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(54) **COLLAPSIBLE LAUNDRY HAMPER**

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(57) **ABSTRACT**

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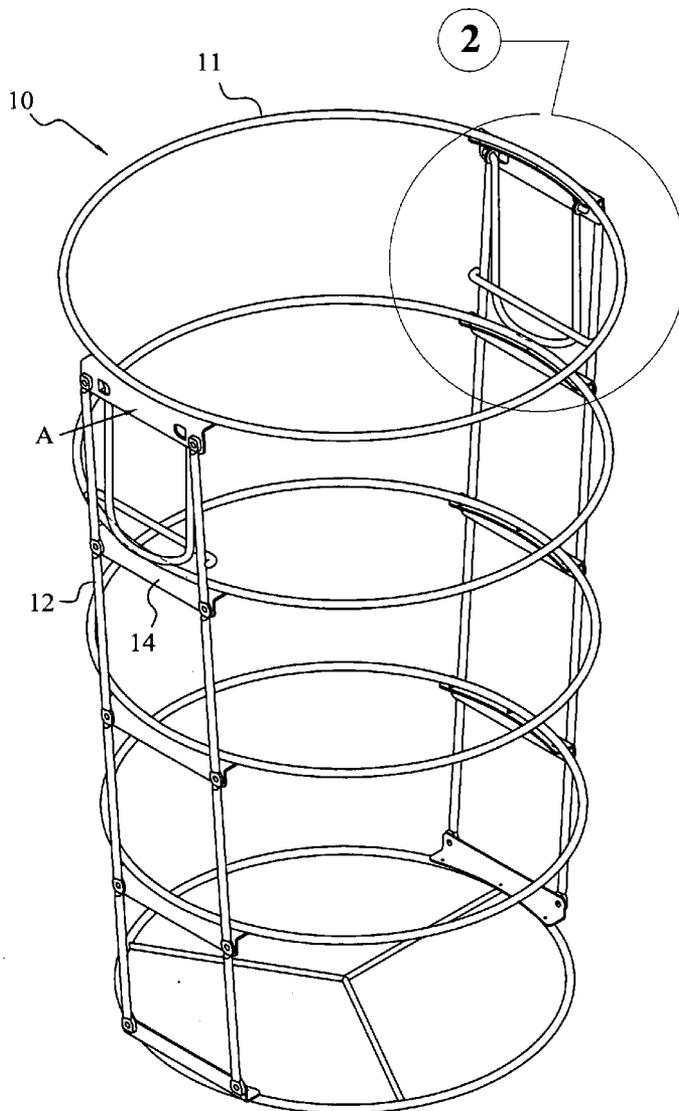
The present invention relates to a collapsible laundry hamper, including a plurality of ring frames and a plurality of elongated links. The ring frames are pivotally connected with the links in a manner that the ring frames are parallel to and spaced from each other. The links are pivotable with respect to the ring frames between an upright position, at which the links are substantially perpendicular to the ring frames so that the collapsible laundry hamper is unfolded into an upright state, and a collapsed position, at which the links are substantially parallel to the ring frames so that the collapsible laundry hamper is folded or collapsed into a collapsed state. The laundry hamper further includes at least one fastener for keeping the laundry hamper in the upright state.

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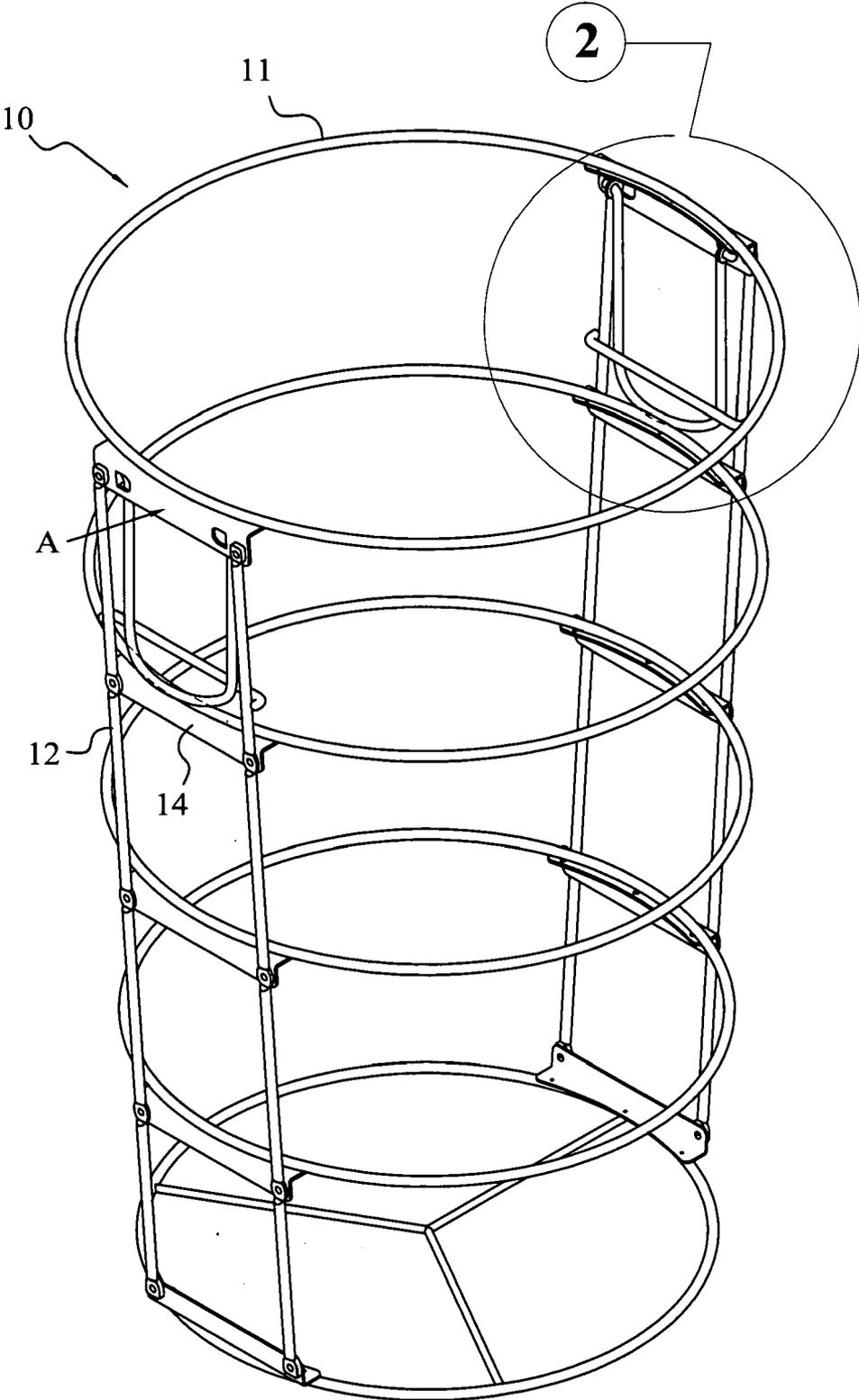


FIG. 1

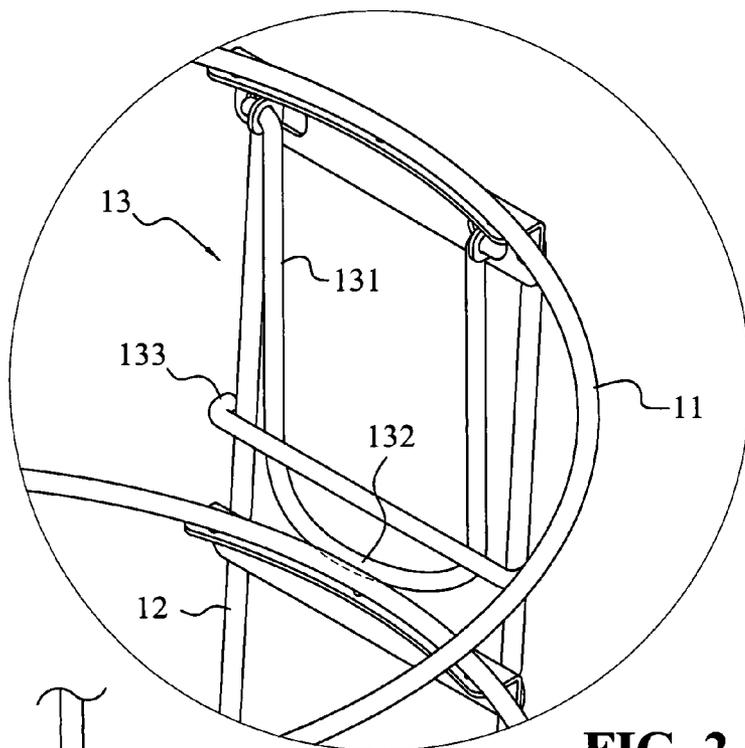


FIG. 2

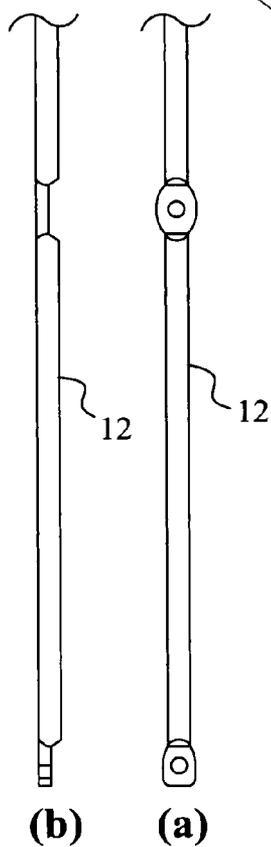


FIG. 5

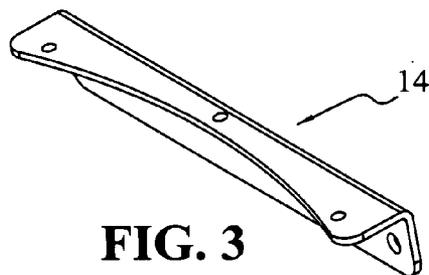


FIG. 3

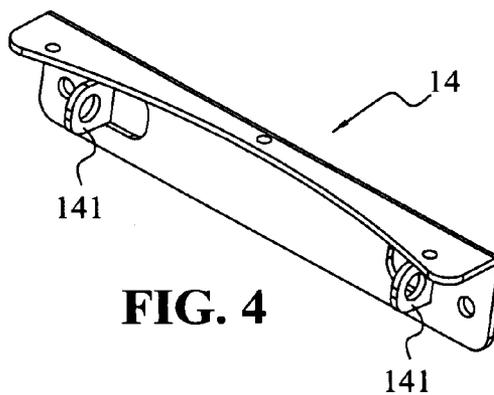


FIG. 4

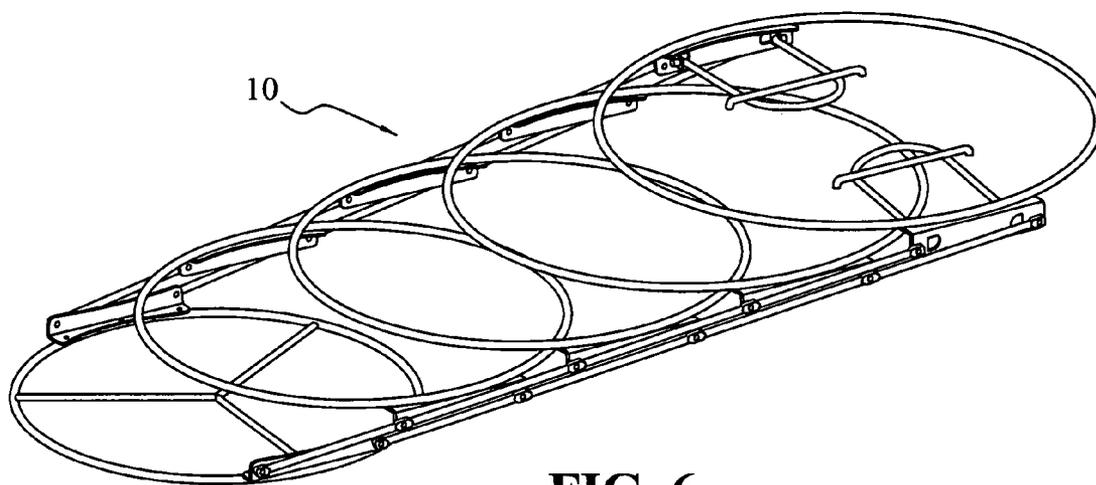


FIG. 6

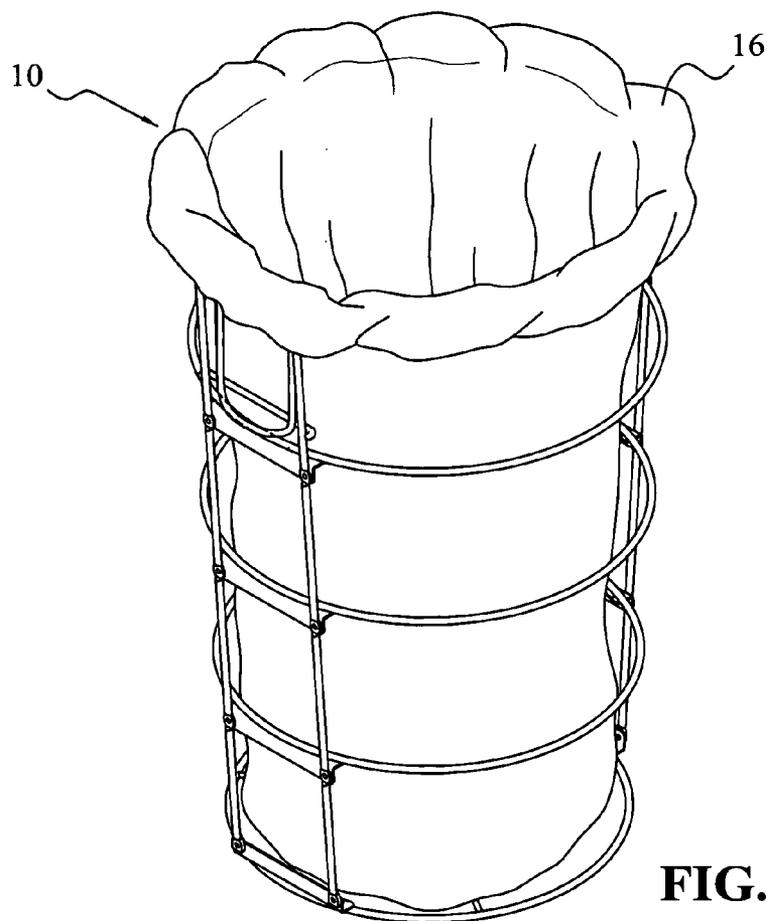


FIG. 7

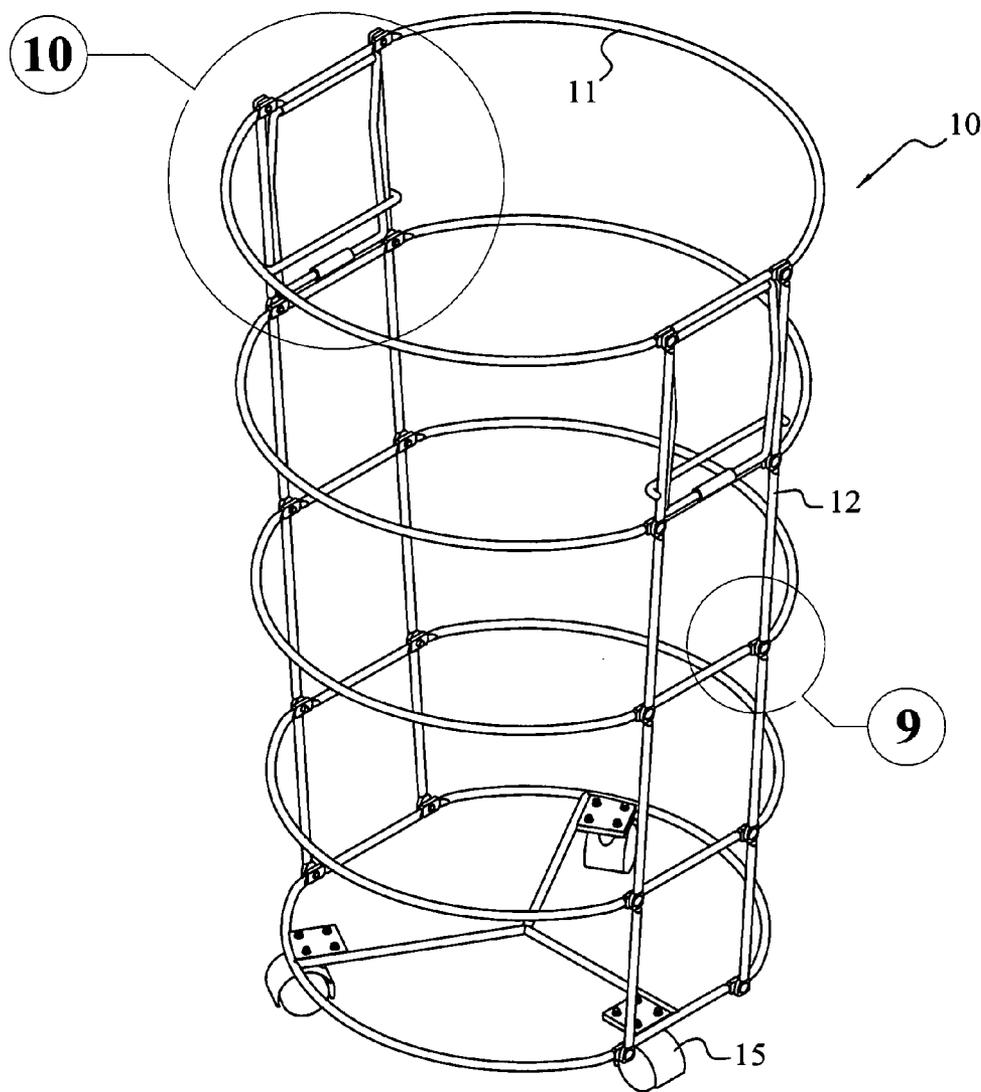


FIG. 8

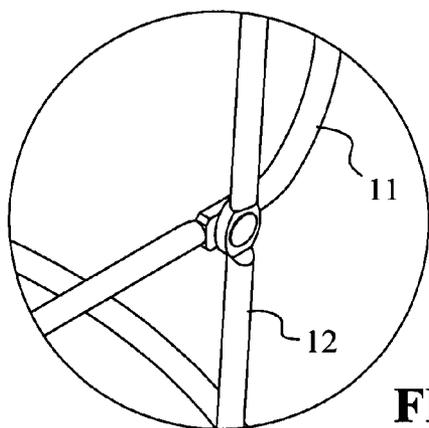


FIG. 9

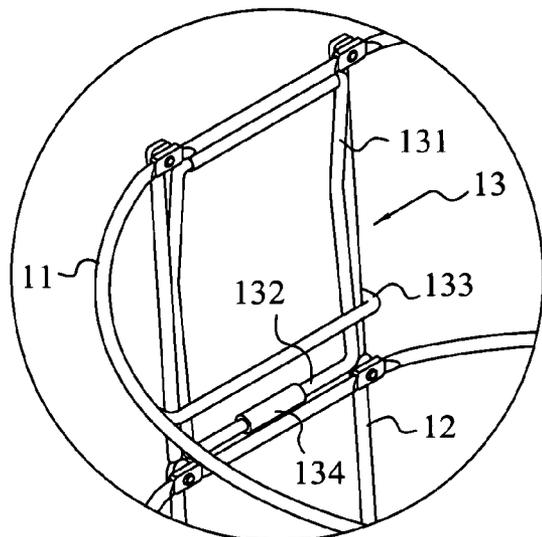


FIG. 10

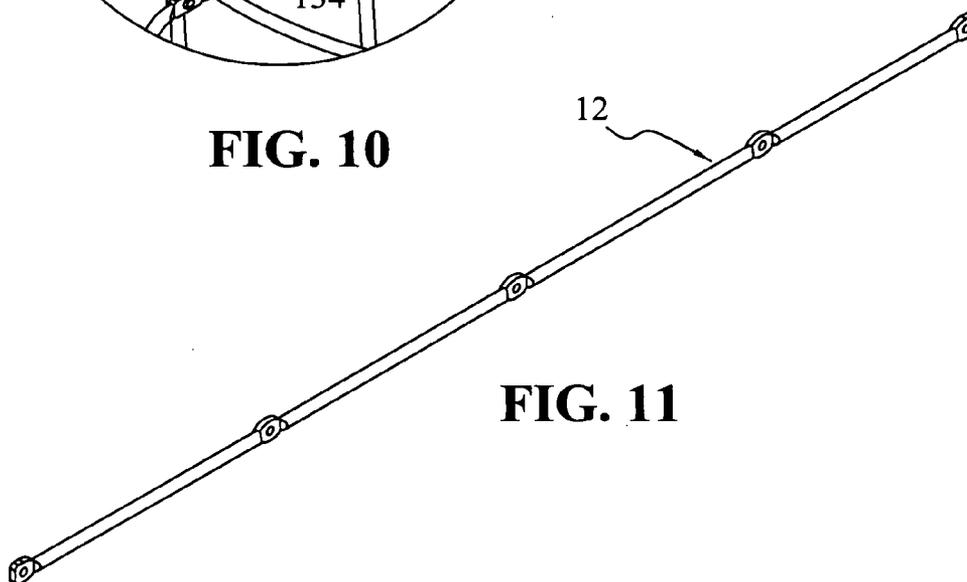


FIG. 11

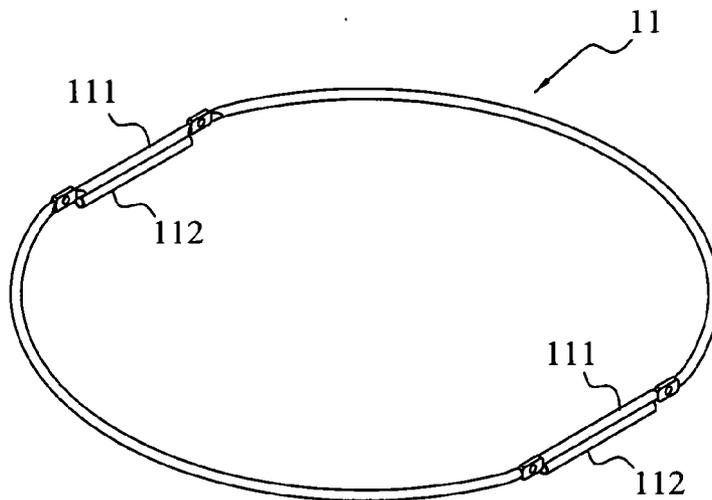


FIG. 12

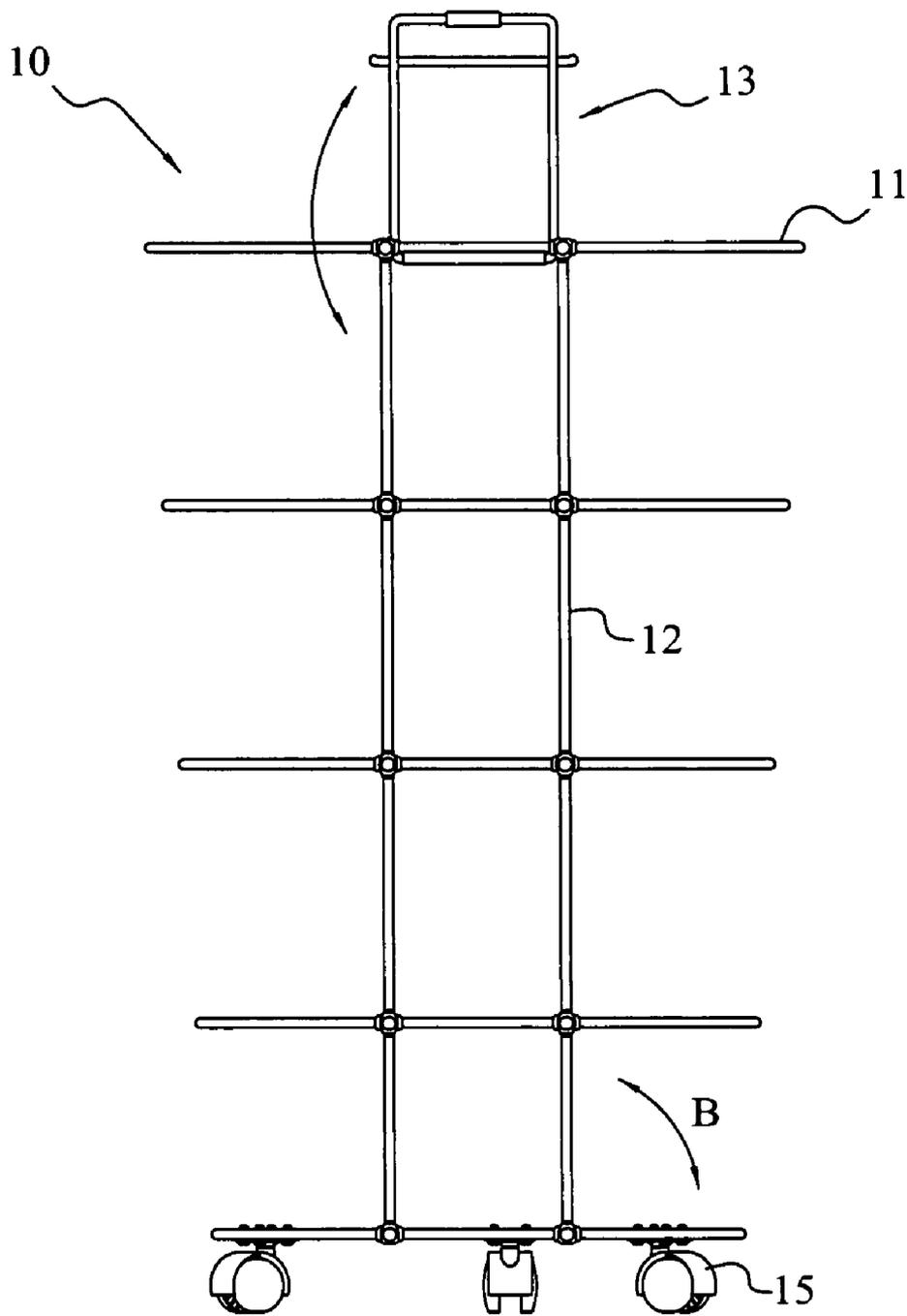


FIG. 13

COLLAPSIBLE LAUNDRY HAMPER

FIELD OF THE INVENTION

[0001] The present invention relates to a container or basket, and more particularly to a collapsible container, basket or laundry hamper.

DESCRIPTION OF THE RELATED ART

[0002] The folding basket for laundry and other uses disclosed in U.S. Pat. No. 4,781,300, includes two side walls which fold under the bottom portion and two end walls which fold on the top of the bottom portion.

[0003] The collapsible hamper for storage of laundry and other items disclosed in U.S. Pat. No. 5,464,113 includes a rigid upper frame, a rigid lower frame, a lid movably hinged to, a flexible woven sidewall and a plurality of supporting rods.

[0004] The collapsible laundry basket assembly disclosed in U.S. Pat. No. 5,667,066 includes a tubular support frame and a mating bag. The support frame comprises crossed first and second substantially rectangular sections that are coupled at the crossing points of the sections by elastomeric rings to allow pivotal movement.

[0005] The folding basket disclosed in U.S. Pat. No. 4,781,300 can only be brought into an upright state by folding the side and end walls to an upright position and engaging the adjacent walls with snap locks on the edges of the walls.

[0006] Although the collapsible hamper disclosed in U.S. Pat. No. 5,464,113 has good structural rigidity in an upright state, it can only be brought into an upright state by assembling the frames and supporting rods. The folding basket in U.S. Pat. No. 4,781,300 and the collapsible hamper in U.S. Pat. No. 5,464,113 are inconvenient in operation.

[0007] Even though the collapsible laundry basket assembly disclosed in U.S. Pat. No. 5,667,066 is very convenient in folding it, its structural rigidity is not satisfactory.

SUMMARY OF THE INVENTION

[0008] It is an object of the present invention to provide a collapsible laundry hamper for storing or transporting laundry and other items.

[0009] It is another object of the present invention to provide a collapsible laundry hamper which can be collapsed into a very thin package for storage, transport and display.

[0010] It is another object of the present invention to provide a collapsible laundry hamper which is easy to be folded and unfolded for a user.

[0011] It is a further object of the present invention to provide a collapsible laundry hamper which can be folded or unfolded between an upright state and a collapsed state.

[0012] It is a still further object of the present invention to provide a collapsible laundry hamper which has good structural rigidity in the upright state.

[0013] The present invention discloses a collapsible laundry hamper including a plurality of ring frames and a plurality of elongated links, wherein the ring frames are pivotally connected with the links in a manner that the ring frames are parallel to and spaced from each other. The links are pivotable with respect to the ring frames between an upright position, at which the links are substantially perpendicular to the ring frames so that the collapsible laundry hamper is unfolded into an upright state, and a collapsed position, at which the links

are substantially parallel to the ring frames so that the collapsible laundry is folded or collapsed into a collapsed state.

[0014] Preferably, the collapsible laundry hamper further includes at least one fastener pivotally mounted to one of the ring frames. When the laundry hamper is unfolded into the upright state, the links are held by pivoting the fastener to a locking position so as to prevent the links from pivotally rotating with respect to the ring frames and keep the laundry hamper in the upright state.

[0015] According to one aspect of the present invention, the fastener is mounted to a top one of the ring frames, and a ring frame next to the top ring frame serves as a stopper to prevent the fastener from escaping out of the locking position when the fastener is positioned at the locking position.

[0016] According to another aspect of the present invention, each of the ring frames is provided with angle bars, and the ring frames are pivotally connected with the links through the angle bars.

[0017] According to a further aspect of the present invention, the laundry hamper further includes a plurality of casters mounted on a bottom one of the ring frames.

[0018] According to a still further aspect of the present invention, the laundry hamper further includes a mating bag detachably mating with the hamper.

[0019] For a skilled person, the foregoing and other objects and advantages of the present invention will be more clearly understood through the following descriptions with reference to the drawing, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] FIG. 1 is a perspective view showing a laundry hamper in accordance with the first preferred embodiment of the present invention;

[0021] FIG. 2 is a partially enlarged view of FIG. 1 showing the details of a fastener;

[0022] FIG. 3 is a perspective view showing an angle bar;

[0023] FIG. 4 is a perspective view showing an angle bar with tabs;

[0024] FIG. 5a and FIG. 5b partially showing a link;

[0025] FIG. 6 shows the laundry hamper in the collapsed state;

[0026] FIG. 7 shows a mating bag mating with the laundry hamper;

[0027] FIG. 8 is a perspective view showing a laundry hamper in accordance with the second preferred embodiment of the present invention;

[0028] FIG. 9 is a partially enlarged view of FIG. 8 showing the details of a pivotal joint;

[0029] FIG. 10 is a partially enlarged view of FIG. 8 showing the details of a fastener;

[0030] FIG. 11 individually shows a link;

[0031] FIG. 12 individually shows a ring frame; and

[0032] FIG. 13 shows a pivotal rotation direction of the link.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0033] Please refer to FIG. 1, which is a perspective view showing a collapsible laundry hamper according to the first preferred embodiment of the present invention, and the collapsible laundry hamper as a whole is represented by the reference numeral 10.

[0034] The collapsible laundry hamper 10 includes a plurality of ring frames 11 and four elongated links 12. Each ring frame 11 is provided with two parallel angle bars 14. The ring frames are so arranged that they are parallel to and spaced from each other, and each angle bar 14 is pivotally connected with two links 12, such that the links 12 are pivotable with respect to the ring frames 11 between an upright position and a collapsed position. At the upright position, the links are substantially perpendicular to the ring frames 11 so that the laundry hamper 10 is unfolded into an upright state (as shown in FIG. 1). At the collapsed position, the links are substantially parallel to the ring frames 11 so that the laundry hamper 10 is folded into a collapsed state (as shown in FIG. 6).

[0035] If viewing from the direction of the arrow A in FIG. 1 (i.e. viewing from a side of the laundry hamper), the top ring frame, the bottom ring frame and two links substantially forms a parallelogram-like mechanism, and thus the laundry hamper is able to be folded or collapsed into a very thin package.

[0036] The laundry hamper 10 further includes two fasteners 13. Being a partially enlarged view of FIG. 1, FIG. 2 shows the detailed aspects of the fastener 13. Two fasteners 13 are pivotally disposed on the top ring frame 11 through the angle bars 14. As shown in FIG. 4, the angle bars on the top ring frame are additionally machined, such as punching, to form a pair of tabs 141 with a hole for pivotally mounting the fasteners 13. FIG. 3 shows other angle bars without tabs provided on the ring frames other than the top ring frame.

[0037] Each fastener 13 has a U-shaped body 131 and a holder 133. When the laundry hamper is folded into the upright state, the fasteners 13 are able to be pivotally rotated to a locking position as shown in FIG. 2 to hold the links 12, so as to prevent the links 12 from being pivotally rotated with respect to the ring frames 11 and keeping the laundry hamper 10 in the upright state. The fasteners is prevented from escaping out of the locking position by the ring frame next to the top ring frame (i.e. the second ring frame in a top-to-bottom direction) abutting against the horizontal portion 132 or the apex of the U-shaped body 131.

[0038] In the illustration of FIG. 5a and 5b for the first preferred embodiment, the link is preferably partially flattened about each pivotal joint, such that the pivotal rotation direction of the link is secured by surface contact on the one hand and the outward protrusion of coupling elements such as rivet, bolt and pin is able to be lessened.

[0039] Please refer to FIG. 8, which is a perspective view showing a collapsible laundry hamper 10 according to the second preferred embodiment in the present invention. In contrast to the first preferred embodiment, the links 12 are directly pivotally connected with the ring frames without the angle bars in the second preferred embodiment. Please refer to FIG. 9 for detailed information of the pivotal connection. Therefore, each ring frame in the second preferred embodiment is formed with two parallel sections 111 as shown in FIG. 12.

[0040] The ring frames 11 are so arranged that they are parallel to and spaced from each other, and each section is pivotally connected with two links, such that the links 12 are pivotable with respect to the ring frames 11 between an upright position and a collapsed position. At the upright position, the links 12 are substantially perpendicular to the ring frames 11 so that the laundry hamper 10 is unfolded into an upright state (as shown in FIG. 8 and FIG. 13). At the collapsed position, the links 12 are substantially parallel to the

ring frames 11 so that the laundry hamper 10 is folded or collapsed into a collapsed state.

[0041] The laundry hamper 10 further includes two fasteners 13 whose detailed information is shown in FIG. 10. The two fasteners 13 are pivotally mounted on the top ring frame 11 by virtue of tubes 112, and the tubes 112 are provided on the parallel sections 111 of the top ring frame 11 as shown in FIG. 12. The tubes 112 are provided for pivotally mounting the fasteners 13.

[0042] Likewise, each fastener 13 has a U-shaped body 131 and a holder 133. When the laundry hamper is unfolded into the upright state, the fasteners 13 are pivotally rotated to a locking position as shown in FIG. 10 to hold the links 12 and prevent the links 12 to pivotally rotate with respect to the ring frames 11, so as to keep the laundry hamper 10 in the upright state. The fastener is prevented from escaping out of the locking position by the ring frame next to the top ring frame (i.e. the second ring frame in a top-to-bottom direction) abutting against the horizontal portion 132 of the U-shaped main body 131.

[0043] Preferably, a sleeve 134 is provided on the horizontal portion 132 of the U-shaped body 131 and is composed of elastic material. By means of elastic deformation of the sleeve, the fastener is positioned on the locking position effortlessly. The sleeve 134 may be composed of hard material and is movably contacted with the horizontal portion 132. In this case, the hard sleeve may function as a roller by which the fastener can be positioned on the locking position effortlessly.

[0044] As shown in FIG. 11 and FIG. 12, the ring frames and the links are preferably partially flattened about pivot joints.

[0045] A mating bag 16 mates with the laundry hamper as shown in FIG. 7, if necessary. Preferably, the mating bag 16 detachably mates with the laundry hamper and is washable. The material of the mating bag could be cotton, canvas, nylon or other material commonly used in textile industry.

[0046] A plurality of casters 15 are mounted to the bottom ring frame of the laundry hamper as shown in FIG. 8, if necessary, so as to move the laundry hamper in an upright state.

[0047] As shown in FIG. 13, when the fasteners escapes from the locking position, the laundry hamper could be folded by pivotally rotating the links along a direction designated by the arrow B.

[0048] Furthermore, the ring frames of the laundry hamper may have identical size, making that the laundry hamper has a cylindrical shape when the laundry hamper is kept in the upright state.

[0049] Alternatively, the ring frames may have different sizes. Substantially, the sizes of the ring frames gradually enlarged in a bottom-to-top direction such that the laundry hamper has an gradually enlarged cylindrical shape in a bottom-to-top direction (i.e. a shape of an inversed truncated cone).

[0050] The term "ring frame" used in the present invention is not necessarily limited to be circular. The ring frames in accordance with the laundry hamper of the present invention could also be oval, square, rectangular, polygonal or other irregular shape. The term "ring frame" is also not limited to an enclosed structure. Partially open structure, such as C-shaped or U-shaped structure, could be also employed.

[0051] While the invention has been described in reference to preferred embodiments, it should be understood that

numerous changes and modifications could be made within the spirit and scope of the inventive concepts described. Accordingly, it is intended that the invention not be limited to the disclosed embodiments, but have the full scope permitted by the language of the following claims.

- 1. A collapsible laundry hamper, comprising: a plurality of ring frames; a plurality of elongated links, the ring frames being pivotally connected with the links in a manner that the ring frames are parallel to and spaced from each other, and the links being pivotable with respect to the ring frames between an upright position, at which the links are substantially perpendicular to the ring frames so that the collapsible laundry hamper is unfolded into an upright state, and a collapsed position, at which the links are substantially parallel to the ring frames so that the collapsible laundry is folded or collapsed into a collapsed state; and at least one fastener, pivotally mounted to one of the ring frames for securing the links, preventing the links from pivotally rotating with respect to the ring frames and keeping the laundry hamper in the upright state by pivotally rotating the fastener to a locking position when the laundry hamper is unfolded into the upright state.
- 2. The collapsible laundry hamper as set forth in claim 1, wherein the fastener is mounted to a top one of the ring frames, and one of the ring frames next to the top ring frame serves as a stopper to prevent the fastener from escaping out of the locking position when the fastener is positioned at the locking position.
- 3. The collapsible laundry hamper as set forth in claim 2, wherein each of the ring frames is provided with two parallel angle bars, the ring frames are pivotally connected with the links through the angle bars.
- 4. The collapsible laundry hamper as set forth in claim 3, wherein at least one of the angle bars provided on the top ring frame is formed with two tabs with a hole for pivotally mounting the fastener.
- 5. The collapsible laundry hamper as set forth in claim 3, further comprising a plurality of casters mounted to a bottom one of the ring frames.
- 6. The collapsible laundry hamper as set forth in claim 3, further comprising a mating bag detachably mating with the laundry hamper.
- 7. The collapsible laundry hamper as set forth in claim 3, wherein the ring frames increase in size in an bottom-to-top order so that the laundry hamper kept in the upright state has a cylindrical shape gradually enlarged in a bottom-to-top direction.

- 8. The collapsible laundry hamper as set forth in claim 3, wherein the ring frames have identical sizes so that the laundry hamper kept in the upright state has a cylindrical shape.
- 9. A collapsible laundry hamper, comprising: a plurality of ring frames, each having two sections parallel to each other; four elongated links, one of the two parallel sections being pivotally connected with two of the four links and the other parallel section being pivotally connected with another two of the four links, whereby the ring frames are pivotally connected with the links in a manner that the ring frames are parallel to and spaced from each other, and the links are pivotable with respect to the ring frames between an upright position, at which the links are substantially perpendicular to the ring frames so that the collapsible laundry hamper is unfolded into an upright state, and a collapsed position, at which the links are substantially parallel to the ring frames so that the collapsible laundry is folded or collapsed into a collapsed state; and two fasteners, pivotally mounted to the two parallel sections of one of the ring frames respectively for securing the links and capable of pivotally rotating about the respective section, the fasteners preventing the links from pivotally rotating with respect to the ring frames and keeping the laundry hamper in the upright state by pivotally rotating the fasteners to a locking position when the laundry hamper is unfolded into the upright state.
- 10. The collapsible laundry hamper as set forth in claim 9, wherein the fasteners are mounted to a top one of the ring frames, and one of the ring frames next to the top ring frame serves as a stopper to prevent the fasteners from escaping out of the locking position when the fasteners is positioned at the locking position.
- 11. The collapsible laundry hamper as set forth in claim 10, wherein portions located on the ring frames and pivotally connected with the links are flattened, and portions on the links and pivotally connected with the ring frames are flattened.
- 12. The collapsible laundry hamper as set forth in claim 11, wherein the top ring frame is provided with two tubes on the parallel sections respectively for pivotally mounting the fasteners.
- 13. The collapsible laundry hamper as set forth in claim 10, further comprising a plurality of casters mounted to a bottom one of the ring frames.
- 14. The collapsible laundry hamper as set forth in claim 10, further comprising a mating bag detachably mating with laundry hamper.

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