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GB 1467082 A **GB 1059689 A**
WO 2001/026078 A1 **US 4968171 A**

(58) Field of Search:
INT CL **G09F**
Other: **Online: EPODOC, WPI.**

(54) Title of the Invention: **Modular ticket holder**
Abstract Title: **Modular ticket holder**

(57) A modular ticket holder 100 for forming a ticket display system, comprises a sheet member 110B with a male connector on a first edge and a female connector on a second opposing edge and configured to connect to the male connector of a corresponding, further modular ticket holder. A pair of flanges or brackets project from a face of the sheet member and are configured to retain an edge of the ticket to thereby hold the ticket against the sheet member. The male and female connectors may be formed so that the sheet members can be rotated relative to one another. A number of modular ticket holders may be connected together to form triangular, square, pentagonal, etc., prisms. The sheet members may have planar or curved faces. The tickets may be lottery scratch-cards.

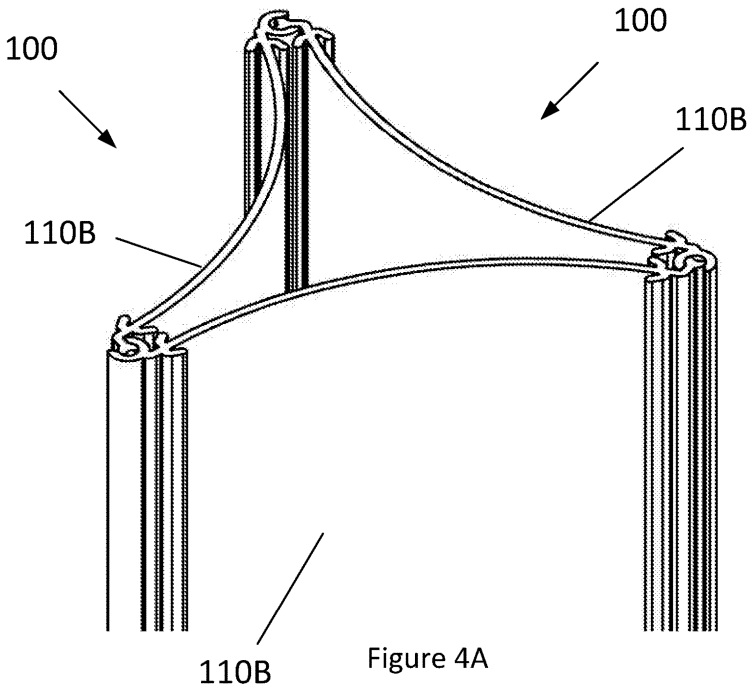

Figure 4A

GB 2531794 A

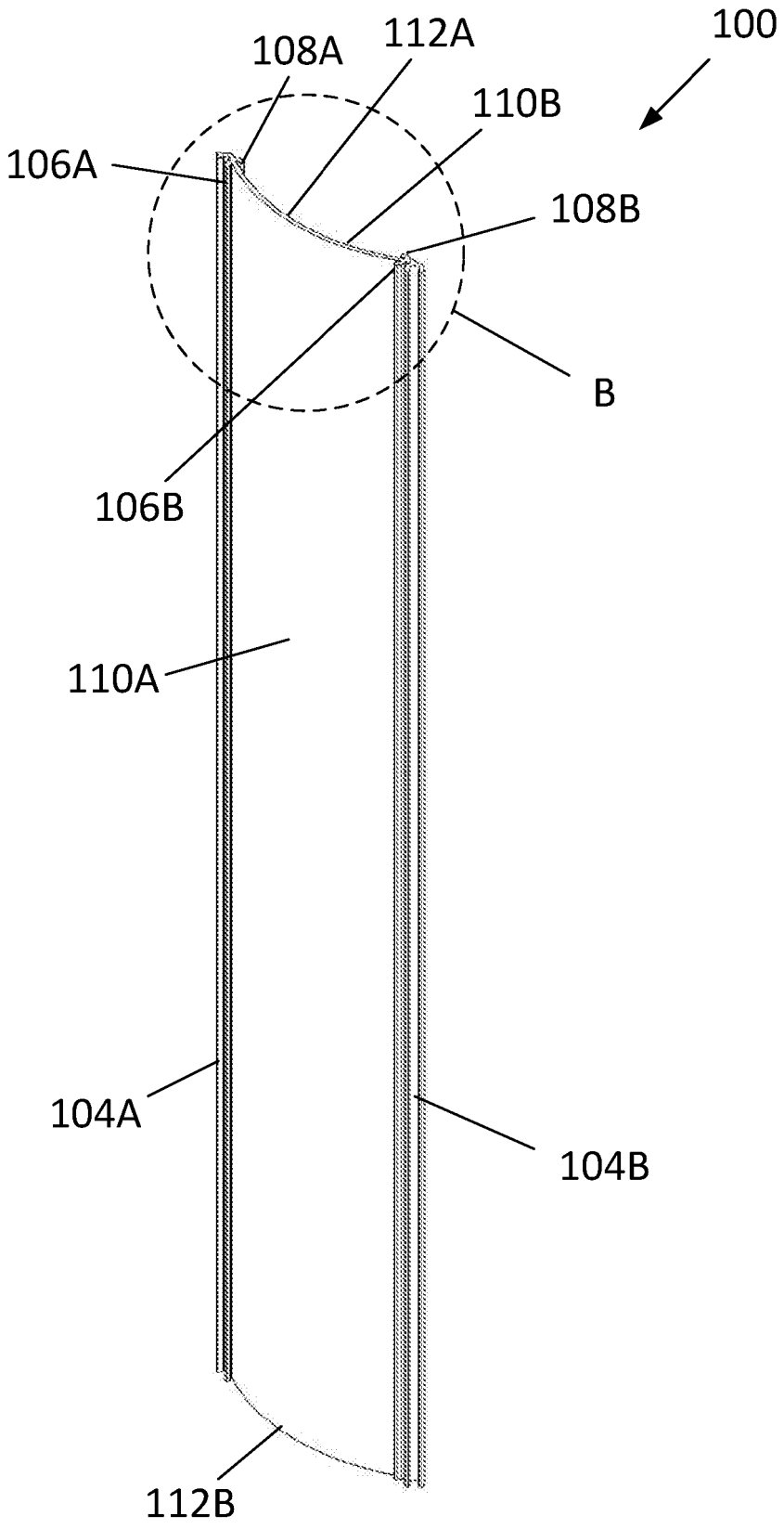

Figure 1A

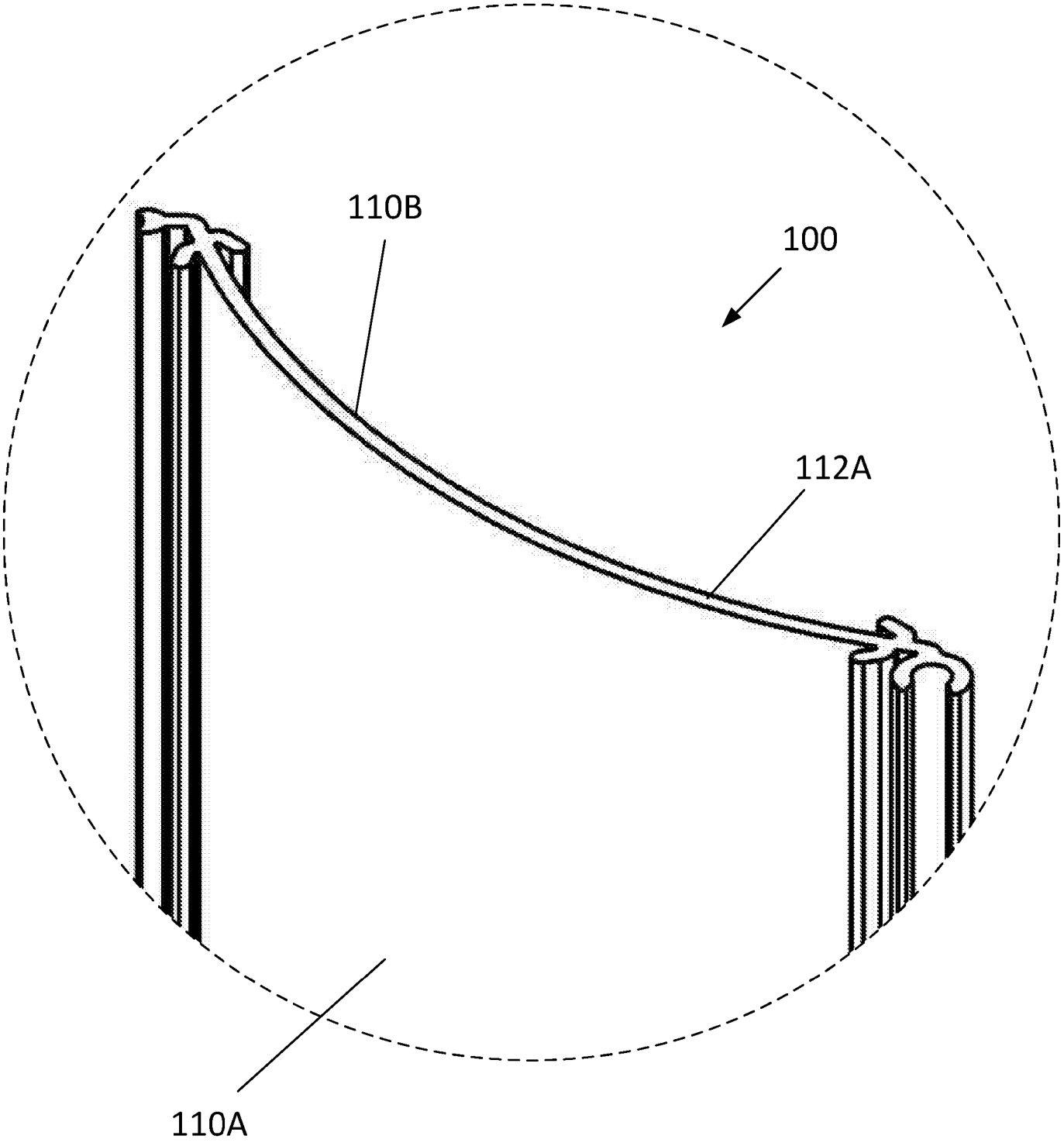

Figure 1B

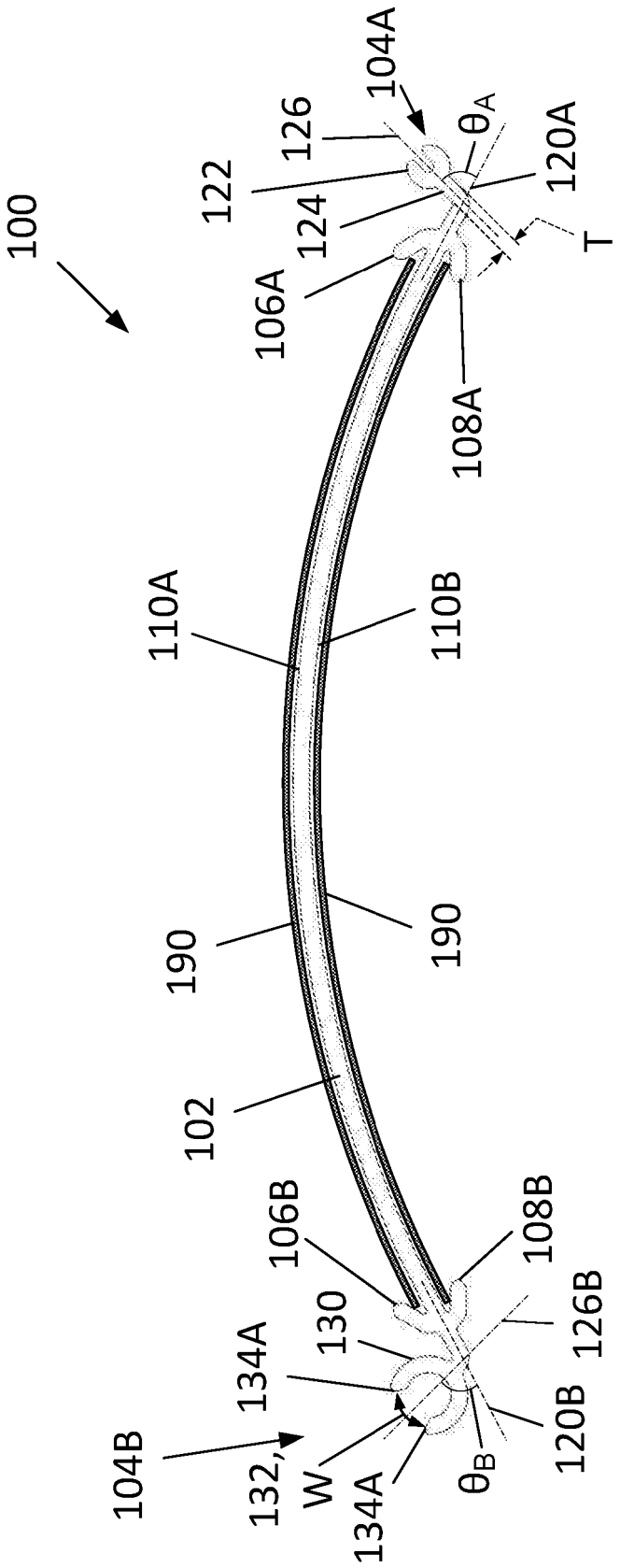
100
104A
126
122
124
106A
θ_A
120A
T
108A
110A
110B
190
190
102
106B
108B
126B
130
134A
120B
104B
132,
W
134A
θ_B

Figure 1C

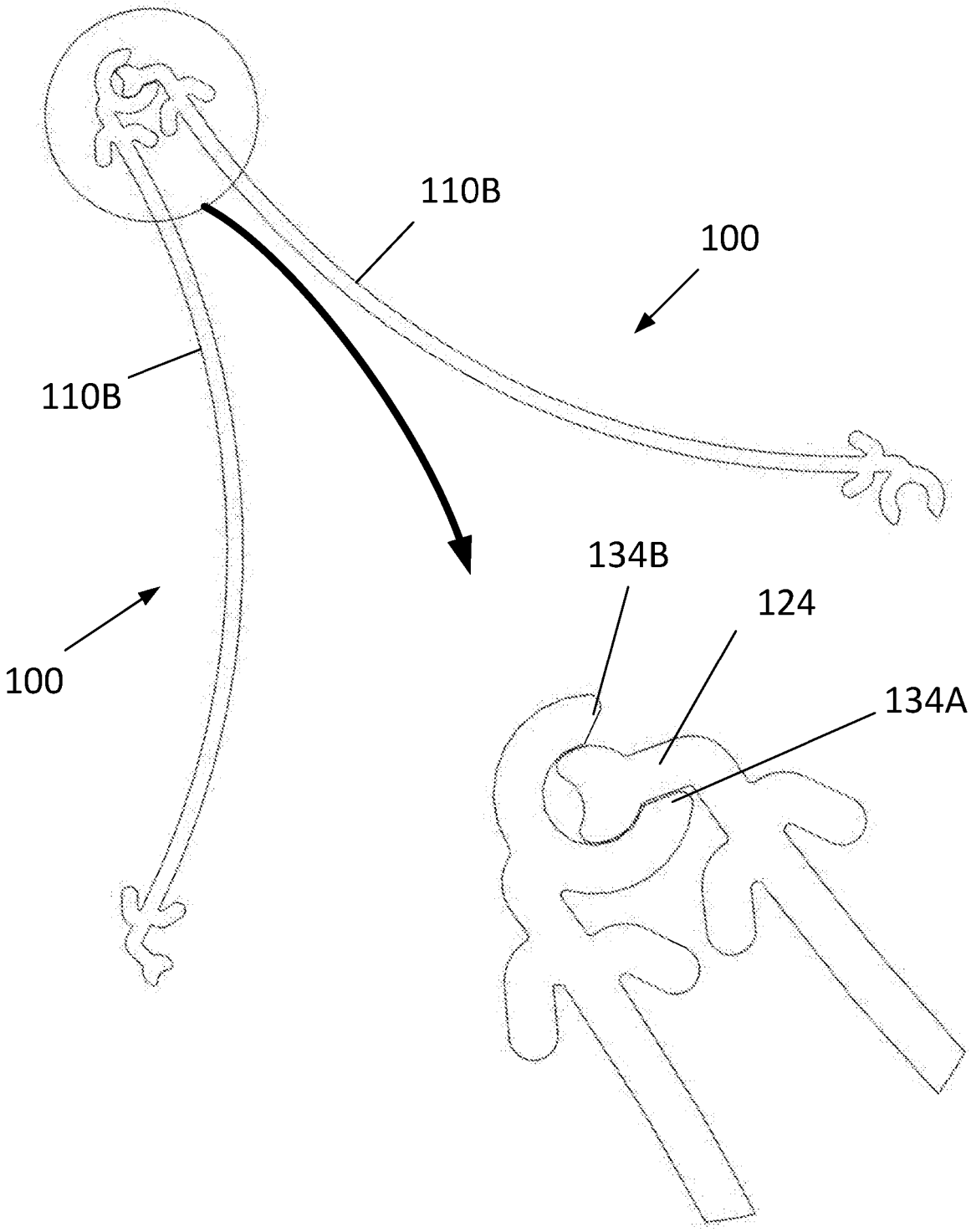

Figure 2A

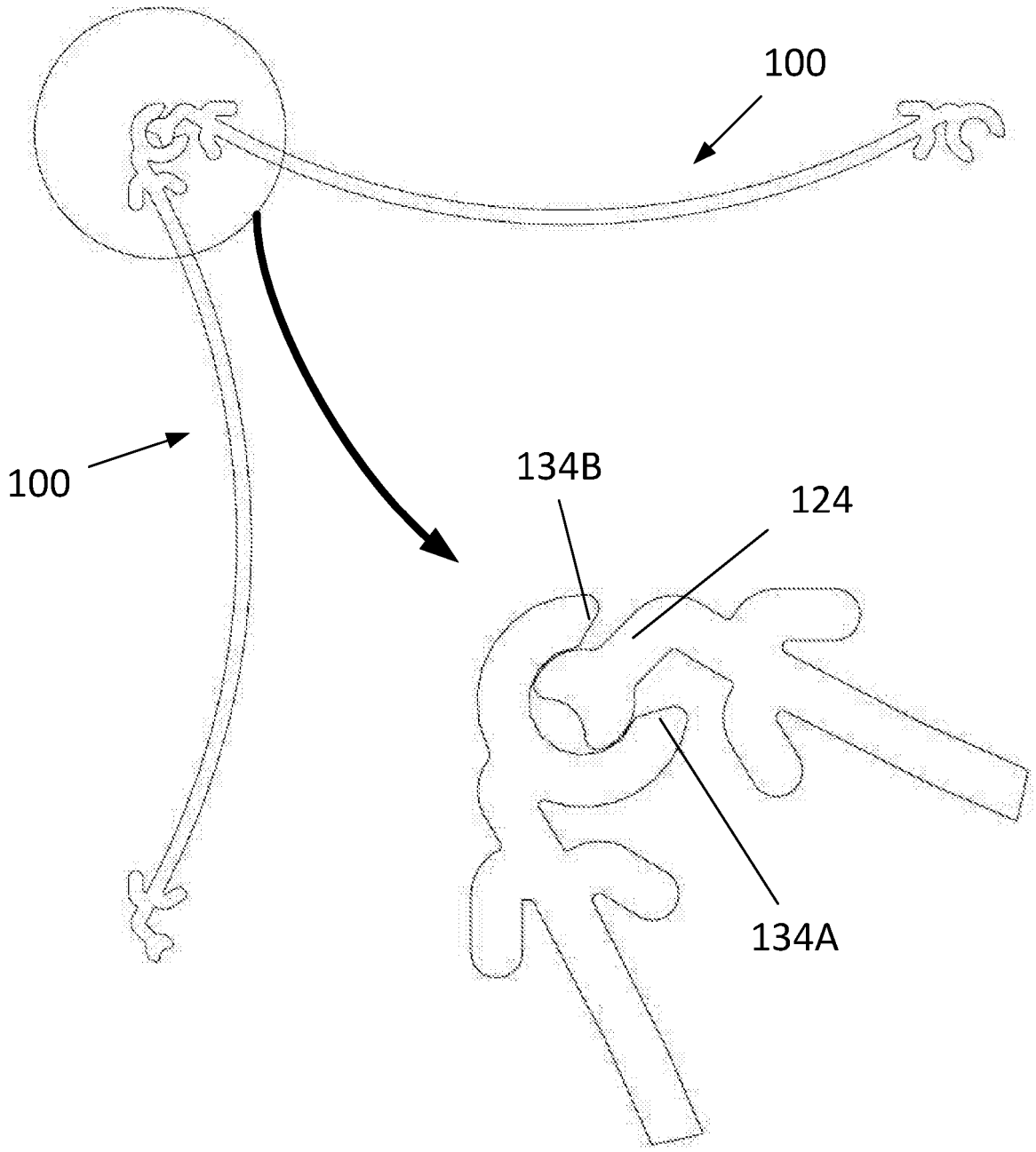

Figure 2B

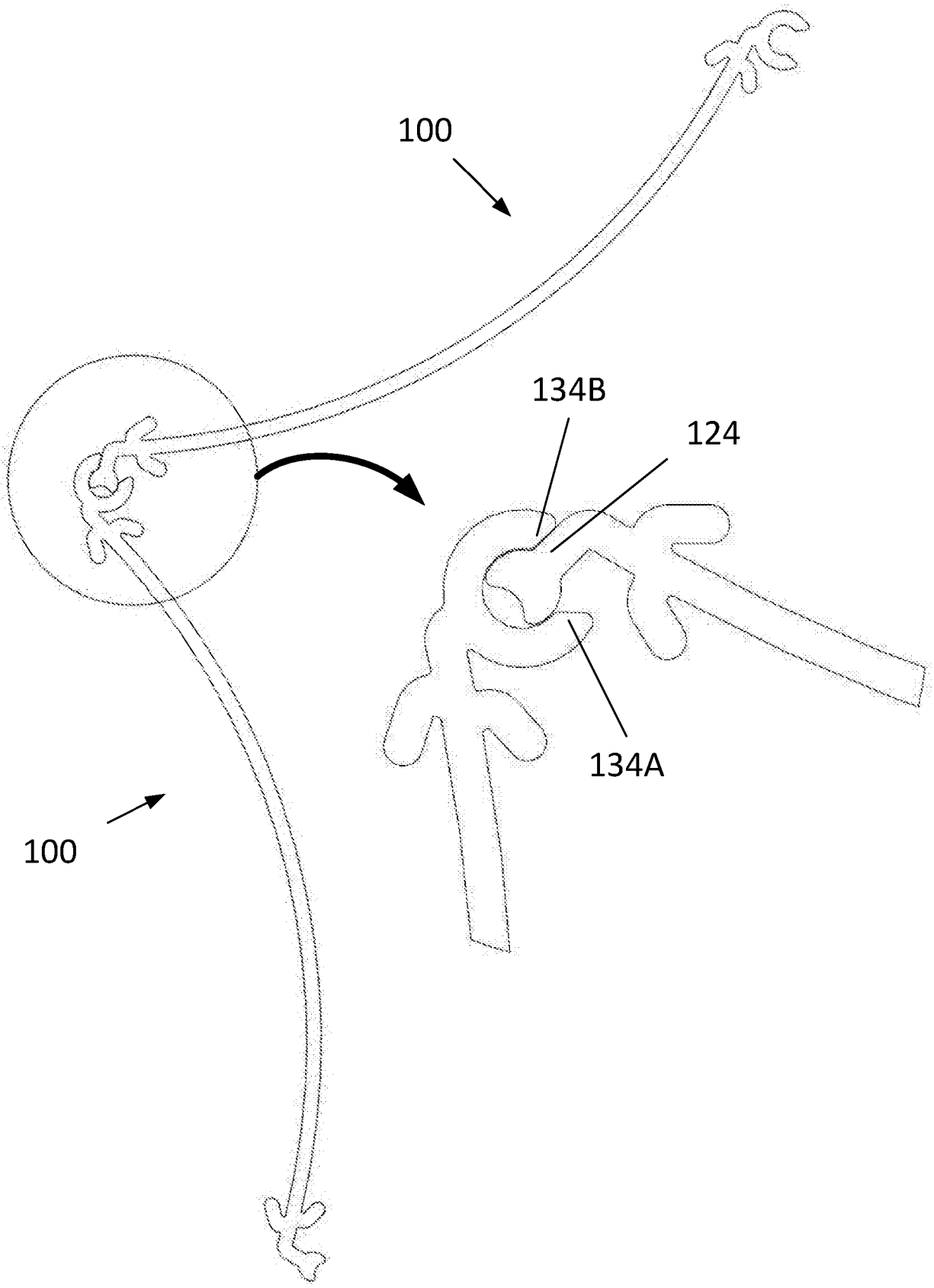

Figure 2C

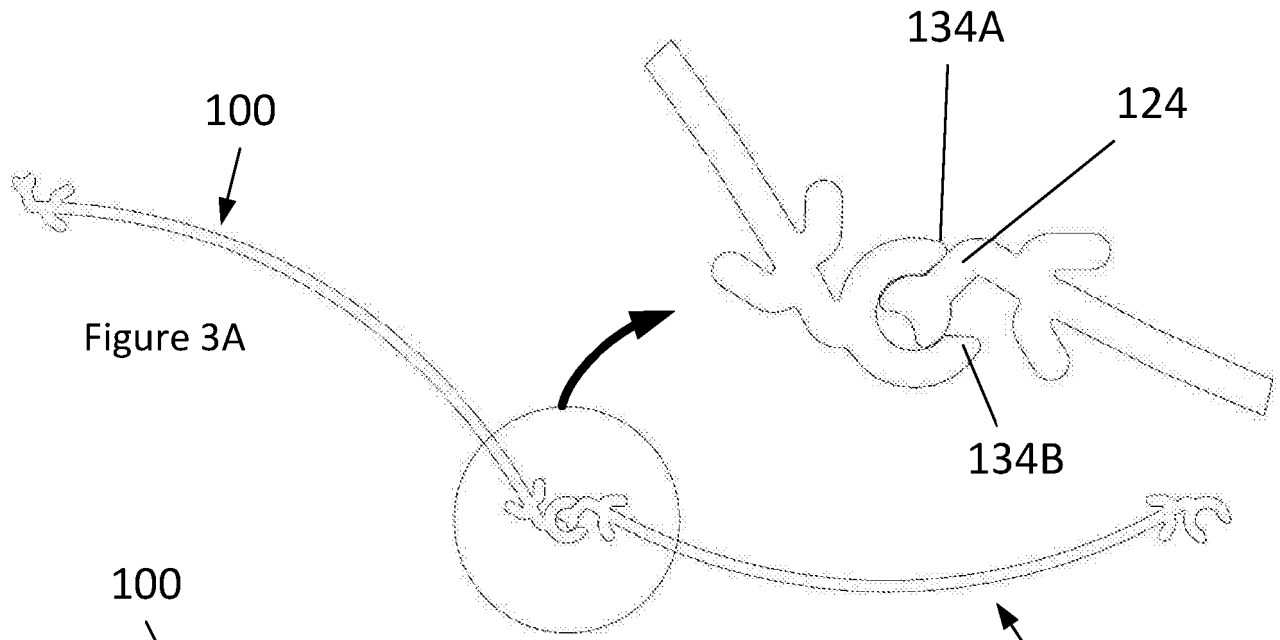

Figure 3A

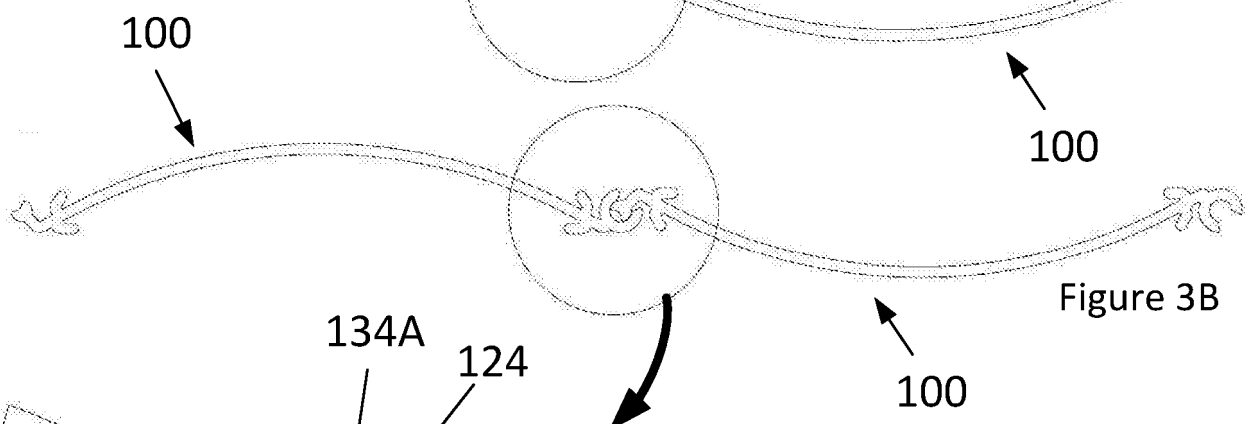

Figure 3B

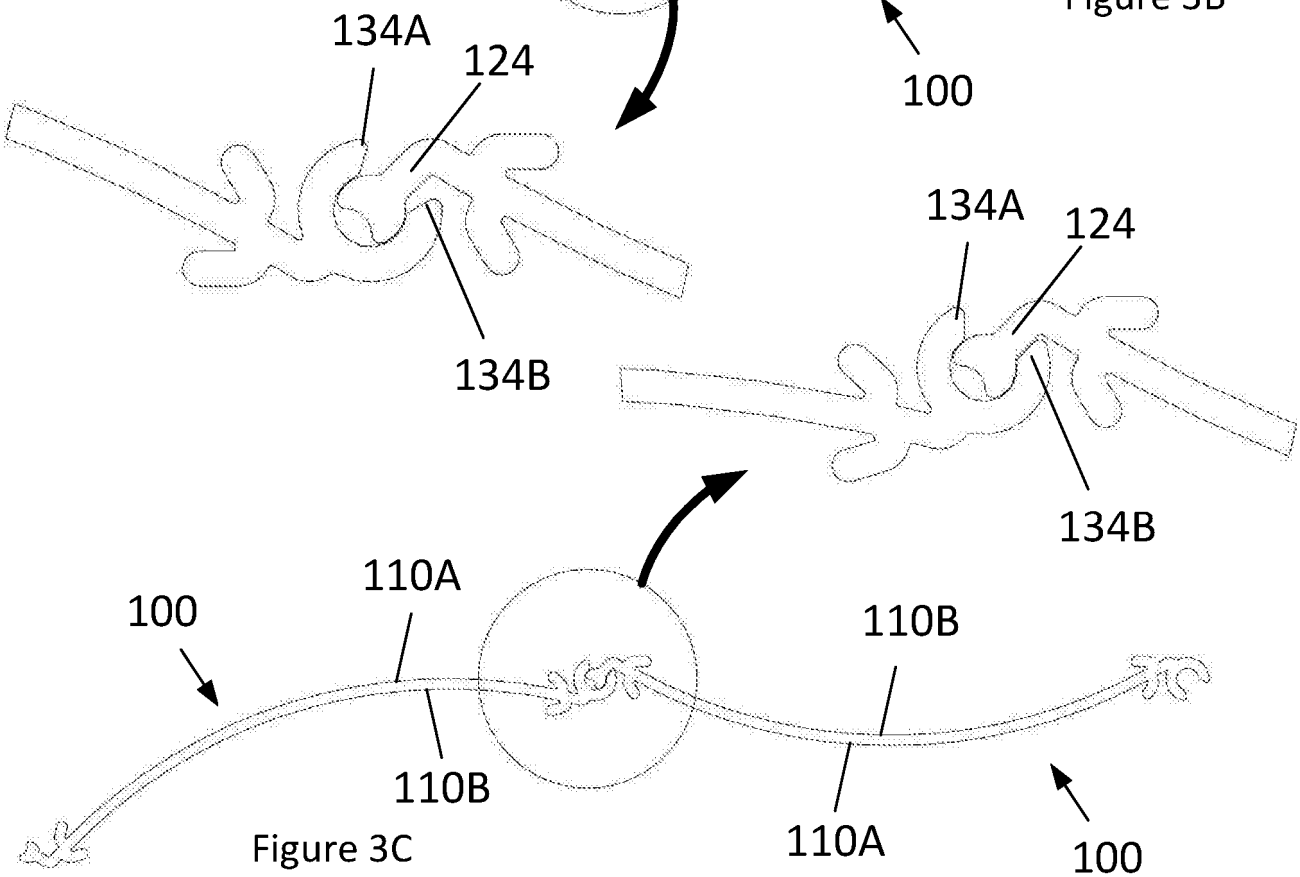

Figure 3C

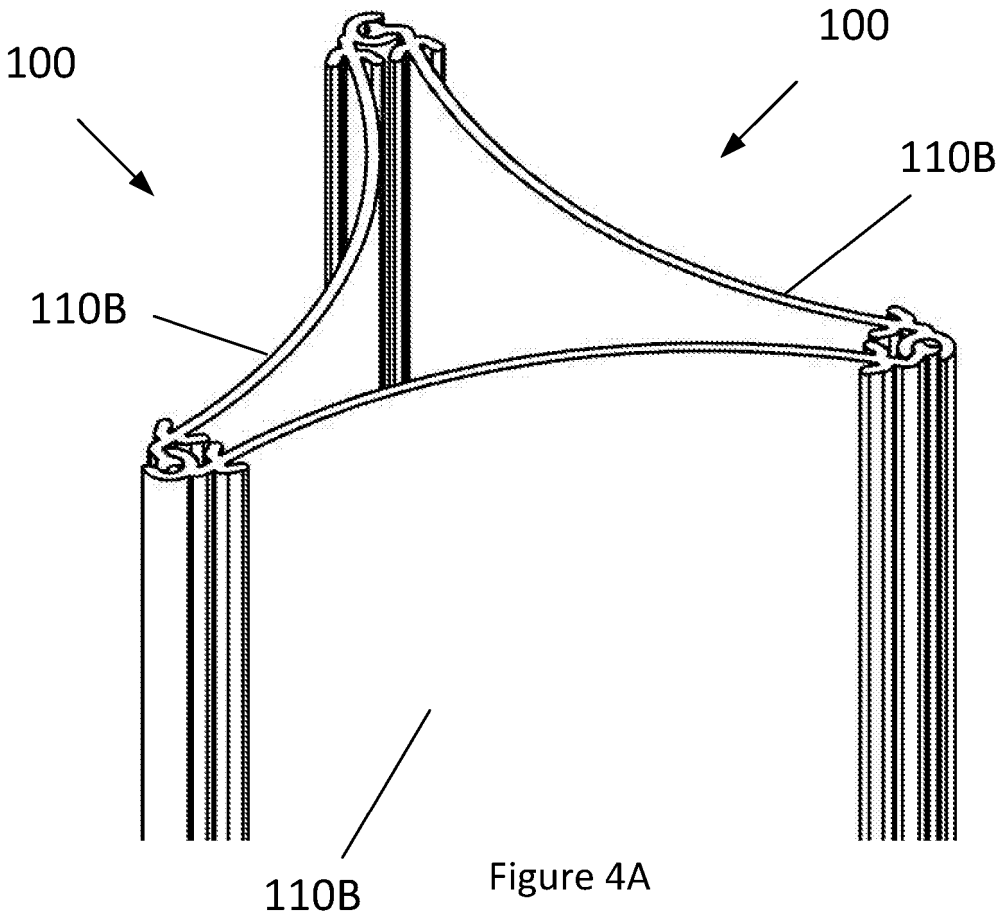

Figure 4A

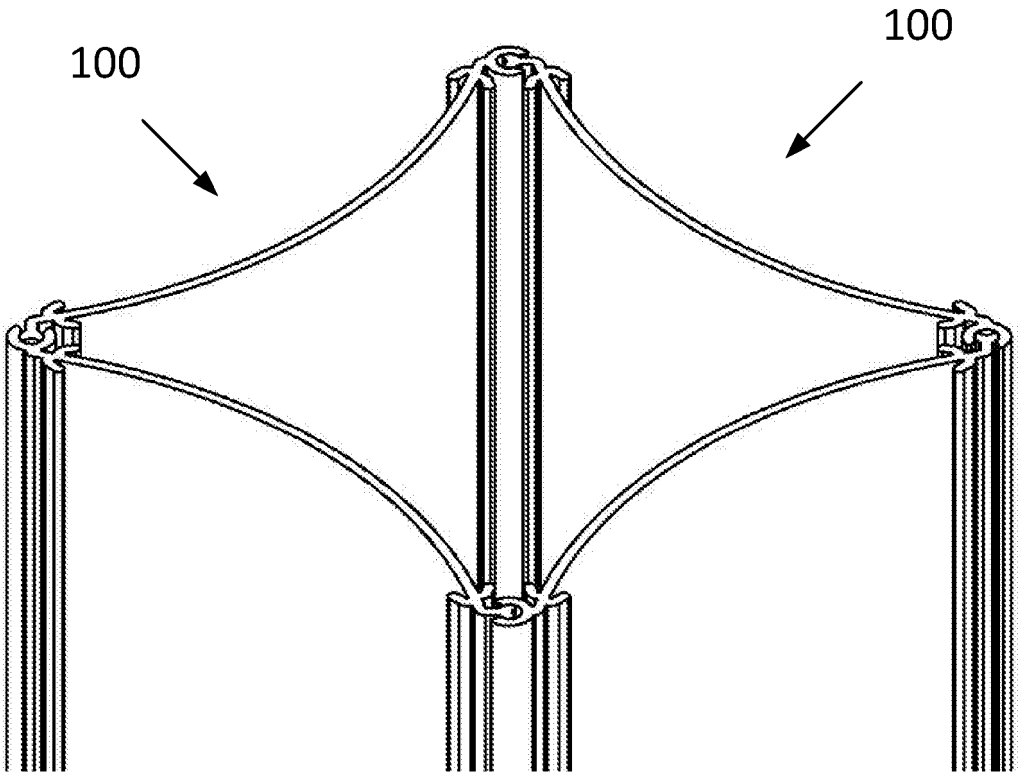

Figure 4B

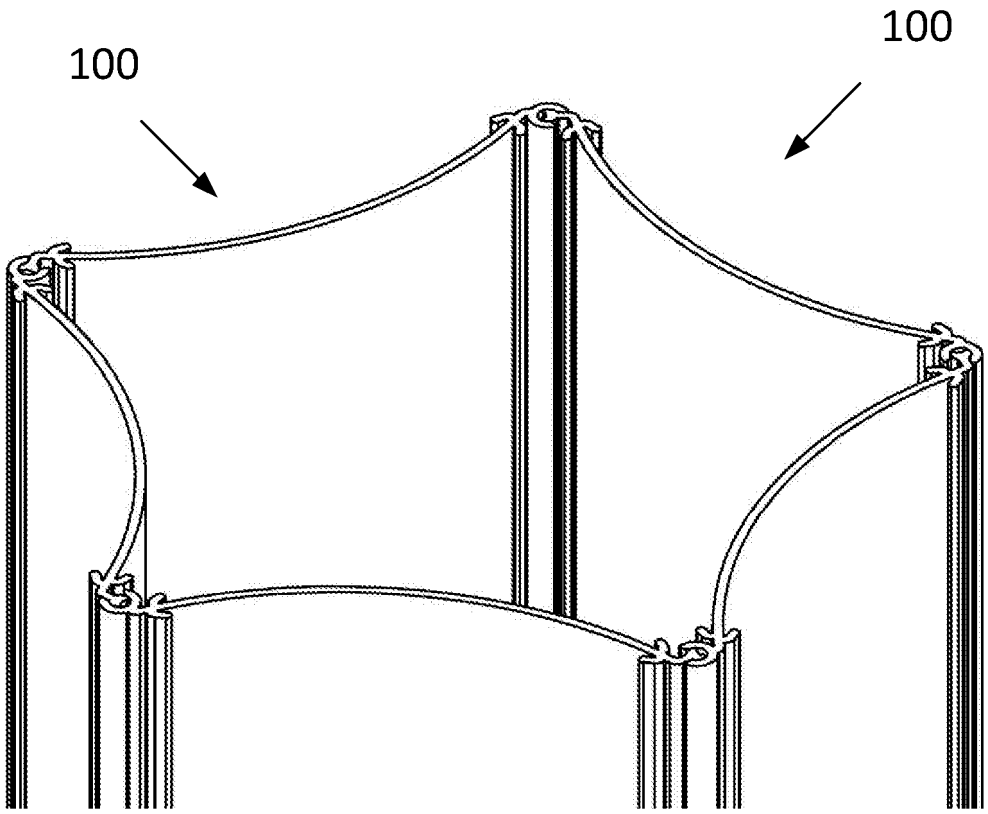

Figure 4C

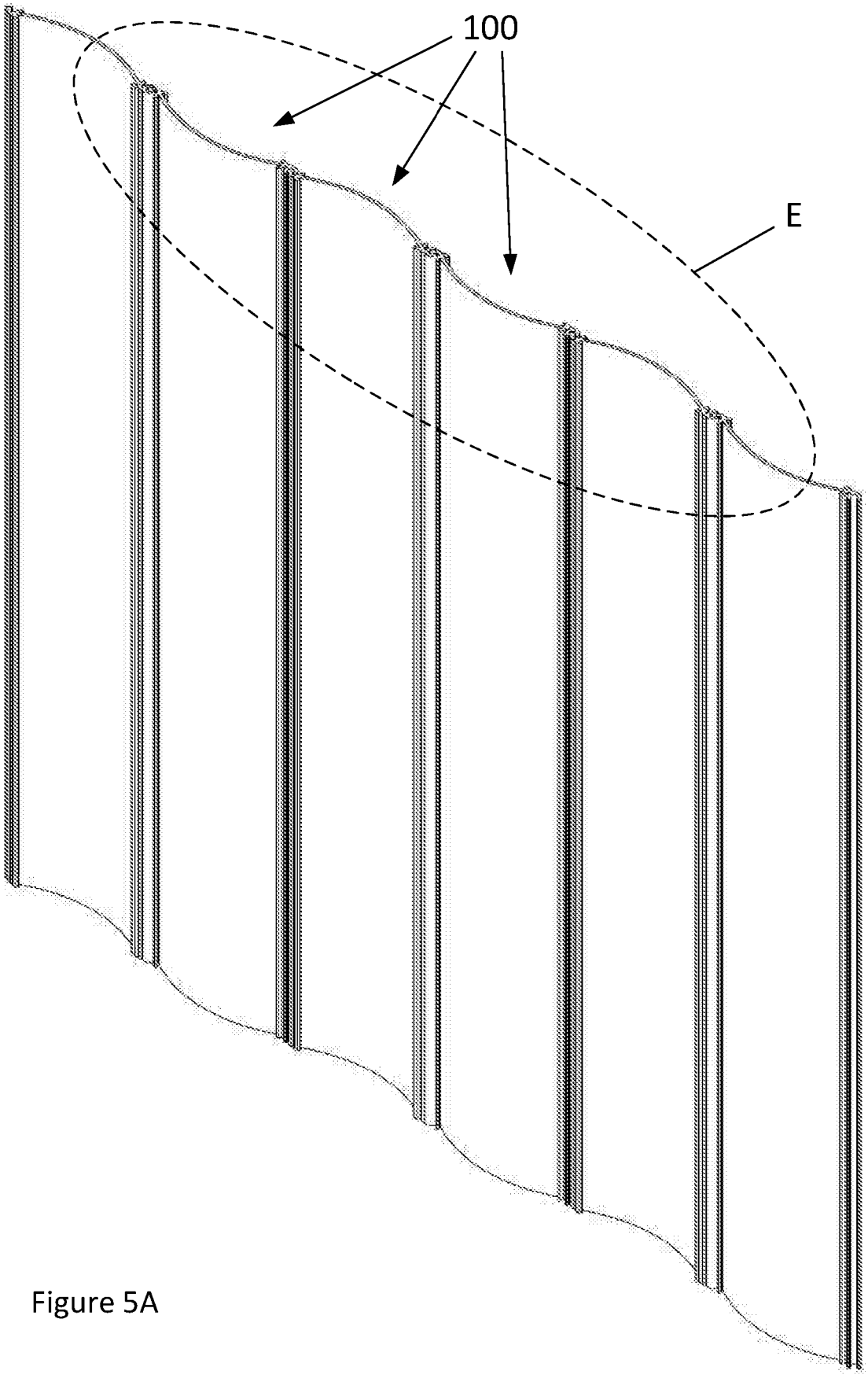

Figure 5A

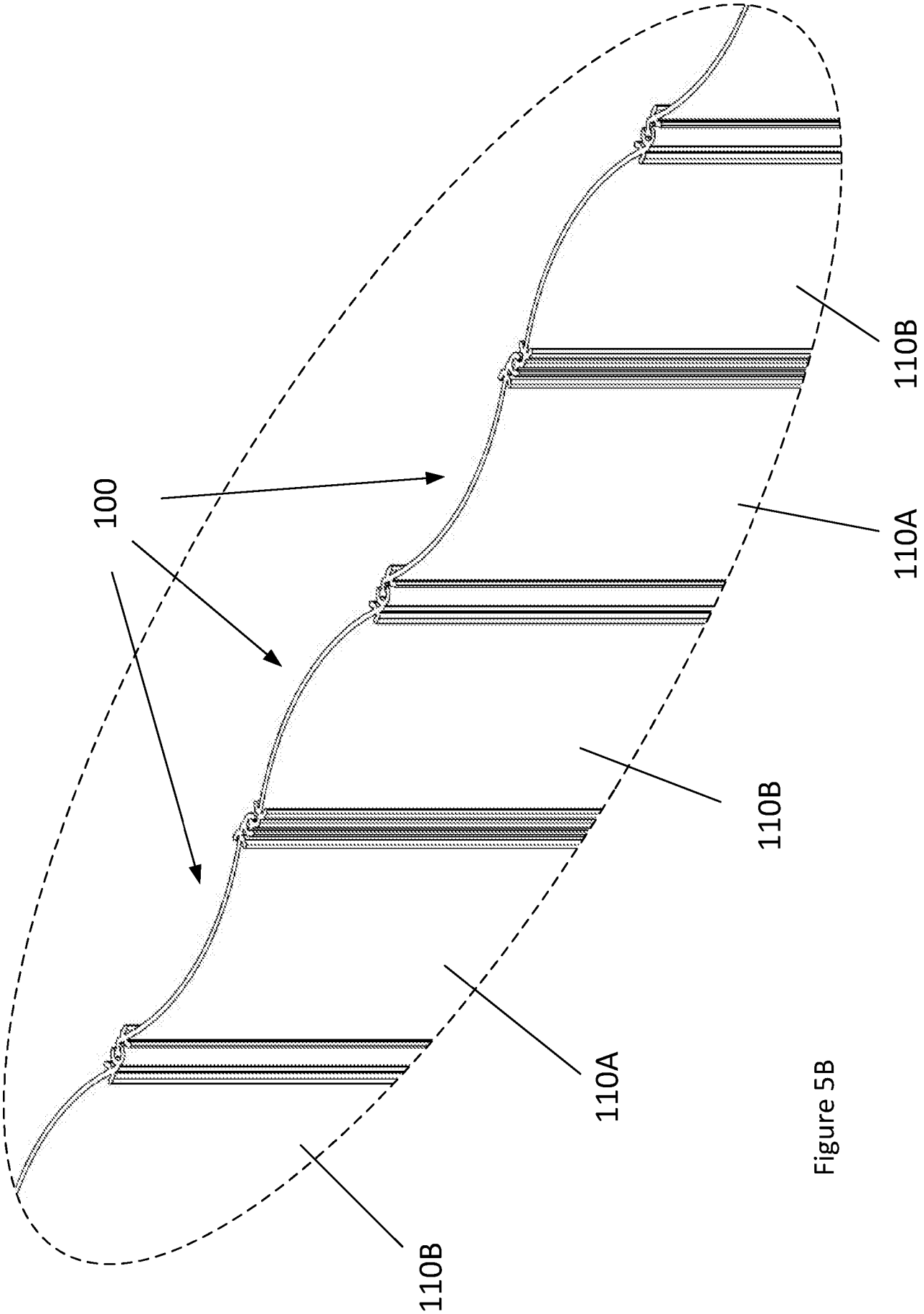

Figure 5B

MODULAR TICKET HOLDER

FIELD OF INVENTION

The present invention relates to modular ticket holders, and more particularly, but not exclusively modular ticket holders for displaying lottery tickets.

SUMMARY OF THE DISCLOSURE

According to a first aspect, there is provided a modular ticket holder for a modular ticket display system, comprising a sheet member having a length extending between opposed ends, opposed first and second edges, and opposed first and second faces, a male connector provided on the first edge, a female connector provided on the second edge and being configured to connect to the male connector of a corresponding, further modular ticket holder, wherein a pair of brackets project from a face and are configured to retain a ticket against the face between the brackets, and wherein the sheet member has a cross-section extending between the edges that is substantially constant along the length of the ticket holder.

According to a second aspect, there is provided a ticket display system comprising a plurality of modular ticket holders according to the first aspect.

According to a third aspect, there is provided a method of forming a modular ticket holder according to the first aspect, comprising: extruding a strip of material having a constant cross-section; and cutting the strip along the cross-section to form the modular ticket holder.

The sheet member may extend in a first direction adjacent the first edge and the male connector may be angled away from the first direction, and the sheet member may extend in a second direction adjacent the second edge and the female connector may be angled away from the second direction.

The male connector and female connector may be angled towards a common face.

The sheet member may have an arced cross-section extending between the first and second edges, providing a concave face and an opposed convex face.

The arced cross-section may be circularly arced.

The sheet member may have a planar cross-section extending between the first and second edges, providing opposed planar faces.

The board may have a substantially uniform thickness between the first and second faces.

The female connector may be configured to permit a range of relative angular movement of the further male connector, when the male connector is connected to the female connector.

The interior of the female connector and the exterior of the male connector may each have respective members shaped as parts of a discretely rotationally symmetric shape.

The male connector may extend along substantially the full length of the first edge. The female connector may extend along substantially the full length of the second edge.

A pair of brackets may project from each face and each pair of brackets may be configured to retain a ticket against the respective face.

A plurality of pairs of brackets may project from a face and each pair of brackets may be configured to retain a ticket against the respective face.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention are further described hereinafter with reference to the accompanying drawings, in which:

- Figure 1A shows a modular ticket holder;
- Figure 1B shows an enlarged view of an end of the modular ticket holder, corresponding with the view indicated by B in Figure 1A;
- Figure 1C shows a cross-sectional view of the modular ticket holder, corresponding with the line C-C in Figure 1A;
- Figures 2A to 2C illustrate pairs of ticket holders connected together in a first relative orientation;
- Figures 3A to 3C illustrate pairs of ticket holders connected together in a second relative orientation;

- Figures 4A to 4C show groups of modular ticket holders connected together in 3-sided, 4-sided and 5-sided loops;
- Figure 5A shows a group of modular ticket holders connected together in a wall-like arrangement; and
- Figure 5B shows an enlarged view of indicated by E in Figure 5A.

DETAILED DESCRIPTION

In the described modular ticket holders, like features have been identified with like numerals.

Figure 1A shows a modular ticket holder 100. Figure 1B shows an enlarged view of an end 102A of the modular ticket holder, corresponding with the view indicated by B in Figure 1A. Figure 1C shows a cross-sectional view of the modular ticket holder 100, corresponding with the line C-C in Figure 1A, which extends between opposed edges of the holder.

The modular ticket holder 100 has a sheet-like main body section 102, a male connector 104A, a female connector 104B, and pairs of ticket retaining brackets 106A, 106B, 108A and 108B.

The sheet-like main body section 102 has opposite faces 110A and 110B, which extend between opposite ends 112A and 112B, and between opposite edges. Advantageously, in cooperation with the ticket retaining brackets 106A, 106B, 108A and 108B, the convex and concave shapes of the faces 110A and 110B deform a ticket such that it is under tension, like leaf spring, holding the ticket in place relative to the respective face. Further, the convex and concave shapes of the faces 110A and110B enable respective tickets to be retained on the faces in an arrangement that provides support behind the ticket to reduce ticket damage from contact throughout the period of display. Further, the curved shaped of the main body section provides enhanced stability when the modular ticket holder stands upon an end 112B. However, alternatively, the main body section may be planar.

In the illustrated ticket holder 100, the main body section is a cylindrically shaped sheet of uniform thickness, providing a convex face 110A and a concave face 110B. Advantageously, a cylindrically shaped sheet of uniform thickness provides a strong ticket holder, for a given quantity of manufacturing material.

In the illustrated ticket holder 100, a pair of ticket retaining brackets 106A and 106B is provided on the convex face 110A, and a further pair of ticket retaining brackets 108A and 108B is provided on the concave face 110B. The brackets of each pair are configured to hold the edges of a displayed ticket 190. The ticket may be inserted between the brackets by being slid in from an end 112A or 112B, or it may be inserted in a pinched or slightly buckled shape. Advantageously, the ticket retaining brackets 106A, 106B, 108A and 108B provide an arrangement to retain a ticket 190 against the ticket holder 100 that can be easily manufactured and used. The tickets 190 may be lottery scratch-card tickets.

The male and female connectors 104A and 104B are provided on opposite edges of the main body section 102. Adjacent the male and female connectors 104A and 104B, the sheet-like main body section 102 extends in respective directions 120A and 120B. The male connector 104A comprises a bulbous portion 122 connected to the main body section 102 by a stem 124. The female connector 104B comprises a gulley 130 connected to the main body section 102, which has an opening 132 between opposed jaws 134A and 134B. The interior of the gulley 130 of the female connector 104B is shaped in correspondence with the bulbous portion 122 of the male connector 104A of a corresponding, further modular ticket holder, being configured to receivably retain the bulbous portion, when connected together in a mating fit. In the illustrated ticket holder 100, the male and female connectors 104A and 104B are configured to be connected together with a relative sliding motion parallel with the edges of the main body section 102.

The interior of the gulley 130 of the female connector 104B and the bulbous portion 122 of the male connector 104A are shaped to enable two corresponding ticket holders 100 to be connected together in two different relative orientations, i.e. with their concave faces being adjacent, as illustrated in Figures 2A to 2C, or with the concave face of one ticket holder being adjacent the convex face of the other ticket holder, as illustrated in Figures 3A to 3C, with each Figure additionally showing an enlarged view of the interconnected male and female connectors. Advantageously, being able to connect together adjacent ticket holders in two different relative orientations increases the number of ways that a group of modular ticket holders can be assembled for displaying tickets.

The stem 124 of the male connector 104A extends in a direction 126A that is angled θ_A away from the direction 120A of the adjacent part of the main body section. The opening 132 of the gulley 130 is centred in a direction 126B that is angled θ_B away from the direction 120B of the adjacent part of the main body section. Advantageously, the angling of the male and female connectors 104A and 104B relative to the respectively adjacent parts of main

body portion 102 enables adjacent ticket holders 100 to be connected together with a substantial angular deviation between their alignments, which enables a small group of ticket holders 100 to be connected together in a closed loop (e.g. Figures 4A to 4C).

In the illustrated modular ticket holder 100, the male and female connectors 104A and 104B are angled towards a common face of the main body portion 102. In the illustrated embodiment, the male and female connectors 104A and 104B are angled towards the convex face 110A. However, in an alternative modular ticket holder, the male and female connectors may be angled towards the concave face, or one may be angled towards each face.

In an alternative modular ticket holder (not illustrated), the stem of the male connector extends in a direction that is parallel to the direction of the adjacent part of the main body section, and/or the opening of the gulley is centred in a direction that is parallel to the direction of the adjacent part of the main body section. Advantageously, aligning both the male and female connectors parallel to the respectively adjacent parts of main body portion enables adjacent ticket holders to be connected together to provide a relatively smooth-sided shape, e.g. a cylindrical assembly or planar assembly, respectively in the case of part cylindrical or planar main body sections.

In the illustrated ticket holder 100, the opening 132, which extends between the opposed jaws 134A and 134B of the female connector 104B, is wider W than the thickness T of the stem 124 of the male connector 104A. Advantageously, for a given relative orientation of connected ticket holders, the greater width W of the opening 132 than the thickness T of the stem 124 enables connected ticket holders 100 to be displayed in differently angularly spaced arrangements, enabling a group of modular ticket holders to be assembled in different display arrangements. Figures 4A to 4C show the ends of groups of modular ticket holders connected together in 3-sided, 4-sided and 5-sided loops, in arrangements corresponding to Figures 2A to 2C, respectively. Figure 5A shows a group of modular ticket holders connected together in a wall, in correspondence with the arrangement corresponding to Figure 3B. Figure 5B shows an enlarged view of the end portion indicated by E in Figure 5A.

In the illustrated modular ticket holder, the interior of the gulley 130 of the female connector 104B is cylindrically shaped, enabling relative angular rotation of a connected male connector 104A, and so enabling relative angular flexing between two interconnected ticket holders.

Alternatively, the interior of the gulley of the female connector and the exterior of the bulbous portion of the male connector may each be shaped as parts of a discretely rotationally symmetric shape (an n-fold rotationally symmetric shape), e.g. parts of a regular convex polygon or a regularly grooved/ridged shape. For example, the rotationally symmetric shape may be twenty four-fold rotationally symmetric, e.g. a twenty four sided regular convex polygon or a cylindrical shape with grooves/ridges spaced apart at 15° intervals around the central axis. In contrast to the illustrated modular ticket holder 100, such a rotationally symmetric shape enables the male and female connectors to be connected together at discrete angles, and would prevent relative angular flexing between two interconnected ticket holders. Advantageously, preventing relative angular flexing between interconnected ticket holders may enable the assembly of groups of modular ticket holders into more rigid arrangements.

In the illustrated modular ticket holder, the cross-sectional shape extending between the edges of the main body portion 102 (e.g. parallel with the ends 112A and 112B, as shown in Figure 1C) is constant along substantially the entire length of the ticket holder, between the opposed ends. Advantageously, a constant cross-sectional shape is particularly suited to manufacturing the ticket holders by extrusion, and cutting the extrusion into sections.

Although in the illustrated ticket holder 100, the main body section is a partially cylindrical sheet, it will alternatively be appreciated that the main body section may have an alternative arced shape providing a concave and a convex face. In a further alternative, the main body section may be planar. In a yet further alternative, the main body section may have a complexly curved cross-sectional shape comprising at least one concave and convex region on each face, with a respective pair of brackets provided in one or each convex or concavely curved region of one or each face.

In the illustrated ticket holder 100, one pair of ticket retaining brackets 106A, 106B, 108A and 108B is provided on each of the convex and concave faces 110A and 110B. However, alternatively, ticket retaining brackets may be provided on only one face. Also, a plurality of pairs of ticket retaining brackets may be provided on one or each face, enabling a plurality of tickets to be retained in different respective regions of a face of the ticket holder.

Further, three or more ticket retaining brackets may be provided on a face in a nested or overlapping arrangement, to increase the range of ticket sizes that can be held by a single face of a modular ticket holder. For example, an arrangement of three ticket retaining

brackets, in which an intermediate bracket is provided between a pair of other brackets, may enable tickets of two different widths to be held on a single face.

In the illustrated ticket holder 100, the male and female connectors 104A and 104B are configured to be connected together with a relative sliding motion parallel with the edges of the main body section 102. However, alternatively, the connectors may be configured to connect together in a snap-fitting arrangement.

In the illustrated modular ticket holder, male and female connectors 104A and 104B extend along each edge of the main body section 102, between the opposed ends 112A and 112B. Alternatively, one or both of the male and female connectors may extend along only part of the respective edge of the main body section, for example comprising two or more separate parts.

The figures provided herein are schematic.

Throughout the description and claims of this specification, the words “comprise” and “contain” and variations of them mean “including but not limited to”, and they are not intended to (and do not) exclude other moieties, additives, components, integers or steps. Throughout the description and claims of this specification, the singular encompasses the plural unless the context otherwise requires. In particular, where the indefinite article is used, the specification is to be understood as contemplating plurality as well as singularity, unless the context requires otherwise.

Features, integers, characteristics, compounds, chemical moieties or groups described in conjunction with a particular aspect, embodiment or example of the invention are to be understood to be applicable to any other aspect, embodiment or example described herein unless incompatible therewith. All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive. The invention is not restricted to the details of any foregoing embodiments. The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

CLAIMS

1. A modular ticket holder for a modular ticket display system, comprising
a sheet member having a length extending between opposed ends, opposed first and second edges, and opposed first and second faces,
a male connector provided on the first edge,
a female connector provided on the second edge and being configured to connect to the male connector of a corresponding, further modular ticket holder,
wherein a pair of brackets project from a face and are configured to retain a ticket against the face between the brackets, and
wherein the sheet member has a cross-section extending between the edges that is substantially constant along the length of the ticket holder.

2. A modular ticket holder according to claim 1, wherein
the sheet member extends in a first direction adjacent the first edge and the male connector is angled away from the first direction, and
the sheet member extends in a second direction adjacent the second edge and the female connector is angled away from the second direction.

3. A modular ticket holder according to claim 2, wherein the male connector and female connector are angled towards a common face.

4. A modular ticket holder according to any one of claims 1, 2 or 3, wherein the sheet member has an arced cross-section extending between the first and second edges, providing a concave face and an opposed convex face.

5. A modular ticket holder according to claim 4, wherein the arced cross-section is circularly arced.

6. A modular ticket holder according to any one of claims 1, 2 or 3, wherein the sheet member has a planar cross-section extending between the first and second edges, providing opposed planar faces.

7. A modular ticket holder according to any preceding claim, wherein the board has a substantially uniform thickness between the first and second faces.

8. A modular ticket holder according to any preceding claim, wherein the female connector is configured to permit a range of relative angular movement of the further male connector, when the male connector is connected to the female connector.

9. A modular ticket holder according to any one of claims 1 to 7, wherein the interior of the female connector and the exterior of the male connector each have respective members shaped as parts of a discretely rotationally symmetric shape.

10. A modular ticket holder according to any preceding claim, wherein the male connector extends along substantially the full length of the first edge and/or the female connector extends along substantially the full length of the second edge.

11. A modular ticket holder according to any preceding claim, wherein a pair of brackets projects from each face and each pair of brackets is configured to retain a ticket against the respective face.

12. A modular ticket holder according to any preceding claim, wherein a plurality of pairs of brackets projects from a face and each pair of brackets is configured to retain a ticket against the respective face.

13. A ticket display system comprising a plurality of modular ticket holders according to any preceding claim.

14. A method of forming a modular ticket holder according to any preceding claim, comprising:
extruding a strip of material having a constant cross-section; and
cutting the strip along the cross-section to form the modular ticket holder.

15. A modular ticket holder substantially as described herein with reference to the accompanying drawings.

16. A ticket display system comprising a plurality of modular ticket holders substantially as described herein with reference to the accompanying drawings.

17. A method of forming a modular ticket holder substantially as described herein with reference to the accompanying drawings.

Intellectual Property Office

Application No:	GB1419422.9	**Examiner:**	Dr Matthew Jefferson
Claims searched:	1 to 17	**Date of search:**	29 April 2015

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1 to 14.	WO 01/26078 A1 (BURKE GIBSON INC) See whole document.
A	1.	US 4968171 A (SHELL) See figures.
A	1.	GB 1059689 A (FISHER) See figures.
A	1.	GB 1467082 A (BEROL LTD) See figures.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^{X} :

Worldwide search of patent documents classified in the following areas of the IPC

G09F

The following online and other databases have been used in the preparation of this search report

Online: EPODOC, WPI.

International Classification:

Subclass	Subgroup	Valid From
G09F	0001/10	01/01/2006
G09F	0003/20	01/01/2006