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(54) **CAKE TIER SEPARATOR FOR LAYERED CAKES**

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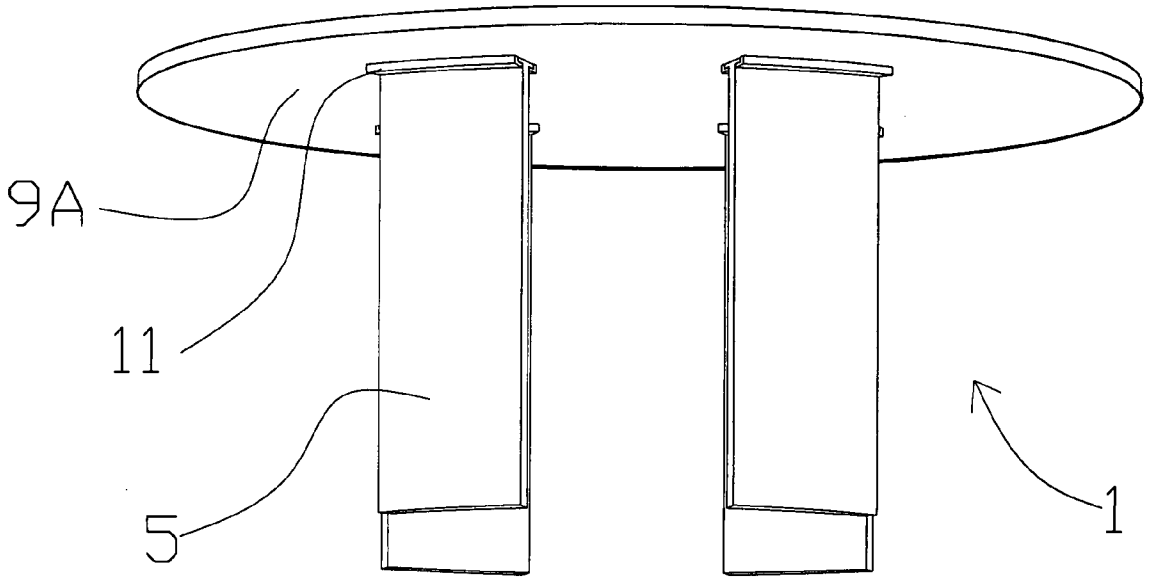
(57) **ABSTRACT**

A separator for stacking layers of cake includes a base plate that comprises an attachment means such as a rail or track. A plurality of planar supports mates with the attachment means to provide a stable structure for stacking layers of cakes. Planar supports arranged between the upper most layers may be ornamentally designed with décor that includes an attachment button for mating with an opening in a planar support.



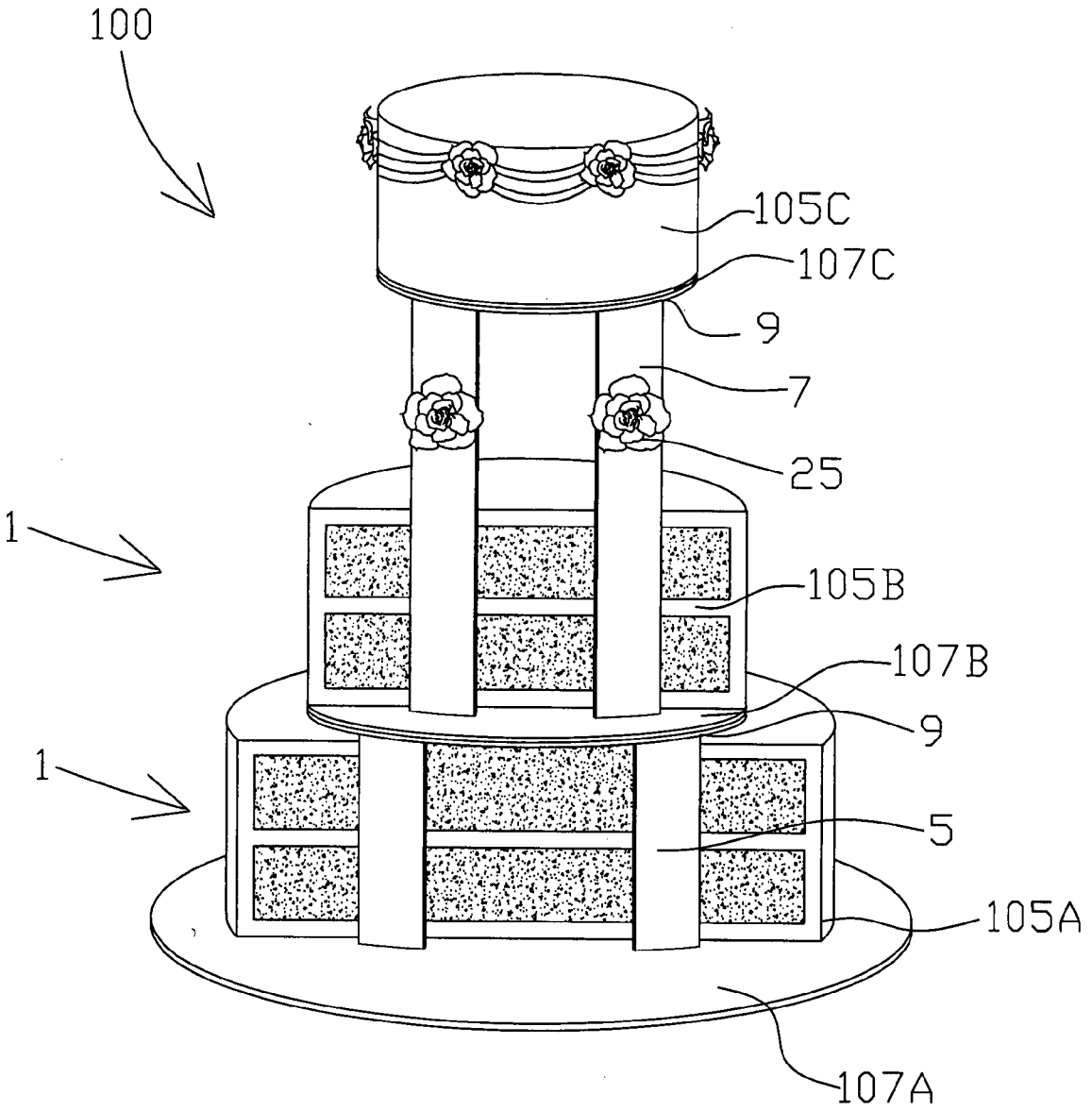


Fig. 1

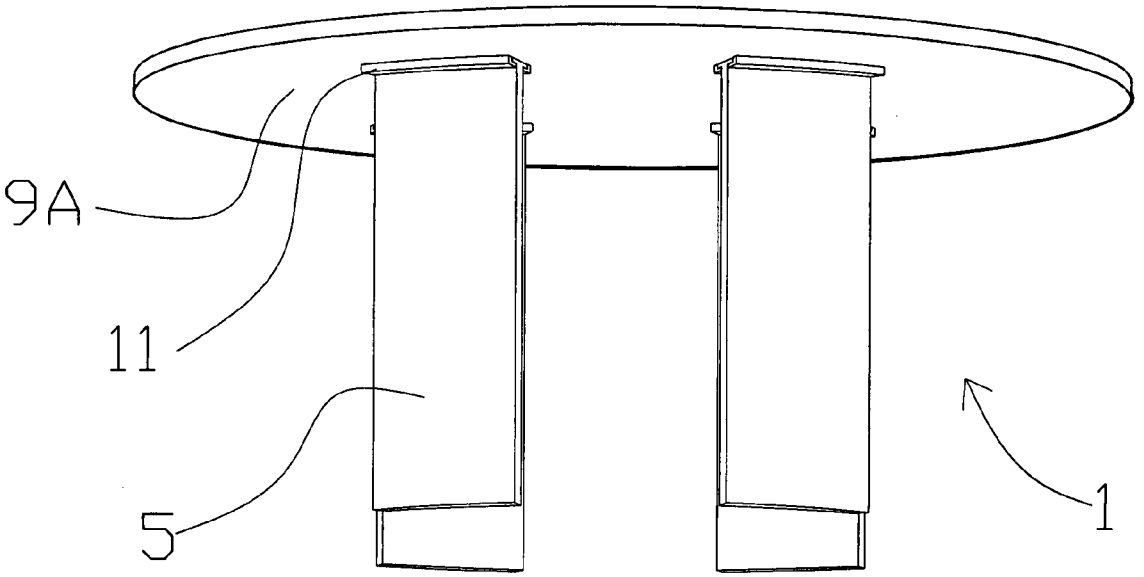


Fig. 2

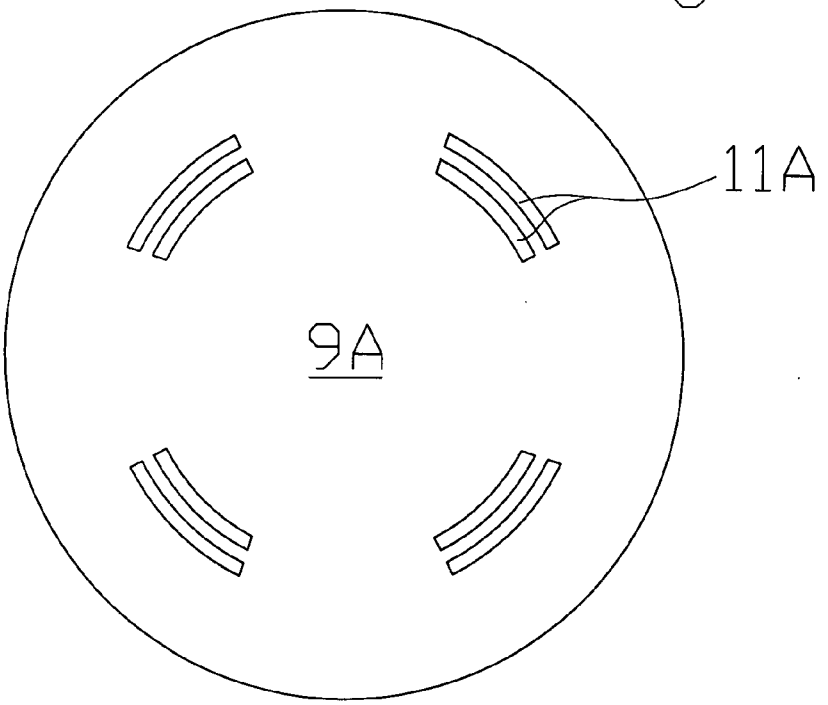


Fig. 3A

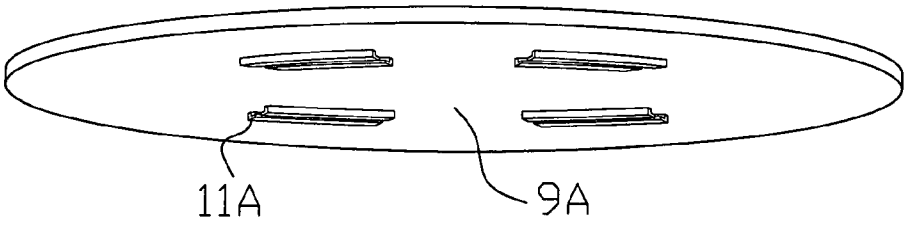


Fig. 3B

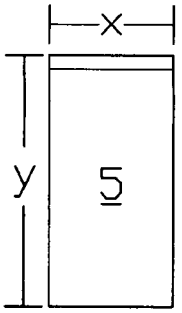


Fig. 4A

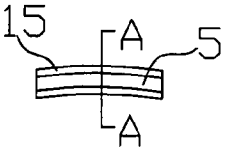


Fig. 4B

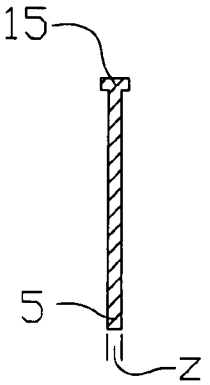


Fig. 4C

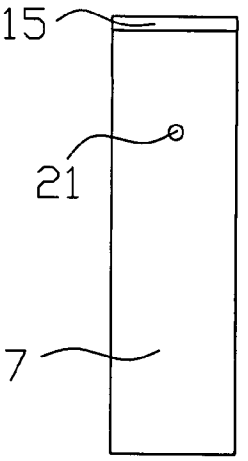


Fig. 4D

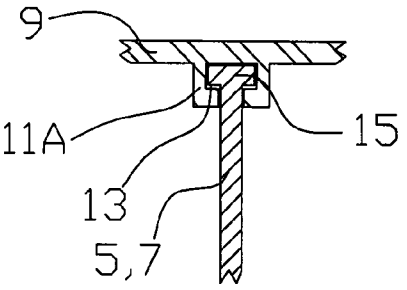


Fig. 5

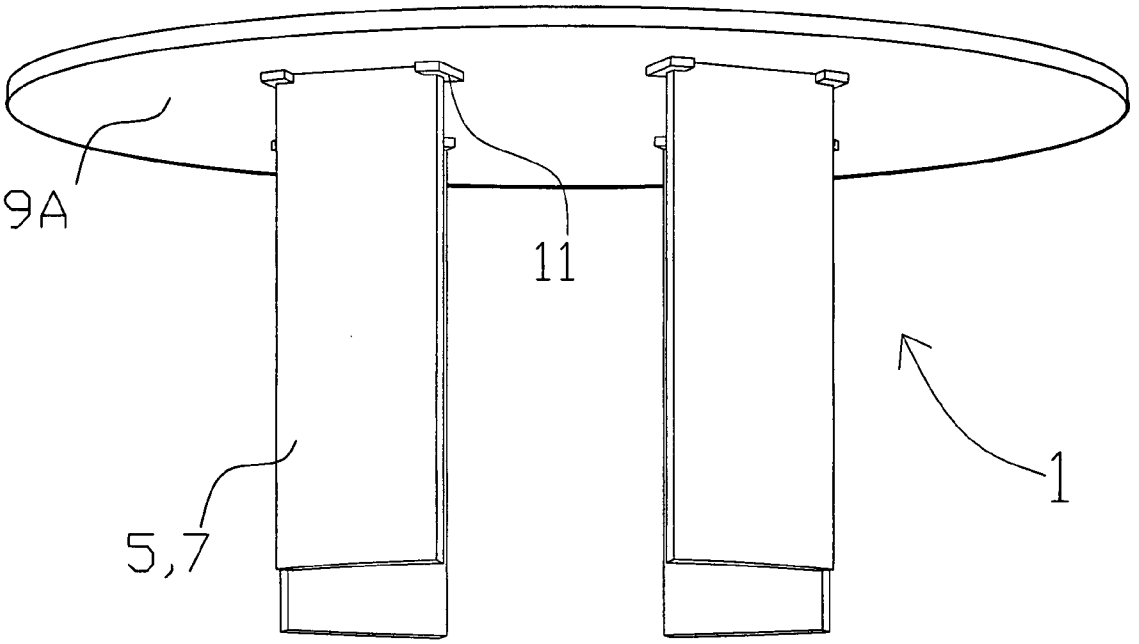


Fig. 6

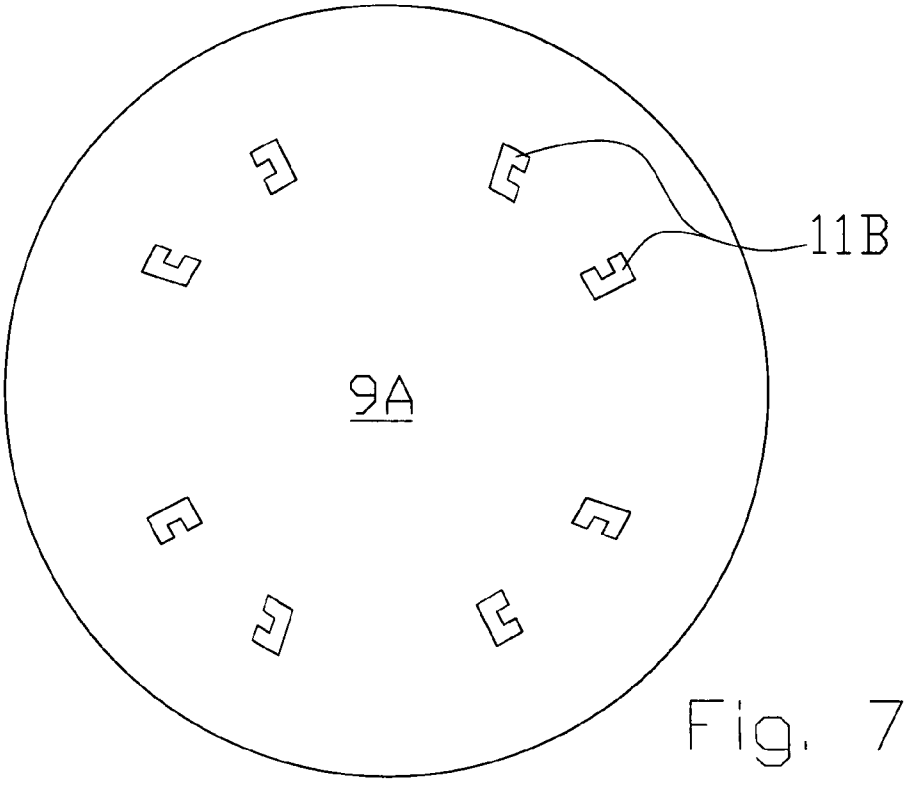


Fig. 7A

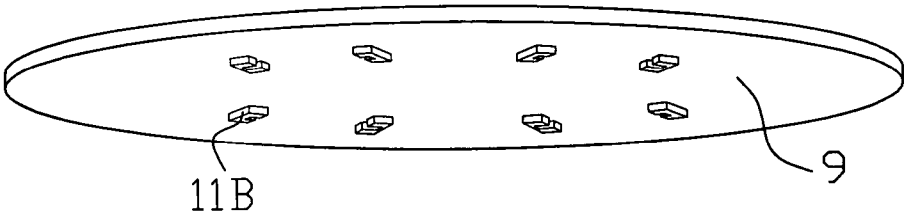


Fig. 7B

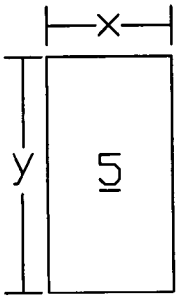


Fig. 8A

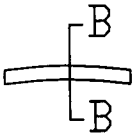


Fig. 8B

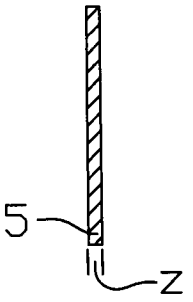


Fig. 8C

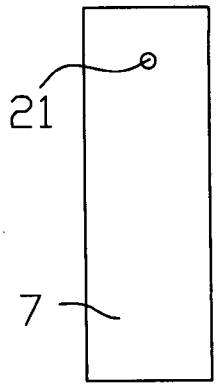


Fig. 8D

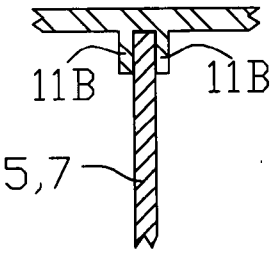
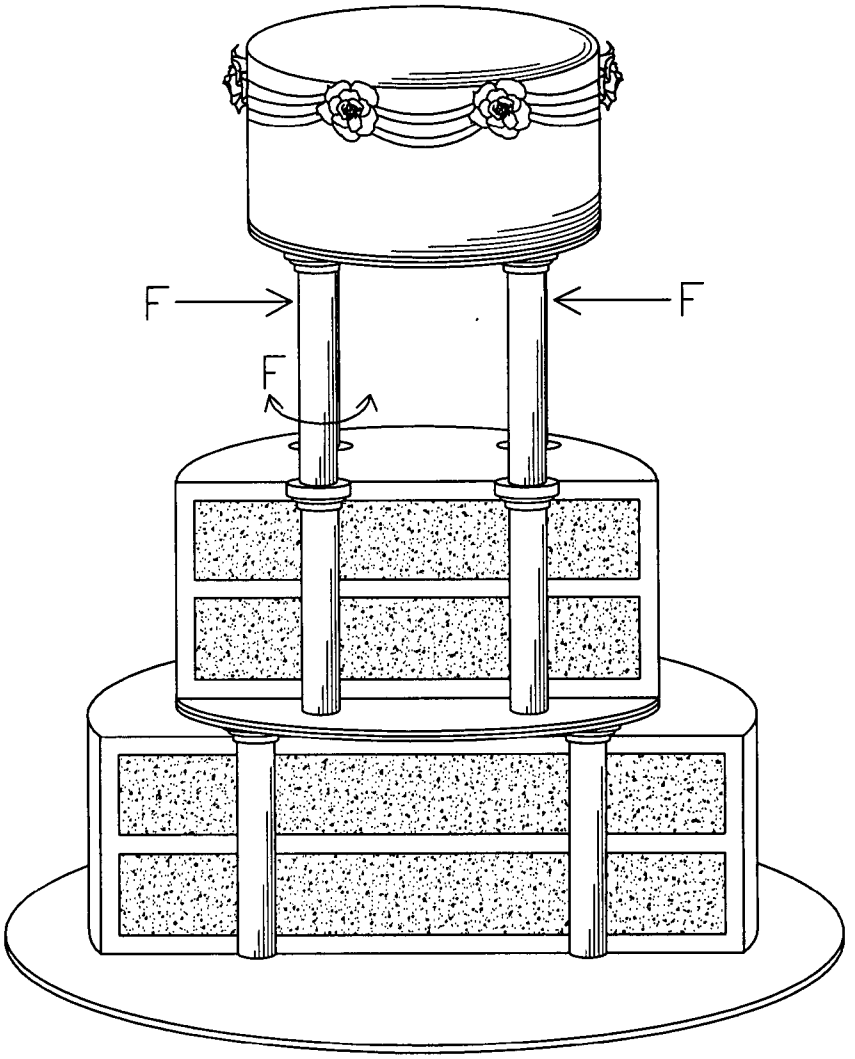


Fig. 9



Prior Art

Fig. 10

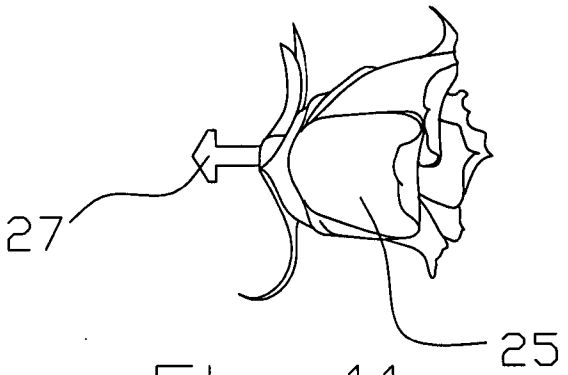


Fig. 11

CAKE TIER SEPARATOR FOR LAYERED CAKES

[0001] There are no related patent applications.

[0002] The present invention did not receive federal research and/or development funding.

BACKGROUND OF THE INVENTION

[0003] Generally, the present invention relates to a tier separator for use in constructing a layered cake. More specifically the invention relates to a system of planar supports that are attached to a plate upon which a layer of cake is deposited. Additional plates and planar supports, along with their associated layers of cake, may be stacked to create a tiered cake that is more stable than the existing art.

[0004] Wedding cakes, and cakes made for other special occasions are typically cakes that include multiple layers that are tiered or having cake layers arranged one above another. In the past, multi-layered cakes have been constructed by a plurality of plates that were supported on a plurality of cylindrical columns such as is shown in FIG. **10**. These arrangements are inherently unstable and unable to resist the forces depicted by the arrows denoted as "f". The cylindrical columns operate to provide vertical support to the various layers of the cake such that the upper layers do not crush the lower layers; they do not adequately resist lateral forces applied between the ends of the columns as shown. Since these types of cakes are structurally unsound, they cannot be easily moved or transported. In fact, moving them in many instances will cause the elevated layers of the cake to tilt to one side. This in turn destabilizes the cake and causes the upper layers to slide and separate from the lower layers causing the cake to totally collapse or at a minimum ruins the decorative cake detailing.

[0005] FIG. **10** shows a prior art cake separator that includes plates and cylindrical columns. The tiered cake is constructed by first baking several layers of cake. A bottom layer of cake is placed on a base plate; the plate is typically smooth on both sides. Next, a support plate for the next succeeding layer is centered atop the first layer and depressed into the top to mark where the cylindrical columns should be inserted into the first layer.

[0006] Thereafter, each cylindrical column is inserted into the first layer of cake. Since the columns are cylindrical in shape and circular in cross section, they tend to cause a "coring" effect that removes or separates an amount of cake equal to the cross diameter of each cylindrical column. This coring effect destabilizes the cake in an area immediate to the inserted column. Moreover, because the columns are cylindrical in shape, they have no sharp edges and can only provide support vertical support between the two plates. The cylindrical support does not resist lateral forces applied between the ends of the column. These lateral forces may be experienced when the cake is lifted in an uneven manner and moved from one location to another.

[0007] During the prior art construction process, the cylindrical columns used tends to core the area of the cake where they are inserted. This destabilizes or disturbs the cake by displacing a volume of cake that could otherwise operate as a support for the columns in resisting lateral forces applied along the columns. Since cake is light and fluffy in nature, the columns tend to further displace cake material if the cake is moved or bumped.

[0008] Thus, there exists a need in the baking art for a new type of tiered cake supporting means that provides a sturdy cake that is stable when moved. The present invention provides a plurality of planar supports that fasten at least to one side of a plate supporting a layer of cake above. An upper end of a planar support fastens to the plate and includes a substantial surface area to resist lateral forces directed between the upper and lower ends of the planar support. That is, the sides are long enough to come into contact with a substantial surface area of the cake to resist any lateral forces applied to the planar support because the force must not only overcome the resistance of the support but it must also overcome the resistance created by the mass of the cake behind the planar support.

BRIEF SUMMARY OF THE INVENTION

[0009] The present invention overcomes the problems of the prior art by providing planar supports that have sides of extended surface area. Any lateral forces experienced by the planar supports are displaced over a larger surface area. Moreover, the extended surface area of each side of a planar support distributes the laterally-applied forces over an entire side of the planar support to resist misshaping the cake near the columnar supports. Thus, the present invention is a more stable way of constructing a layered or tiered cake.

[0010] In one embodiment of the invention, a cake is constructed with plates and planar supports that are unique to the present invention. The cake includes a bottom layer that is arranged atop a plate. An upper end of each planar support is mated to an attachment means on a bottom of the plate. The attachment means may include a rail. All of the planar supports are fastened to the bottom of the plate and are then appropriately positioned and inserted into the bottom layer of cake.

[0011] An elevated layer of cake is then arranged atop the upper surface of the plate to which the planar supports are fastened. The above recited procedure is then repeated as necessary to present the desired number of tiers or layers of cake. Between the top two layers, the planar supports may be elongated in height and include openings for receiving décor.

[0012] The plate and supports assembly provides a system that is constructed and the supports are then inserted into the lower layer of cake. The bottom end of each support is small in cross section area such that the supports slide easily into the cake. Preferably the sides of each support are substantially planar and the bottom end of the support is slightly arcuate in shape when taken in cross section as shown. The upper end of the support may include a t-rail shape for attaching to the plate. The surface area of the lower end of the support is small in size such that it easily slices through a layer of cake into which it is inserted.

[0013] Thus, the present invention is a cake tier separator device that structurally supports a multi-layered cake. The cake tier separator device comprises a plate upon which a layer of cake is arranged. The plate comprises at least one track and preferably a plurality of tracks disposed on at least one side thereof. The cake tier separator includes a plurality of planar supports. Each support has an upper end and a lower end. At least the upper end includes a rail that slides into a track disposed on the plate to affix the planar support to the plate. The cake tier separator may include a plate that comprises four pairs of tracks.

[0014] In one embodiment, the cake tier separator device comprises a curved track. In another embodiment, the planar support is curved when viewed from an end. In a further embodiment, the track includes a t-shaped recess that mates with a t-shaped rail arranged on an upper end of the planar support. In a further embodiment of the invention, the track of the plate includes two edges into which a planar upper edge is inserted. The invention may be utilized to construct a two or more layer cake. The invention may be utilized to provide a three tiered cake that includes elongated support members between the two highest tiers of the cake.

[0015] The cake tier separator may comprise a plate that comprises a lightweight plastic material that may be molded or extruded. The cake tier separator device may comprise planar supports that comprise lightweight, rigid, plastic that is molded or extruded.

[0016] It is an object of the invention to provide planar supports to which decorations may be easily attached

[0017] It is a further object of the invention to provide planar supports which easily slice through cake without disturbing or disrupting the area of the cake around the support

[0018] It is an additional object of the invention to provide planar supports that interlock with an attachment means on a bottom of plate.

[0019] It is an object of the invention to create a more stable tiered cake that can be easily transported without damage to the cake or its décor.

[0020] It is a further object of the invention to provide a cake tier separator that includes planar supports that resist lateral forces.

[0021] Additional objects and advantages of the invention will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention. The objects and advantages of the invention will be obtained by means of instrumentalities in combinations particularly pointed out in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] FIG. **1** is a perspective view showing a layered cake that has been constructed using a plurality of cake tier separators of the present invention.

[0023] FIG. **2** is a prospective view of an assembled cake tier separator.

[0024] FIG. **3**A is a plan view of a plate having tracks for fastening upper edges of planar supports thereto. FIG. **3**B is a perspective elevated view of the plate from below.

[0025] FIG. **4**A is an elevated side view of a planar support. FIG. **4**B is an end view of the planar support. FIG. **4**C is a cross section view of a planar support taken from line A-A of FIG. **4** B. FIG. **4**D is an elongated support that comprises openings for fastening decorations thereto.

[0026] FIG. **5** is a cross section end view of the planar support affixed to the first embodiments of the track on the bottom surface of the plate.

[0027] FIG. **6** is a prospective view of a second embodiment of an assembled cake tier separator.

[0028] FIG. **7**A is a plan view of a plate in the second embodiment having a second type of tracks for fastening an upper edge of a planar support thereto. FIG. **7**B is a perspective elevated view of the plate of FIG. **7**A shown from below.

[0029] FIG. **8**A is an elevated side view of a planar support. FIG. **8**B is an end view the planar support taken from the bottom end thereof. FIG. **8**C is a cross section view of a planar support taken from line B-B of FIG. **8** B. FIG. **8**D is an elongated support that comprises openings for fastening decorations thereto.

[0030] FIG. **9** is a cross section end view of the planar support affixed to the track on the bottom surface of the plate.

[0031] FIG. **10** is a prior art type of cake separator.

[0032] FIG. **11** is an elevation side view of a décor rose that includes an attachment button for sliding through an opening in a planar support.

DETAILED DESCRIPTION OF THE INVENTION

[0033] The embodiments of the invention and the various features and advantageous details thereof are more fully explained with reference to the nonlimiting embodiments and examples that are described and/or illustrated in the accompanying drawings and set forth in the following description. It should be noted that the features illustrated in the drawings are not necessarily drawn to scale, and the features of one embodiment may be employed with the other embodiments as the skilled artisan recognizes, even if not explicitly stated herein. Descriptions of well-known components and techniques may be omitted to avoid obscuring the invention. The examples used herein are intended merely to facilitate an understanding of ways in which the invention may be practiced and to further enable those skilled in the art to practice the invention. Accordingly, the examples and embodiments set forth herein should not be construed as limiting the scope of the invention, which is defined by the appended claims. Moreover, it is noted that like reference numerals represent similar parts throughout the several views of the drawings.

[0034] FIG. **1** depicts a three tier cake and showing a pair of cake tier separators **1** in use. The cake **100** is constructed with plates **9** and planar supports **5**, **7** that are unique to the present invention. The cake **100** includes a bottom layer **105**A that is arranged atop a plate **107**A. Two other layers **105**B, **105**C are arranged atop respective plates **107**B, **107**C. An upper end of each planar support is mated to an attachment means **11** on a bottom side **9**A of the plate **9** as shown in FIG. **2**. The attachment means may include a rail **11**A, **11**B, as shown and described hereinafter. All of the planar supports **5**, **7** are fastened to the bottom of a respective plate **9** and are then appropriately positioned and inserted into the bottom layer of cake **105**A. Throughout the disclosure, planar supports are referred to as elements **5** and **7**. Element **5** is a standard sized planar support; element **7** is an elongated planar support having a greater length from end to end or height than element **5**. Element **5** preferably varies between four and eight inches in height; element **7** preferably varies between eight and twelve inches in height.

[0035] An elevated layer of cake **105**B is then arranged atop the upper surface of the plate **9** to which the planar supports **5** are fastened. The above recited procedure is then repeated as necessary to present the desired number of tiers or layers of cake. Between the top two cake layers **105**B and **105**C, the planar supports **7** may be utilized to raise the upper cake layer **105**C to an extended height above the next lower cake level. The planar supports **7** may include open-

ings **21** for receiving end **27** of décor **25** as can be understood by the skilled artisan in FIGS. **1**, **4**D, **8**D and **11**.

[0036] The plate and supports assembly **1** provides a system that is constructed by inserting an upper end of each support into the attachment track **11** provided on a bottom surface **9**A of a particular plate **9** as shown in FIG. **2**. The supports **5**, **7** are then inserted into a layer of cake. The lower end of each support is small in cross section, surface area, as shown in FIGS. **4**B and **8**B such that the supports **5**, **7** slide easily into the layers of the cake **100**. Preferably the sides of each support are planar as shown in FIGS. **4**A, **8**A and the bottom end of the support is slightly arcuate in shape as shown in FIGS. **4**B, **8**B. In FIGS. **4** and **8**, the x dimension is preferably between two to four inches, the y dimension for is between four and eight inches in height for element **5** and preferably varies between eight and twelve inches for element **7** as indicated above. The z dimension is preferably between 0.125 and 0.25 inches.

[0037] As shown in FIGS. **4**C and **4**D, the planar supports **5**, **7** may include an upper end that is t-shaped rail **15** for attaching the planar supports to track **11**A which includes a t-shaped receptacle **13**. The surface area of the lower end of the support is small in size such that it easily slices through a layer of cake into which it is inserted. The track **11**A is created by two tracks that run parallel to one another as shown in FIG. **3**A. In this figure, four pair of tracks **11**A are provided, as shown in FIGS. **3**A and **3**B. It should be noted that one of the tracks in each pair is longer than the other track, as shown in these figures. Two tracks comprise an attachment means for a single planar support as shown in FIG. **2**. The tracks are, preferably, slightly arcuate to match the shape of the planar supports when taken in profile from an upper or lower end of the planar support. It can be understood by the skilled artisan that substantially flat planar supports may be provided for mating with another type of the tracks that are equal in length and parallel to one another. Moreover, the tracks may be only two in number an run virtually the entire circumference of a bottom of the plate.

[0038] FIG. **5** is a sectional view showing the planar support **5**, **7** having an upper end **15** that comprises a t-shape. This upper end **15** mates with the tracks **11**A that form a complementary t-shaped receptacle **13** for accommodating end **15**.

[0039] FIG. **6** shows another embodiment of the invention wherein two opposing tracks **11**B are arranged to receive opposite sides of the upper end of a planar support. The tracks are mirror images and include a receptacle for receiving an edge of an upper end of the planar support. The plate and supports assembly **1** provides a system that is constructed by inserting an upper end of each support into the attachment tracks **11** provided on a bottom surface **9**A of a particular plate **9** as shown in FIG. **6**. The supports **5**, **7** are then inserted into a layer of cake as described above. As can be understood in FIG. **7**A, four sets of tracks **11**B are arranged about a lower side **9**A of the plate **9**.

[0040] As shown in FIGS. **8**C and **8**D, the planar supports **5**, **7** may include an upper end that is attached to tracks **11**B. Again, the surface area of the lower end of the support is small in size such that it easily slices through a layer of cake into which it is inserted. As shown in FIGS. **8**C and **8**D, the planar supports **5**, **7** may include an upper end for attaching the planar supports to track **11**B. In this embodiment, the track **11** is created by two tracks **11**B that include openings that are substantially opposite one another. In this figure, four pair of tracks **11** are provided, as shown in FIGS. **7**A and **7**B. Two tracks comprise an attachment means for a single planar support as shown in FIG. **9**. As mentioned above, it can be understood by the skilled artisan that substantially flat planar supports may be provided for mating with another type of the tracks that are equal in length and parallel to one another.

[0041] FIG. **11** depicts an elevated side view of a decorative rose **25** that includes a fastening button **27**. The decorative rose **25** is preferably molded plastic and fastens to planar supports **7** by inserting the fastening button **27** through the opening **21** as shown in FIGS. **4**D and **8**D.

[0042] Thus, the present invention is a cake tier separator device that structurally supports a multi-layered cake. The cake tier separator device comprises a plate upon which a layer of cake is arranged. The plate comprises at least one track and preferably a plurality of tracks disposed on at least one side thereof. The cake tier separator includes a plurality of planar supports. Each support has an upper end and a lower end. At least the upper end includes a rail that slides into one of the tracks disposed on the plate to affix the planar support to the plate. The cake tier separator may include a plate that comprises four tracks.

[0043] In one embodiment, the cake tier separator device comprises a curved track. In another embodiment, the planar support is curved when viewed from an end. In a further embodiment, the track includes a t-shaped recess that mates with a t-shaped rail arranged on an upper end of the planar support. In a further embodiment of the invention, the track of the plate includes two edges into which a planar upper edge is inserted. The invention may be utilized to construct a two or more layer cake. The invention may be utilized to provide a three tiered cake that includes elongated support members between the two highest tiers of the cake.

[0044] The cake tier separator wherein the plate comprises a lightweight plastic material that may be molded or extruded. The cake tier separator device may comprise planar supports that comprise lightweight, rigid, plastic that is molded or extruded.

[0045] While the invention has been described with respect to preferred embodiments, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in limiting sense. From the above disclosure of the general principles of the present invention and the preceding detailed description, those skilled in the art will readily comprehend the various modifications to which the present invention is susceptible. Therefore, the scope of the invention should be limited only by the following claims and equivalents thereof.

I claim:

1. A cake tier separator device that structurally supports a multi-layered cake, said cake tier separator device comprising:

a plate upon which a layer of cake is arranged, said plate comprising an attachment means that includes at least one pair of tracks disposed on one side of the plate: and,

a plurality of planar supports, each planar support having an upper end and a lower end, said upper end including a rail that slides into the at least one pair of tracks disposed on one side of the plate to affix the planar support to the plate.

2. The cake tier separator device of claim **1** wherein said plurality of planar supports is four tracks.

3. The cake tier separator device of claim **1** wherein said one pair of tracks are curved.

4. The cake tier separator device of claim **1** wherein each planar support is arcuate when viewed from an end.

5. The cake tier separator device of claim **1** includes an attachment means that includes a t-shaped recess formed by the at least one pair of tracks.

6. The cake tier separator device of claim **1** wherein the at least one pair of tracks are mirror images of one another and facing each other.

7. The cake tier separator device of claim **1** further comprising a second cake tier separator.

8. The cake tier separator device of claim **7** further comprising a third cake tier separator.

9. The cake tier separator device of claim **1** wherein said plate comprises plastic.

10. The cake tier separator device of claim **1** wherein said planar supports comprise plastic.

11. The cake tier separator device of claim **1** wherein said rail that slides into the at least one pair of tracks disposed on one side of the plate to affix the planar support to the plate is t-shaped when viewed in cross section.

12. A cake tier separator device that structurally supports a multi-layered cake, said cake tier separator device comprising:

a plate upon which a layer of cake is arranged, said plate comprising a plurality of attachment means, each attachment means including a pair of tracks disposed on a bottom side of the plate: and,

a plurality of planar supports, each planar support having an upper end and a lower end, said upper end including a rail that slides into one of the plurality of attachment means.

13. The cake tier separator device of claim **12** wherein said plurality of planar supports is four tracks.

14. The cake tier separator device of claim **1** wherein said one pair of tracks are curved.

15. The cake tier separator device of claim **1** wherein each planar support is arcuate when viewed from an end.

16. The cake tier separator device of claim **1** includes an attachment means that includes a t-shaped recess formed by the at least one pair of tracks.

17. The cake tier separator device of claim **1** wherein the at least one pair of tracks are mirror images of one another and facing each other.

18. The cake tier separator device of claim **1** wherein said plate comprises plastic.

19. The cake tier separator device of claim **1** wherein said planar supports comprise plastic.

20. The cake tier separator device of claim **1** wherein said rail that slides into the at least one pair of tracks disposed on one side of the plate to affix the planar support to the plate is t-shaped when viewed in cross section.

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