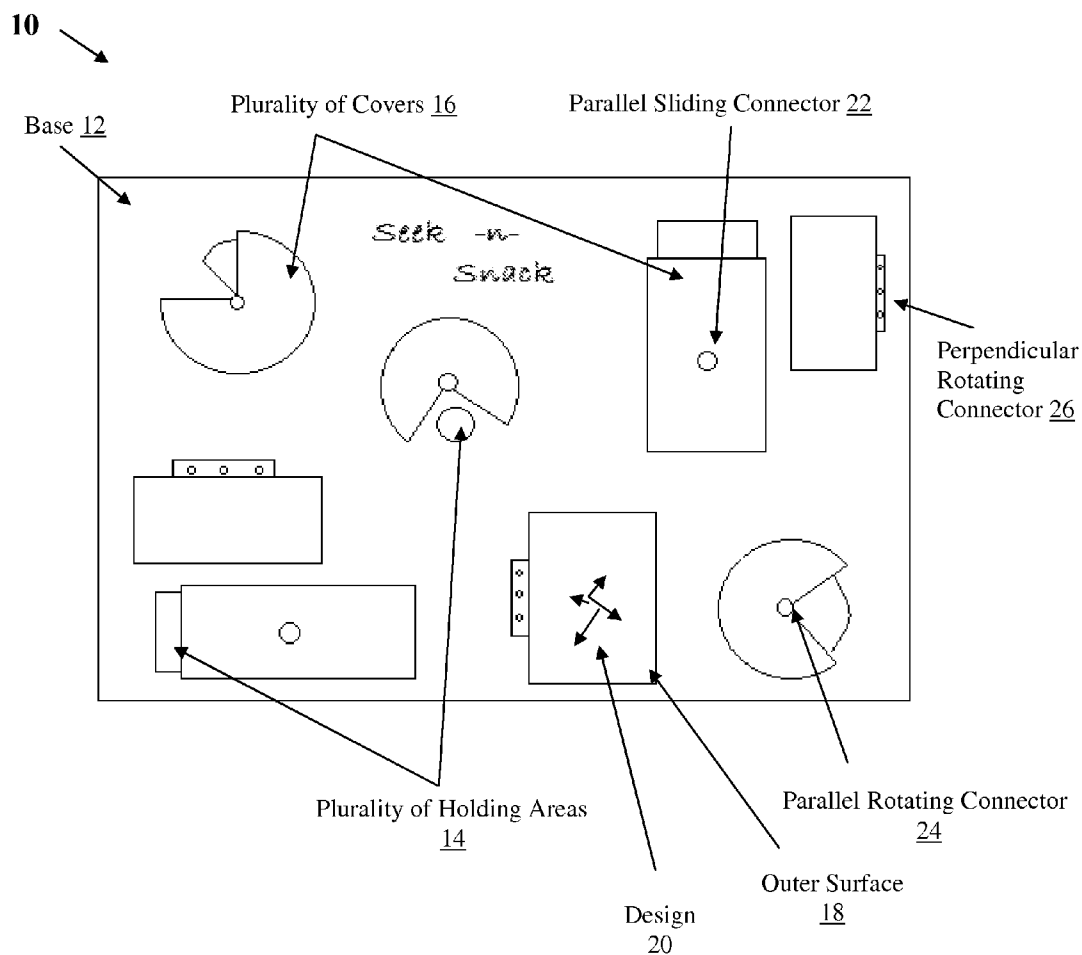




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Theis-Handwerker(10) **Pub. No.: US 2012/0222392 A1**(43) **Pub. Date: Sep. 6, 2012**(54) **APPARATUS AND METHOD OF
REGULATING FOOD INTAKE****Publication Classification**(76) Inventor: **Maureen J. Theis-Handwerker,**
Lafayette, CO (US)(21) Appl. No.: **13/412,204**(22) Filed: **Mar. 5, 2012****Related U.S. Application Data**(60) Provisional application No. 61/449,488, filed on Mar.
4, 2011.(51) **Int. Cl.****B65B 7/00** (2006.01)**B65D 1/36** (2006.01)(52) **U.S. Cl.** **53/476; 206/560; 206/563**(57) **ABSTRACT**

Apparatus and methods of regulating food intake including providing a base structure having a plurality of holding areas sized to contain a food item and corresponding movable covers in various shapes and designs. The covers are connected to the board allowing for at least two different types of movement to provide for use of diverse motor skills and controlled receipt of snacks for young children.



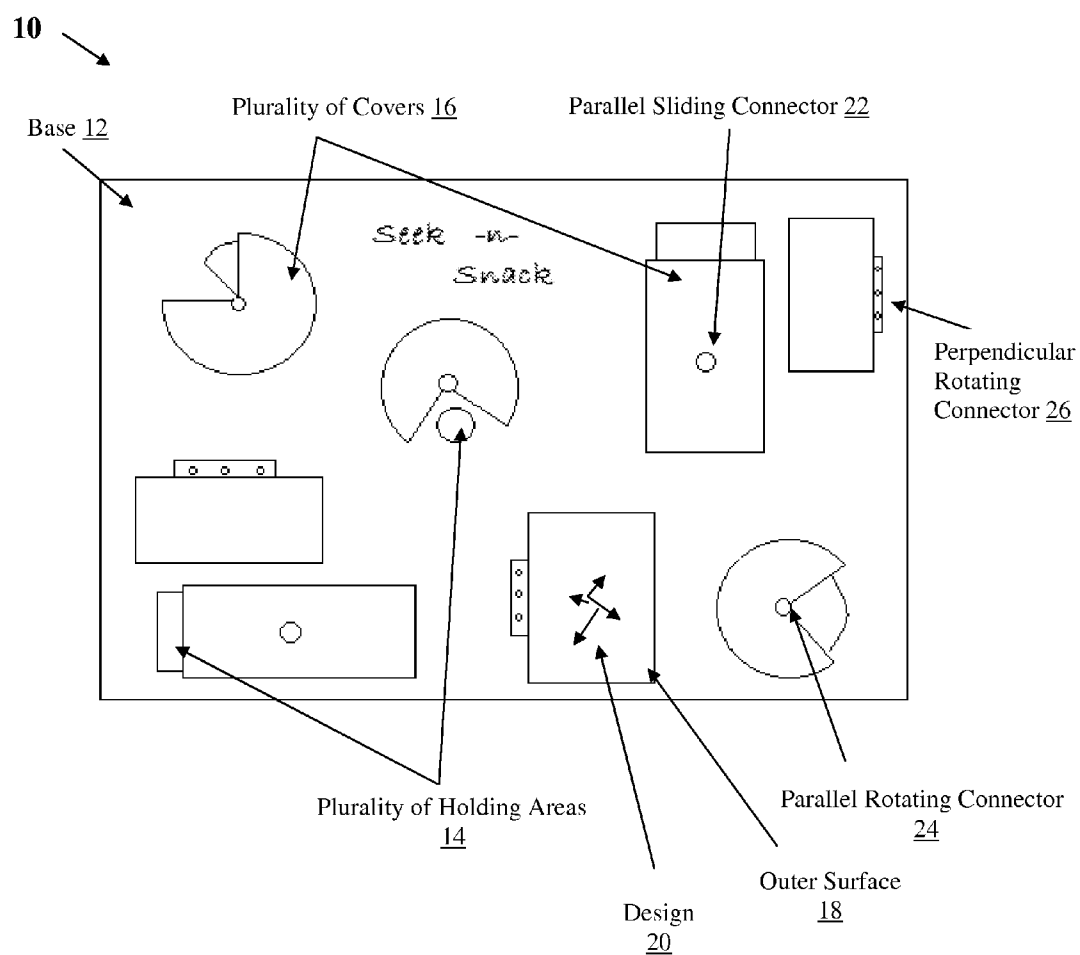


Fig. 1

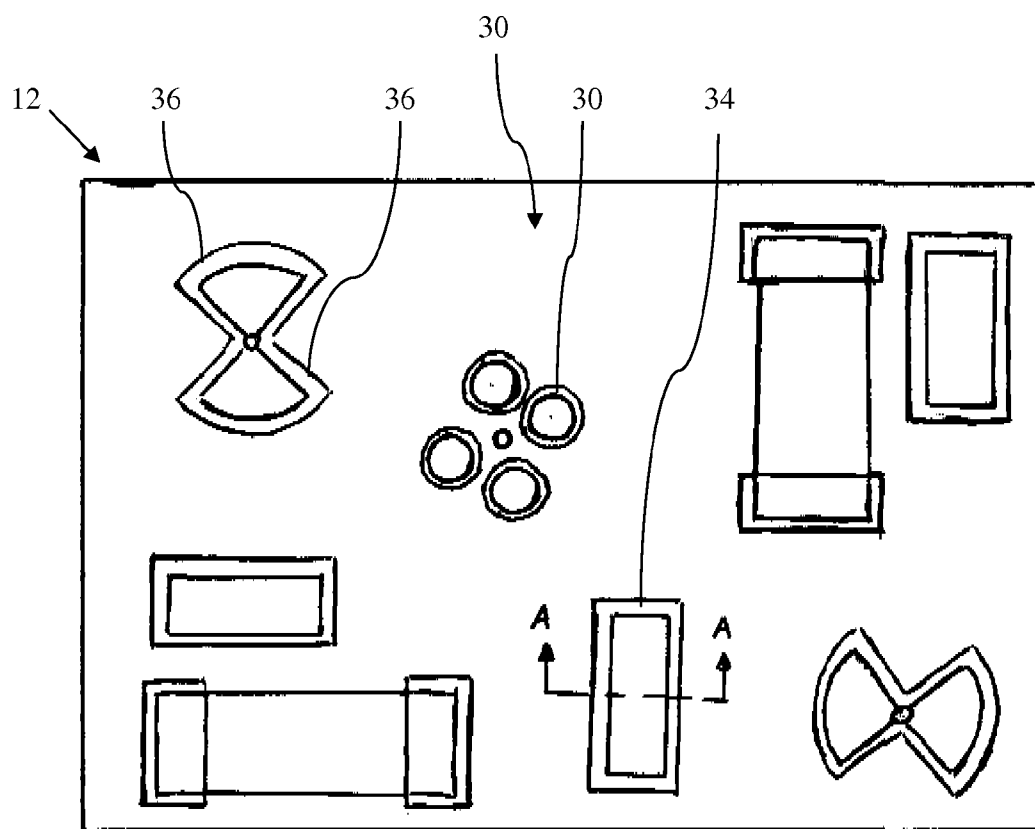


Fig. 2

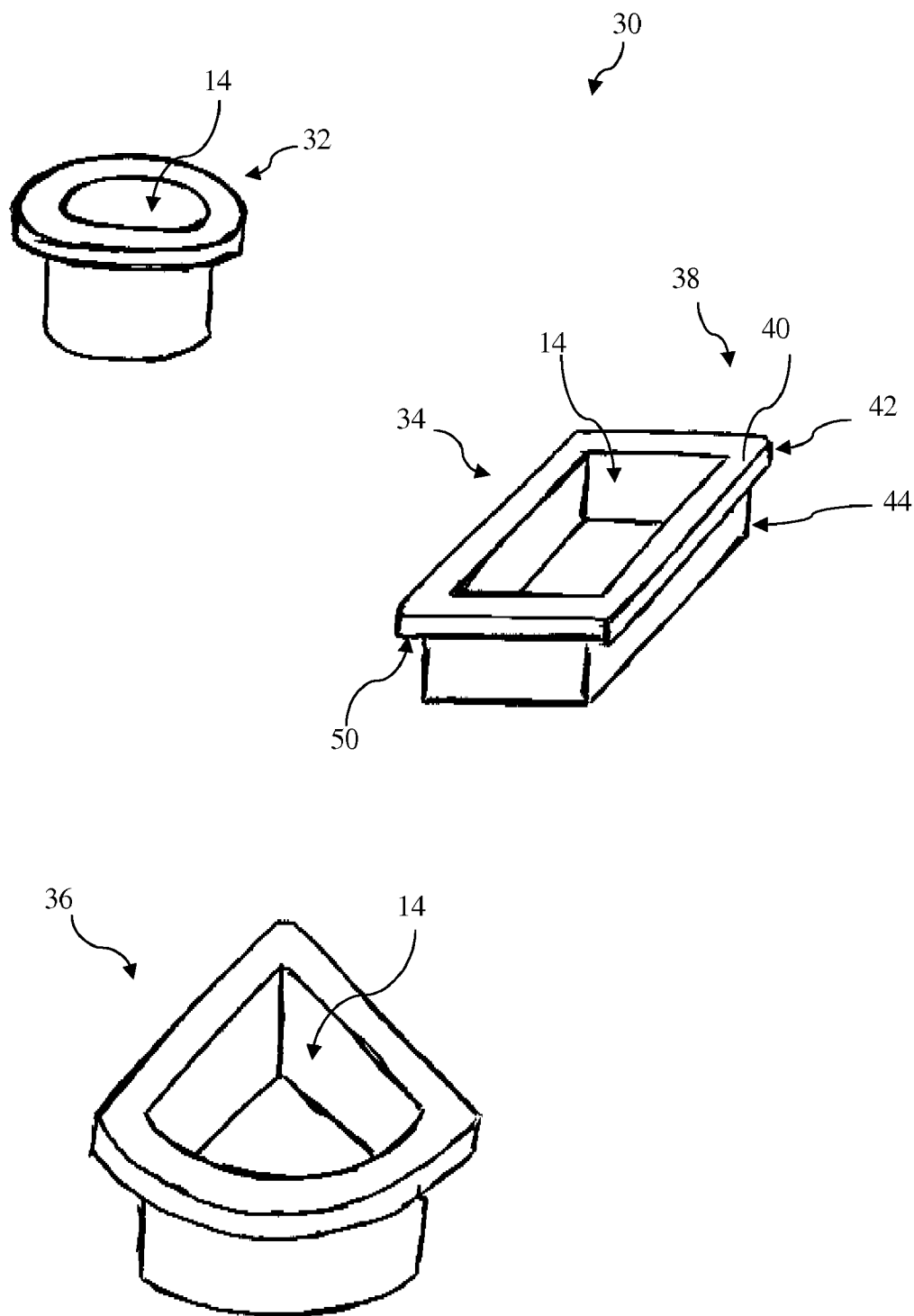


Fig. 3

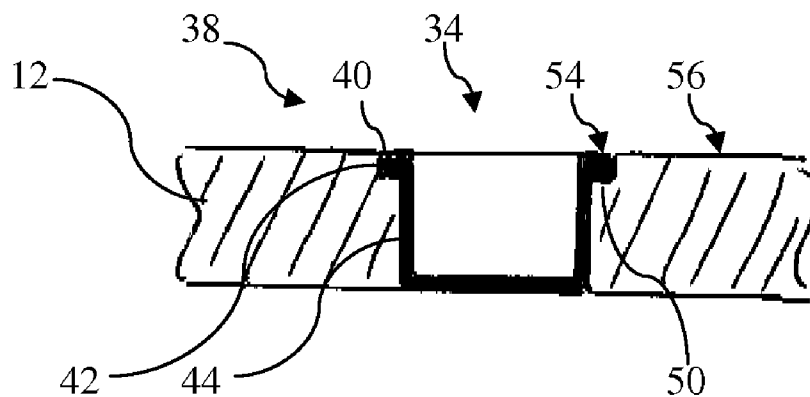


Fig. 4

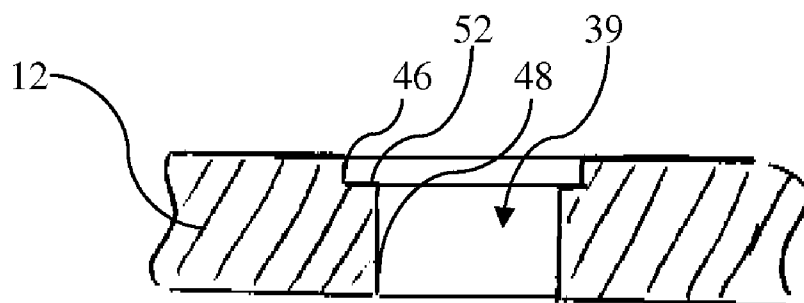


Fig. 5

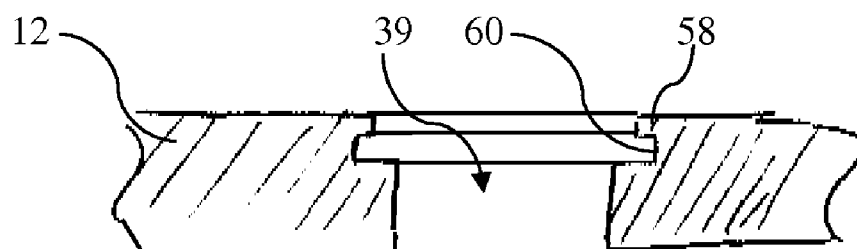
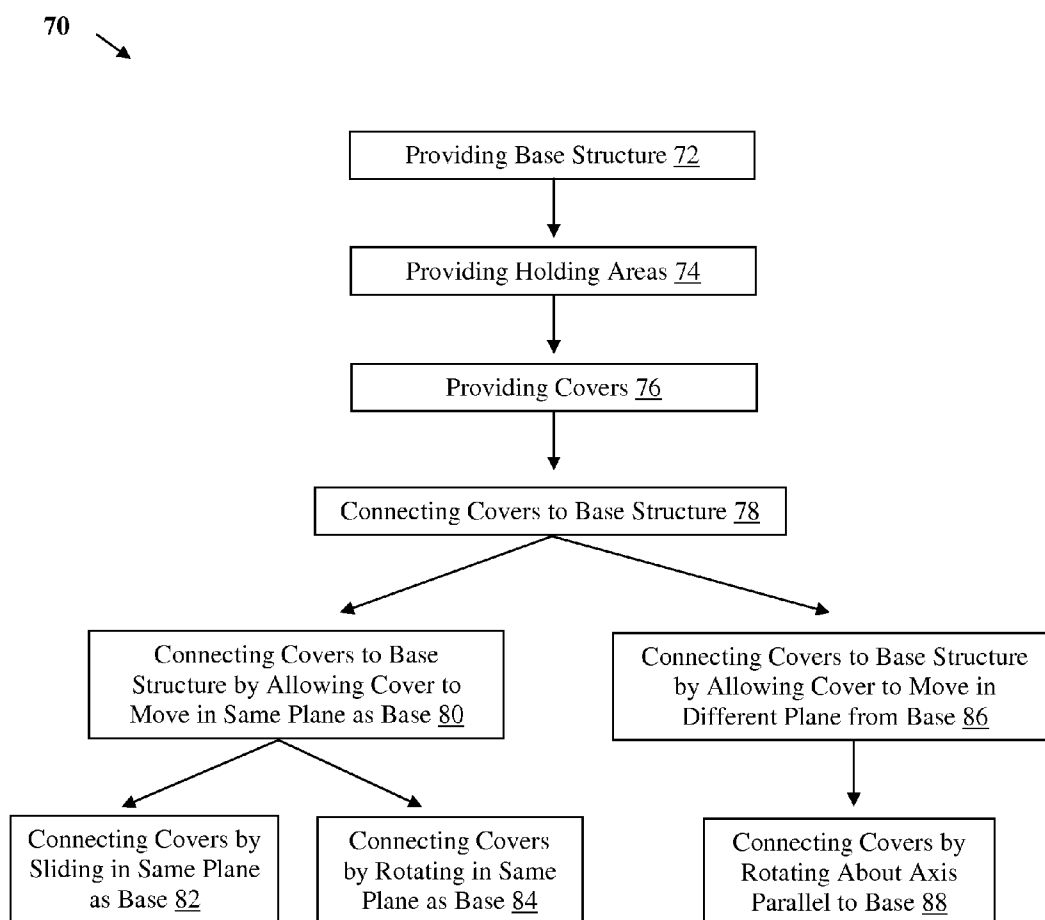


Fig. 6

**Fig. 7**

APPARATUS AND METHOD OF REGULATING FOOD INTAKE

CLAIM OF PRIORITY UNDER 35 U.S.C. §119

[0001] The present Application for Patent claims priority to Provisional Application No. 61/449,488 entitled “Apparatus and Method of Regulating Food Intake” filed Mar. 4, 2011, hereby expressly incorporated by reference herein.

BACKGROUND

[0002] Many various child activity products are available on the market. These products may take the form of books, pillows, trays, bibs, or boards. Some possess features that require simple motor skills, such as small puzzles or movable parts. Others include enclosures containing pictures or objects. The existing products are limited, however, to entertainment or instruction for small children. The limited nature of these products presents a disadvantage to parents seeking to hold their child’s attention for extended periods of time.

[0003] A simple activity board which is capable of entertaining small children for long stretches of time, while at the same time improving their motor skills and cognitive function, is needed. The described aspects relate to such a board, which couples interactive learning and diversion with rewards to maintain a small child’s attention.

SUMMARY

[0004] The following presents a simplified summary of one or more aspects in order to provide a basic understanding of such aspects. This summary is not an extensive overview of all contemplated aspects, and is intended to neither identify key or critical elements of all aspects nor delineate the scope of any or all aspects. Its sole purpose is to present some concepts of one or more aspects in a simplified form as a prelude to the more detailed description that is presented later.

[0005] In an aspect, an apparatus for regulating food intake comprises a means for providing a base structure having a plurality of holding areas sized to contain a food item. The apparatus further comprises a means for providing a plurality of covers, wherein each of the plurality of covers corresponds to one of the plurality of holding areas. The plurality of covers are connected to the base structure such that each of the plurality of covers is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas. The apparatus comprises a means for regulating food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement.

[0006] In another aspect, a method of regulating food intake comprises providing a base structure having a plurality of holding areas sized to contain a food item, with a plurality of covers corresponding to a plurality of holding areas. The method further comprises connecting the plurality of covers to the base structure such that each of the plurality of covers is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas. Additionally, the method comprises regulating food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement.

[0007] In another aspect, an apparatus for regulating food intake includes means for defining a plurality of holding areas sized to contain a food item, and means for covering each of the plurality of holding areas. Further, the apparatus includes means for connecting the means for covering to the means for defining the plurality of holding areas such that each of the means for covering is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas. Additionally, the apparatus includes means for regulating food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement.

[0008] In a further aspect, an apparatus for regulating food intake includes a base, a plurality of holding areas in the base and sized to contain a food item, and a plurality of covers movably covering each of the plurality of holding areas. Further, the apparatus includes a plurality of connectors attaching the plurality of covers to the base such that each of the plurality of covers is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas. Additionally, the apparatus includes wherein the plurality of connectors are different movable connectors such that at least two of the plurality of covers have different types of movement.

[0009] To the accomplishment of the foregoing and related ends, the one or more aspects comprise the features herein-after fully described and particularly pointed out in the claims. The following description and the annexed drawings set forth in detail certain illustrative features of the one or more aspects. These features are indicative, however, of but a few of the various ways in which the principles of various aspects may be employed, and this description is intended to include all such aspects and their equivalents.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The disclosed aspects will hereinafter be described in conjunction with the appended drawings, provided to illustrate and not to limit the disclosed aspects, wherein like designations denote like elements, and in which:

[0011] FIG. 1 is a front view of one aspect of an apparatus for regulating food intake;

[0012] FIG. 2 is a front view of the base of the apparatus of FIG. 1;

[0013] FIG. 3 is a perspective view of various aspects of different inserts that are insertable into the base of FIG. 2;

[0014] FIG. 4 is a partial cross-sectional view along line A-A of FIG. 2 for one aspect of a configuration of a base and an insert retention structure;

[0015] FIG. 5 is a partial cross-sectional view along line A-A of FIG. 2, similar to FIG. 4, but with the insert removed;

[0016] FIG. 6 is a partial cross-sectional view along line A-A of FIG. 2 for another aspect of a configuration of a base and an insert retention structure; and

[0017] FIG. 7 is a flowchart of one aspect of a method of regulating food intake.

DETAILED DESCRIPTION

[0018] Various aspects are now described with reference to the drawings. In the following description, for purposes of explanation, numerous specific details are set forth in order to

provide a thorough understanding of one or more aspects. It may be evident, however, that such aspect(s) may be practiced without these specific details.

[0019] The present invention is related to a child activity board for entertaining small children while at the same time teaching them valuable motor skills through the use of regulated dispersing of snacks. Unlike existing activity boards, the present invention provides an enjoyable and educational diversion for small children by challenging them using various enclosure methods which conceal small portions of snacks. The snacks are distributed in a controlled manner as rewards for successful manipulation of the enclosures. The varying types of connecting covers concealing the snacks require differing motor skills, providing a challenging and educational experience for young children.

[0020] Referring to FIG. 1, in one aspect, an activity board 10 provides a method of regulating food intake, such as for a child. Activity board 10 includes a base structure 12 having a plurality of holding areas 14 sized to contain a food item, such as but not limited to cereal, raisins, crackers, cheese, or any other food item, including a dry food item. These holding areas 14 may be formed in a variety of different geometric shapes, and may be integral with base 12 and/or separate, removable components. The activity board 10 further includes a plurality of covers 16, each generally corresponding to one of the plurality of holding areas 14 and movable between a first position that at least partially obstructs access to the respective holding area 14 and a second position that at least partially allows access to the respective holding area 14. The plurality of covers 16 may be formed in a variety of different geometric shapes, possibly corresponding to the shapes of their respective holding areas 14. Further, in an aspect, the outer surface 18 of each of the plurality of covers 16 may further comprise a design 20, such as but not limited to a variety of patterns, colors, graphics, designs, or pictures, for example to stimulate and attract the child's attention.

[0021] In an aspect, for example, base structure 12 and/or covers 16 may be constructed from a substantially rigid material including, but not limited to, wood, plastic or cardboard, or alternatively from a substantially flexible material including, but not limited to, foam or fabric, or some combination of both rigid and flexible materials.

[0022] The covers 16 formed over the holding areas 14 may be connected to the base structure 12 using one or more of a variety of connecting mechanisms. For example, in an aspect, at least two of the plurality of covers may include differing connecting mechanisms to stimulate and challenge the child's motor skills. In one aspect, a cover 16 may be connected to the base structure 12 by a mechanism allowing the cover to move in the same plane as the base structure. In one aspect, such a mechanism includes a sliding connecting mechanism 22, which may allow the respective cover 16 to move between a first position covering the corresponding snack holding area 14 to a second position at least partially revealing the holding area 14 by sliding the cover 16 parallel to the base 12. For example, sliding mechanism 22 may include interlocking by flanges/channels, such as a flange at the edges of the cover and channels defined in base 12, or one or more channels in cover 16 and a post or flange extending from base 12. In another aspect, such a mechanism may include a rotating connecting mechanism 24 that allows the cover 16 to move between the first and second positions by rotating the cover 16 in the same plane as the base structure 12 on an axis substantially perpendicular to the base 12. In an alternate embodiment, one of the

connecting mechanisms may include a hinge mechanism 26, which connects the respective cover 16 to the base structure 12 in a manner allowing the cover 16 to move in a different plane from the base structure 12. For example, hinge mechanism 26 may be a hinge that allows the cover 16 to move from the first to second position by swinging out from the base 12, e.g. like a door, along an axis substantially parallel to the base 12.

[0023] Referring to FIGS. 2-6, in one aspect, the plurality of holding areas 14 may be defined by one or more inserts 30 removably attached to base 12. In this aspect, for example, inserts 30 may be removed for cleaning between uses of activity board 10 (FIG. 1). Inserts 30 may have different sizes and shapes to define different holding areas 14, or to correspond to different covers 16. In some cases, covers 16 may removably attach to inserts 30. Further, specifically referring to FIGS. 2 and 3, for example, inserts 30 may include, but are not limited to a circular insert 32, a rectangular insert 34, and a pie-shaped insert 36. It should be noted, however, that inserts 30 may have any shape and/or size. Further, inserts 30 may be formed from the same material as base 12, or from a different material. For example, base 12 may include a wood or plastic material, and inserts 30 may include a plastic material.

[0024] In one aspect, inserts 30 may include a retention mechanism 38 that allows each insert 30 to be removably attached to base 12. For example, retention mechanism 38 may include a size or shape configured to create a force fit with a corresponding opening in base 12, an elastic tab or lip that changes position upon contact with base 12, or any other mechanism that allows each insert 30 to be removably held within base 12.

[0025] Referring to FIGS. 3-5, for example, insert 34 may be sized to fit within opening 39 in base 12. For instance, insert 34 may include a flange 40 having an outer wall 42 and holding area 14 having an outer wall 44 that are sized to be force fit within inner walls 46 and 48 of base 12. Moreover, a bottom surface 50 of flange 40 may abut inner top surface 52, such as defined by a chamfer, within base 12. Further, in some aspects, flange 40 of insert 34 and inner top surface 52 of base 12 may be sized such that a top surface 54 of insert 34 is substantially flush with a top surface 56 of base 12.

[0026] Referring to FIG. 6, in another aspect, insert 34 may include an elastic tab or flange that upon movement of insert 34 within opening 39 in base 12 deflects relative to flange 58 in base 12, and then elastically returns to at least partially to an original position when insert 34 is inserted far enough for the tab or flange to extend into chamber 60, such as an undercut within base 12.

[0027] It should be noted that FIGS. 4-6 illustrate representative examples of the structure of an example insert, such as insert 34, and an example base, such as base 12, however, other different configurations or structures may be utilized to define retention mechanism 38, which enables each insert 30 to be removably fixed relative to base 12.

[0028] Referring to FIG. 7, in operation, one aspect of a method 70 of regulating food intake includes providing a base structure 72 and a plurality of holding areas 74 sized to contain a food item. The method 70 further provides a plurality of covers 76, with each of the plurality of covers corresponding to one of the plurality of holding areas. The method 70 further comprises connecting the plurality of covers to the base structure 78, such that each of the plurality of covers is movable between a first position covering the corresponding

one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas. For example, in an aspect, the method 70 allows for regulation of food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement. In one aspect, the method 70 further includes connecting at least one of the plurality of covers to the base structure by allowing the cover to move in the same plane as the base 80. Further, in this aspect, the method 70 may also include connecting the covers by sliding in the same plane as the base 82, such as by providing a rectangular cover on a box, where the cover is able to slide open to reveal a snack contained in the box. Or, in this aspect, the method 70 may include connecting the covers to the base by rotating in the same plane as the base 84, such as by providing a circular cover missing a triangular portion such that when the missing portion is rotated to line up with the corresponding holding area, the snack is revealed. Alternately, in another aspect, the method 70 may include connecting the covers to the base structure by allowing the cover to move in a different plane from the base 86, which may further include connecting the covers by rotating about an axis parallel to the base 88. For example, the cover may be connected to the base structure by a hinge, allowing the cover to swing open like a door to reveal the holding area containing a snack.

[0029] While the foregoing disclosure discusses illustrative aspects and/or embodiments, it should be noted that various changes and modifications could be made herein without departing from the scope of the described aspects and/or embodiments as defined by the appended claims. Furthermore, although elements of the described aspects and/or embodiments may be described or claimed in the singular, the plural is contemplated unless limitation to the singular is explicitly stated. Additionally, all or a portion of any aspect and/or embodiment may be utilized with all or a portion of any other aspect and/or embodiment, unless stated otherwise.

What is claimed is:

1. A method of regulating food intake, comprising:
 - providing a base structure having a plurality of holding areas sized to contain a food item;
 - providing a plurality of covers, wherein each of the plurality of covers corresponds to one of the plurality of holding areas; and
 - connecting the plurality of covers to the base structure such that each of the plurality of covers is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas;
 - regulating food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement.
2. The method of claim 1, wherein the connecting includes connecting at least one of the plurality of covers to the base structure with a mechanism allowing the cover to move in the same plane as the base structure.
3. The method of claim 2, wherein the connecting allows the at least one of the plurality of covers to move between the first position and the second position by sliding in the same

plane as the base structure on an axis parallel to the base structure.

4. The method of claim 2, wherein the connecting allows the at least one of the plurality of covers to move between the first position and the second position by rotating in the same plane as the base structure on an axis perpendicular to the base structure.

5. The method of claim 1, wherein the connecting allows the at least one of the plurality of covers to connect to the base structure with a mechanism allowing the cover to move in a different plane from the base structure.

6. The method of claim 5, wherein the connecting allows the at least one of the plurality of covers to move between the first position and the second position by rotating about an axis parallel to the base structure.

7. The method of claim 1, further comprising forming at least a first one of the plurality of holding areas in a first geometric shape, and forming at least a second holding area in a second geometric shape different from the first geometric shape.

8. The method of claim 1, further comprising forming at least a first one of the plurality of covers in a first geometric shape, and forming at least a second cover in a second geometric shape different from the first geometric shape.

9. The method of claim 1, further comprising forming at least a first one of the plurality of covers including at least one of patterns, colors, graphics, designs, or pictures on the outer surface of the cover.

10. The method of claim 9, further comprising forming at least a one of the plurality of covers including at least one of patterns, colors, graphics, designs, or pictures on the outer surface of the cover, different from the features of the first cover.

11. The method of claim 1, constructing the plurality of covers from a substantially rigid material.

12. The method of claim 1, constructing the plurality of covers from a substantially flexible material.

13. The method of claim 1, constructing the base structure from a substantially rigid material.

14. The method of claim 1, constructing the base structure from a substantially flexible material.

15. The method of claim 1, further comprising removably attaching one or more inserts to define the plurality of holding areas.

16. An apparatus for regulating food intake, comprising:

- means for defining a plurality of holding areas sized to contain a food item;
- means for covering each of the plurality of holding areas;
- means for connecting the means for covering to the means for defining the plurality of holding areas such that each of the means for covering is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas; and
- means for regulating food intake by connecting the plurality of covers to the base structure such that at least two of the plurality of covers have different types of movement.

17. The apparatus of claim 16, further comprising means for removably attaching the plurality of holding areas.

18. An apparatus for regulating food intake, comprising:

- a base;
- a plurality of holding areas in the base and sized to contain a food item;

a plurality of covers movably covering each of the plurality of holding areas;

a plurality of connectors attaching the plurality of covers to the base such that each of the plurality of covers is movable between a first position covering the corresponding one of the plurality of holding areas and a second position at least partially exposing the corresponding one of the plurality of holding areas; and

wherein the plurality of connectors are different movable connectors such that at least two of the plurality of covers have different types of movement.

19. The apparatus of claim **18**, further comprising a plurality of inserts removably attachable to the base to define the plurality of holding areas.

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