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(54) **Packaging basket for lightweight products and blank therefor**

(57) A packaging basket (B) and a blank (10) for forming a packaging basket is formed from paperboard or material of like function and comprises a base (12) and a plurality of concentric, annular strips (16-16f) hinged one to the next. The radially innermost annular strip (16) is hinged to the base at a series of circumferentially spaced locations (18). The next adjacent radially outer annular strip (16a) is hinged to the radially inner-

most annular strip (16) at a series of circumferentially spaced locations (18) disposed intermediate the said hinged series of circumferentially spaced locations between the radially innermost annular strip (16) and said base (12). The next succeeding concentric annular strips are likewise alternately hinged one to the next so as to be adapted to form a skeletal cage-like structure when the concentric annular strips are displaced out of the plane of the base.

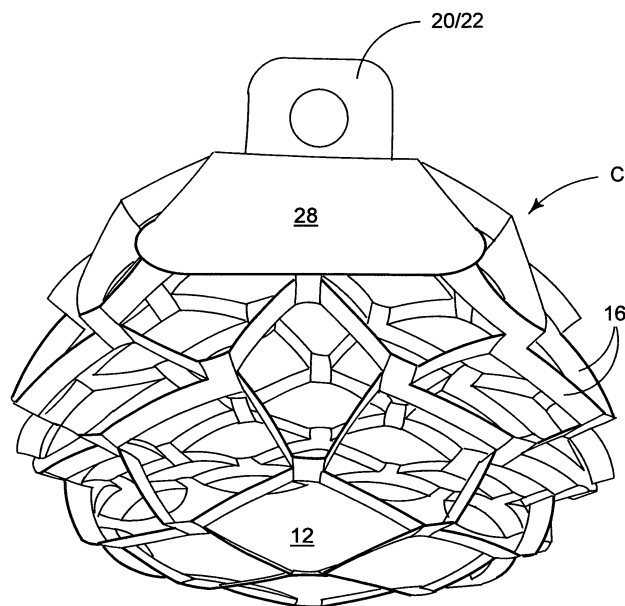


FIGURE 2

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Description

[0001] This invention relates to a packaging basket in the form of a cage and it's blank which is formed from paperboard, or a functionally equivalent material, for holding, displaying and identifying relatively lightweight products. The packaging cage has been specifically created for use with bagged salad but it may, of course, be used for retailing other suitable products.

[0002] Commonly, packaging baskets are formed from plastics material. Such structures are relatively expensive to manufacture. It is known to provide paperboard containers but such containers generally lack strength when compared to baskets formed from plastics material, particularly when it is desirable for such containers to be self-supporting structures.

[0003] The present invention and its preferred embodiments seek to overcome or at least mitigate the problems of the prior art.

[0004] One aspect of the invention provides a packaging basket for lightweight produce which basket is formed from a blank of paperboard or material of like function, the basket being erected from the blank in flat form to provide a closed, skeletal cage-like structure. Preferably, the cage-like structure is substantially spheroidal.

[0005] In one class of embodiments, the cage-like structure comprises a base and a matrix of integrally hinged strips, which, in the blank form of the basket, are provided by a plurality of concentric annular strips, hinged one to the next. Optionally, the hinged annular strips are hingedly connected to a plurality of radial strips. Preferably, there further comprises a base hingedly connected to the radial strips, but otherwise separated from the cage-like structure.

[0006] According to an optional feature of this aspect of the invention, closure and handle means may be provided to close the cage-like structure diametrically opposite said base. The closure and handle means may be provided by a first panel hingedly connected to the cage-like structure, which first panel is provided with a slot to receive a handle panel hingedly connected to the cage-like structure and spaced from the first panel. The handle panel may be provided with a recess for engaging the edge of the slot and to be retained therewith.

[0007] There may further comprise a second panel including a slot adapted to be placed in overlapping arrangement with the first panel and a second handle panel hingedly connected to the cage-like structure, wherein the first and second handle panels may be placed in face-contacting arrangement are adapted to pass through the slots of the first and second handle thereby to close the cage-like structure.

[0008] A second aspect of the invention may comprise a blank for forming a packaging basket which blank is formed from paperboard or material of like function and comprises a base and a plurality of concentric, annular strips hinged one to the next and wherein the ra-

dially innermost annular strip is hinged to the base at a series of circumferentially spaced locations the next adjacent radially outer annular strip being hinged to the radially innermost annular strip at a series of circumferentially spaced locations disposed intermediate the said hinged series of circumferentially spaced locations between the radially innermost annular strip and said base, and the next succeeding concentric annular strips being likewise alternately hinged one to the next so as to be adapted to form a skeletal cage-like structure when the said concentric annular strips are displaced out of the plane of the base.

[0009] According to an optional feature of the second aspect of the invention, the closure means may be provided by the radially outermost annular strip in order to close the cage-like structure formed from the blank. Preferably, the hinged strips are hingedly connected to a plurality of radial strips.

[0010] There may further comprise a base hingedly connected to the radial strips, but otherwise separated from the rest of the blank.

[0011] The closure and handle means may be provided by a first panel hingedly connected to the cage-like structure, which first panel is provided with a slot to receive a handle panel hingedly connected to the cage-like structure and spaced from the first panel.

[0012] According to another optional feature of the second aspect of the invention, there may further comprise a second panel including a slot adapted to be placed in overlapping arrangement and a second handle panel hingedly connected to the cage-like structure, wherein the first and second handle panels are placed in face-contacting arrangement are adapted to pass through the slots of the first and second handle thereby to close the cage-like structure.

[0013] Exemplary embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which

FIGURE 1 is a plan view of a paperboard blank from which a packaging cage, according to the invention, can be formed; and

FIGURES 2 and 2a are perspective views of the set-up cage as seen from opposing directions.

[0014] The blank 10 which is formed from paperboard or material with a like functional similarity comprises a central base 12 which would present itself as a disk apart from a series of circumferential arcuate cut outs such as the cut out 14 which is foldably joined to the radially innermost one of a concentric series of annular strips indicated as 16 (the innermost annular strip) and 16a-16f to form a skeletal cage-like structure in a set up basket.

[0015] The base 12 is hinged to the annular strip 16 at spaced circumferential locations by fold lines 19. Each annular strip 16 is struck from the blank by a pair

of cut lines 32 and is hinged to the next radially outermost annular strip 16a at spaced circumferential locations such that hinged connection 19 is disposed circumferentially intermediate each of the hinged connections 18a. Likewise, annular strip 16a is hinged to annular strip 16b at a series of circumferential locations 18b, which are circumferentially disposed intermediate the circumferential hinged connections 18a.

[0016] Thus, each of the concentric annular strips is thus secured to the next radially adjacent annular strip so that the connection between one strip and its immediate radially outer neighbour is circumferentially intermediate the connections between that strip and its immediate radially outer neighbour.

[0017] The outermost annular strip of the blank 16f comprises arcuate strips 16f¹, which is hinged to the annular strip 16e at circumferentially spaced locations, which are intermediate, the locations by which annular strip 16e is connected to annular strip 16d. The circumferentially outermost strip 16f also comprises annular strips 16f¹¹ integral with the radially inner arcuate strip 16f¹ and integral portions of the strips 16f¹ and 16f¹¹ are also connected to the radially inner annular strip 16e at spaced circumferential locations which are disposed circumferentially intermediate the connections between annular strip 16e and its radially inner neighbour annular strip 16d.

[0018] In one class of embodiments, there is provided a plurality of radial panels 36. Each radial panel is defined by opposed fold lines 38 40 defining the hinged connections for the adjacent annular strips 16.

[0019] The blank comprises one or more radially extending fastening tabs. In this embodiment, there comprises handle tabs 20 and 22, which are of similar form and are disposed at diametrically opposed locations and hinged to annular strip 16f. Each of the handle tabs comprises a radially outstanding tab formed with a central aperture 'a'. Further fastening tabs 24 and 26 are also hinged to the radially outermost annular strip 16f and disposed at locations, which are circumferentially spaced from the tabs 20 and 22. Securing tabs 24 and 26 are each formed with a radially extending slot S and tab 24 is further provided with an integral identification panel 28 which is hinged to panel 24 along a radially extending fold line 30.

[0020] In order to form the basket carrier 'C' from the blank 'B' shown in Figure 1, first product is placed onto the base 12 of the blank and thereafter the concentric series of annular strips are raised out of the plane of the base by lifting the handle tabs 20 and 22 which are then brought together above the base in face to face relationship thus opening the blank towards a spheroidal cage-like structure.

[0021] Further sections of the circumferential annular strips are also raised above the plane of the base 12 by bringing securing tab 26 into position over the base and causing the superposed tabs 20 and 22 to be slotted through the slot S of tab 26. Finally and in like manner

the securing tab 24 is raised so that further parts of the concentric annular strips are raised above the plane of the base and it too is secured to the upstanding securing tabs 20 and 22 by passing them through the slot S so that tabs 24 and 26 are disposed together at the top of the basket in face to face relationship. In this position as seen in either of Figures 2 or 2a the identification tab hangs down along the outer wall of the basket thus formed.

[0022] Preferably, the or each handle tab 20, 22 is provided with a recess to receive and retain the edges of the slots S thereby to maintain the cage-like structure in a set up condition.

[0023] It can be seen from both Figures 2 and 2a that the basket formed from the blank shown in Figure 1 adopts a substantially spherical or spheroidal closed skeletal cage-like structure which when the securing tabs are brought together to close the cage fully surround the product therein but by virtue of the interconnections between the successive concentric annular strips gives a skeletal structure to the cage. Although the product is safely held within the closed cage, it can be readily viewed by an intending purchaser. The identification tab 28 can easily be read by the intended purchaser from the outside of the cage thus formed.

[0024] The present invention and its preferred embodiment relates to an arrangement for providing a reclosable structure in a fully enclosed basket. However, it is anticipated that the invention can be applied to a variety of carriers and is not limited to those of the fully enclosed type hereinbefore described and could be used for numerous applications.

[0025] It will be recognised that as used herein, directional references such as "base", "inner", "outer", "upper" and "lower" do not limit the respective panels to such orientation, but merely serve to distinguish these panels from one another. Any reference to hinged connection should not be construed as necessarily referring to a single fold line only: indeed it is envisaged that hinged connection can be formed from one or more of one of the following, a score line, a frangible line or a fold line, without departing from the scope of invention.

[0026] It should be understood that various changes may be made within the scope of the present invention, for example, the size and shape of the panels and apertures may be adjusted to accommodate articles of differing size or shape, alternative top and base closure structures may be used. The carton may accommodate more than one article in different arrays.

Claims

1. A packaging basket (B) for lightweight produce which basket is formed from a blank (10) of paper-board or material of like function, the basket being erected from the blank in flat form to provide a closed, skeletal cage-like structure.

2. A packaging basket according to claim 1 wherein the cage-like structure is substantially spheroidal.

3. A packaging basket according to claim 1 or claim 2 wherein the cage-like structure comprises a base (12) and a matrix of integrally hinged strips (16-16f) which, in the blank form of the basket, are provided by a plurality of concentric annular strips hinged one to the next.

4. A packaging basket according to claim 3 wherein the hinged annular strips are hingedly connected to a plurality of radial strips.

5. A packaging basket as claimed in claim 4 wherein there further comprises a base hingedly connected to the radial strips, but otherwise separated from the cage-like structure.

6. A packaging basket according to any preceding claim wherein closure and handle means (22-28) is provided to close the cage-like structure diametrically opposite said base.

7. A packaging basket according to claim 6 wherein said closure and handle means is provided by a first panel hingedly connected to the cage-like structure, which first panel is provided with a slot to receive a handle panel hingedly connected to the cage-like structure and spaced from the first panel.

8. A packaging basket as claimed in claim 7 wherein the handle panel is provided with a recess for engaging the edge of the slot and to be retained therewith.

9. A packaging basket as claimed in claim 7 or claim 8 wherein there comprises a second panel including a slot adapted to be placed in overlapping arrangement with the first panel and a second handle panel hingedly connected to the cage-like structure, wherein the first and second handle panels are placed in face-contacting arrangement are adapted to pass through the slots of the first and second handle thereby to close the cage-like structure.

10. A blank (10) for forming a packaging basket (B) which blank is formed from paperboard or material of like function and comprises a base (12) and a plurality of concentric, annular strips (16-16f) hinged one to the next and wherein the radially innermost annular strip (16) is hinged to the base at a series of circumferentially spaced locations (18) the next adjacent radially outer annular strip (16a) being hinged to the radially innermost annular strip (16) at a series of circumferentially spaced locations disposed intermediate the said hinged series of circumferentially spaced locations between the radi-

ally innermost annular strip and said base, and the next succeeding concentric annular strips (16b-16f) being likewise alternately hinged one to the next so as to be adapted to form a skeletal cage-like structure when the said concentric annular strips are displaced out of the plane of the base.

11. A blank according to claim 10 wherein closure means (22-28) are provided by the radially outermost annular strip in order to close the cage-like structure formed from the blank.

12. A blank according to claim 11 or claim 12 wherein the hinged strips are hingedly connected to a plurality of radial strips.

13. A blank as claimed in claim 12 wherein there further comprises a base hingedly connected to the radial strips, but otherwise separated from the cage-like structure.

14. A blank according to any of claims 10 to 13 wherein said closure and handle means is provided by a first panel hingedly connected to the cage-like structure, which first panel is provided with a slot to receive a handle panel hingedly connected to the cage-like structure and spaced from the first panel.

15. A blank as claimed in any of claims 10 to 14 wherein there comprises a second panel including a slot adapted to be placed in overlapping arrangement and a second handle panel hingedly connected to the cage-like structure, wherein the first and second handle panels are placed in face-contacting arrangement are adapted to pass through the slots of the first and second handle thereby to close the cage-like structure.

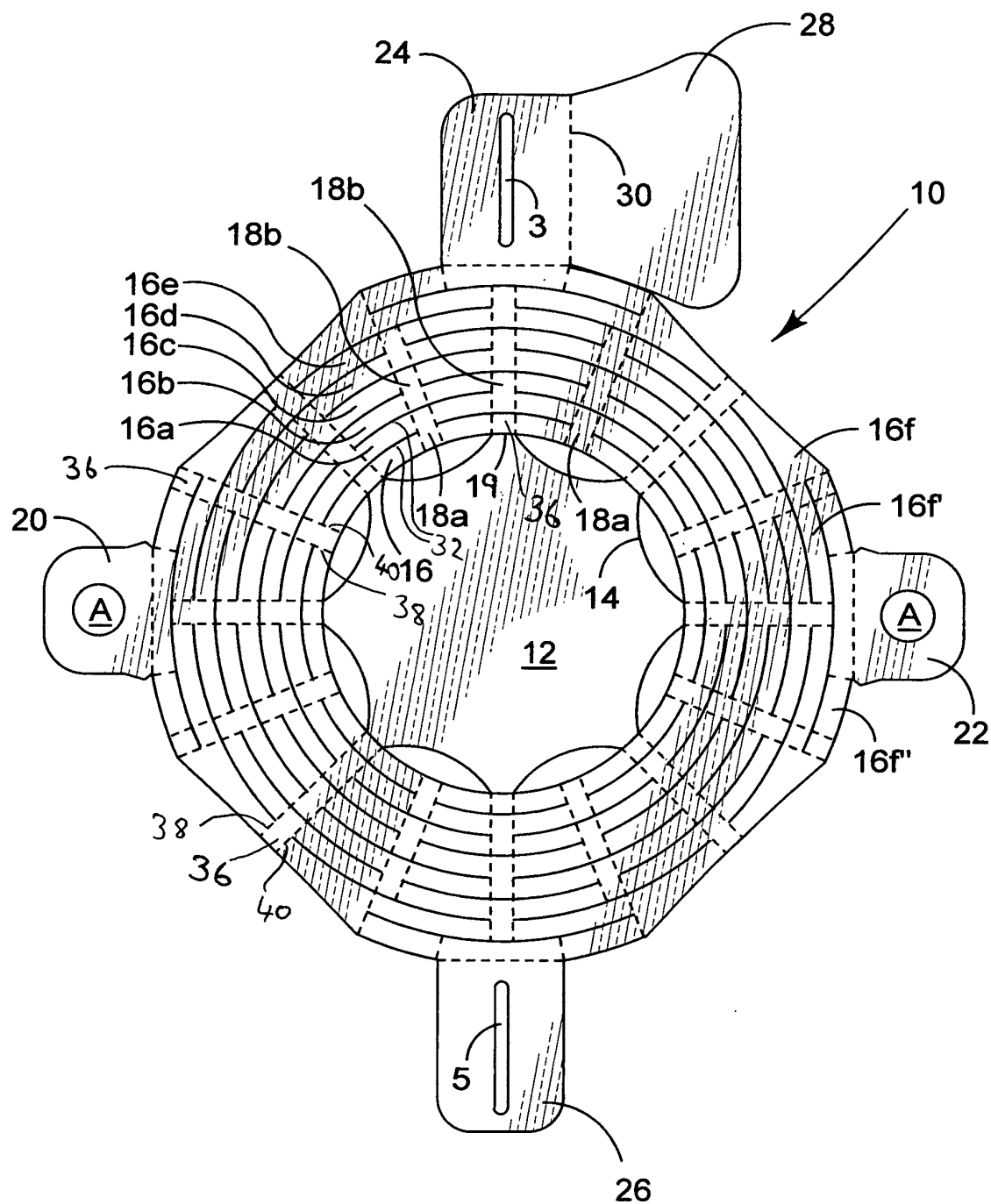


FIGURE 1

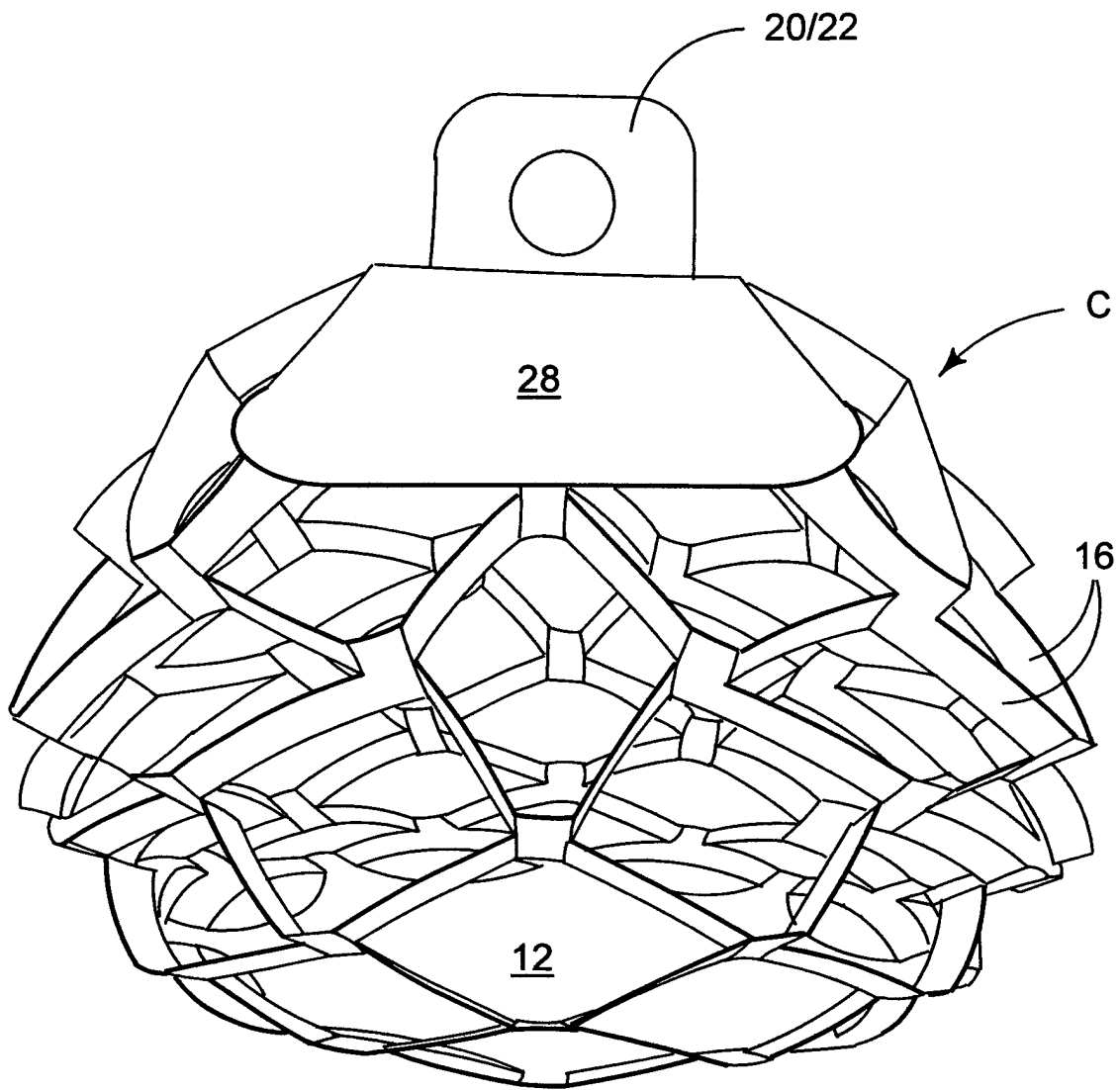


FIGURE 2

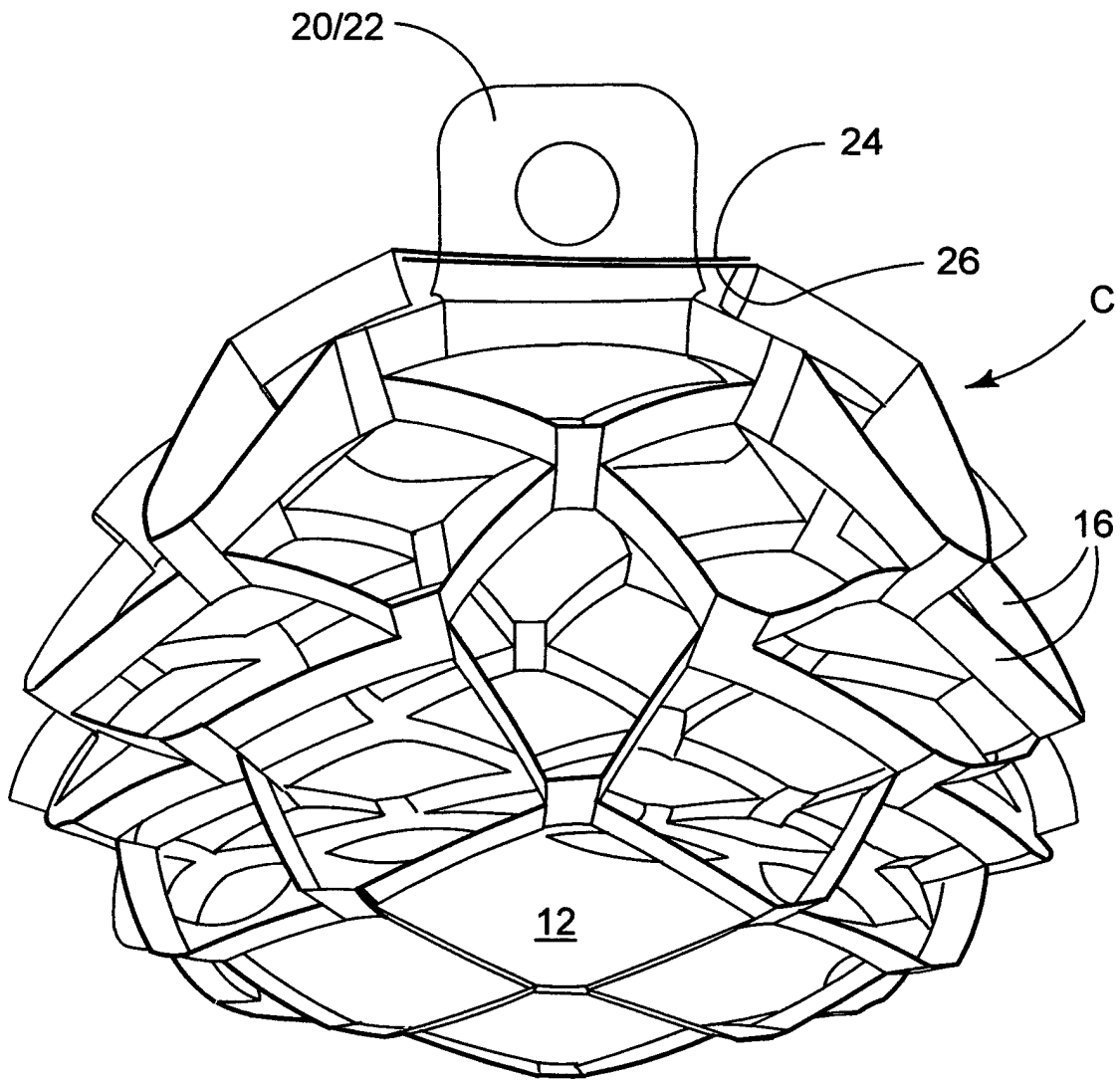


FIGURE 2A



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EUROPEAN SEARCH REPORT

Application Number
EP 02 02 5931

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y A	---	7-9,11 10	
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The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 7 February 2003	Examiner Spettel, J
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	

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 02 5931

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