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(54) **REUSABLE SHOPPING BAG ASSEMBLY**

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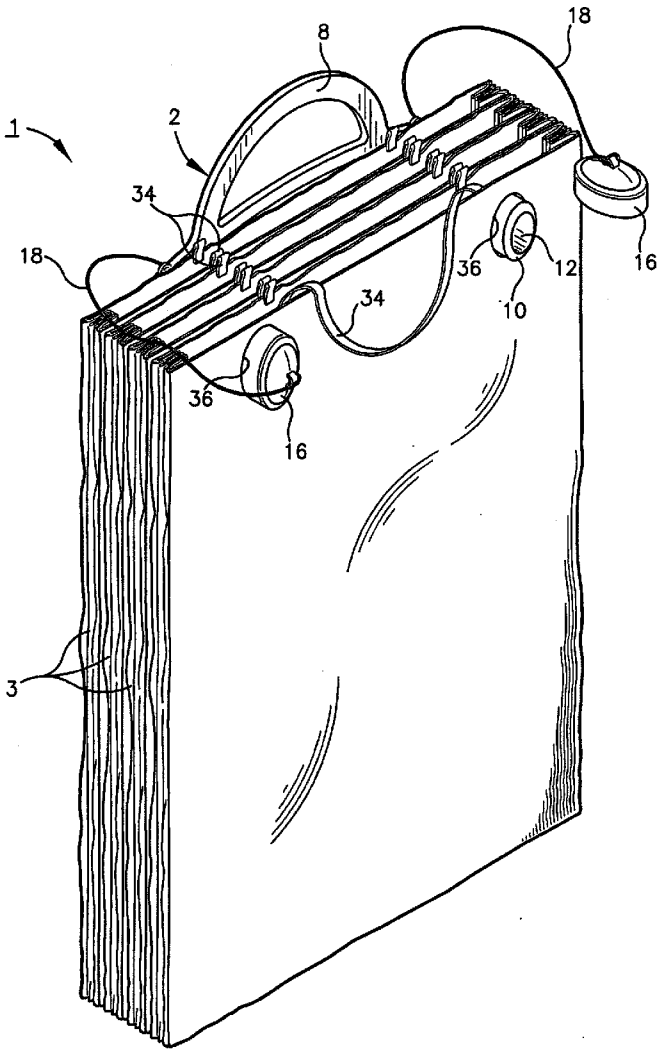
(57) **ABSTRACT**

One handle structure for use with a plurality of shopping bags having first and second apertures includes a handle member, a frame with first and second portions movable relative to one another, first and second pegs respectively extending from the frame portions for passing through the apertures, and first and second caps removably received on distal ends of the pegs to retain the bags on the pegs. The pegs include bores extending at least partially therethrough, and the bores are accessible at proximal ends of the pegs and are sufficiently vacant when the caps are received on the pegs for removably receiving prongs to support the pegs. Movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.



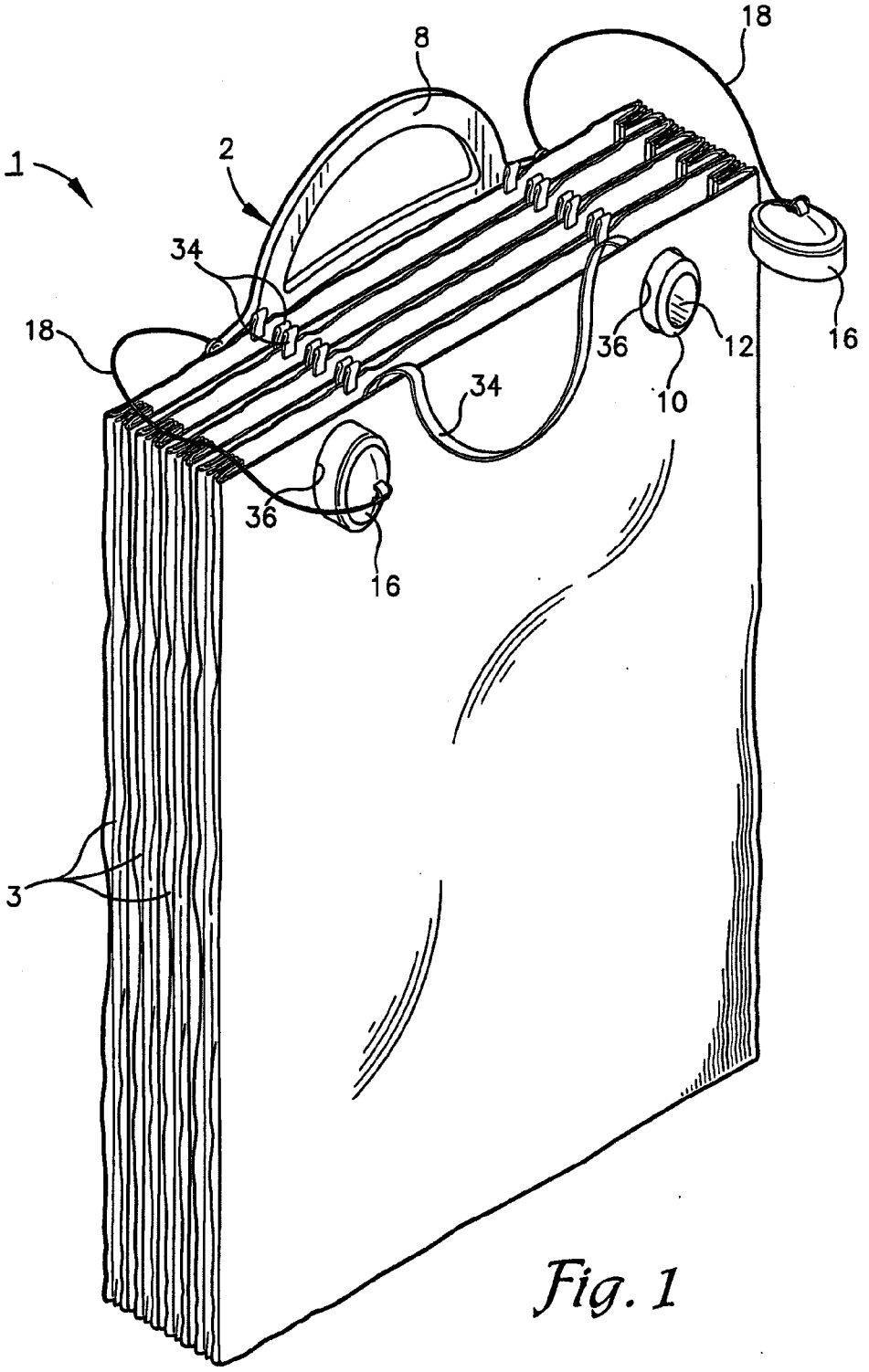


Fig. 1

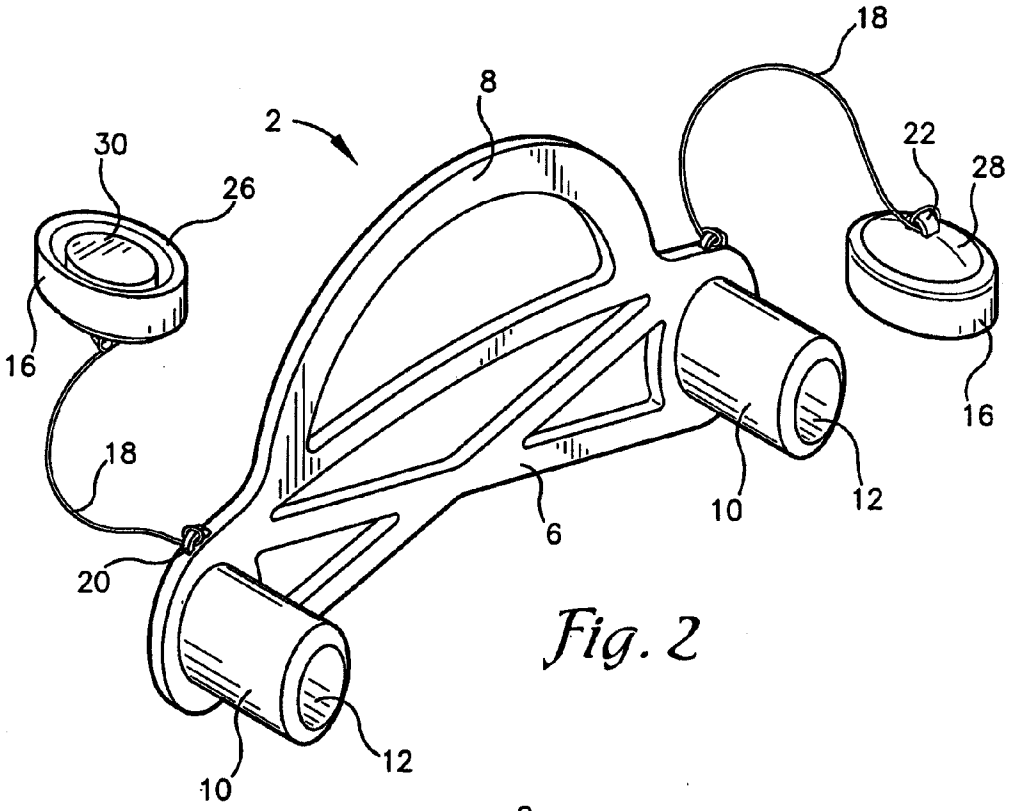


Fig. 2

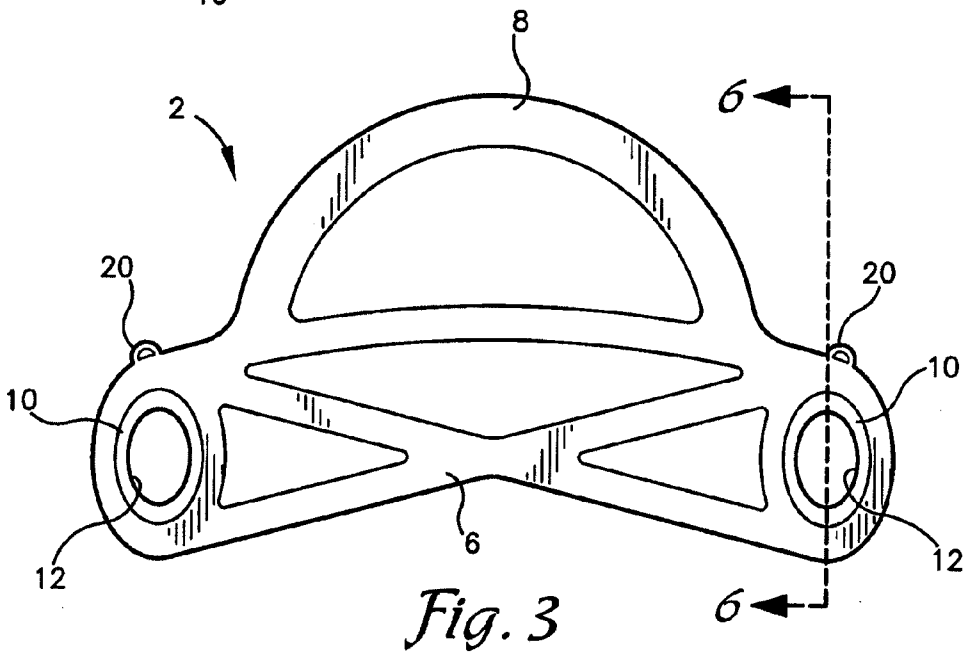


Fig. 3

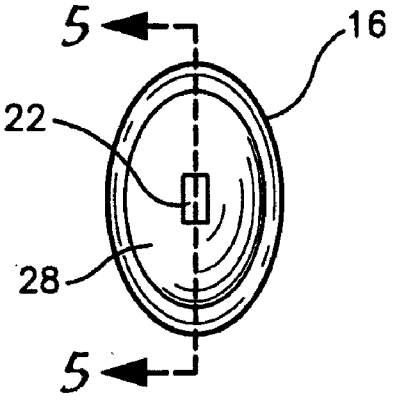


Fig. 4

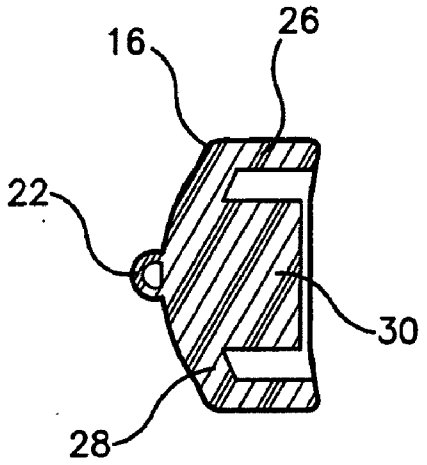


Fig. 5

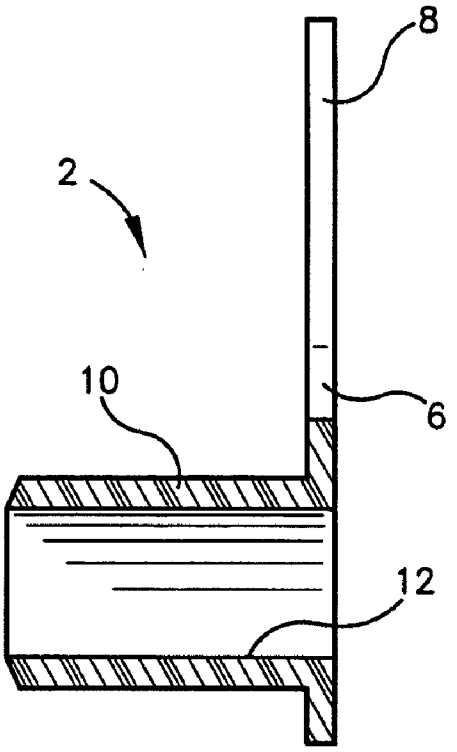


Fig. 6

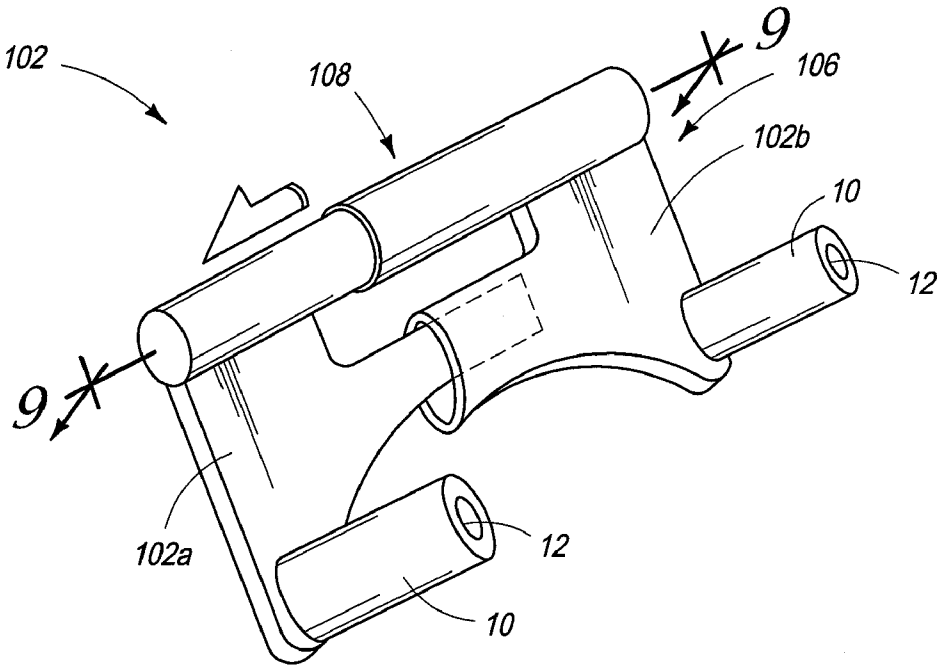

102
108
9
106
102b
10
12
9
102a
12
10

Fig. 7A

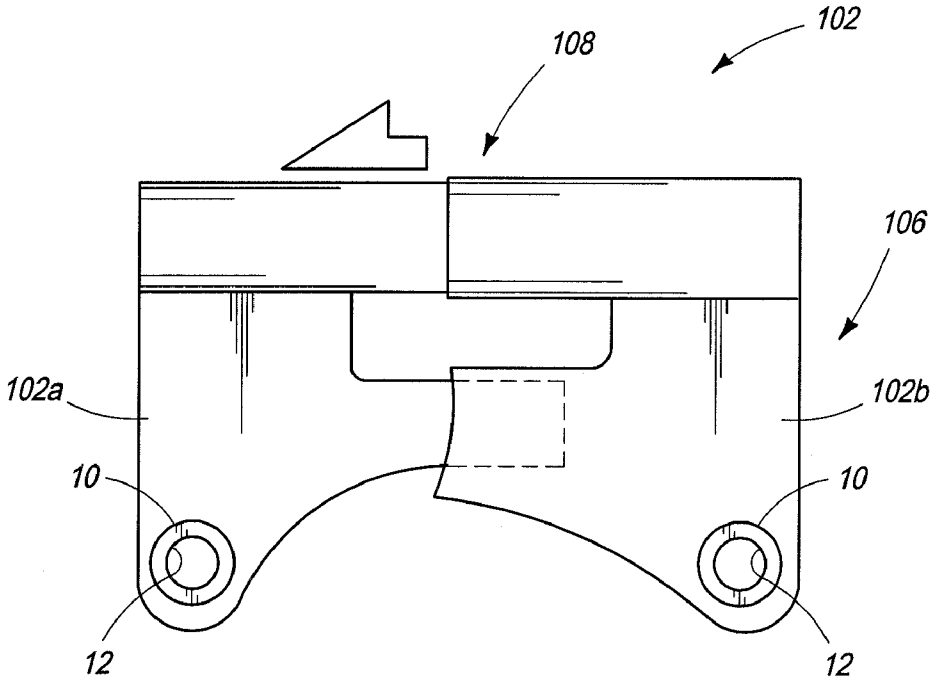

102
108
106
102a
102b
10
10
12
12

Fig. 7B

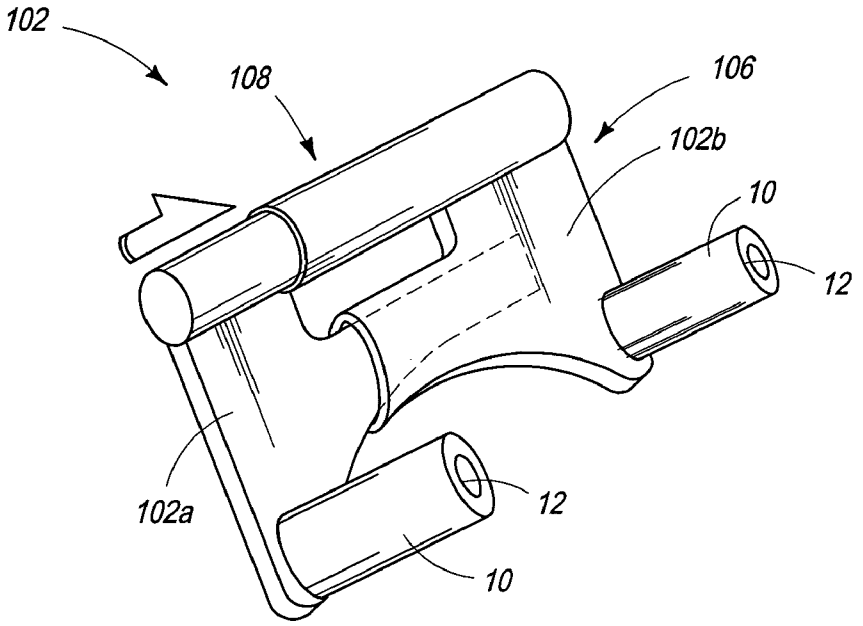

102
108
106
102b
10
12
102a
12
10

Fig. 8A

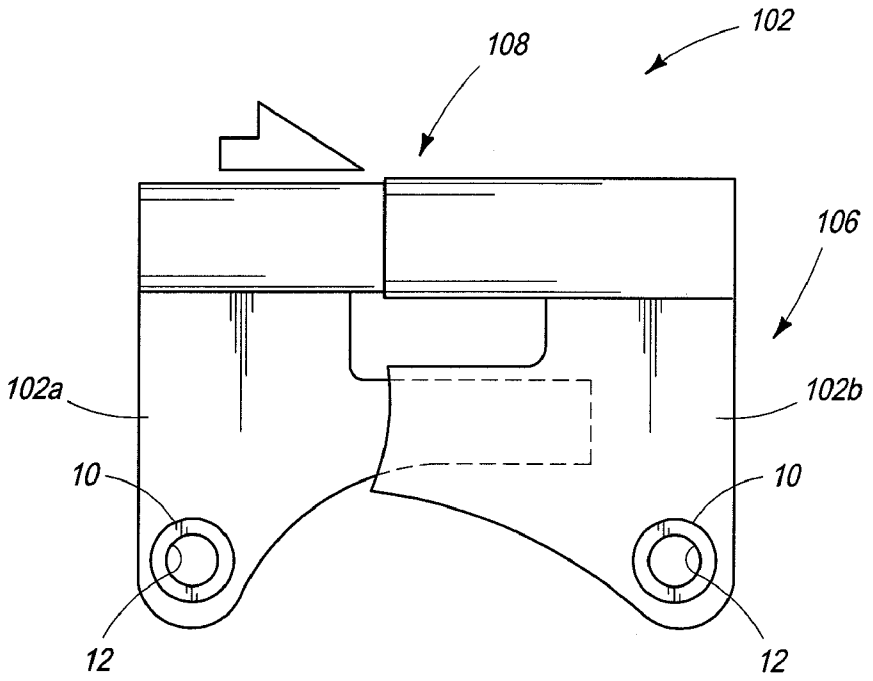

102
108
106
102a
102b
10
10
12
12

Fig. 8B

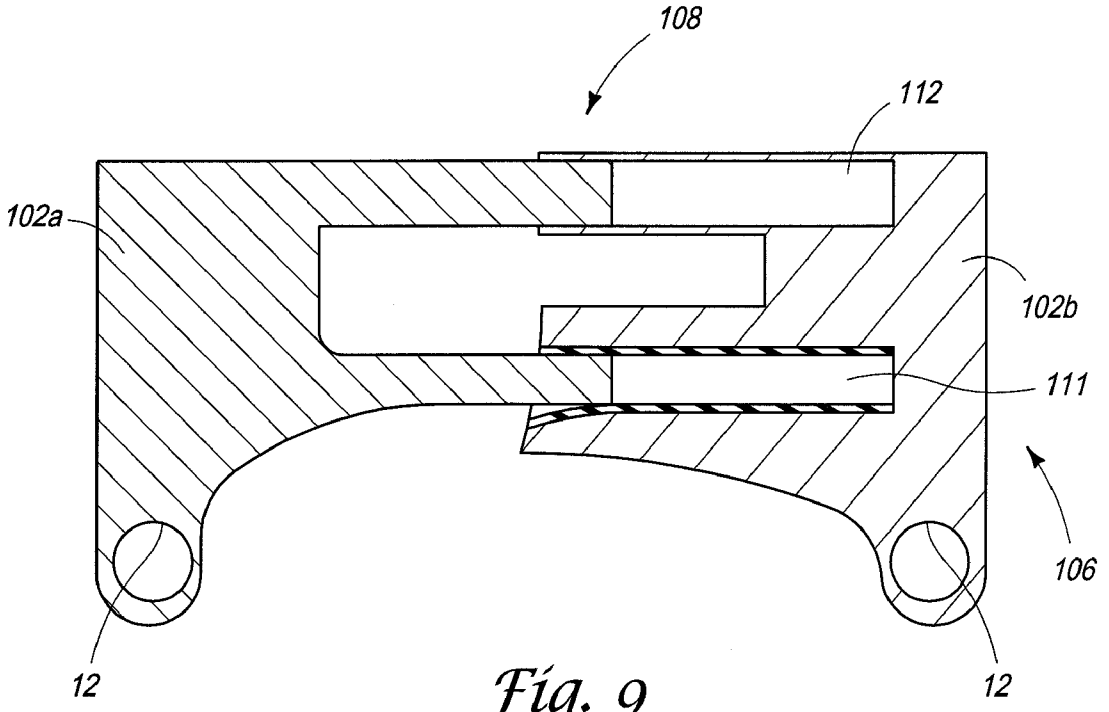


Fig. 9

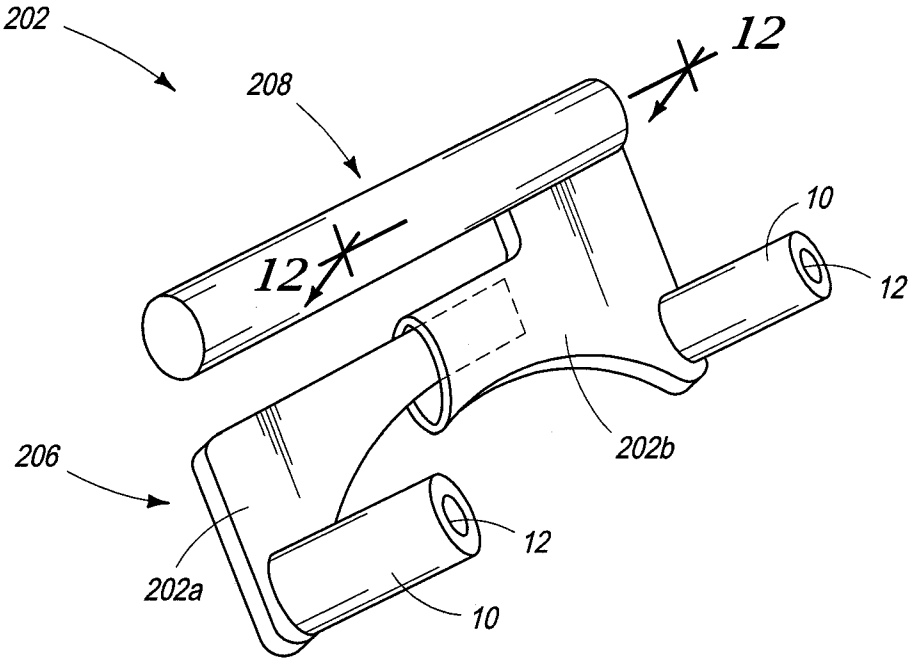


Fig. 10A

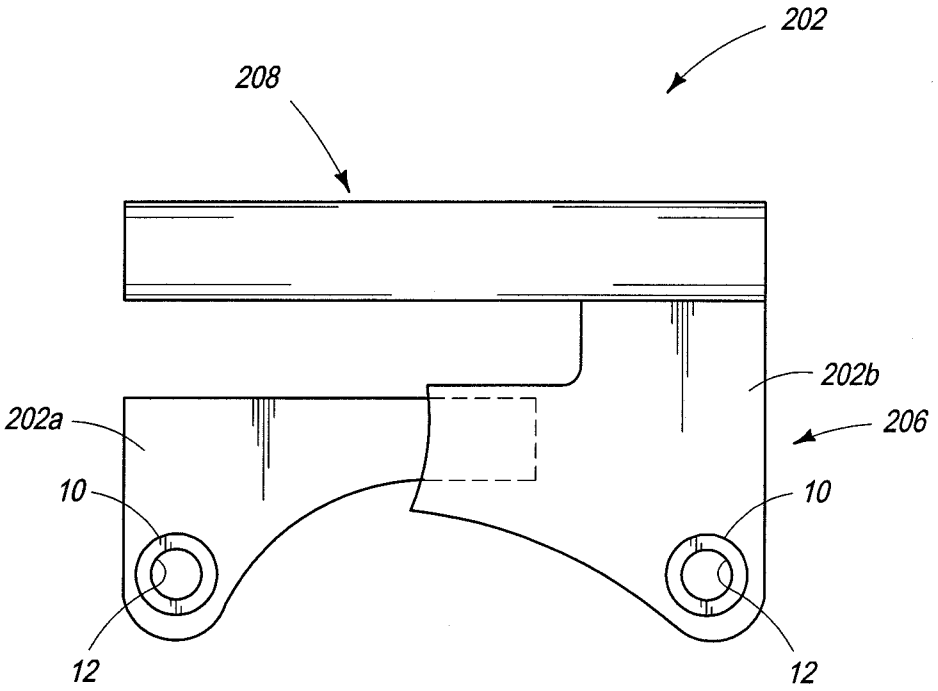


Fig. 10B

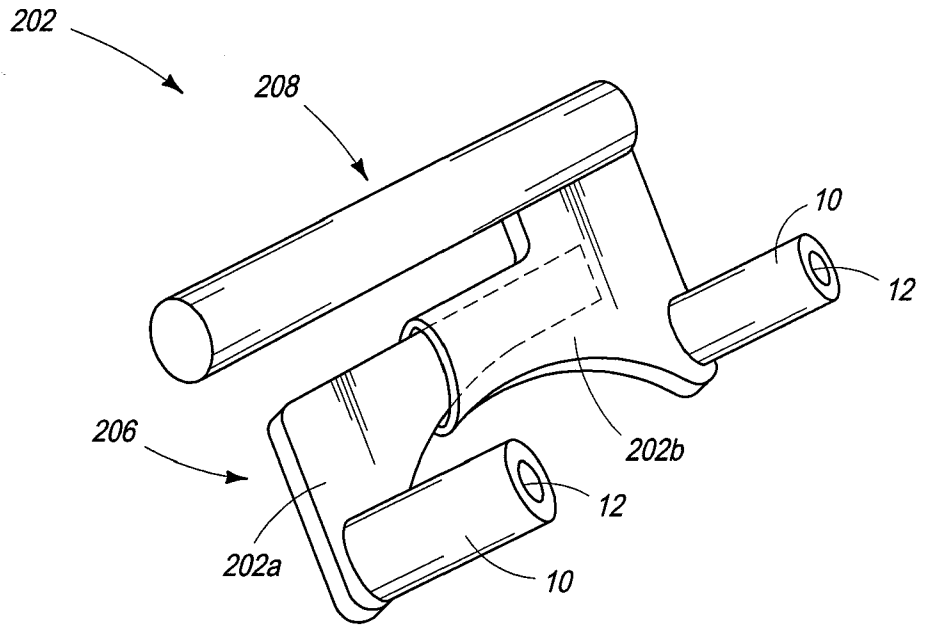


Fig. 11A

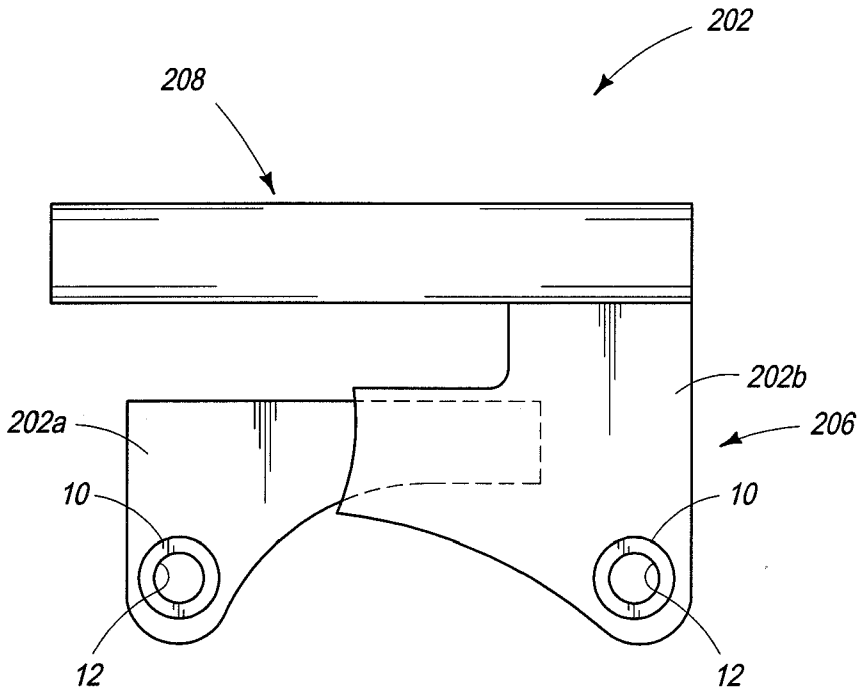


Fig. 11B

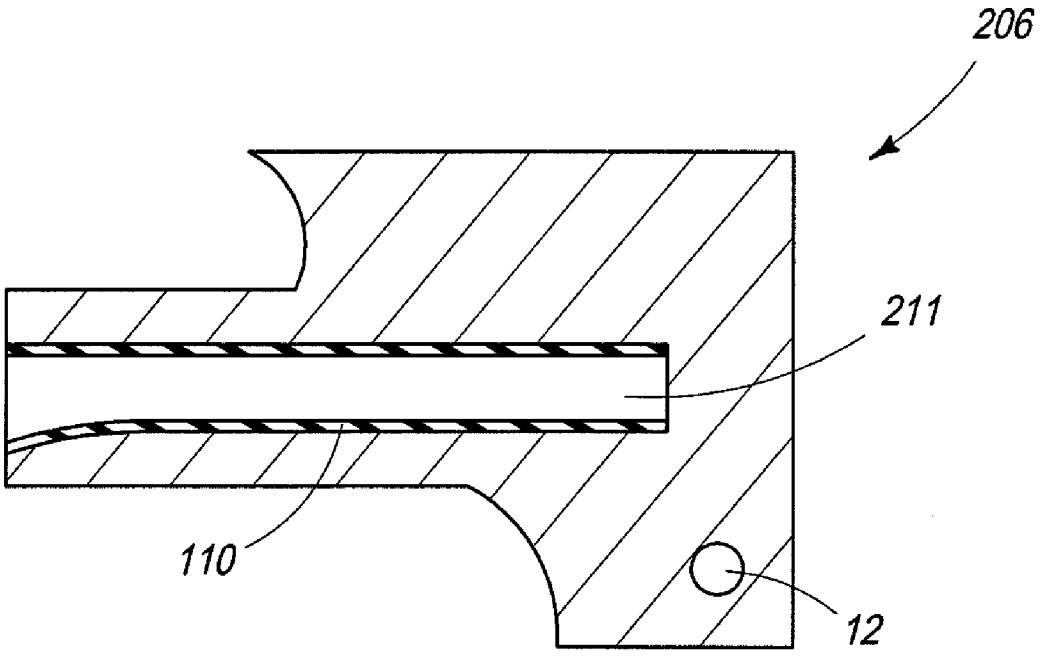


Fig. 12

REUSABLE SHOPPING BAG ASSEMBLY

RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. patent application Ser. No. 12/429,479, filed Apr. 24, 2009, which claims priority to U.S. Provisional Patent Application Ser. No. 61/071,445, filed Apr. 28, 2008. Priority is claimed to each of those applications, and the contents of each are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention is broadly concerned with packaging for purchased merchandise and, more particularly, to an assembly of reusable shopping bags.

BACKGROUND

[0003] Packaging constitutes a substantial proportion of the cost of providing goods to customers in terms of the manufacture of packaging materials and packaging processes. Although paper bags and sacks were primarily used to package purchased merchandise in the past, currently various types of plastic bags are provided by most merchants. Plastic bags are provided to merchants in various ways, generally to make their use convenient at checkout stands to avoid delays to customers in line. In some cases, refillable racks or dispensers are provided on which groups of plastic bags are placed where they can be removed one at a time during checkout. One common type of rack includes a framework with a pair of horizontally extending rods or arms on which groups of plastic bags are placed, the bags having pairs of rod receiving apertures or a rounded slot for forming a convenient handhold. The rack allows a bag to be pulled open and supported in an open condition while being filled with purchased merchandise. When filled, the bag is removed from the rack and given to the customer or placed in a shopping cart. A refillable bag rack of this general nature is shown in U.S. Pat. No. 5,335,788, the disclosure of which is incorporated herein by reference.

[0004] In many cases, plastic bags are used a single time and then discarded as trash. There are movements to encourage shoppers to reuse plastic bags or to purchase and make use of reusable shopping bags. Reusable shopping bags are made of more durable materials than single-use plastic bags and may be formed of a heavier plastic film or of a sturdy woven fabric, such as of canvas, synthetic fibers, or the like. A single reusable shopping bag may be convenient to use when shopping for just a few items. However, shoppers are also encouraged to minimize shopping trips to reduce vehicle fuel usage. Thus, if a customer shops for a large number of items at one time, inconveniences can result from attempts to pack purchases into a multitude of reusable shopping bags. The reusable bags can be carried loosely or rolled or folded into one of the bags, as the customer shops. When the customer is ready to checkout, the bags must be given to the cashier or a sacker, thereby possibly cluttering the counter. Otherwise, if the customer places the checked-out items in the bags, delays can result, causing inconvenience to shoppers waiting in line to checkout.

SUMMARY

[0005] Reusable shopping bag assemblies are provided. In one embodiment, a handle structure for use with a plurality of shopping bags having first and second apertures includes a handle member, a frame, first and second pegs, and first and second caps. The frame has first and second portions movable relative to one another. The first peg extends from the frame first portion for passing through the first aperture, and the second peg extends from the frame second portion for passing through the second aperture. The first cap is removably received on a distal end of the first peg to retain the plurality of bags on the first peg, and the second cap is removably received on a distal end of the second peg to retain the plurality of bags on the second peg. The first peg includes a first bore extending at least partially therethrough, and the first bore is accessible at a proximal end of the first peg and is sufficiently vacant when the first cap is received on the first peg for removably receiving a prong to support the first peg. The second peg includes a second bore extending at least partially therethrough, and the second bore is accessible at a proximal end of the second peg and is sufficiently vacant when the second cap is received on the second peg for removably receiving another prong to support the second peg. Movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

[0006] According to another embodiment, an apparatus for carrying a plurality of shopping bags and supporting the bags on first and second rods includes a handle member, a frame having first and second portions movable relative to one another, a first peg extending from the frame first portion for supporting the bags, a second peg extending from the frame second portion for supporting the bags, means for selectively maintaining the bags on the first peg, and means for selectively maintaining the bags on the second peg. The first peg includes a first bore extending at least partially therethrough, and the first bore is accessible at a proximal end of the first peg and is sufficiently vacant when the bags are maintained on the first peg for removably receiving the first rod. The second peg includes a second bore extending at least partially therethrough, and the second bore is accessible at a proximal end of the second peg and is sufficiently vacant when bags are maintained on the second peg for removably receiving the second rod. Movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

[0007] According to yet another embodiment, a reusable shopping bag assembly for use with first and second rods supporting a plurality of disposable shopping bags includes a plurality of reusable shopping bags, a handle member, and a frame having first and second portions movable relative to one another. Each reusable shopping bag has first and second apertures therethrough. A first peg extends from the frame first portion for passing through the first apertures, and a second peg extends from the frame second portion for passing through the second apertures. A first cap is removably received on a distal end of the first peg to retain the plurality of bags on the first peg, and a second cap is removably received on a distal end of the second peg to retain the plurality of bags on the second peg. The first peg includes a first bore extending at least partially therethrough, and the first bore is accessible at a proximal end of the first peg and is sufficiently vacant when the first cap is received on the first peg for removably receiving the first rod. The second peg includes a second bore extending at least partially therethrough, and the second bore is accessible at a proximal end of the second peg and is sufficiently vacant when the second cap is received on the second peg for removably receiving the

second rod. Movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. **1** is a perspective view of an embodiment of a reusable shopping bag assembly according to the present invention and including a handle structure with a plurality of reusable shopping bags supported thereon.

[0009] FIG. **2** is an enlarged perspective view of an embodiment of the handle structure forming a component of the assembly.

[0010] FIG. **3** is a front elevational view of the handle structure of FIG. **2**.

[0011] FIG. **4** is an enlarged front elevational view of a sleeve cap member of the handle structure.

[0012] FIG. **5** is a vertical sectional view taken on line **5-5** of FIG. **4** and illustrates details of an embodiment of the sleeve cap.

[0013] FIG. **6** is an enlarged vertical sectional view taken on line **6-6** of FIG. **3** and illustrates details of a reusable bag supporting sleeve of the handle structure including a sleeve bore extending through the sleeve and the handle frame.

[0014] FIG. **7***a* is a perspective view of another embodiment of a handle structure for a reusable shopping bag assembly according to the present invention, in an extended configuration.

[0015] FIG. **7***b* is a front elevational view of the handle structure of FIG. **7***a*.

[0016] FIG. **8***a* is a perspective view of the handle structure of FIG. **7***a*, in a retracted configuration.

[0017] FIG. **8***b* is a front elevational view of the handle structure of FIG. **8***a*.

[0018] FIG. **9** is a sectional view taken on line **9-9** of FIG. **7***a*.

[0019] FIG. **10***a* is a perspective view of still another embodiment of a handle structure for a reusable shopping bag assembly according to the present invention, in an extended configuration.

[0020] FIG. **10***b* is a front elevational view of the handle structure of FIG. **10***a*.

[0021] FIG. **11***a* is a perspective view of the handle structure of FIG. **10***a*, in a retracted configuration.

[0022] FIG. **11***b* is a front elevational view of the handle structure of FIG. **11***a*.

[0023] FIG. **12** is a sectional view of a portion of the handle structure taken on line **12-12** of FIG. **10***a*.

DETAILED DESCRIPTION

[0024] As required, detailed embodiments of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments are merely exemplary of the invention, which may be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure.

[0025] Referring to the drawings in more detail, the reference numeral **1** generally designates an embodiment of a reusable shopping bag assembly according to the present invention. The assembly **1** generally includes a handle structure **2** in combination with a plurality of reusable shopping bags **3** which are supported on the handle structure **2**. The handle structure **2** cooperates with the plurality of reusable shopping bags **3** to increase the convenience of using multiple reusable shopping bags during shopping.

[0026] Referring to FIGS. **2** and **3**, the illustrated handle structure **2** includes a handle frame **6** which is generally flat in shape and has a handle member **8** looping across or extending from an upper side of the frame **6**. The illustrated handle frame **6** has a truss-like construction, although it is foreseen that it could have other forms of construction such as a solid sheet or plate. Opposite ends of the frame **6** have a pair of bag supporting pegs or sleeves **10** projecting therefrom. The sleeves **10** have lengths adequate for supporting a plurality of the reusable shopping bags **3**, for example four to six bags **3**. As shown in FIG. **6**, each of the illustrated sleeves **6** is preferably tubular and has a sleeve bore **12** which extends completely through the sleeve **6** and through the handle frame **6**. The handle structure **2** can be formed of a suitable plastic, as by molding.

[0027] As viewed particularly in FIG. **3**, the illustrated sleeves **10** have an oval or elliptical cross sectional shape with a major axis thereof oriented vertically. It is foreseen that the sleeves **10** could have other cross sectional shapes, such as a circular or other rounded shape. The sleeves **10** preferably include a means for retaining bags **3** thereon until ready for use. FIGS. **1**, **2**, **4**, and **5** show cap members **16** which are sized and shaped to be received on the ends of the sleeves **10**. In order to prevent the caps **16** from being lost, the illustrated caps **16** are tied to the handle frame **6** by lanyards or cords **18**. The lanyards **18** may be formed of a fiber based cord or string material, a monofilament polymer material, or the like. It is also foreseen that the lanyards **18** could be molded monolithically with the handle structure **2**. The illustrated cords or lanyards **18** are shown tied to a frame loop **20** on the handle frame **6** and a cap loop **22** on the associated cap **16**. Referring to FIG. **5**, the illustrated cap **16** is formed by a collar section or collar **26** closed at one end by an end wall **28** and surrounding a central plug **30**. When the cap **16** is placed on an end of a sleeve **10**, frictional contact of the collar **26** with an outer surface of the sleeve **10** and of the plug **30** with the bore **12** of the sleeve cooperate to removably retain the cap **16** on the sleeve **10**. It is foreseen that other means could be employed to retain the cap **16** on the sleeve **10** which are appropriate to the cross sectional shape of the cap **16** and sleeve **10**, such as by threading or a bayonet type of engagement if the cap **16** and sleeve **10** were circular in cross section.

[0028] Referring to FIG. **1**, the illustrated reusable shopping bags **3** are rectangular in shape which are closed at a lower end and open at a top end. The bags **3** may be provided with individual flexible bag handles or pairs of handles **34** to facilitate grasping the bags **3** when filled. The bags **3** are provided with spaced apart sleeve receiving apertures **36** which are sized, shaped, and spaced to receive the pair of the sleeves **10** therethrough. The bags **3** may be formed of a durable material such as a polymer film, a fiber reinforced film, a durable paper, a fiber-reinforced paper, a woven fabric, such as canvas, a synthetic fiber based fabric, or a blend of natural and synthetic fibers, or the like. When positioned on the handle structure **2**, the bags **3** are in a flattened condition.

[0029] In use, a plurality of the reusable shopping bags **3** are loaded onto the handle structure **2** by passing the pairs of sleeves **10** through the bag apertures **36**. The caps **16** are placed on the ends of the sleeves **10** to retain the bags **3** thereon. The reusable shopping bag assembly **1**, thus formed,

is taken to a store by the shopper and may be carried in a shopping cart (not shown) during shopping. When the customer is ready to checkout, the assembly **1** is given to the cashier or a bagger/sacker who mounts the assembly **1** on a bag rack or dispenser (not shown) holding a plurality of non-reusable plastic bags in front of such plastic bags, by extending prongs or bars supporting the plastic bags through the bores **12** of the sleeves **10**. The caps **16** are removed, and the assembly **1** may be advanced farther back on the rack to allow the first reusable bag **3** to be pulled open to receive purchased items as they are scanned by the cashier. When the reusable bag **3** is filled, it may be given to the customer for placement in the shopping cart. The bag handle **34** provides for convenient grasping of the filled bag **3**. The next reusable bag **3** may be pulled open and the procedure repeated until all the purchased items have been checked out. When the transaction is completed, the cashier returns the handle structure **2**, with any remaining bags **3** thereon, to the customer. When the customer is at home and the bags **3** have been emptied, they are replaced on the handle structure **2** and the caps **16** put in place on the sleeves **10** to ready the assembly **1** for the next shopping trip.

[0030] The reusable shopping bag assemblies **1** can be provided to customers at low cost or for free by stores with dimensions to fit the single-use bag racks the store employs and with the store name printed on the bags **3**, as a gesture to encourage shoppers to patronize their stores. Such assemblies **1** can be positioned on a rack at a checkout stand for use by a customer to pack current purchases and for re-use to pack purchases during future shopping trips.

[0031] FIGS. **7***a* through **9** show another handle structure **102** that is substantially similar to the handle structure **2** in embodiment **1**, except as specifically noted and/or shown, or as would be inherent. The handle structure **102** may be used to replace the handle structure **2** and form alternate embodiments of reusable shopping bag assemblies, as those skilled in the art will appreciate. For uniformity and brevity, corresponding reference numbers may be used to indicate corresponding parts, though with any noted deviations.

[0032] The primary distinction between the handle structure **102** and the handle structure **2** is that the distance between the sleeves **10** is adjustable in the handle structure **102**. More specifically, in the handle structure **102**, both the handle frame **106** (replacing the handle frame **6**) and the handle member **108** (replacing he handle member **8**) are extendable/retractable. FIGS. **7***a* and **7***b* show the handle frame **106** and the handle member **108** in an extended configuration, while FIGS. **8***a* and **8***b* show a retracted configuration. As shown in FIG. **9**, this may be accomplished, for example, by forming the handle structure **102** from telescoping lateral portions **102***a*, **102***b*. An insert **110** may be included (e.g., in cavity **111** and/or cavity **112** of the lateral portion **102***b*) to provide friction between the lateral portions **102***a*, **102***b*, or other locking structure may be used to prevent any undesired movement between the lateral portions **102***a*, **102***b*. In use, the adjustability between the sleeves **10** may allow the handle structure **102** to be used with bag racks or dispensers that have prongs or bars separated by varying distances.

[0033] In some embodiments, a stop may be included to restrict the lateral portions **102***a*, **102***b* from being separated from one another. For example, one of the portions **102***a*, **102***b* may include a protrusion that interacts with a channel in the other portion **102***a*, **102***b*, and the interaction between the protrusion and the channel may restrict the portions **102***a*, **102***b* from separating. Further, while not shown in the drawings, the cap members **16**, the lanyards **18**, and the frame loops **20** may of course be used with the handle structure **102**.

[0034] FIGS. **10***a* through **12** show another handle structure **202** that is substantially similar to the handle structure **102**, except as specifically noted and/or shown, or as would be inherent. The handle structure **202** may be used to replace the handle structure **2** and form alternate embodiments of reusable shopping bag assemblies, as those skilled in the art will appreciate. For uniformity and brevity, corresponding reference numbers may be used to indicate corresponding parts, though with any noted deviations.

[0035] As with the handle structure **102**, distance between the sleeves **10** is adjustable in the handle structure **202**. More specifically, in the handle structure **202**, the handle frame **206** (replacing the handle frame **106**) is extendable/retractable and includes telescoping lateral portions **202***a*, **202***b* (similar to the lateral portions **102***a*, **102***b*). The primary distinction between the handle structure **202** and the handle structure **102** is that the handle member **208** (replacing the handle member **108**) does not telescope and forms part of only one of the lateral portions **202***a*, **202***b*. Since the handle member **208** does not telescope, a user's hand may be less likely to be pinched between the lateral portions **202***a*, **202***b* than between the lateral portions **102***a*, **102***b*.

[0036] FIGS. **10***a* and **10***b* show the handle frame **206** in an extended configuration, while FIGS. **11***a* and **11***b* show a retracted configuration. FIG. **12** shows that, similar to the handle frame **106**, the handle frame **206** may include the insert **110** (e.g., in cavity **211** of the lateral portion **202***b*) to provide friction between the lateral portions **202***a*, **202***b*, or other locking structure may be used to prevent any undesired movement between the lateral portions **202***a*, **202***b*.

[0037] Many different arrangements of the various components depicted, as well as components not shown, are possible without departing from the spirit and scope of the present invention. Embodiments of the present invention have been described with the intent to be illustrative rather than restrictive. Alternative embodiments will become apparent to those skilled in the art that do not depart from its scope. A skilled artisan may develop alternative means of implementing the aforementioned improvements without departing from the scope of the present invention. Further, it will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations and are contemplated within the scope of the claims. Further, various steps set forth herein may be carried out in orders that differ from those set forth herein without departing from the scope of the present methods. The description should not be restricted to the above embodiments, but should be measured by the following claims.

We claim:

1. A handle structure for use with a plurality of shopping bags having first and second apertures therethrough, the handle structure comprising:

a handle member;

a frame having first and second portions movable relative to one another;

a first peg extending from the frame first portion for passing through the first aperture;

a second peg extending from the frame second portion for passing through the second aperture;

a first cap removably received on a distal end of the first peg to retain the plurality of bags on the first peg; and

a second cap removably received on a distal end of the second peg to retain the plurality of bags on the second peg;

wherein the first peg includes a first bore extending at least partially therethrough, the first bore being accessible at a proximal end of the first peg and being sufficiently vacant when the first cap is received on the first peg for removably receiving a prong to support the first peg;

wherein the second peg includes a second bore extending at least partially therethrough, the second bore being accessible at a proximal end of the second peg and being sufficiently vacant when the second cap is received on the second peg for removably receiving another prong to support the second peg; and

wherein movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

2. The handle structure of claim **1**, wherein the frame first and second portions are configured to telescope.

3. The handle structure of claim **2**, wherein:

the handle member has first and second telescoping portions;

the handle first portion is fixed relative to the frame first portion; and

the handle second portion is fixed relative to the frame second portion.

4. The handle structure of claim **3**, further comprising means for temporarily biasing the frame first portion at a location relative to the frame second portion.

5. The handle structure of claim **3**, further comprising means for temporarily biasing the handle first portion at a location relative to the handle second portion.

6. The handle structure of claim **2**, wherein the handle member has a fixed configuration and extends from only one of the frame first portion and the frame second portion.

7. The handle structure of claim **1**, wherein the handle member has a fixed configuration and extends from only one of the frame first portion and the frame second portion.

8. The handle structure of claim **1**, further comprising means for temporarily biasing the frame first portion at a location relative to the frame second portion

9. The handle structure of claim **1**, wherein the first bore extends entirely through the first peg and the second bore extends entirely through the second peg.

10. The handle structure of claim **2**, further comprising a first lanyard member coupled to the first cap and a second lanyard member coupled to the second cap.

11. The handle structure of claim **10**, wherein the first cap has a first plug configured to extend inside a portion of the first bore when the first cap is received on the first peg; and wherein the second cap has a second plug configured to extend inside a portion of the second bore when the second cap is received on the second peg.

12. The handle structure of claim **11**, wherein the first and second pegs have a generally oval external perimeter.

13. An apparatus for carrying a plurality of shopping bags and supporting the bags on first and second rods, the apparatus comprising:

a handle member;

a frame having first and second portions movable relative to one another;

a first peg extending from the frame first portion for supporting the bags;

a second peg extending from the frame second portion for supporting the bags;

means for selectively maintaining the bags on the first peg;

means for selectively maintaining the bags on the second peg;

wherein the first peg includes a first bore extending at least partially therethrough, the first bore being accessible at a proximal end of the first peg and being sufficiently vacant when the bags are maintained on the first peg for removably receiving the first rod;

wherein the second peg includes a second bore extending at least partially therethrough, the second bore being accessible at a proximal end of the second peg and being sufficiently vacant when bags are maintained on the second peg for removably receiving the second rod; and

wherein movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

14. The handle structure of claim **13**, wherein the frame first and second portions are configured to telescope.

15. The handle structure of claim **14**, wherein:

the handle member has first and second telescoping portions;

the handle first portion is fixed relative to the frame first portion; and

the handle second portion is fixed relative to the frame second portion.

16. The handle structure of claim **14**, wherein the handle member has a fixed configuration and extends from only one of the frame first portion and the frame second portion.

17. The handle structure of claim **13**, wherein the handle member has a fixed configuration and extends from only one of the frame first portion and the frame second portion.

18. The handle structure of claim **13**, further comprising means for temporarily biasing the frame first portion at a location relative to the frame second portion

19. A reusable shopping bag assembly for use with first and second rods supporting a plurality of disposable shopping bags, the assembly comprising:

a plurality of reusable shopping bags each having first and second apertures therethrough;

a handle member;

a frame having first and second portions movable relative to one another;

a first peg extending from the frame first portion for passing through the first apertures;

a second peg extending from the frame second portion for passing through the second apertures;

a first cap removably received on a distal end of the first peg to retain the plurality of bags on the first peg; and

a second cap removably received on a distal end of the second peg to retain the plurality of bags on the second peg;

wherein the first peg includes a first bore extending at least partially therethrough, the first bore being accessible at a proximal end of the first peg and being sufficiently vacant when the first cap is received on the first peg for removably receiving the first rod;

wherein the second peg includes a second bore extending at least partially therethrough, the second bore being accessible at a proximal end of the second peg and being sufficiently vacant when the second cap is received on the second peg for removably receiving the second rod; and

wherein movement of the frame first portion relative to the frame second portion causes a distance between the first peg and the second peg to change.

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