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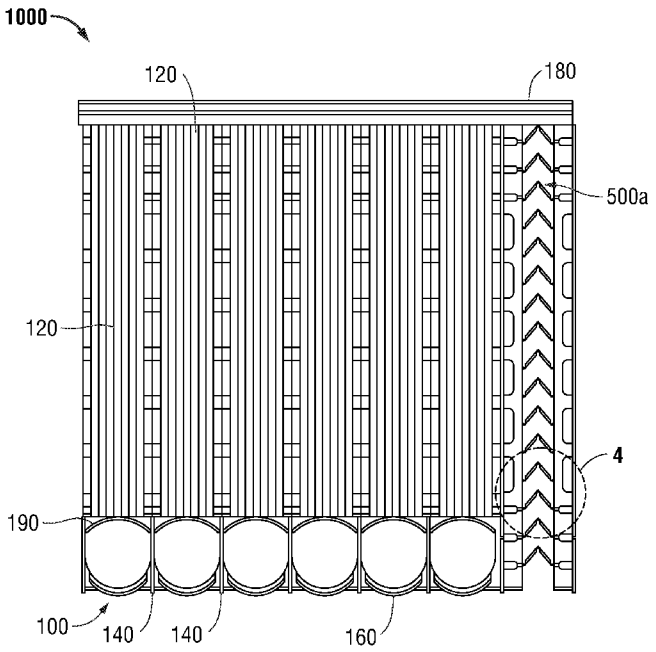


FIG. 3

(57) Abstract: A product display unit. The product display unit includes a track, a first sidewall, a second sidewall, and a width adjustment feature. The track defines a longitudinal axis and is configured to support a plurality of products thereon. The first sidewall is disposed adjacent the track. The second sidewall is disposed adjacent the track. The width adjustment feature is disposed in mechanical cooperation with the first sidewall. The width adjustment feature enables a distance between the first sidewall and the second sidewall to be changed. The distance is perpendicular to the longitudinal axis.

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PRODUCT DISPLAY UNIT HAVING AN ADJUSTABLE WIDTH

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present application claims priority to, and the benefit of, U.S. Provisional Patent Application Serial No. 62/189,426 filed on July 7, 2015, the entire contents of which being herein incorporated by reference in its entirety.

BACKGROUND

[0002] The present disclosure relates to a product display unit, and more particularly, to a product display unit having an adjustable width to increase the functionality of the product display unit.

[0003] Various types of product display units and merchandisers are commonly used in retail environments to display different types of products. As opposed to simply positioning products on shelves, product display units are commonly used to position products on a shelf in manner which automatically advances (e.g., via gravity or a pusher) a trailing or distal product (i.e., a product that is behind a lead or proximal-most product) closer to a consumer once the lead product has been removed from the shelf. As can be appreciated, such product display units facilitate the arrangement and upkeep of products, as the trailing products do not have to be manually moved toward the front of the shelf, for instance.

[0004] Additionally, in retail environments, for example, floor space, shelf space, and space in cold vaults is limited, and retailers typically attempt to maximize the amount of products they can store/display in their retail space. Further, retailers and other users of product display units often use product display units of different sizes to fit on a variety of types and sizes of shelves and cabinets, for example. Such users of product display units must typically stock a

variety of sizes of display units to ensure they have enough product display units to accommodate displaying a variety of goods.

[0005] Accordingly, it is often desirable for retailers to display products in as many viewable and reachable places as possible, while still allowing the products to automatically advance toward the proximal portion of the shelf. It is also desirable for retailers to be able to use product display units to display a variety of sizes of products without the need to stock different sizes of product display units.

SUMMARY

[0006] The present disclosure relates to a product display unit. The product display unit includes a track, a first sidewall, a second sidewall, and a width adjustment feature. The track defines a longitudinal axis and is configured to support a plurality of products thereon. The first sidewall is disposed adjacent the track. The second sidewall is disposed adjacent the track. The width adjustment feature is disposed in mechanical cooperation with the first sidewall. The width adjustment feature enables a distance between the first sidewall and the second sidewall to change. The distance is perpendicular to the longitudinal axis.

[0007] In disclosed embodiments, the width adjustment feature may be free from contact with the track. It is further disclosed that the width adjustment feature may be affixed to the track.

[0008] It is also disclosed that the width adjustment feature may include a plurality of living hinges.

[0009] In disclosed embodiments, the distance may be adjustable between about 2.0 inches and about 3.5 inches.

[00010] It is further disclosed that the product display unit may include a base. The track

may be positioned on the base. It is also disclosed that the first sidewall and the second sidewall may extend from the base.

[00011] The present disclosure also relates to a product display assembly. The product display assembly includes a first product display unit and a second product display unit. The first product display unit includes a track configured to support a plurality of products thereon, and a first sidewall disposed adjacent the track. The second product display unit includes a track, a first sidewall, and a width adjustment feature. The track defines a first longitudinal axis and is configured to support a plurality of products thereon. The first sidewall is disposed adjacent the track. The width adjustment feature is configured to change a distance between the first sidewall of the first product display unit and the first sidewall of the second product display unit. The distance is perpendicular to the longitudinal axis.

[00012] In disclosed embodiments, the width adjustment feature may be free from contact with the track of the second product display unit. It is also disclosed that the width adjustment feature may be affixed to the track of the second product display unit.

[00013] It is further disclosed that the width adjustment feature may include a plurality of living hinges.

[00014] In disclosed embodiments, the distance may be adjustable between about 2.0 inches and about 3.5 inches.

[00015] It is also disclosed that the second product display unit may include a base. The track of the second product display unit may be positioned on the base. It is further disclosed that the first sidewall of the second product display unit may extend from the base.

[00016] In disclosed embodiments, the product display unit may include a distal member disposed in mechanical cooperation with the first sidewall of the first product display unit and

the first sidewall of the second product display unit. It is also disclosed that each of the first sidewall of the first product display unit and the first sidewall of the second product display unit may be slidable with respect to the distal member.

[00017] It is further disclosed that the first sidewall of the first product display unit may define a length along the longitudinal axis. The length of the first sidewall of the first product display unit may be adjustable.

BRIEF DESCRIPTION OF THE DRAWINGS

[00018] Embodiments of the present disclosure are described hereinbelow with reference to the drawings wherein:

[00019] FIG. 1 is a perspective view of a product display assembly including a first width adjustment feature in accordance with the present disclosure;

[00020] FIG. 2 is an assembly view of the product display assembly of FIG. 1;

[00021] FIG. 3 is a top view of the product display assembly of FIG. 1;

[00022] FIG. 4 is an enlarged view of the area of detail indicated in FIG. 3;

[00023] FIG. 5 is a front view of the product display assembly of FIG. 1;

[00024] FIG. 6 is a side view of the product display assembly of FIG. 1;

[00025] FIG. 7 is a top view of a product display assembly including a second width adjustment feature in accordance with the present disclosure;

[00026] FIG. 8 is an enlarged view of the area of detail indicated in FIG. 7;

[00027] FIG. 9 is a front view of the product display assembly of FIG. 7; and

[00028] FIG. 10 is a side view of a sidewall of the product display assembly of FIG. 7.

DETAILED DESCRIPTION

[00029] Embodiments of the presently disclosed product display unit are now described in detail with reference to the drawings, in which like reference numerals designate identical or corresponding elements in each of the several views. As used herein the term "distal" refers to that portion of the product display unit, or component thereof, farther from a user (e.g., customer), while the term "proximal" refers to that portion of the product display unit, or component thereof, closer to the user.

[00030] Embodiments of a product display assembly are illustrated in FIGS. 1-10 and are generally referenced by numeral 1000. Product display assembly 1000 includes a plurality (e.g., seven) of adjacent product display units 100. In FIG. 1, each product display unit 100 includes a base 102, a bottom member 110, a track 120, sidewalls 140, and a proximal member 160. A distal member 180 is also included in the embodiment of FIGS. 1-6.

[00031] The track 120 includes a product-supporting surface and is configured to slidably support a plurality of products thereon. That is, products are slidable along the track 120. For example, gravity may urge products to slide along the track 120 in a distal-to-proximal direction. In such gravity feed arrangements, a distal portion of the track 120 is elevated with respect to a proximal portion of the track, such that gravity urges the products toward proximal member 160. Additionally, the track 120 defines a longitudinal axis “A-A.”

[00032] In the embodiment illustrated in FIGS. 1-6, a pusher 190 is used to urge products proximally with respect to track 120. Here, either the distal or proximal portion of the track 120 may be elevated, or the track can be horizontal or level.

[00033] The sidewalls 140 are disposed at both lateral sides of the track 120 and are configured to help maintain products on the track 120. When a plurality of product display units

100 is positioned adjacent one another to form product display assembly 1000, it is envisioned that adjacent product display units 100 share common sidewalls 140. Alternatively, each product display unit 100 may include a pair of sidewalls 140 such that, when connected to another product display unit 100, the sidewalls 140 are in an abutting relationship.

[00034] The proximal member 160 is positioned adjacent the front or proximal portion of the track 120 and is configured to help maintain products on the track 120. More specifically, the proximal member 160 helps prevent a proximal-most product from falling proximally off of the track 120. Additionally, the proximal member 160 opposes the gravitational force and/or the force supplied by pusher 190. Further, while the illustrated embodiments include a certain type of proximal member 160, the present disclosure includes the use of any suitable type and number of proximal members 160 per product display unit 100.

[00035] The distal member 180 is configured to help maintain products "P" on track 120. More particularly, the distal member 180 is configured to help prevent a distal-most product from falling distally off of the track 120. It is envisioned that each product display unit 100 includes its own distal member 180. It is also disclosed that several adjacent product display units 100 (e.g., an entire product display assembly 1000) share a single distal member 180 (FIGS. 1 and 2).

[00036] The present disclosure also includes a width adjustment feature that is configured to change the width "w" between adjacent sidewalls 140. With reference to FIGS. 3 and 4, a first embodiment of width adjustment feature is shown and is indicated by reference character 500a. Here, width adjustment feature 500a includes a plurality of living hinges 510a, with each living hinge 510a spanning a gap 112 (FIG. 4) between adjacent portions of base 102. A first portion 512a of each living hinge 510a is mechanically engaged (e.g. affixed) to a first lateral

portion 102a of base 102. A second portion 514a of each living hinge 510a is mechanically engaged (e.g., affixed) to a second lateral portion 102b of base 102. A central portion 516a of each living hinge 510a interconnects the first portion 512a and the second portion 514a and enables the first portion 512 and the second portion 514 and thus the respective lateral portions 102a, 102b of base 102 to flex or move with respect to each other.

[00037] In this embodiment, the sidewalls 140 are affixed to the base 102, thus the use of living hinges 510a enables the width "w" between adjacent sidewalls 140 to be changed between a first, small size where first portion 512a of living hinge 510a is relatively close to second portion 514a of living hinge 510a, and a second, large size where first portion 512a of living hinge 510a is relatively far from second portion 514a of living hinge 510a. Further, living hinge 510a allows an infinite amount of widths "w" between adjacent sidewalls 140 between the first, small size and the second, large size. It is envisioned that the width "w" between adjacent sidewalls 140 is adjustable from between about 2.0 inches (about 5.1 cm) to about 3.5 inches (about 8.9 cm). Accordingly, the product display unit 100 can accommodate a typical 12-ounce beverage container (e.g., a can), which is about 2.625 inches (about 6.73 cm) wide, and a typical 20-ounce beverage container (e.g., a bottle), which is about 2.875 inches (about 7.30 cm) wide.

[00038] To increase the width "w," a user may hold one sidewall 140 and move it laterally (or sideways) away from an adjacent sidewall 140. To decrease the width "w," a user may hold one sidewall 140 and move it laterally (or sideways) toward an adjacent sidewall 140.

[00039] To help guide and/or re-position the sidewalls 140, distal member 180 may be useful. With reference to FIGS. 1-3, distal member 180 includes an upper guide 182 and a lower guide 184 (FIG. 2). Upper guide 182 slidingly engages an upper surface/groove 142 at a distal end of each sidewall 140. Lower guide 184 slidingly engages a lower groove 144 at the distal

end of each sidewall 140. As such, sidewalls 140 are laterally movable along distal member 180.

[00040] With continued reference to FIGS. 1-3, in this embodiment, bottom member 110 including track 120 is positionable onto base 102 of product display unit 100. It is envisioned that a width bottom member 110 is equal to or smaller than the first, small size of the width "w" between adjacent sidewalls 140.

[00041] While a particular number of living hinges 510a is shown in FIG. 3, it is envisioned that more or fewer living hinges 510a are used. Additionally, while living hinges 510a are only shown on a single product display unit 100, it is envisioned that any number of product display units 100 (e.g., all product display units 100) of product display assembly 1000 includes living hinges 510a.

[00042] With reference to FIGS. 7-10, a second embodiment of width adjustment feature is shown for use with product display assembly 1000 and is indicated by reference character 500b. Here, width adjustment feature 500b includes a plurality of hinge mechanisms 550b and a plurality of living hinges 560b. Hinge mechanisms 550b and living hinges 560b span a gap 121 between adjacent slats 122a, 122b of track 120.

[00043] A first portion 552b of each hinge mechanism 550b is mechanically engaged (e.g. affixed) to a first slat 122a of track 120. A second portion 554b of each hinge mechanism 550b is mechanically engaged (e.g., affixed) to a second slat 122b of track 120. Hinge mechanism 550b may also include a pin 556b extending through or adjacent part of first portion 552b and through or adjacent part of second portion 554b, thus facilitating pivotal movement therebetween. Additionally, a first portion 562b of each living hinge 560b is mechanically engaged (e.g. affixed) to first slat 122a of track 120, and a second portion 564b of each living hinge 560b is mechanically engaged (e.g., affixed) to second slat 122b of track 120. A central

portion 566b of each living hinge 560b interconnects the first portion 562b and the second portion 564b and facilitates relative lateral movement between first slat 122a and second slat 122b of track 120.

[00044] In this embodiment, the sidewalls 140 are affixed to the track 120, thus the use of hinge mechanisms 550a and/or living hinges 560a enables the width "w" between adjacent sidewalls 140 to be changed between a first, small size to a second, large size. Further, it is envisioned that hinge mechanism 550a provides the ability to change between two distinct, discrete widths "w." It is envisioned that the width "w" between adjacent sidewalls 140 is adjustable from between about 2.625 inches (about 6.73 cm), which is the width of a typical 12-ounce beverage container (e.g., a can), and about 2.875 inches (about 7.30 cm), which is the width of a typical 20-ounce beverage container (e.g., a bottle).

[00045] To increase the width "w," a user may hold one sidewall 140 or section of track 120 and move it laterally (or sideways) away from an adjacent sidewall 140. To decrease the width "w," a user may hold one sidewall 140 or section of track 120 and move it laterally (or sideways) toward an adjacent sidewall 140.

[00046] Further, the embodiment shown in FIGS. 7-10 includes one living hinge 560a disposed proximally of each hinge mechanism 550a, and one living hinge 560a disposed distally of each hinge mechanism 550a. Other arrangements of hinge mechanisms 550a and living hinges 560a are contemplated, including the use of hinge mechanisms 550a without any living hinges 560a. Additionally, while a particular number of hinge mechanisms 550a and living hinges 560a are shown in FIG. 7, it is envisioned that more or fewer hinge mechanisms 550a and living hinges 560a are used. Additionally, while hinge mechanisms 550a and living hinges 560a are shown on each product display unit 100 in FIG. 7, it is envisioned that any number of product

display units 100 of product display assembly 1000 includes hinge mechanisms 550a and/or living hinges 560a.

[00047] It is further disclosed that removable portion(s) 145 of each sidewall 140 can be removed from the remainder of the sidewall 140 (e.g., by breaking off removable portion(s) 145). In FIGS. 1 and 2, for example, each distal removable portion 145 of each sidewall 140 includes grooves 142, 144 for engaging distal member 180. In FIG. 10, for example, sidewall 140 includes a plurality of removable portions 145. Removal of removable portion(s) 145 enables the length of product display units 100 to be shortened.

[00048] Further, while the accompanying figures illustrate a particular number of product display units 100 disposed adjacent each other, it is envisioned and within the scope of the present disclosure to include more or fewer amounts of product display units 100, and to include product display units 100 of other sizes, and disposed at different angles than those illustrated, for example.

[00049] Further details of related product display units are described in commonly-owned U.S. Patent No. 5,645,176, which issued on July 8, 1997, the entire contents of which being incorporated by reference herein.

[00050] It will be understood that various modifications may be made to the embodiments disclosed herein. Therefore, the above description should not be construed as limiting, but merely as exemplifications of various embodiments. Those skilled in the art will envision other modifications within the scope and spirit of the claims appended hereto.

CLAIMS:

1. A product display unit, comprising:

a track defining a longitudinal axis and configured to support a plurality of products thereon;

a first sidewall disposed adjacent the track;

a second sidewall disposed adjacent the track; and

a width adjustment feature disposed in mechanical cooperation with the first sidewall, wherein the width adjustment feature enables a distance between the first sidewall and the second sidewall to be changed, wherein the distance is perpendicular to the longitudinal axis.

2. The product display unit according to claim 1, wherein the width adjustment feature is free from contact with the track.

3. The product display unit according to claim 1, wherein the width adjustment feature is affixed to the track.

4. The product display unit according to claim 1, wherein the width adjustment feature includes a plurality of living hinges.

5. The product display unit according to claim 1, wherein the distance is adjustable between about 2.0 inches and about 3.5 inches.

6. The product display unit according to claim 1, further comprising a base, wherein the track is positioned on the base.

7. The product display unit according to claim 6, wherein the first sidewall and the second sidewall extend from the base.

8. A product display assembly, comprising:

a first product display unit including:

a track configured to support a plurality of products thereon;

a first sidewall disposed adjacent the track; and

a second product display unit including:

a track defining a longitudinal axis and configured to support a plurality of products thereon;

a first sidewall disposed adjacent the track; and

a width adjustment feature configured to change a distance between the first sidewall of the first product display unit and the first sidewall of the second product display unit, wherein the distance is perpendicular to the longitudinal axis.

9. The product display assembly according to claim 8, wherein the width adjustment feature is free from contact with the track of the second product display unit.

10. The product display assembly according to claim 8, wherein the width adjustment feature is affixed to the track of the second product display unit.

11. The product display assembly according to claim 8, wherein the width adjustment feature includes a plurality of living hinges.

12. The product display assembly according to claim 8, wherein the distance is adjustable between about 2.0 inches and about 3.5 inches.

13. The product display assembly according to claim 8, wherein the second product display unit includes a base, wherein the track of the second product display unit is positioned on the base.

14. The product display assembly according to claim 13, wherein the first sidewall of the second product display unit extends from the base.

15. The product display assembly according to claim 8, further comprising a distal member disposed in mechanical cooperation with the first sidewall of the first product display unit and the first sidewall of the second product display unit.

16. The product display assembly according to claim 15, wherein each of the first sidewall of the first product display unit and the first sidewall of the second product display unit is slidable with respect to the distal member.

17. The product display assembly according to claim 8, wherein the first sidewall of the first product display unit defines a length along the longitudinal axis, and wherein the length of the first sidewall of the first product display unit is adjustable.

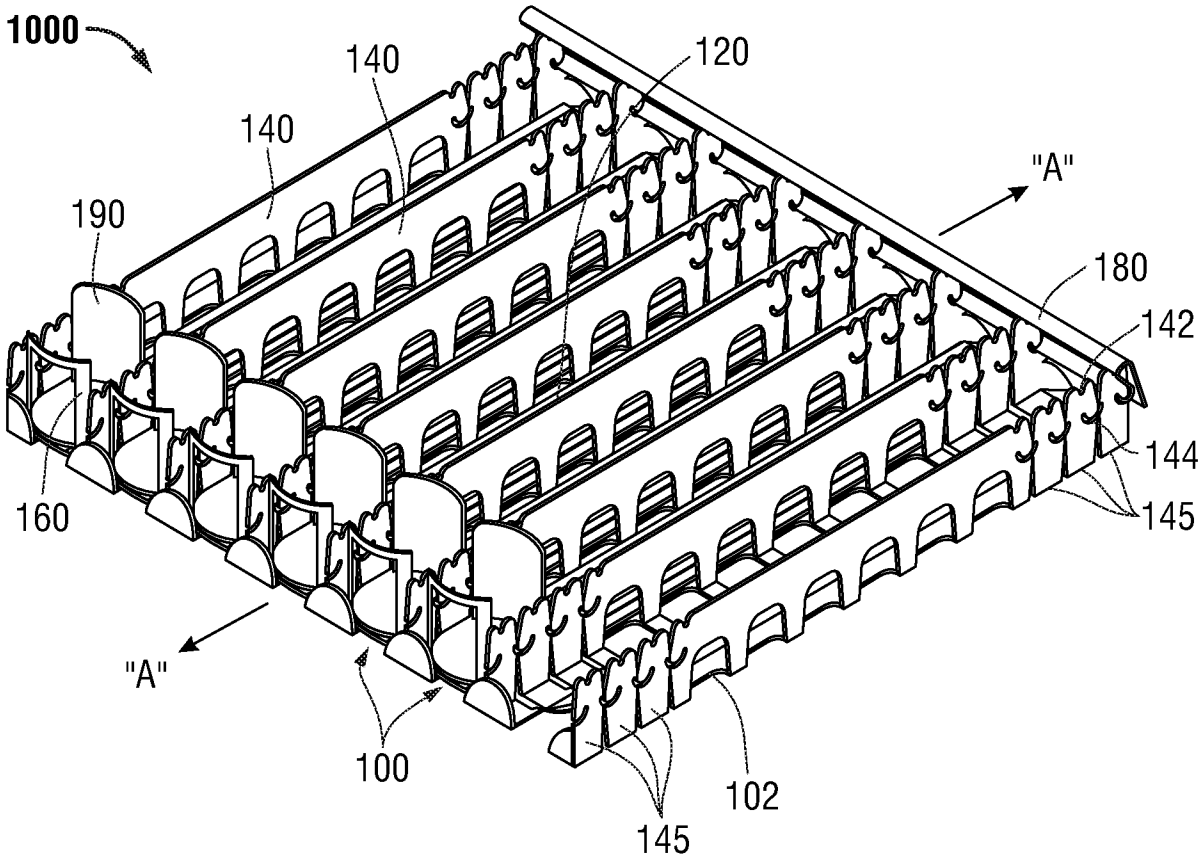


FIG. 1

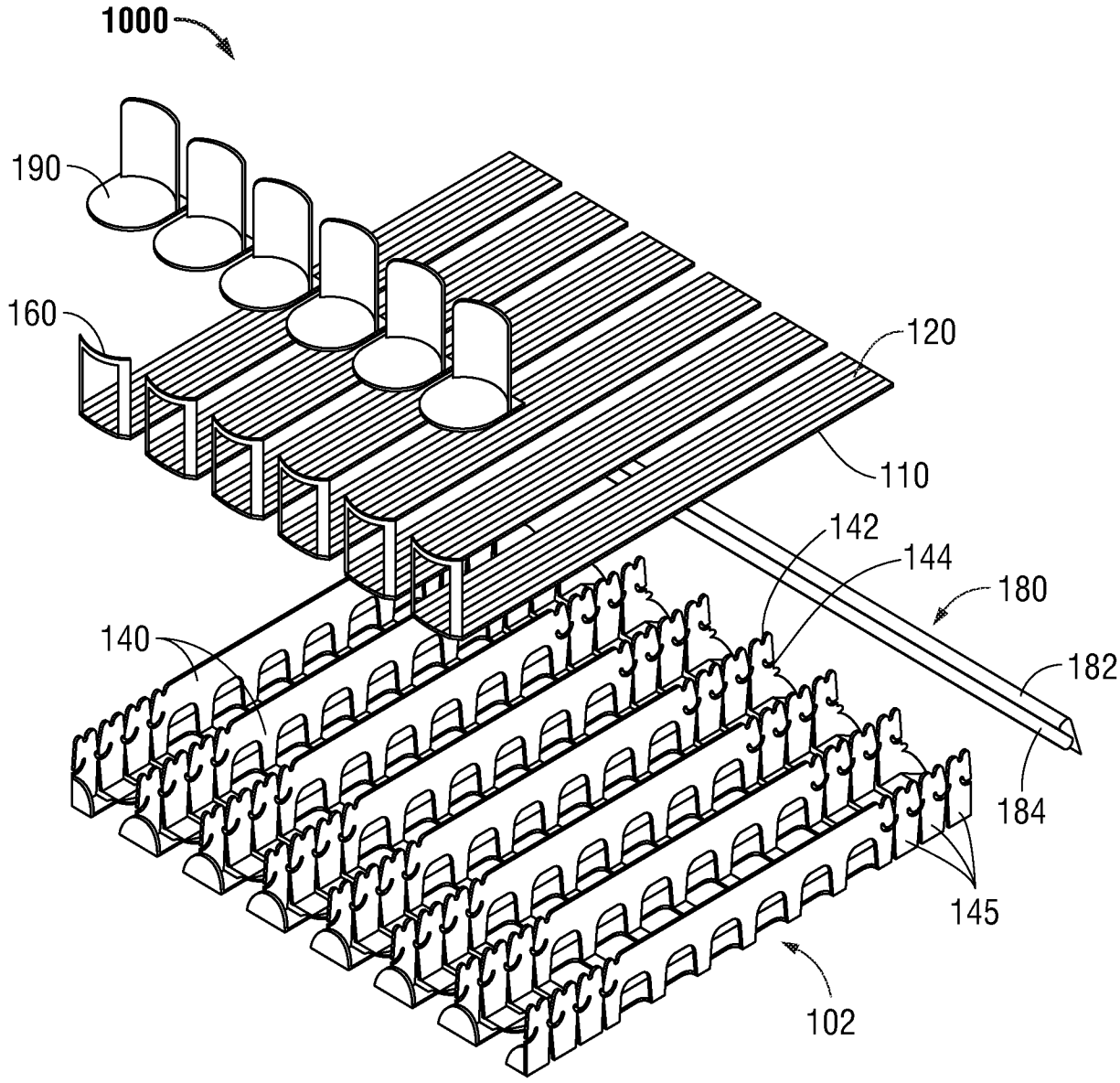


FIG. 2

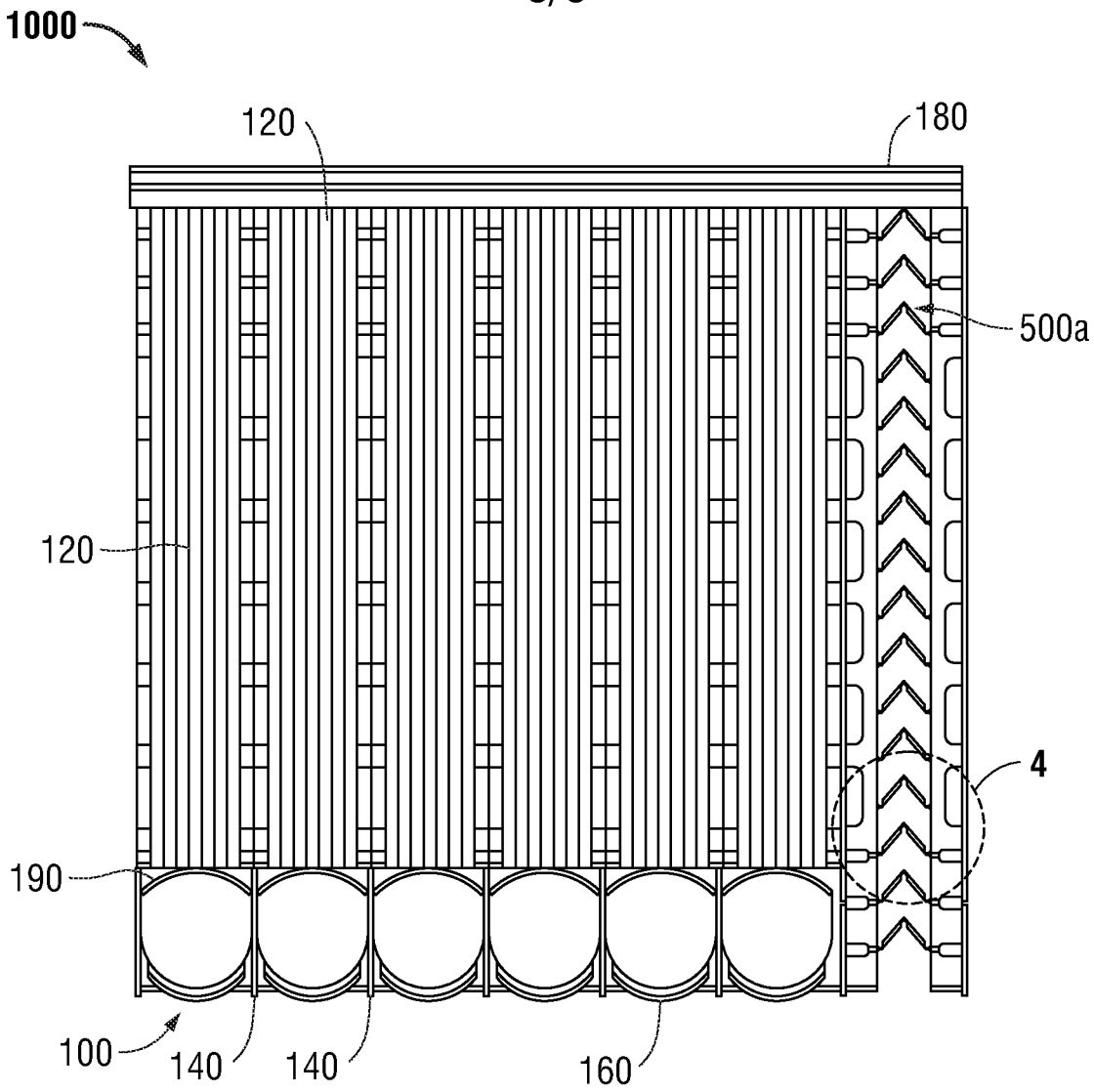

1000
120
180
500a
120
4
190
100
140
140
160

FIG. 3

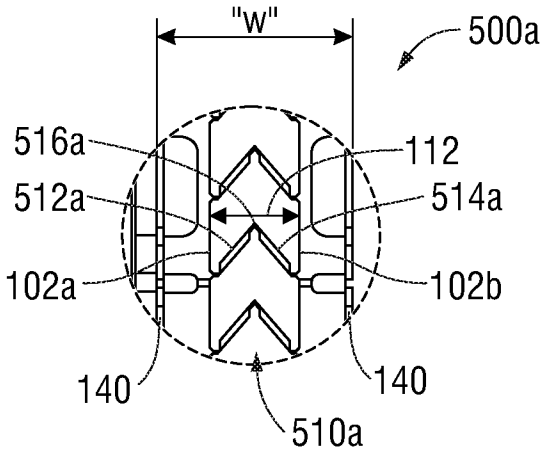

"W"
500a
516a
112
512a
514a
102a
102b
140
140
510a

FIG. 4

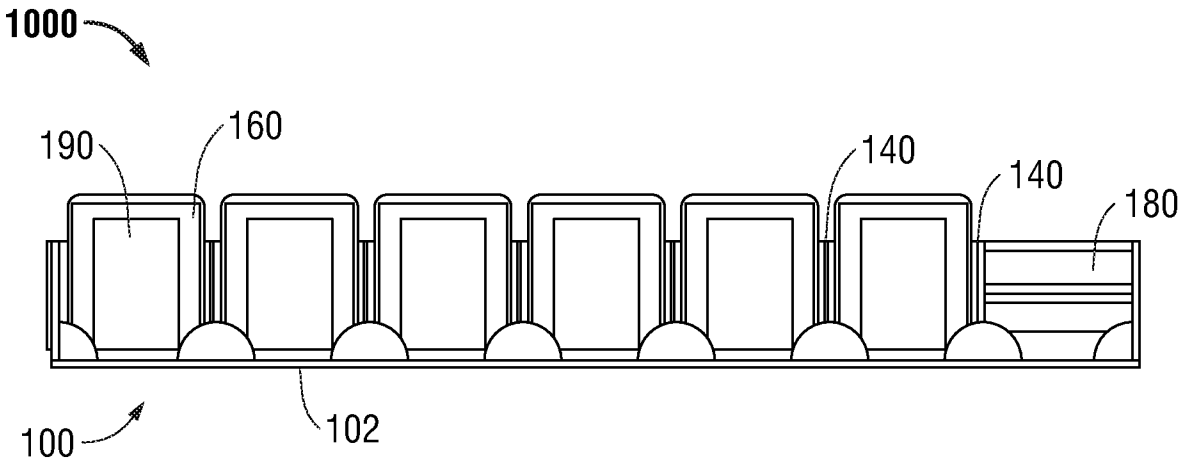

1000
190
160
140
140
180
100
102

FIG. 5

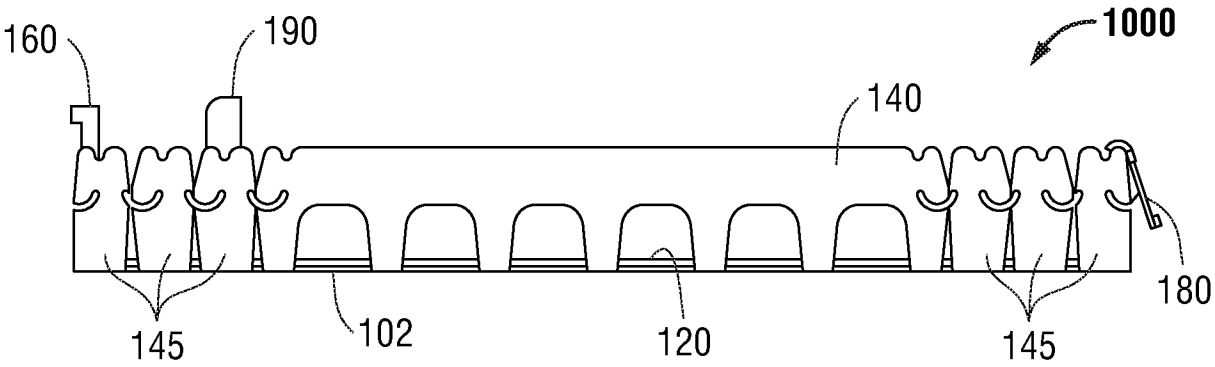

160
190
1000
140
180
145
102
120
145

FIG. 6

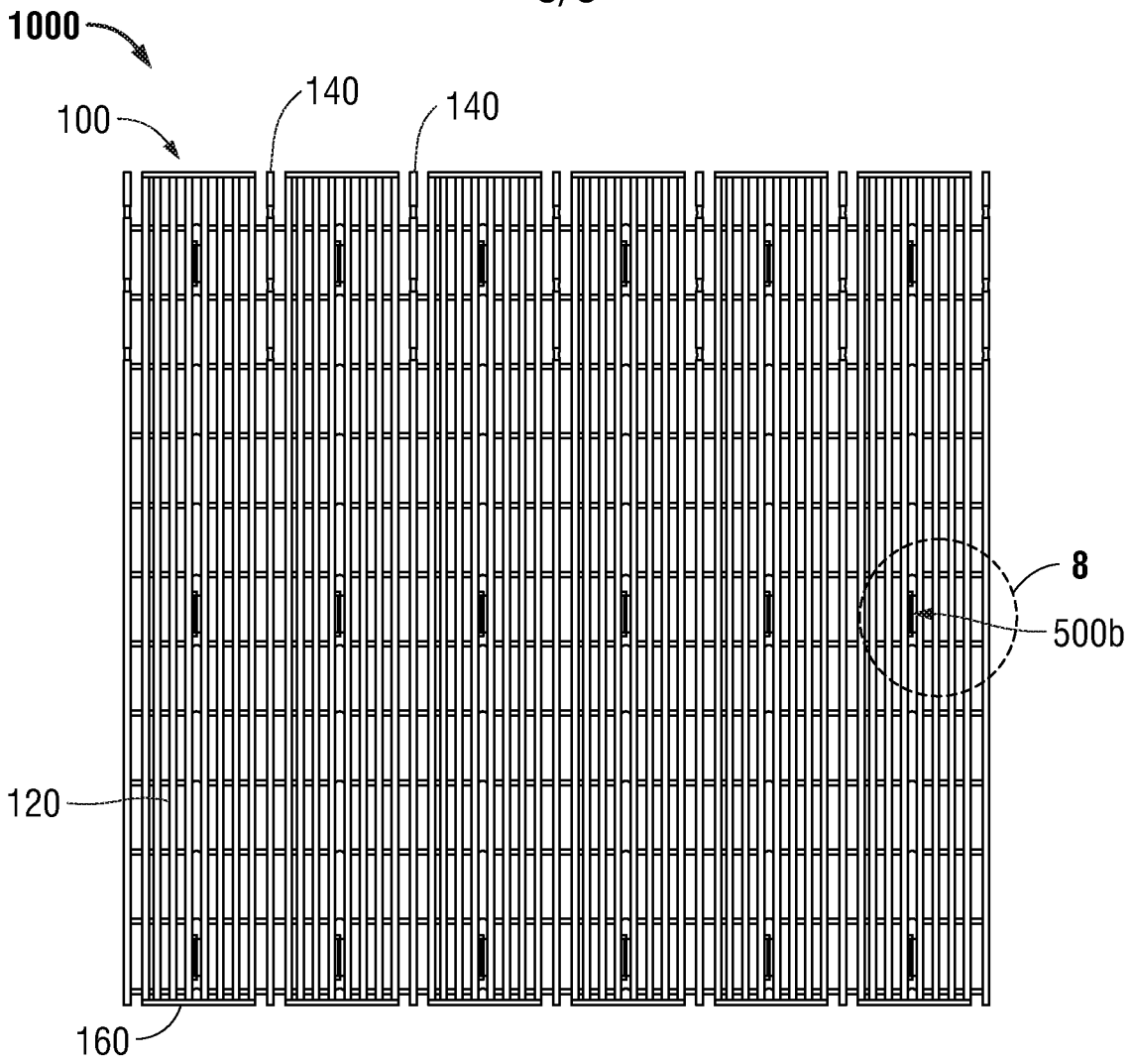

1000
100
140
140
8
500b
120
160

FIG. 7

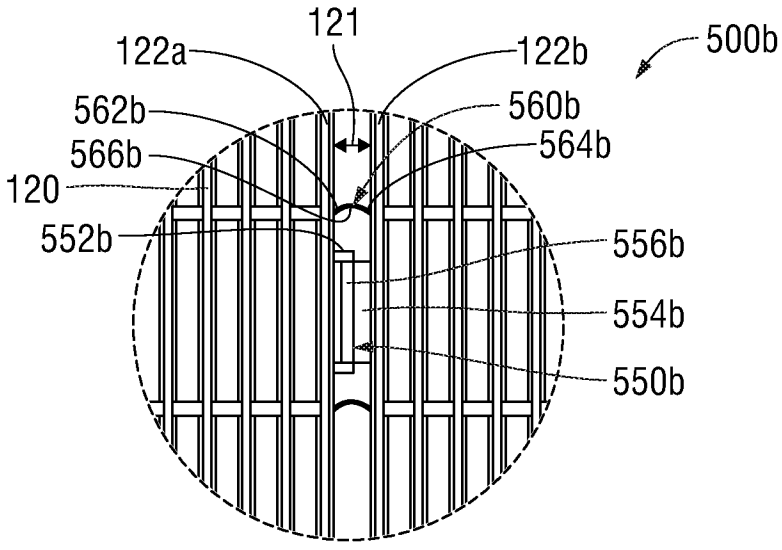

121
122a
122b
500b
562b
560b
566b
564b
120
552b
556b
554b
550b

FIG. 8

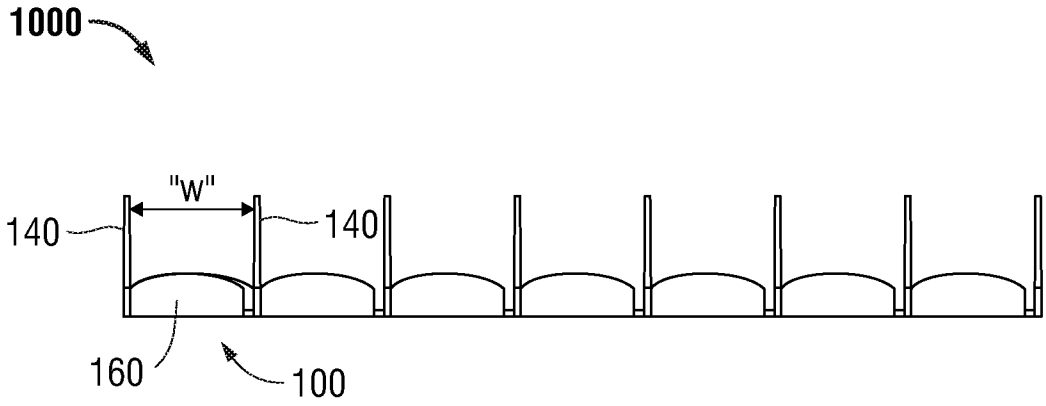


FIG. 9

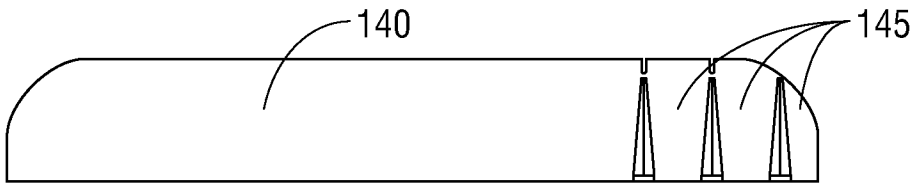


FIG. 10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 16/41260

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A47F 1/00, A47F 1/04, A47F 5/00, A47F 5/10 (2016.01)
CPC - A47F 1/00, A47F 1/04, A47F 5/00, A47F 5/10, A47F 5/105, A47F 5/0043, A47F 5/005
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)
IPC(8): A47F 1/*, A47F 5/* (2016.01)
CPC: A47F 1/*, A47F 5/*

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC(8): A47F* (2016.01)
CPC: A47F*

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents, Google Web
Keywords: adjust, adjustable, extend, extendable, width, length, track, living hinge, display technologies, pull, product, merchandise, merchandising, display

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/0032391 A1 (SCHNEIDER et al.) 11 February 2010 (11.02.2010), entire document	1-2, 4-9, 11-14
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Y		17
X	US 7,458,473 B1 (MASON) 02 December 2008 (02.12.2008), entire document	1, 3
X	US 4,394,910 A (MILLER) 26 July 1983 (26.07.1983), entire document	1, 3, 8, 10, 15-16
Y	US 7,992,747 B2 (BAUER) 09 August 2011 (09.08.2011), entire document	17

☒ Further documents are listed in the continuation of Box C. ☐

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Date of the actual completion of the international search	Date of mailing of the international search report
16 September 2016	29 SEP 2016
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 16/41260

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,801,025 A (FLUM et al.) 31 January 1989 (31.01.1989), entire document	1-17
A	WO 2014/200759 A1 (DISPLAY TECHNOLOGIES) 18 December 2014 (18.12.2014), entire document	1-17
A	US 2,669,361 A (JUST) 16 February 1954 (16.02.1954), entire document	1-17
A	WO 02/089104 A2 (DCI MARKETING, INC.) 07 November 2002 (07.11.2002), entire document	1-17
A	US 2005/0139560 A1 (WHITESIDE et al.) 30 June 2005 (30.06.2005), entire document	1-17