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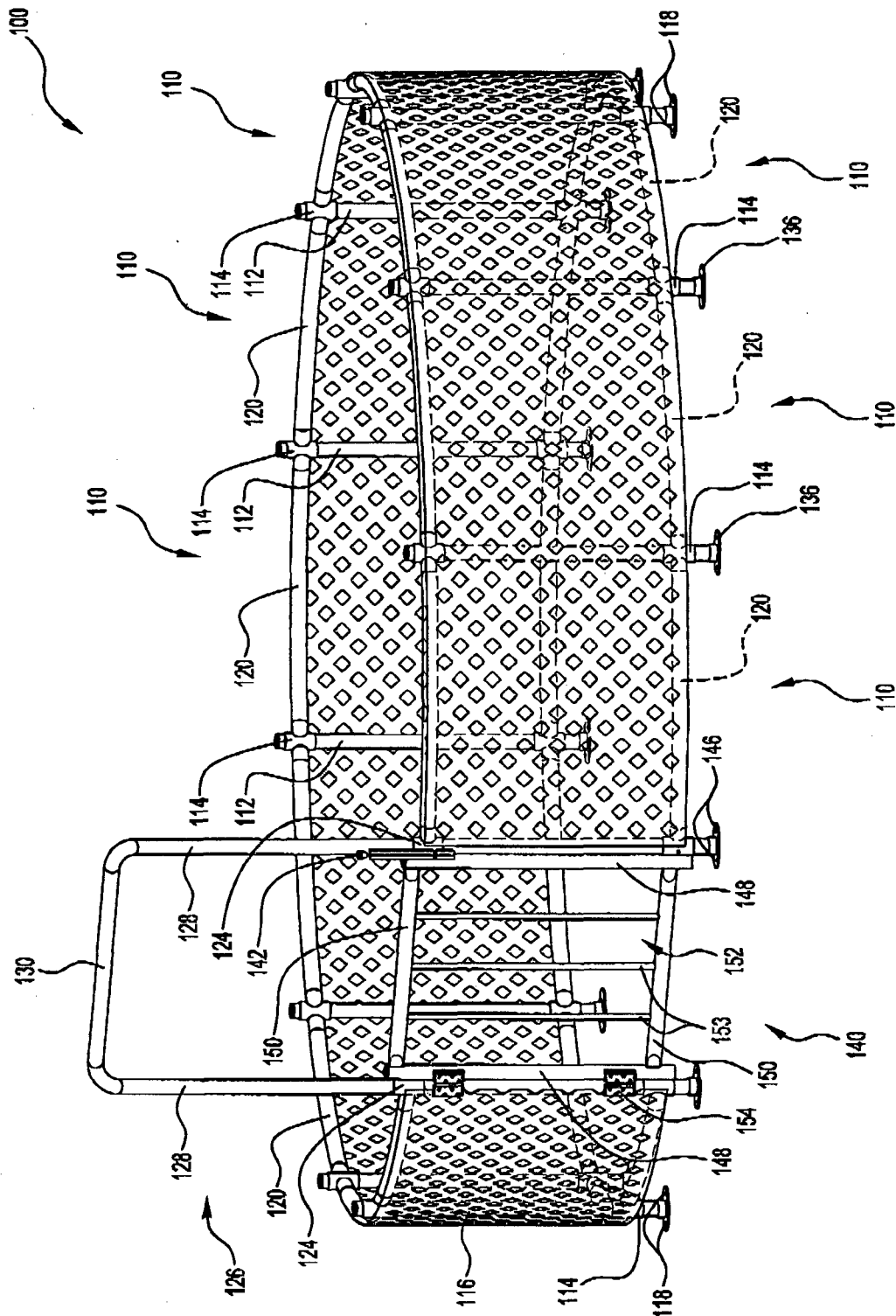


FIG. 1

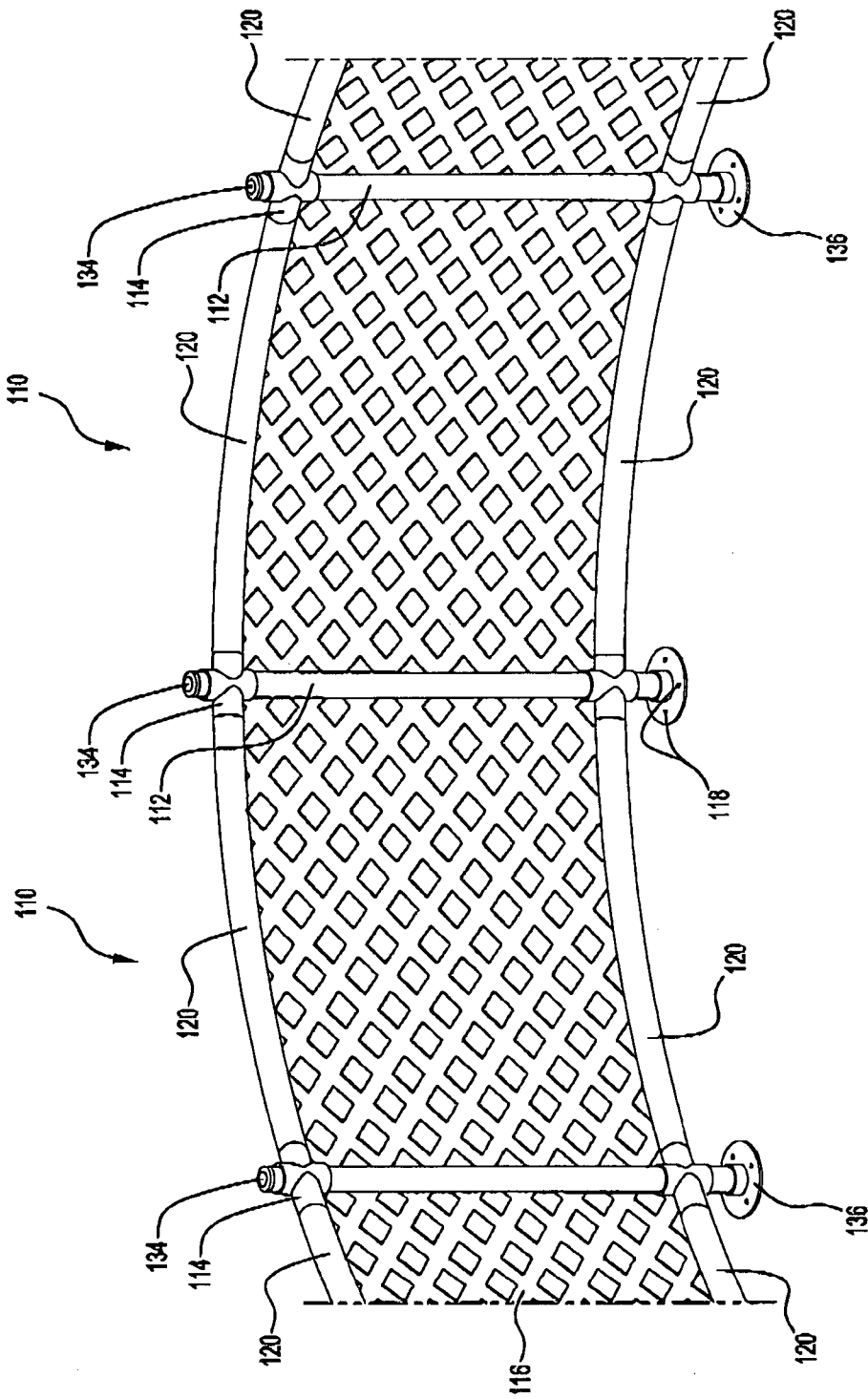


FIG. 2

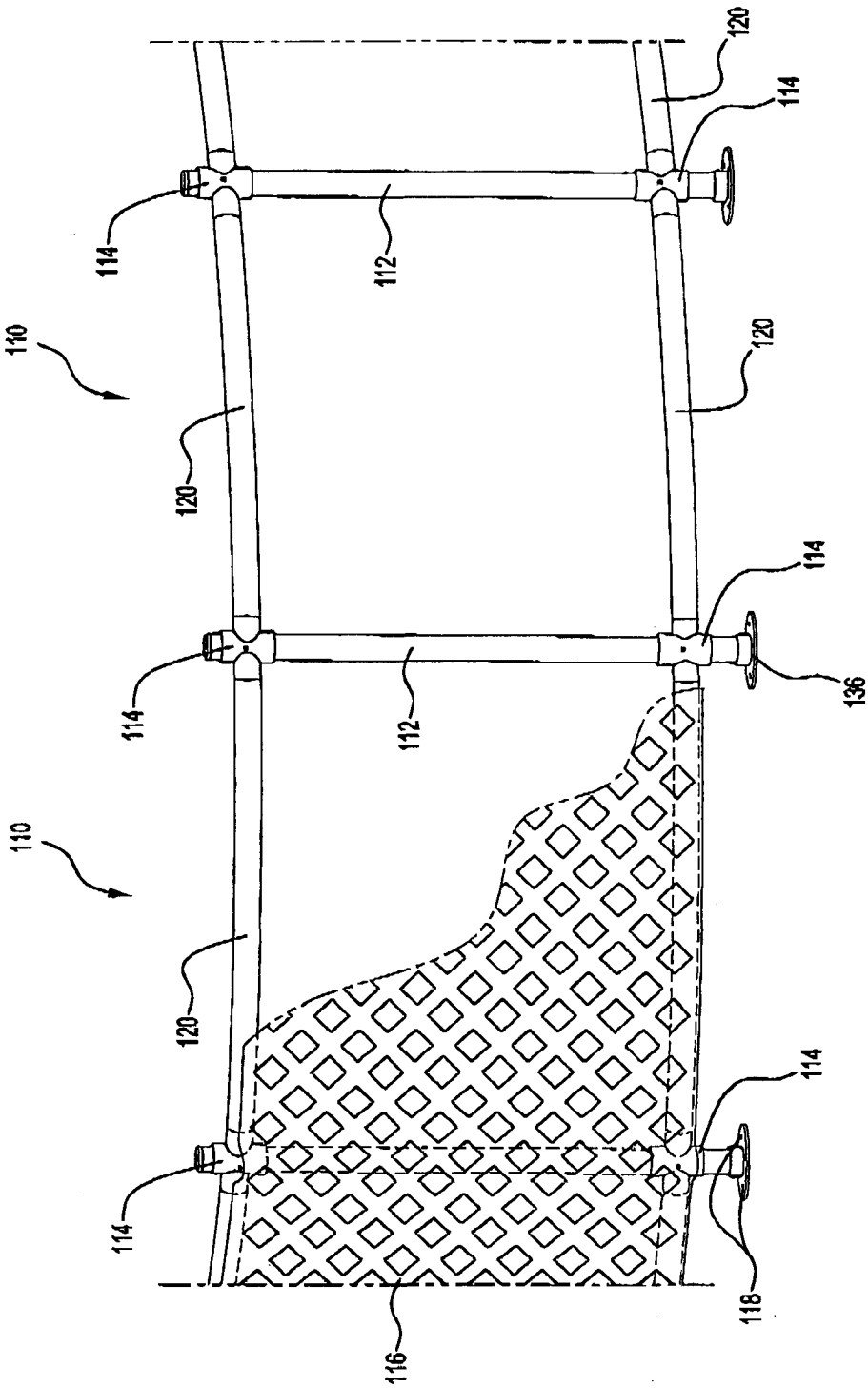


FIG. 3

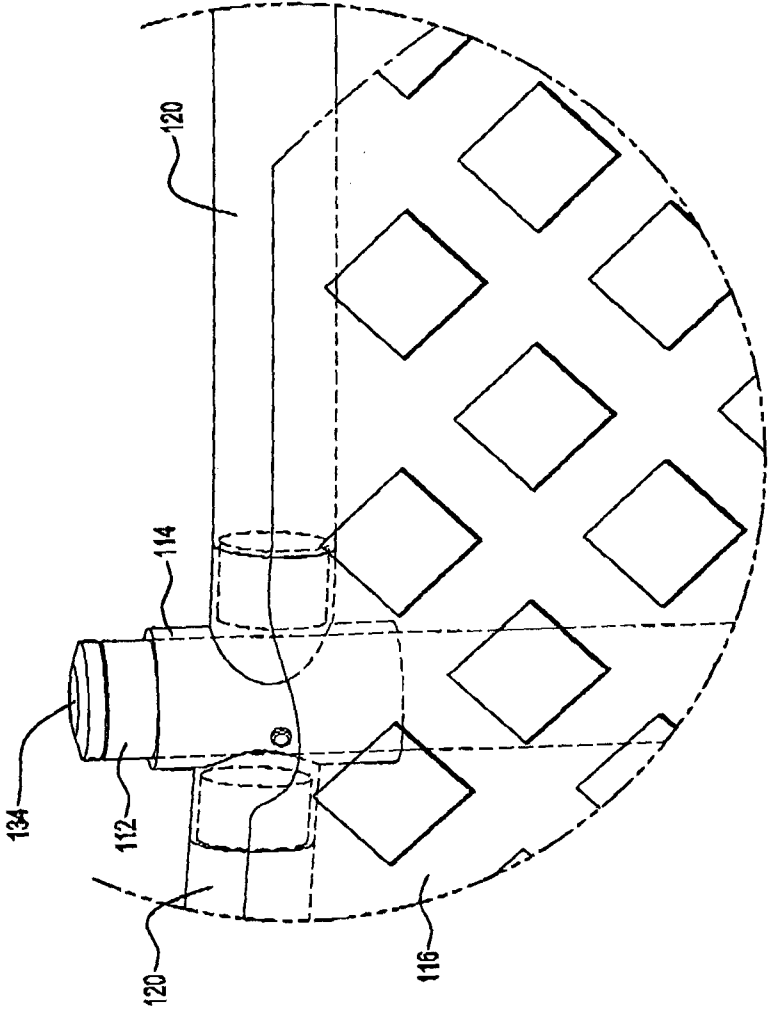


FIG. 4

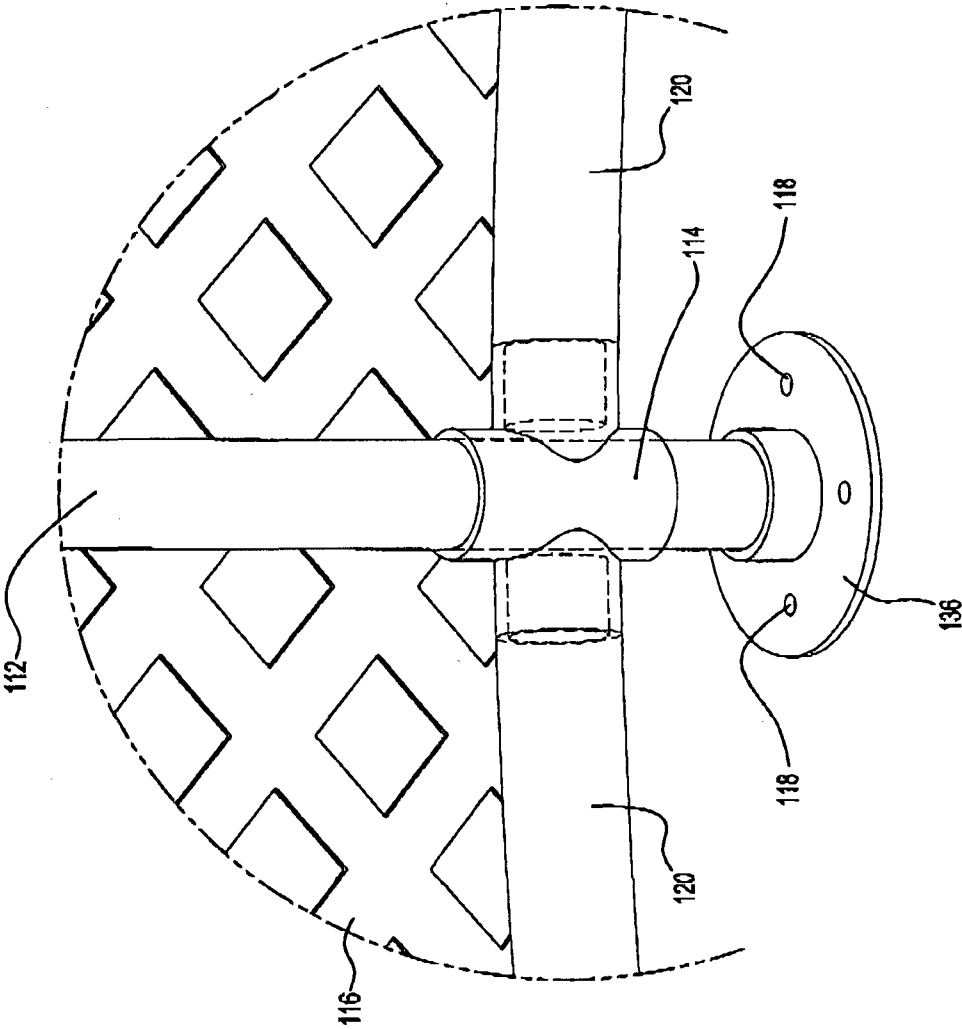


FIG. 5

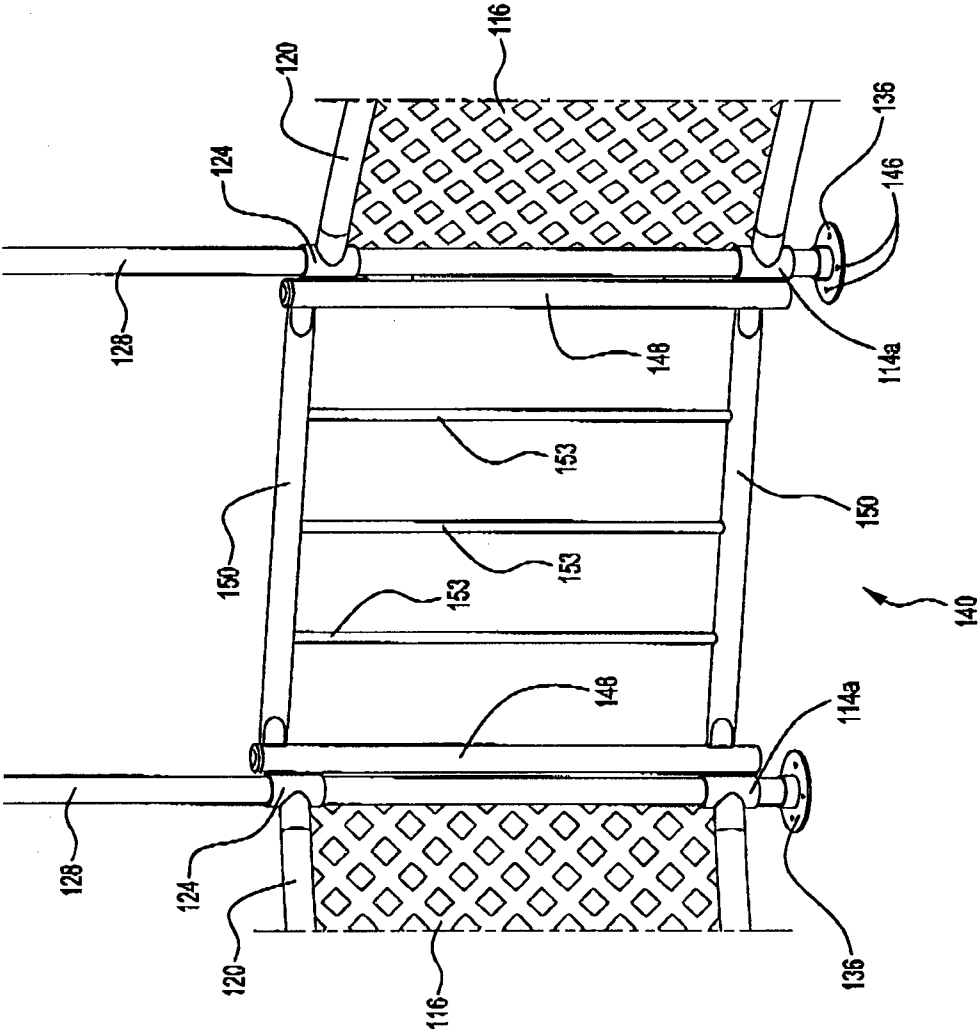


FIG. 7

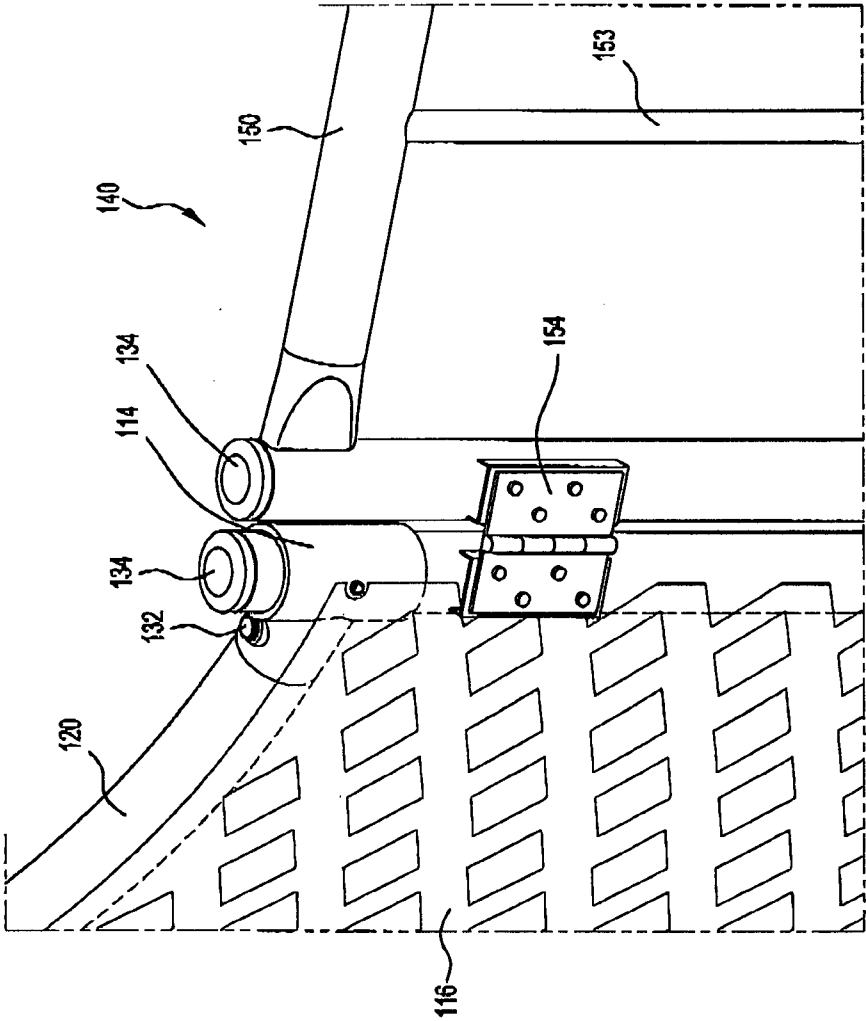
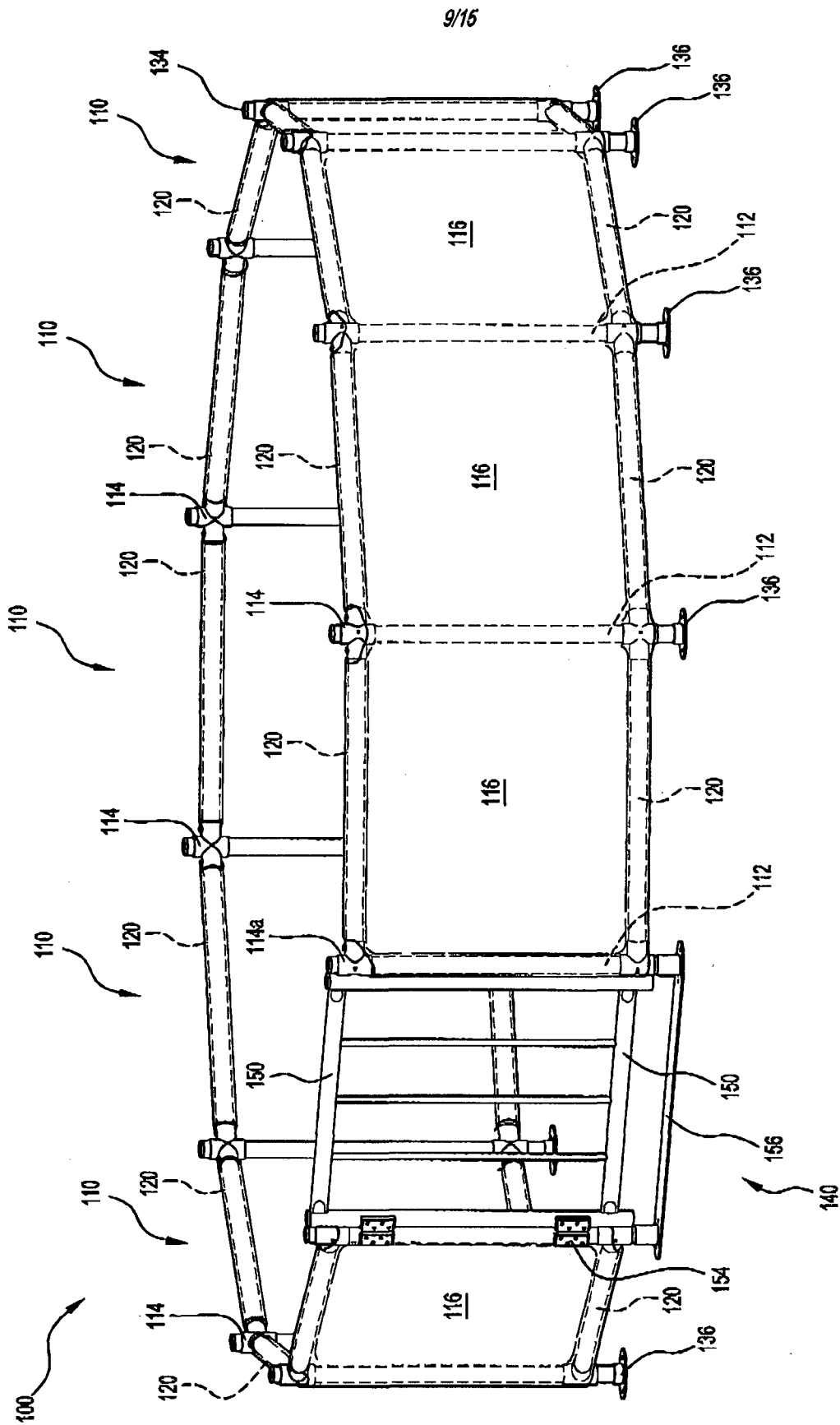


FIG. 8



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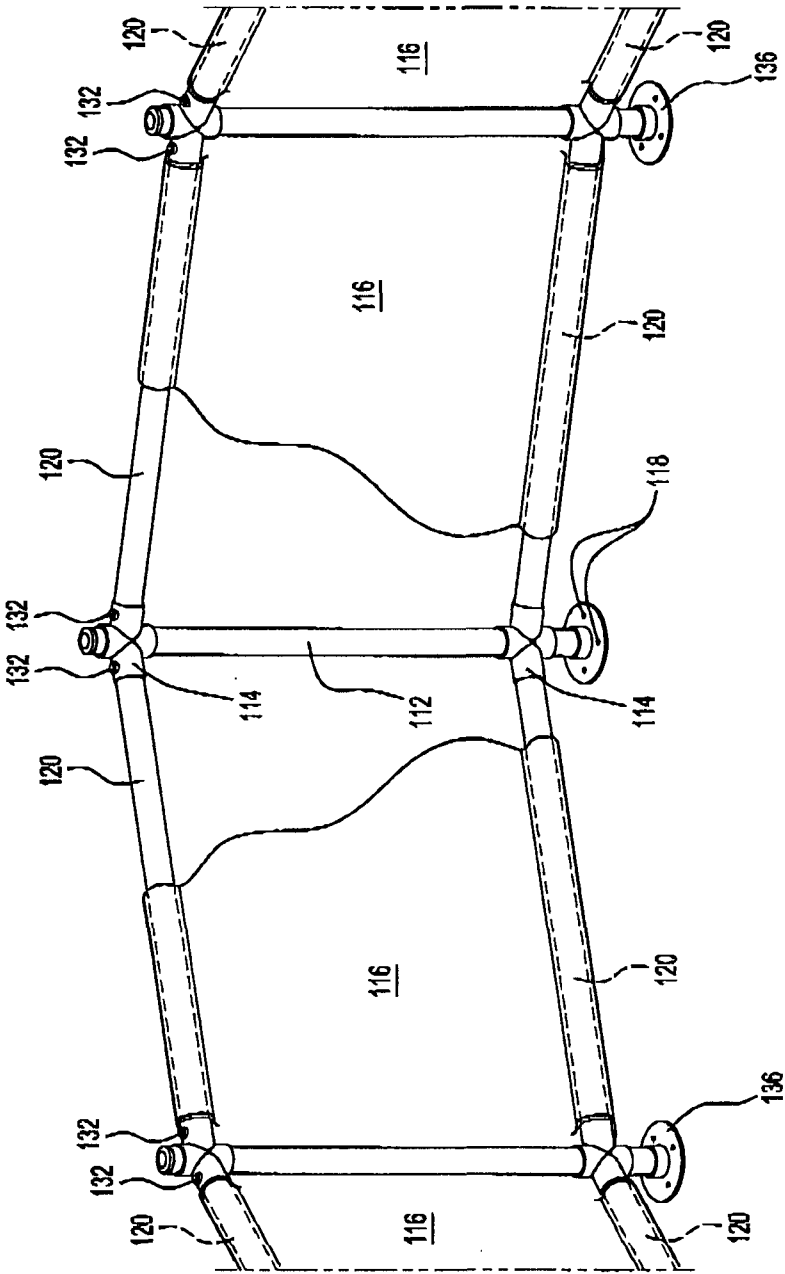


FIG. 10

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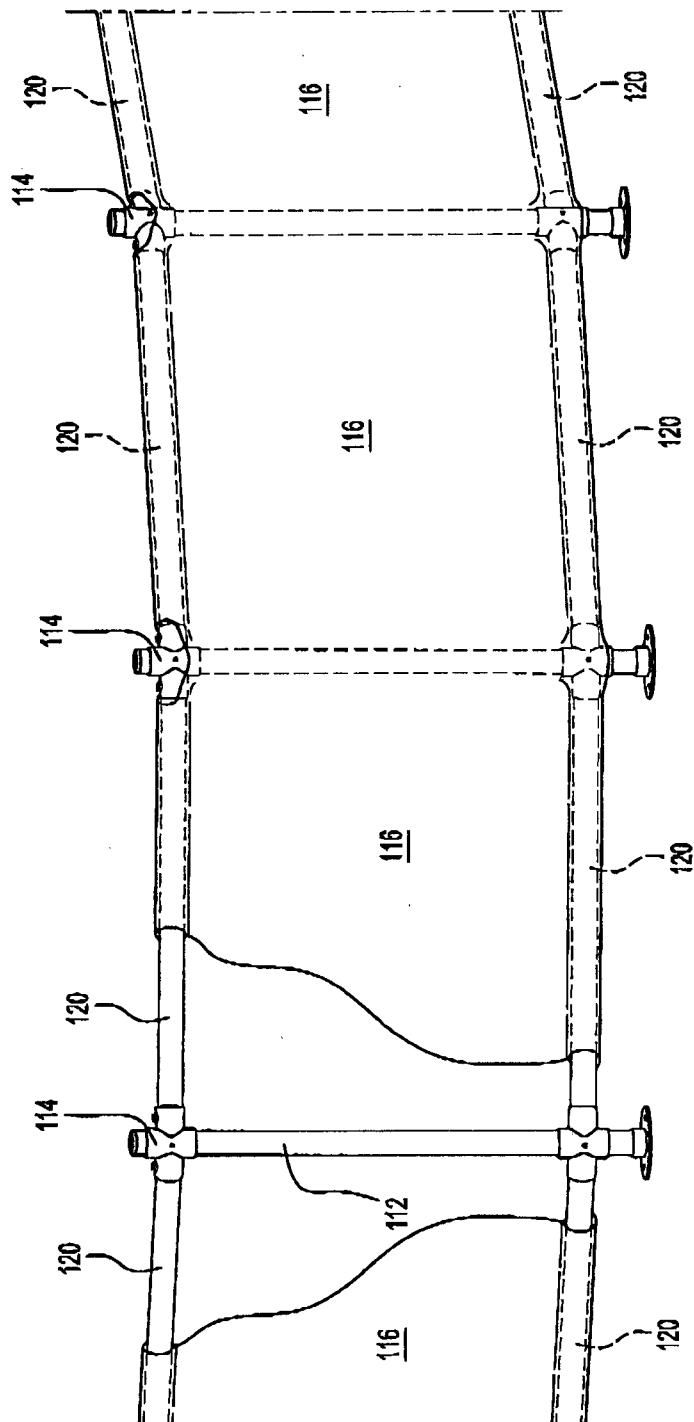
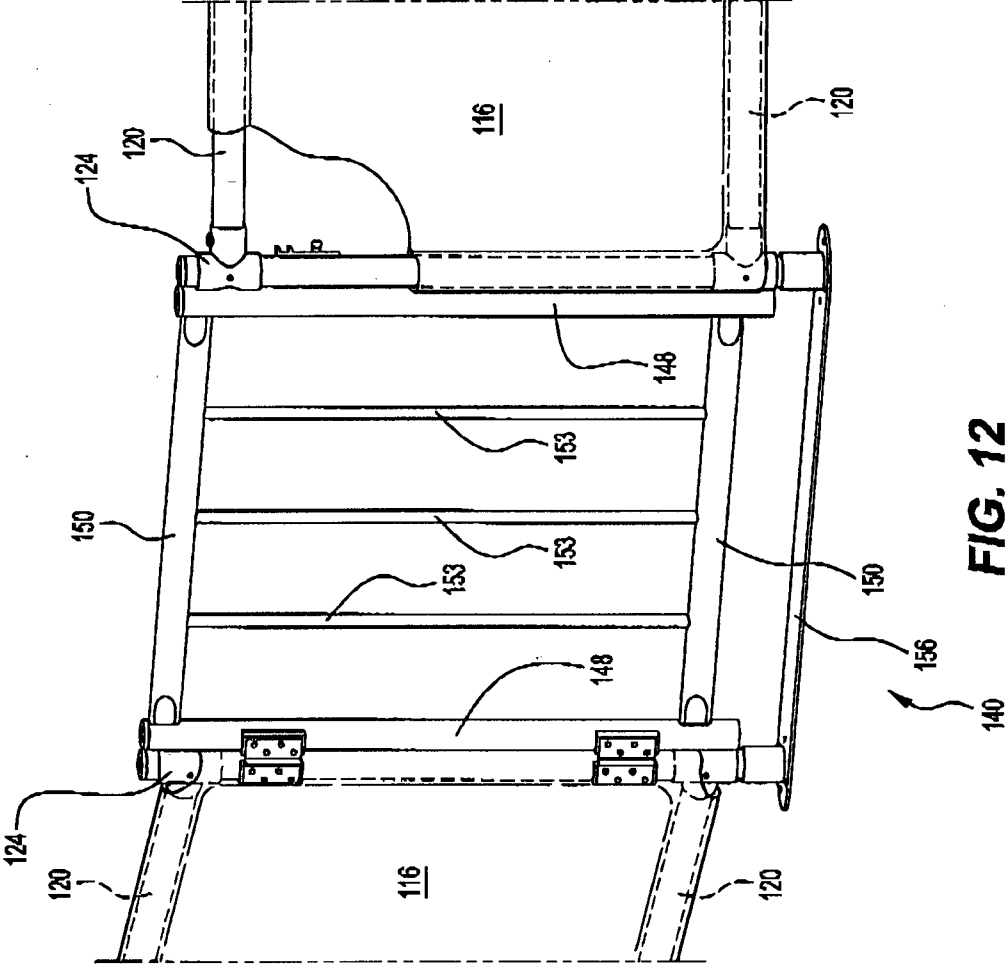


FIG. 11

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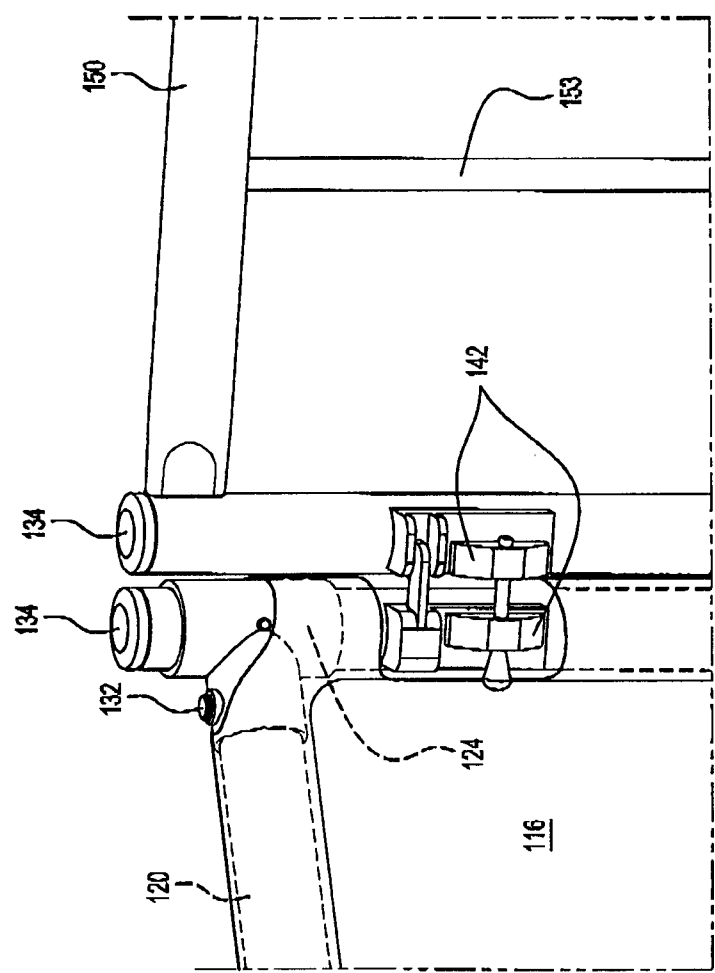


FIG. 13

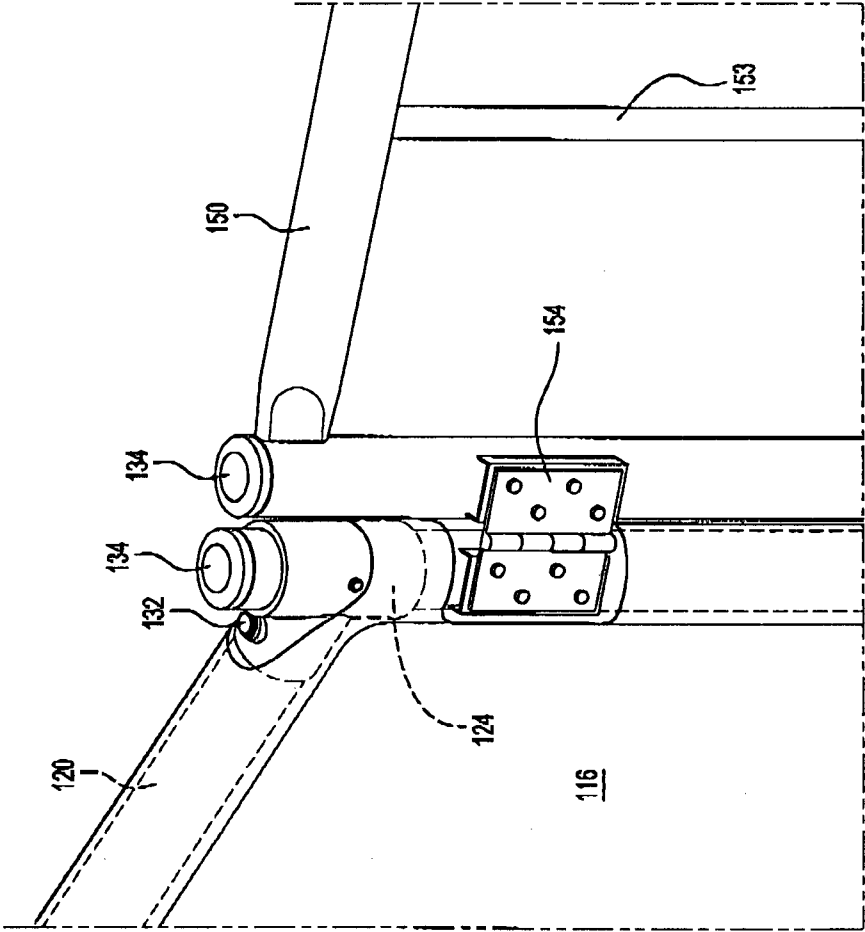
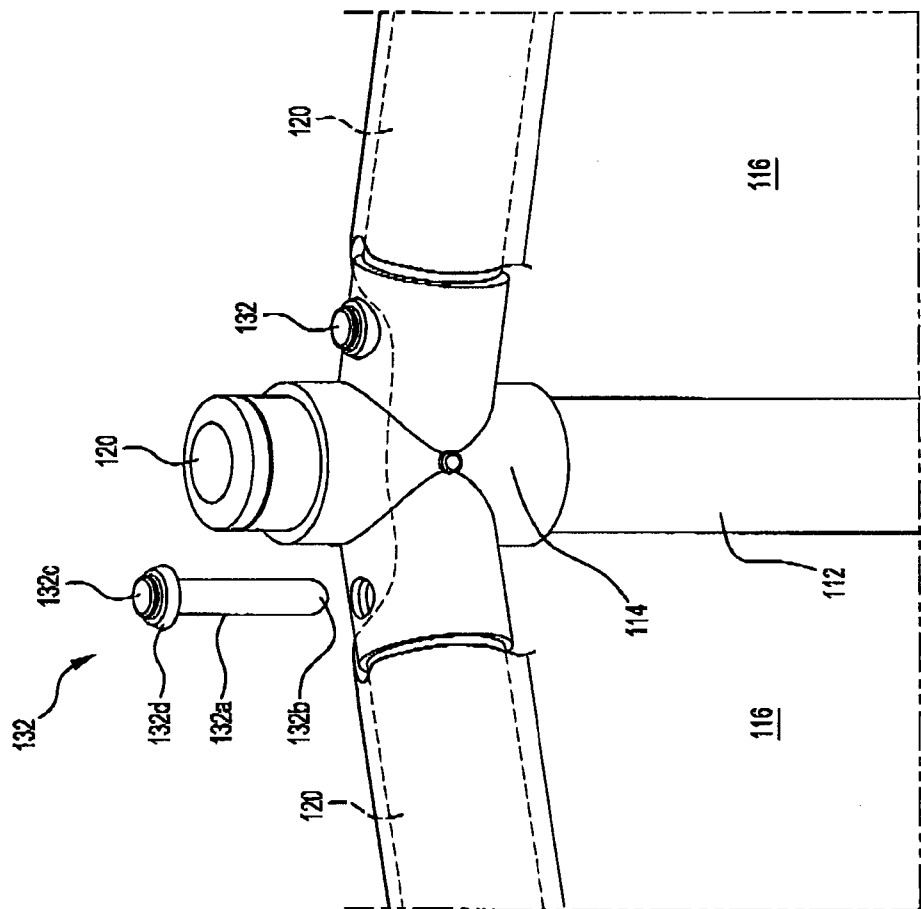


FIG. 14



INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2013/001517

A. CLASSIFICATION OF SUBJECT MATTER

E04H 17/16 (2006.01) E06B 11/02 (2006.01) E04H 4/06 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI: /IC/EC/CC/CN/LOW E04H17/00 OR E06B11/00 OR A47D13/06 OR A01K3/00 OR E04H4/06 & Keywords (Fence, Module, Mesh, Strut, Linkage, Gate, Self-Closing, Latch, Anchor) and similar terms/combinations. Espacenet: E04H17/low AND E06B11/low. Google Patents: Keywords (Fence, Kit, Tubular, Pool, Modular, self-Closing, Gate, Screen, Tensioning) and similar terms/combinations.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Documents are listed in the continuation of Box C	



Further documents are listed in the continuation of Box C



See patent family annex

* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search
16 April 2014

Date of mailing of the international search report
16 April 2014

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
Email address: pct@ipaustalia.gov.au
Facsimile No.: +61 2 6283 7999

Authorised officer

Mark Armstrong
AUSTRALIAN PATENT OFFICE
(ISO 9001 Quality Certified Service)
Telephone No. 0399359660

INTERNATIONAL SEARCH REPORT		International application No.
C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		PCT/AU2013/001517
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5102103 A (PUTNAM) 07 April 1992 See Figs. 1, 2 & 4; Cols. 2 & 3	1-20
X A	US 5664769 A (SADINSKY et al) 09 September 1997 See Figs. 2 & 3; Cols. 3 & 4	1-2, 5-8, 11-14, 17-20
X A	US 6789786 B1 (SHATZBERG) 14 September 2004 Figs. 1 & 2; Cols. 3 & 4	1-2, 5-8, 11-14, 17-20
A	US 6893007 B2 (ASENBAUER) 17 May 2005 Col. 7, Ln. 29-31	1, 7, 13
A	US 6666435 B2 (BLOSFELDS) 23 December 2003 Col. 3, Ln. 54-59	1, 7, 13
A	Katchakid pool fencing gate [retrieved on 11 March 2014] Retrieved from internet < URL: https://web.archive.org/web/20110205015839/http://katchakid.com/if-fittings-components2.htm > published on 05 February 2011 as per Wayback Machine See SELF CLOSING GATES etc.	1, 7, 13
A	Magnetic gate latch installation [retrieved on 11 March 2014] Retrieved from internet < URL: https://web.archive.org/web/20111107083310/http://www.hooverfence.com/woodfence/magnalatch/magna-install.htm > published on 07 November 2011 as per Wayback Machine See INSTALLATION REQUIREMENTS:	
A	EP 1630320 A2 (TRIDENT INDUSTRIAL LIMITED) 01 March 2006 Col. 1, Ln. 2; Figs. 1-2, 3, 5, 7 & 10	
A	US 4645183 A (RATTRAY et al) 24 February 1987 See Fig. 1	
A	US 3921960 A (BRIGHT) 25 November 1975 See Fig. 1	
Form PCT/ISA/210 (fifth sheet) (July 2009)		

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This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.			
Patent Document/s Cited in Search Report		Patent Family Member/s	
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US 6789786 B1	14 Sep 2004	None	
US 6893007 B2	17 May 2005	US 6893007 B2	17 May 2005
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EP 1630320 A2	01 Mar 2006	EP 1630320 B1	14 Mar 2012
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		EP 0123687 A1	07 Nov 1984
		WO 8401497 A1	26 Apr 1984
US 3921960 A	25 Nov 1975	None	
End of Annex			
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001. Form PCT/ISA/210 (Family Annex)(July 2009)			