

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a device for preventing the ropes of a toy swing from bending, and more particularly, to a device for preventing the ropes of a toy swing from bending at the time when a child tries to sit on the seat in the swing and to get off from the seat or during riding in the swing, thereby providing safety during use to the child.

Background of the Related Art

[0002] FIG. 1 shows a schematic view of a conventional toy swing. The conventional toy swing 2 includes a seat 10 on which a child sits, a support bar 20 having a predetermined length, and two ropes 30 connected to the front and rear portions of the both sides of the seat 10, for hanging the seat 10 from the support bar 20. A fixing cap 32 is provided on the intermediate portion of each of the ropes 30. The strands of the rope 30 collected and descended from the support bar 20 is divided into the front rope and the back rope at the fixing cap 32. The ends of the front rope and the back rope are coupled to the respective edges of the seat 10. Generally, the edges of the seat 10 have a through hole 12 through which the ends of the front rope and the back rope are passed and bound.

[0003] The seat 10 is provided with a handle grip member 40 that is detachably mounted on the seat 10 at the front portion thereof. The handle grip member 40 serves as a protecting member for the child who holds it. In addition, the seat 10 is provided with a back support member 50 that is detachably mounted on the seat 10 at the back portion thereof, for supporting the back of the child.

[0004] In case the conventional toy swing 2 is installed, for example, the support bar 20 is fixedly located on the horizontal direction and after that, the free ends of each of the two ropes 30 are bound on the support bar 20 for the purpose of hanging the seat 10 from the support bar 20. The other ends of each ropes 30 are fastened on the edge of the seat 10. In case the toy swing 2 is used outdoors, the seat 10 may hang from the branch of a tree.

[0005] Generally, a child who is four years old or less sits on the seat 20 with the handle grip member 40 and the back support member 50 mounted therein, in the state where his or her legs are put into the lower portion of the handle grip member 40 and enjoys the riding in the swing 2 with the help of another person, while holding the handle grip member 40 by his or her hands. The ropes 30 are generally made of a substantially flexible material. Therefore, if the child leans in a forward or backward direction during swing, with a result that he or

she bends his or her body in that direction, the rope 30 on the opposite side to the rope 30 on which the child leaned in that direction down the fixing cap 32 is essentially bent, such that the seat 20 tends to be inclined toward that direction to which the child leaned. At this time, the child is liable to be very worried and even scared.

[0006] Additionally, if the child tries to sit on the seat 10 by himself or herself by pulling the handle grip member 40 downward, the rear side rope down the fixing cap 32 is bent, such that the seat 10 leans in a forward direction and simultaneously pushes toward the back side thereof. In that case, the child is too scared so he or she misses the handle grip member 40 and falls down. Unfortunately, in some cases, the seat 10 that has been missed swings again in a forward direction and eventually hits on the child's face.

[0007] On the other hand, the child who is four years old or more can enjoy the riding in the swing by himself or herself. In that case, he or she rides in the swing 2 from which the handle grip member 40 and the back support member 50 are detached. At that time, if the child is sitting on the seat 10, he or she enjoys his or her riding in the swing, while totally holding the two ropes 30 on the both sides of the seat 10 for the purpose of protecting his or her body.

[0008] However, the ropes 30 in the conventional toy swing 2 are too flexible, and if the ropes 30 held by the hands of the child pull or push, they are bent toward a particular direction on which the force is applied, which results in the loss of the balance of the weight of the child. If the child partly sits on the front or rear side of the seat 10 while this happens, the rope 30 on the opposite side to the rope 30 where the weight of the child leaned is actually bent, with a consequence that the seat 10 leaned in that direction.

[0009] In case of the seat 10 not having the handle grip member 40 or the back support member 50, furthermore, the body of the child is pushed to that direction where the seat 10 leaned, such that the seat 10 leaned more. At that time, the child misses his or her hands out of the ropes 30 and unfortunately, falls down on the floor.

SUMMARY OF THE INVENTION

[0010] Accordingly, the present invention is directed to a device for preventing the ropes of a toy swing from bending that substantially obviates one or more problems due to limitations and disadvantages of the related art.

[0011] An object of the present invention is to provide a device for preventing the ropes of a toy swing from bending wherein each of the ropes is covered with a substantially hard member, thereby preventing the accidents that may happen due to the bending of the ropes.

[0012] Additional advantages, objects, and features of the invention will be set forth in part in the description which follows and in part will become apparent to those

having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objectives and other advantages of the invention may be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[0013] To accomplish this and other objects of the present invention, there is provided a device for preventing the ropes of a toy swing from bending in the toy swing that includes a seat on which a child sits and the ropes fixed to the edges of the front and rear portions of the both sides of the seat on the one ends thereof, for hanging the seat in a predetermined position, the device comprising: a main cylinder part having a first tunnel in the interior thereof, through which the two ends of each of the ropes are collected and passed; and two extension cylinder parts each having a second tunnel in the interior thereof where the two ends of each of the ropes passed from the main cylinder part are divided and inserted and passed through the second tunnel, thereby rendering the two ends of each of the ropes extracted to the edges of the front and rear portions of the both sides of the seat.

[0014] Preferably, each of the two extension cylinder parts is provided with a concave/convex portion for preventing the hands of a child from being slid from the ropes, on the surface thereof.

[0015] Preferably, each of the two extension cylinder parts is provided with a guide cylinder part that is extended perpendicularly to the end portion thereof, for guiding the two ends of each of the ropes extracted such that each of the two ends corresponds in parallel to the center of a through hole of each edge of the seat.

[0016] The two extension cylinder parts are coupled by means of a connecting cylinder part.

[0017] The first tunnel of the main cylinder part is formed in such a manner that two holes through which the two ends of each of the ropes are passed without any deviation, in order to guide the two ends to the second tunnel of the extension cylinder part on the both sides thereof, are formed adjacent to each other and then communicate with each other on the intermediate portion thereof.

[0018] The device for preventing the rope of the toy swing from bending is made of a plastic molding material.

[0019] It is to be understood that both the foregoing general description and the following detailed description of the present invention are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiment(s) of the invention and together with the description serve to explain the

principle of the invention. In the drawings:

FIG. 1 is a perspective view of a conventionally developed toy swing;

FIG.2 is a perspective view of the outer appearance of a device for preventing the ropes of a toy swing from bending constructed according to the present invention;

FIG.3 is a sectional view in half of the device for preventing the ropes of a toy swing from bending according to the present invention;

FIG.4 is a plan view of the main cylinder part in FIG. 3; and

FIG.5 is a sectional view for the state where the device for preventing the ropes of the toy swing from bending according to the present invention is coupled with the ropes.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings.

[0022] Now, an explanation of a device for preventing the ropes of a toy swing from bending according to the present invention will be in detail discussed with reference to FIGS.2 to 5.

[0023] At this time, like numbers in this preferred embodiment of the present invention indicate the same or similar elements in FIG.1, and an explanation of them will be excluded in this detailed description for the sake of brevity.

[0024] FIG.2 is a perspective view of the outer appearance of a device for preventing the ropes of a toy swing from bending constructed according to the present invention. FIG.3 is a sectional view in half of the device for preventing the ropes of a toy swing from bending according to the present invention. FIG.4 is a plan view of the main cylinder part in FIG. 3. FIG.5 is a sectional view for the state where the device for preventing the ropes of the toy swing from bending according to the present invention is coupled with the ropes.

[0025] A device 100 for preventing the ropes of a toy swing from bending constructed according to the present invention is applied in such the toy swing that includes a seat 10 on which a child sits, a support bar 20 on which the seat 10 hangs, and the ropes 30 coupled to the front and rear portions of the both sides of the seat 10, for hanging the seat 10 from the support bar 20.

[0026] As shown in FIG.3, the device 100 for preventing the ropes of the toy swing from bending includes a main cylinder part 110 through which the ropes 30 extended downward from the support bar 20 are collected in ends and inserted to be passed, and two extension cylinder parts 120 divided from the main cylinder part 110, where the two ends of each of the ropes 30 passed

from the main cylinder part 110 are divided and inserted to be passed.

[0027] The main cylinder part 110 is a substantially cylindrical member with a tunnel 112 therein, through which the two ends of each of the ropes 30 are all collected and passed, as shown in FIG.5.

[0028] Each of the two extension cylinder parts 120 includes the part on which the two ends of each of the ropes 30 divided and extended downward from the main cylinder part 110 are covered. Each of the two extension cylinder parts 120 is provided with a tunnel 122 in the interior thereof that communicates with the tunnel 112 of the main cylinder part 110.

[0029] The main cylinder part 110 and the extension cylinder part 120 are made of a material having a predetermined strength, for example, a plastic material.

[0030] Each of the ropes 30, which passes through the tunnel 112 of the main cylinder part 110, is divided into the two ends, each of which is inserted and passed into the tunnel 122 of each of the two extension cylinder parts 120. Then, each of the two ends is passed through an opening hole 132 on the end portion of the lower part of each of the extension cylinder parts 120 and thus coupled to each of the edges on the front and rear portions of the both sides of the seat 10.

[0031] In more detail, the seat 10 is provided with a through hole 12 on the edges of the front and rear portions of the both sides thereof, respectively, through which each end of each of the ropes 30 that has been drawn outside from the opening hole 132 of each of the extension cylinder parts 120 is passed and then bound. It is therefore preferable that the opening hole 132 of each of the extension cylinder parts 120 is located in such a manner to correspond with the through hole 12 of the seat 10. Also, the opening hole 132 is provided with a guide cylinder part 130 that is extended downward and perpendicularly from the end portion of each of the extension cylinder parts 120. The guide cylinder part 130 serves to guide the end of each of the ropes 30 extracted from the end portion of each of the extension cylinder parts 120 such that the end of each of the ropes 30 corresponds in parallel with the center of the through hole 12 of the seat 10.

[0032] As shown in FIG.4, the tunnel 112 of the main cylinder part 110 is formed in such a manner that two holes 114 through which the two ends of each of the ropes 30 are passed without any deviation, in order to guide each end to the tunnel 122 of each of the extension cylinder parts 120 on the both sides thereof, are formed adjacent to each other and then communicate with each other on the intermediate portion thereof.

[0033] Each of the two extension cylinder parts 120 is provided with a concave/convex portion 124 for preventing the hands of a child from being slid from the ropes, on the surface thereof.

[0034] Each of the two extension cylinder parts 120 is coupled by means of a connecting cylinder part 140. The connecting cylinder part 140 couples the two divided ex-

tension cylinder parts 120 to each other, thereby enabling the rigidity of the extension cylinder parts 120 to be further improved.

[0035] Hereinafter, an explanation of a method for installing the device for preventing the ropes of the toy swing from bending in the swing will be discussed.

[0036] First, the ends of each of the ropes 30 enter the main cylinder part 110 formed on the upper portion of the device 100 of the present invention and are then passed through the tunnel 112. After further entering, the ends of each of the ropes 30 are divided to thus advance to the corresponding extension cylinder parts 120.

[0037] As mentioned above, in case the tunnel 112 of the main cylinder part 110 is formed in such a manner that the two holes 114 having the same size are separately formed and then communicate to each other on the intermediate portion thereof, the two holes 114 serve to smoothly guide each of the ends of each of the ropes 30 to the tunnel 122 of each of the extension cylinder parts 120, without any twisting.

[0038] Each of the ends of each of the ropes 30 that has been passed through the tunnel 122 of each of the extension cylinder parts 120 is inserted into the through hole 12 on each edge of the front and rear portions of the both sides of the seat 10 and then fixedly bound thereon. As noted above, in case the opening hole 132 of the extension cylinder 120 is provided with the guide cylinder part 130, each of the two ends of each of the ropes 30 drawn is passed through the guide cylinder part 130 such that it is guided perpendicularly, thereby easily advancing to the through hole 12 of the seat 10. The guide cylinder part 30 does not give any affect in swinging the seat 10.

[0039] The opposite end of each of the ropes 30 hangs from the support bar 20 (on the other hand, it hangs from the branch of a tree, if the toy swing is installed outdoors) by means of a loop 34.

[0040] As appreciated from the foregoing, the toy swing 2a with the device 100 of the present invention has the following advantages:

[0041] First, in case the child tries to sit on the seat 10 of the swing 2a or to get off from the seat 10 or in case the seat 10 swings, the device 100 of the present invention is employed on the portion where each of the ropes 30 is divided and extended downward to the seat 10, such that no bending only on the one side rope 30 can be found.

[0042] Therefore, since the seat 10 and the rope 30 move together, without any variation of their relative location, the seat 10 can't lean to a particular direction or can't be overturned, even with any voluntary force.

[0043] As a result, the device 100 of the present invention can prevent most of accidents caused due to the bending of the ropes suffered in the conventional swings.

[0044] In addition, in case each of the extension cylinder parts 120 of the device 100 of the present invention

is provided with the concave/convex portion 124 on the surface thereof, the child can freely hold any one of the handle grip member 40, the concave/convex portion 124 of each of the extension cylinder parts 120 and the rope 30 on the upper side of the main cylinder part 110, thereby further improving the safety at the time of swing.

[0045] According to the present invention, furthermore, the extension cylinder part 120 is made of a substantially hard material unlike the conventional ropes made of a generally flexible material. Therefore, the child feels like that he or she is in a more safe state, such that he or she can enjoy the riding in the swing in a more comfortable state and avoid the scares of accidents he or she may have.

[0046] The forgoing embodiments are merely exemplary and are not to be construed as limiting the present invention. The present teachings can be readily applied to other types of devices. The description of the present invention is intended to be illustrative, and not to limit the scope of the claims. Many alternatives, modifications, and variations will be apparent to those skilled in the art.

Claims

1. A device for preventing the ropes of a toy swing from bending in the toy swing that includes a seat on which a child sits and said ropes fixed to the edges of the front and rear portions of the both sides of said seat on the one ends thereof, for hanging said seat in a predetermined position, said device comprising:

a main cylinder part having a first tunnel through which the two ends of each of said ropes are collected and passed; and
an extension cylinder part having a second tunnel where the two ends of each of said ropes passed from said main cylinder part are divided and inserted and passed through said second tunnel, thereby rendering the two ends of each of said ropes extracted to the edges of the front and rear portions of the both sides of said seat.

2. The device as defined in claim 1, wherein each of said two extension cylinder parts is provided with a concave/convex portion for preventing the hands of a child from being slid from said ropes, on the surface thereof.

3. The device as defined in claim 1, wherein each of said two extension cylinder parts is provided with a guide cylinder part that is extended perpendicularly to the end portion thereof, for guiding the two ends of each of said ropes extracted such that each of the two ends corresponds in parallel to the center of a through hole of each edge of said seat.

4. The device as defined in claim 1, wherein said two extension cylinder parts are coupled by means of a connecting cylinder part.

5. The device as defined in claim 1, wherein said first tunnel of said main cylinder part is formed in such a manner that two holes through which the two ends of each of the ropes are passed without any deviation, in order to guide the two ends to said second tunnel of said extension cylinder part on the both sides thereof, are formed adjacent to each other and then communicate with each other on the intermediate portion thereof.

6. The device as defined in claim 1, wherein said device is made of a plastic molding material.

Fig.1

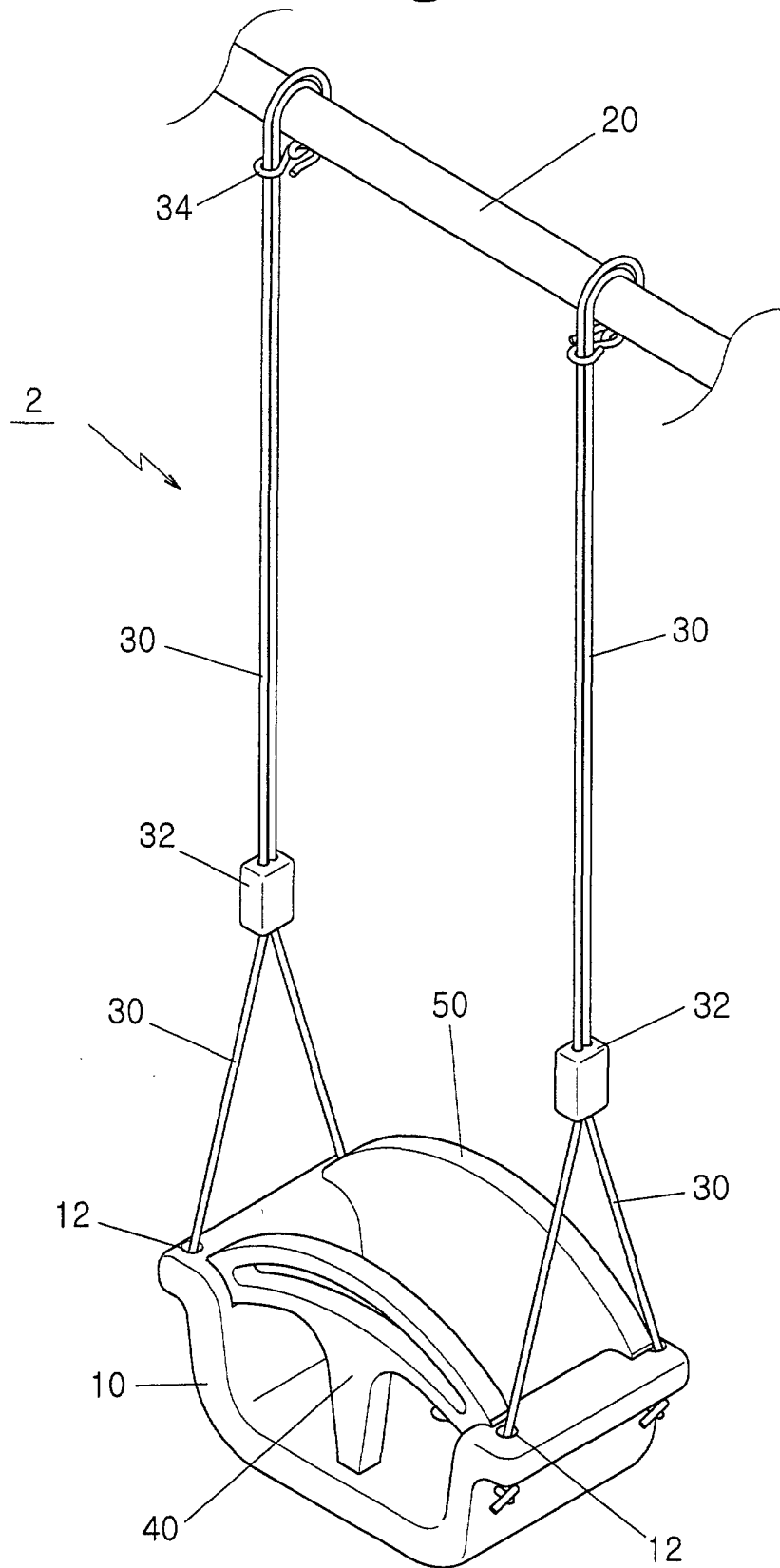


Fig.2

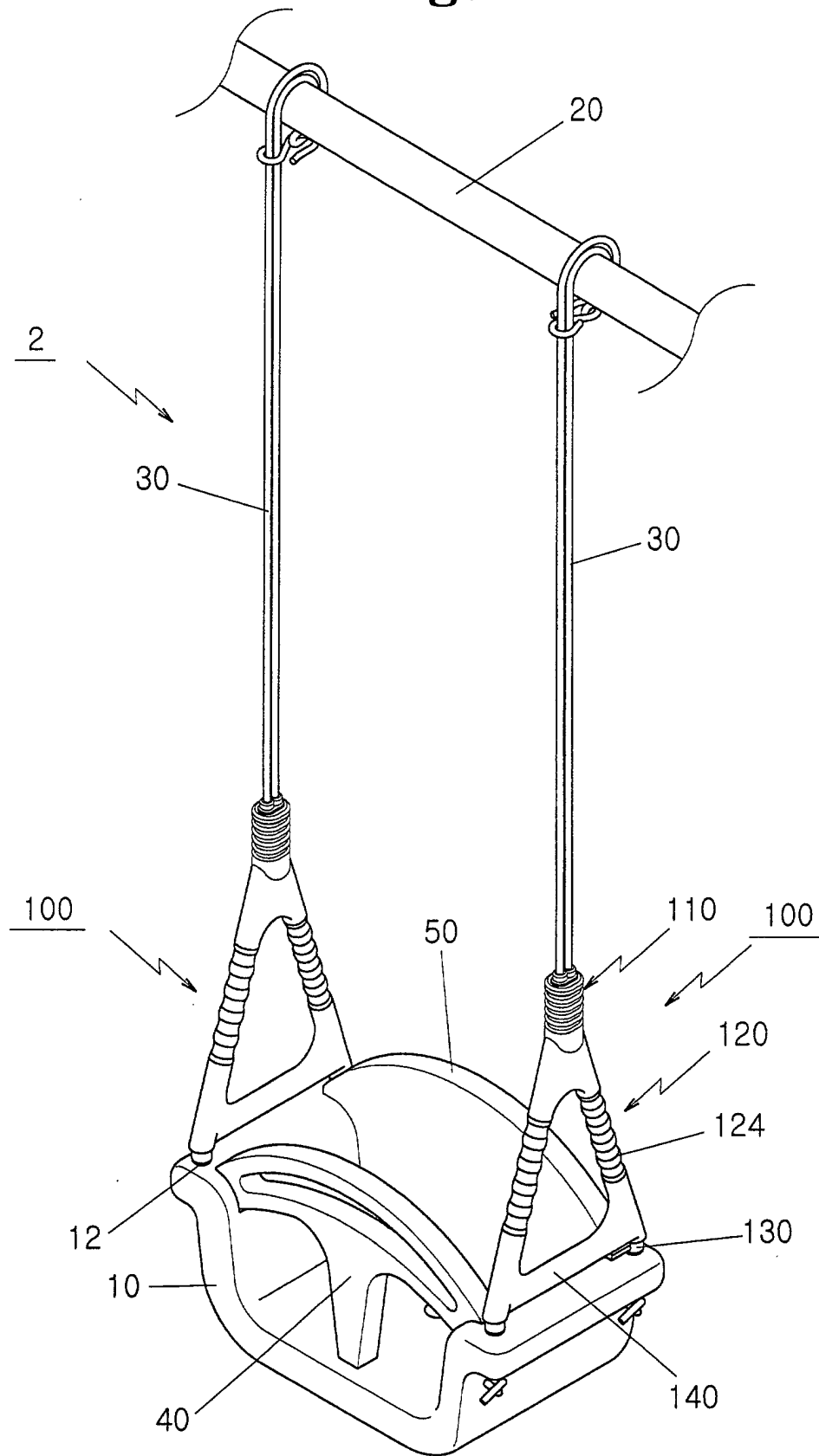


Fig.3

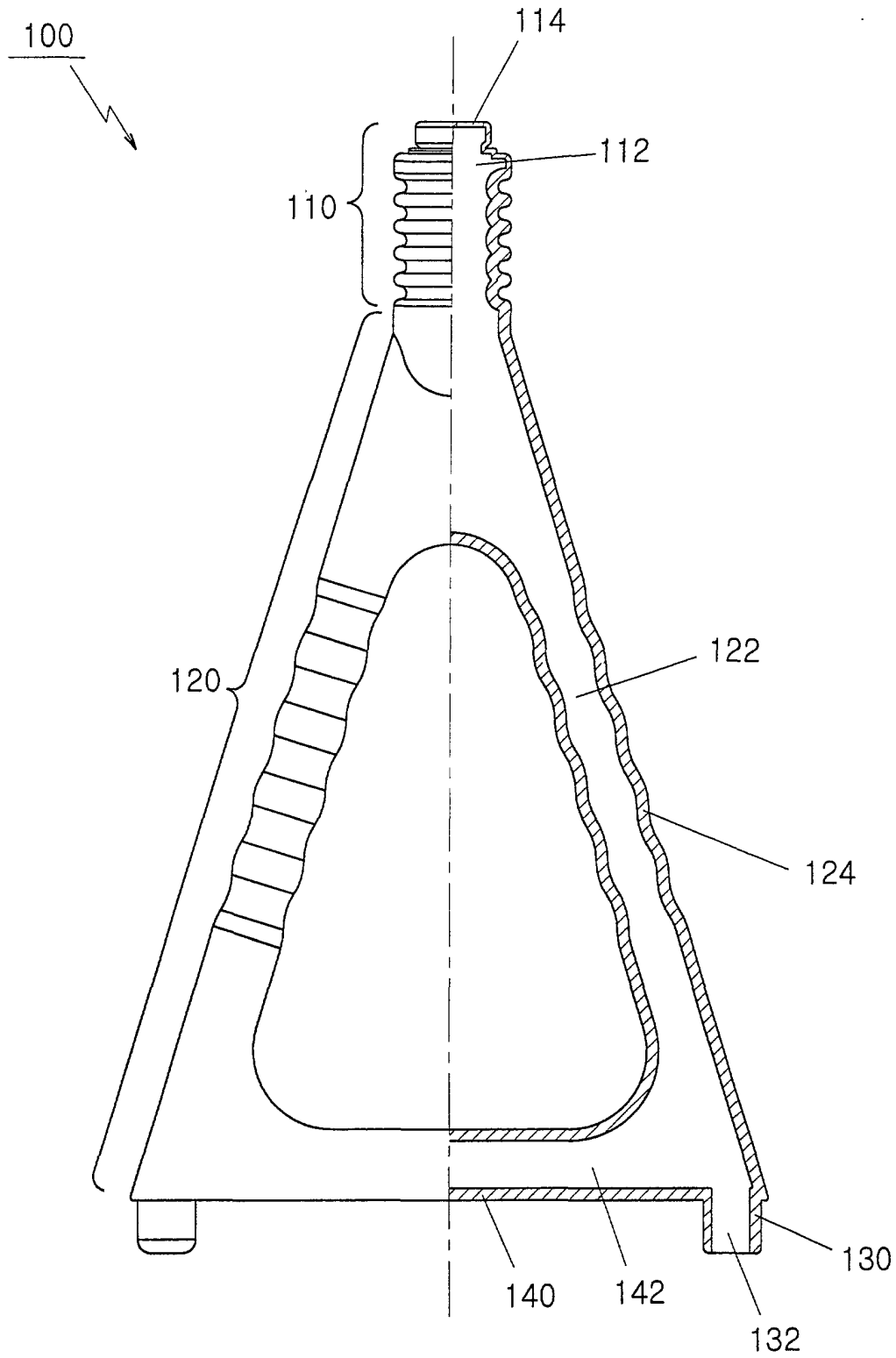


Fig.4

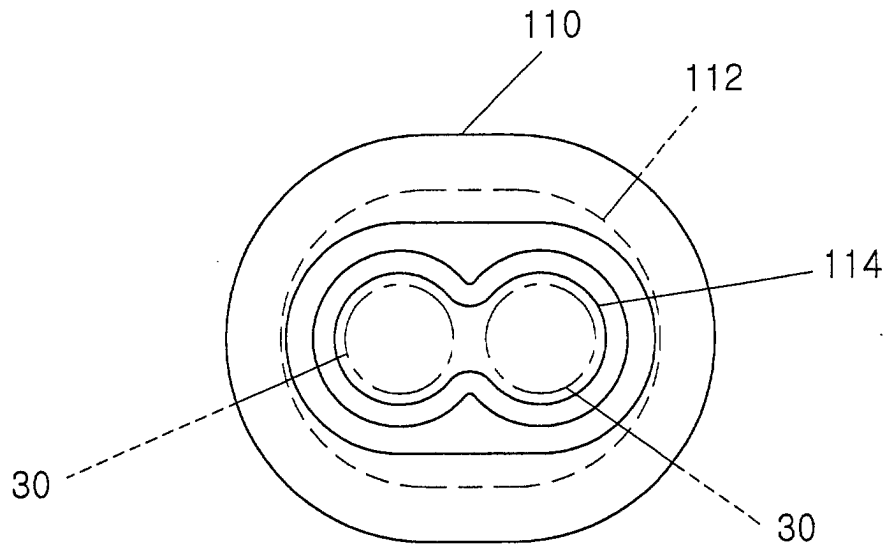
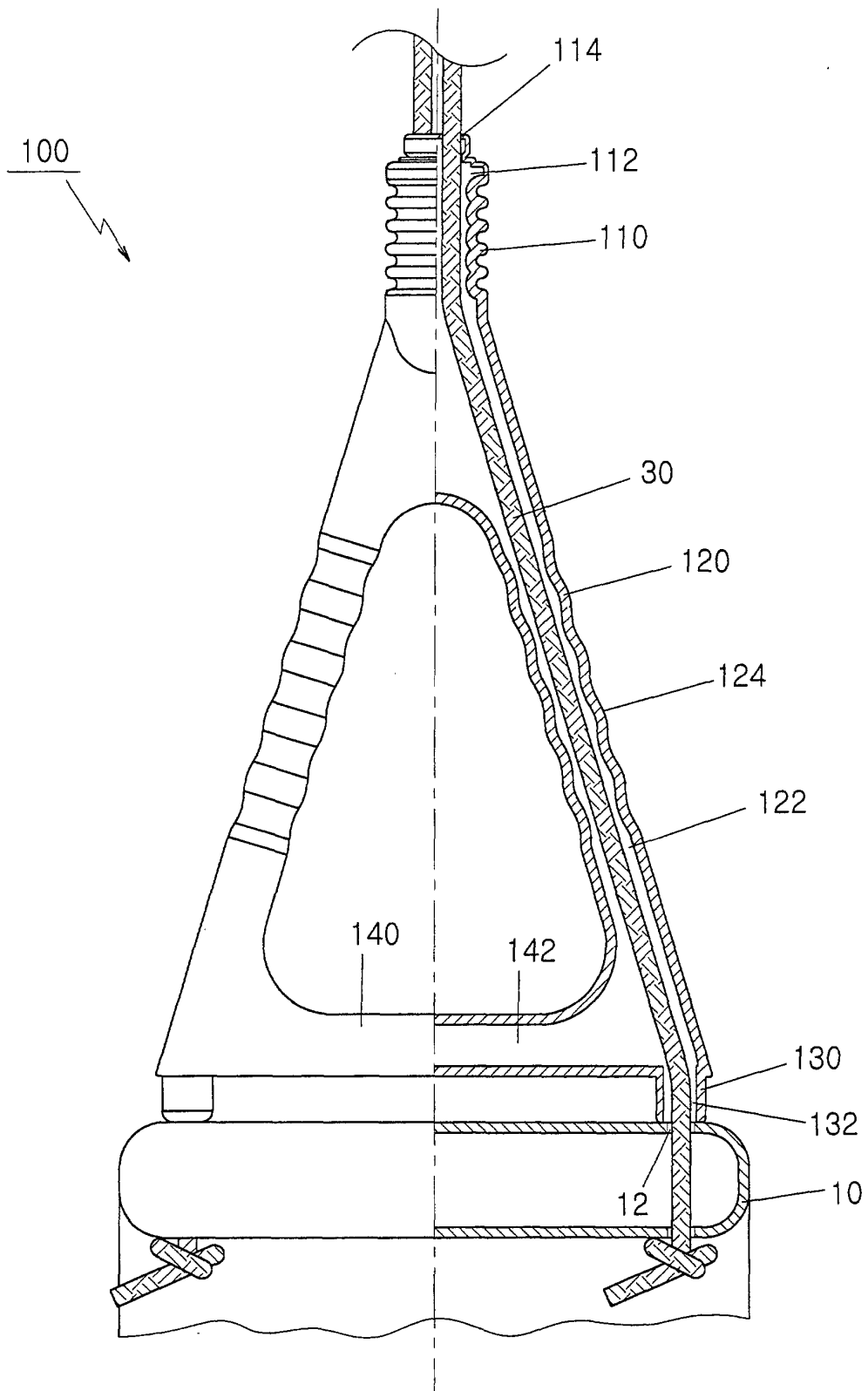


Fig.5





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 12 4542

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	DE 198 10 689 C (KAA JOHANN) 22 July 1999 (1999-07-22) * the whole document *	1,5	A63G9/00
X,P	DE 201 01 668 U (SCHNAUS LUDWIG) 23 May 2001 (2001-05-23) * the whole document *	1,2,4,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A63G A47D
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 1 March 2002	Examiner Bagarry, D
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 4542

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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01-03-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
DE 19810689	C	22-07-1999	DE	19810689 C1	22-07-1999
DE 20101668	U	23-05-2001	DE	20101668 U1	23-05-2001

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82