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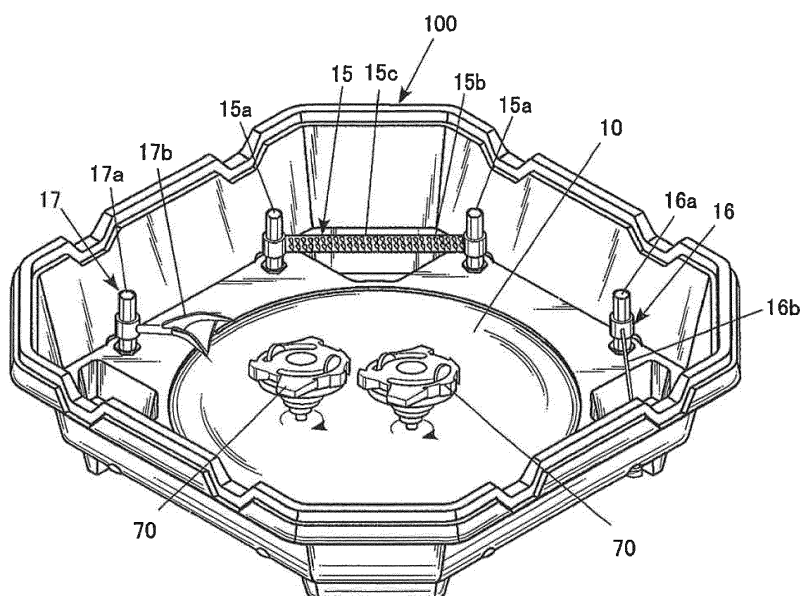
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(54) **GAME TABLE FOR SPINNING TOP**

(57) A game table for a top, the game table being formed by a single sheet of synthetic resin and having such a shape that upper and lower sides are complementary to each other in depression and protrusion, and the game table including a bowl-shaped field on which a rotating top moves, wherein a plurality of recesses is

formed at a predetermined distance on an upper surface of an inner portion of the field or a peripheral portion peripheral to the field, and walls defining the recesses protrude downward from a lower surface of the inner portion or the peripheral portion to form legs which are capable of sitting on a floor surface.

FIG.1



Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a game table for a top (spinning top) used for a top battle game, for example.

2. Description of Related Art

[0002] There have been conventionally performed top battle games in each of which the win and loss are determined by making a plurality of rotating tops collide with each other.

[0003] In recent years, in order to avoid dispersion of the tops and facilitate the collision of tops, dedicated game tables for tops have been used when the top battle games are performed.

[0004] An example game table for a top is formed of a single PVC sheet having a bowl-shaped field on which the rotating tops move around while spinning (refer to FIGS. 2 and 3 of Japanese Utility Model Registration No. 3199933).

[0005] The game table including such a bowl-shaped field requires a leg for stably supporting the field.

[0006] Accordingly, the peripheral portion of the field has been conventionally turned down into a U-shape over the entire circumference so that the turned portion is extended to be as high as or lower than the bottom of the field and the field is supported by an edge of the extended portion.

[0007] Unfortunately, such a structure requires a large amount of material and the material cost is increased since the peripheral portion of the field is turned down into a U-shape over the entire circumference to make the turned portion function as a leg.

SUMMARY OF THE INVENTION

[0008] The present invention has been made in consideration of the above matters, and an object of the present invention is to provide a game table for a top that can be produced with reduced material costs.

[0009] In order to achieve at least one of the above objects, according to one aspect of the present invention, there is provided a game table for a top, the game table being formed by a single sheet of synthetic resin and having such a shape that upper and lower sides are complementary to each other in depression and protrusion, and the game table including a bowl-shaped field on which a rotating top moves, wherein a plurality of recesses is formed at a predetermined distance on an upper surface of an inner portion of the field or a peripheral portion peripheral to the field, and walls defining the recesses protrude downward from a lower surface of the inner portion or the peripheral portion to form legs which

are capable of sitting on a floor surface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The above and other objects, advantages and features of the present invention will become more fully understood from the detailed description given hereinbelow and the appended drawings which are given by way of illustration only, and thus are not intended as a definition of the limits of the present invention, and wherein:

FIG. 1 is a perspective view of a game table for tops which is being used;

FIG. 2A is a perspective view of the game table for tops;

FIG. 2B is a cross-sectional view of the game table for tops cut along the line II-II of FIG. 2A;

FIG. 3 is a perspective view of an additional functional part;

FIG. 4 is a perspective view of a game table for tops and an additional functional part; and

FIG. 5 is a perspective view of an additional functional part.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0011] Embodiments of the present invention will now be described with reference to the accompanying drawings.

[0012] FIG. 1 illustrates a perspective view of a game table for tops which is being used. FIG. 2A is a perspective view only showing the game table for tops. FIG. 2B is a cross-sectional view of the game table for tops cut along the line II-II of FIG. 2A.

[0013] The game table for tops 100 according to an embodiment has a shape of a square with chamfered corners in a plan view. It should be understood that the game table 100 may have a circular shape or any other shape in a plan view.

[0014] The game table 100 has a circular field 10 in its central region in a plan view. The field 10 is formed of a bowl-shaped recess in which the depth increases toward the center. Thus, tops 70 readily move toward the center of the game table 100 while spinning and readily collide with each other in the center of the game table 100. As long as the field 10 is bowl-shaped on the whole, the field 10 may further have a bowl-shaped recess in the bowl-shaped recess. The deepest region of the field 10 may be formed off the center.

[0015] The peripheral portion peripheral to the field 10 is a flat portion 11. The flat portion 11 has triangular recesses 12 at its respective four corners in a plan view, each of the recesses 12 having chamfered corners. The recess 12 located in the front is not shown in the drawings. Each of the recesses 12 is formed to have a size capable of catching at least one top 70. Though the recesses 12

are formed in the flat portion 11 in this embodiment, all or a part of the recesses 12 may be formed in the field 10. By forming a recess 12 in the field 10, it is possible to catch at least one top 70 moving on the field 10. The recesses 12 can be used not only as pit traps, but also for storing the top(s) 70. The peripheral portion peripheral to the field 10 need not be flat, and may be slanted or uneven. Each of the recesses 12 may have any shape other than a triangular shape in a plan view, and may have a quadrangular or circular shape in a plan view, for example.

[0016] The game table 100 is formed of a single sheet of polyvinyl chloride (PVC) resin, for example. With reference to FIG. 2B, the upper and lower sides of the game table 100 are complementary to each other in depression and protrusion. That is, a protrusion on the upper side is a depression on the lower side. Conversely, a depression on the upper side is a protrusion on the lower side.

[0017] Thus, the peripheral walls and the bottom walls defining the recesses 12 in the flat portion 11 protrude downward to form protrusions on the lower side. The protrusions function as legs 13 of the game table 100. The bottom surfaces of the legs 13 are located as high as or lower than the bottom of the field 10. The field 10 is supported by the legs 13 in general use.

[0018] With reference to FIG. 2A, the flat portion 11 has two circular holes 14 disposed at a predetermined distance between each two adjacent recesses 12, 12. The holes 14 are used for fixing additional functional parts to the game table 100. It should be noted that the holes 14 may have any shape other than a circular shape, and may have a polygonal shape, for example.

[0019] FIG. 1 illustrates exemplary additional functional parts having different structures.

[0020] A first additional functional part 15 consists of two pillars 15a, 15a and a strip plate 15c bridging between the pillars 15a, 15a, the strip plate 15c being provided with multiple conical nubs 15b. The bottom ends of the two pillars 15a, 15a of the additional functional part 15 are inserted in the holes 14, 14 and fixed to the bottom portion of the flat portion 11 with fixtures, if needed. The additional functional part 15 can reduce the spin speeds of the tops 70 and change the moving directions of the tops 70 when the tops 70 collide with the conical nubs 15b.

[0021] A second additional functional part 16 consists of two pillars 16a, 16a and a pole 16b bridging between the two pillars 16a, 16a. The process for fixing the additional functional part 16 is the same as that for the first additional functional part 15. The additional functional part 16 also can reduce the spin speeds of the tops 70 and change the moving directions of the tops 70 when the tops 70 collide with the pole 16c.

[0022] A third additional functional part 17 consists of a single pillar 17a provided with a rotary member 17b. The process for fixing the additional functional part 17 is the same as that for the first additional functional part 15. The rotary member 17b may be rotatable in a predeter-

mined angular range or may be held at a neutral position with a torsional spring. The additional functional part 17 also can reduce the spin speeds of the tops 70 and change the moving directions of the tops 70 when the tops 70 collide with the rotary member 17b.

[0023] Another additional functional part may consist of a single pillar. The additional functional part can also reduce the spin speeds of the tops 70 and change the moving directions of the tops 70 at the collision with the tops 70. Still another additional functional part may be provided with a motor or a spring power unit for rotating the pillar 17a and the rotary member 17b. Still another additional functional part may have a unit for moving up and down a longitudinal rotary member such as a hammer. Still another additional functional part may be provided with a pole having lighting and sound functions, for example.

[0024] A fence 20 surrounding the field 10 and the flat portion 11 is formed on the outer side of the flat portion 11. The upper end of the fence 20 is outwardly turned down into a U-shape. The upper end of the fence 20 thus has a certain thickness. By fixing a finger in the portion outwardly turned down, the user can lift and transport the game table 100 easily. In addition, the turned portion can increase the strength of the game table 100. The fence 20 does not necessarily surround the entire circumference of the field 10, and may surround a part of the circumference of the field 10. In a case where the fence 20 is partially cut out, an additional functional part such as a slope for sliding the tops 70 maybe fixed in the cut-out portion.

[0025] The upper edge of the fence 20 has four pairs of depressions 21 disposed at a predetermined distance. The depressions 21 are used for fixing an additional functional part 22 to the fence 20 with a hook 23 illustrated in FIG. 3, for example. Although the additional functional part 22 can be fixed to the fence 20 having no depression 21, the depression 21 can fix the position of the additional functional part 22. Examples of the additional functional part 22 include a liquid crystal display and a speaker. The additional functional part 22 may be a frame for holding a smartphone, for example. The upper edge of the fence 20 is depressed downward in this embodiment; however, the upper edge of the fence 20 may be depressed outward relative to the game table 100. Alternatively, the additional functional part 22 may be fitted in the depression 21 so as to be fixed to the fence 20.

[0026] FIG. 4 illustrates additional functional parts 40 as another additional functional part. Each of the additional functional parts 40 is configured to be fixed to the bottom portion of the game table 100. The additional functional part 40 has a flat top side 40a and a bottom portion having an inverted-triangular shape. The top side 40a has two vertical projections 40b, 40b. The additional functional part 40 is fixed to the game table 100 by inserting the projections 40b, 40b in the respective holes 14, 14 from below and fixing fixtures 41 such as concave members or nuts to the top ends of the projections 40b, 40b.

After the fixing of the additional functional parts 40, the bottom ends of the additional functional parts 40 project downward to be lower than the bottom sides of the legs 13, to allow the game table 100 to swing about supporting points which are the bottom ends of the additional functional parts 40. The swinging movement of the game table 100 can bring variations in the play with the tops. The bottom portions of the additional functional parts 40 may have an arcuate shape bulging downward.

[0027] FIG. 5 illustrates another additional functional part 50. The additional functional part 50 is a frame for holding a portable terminal 51 such as a smartphone having a display. The additional functional part 50 is provided with two sandwiching members 50a, 50a to sandwich the portable terminal 51 therebetween, the sandwiching members 50a, 50a being movable so as to be closer to and farther from each other. The additional functional part 50 also includes two prismatic members 50b, 50b on its opposite ends, each of the prismatic members 50b, 50b having two projections 50c, 50c. The additional functional part 50 is fixed to the game table 100 by inserting the projections 50c in the respective holes 14 from below, and fixing fixtures 52 such as concave members or nuts to the top ends of the projections 50c. In a case where the field 10 is composed of a transparent material, the portable terminal 51 may be set below the transparent field 10 by using the additional functional part 50. By such configuration, the image appearing on the portable terminal 51 can be visible through the transparent field 10. In addition, sounds suitable for the atmosphere of the moment can be produced from the speaker of the portable terminal 51. In a case where the portable terminal 51 is provided with a camera, collision sounds may be produced and shooting power may be displayed by recognizing the movement of the tops 70 with the camera. In a case where the portable terminal 51 is provided with an acceleration sensor, display and sounds may be output according to the battle by detecting the vibration of the bottom of the stadium.

[0028] Although the embodiments of the present invention have been described, it should be understood that the present invention is not limited to the embodiments, and various modifications can be made within the scope of the invention.

[0029] For example, each top 70 may include a magnetic material such as a permanent magnet, and an additional functional part such as an electromagnetic coil and a permanent magnet may be provided to the fence, to reduce the spin speed of top 70 and move the top 70 toward the inside of the field 10 by the repulsive force.

[0030] According to one aspect of a preferred embodiment of the present invention, there is provided a game table for a top, the game table being formed by a single sheet of synthetic resin and having such a shape that upper and lower sides are complementary to each other in depression and protrusion, and the game table including a bowl-shaped field on which a rotating top moves, wherein a plurality of recesses is formed at a predeter-

mined distance on an upper surface of an inner portion of the field or a peripheral portion peripheral to the field, and walls defining the recesses protrude downward from a lower surface of the inner portion or the peripheral portion to form legs which are capable of sitting on a floor surface.

[0031] According to the above game table for a top, the walls defining the recesses on the upper surface of inner portion of the field or the peripheral portion peripheral to the field protrude downward from the lower surface to form legs. Such a structure eliminates the need for turning down the entire periphery of the field into a U-shape to form legs, resulting in a reduction of material.

[0032] Preferably, each of the recesses has a size capable of catching at least one top.

[0033] Thus, since each of the recesses has a size capable of catching at least one top, such recesses can be used for storing the tops and also as pit traps during the play.

[0034] Preferably, the peripheral portion has a hole for fixing an additional functional part.

[0035] Thus, various additional functional parts can be fixed by using the hole.

[0036] Preferably, a fence is formed on an outer side of the peripheral portion.

[0037] Thus, the fence can prevent the tops from falling out of the game table.

[0038] Preferably, an upper end of the fence is outwardly turned down into a U-shape.

[0039] Thus, the upper end of the fence which is turned into a U-shape increases the strength of the game table and facilitates transport of the game table.

[0040] Preferably, a depression for fixing an additional functional part is formed on an upper edge of the fence.

[0041] Thus, various additional functional parts can be fixed by using the depression on the upper edge of the fence.

Claims

1. A game table for a top, the game table being formed by a single sheet of synthetic resin and having such a shape that upper and lower sides are complementary to each other in depression and protrusion, and the game table comprising a bowl-shaped field on which a rotating top moves, wherein a plurality of recesses is formed at a predetermined distance on an upper surface of an inner portion of the field or a peripheral portion peripheral to the field, and walls defining the recesses protrude downward from a lower surface of the inner portion or the peripheral portion to form legs which are capable of sitting on a floor surface.
2. The game table for a top according to claim 1, wherein each of the recesses has a size capable of catching at least one top.

3. The game table for a top according to claim 1, wherein the peripheral portion has a hole for fixing an additional functional part.
4. The game table for a top according to claim 1, wherein a fence is formed on an outer side of the peripheral portion. 5
5. The game table for a top according to claim 4, wherein an upper end of the fence is outwardly turned down into a U-shape. 10
6. The game table for a top according to claim 4 or 5, wherein a depression for fixing an additional functional part is formed on an upper edge of the fence. 15

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FIG.1

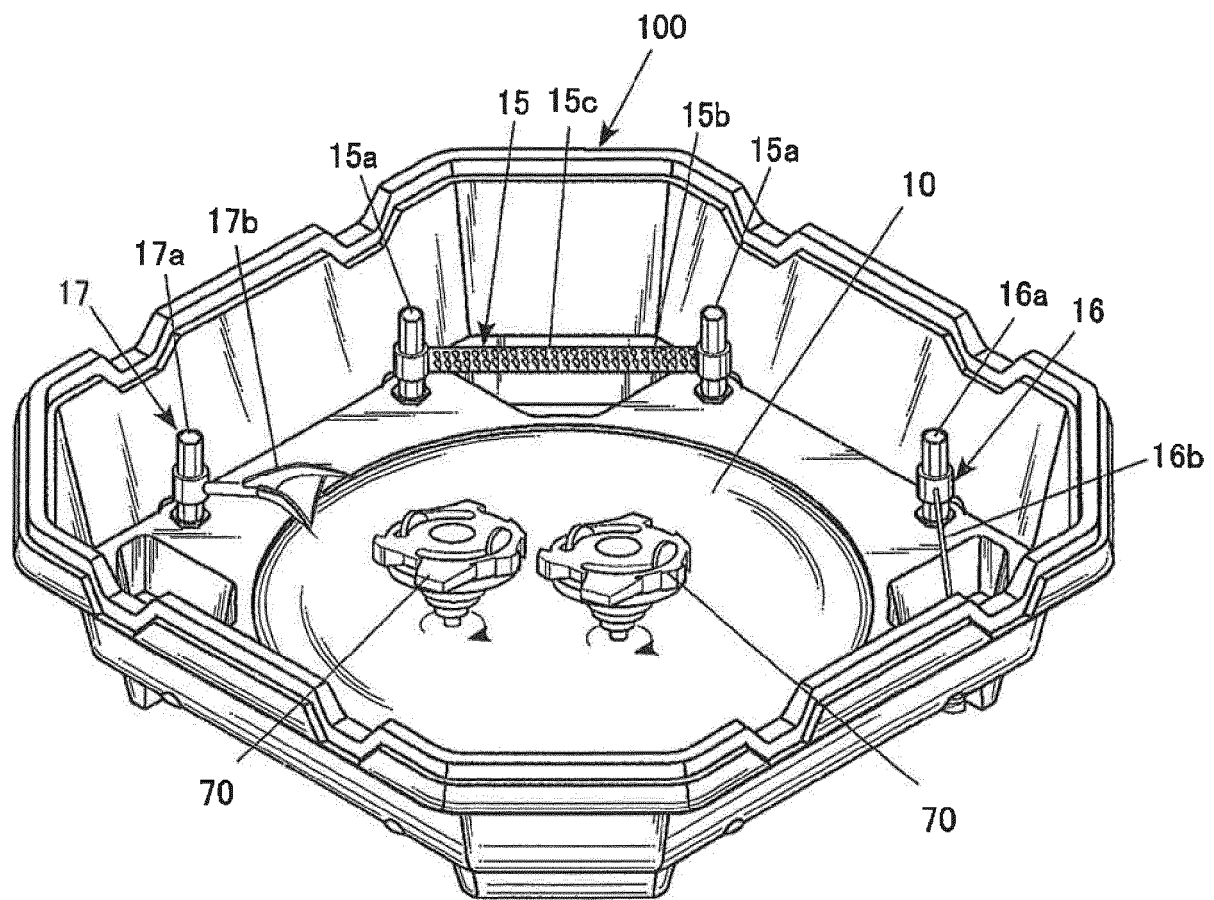


FIG.2A

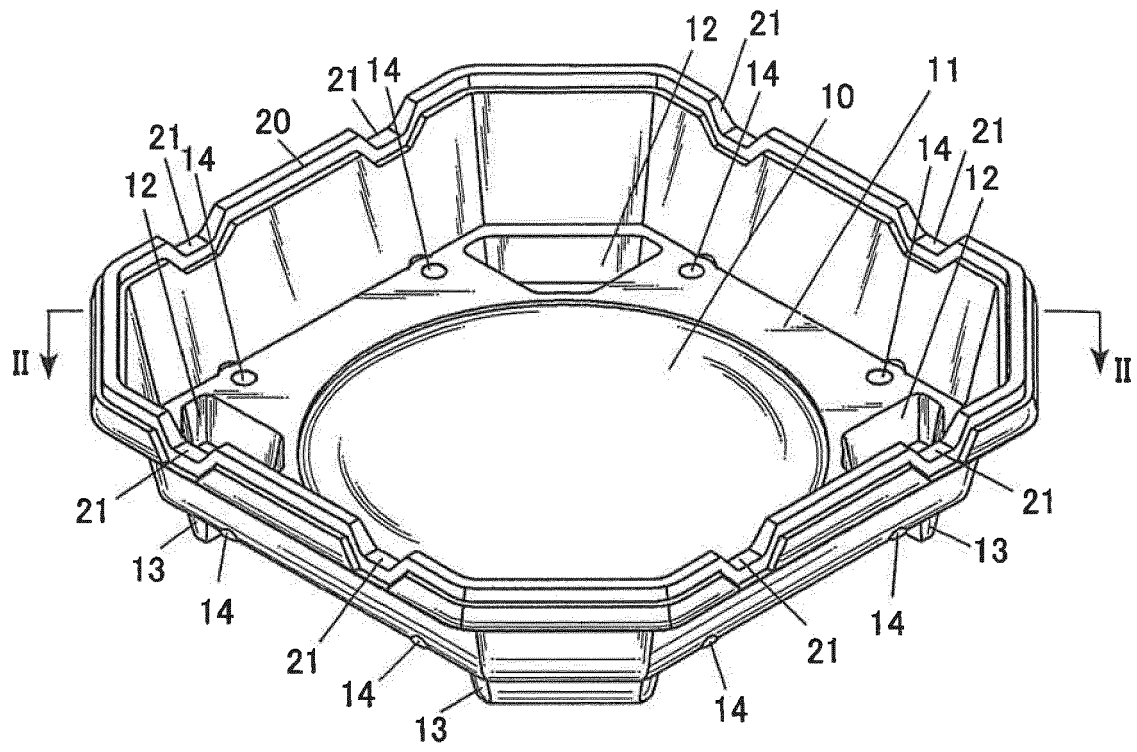


FIG.2B

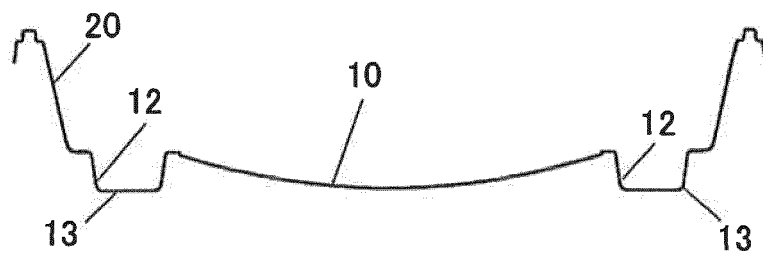


FIG.3

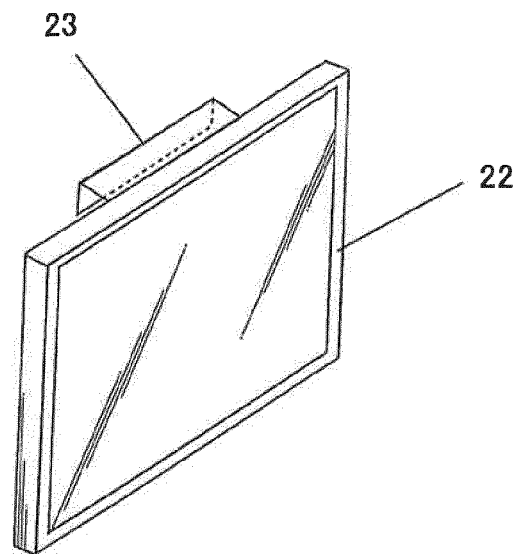


FIG.4

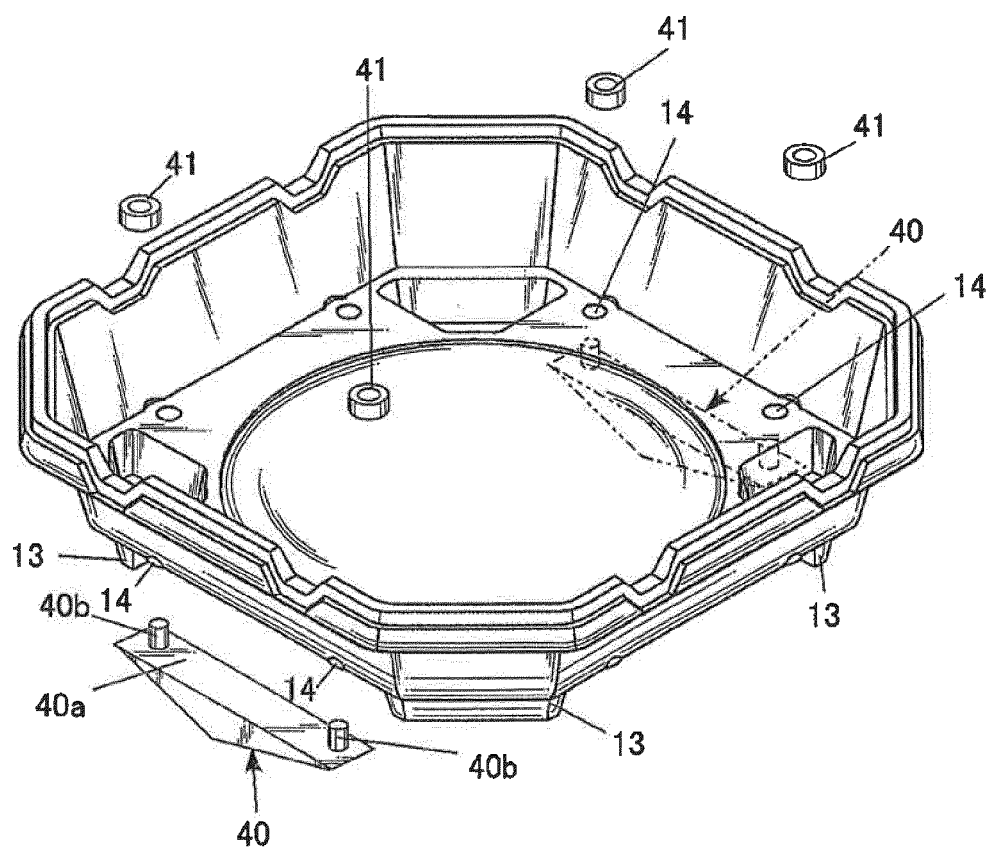
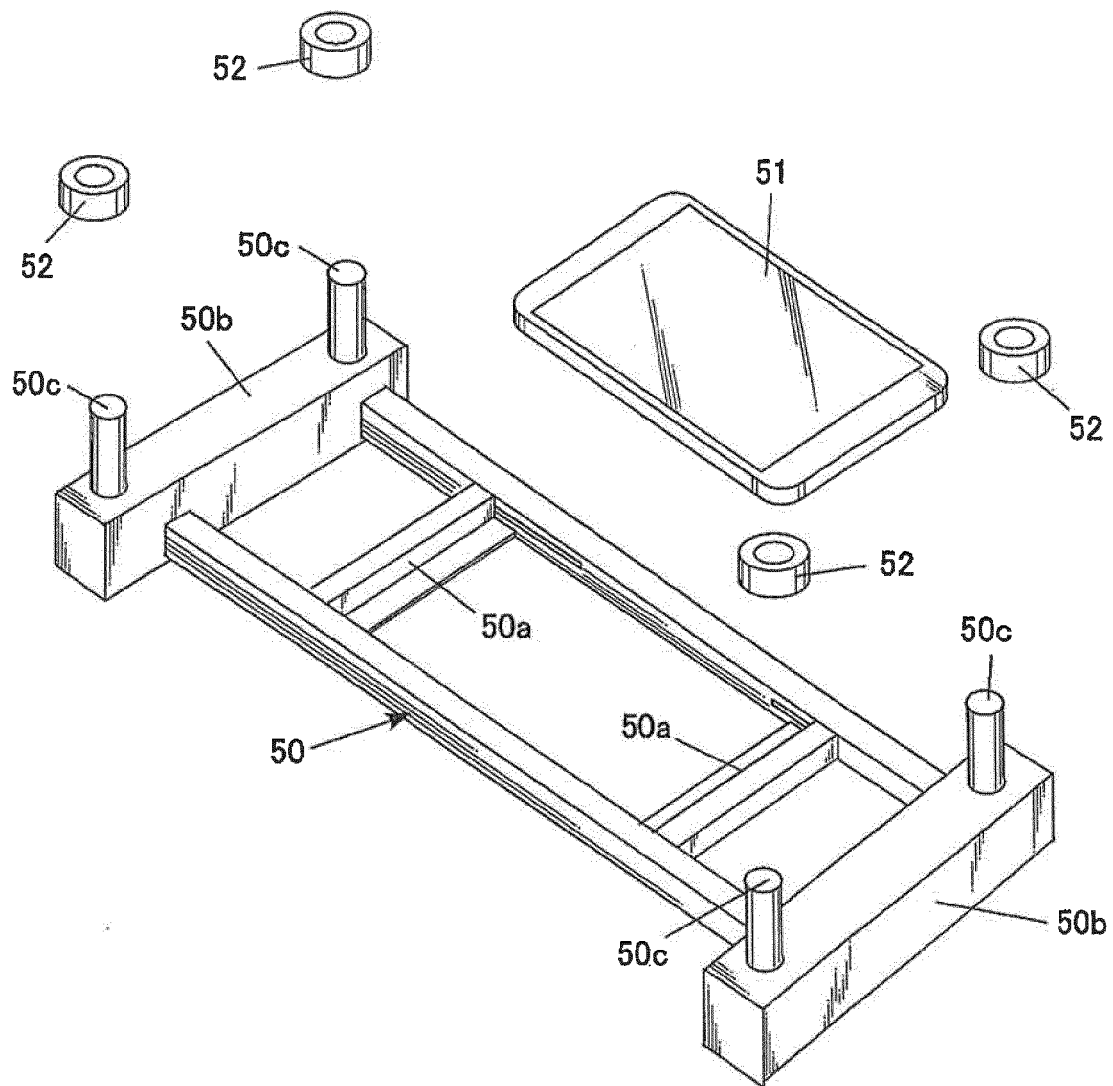


FIG.5





EUROPEAN SEARCH REPORT

Application Number
EP 16 18 3318

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EPO FORM 1503 03.82 (P04C01)

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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 2 December 2016	Examiner Lucas, Peter
CATEGORY OF CITED DOCUMENTS 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 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			

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

EP 16 18 3318

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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02-12-2016

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REFERENCES CITED IN THE DESCRIPTION

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