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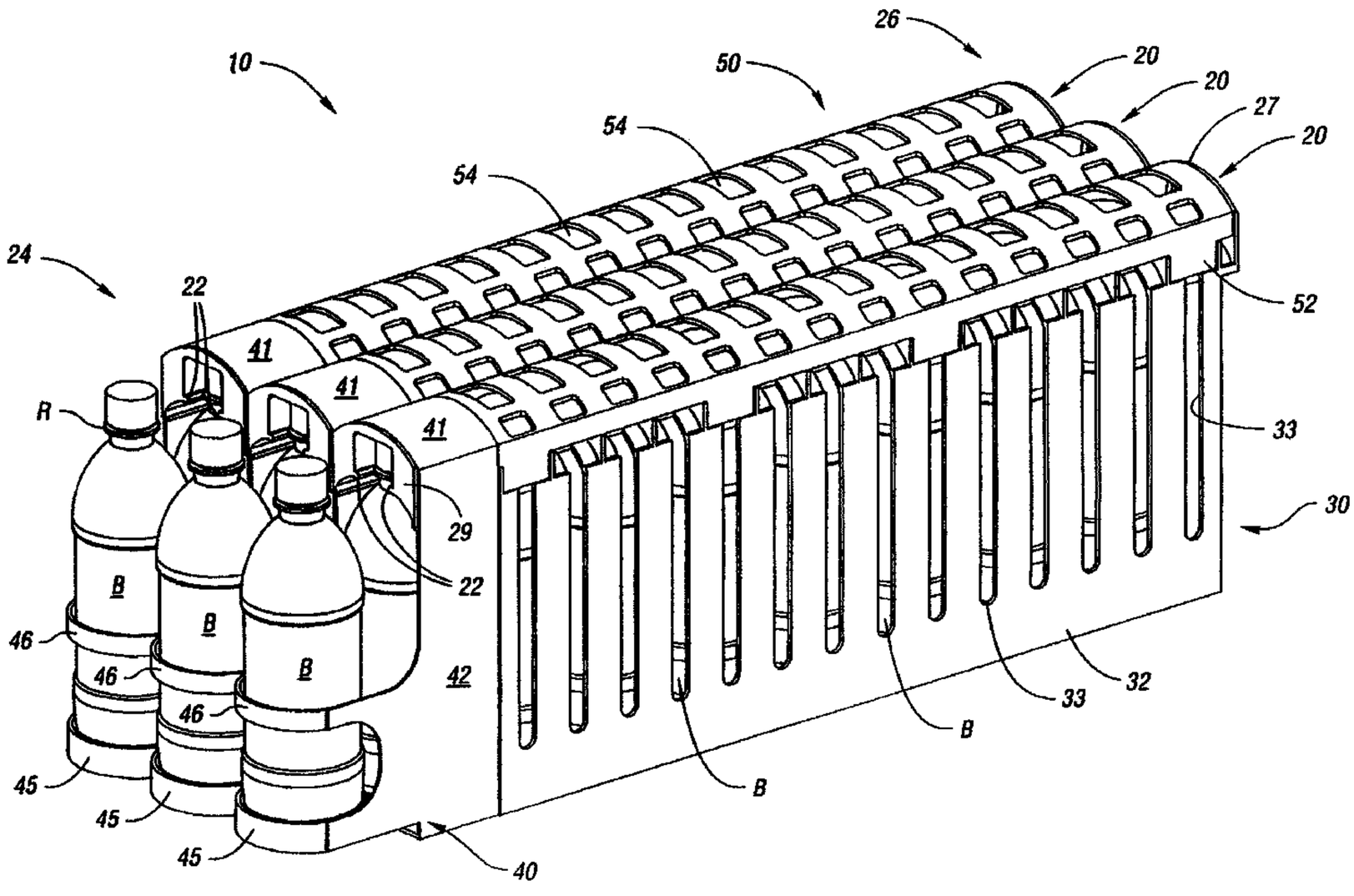
(54) MERCHANDISING DISPLAY UNIT FOR BOTTLES



(57) A merchandise dispensing device (10) for bottles (B) suspended in tracks (20) by their neck flanges (R) is adapted for installation on existing display racks (310) by means of a track support (30) which rests on the display rack (310) and supports the tracks (20) a sufficient distance above the display rack (310) so that the suspended bottles (B) gravity-feed freely without contacting the display rack (310).

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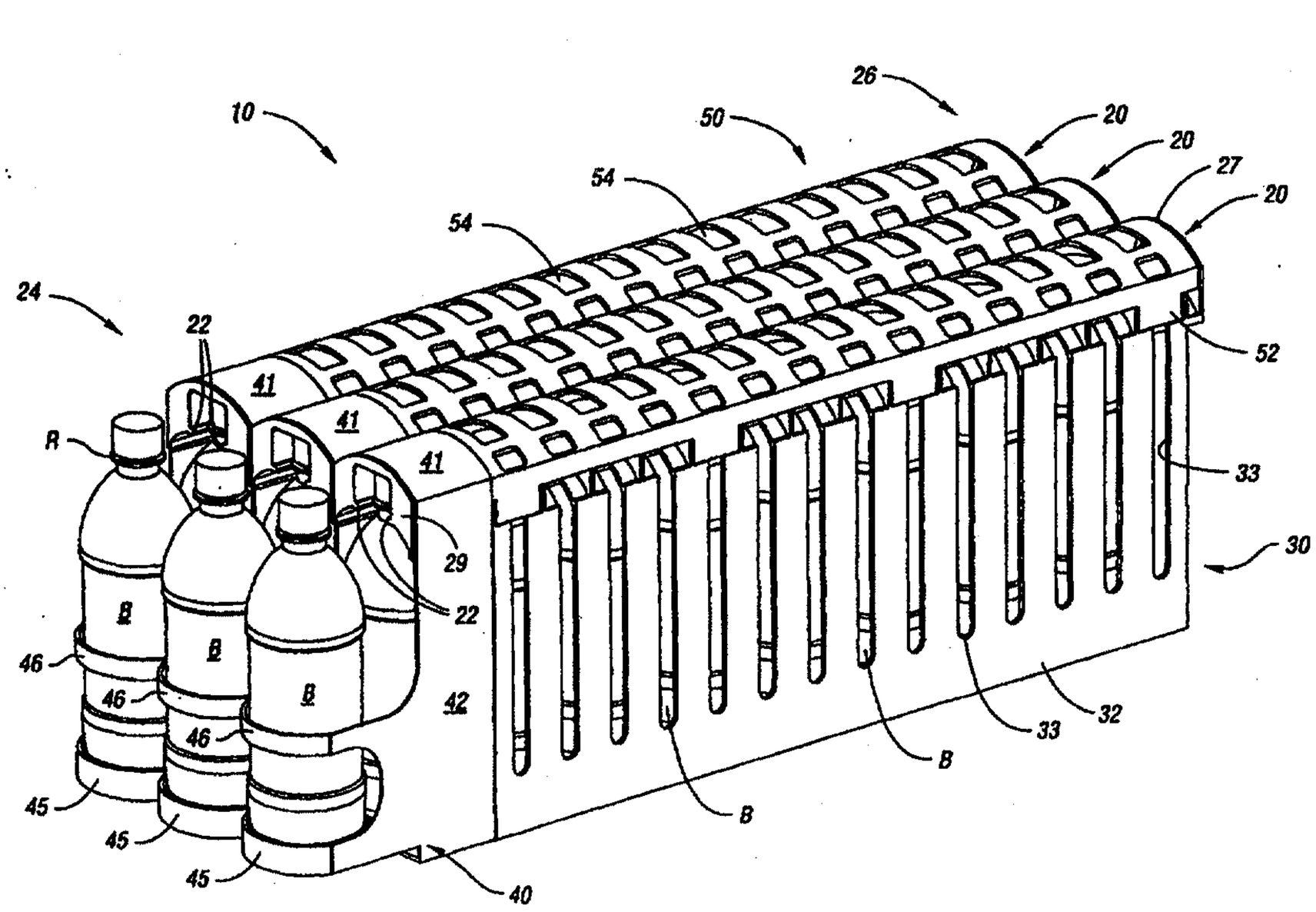

(57) Abstract

A merchandise dispensing device (10) for bottles (B) suspended in tracks (20) by their neck flanges (R) is adapted for installation on existing display racks (310) by means of a track support (30) which rests on the display rack (310) and supports the tracks (20) a sufficient distance above the display rack (310) so that the suspended bottles (B) gravity–feed freely without contacting the display rack (310).

MERCHANDISING DISPLAY UNIT FOR BOTTLES

TECHNICAL FIELD

The present invention relates to a merchandising display unit, and in particular, a gravity feed merchandising display and dispensing unit for bottles suspended by their neck flanges.

BACKGROUND OF THE INVENTION

Refrigerated display cases for beverage containers and the like generally include vertically aligned rows of racks, commonly called glide racks, upon which the beverage containers are loaded. The beverage containers may be cans or bottles of any size and the width of the glide rack row is adjusted accordingly to accommodate the width of the containers. The glide rack includes a plurality of rows extending from the front of the glide rack to the rear thereof. Each row may then be loaded with beverage containers extending from the front of the display case to the rear of the display case. Each glide rack is disposed within the refrigerated display case at an angle sloping downwardly to the front at approximately five to twelve degrees. Thus, when the lead beverage container is removed from the row by a customer, the next beverage container will move forwardly to occupy the forwardmost position, and the remainder of the row of beverage containers will follow. In this manner, there is always a beverage container at the front of each row of the glide rack ready to be dispensed to a customer. An example of such a glide rack is disclosed in U.S. Patent No. 4,809,855 to Bustos. Fig. 14 is an illustration of a glide or display rack, originally shown as Figure 1 in U.S. Patent No. 4,809,855, wherein the original patent reference numbers have been given a "3" prefix. As this patent states, display racks, constructed primarily of sheet metal, are commonly used in grocery stores, supermarkets, and the like for the display and merchandising of beverages. Beverages are sold in bottles and containers of various sizes, the smaller bottles being commonly packaged in cartons, and the larger multi-liter sizes being generally in the form of individual bottles. The sizes of the small bottles may vary, and the

relative proportion of cartons to large bottles in a particular display also varies, depending upon the demand experienced by a particular vendor. For these reasons, gondola display racks are commonly supplied with vertically movable shelves adapted to be positioned for optimum usage of available space. A typical gondola display rack comprises a sheet metal base and a vertical upright extending upwardly from the rear of the base. Beverage cartons are normally stacked on the base, and larger bottles are normally arranged on shelves supported from the upright and cantilevered over the base.

The initially smooth sliding surface of the glide rack soon wears off, however, thus creating more friction as the beverage containers slide thereon such the plastic sliding surface of the glide rack becomes more roughened. This in turn creates more problems as the beverage containers may fall over, tip, rotate, occasionally open and spill. The repeated sliding along the roughened sliding surface, and the occasional tipping and spilling, creates a worn and unusable glide rack within only three to four months of use. Therefore, it has generally been necessary to completely replace the entire glide rack once it reached this point of wear and tear, resulting in costly and repeated expenditures.

An alternative for merchandising bottles for display and purchase is an overhead support system, such as shown in U.S. Patent No. 4,401,221 to Suttles, U.S. Patent No. 4,318,485 to Clement, and commonly assigned copending U.S. patent application No. 08/923,267, filed September 4, 1997. In these types of systems, an overhead support track having a pair of spaced rails suspends bottles by their neck flanges. The bottles slide forwardly under gravity feed due to the angle of the support track. However, retrofitting existing display cases with suspended bottle systems has been wasteful and costly because it has required the complete removal of the conventional glide racks, which then become useless, and the installation of special hangers or other structural elements for suspending the bottle support tracks. Further, existing suspended bottle systems generally cannot readily accommodate bottles of different heights. And, due to the way in which such systems are assembled, should a single track need to be replaced, it is necessary to disassemble an entire bank of tracks in order to do so.

SUMMARY OF THE INVENTION

The present invention provides a merchandising display system for bottles that is quickly and easily installed and supported on existing glide or display racks. The system of the present invention also provides easily interchangeable components tailored to bottles of different height and/or diameter, thus yielding greater flexibility for the use of the system. In addition, the system of the present invention offers increased visibility of the bottled product to be displayed for sale, both the bottle label and any distinctive shape of the bottle itself.

These and other objects are achieved by providing a gravity feed merchandise dispensing device adapted for installation on the upper supporting surface of a merchandise display rack. The dispensing device comprises at least one track capable of supporting in tandem a row of similar bottles of the type having an annular flange on the neck of the bottle. The track has a front end, a rear end, and a pair of rails spaced apart to receive between them the necks of suitably sized bottles such that the underside of each bottle neck flange engages the rails, whereby the bottles are suspended by their flanges for movement relative to the track. A track support extends downwardly from the track and is adapted to engage the display rack and support the track above the display rack with the front end of the track near the front of the display rack, the rear end of the track near the rear of the display rack, and the track inclined with its front end lower than its rear end. The track is supported a sufficient distance above the display rack so that the bottles suspended in the track do not contact the display rack and can gravity-feed along the track toward the front of the display rack as bottles are removed from the front end of the track.

The track support may comprise a side support at each side of the track, the side supports being spaced apart sufficiently to allow bottles to move therebetween along the track.

To facilitate bottle dispensing, a lead bottle support is located at the front end of the track and is sized to support the bottom of the lead bottle of the row with the neck of the lead bottle adjacent the front end but disengaged from the rails. In one embodiment, the lead bottle support has an upper hanger portion adapted to be supported on a retainer section of the track, spaced side members connected to the hanger portion and adapted to flank the track and the lead bottle, and a platform connected to the side members for supporting the lead bottle. A front stop on the platform engages the lower front edge of the lead bottle, while a front waist band above the platform engages a medial portion of the lead bottle. In another embodiment, the lead bottle support is mounted on the sides of the track support.

When the dispensing device comprises a plurality of parallel tracks, adjacent tracks being contiguous, there is a common side support at each of the contiguous margins of the adjacent tracks. The tracks and the side supports may be integrally molded together of plastic material.

Various additional advantages and features of novelty which characterize the invention are further pointed out in the claims that follow. However, for a better understanding of the invention and its advantages, reference should be made to the accompanying drawings and descriptive matter which illustrate and describe two preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front, top and right side perspective view of a three-track modular dispensing device according to a first preferred embodiment of the invention;

Fig. 2 is a perspective view of three of the modular dispensing devices of Fig. 1, placed side-by-side to form a nine-track dispensing arrangement;

Fig. 3 is a front exploded view of the dispensing device of Fig. 1;

Fig. 4 is a rear exploded view of the dispensing device of Fig. 1;

Fig. 5 is a front elevational view of the dispensing device of Fig. 1;

Fig. 6 is a rear elevational view of the dispensing device of Fig. 1;

Fig. 7 is a right side elevational view of the dispensing device of Fig. 1;

Fig. 8 is a front, top and right side perspective view of a three-track modular dispensing device according to a second preferred embodiment of the invention;

Fig. 9 is a rear, top and left side perspective view of the dispensing device of Fig. 8;

Fig. 10 is a front exploded view of the dispensing device of Fig. 8;

Fig. 11 is a front elevational view of the dispensing device of Fig. 8;

Fig. 12 is a right side elevational view of the dispensing device of Fig. 8;

Fig. 13 is a perspective view of the dispensing device of Fig. 8, having lead bottle supports of a different configuration; and

Fig. 14 is an illustration of a display rack, originally shown as Figure 1 in U.S. Patent No. 4,809,855, wherein the original patent reference numbers have been given a "3" prefix.

DETAILED DESCRIPTION

A merchandising display unit in accordance with the present invention is designed to be used within a refrigerated display case, supported on prior art glide

rack units or the like. Such units typically comprise a plurality of vertically spaced shelves or wire racks which are inclined toward the front of the display case at an angle of approximately five to twelve degrees. However, as explained below, the invention also is adaptable to be supported on and used with racks or shelves which are substantially horizontal. As used herein, therefore, the term "display rack" is used to denote any and all types of racks, shelves or other structures which have an upper supporting surface, whether inclined or horizontal, including but not limited to structures having supporting surfaces which are solid, perforated, latticework or any other form. One example of such type of racks, shelves or other structures is illustrated in Fig. 14, and which was originally shown as Figure 1 in U.S. Patent No. 4,809,855, and to which a "3" prefix has been added to the reference numerals for ease of reference herein. Referring to Fig. 14, there is illustrated a beverage display or rack 310 for displaying packages of beverage products 305 or individual bottled products. Such displays or racks are commonly used for displaying beverage bottles or packages of beverages in stores or retail establishments. In Fig. 14, rack 310 is illustrated as having two shelves 317, the top surfaces of which slope downwardly and forwardly at an angle of approximately 8 degrees so as to facilitate sliding of bottles or articles supported upon the top surfaces of the shelves forwardly to the front edge of the shelf and against an abutment 320 secured to the front edge of the shelf. There are multiple channel-shaped or L-shaped dividers 322 mounted upon the top surface 321 of each shelf 317. The bottom surface of these sheet metal dividers 322 has downwardly extending, hook-shaped, tabs pressed therefrom such that the dividers may be attached to the top surface of the shelf at any desired location by simply inserting the tabs into holes formed in the top surface 321 of each shelf. Preferably, such divider is secured or locked to the top surface of the shelf by a conventional sheet metal screw extending downwardly through the channel and the top surface of the shelf. Thereby, a trackway 323 is defined between two adjacent dividers 322 for the support of a column of packages or bottles.

Fig. 1 illustrates a modular dispensing device 10 according to a first embodiment of the invention having three parallel tracks 20 for supporting and dispensing rows of bottles B. The bottles have a flange or ring R by which they are suspended on spaced rails 22 within tracks 20. A track support 30 is attached to and

extends downwardly from tracks 20, and is adapted to be supported on a display rack (not shown in Fig. 1) with the front ends 24 of tracks 20 near the front of the display rack, and the rear ends 26 of tracks 20 near the rear of the display rack. Track support 30 comprises side supports 32 at each side of each track 20. See Fig. 6. A lead bottle support or basket 40 is attached to the front end of each track 20. Each basket 40 supports the bottom of the lead bottle of its respective row, with the neck of the lead bottle disengaged from rails 22. See Fig. 7.

Two or more three-track modular dispensing devices 10 may be grouped together to fill the lateral space on a display rack with multiple rows of bottles B. Fig. 2 illustrates three such dispensing devices 10, which together form nine tracks for dispensing bottles. While three tracks are depicted in the modular display unit 10 of Fig. 1, modular units may be constructed having one, two, three, four or more tracks, and these may be selectively grouped to substantially fill a display rack of any given width.

Figs. 3 and 4 illustrate the assembly of the dispensing device 10. Tracks 20 and track support 30 are injection molded as a unit of high impact polystyrene or other suitable plastic material. Baskets 40 are separately injection molded as an integral three-basket assembly of polycarbonate or other suitable plastic material. Baskets 40 are snapped onto the front ends of tracks 20, as described below. Tracks 20 are covered by a separately molded cap 50 made of high impact polystyrene or other suitable plastic material. Cap 50 is attached to tracks 20 by means of projecting male snap tabs 52 on cap 50 which mate with female snap tabs 28 on tracks 20. Cap 50 has holes 54 which facilitate washing of the dispensing device when removed from the display rack. Holes 54 also serve a ventilation function by allowing refrigerated air to circulate through the structure more freely.

Further details of tracks 20 now will be described with reference to Figs. 3, 4 and 6. Tracks 20 are molded with longitudinal stiffening ribs 21 and lateral stiffening ribs 23 and an arched base 25 which terminates in spaced rails 22. As shown in Fig. 6, the space between rails 22 is slightly greater than the width of the necks of bottles B so that the bottles are suspended on rails 22 by their flanges

R but can freely slide under the influence of gravity toward front ends 26 of tracks 20. A rear bottle stop in the form of a U-shaped wire loop W (Figs. 4,6) is secured to the track and prevents the bottles from being pushed off the rear of the track as they are loaded from the front. A continuous rear vertical flange 27 reinforces the rear ends of tracks 20, while separate vertical front flanges 29 reinforce the front ends of the tracks. The front ends 24 of tracks 20 project beyond the front edges of side supports 32 to define retainer sections on which baskets 40 are hung.

Referring to Figs. 3-7, the assembly of baskets 40 comprises upper hanger portions 41 from which outboard side members 42 and inboard side members 43 depend. Hanger portions 41 are sized and shaped to mate with the retainer sections at the front ends of tracks 20. In these retainer sections there are gaps between the adjacent tracks (not shown) which accommodate inboard side members 43. Inwardly projecting ribs 47, 48 cooperate with the retainer sections to snap the basket assembly into place on tracks 20. Side members 42, 43 are interconnected by a base 49, and support ribbed platforms 44 which, in turn, support the lead bottles of each row above and forwardly of base 49, and disengaged from rails 22. An arcuate front stop 45 at the front of each platform 44 engages the lower front edge of the lead bottle. Front waist bands 46 spanning side members 42, 43 engage the medial portions of the lead bottles.

Further details of track support 30 now will be described with reference to Figs. 3, 4, 6 and 7. Side supports 32 extend downwardly from each side of each track 20, and have elongated vertical slots 33 which facilitate ventilation, viewing bottles B in the tracks, and washing of the dispensing device when removed from the display rack. A single side support 32 is located between adjacent tracks. Side supports 32 are interconnected at their bottoms by front lateral struts 34 and rear lateral struts 36. Intermediate stabilizer tabs 38 lend additional support along the length of the side supports. If desired, the entire bottom of the track support may be closed by a bottom wall for added strength and stability. The bottom wall may have apertures which enhance ventilation, and facilitate washing of the dispensing device.

In the embodiment described above, the height of the dispensing device is uniform, and is intended to be installed on an inclined display rack, whereby tracks 20 will be disposed at substantially the same angle as the display rack. However, as previously noted, the dispensing device of the invention can be adapted for installation on a generally horizontal display rack. This can be done by forming side walls 32 as tapered supports, higher at the rear than at the front, so that tracks 20 would be disposed at the required angle to the horizontal to enable gravity feed of bottles even though the dispensing device rests on a horizontal display rack.

Figs. 8-12 illustrate a modular dispensing device 100 according to a second embodiment of the invention having three parallel tracks 120 for supporting and dispensing rows of bottles B. In these figures, elements which are similar to those in the first embodiment are designated by like reference numerals, but with a "1" prefix. As with the first embodiment, two or more modular dispensing devices 100 may be grouped together to fill the lateral space on a display rack, and modular units may be made having one, two, three, four or more tracks. The same materials may be used to fabricate this embodiment.

A track support 130 is integrally molded with tracks 120. Track support 130 has side supports 132 at each side of each track 120. Each side support 132 comprises an upper web 135, a front leg 137, and a rear leg 139. Rear legs 139 are interconnected at their bottoms by rear lateral struts 136. The substantially open sides and bottom of the dispensing device allows refrigerated air to circulate freely around the bottles, and facilitates washing of the device.

Tracks 120 are molded with longitudinal stiffening ribs 121, lateral stiffening ribs 123, and rear and front flanges 127, 129, respectively. Each track 120 also has an arched base 125 which opens upwardly into an elongated, keyed channel 160. Channel 160 slidably receives (from the rear) and retains (behind front flange 129) a separately molded channel-shaped lane 162 (Fig. 10) on which are formed the spaced rails 122 from which bottle flanges or rings R are suspended.

A lead bottle support or basket 140 is attached at the front end 124 of the dispensing device to front legs 137. A plurality of baskets 140 are molded together as a unit, the number of baskets corresponding to the number of tracks in the dispensing device. Each basket has a ribbed platform 144 which partially underlies front legs 137 and projects forwardly of tracks 120. Platform 144 has slots (not shown) which receive portions of the lower edges of front legs 137. Each basket 140 has an arcuate front stop 145 and a front waist band 146 which form between them a bottle viewing window, and side members 142, 143 which mate with correspondingly shaped recesses in front legs 137. Each front leg 137 has a forwardly projecting flanged tab 137a which slidably mates with a correspondingly slotted boss 140a at the upper corner of each basket 140. Baskets 140 thus are assembled to front legs 137 by an upward sliding motion which engages tabs 137a with bosses 140a, and the lower edges of front legs 137 with the slots in platforms 144.

Fig.13 illustrates a dispensing device 200 like that of Figs. 8-12, but with a modified assembly of lead bottle baskets 240. In this embodiment, side members 242, 243 project further forwardly and upwardly, and support arcuate label holders 270 in front of and at an angle to the fronts of the bottles. This angle preferably is approximately equal to the angle of inclination of the display rack. Thus, when the dispensing device 200 is installed on the display rack, the labels in the label holders 270 face the purchaser in a substantially vertical position. Each label holder may comprise, e.g., an open frame, as shown, which removably holds a product label or advertisement. The frame may hold a clear plastic window behind which the label is placed. Alternatively, adhesive labels may be applied to arcuate inserts positioned in the label holders. Other label holding configurations will be apparent to those skilled in the art.

The dispensing device of the invention can be made in different sizes to accommodate bottles of different sizes. Dispensing units of different size may be mixed in the same display case as needed. Further changes, adaptations and modifications of the present invention will be apparent to those skilled in the art

without departing from the spirit and scope of the invention, which is defined by the appended claims.

CLAIMS

1. A gravity feed merchandise dispensing device adapted for installation on the upper supporting surface of a merchandise display rack, the dispensing device comprising:

at least one track capable of supporting in tandem a row of similar bottles of the type having an annular flange on the neck of the bottle, said track having a front end, a rear end, and a pair of rails spaced apart to receive between them the necks of suitably sized bottles such that the underside of each bottle neck flange engages said rails whereby the bottles are suspended by their flanges for movement relative to said track; and

a track support adapted to engage and be supported directly on the merchandise display rack, the track support extending downwardly from said at least one track a sufficient distance such that bottles suspended in said at least one track do not contact the merchandise display rack and can gravity feed along said at least one track one after the other toward the front of the merchandise display rack as said bottles are removed from the front end of said at least one track.

2. A dispensing device according to claim 1 wherein said track support comprises a side support at each side of said track, said side supports being spaced apart sufficiently to allow bottles to move therebetween along said track.

3. A dispensing device according to claim 2 wherein said track and said side supports are integrally molded of plastic material.

4. A dispensing device according to claim 1 further comprising a lead bottle support below said track at said front end and sized to support the bottom of the lead bottle of the row with the neck of the lead bottle adjacent said front end but disengaged from said rails.

5. A dispensing device according to claim 4 wherein said lead bottle support includes a label holder in front of the lead bottle.

6. A dispensing device according to claim 4 wherein said lead bottle support comprises an upper hanger portion adapted to be supported on said track, spaced side members connected to said hanger portion and adapted to flank said track and the lead bottle, and a platform connected to said side members for supporting the lead bottle.

7. A dispensing device according to claim 6 wherein said track support comprises a side support at each side of said track, said side supports being spaced apart sufficiently to allow bottles to move therebetween along said track.

8. A dispensing device according to claim 6 wherein said track has a retainer section adjacent said front end which mates with and engages said hanger portion to retain said lead bottle support on said track.

9. A dispensing device according to claim 8 wherein said platform includes a front stop adapted to engage the lower front edge of the lead bottle.

10. A dispensing device according to claim 9 wherein said lead bottle support includes a front waist band above said platform which interconnects said side members at the front of said lead bottle support and is adapted to engage a medial portion of the front of the lead bottle.

11. A dispensing device according to claim 10 wherein said track support comprises a side support at each side of said track, said side supports being spaced apart to allow bottles to move therebetween along said track.

12. A dispensing device according to claim 4 wherein said track support comprises a side support at each side of said track, said side supports being spaced apart to allow bottles to move therebetween along said track.

13. A dispensing device according to claim 12 wherein said lead bottle support is adapted to be connected to said side supports.

14. A dispensing device according to claim 13 wherein said lead bottle support comprises a platform for supporting the lead bottle, said platform having a front stop adapted to engage the lower front edge of the lead bottle.

15. A dispensing device according to claim 14 wherein said lead bottle support includes a front waist band above said platform which is adapted to engage a medial portion of the front of the lead bottle.

16. A gravity feed merchandise dispensing device adapted for installation on the upper supporting surface of a merchandise display rack, the dispensing device comprising:

a plurality of parallel tracks each capable of supporting in tandem a row of similar bottles of the type having an annular flange on the neck of the bottle, each of said tracks having a front end, a rear end, and a pair of rails spaced apart to receive between them the necks of suitably sized bottles such that the underside of each bottle neck flange engages said rails whereby the bottles are suspended by their flanges for movement relative to said track; and

a track support adapted to engage and be supported directly on the merchandise display rack, the tracks support extending downwardly from said tracks a sufficient distance such that bottles suspended in said tracks do not contact the merchandise display rack and can gravity-feed along said tracks one after the other toward the front of the merchandise display rack as said bottles are removed from the front ends of the respective tracks.

17. A dispensing device according to claim 16 wherein said track support comprises a side support at each side of each of said tracks, said side supports being spaced apart sufficiently to allow bottles to move therebetween along said tracks.

18. A dispensing device according to claim 17 wherein adjacent ones of said tracks are contiguous.

19. A dispensing device according to claim 18 wherein there is a common side support at each of the contiguous margins of said adjacent tracks.

20. A dispensing device according to claim 17 wherein all of said tracks are integrally molded together of plastic material.

21. A dispensing device according to claim 16 further comprising a lead bottle support below each of said tracks at said front end and sized to support the bottom of the lead bottle of the row with the neck of the lead bottle adjacent said front end but disengaged from said rails.

22. A dispensing device according to claim 21 wherein said lead bottle support includes a label holder in front of the lead bottle.

23. A dispensing device according to claim 21 wherein each of said lead bottle supports comprises an upper hanger portion adapted to be supported on any one of said tracks, spaced side members connected to said hanger portion and adapted to flank said track and the lead bottle, and a platform connected to said side members for supporting the lead bottle.

24. A dispensing device according to claim 23 wherein said track support comprises a side support at each side of each of said tracks, said side supports being spaced apart sufficiently to allow bottles to move therebetween along said tracks.

25. A dispensing device according to claim 23 wherein each of said tracks has a retainer section adjacent said front end which mates with and engages said hanger portion to retain said lead bottle support on said track.

26. A dispensing device according to claim 25 wherein said platform includes a front stop adapted to engage the lower front edge of the lead bottle.

27. A dispensing device according to claim 26 wherein said lead bottle support includes a front waist band above said platform which interconnects said side members at the front of said lead bottle support and is adapted to engage a medial portion of the front of the lead bottle.

28. A dispensing device according to claim 27 wherein said track support comprises a side support at each side of each of said tracks, said side supports being spaced apart to allow bottles to move therebetween along said tracks.

29. A dispensing device according to claim 21 wherein said track support comprises a side support at each side of said track, said side supports being spaced apart to allow bottles to move therebetween along said track.

30. A dispensing device according to claim 29 wherein said lead bottle support is adapted to be connected to said side supports.

31. A dispensing device according to claim 30 wherein said lead bottle support comprises a platform for supporting the lead bottle, said platform having a front stop adapted to engage the lower front edge of the lead bottle.

32. A dispensing device according to claim 31 wherein said lead bottle support includes a front waist band above said platform which is adapted to engage a medial portion of the front of the lead bottle.

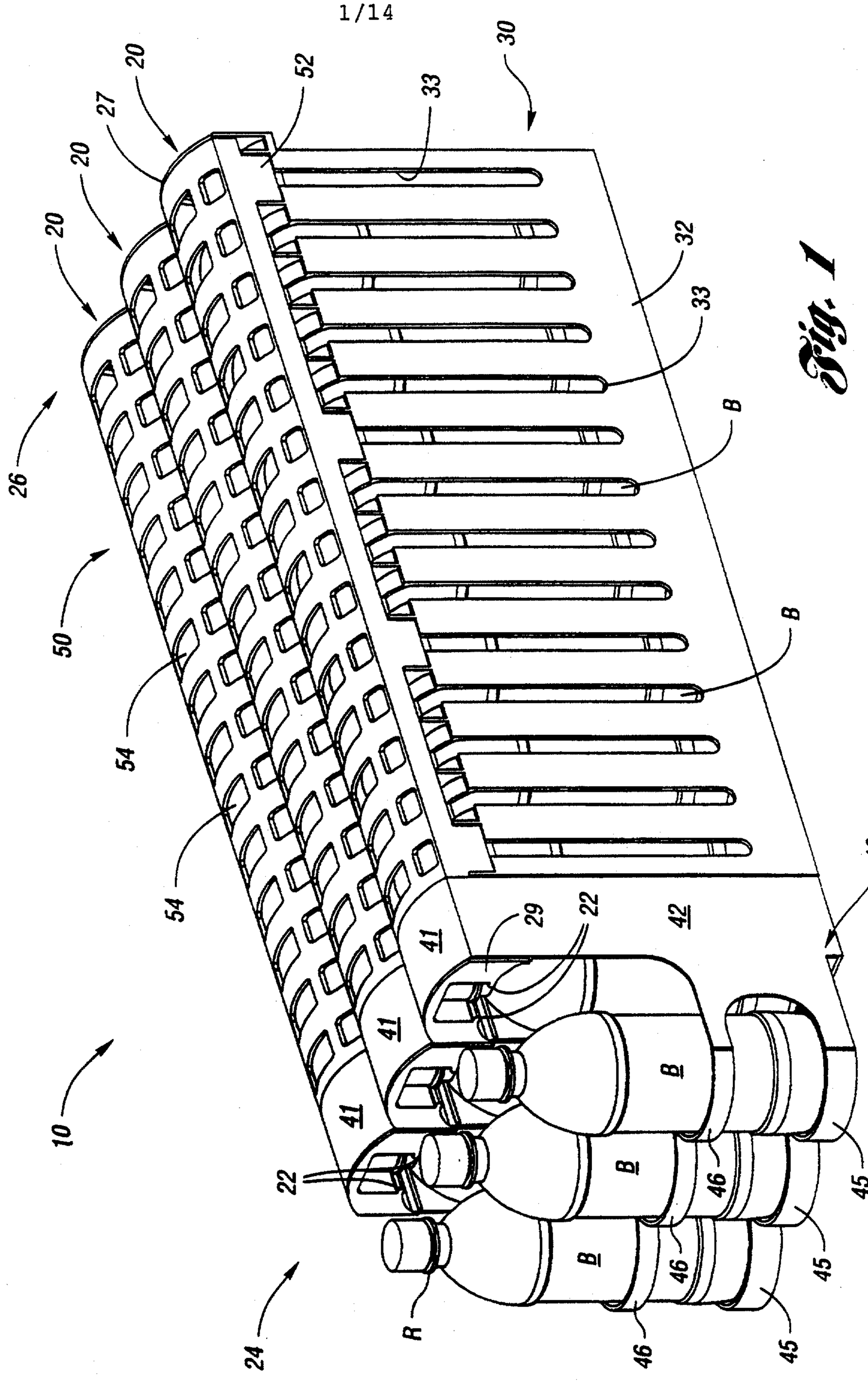
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Fig. 1

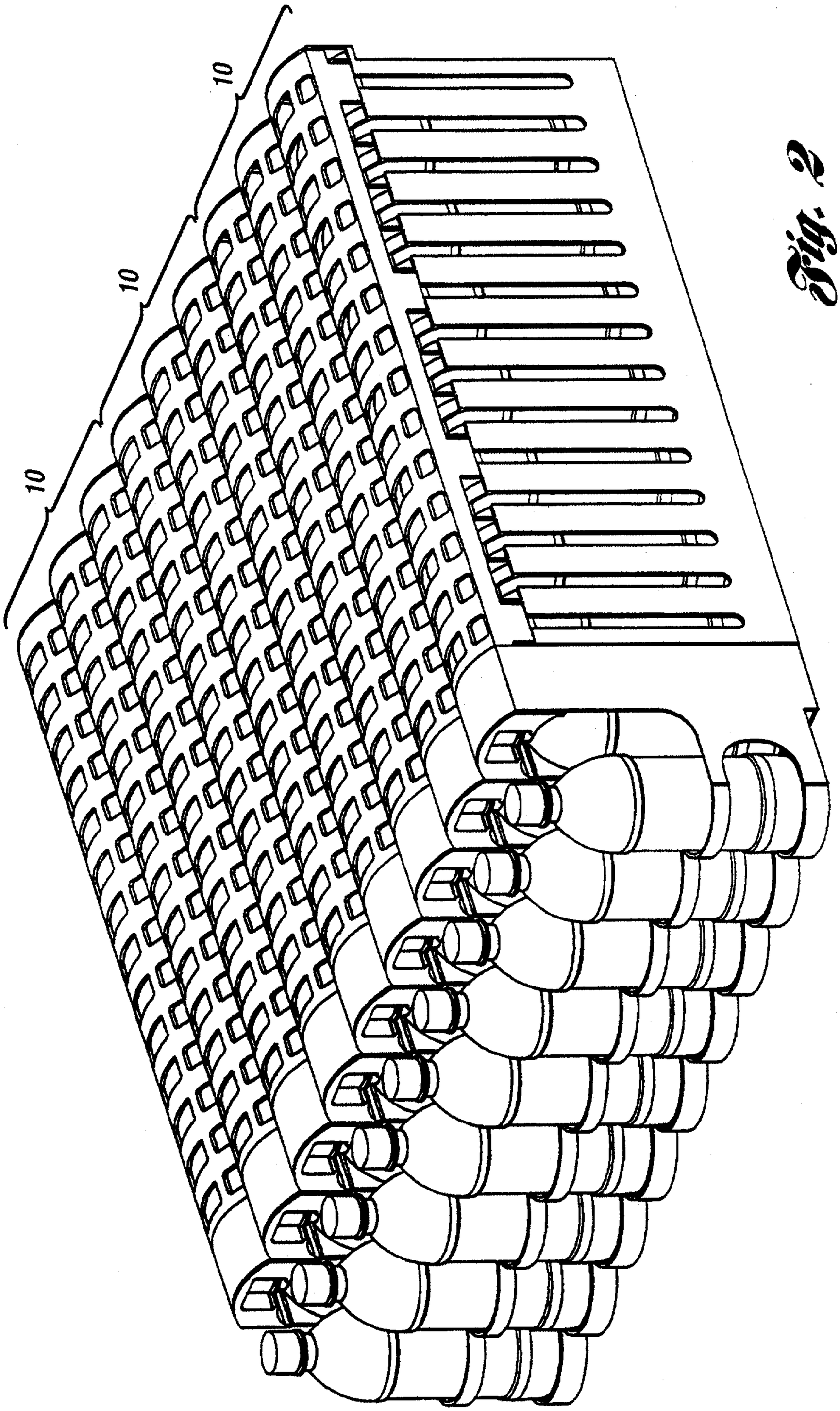

Fig. 2

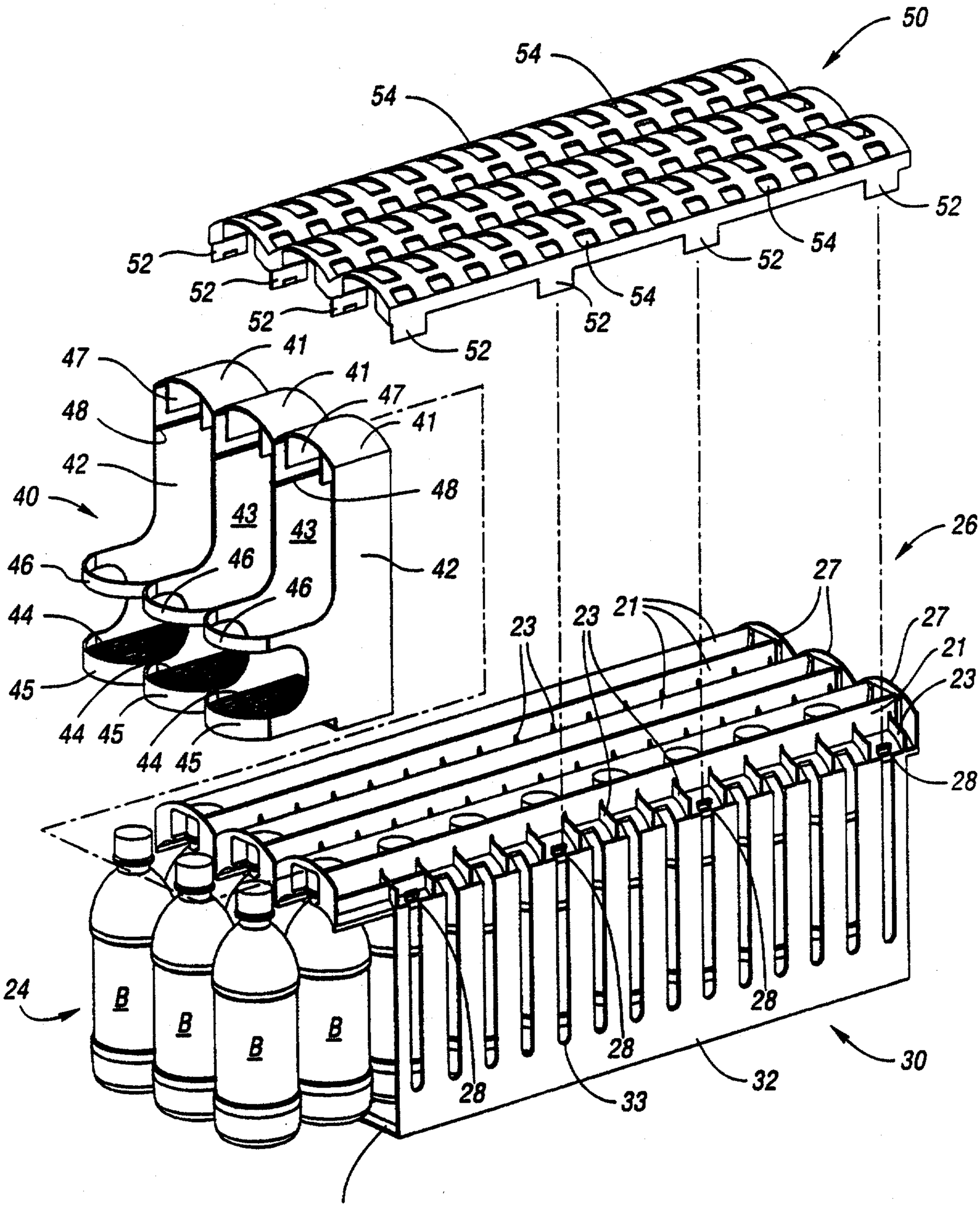
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Fig. 3

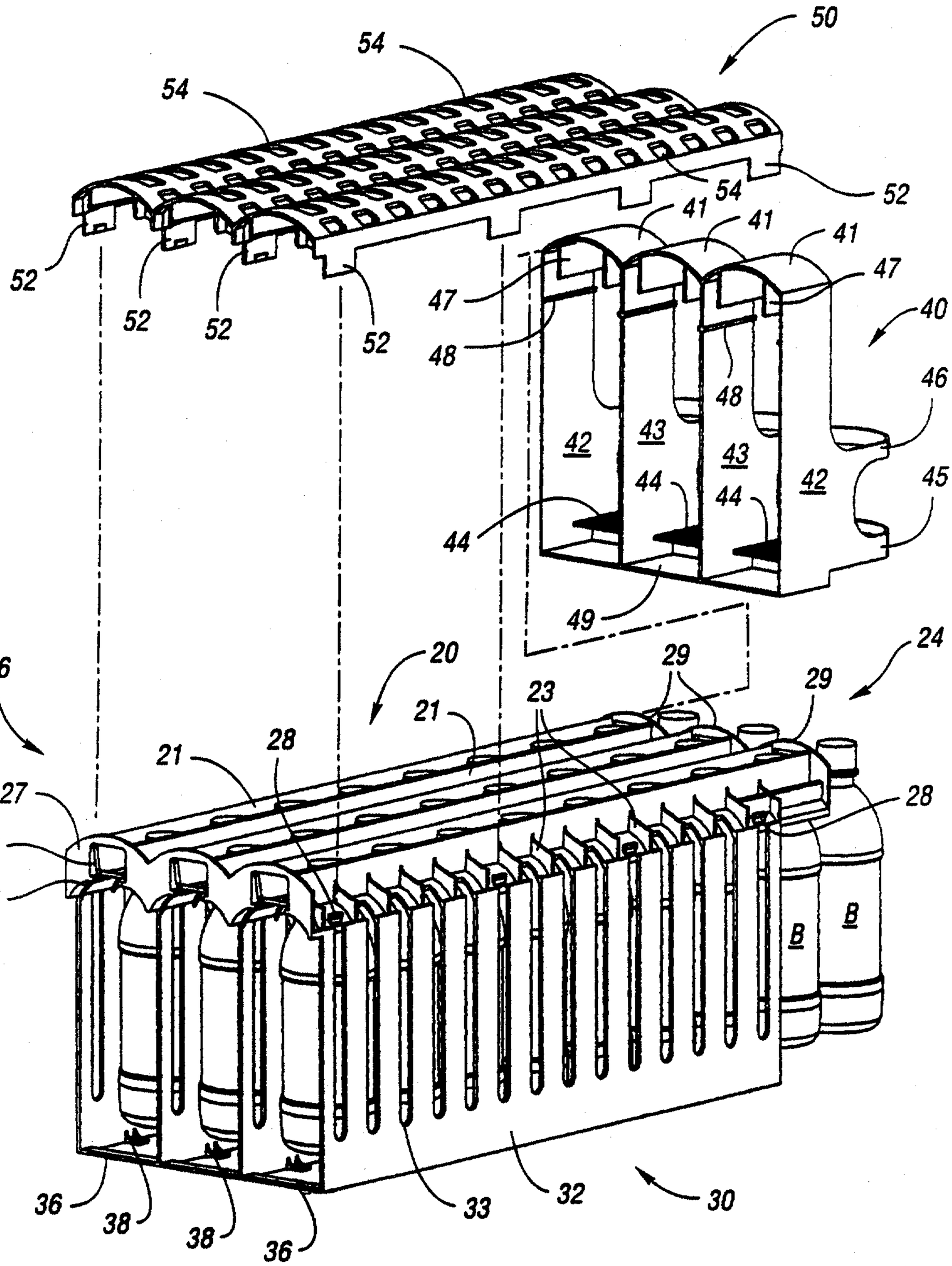
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Fig. 4

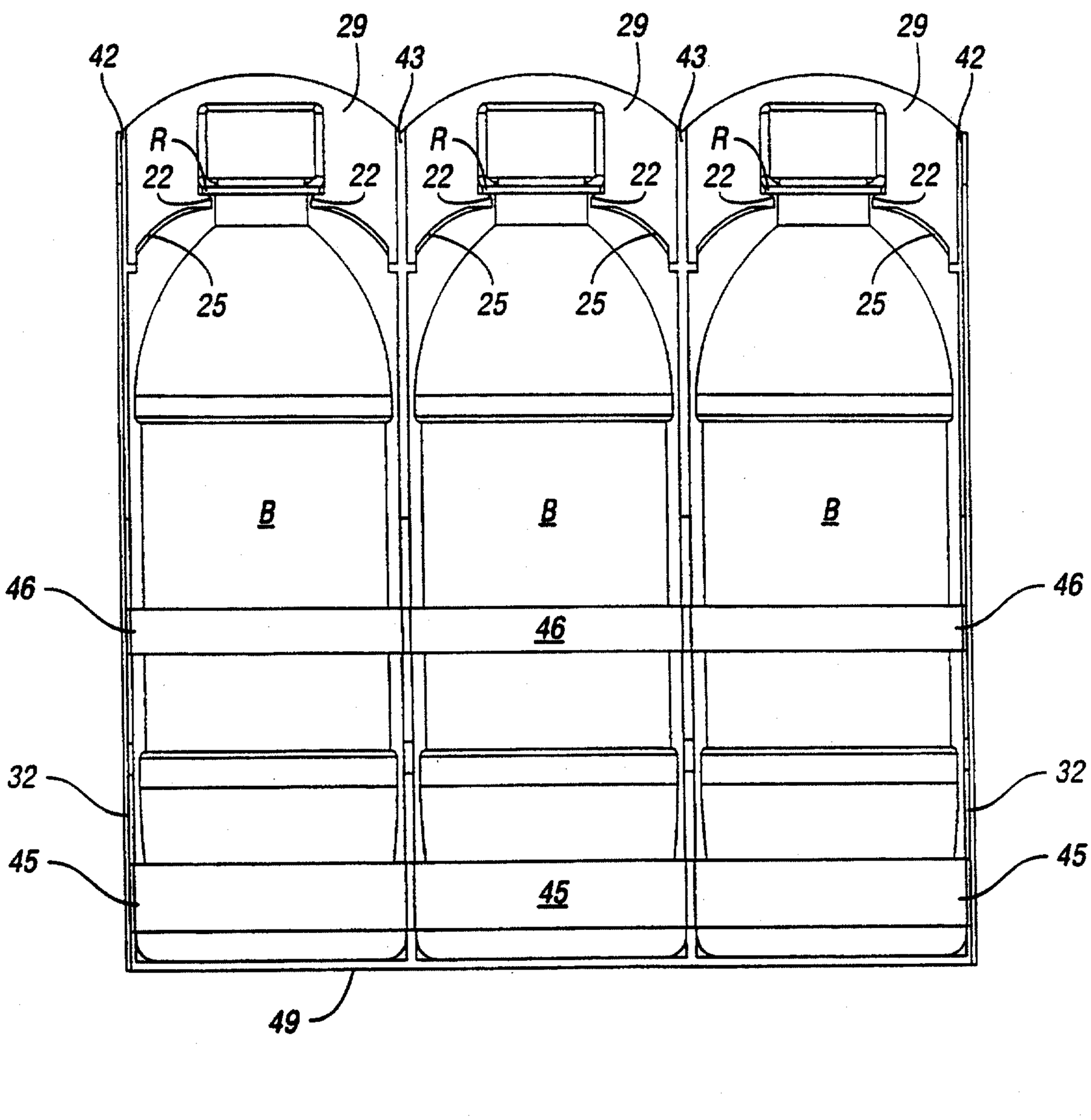
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Fig. 5

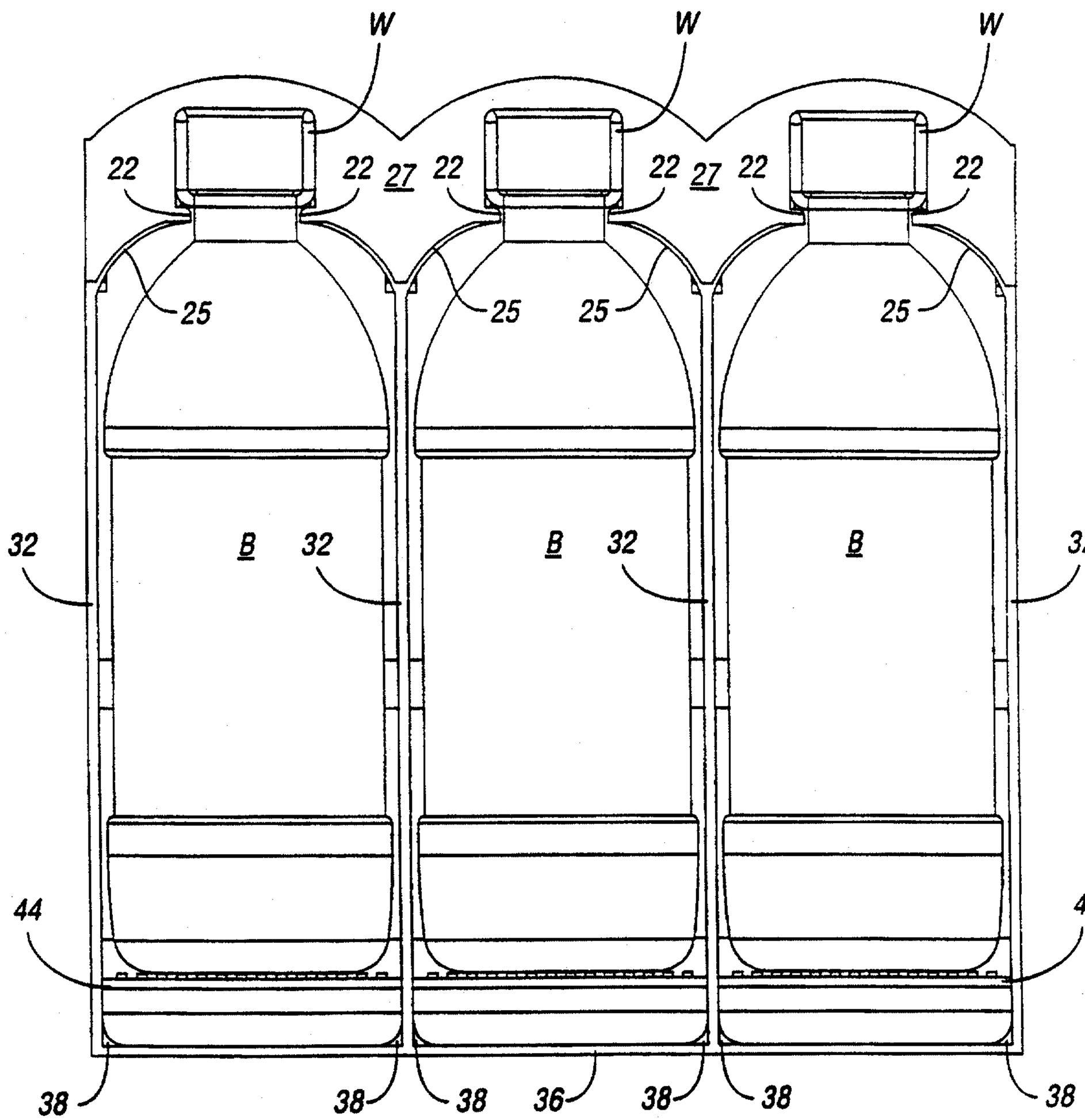
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Fig. 6

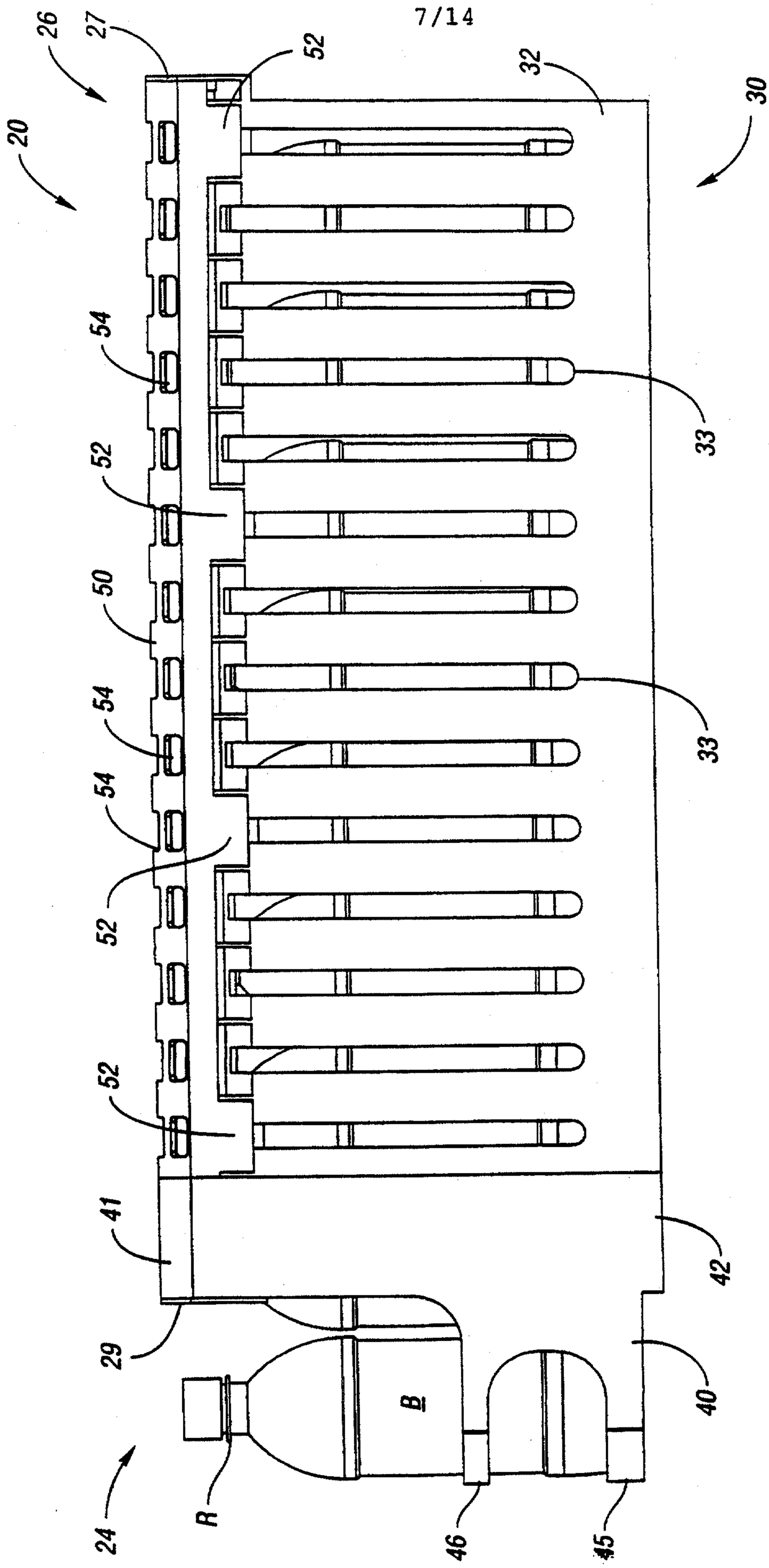

Fig. 7

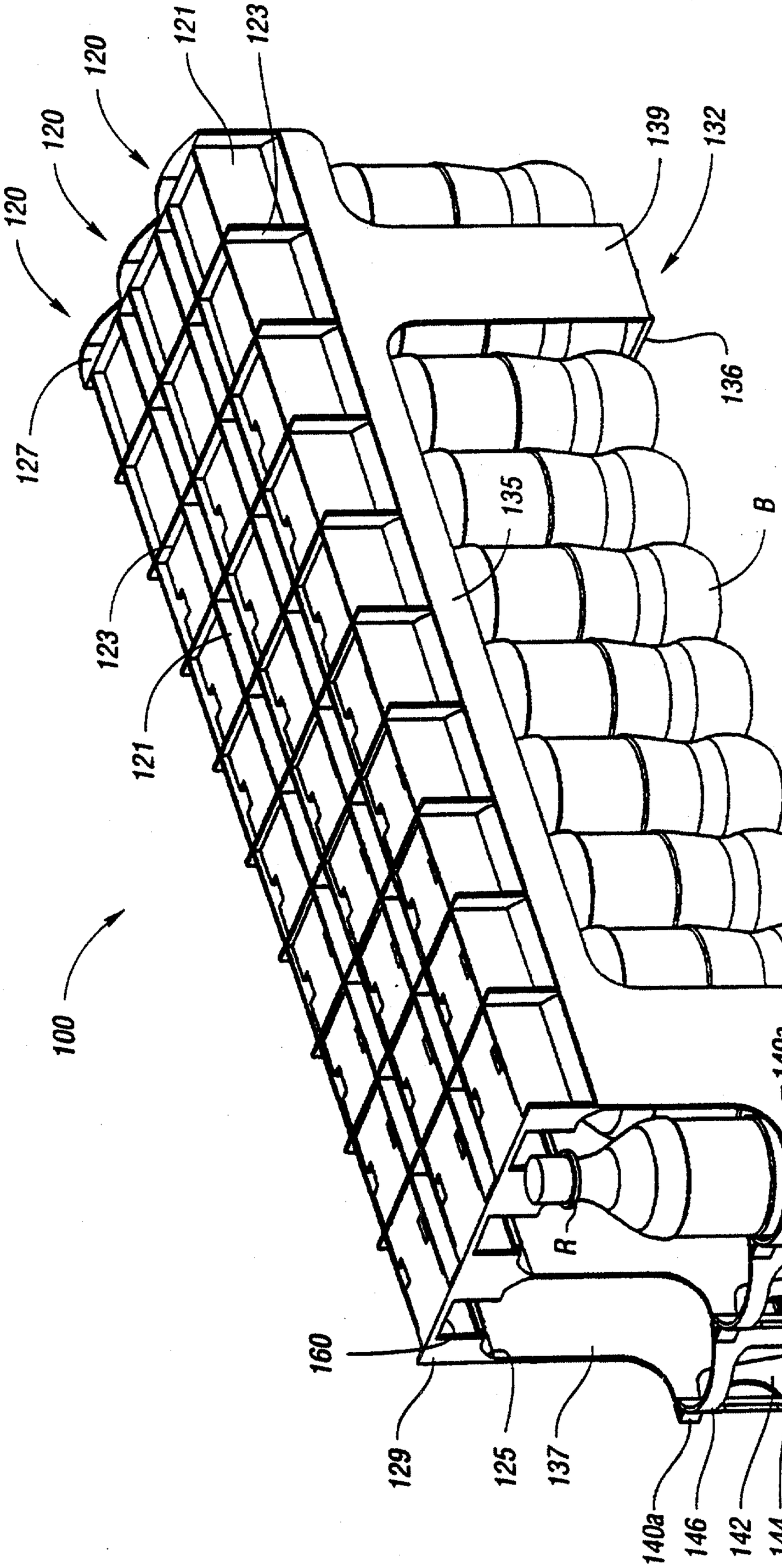
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Fig. 8

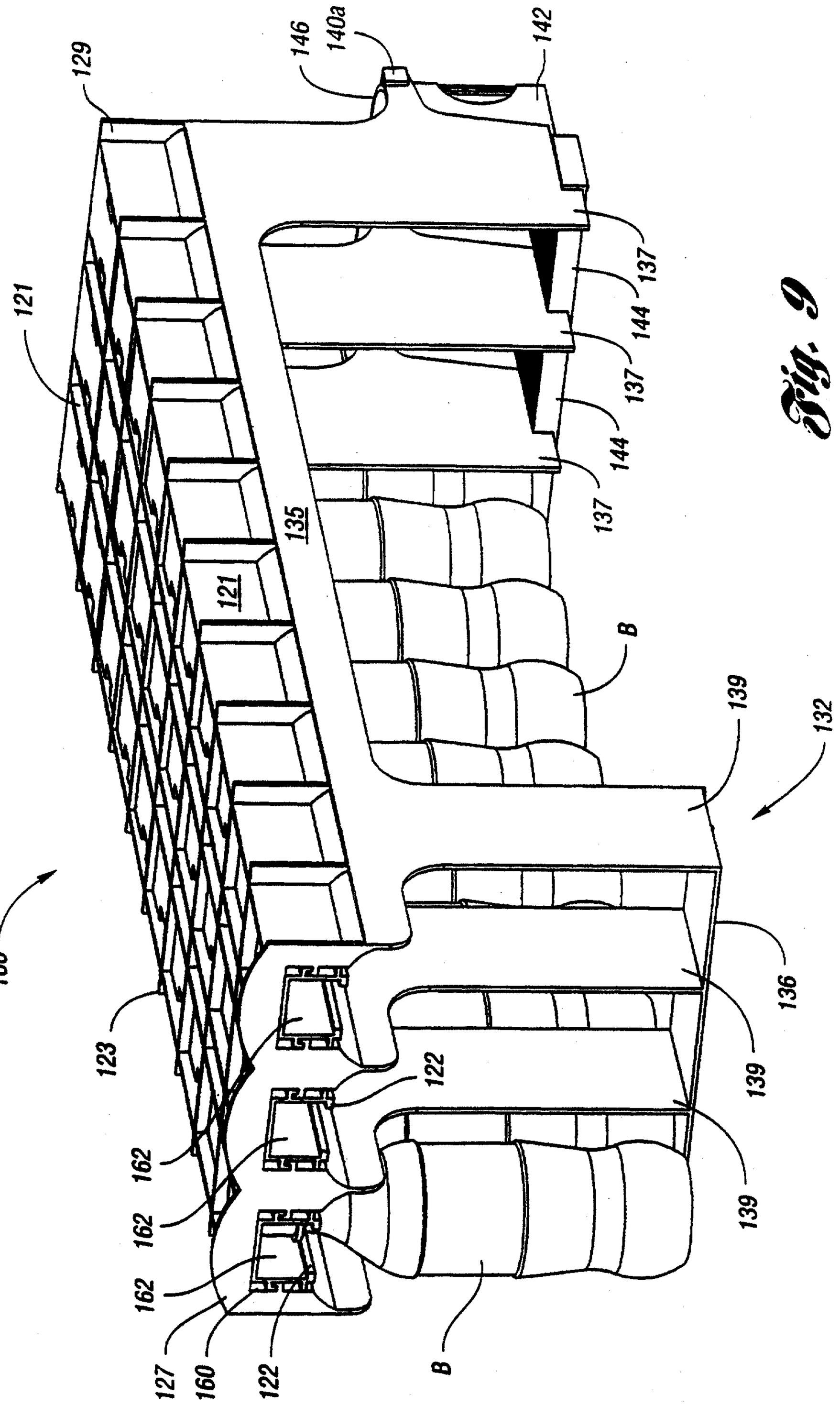
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Fig. 9

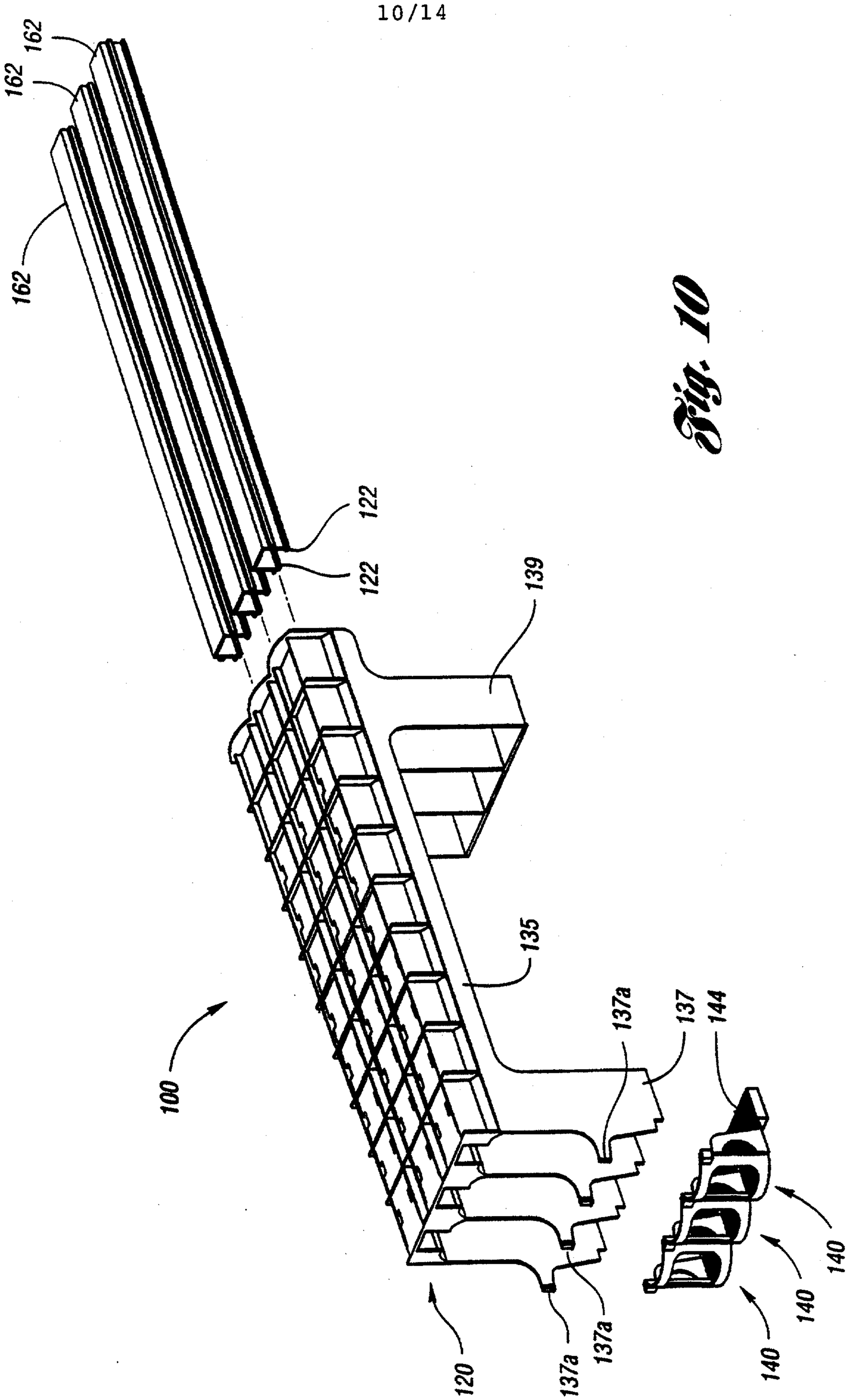
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Fig. 10

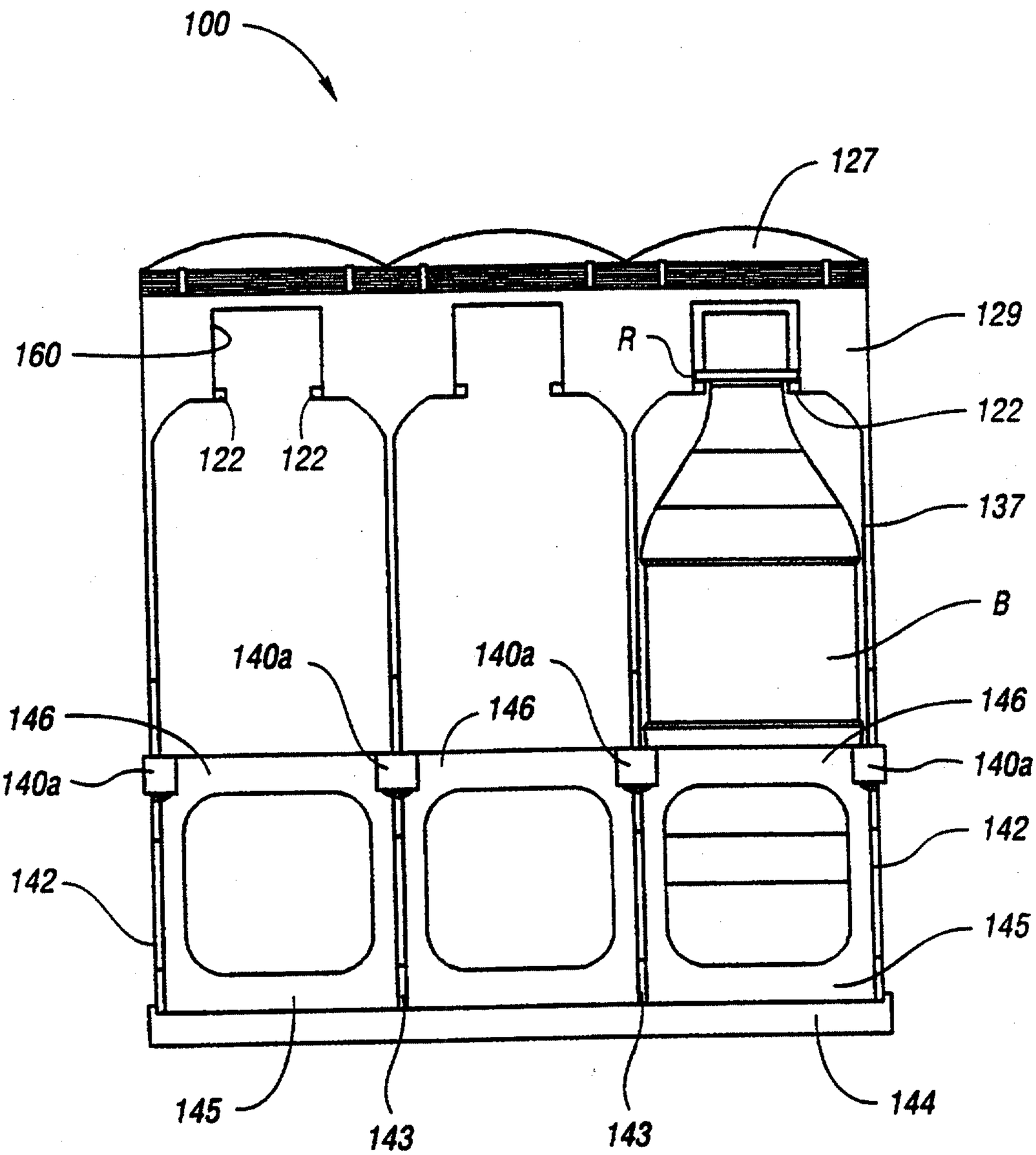
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Fig. 11

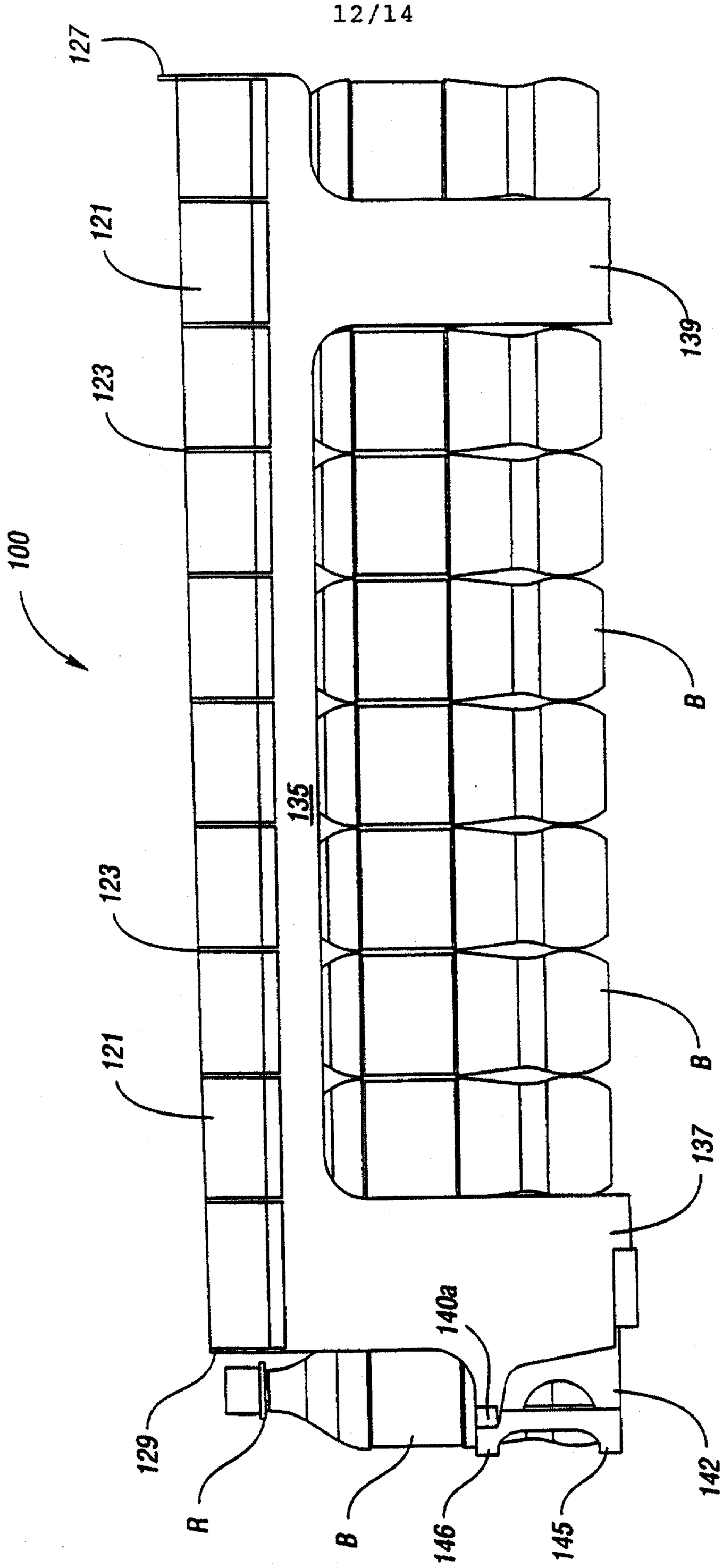

Fig. 12

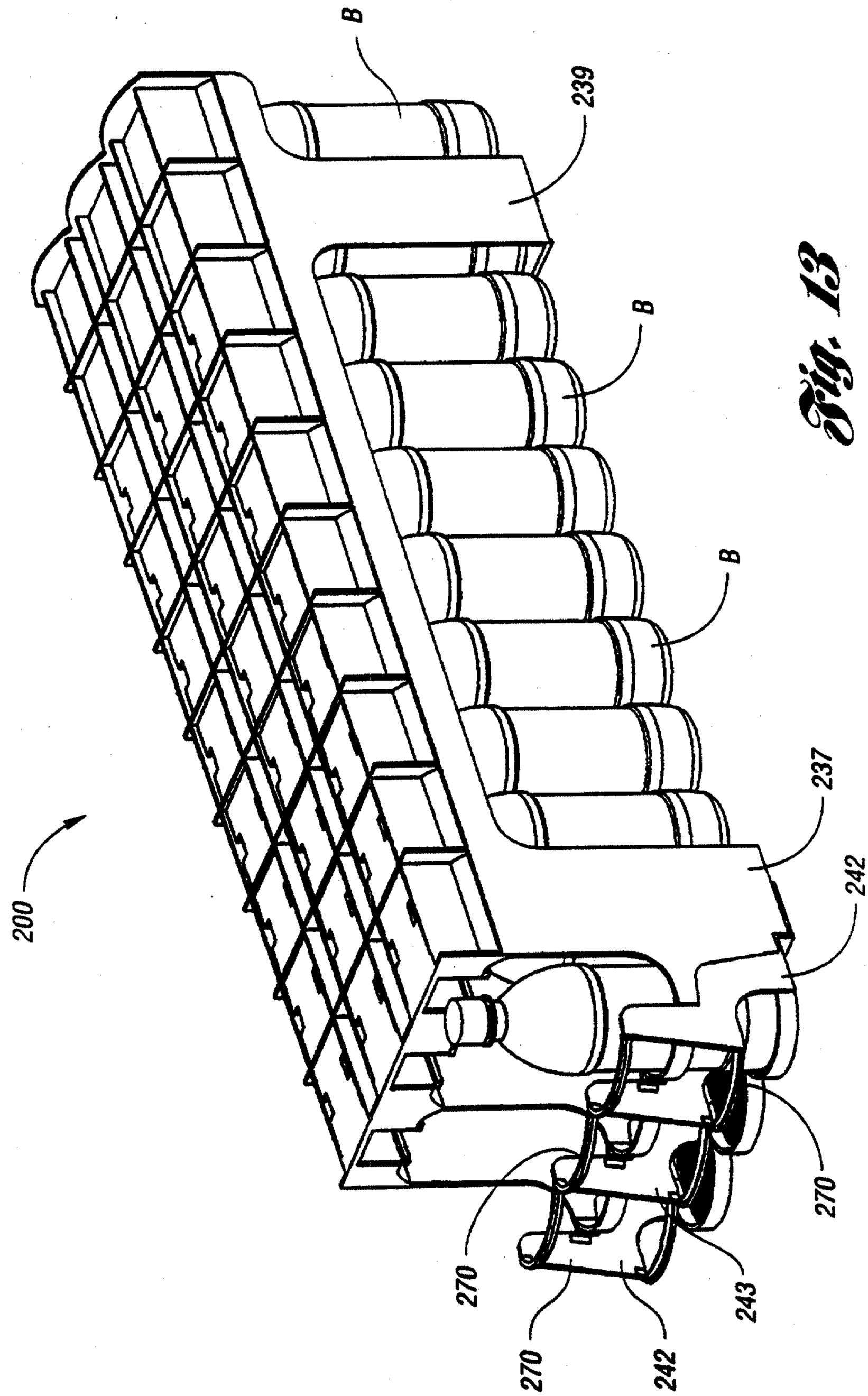

Fig. 13

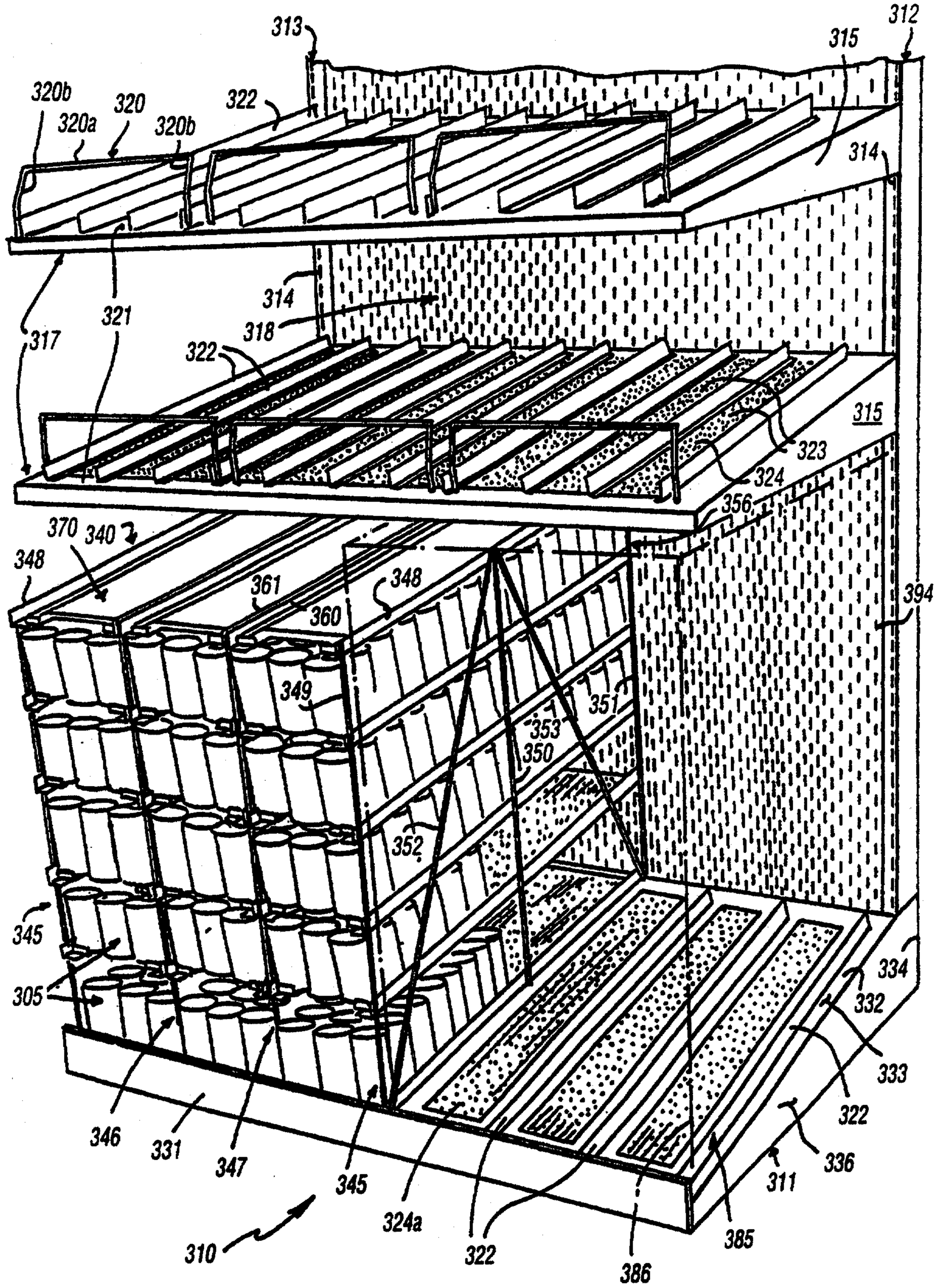
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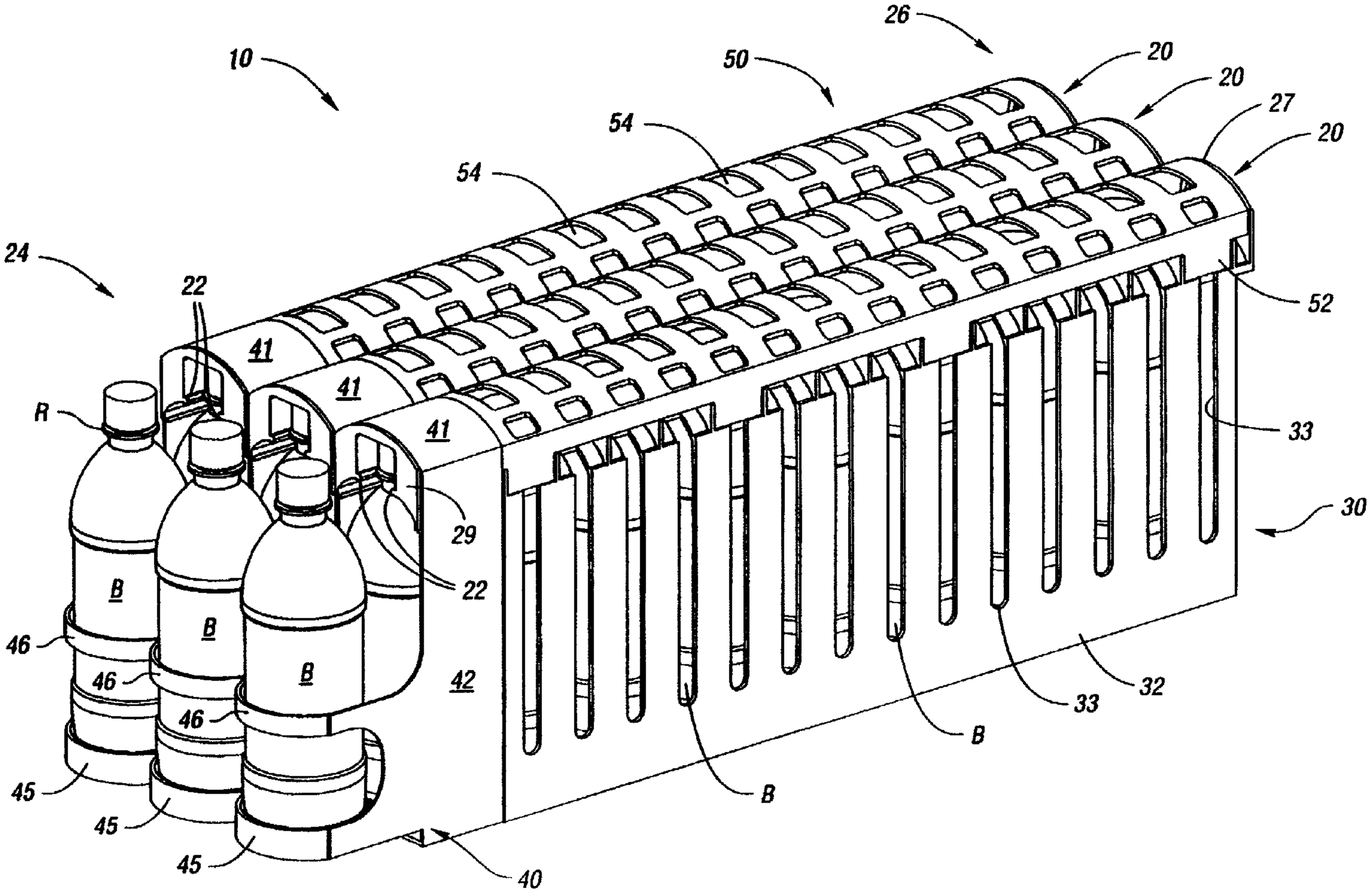
Fig. 14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