

[72] Inventors **Bernard Nathan;**  
**Gary L. Tate, both of Vincennes, Ind.**  
 [21] Appl. No. **840,343**  
 [22] Filed **July 9, 1969**  
 [45] Patented **June 22, 1971**  
 [73] Assignee **Hamilton of Indiana, Inc.**  
**Vincennes, Ind.**

2,878,933 3/1959 Sager..... 206/79  
 3,168,976 2/1965 Metzger..... 206/45.31 X  
 3,252,650 5/1966 Pryor..... 229/40  
 3,335,857 8/1967 Saferstein..... 206/62  
 3,446,419 5/1969 Mueller..... 229/40

*Primary Examiner*—Joseph R. Leclair  
*Assistant Examiner*—Steven E. Lipman  
*Attorney*—Ralph W. Kalish

[54] **PACKAGE FOR TILES AND THE LIKE**  
**8 Claims, 5 Drawing Figs.**

[52] U.S. Cl. .... **229/40,**  
 206/45.31, 206/46 FR, 206/62 R, 206/79 R,  
 229/87 R

[51] Int. Cl. .... **B65d 5/02**

[50] Field of Search ..... 206/31,  
 45.31, 46 AP, 46 F, 60, 62, 79; 229/40, 87, 87 F

[56] **References Cited**  
**UNITED STATES PATENTS**  
 1,813,812 7/1931 Molkenhuth ..... 206/79

**ABSTRACT:** A package for the display, handling, and transporting of a series of registering or aligned tiles or like flat, rigid, yet relatively fragile, articles; said package being formed from a single blank of suitable material and having a main panel section provided with die-cut, foldable flaps for developing a compartment for receiving the tile stack, whereby portions of the latter are visible from the openings in the panel from which the flaps have been cut, and side wings and end panels foldable along side and transverse margins of said main panel, spacedly from the line of fold of the adjacent flaps, for closurewise disposition over said flaps.

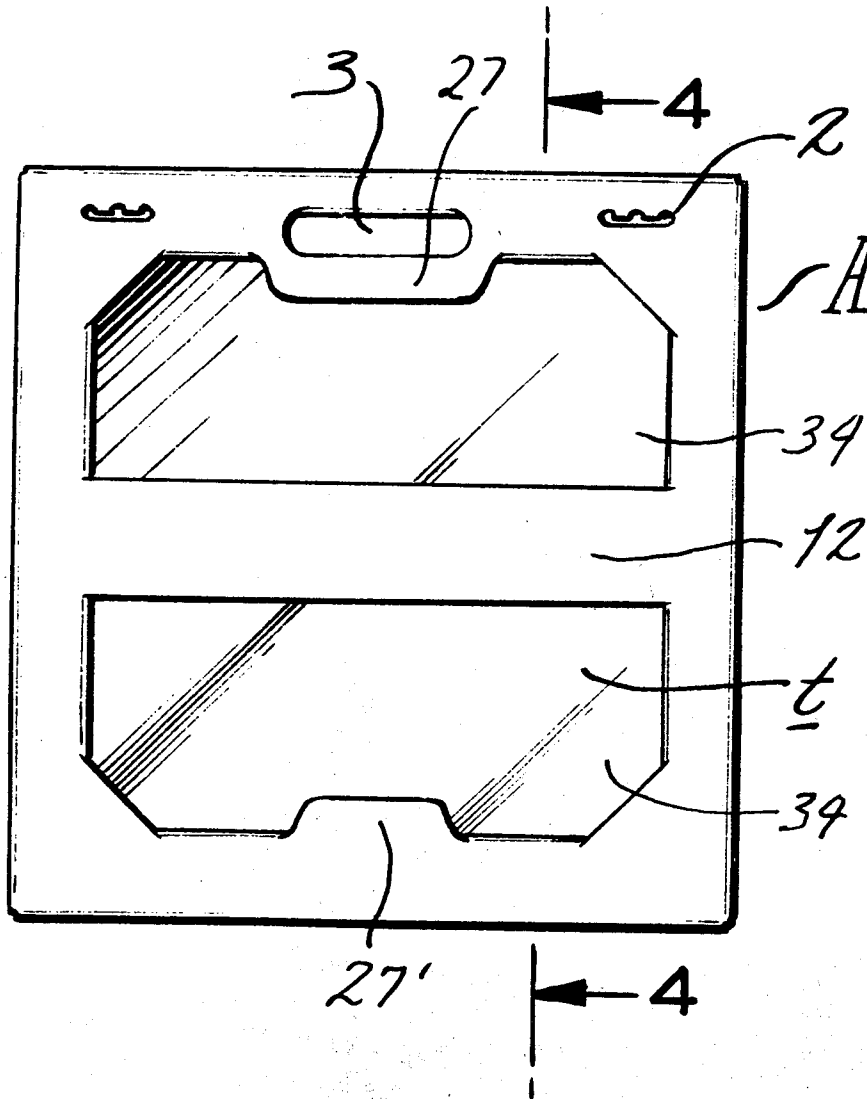


FIG. 1

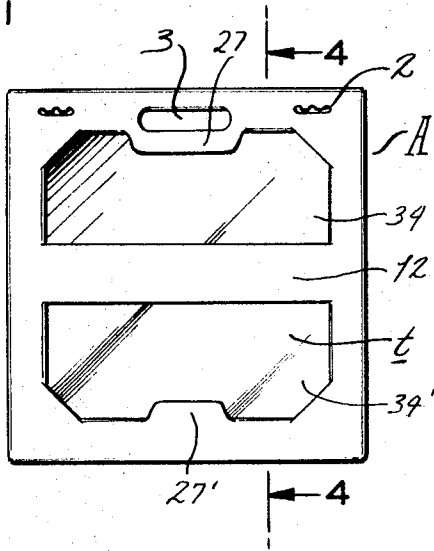


FIG. 2

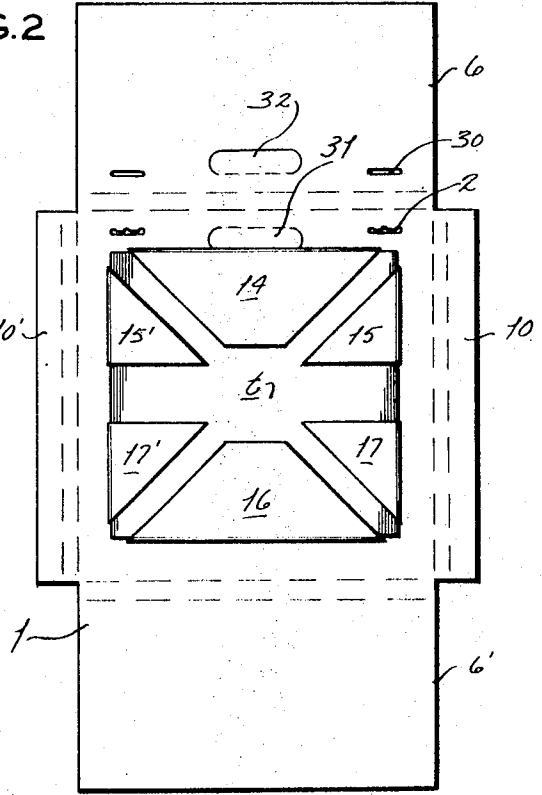


FIG. 5

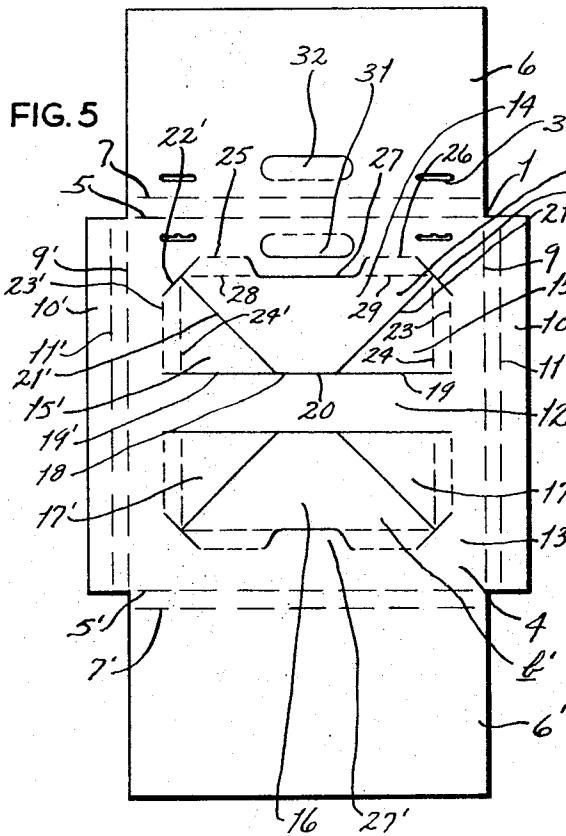


FIG. 3

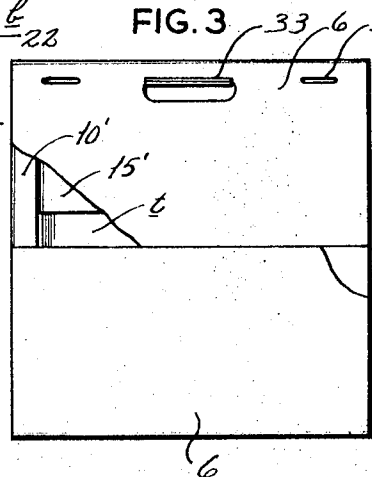
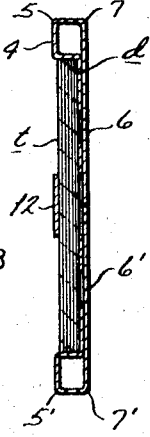


FIG. 4



INVENTORS  
 BERNARD NATHAN  
 GARY L. TATE  
 BY *Ralph W. Kalish*  
 ATTORNEY

## PACKAGE FOR TILES AND THE LIKE

### BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates generally to packaging and, more particularly, to a package for retaining a plurality of flat, yet relatively fragile articles, such as mirror tiles.

It is an object of the present invention to provide a package which is adapted for securely retaining a series of flat, relatively fragile articles in registering or stack-forming relationship, whereby portions of the same are exposed for visual inspection, thereby eliminating removal for customer inspection and yet being securely retained against displacement so as to allow ready, safe, transport within said package.

It is another object of the present invention to provide a package of the character described being adapted for retaining the received articles in spaced relationship to the marginal portions of the package thereby establishing a suspension preventive of breakage of such articles by reason of any normal, destructive forces applied against the marginal portions of said package during usage.

It is another object of the present invention to provide a package of the type stated which may incorporate handle portions so as to render said package self-sufficient for facile carrying by a customer.

It is a still further object of the present invention to provide a package of the type stated which can be most economically produced; which conduces to ease of packaging; which assures of protection of the retained articles; and which is durable and reliable in usage.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view of a package for tiles and the like constructed in accordance with and embodying the present invention, illustrating the package in operative condition.

FIG. 2 is a rear view of the package but with the side flaps and end panels in extended or open condition.

FIG. 3 is a rear view of the package as shown in FIG. 1 that is, in fully closed condition.

FIG. 4 is a vertical, transverse view taken on the line 4-4 of FIG. 1.

FIG. 5 is a front view of the package in inoperative or empty condition.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now by reference characters to the drawings which illustrate the preferred embodiment of the present invention, A generally designates a package for an assemblage, stack, or series of flat articles which may be of relatively rigid, but yet breakable material, such as, for example, mirror tiles, as indicated broadly at *t*. Package A is formed from a single blank 1 of suitable sheet material, preferably corrugated paper or kraft board, within the range  $\frac{1}{8}$  inch to  $\frac{1}{4}$  inch in thickness.

As blank 1, when in fully folded, operative condition, is adapted for suspension as by suitable bracket (not shown) passing through spaced openings 2 adjacent one transverse margin or to present a handle opening or grip 3 adjacent the same margin, the present invention will be described hereinbelow from the standpoint of being suspended or carried and hence, in vertical disposition.

With reference being made to FIG. 5, blank 1 incorporates a central main panel 4 of quadrilateral character being lengthwise and widthwise of greater extent than the tiles *t* or like articles to be received. The upper and lower margins of said main panel 4 are defined by fold lines 5, 5', respectively, which delineate the inner margin of end panels 6, 6', respectively, each of which is scored to present an outer fold line 7, 7' parallel to fold lines 5, 5', respectively, with the distance between the same being equal to or slightly greater than the overall, combined thickness of the assemblage of tiles *t* and main panel 4. The linear extend of each end panel 6, 6' between its fold lines 7, 7' and its free end margin, respectively,

ly, is equal to one-half the length of the main panel 4, that is, between fold lines 5, 5', whereby when said end panels 6, 6' are in package closing condition the same will abut at their free end margins as along a line of meeting indicated 8 in FIG.

3. The side margins of main panel 4 are defined by vertical lines of folding 9, 9' which are aligned with the side margins of end panels 6, 6' and constitute a line of demarcation between main panel 4 and relatively shallow side wings 10, 10', respectively, which are of like vertical extent as main panel 4. Each side wing 10, 10' is provided with a scored line 11, 11', respectively, parallel with, and of like extent as, the adjacent fold line 9, 9', respectively, with the intervening distance being substantially equal to or slightly less than that between fold lines 5, 5' and 7, 7', respectively, whereby the portions of said wings 10, 10' outwardly of scored lines 11, 11', respectively, will underlie end panels 6, 6' when package A is in closed condition.

In its upper and lower central portions, main panel 4 is die-cut to provide a series of upper and lower flaps, indicated generally at *b, b'*, which are separated by a central, transverse band 12, continuous in its outer ends with a frame-defining portion 13 surrounding said die-cut flaps *b, b'* thereby presenting the latter spacedly inwardly of the proximate fold lines 5, 5' and 9, 9'. Said central band 12 and frame portion 13, thus are coincident with main panel 4.

The flaps constituting each series *b, b'* may be of any suitable configuration but for purposes of illustration herein each series comprehends a central flap and a pair of lateral flaps with the same being respectively indicated at 14, 15, 15' in upper series and respectively at 16, 17, 17' in lower series *b'*. Since the flaps of each series are of like configuration the description will be restricted, for the purpose of brevity, to the flaps of upper series *b*.

The margins, in this case, the lower ones, of flaps 14, 15, 15' as indicated, respectively, at 18, 19, 19' are normally aligned and separated from the adjacent margin of transverse band 12 by a continuous line of cutting shown at 20. Lateral flaps 15, 15' are separated from central flap 14 along a diagonal line of cutting, as indicated at 21, 21', respectively, which is roughly at an angle of 45° to the transverse axis of main panel 4 and proceeds upwardly from a point coincident with line of cutting 20 to a mitered corner 22, 22' integral with frame portion 13. Side flaps 15, 15' are of generally triangular configuration, retaining connection to main panel 4 along outer fold lines 23, 23', respectively, parallel to, but spaced from, the adjacent fold lines 9, 9', respectively. Each of said lateral flaps 15, 15' incorporate a scored line 24, 24', parallel to the related fold line 23, 23', respectively and located inwardly thereof, that is, in a direction toward the interior of panel 4. Thus, lateral flaps 15, 15' are swingably about fold lines 23, 23', respectively, for movement upwardly and away from, as well as returningly to, the plane of main panel 4.

Central flap 14 is of general trapezoidal character having a base parallel to margin 20 which base is constituted of a pair of aligned but spaced-apart fold line portions 25, 26, formed along a line parallel to fold line 5 but separated by an inwardly projecting tab-forming portion 27 integral with frame portion 13. Thus, central flap 14 may be swung upwardly and away from, and returningly to, the plane of main panel 4 by the axis created by fold lines 25, 26. It is to be recognized that said tab portion 27 is separated from central flap 14 by a line of cutting so that the movement of the latter is in no way prohibited. Central flap 14 also embodies scored lines 28, 29 which are parallel to fold lines 25, 26, respectively, and disposed downwardly thereof, when considering package A in vertical disposition, or located inwardly thereof with respect to the panel 4.

As indicated above lateral flaps 17, 17' and central flap 16 of lower series *b'* are of like physical character as flaps 15, 15' and 14 above described; with said central flap 16 being adjacent to tab-defining portion 27' of like configuration as tab 27 above described and aligned therewith.

It is to be noted that the distance between fold lines 23, 23', 25 and 26 of the flaps of upper series *b* and the related scored lines 24, 24', 28, 29, respectively, is determined by the overall thickness of the assemblage of tiles or other articles to be retained within package A as will be more fully developed hereinbelow.

As indicated above, package A may be adapted for suitable suspension from wall brackets by virtue of openings 2 which register with openings of like extent 30 in closure flap 6 so that said brackets or the like may extend completely through package A. Additionally, panel 4 and closure panel 6 are provided with slotlike openings 31, 32, respectively, for registration when package A is fully formed to define a handle for permitting extension of the fingers therethrough for gripping purposes. Each of said slotlike openings contains a flap member 33, which may be folded inwardly toward each other in overlapping relationship for reinforcing the grip (FIG. 3).

In actual usage blank 1 is preferably laid upon a support surface so that the flaps of series *b*, *b'* may be swung upwardly from the plane of central panel 4 and outwardly to permit the stack of tiles *t* to be presented upon the inner face of band 12 and with the marginal and corner portions of said tiles *t* resting upon tabs 27, 27' and mitered corners 22, 22'. It will, thus, be seen that with the flaps of the two series *b*, *b'* being swung outwardly, openings, as indicated at 34, 34', are created on either side of transverse band 12 so as to provide windows through which the face of the lowermost tile is exposed as for display purposes. With the tiles *t* resting upon the portions of panel 4 above described the various flaps of the series *b*, *b'* are then swung downwardly about their respective fold lines for the purpose of presenting said flaps flushwise against the adjacent face of the proximate tile of series *t* or, in other words, against the uppermost tile during the assembly operation. It will thus be seen that tiles *t* are retained within what might be considered a compartment *d* with one wall thereof developed by the aforesaid planar aligned portions of panel 4, namely central, transverse band 12, mitered corners 22, 22' and tabs 27, 27'; a parallel wall created by the flaps of series *b*, *b'* and with sidewalls defined by the spacing between the fold lines and the scored lines of the various flaps of each of said series. Thus, the distance between the fold lines and scored lines of the flaps of series *b*, *b'* is determined by the thickness of the stack or assembly of tiles *t* to be accommodated, whereby the same will be snugly held within the compartment *d* created as above.

The next step in the formation of package A is the folding inwardly of side wings 10, 10' with bending about their fold lines 9, 9' and then about their scored lines 11, 11' so as to present said wings in inwardly turned condition. End panels 6, 6' are then folded along their fold lines 5, 5', respectively and then about their scored lines 7, 7' so as to cause same to be brought downwardly into flatwise disposition upon wings 10, 10' and the flaps of said series *b*, *b'*; with said end panels 6, 6' abutting along their meeting line 8 and establishing a plane, parallel to the portions of panel 4 which constitute the front face of package A. Suitable adhesive applied upon the exposed faces of the flaps of said series *b*, *b'* and side wings 10, 10' serves to maintain end panels 6, 6' in secure package-closed condition. Other means of securement may be utilized, such as tape, stapling and the like, but adhesives have been found more suitable.

With reference to FIG. 1, it will be seen that tiles *t* are thus exposed for ready visual examination, while retained within package A, so that there is no need for a prospective customer to rupture a package for study of the merchandise. Additionally, as is evident from FIGS. 2 and 4, the retained stack of tiles *t* is held spacedly from the side margins of package A, being thus in a suspended state and protected against any normal, damaging forces applied against the sides of package A during handling, transportation and the like. Furthermore package A, by incorporating both the unique compartment-defining components for receiving the assembly of flat articles, and the side wings and end panels for enclosing purposes,

presents a compact, unitary device which allows display of the retained articles and transport thereof whether by hand or otherwise without requiring removal of said articles from the package.

Having described our invention what we claim and desire to obtain by Letters Patent is:

1. A package for an assembly of flat articles in registering stack-forming relationship, said package formed from a single blank of sheet material and comprising a main panel portion, first and second series of flap members cut from said main panel portion to define display openings, means formed with said panel portion for separating said first and second series of flaps, each flap member of each series being connected to the main panel portion through a first fold line about which each said flap may be swung toward and away from the plane of said main panel portion, each flap being further provided with a second fold line spaced from said first fold line for bending about said second fold line for presentation in a plane parallel to, and spaced from, the plane of said main panel portion in overlying relationship with said display openings, side wings provided along opposite lateral margins of said main panel portion, and being adapted for inward folding toward said main panel portion, and end panels continuous with opposite transverse margins of said main panel portion, said end panels being adapted for inward swinging toward each other for flatwise disposition upon said flap members and said side wings when the latter are inwardly folded for package closing, and means for retaining said end panels in packing-closing condition.

2. A package for an assembly of flat articles in registering stack-forming relationship as defined in claim 1 and further characterized by said first and second series of flap members being located spacedly from the proximate fold lines of the adjacent side wings and end panels of said main panel portion to create an intervening zone between the articles retained by said flaps and the edge portions of said package when the latter is in package-closing condition.

3. A package for an assembly of flat articles in registering, stack-forming relationship as defined in claim 1 wherein said main panel portion and one of said end panels are provided with slots adapted for registration when said end panel is in package-closing condition to create a handle thereby.

4. A package for an assembly of flat articles in registering, stack-forming relationship as defined in claim 1 and further characterized by said end panels being swingable with relation to said main panel portion through a line of folding coincident with the proximate transverse margin of said main panel portion, each of said end panels having a scored line parallel with its respective line of folding, the distance between said fold line and scored lines being substantially equivalent to the combined thickness of the assembly of articles retained, the thickness of the main panel portion and of the flaps, each of said end panels having a free end, the distance between the free end of each end panel and its related scored line being equal to one-half the length of said main panel portion so that when said end panels are in package closing condition the edges thereof at their free ends will abut along a meeting line.

5. A package for an assembly of flat articles in registering, stack-forming relationship as defined in claim 4 and further characterized by said side wings having a coextensive line of folding coincident with the proximate side margin of said main panel portion, each side wing having a line of scoring parallel to its related fold line and being located laterally outwardly thereof so that said side wings may be turned inwardly about their scored lines for disposition beneath said end panels when in package-closed condition.

6. A package for an assembly of flat articles in registering, stack-forming relationship as defined in claim 5 and further characterized by the transverse extent of said side wings when in folded condition being less than the distance between their related fold lines and the articles retained by said flaps.

7. A package for assembly of flat articles as defined in claim 4 and further characterized by said first and second fold lines

5

of each flap defining an inner sidewall when said flaps are in article-retaining condition, said inner wall being spaced from the proximate fold lines of the adjacent side wings and end panels of said main panel portion for establishing a void between said inner wall and the outer portions of said package when in closed condition for protecting the retained articles against damage.

8. A package for an assembly of flat articles in registering, stack-forming relationship, said package formed from a single blank of sheet material and comprising a main panel portion, first and second series of flap members cut from said main panel portion, each flap member of each series being connected to the main panel portion through a first fold line about which each said flap may be swung toward and away from the plane of said main panel portion, each flap being further provided with a second fold line spaced from said first fold line for bending about said second fold line for presentation in a plane parallel to the plane of said main panel portion, side wings provided along opposite sides of said main panel portion, a first line of bending coincident with the side margin of said main panel portion for rendering said side wings bendable with respect to said main panel portion, a second line of bending provided within each side wing parallel to, and laterally outwardly of, the proximate first line of bending whereby said

6

wings may be folded inwardly into parallel planar relationship with respect to said main panel portion, the distance between said first and second lines of bending being of sufficient extent so that said wings may overlie the proximate flap members when the package is in closed condition, end panels continuous with the opposite end margins of said main panel portion, a line of folding coincident with each end margin of said main panel portion for rendering said end panels swingable thereabout, each of said end panels having a scored line parallel with and spaced from the proximate line of folding, the distance between each line of folding and the related scored line being such as to permit the related end panel to be folded into planar parallel relationship to said main panel for flatwise, covering disposition upon said flap members and said side wings when the latter are folded inwardly, each end panel being free at its outer or main panel-remote end, the distance between the free end of each end panel and its related scored line being substantially equal to one-half the length of said main panel portion so that when said end panels are in folded disposition the edges thereof at their respective free ends will abut along a meeting line, and means for maintaining said end panels in package closing condition.

25

30

35

40

45

50

55

60

65

70

75