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(54) **PACKAGING MATERIAL**

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(57) **ABSTRACT**

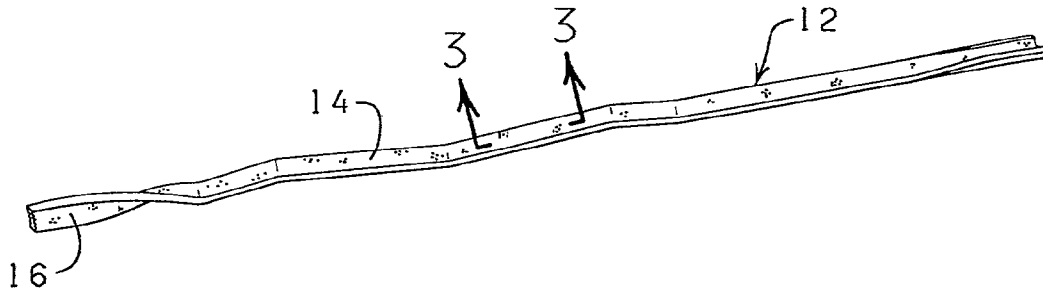
A packaging material comprising a plurality of flexible strips of material intertwined with and bondably connected to one another so as to form a cohesive cushioning unit and method for forming same is provided. The strips of material have a bonding material disposed thereon for bondingly connecting the strips of material to one another and enabling the strips of material to be bondingly connected to a container and an article.

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Related U.S. Application Data

(63) Continuation of application No. 09/484,677, filed on Jan. 18, 2000, which is a continuation of application



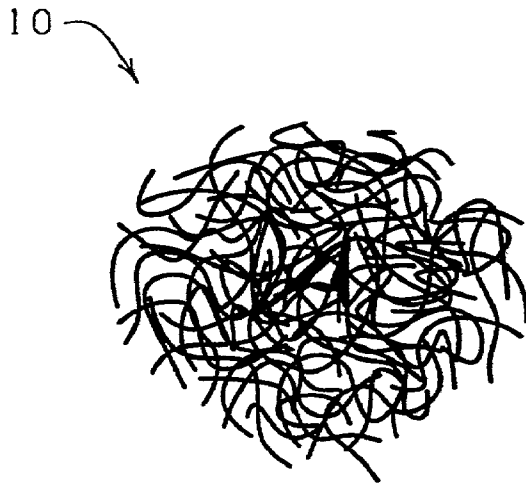


FIG. 1

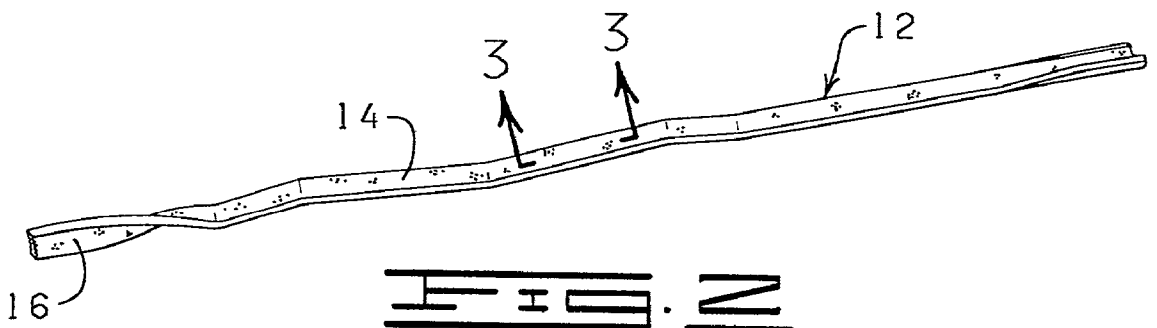


FIG. 2

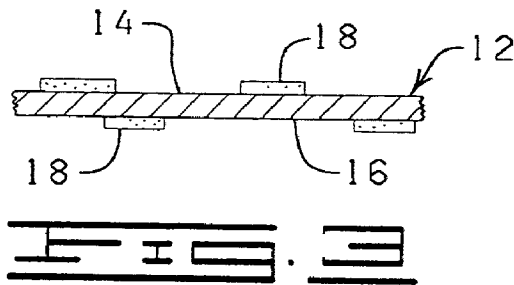
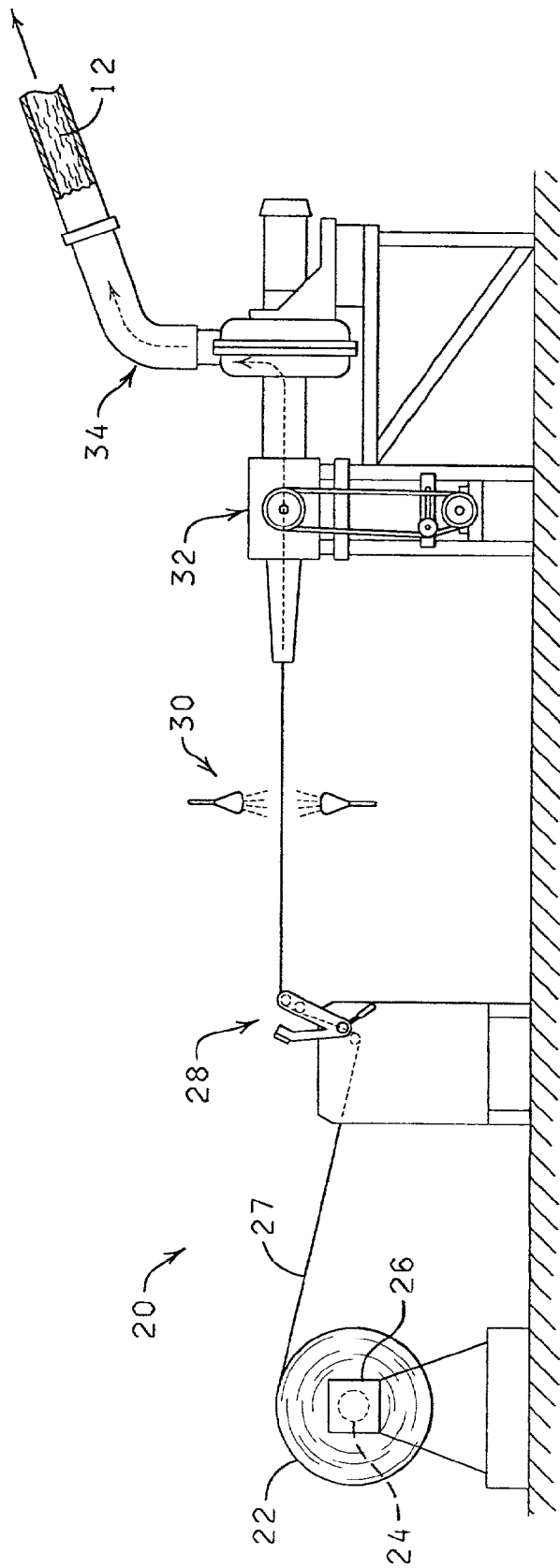


FIG. 3



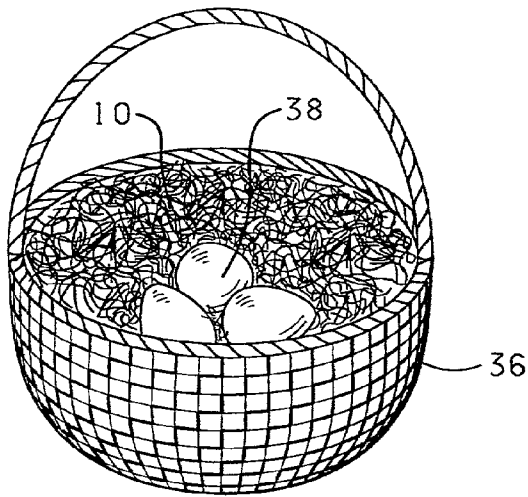


FIG. 5

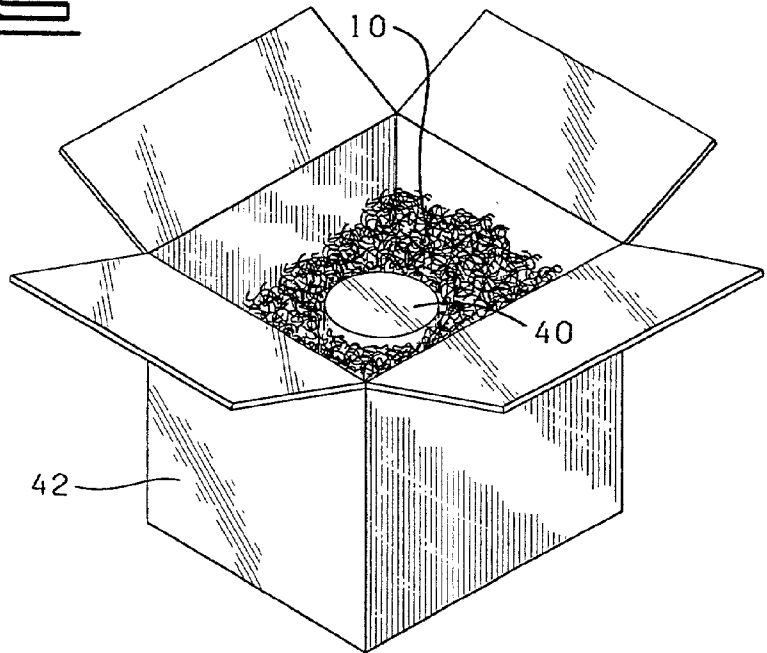


FIG. 6

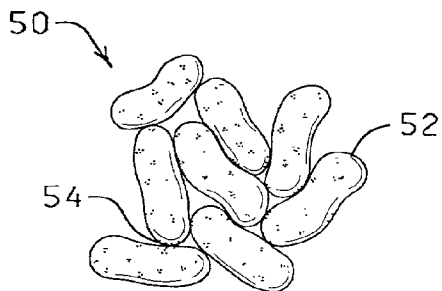


FIG. 7

PACKAGING MATERIAL

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

BACKGROUND OF THE INVENTION

[0003] 1. Field of the Invention

[0004] The present invention relates generally to packaging materials for packaging articles, and more particularly, but not by way of limitation, to a packaging material which includes a plurality of resilient members bondably connected to one another to form a cohesive cushioning unit.

[0005] 2. Brief Description of the Related Art

[0006] In the process of shipping an article from one location to another, the article is typically placed in a container along with a protective packaging material to fill the voids about the article and to cushion the article during the shipping process. One common protective packaging material is comprised of a plurality of plastic foam, peanut-shaped members which are commonly known as "styrofoam peanuts." An advantage in using styrofoam peanuts is the ease with which they may be disposed about an article positioned in a container by simply pouring the styrofoam peanuts from a dispenser.

[0007] However, while styrofoam peanuts have been widely accepted in the packaging industry, they are not without disadvantages. For example, the light weight and flowability of the styrofoam peanuts results in heavier objects gravitating through the peanuts to the bottom of the container where the object can be damaged. Also, while the flowability of the styrofoam peanuts facilitates the introduction of the peanuts into a container, the receiver of the package is left with having to deal with the peanuts upon removal of the article from the container in the form of having to clean up the mess left by the peanuts which are easily scattered upon removal of the article from the container.

[0008] These and other disadvantages associated with the disposal of styrofoam peanuts, has made paper protective packaging material a popular alternative. Paper is biodegradable, recyclable and renewable, making it an environmentally responsible choice. However, like styrofoam peanuts, paper packaging materials is not without disadvantages in that paper, particularly shredded paper, can be inconvenient to clean up and to dispose of due to the lack of cohesiveness of the packaging material. In addition, due to the lack of resiliency in paper products, large amounts of paper are typically required to provide the bulk needed to adequately cushion an object.

[0009] Strips of sheet material formed into tufts have also been used for many years. More specifically, material known as decorative grass has been used in fruit baskets, Easter baskets, and picnic baskets and for other decorative purposes. In addition, decorative grass has been used as a packaging material. The decorative grass of the prior art has

been produced by numerous methods and from a variety of materials such as polymeric materials, paper, cellophane or the like. Typically, such materials are cut and shredded to produce segments having predetermined dimensions. As such, decorative grass, like styrofoam peanuts and paper materials described above, can be inconvenient to clean up and to dispose of

[0010] To this end, a packaging material is needed that includes a plurality of resilient strip members intertwined with and bondably connected to one another so as to form a cohesive cushioning unit. It is to such a packaging material that the present invention is directed.

BRIEF SUMMARY OF THE INVENTION

[0011] The present invention is directed to a packaging material for use in filling baskets and protecting articles during a shipping process. The packaging material include a mass of randomly arranged individual, thin, flexible strips of material intertwined to form a resilient tuft. The strips of material have a bonding material disposed thereon such that the strips of material are bondingly interconnected to adjacently disposed strips of material.

[0012] The present invention is also directed to a method for making a packaging material which generally includes the steps of slitting a flexible sheet of material to provide a sheet of material containing a plurality of strips having a predetermined width, applying a bonding material to the slitted sheet of material, cutting the slitted sheet of material to provide a plurality of individual, narrow strips of flexible material, and randomly arranging the strips of material into a mass so as to intertwine and bondingly connect the strips of material to form a resilient, cohesive tuft.

[0013] The tuft formed from the plurality of strips of material may be incorporated into a package which additionally includes a container and an article positioned within the container. The tuft is arranged about the article to substantially surround the article positioned within the container. The tuft may also be caused to bond to the article and the container. In this manner, the tuft will function as a protective packaging material which fills any voids and/or which cushions the article during a shipping process.

[0014] The objects, features and advantages of the present invention will become apparent from the following detailed description when read in conjunction with the accompanying drawings and appended claims.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0015] FIG. 1 is a perspective view of a tuft of packaging material constructed in accordance with the present invention.

[0016] FIG. 2 is a perspective view of a strip of material used to form the tuft of packaging material of FIG. 1.

[0017] FIG. 3 is an enlarged, fractional, cross-sectional view of the strip of material shown in FIG. 2 taken along line 3-3 of FIG. 2.

[0018] FIG. 4 is a schematic representation of a system for making the strip of material of FIG. 2.

[0019] FIG. 5 is a perspective view of a basket having a tuft of packaging material disposed therein with a plurality of objects displayed on the tuft.

[0020] FIG. 6 is a perspective view of a package illustrating the tuft of packaging material used as a packaging material for cushioning an article during a shipping process.

[0021] FIG. 7 is a perspective view of a mass of styrofoam peanuts constructed in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0022] Referring now to the drawings, and more specifically to FIGS. 1-3, a tuft 10 of packaging material constructed in accordance with the present invention is illustrated in FIG. 1. The tuft 10 is comprised of a plurality of individual strips or strands of material 12 (FIG. 2), each characterized as having a first side 14 and a second side 16. The strips of material 12 can be fabricated from any flexible sheet of material, including paper, crepe paper, polymeric film, laminated polymeric film, and waxed paper, for example. The sheet of material may have printed matter and/or embossed pattern on at least one side thereof, and the embossed pattern can be either in register or out of register with the printed pattern.

[0023] The printed pattern can be printed on the sheet of material in a conventional manner so that, when the sheet of material is slit and cut to produce the strips of material 12, at least a substantial portion of the strip of material 12 contains at least a portion of the printed pattern. Further, different colors can be employed to provide the printed pattern on the sheet of material.

[0024] The sheet of material can also be embossed so as to provide the sheet of material with an embossed pattern. Further, the sheet of material can be provided with an embossed pattern as well as a printed pattern, and the embossed pattern can be either in register or out of register with the printed material and/or printed design.

[0025] The strips of material 12 as briefly described above are referred to as "Easter grass" or "decorative grass", and as mentioned above, decorative grass has been used for many years for filling fruit baskets, Easter baskets, and picnic baskets and for other decorative and packaging purposes. The decorative grass of the prior art has been produced by numerous methods and from a variety of materials, such as those listed above. Typically, such materials are shredded and cut to produce segmented strips having predetermined dimensions. While the prior art methods for making decorative grass have been widely accepted, new methods for making decorative grasses with different aesthetic and functional qualities have been sought.

[0026] One technique for achieving these desired effects is to coat the strips of material 12 with a bonding material such as an adhesive or cohesive whereby the individual strips of material 12 are caused to stick together when a plurality of the strips of material 12 are amassed to form a tuft, such as the tuft 10 shown in FIG. 1. As best shown in FIG. 3, the strip of material 12 is provided with a bonding material 18. The strip of material 12 is illustrated in FIG. 3 as being spot coated with the bonding material 18 on the first side 14 and the second side 16 wherein the bonding material 18 is disposed as randomly disposed spots on the first and second sides 14 and 16 of the strip of material 12. It will be appreciated, however, that the bonding material 18 may be

applied in such a manner as to substantially cover one or both of the first and second sides 14 and 16 of the strip of material 12, or as strips. Further, the bonding material 18 may be disposed in any of a variety of other patterns such as circles, dots or any other geometric or biomorphic shape, including decorative designs, so long as the bonding material 18 is positioned to function in accordance with the present invention.

[0027] The term "bonding material" when used herein can mean an adhesive, frequently a pressure sensitive adhesive, or a cohesive or any adhesive/cohesive combination, having adhesive qualities (i.e., qualities of adhesion or cohesion, respectively) sufficient to effect the connection between adjacent strips of material 12 brought into engagement with one another, between the strips of material 12 and an object such as a basket, box or other container and objects disposed in such containers. It will be appreciated that both adhesives and cohesives are well known in the art, and both are commercially available.

[0028] FIG. 4 schematically illustrates a system 20 for making strips of material 12 in accordance with the present invention. The system 20 includes a roll of material 22 supported on a shaft 24 having a brake assembly 26 operably connected thereto for controlling the rate of withdrawal of the material from the roll of material 22.

[0029] The roll of material 22 provides a web of sheet material 27 which is passed through a slitter 28. The slitter 28 includes a plurality of spaced apart, stationary knives or other conventional cutting mechanism, which slit or cut the web of sheet material 27 into strips or strands of desired width.

[0030] An effective amount of the bonding material 18 is next applied to the slitted web of sheet material 27 to provide the desired coverage by a spray assembly 30, or by some other suitable means for applying the bonding material such as, for example, by brushing or rolling the bonding material onto the slitted web of sheet material 27.

[0031] After the bonding material 18 has been applied to the slitted web of sheet material 27, the slitted web of sheet material 27 is passed into a cutter 32 where the slitted web of sheet material 27 is cut into predetermined lengths so as to form the strips of material 12. From the cutter 32, the strips of material 12 are conveyed by a conveyor unit 34, which is in the form of a centrifugal blower, to a storage area (not shown) which may be in the form of a suitable bin, packaging machine, or the like.

[0032] As an alternative to forming the decorative grass from the roll of material 22, it will be appreciated that the strips of material 12 may be formed from a polymeric film discharged from a film extrusion die which is then chilled prior to the slitting process. Such a method is disclosed in U.S. Pat. No. 4,292,266, entitled "Process for Making Decorative Grass", issued to Weder et al. on Sep. 29, 1981, which is hereby expressly incorporated herein by reference. Also, while the bonding material 18 is shown herein as being applied to the web of sheet material 27 after the slitting step, it will be appreciated that the bonding material 18 may be applied to the web of sheet material 27 prior to the slitting step or to the formed strips of material 12 after such are cut to length.

[0033] As illustrated in FIG. 2, the strips of material 12 tend to curl and form folds during the forming process. It

will be appreciated that these curls and folds contribute to the resiliency and bulkiness or fluffiness of the tuft **10** produced by amassing and intertwining a plurality of the strips of material **12**. It will be further appreciated that the degree to which the strips of material **12** are curled and folded can vary dependant on several factors, such as the type of material used to form the strips of material **12**, as well as the type of bonding material applied to the strips of material **12** and the amount of bonding material applied.

[0034] In use, the strips of material **12** are amassed, intertwined, and bondably connected to form the tuft **10**. FIG. 5 illustrates one use of the strips of material **12** described above. That is, the tuft **10** fabricated from the strips of material **12** is shown disposed in a basket **36** and supporting a plurality of objects **38**, such as candies or Easter eggs, for display. FIG. 6 illustrates an alternative use for the strips of material **12**. In FIG. 6, the tuft **10** fabricated from the strips of material **12** is being used as a packaging material for protecting an article **40** disposed in a container **42**. In this manner, the tuft **10** functions as a protective packaging material which fills any voids and cushions the article during transport.

[0035] An advantage of applying the bonding material **18** to the strips of material **12** is that the degree of springiness or fluffiness of the tuft **10** can be controlled. That is, a problem experienced with the use of some decorative grasses in the filling of gift baskets and Easter baskets is that the fluffiness or springiness of the decorative grass causes objects, such as candy and fruit, displayed on the decorative grass, to be expelled from the basket or moved to a different position in the basket. As such, it is desirable to be able to control the amount of resiliency or springiness of the decorative grass. By bonding the strips of material **12** to one another, the degree to which the strips of material **12** are able to flex relative to one another can be controlled through the amount of bonding material **18** applied to the strips of material **12** and the tack of the bonding material **18**.

[0036] Another advantage of having the strips of material **12** bond to one another includes the mess associated with loose packing or filler materials falling onto the floor or clinging to various objects being alleviated. Also, the tuft **10** fabricated of the strips of material **12** can be caused to adhere or cohere to an object and/or container resulting in an enhanced packing effect. That is, with loose packing materials, the object being packed has a tendency to gravitate through the packing material to the bottom of the container thereby reducing the effectiveness of the packing material. By using the strips of material **12** disclosed herein, the cohesiveness of the tuft **10** surrounding the object prevents the object from gravitating through the decorative grass.

[0037] In addition, the use of a bonding material **18** on the strips of material **12** enhances the shape sustaining characteristics of the tuft **10**. When the strips of material **12** are amassed to form the tuft **10**, each strip of material **12** is normally bent and folded when a crushing force is applied to the tuft **10** whereby the strips of material **12** are caused to be flattened thereby giving the tuft **10** a lesser cushioning quality. With the strips of material **12** adhered to one another, the strips of material **12** are caused to maintain their folds in opposition to forces attempting to flatten the folds, thereby giving the tuft **10** greater crush resistance and providing enhanced capabilities as a functional packaging material in

that the strips of material **12** which are more difficult to crush would continue to occupy space and create a cushioning effect. As such, a lesser quantity of the strips of material **12** provided with the bonding material **18** could have the same cushioning effect and occupy the same volume as that of a larger quantity of non-treated strips of material.

[0038] In addition to the functional advantages provided by the strips of material **12**, the ability of the strips of material **12** to adhere to one another also permits the creation of various decorative effects. For example, because the strips of material **12** are able to adhere to one another, one may cause the strips of material **12** to clump in a variety of different configurations. In other words, the strips of material **12** treated with the bonding material **18** can be manipulated into a desired form or shape as to result in a desired decorative effect.

[0039] It will be appreciated that the qualities and characteristics of the tuft **10** formed from a plurality of the strips of material **12** can be varied depending on the number of surfaces of the strip of material **12** the bonding material **18** is applied to, the pattern in which the bonding material **18** is applied, and the tackiness of the bonding material **18** used.

[0040] In addition to the above mentioned advantages of the strips of material **12** treated with the bonding material **18**, FIG. 7 illustrates the concept of treating other conventional packaging materials with a bonding material to form a cohesive unit. More specifically, FIG. 7 illustrates a packaging material **50** comprising a plurality of plastic foam, peanut shaped members **52**, which are commonly known as "styrofoam peanuts", coated with a bonding material **54**. The bonding material **54** can be any suitable adhesive or cohesive which can be used to effect the bonding or connecting of two adjacent styrofoam peanuts **52**. Also the "tack" of the bonding material **54** may be varied depending on the bonding characteristics desired. The bonding material **54** may be disposed on the outer surface of the styrofoam peanuts **52** by any conventional manner which may include spraying, rolling, or brushing. Also, the bonding material **54** may be applied to the styrofoam peanuts **52** as a solid coat, strips, spots, or any combination thereof.

[0041] By treating the styrofoam peanuts **52** with the bonding material **54**, the problems associated with objects gravitating through the peanuts to the bottom of a container is reduced or eliminated and the mess associated with the use of styrofoam peanuts **52** is reduced. That is, by the styrofoam peanuts **52** being maintained as a cohesive unit, they are less likely to become scattered across a room or blown by the wind thereby facilitating reuse or disposal of the styrofoam peanuts **52**.

[0042] From the above description it is clear that the present invention is well adapted to carry out the objects and to attain the advantages mentioned herein as well as those inherent in the invention. While presently preferred embodiments of the invention have been described for purposes of this disclosure, it will be understood that numerous changes may be made which will readily suggest themselves to those skilled in the art and which are accomplished within the spirit of the invention disclosed and as defined in the appended claims.

What is claimed is:

1. A packaging material, comprising:
 - a plurality of individual, narrow strips of flexible material; and
 - a bonding material disposed on each strip of material,
 wherein the strips of material are amassed and bondingly interconnected to one another so as to form a cohesive, resilient tuft.
2. The packaging material of claim 1 wherein the bonding material is an adhesive.
3. The packaging material of claim 2 wherein the strips of material are spot coated with the adhesive.
4. The packaging material of claim 1 wherein the bonding material is a cohesive.
5. The packaging material of claim 4 wherein the strips of material are spot coated with the cohesive.
6. A packaging material, comprising:
 - a mass of randomly arranged individual, thin, flexible strips of material intertwined to form a resilient tuft, the strips of material having a bonding material disposed thereon such that the strips of material are bondingly interconnected to the adjacently disposed strips of material.
7. The packaging material of claim 6 wherein the bonding material is an adhesive.
8. The packaging material of claim 7 wherein the strips of material are spot coated with the adhesive.
9. The packaging material of claim 6 wherein the bonding material is a cohesive.
10. The packaging material of claim 9 wherein the strips of material are spot coated with the cohesive.
11. A package, comprising:
 - a container;
 - an article positioned within the container; and
 - a mass of randomly arranged individual, thin, flexible strips of material intertwined to form a resilient tuft, the strips of material having a bonding material disposed thereon such that the strips of material are bondingly interconnected to the adjacently disposed strips of material, the resilient tuft positioned in the container so as to substantially surround the article.

12. The package of claim 11 wherein the resilient tuft is bondingly connected to the article.
13. The package of claim 11 wherein the resilient tuft is bondingly connected to the container.
14. The package of claim 11 wherein the resilient tuft is bondingly connected to the article and to the container.
15. The package of claim 11 wherein the bonding material is an adhesive.
16. The package of claim 15 wherein the strips of material are spot coated with the adhesive.
17. The package of claim 11 wherein the bonding material is a cohesive.
18. The package of claim 17 wherein the strips of material are spot coated with the cohesive.
19. The package of claim 11 wherein the container is a basket.
20. A method of making a packaging material, comprising the steps of:
 - providing a flexible sheet of material having a bonding material disposed thereon;
 - slitting the sheet of material to provide a sheet of material containing a plurality of strips having a predetermined width; and
 - cutting the slitted sheet of material to provide a plurality of individual, narrow strips of flexible material; and
 - randomly arranging the strips of material into a mass so as to intertwine and bondingly connect the strips of material to form a resilient, cohesive tuft.
21. A method of making a packaging material, comprising the steps of:
 - slitting a flexible sheet of material to provide a sheet of material containing a plurality of strips having a predetermined width;
 - applying a bonding material to the slitted sheet of material;
 - cutting the slitted sheet of material to provide a plurality of individual, narrow strips of flexible material; and
 - randomly arranging the strips of material into a mass so as to intertwine and bondingly connect the strips of material to form a resilient, cohesive tuft.

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