

April 23, 1963

J. CAGE

3,086,692

UNITARY SECTIONABLE CONTAINER

Filed Feb. 2, 1959

7 Sheets-Sheet 1

Fig. 1.

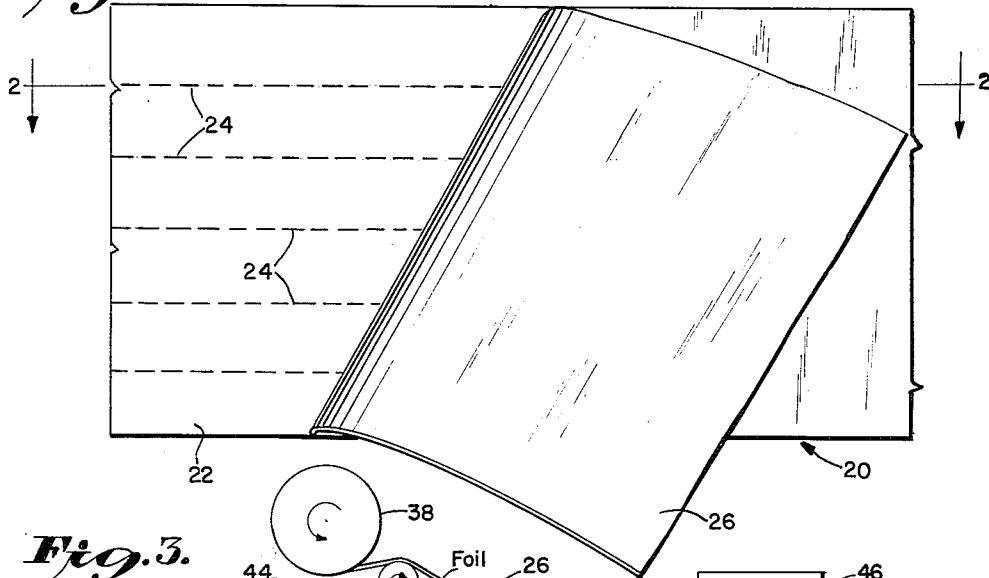


Fig. 3.

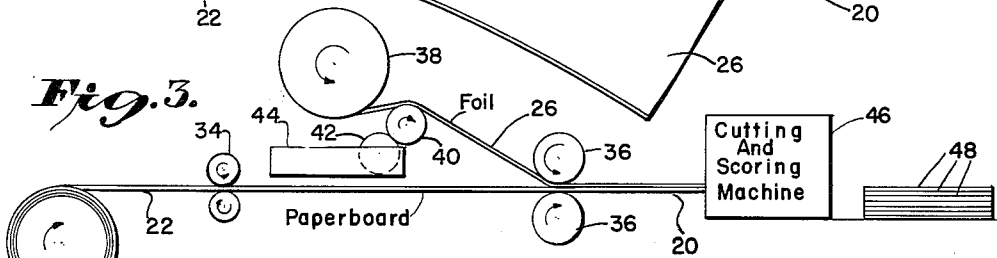


Fig. 2.

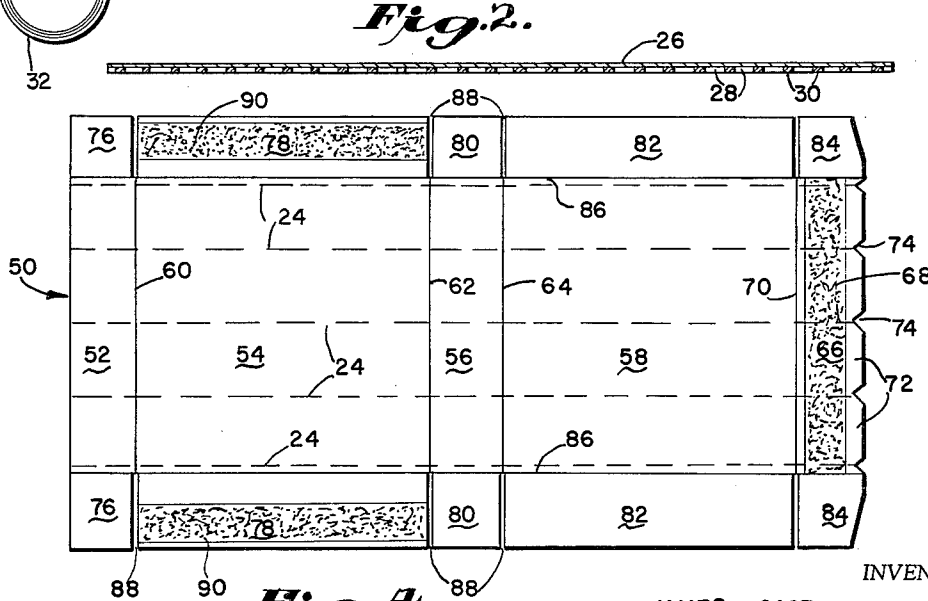


Fig. 4.

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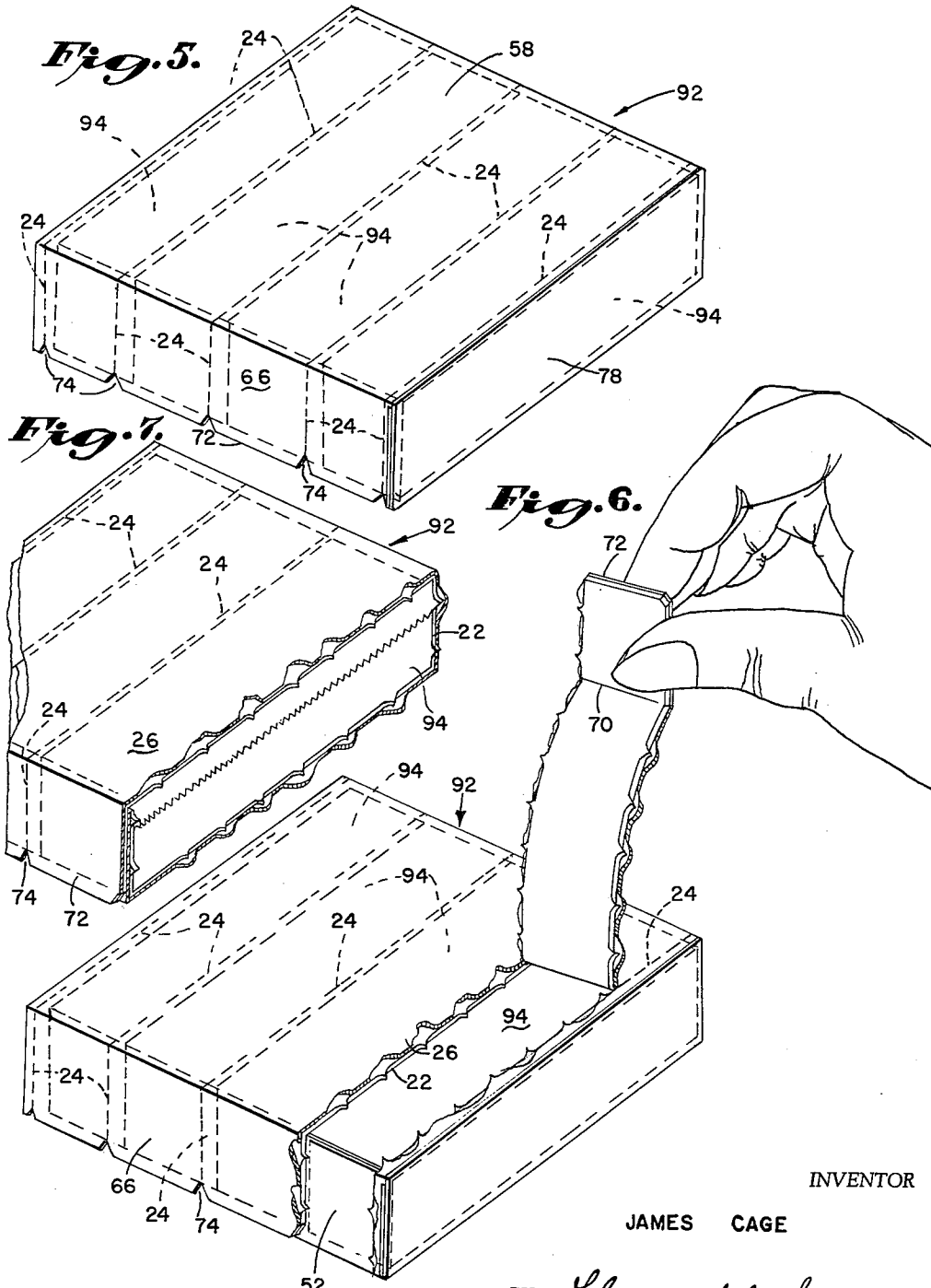
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7 Sheets-Sheet 2



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Fig. 9.

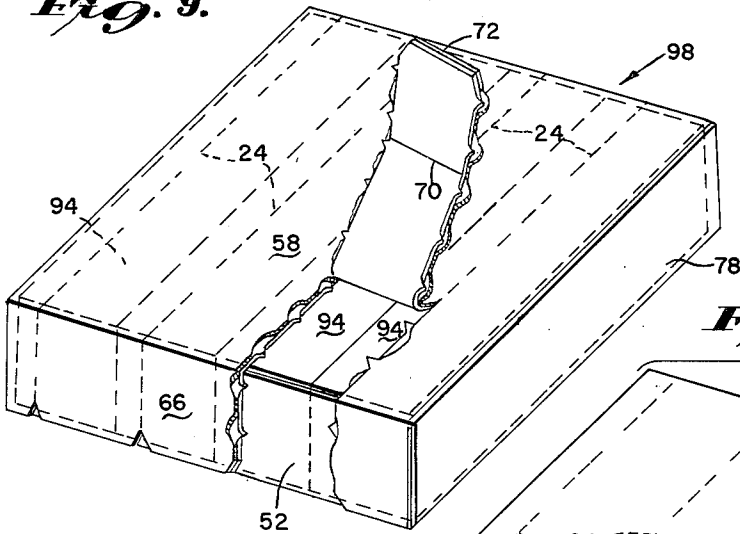


Fig. 10.

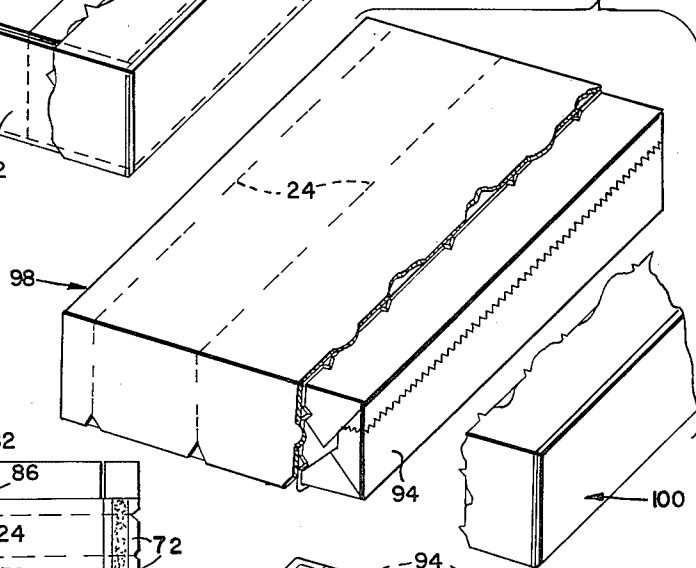


Fig. 8.

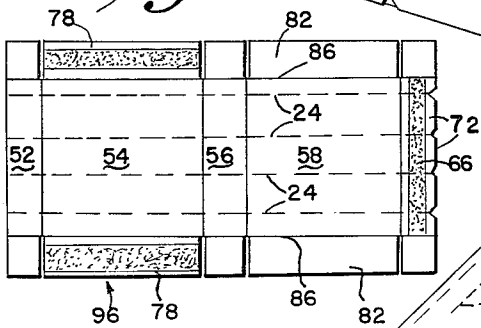
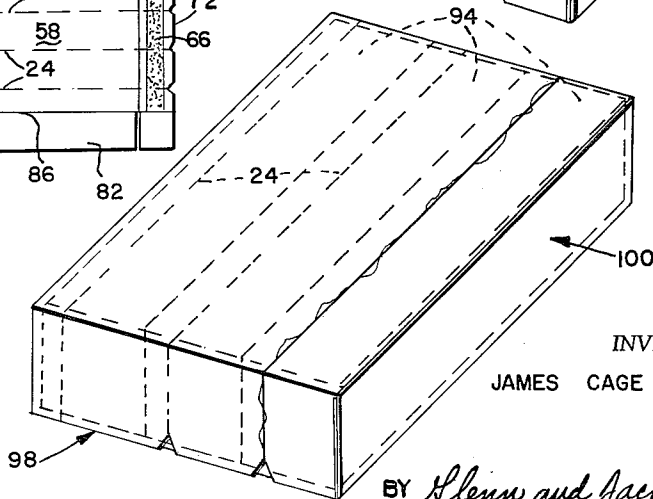


Fig. 11.



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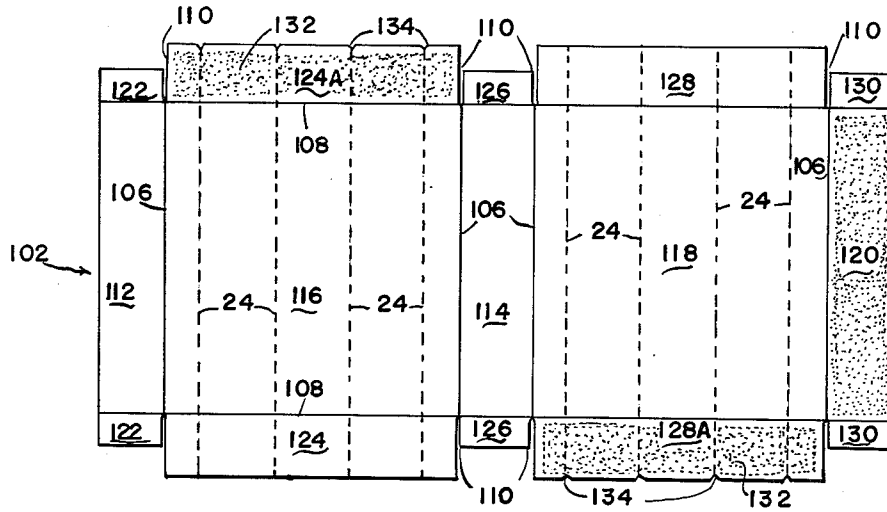
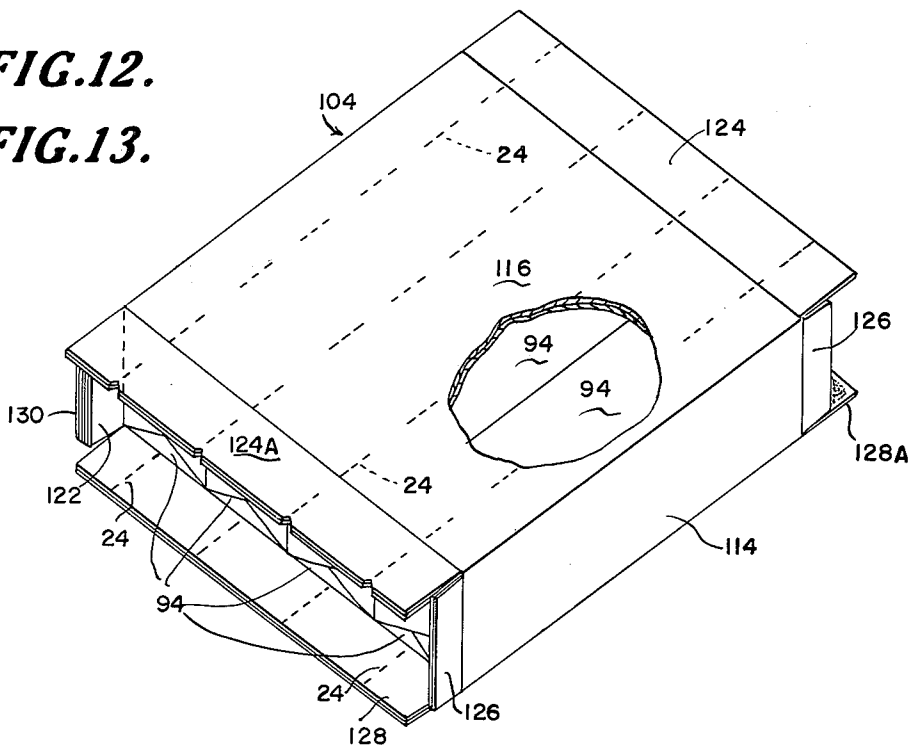


FIG. 12.

FIG. 13.



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FIG. 16.

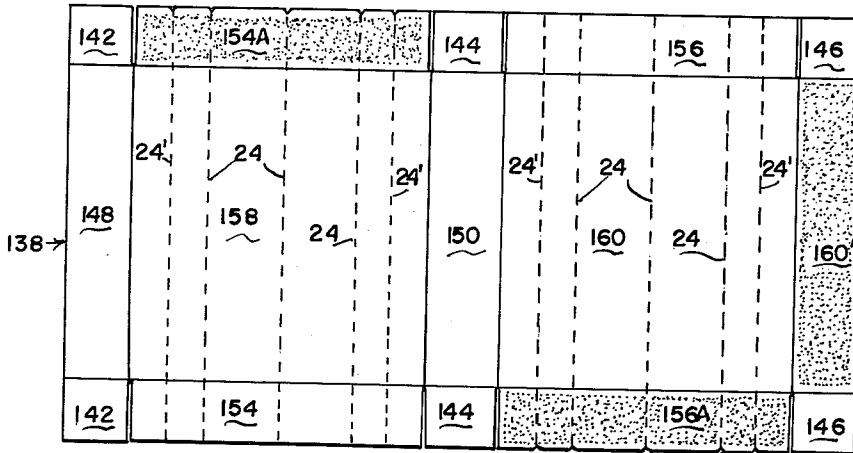
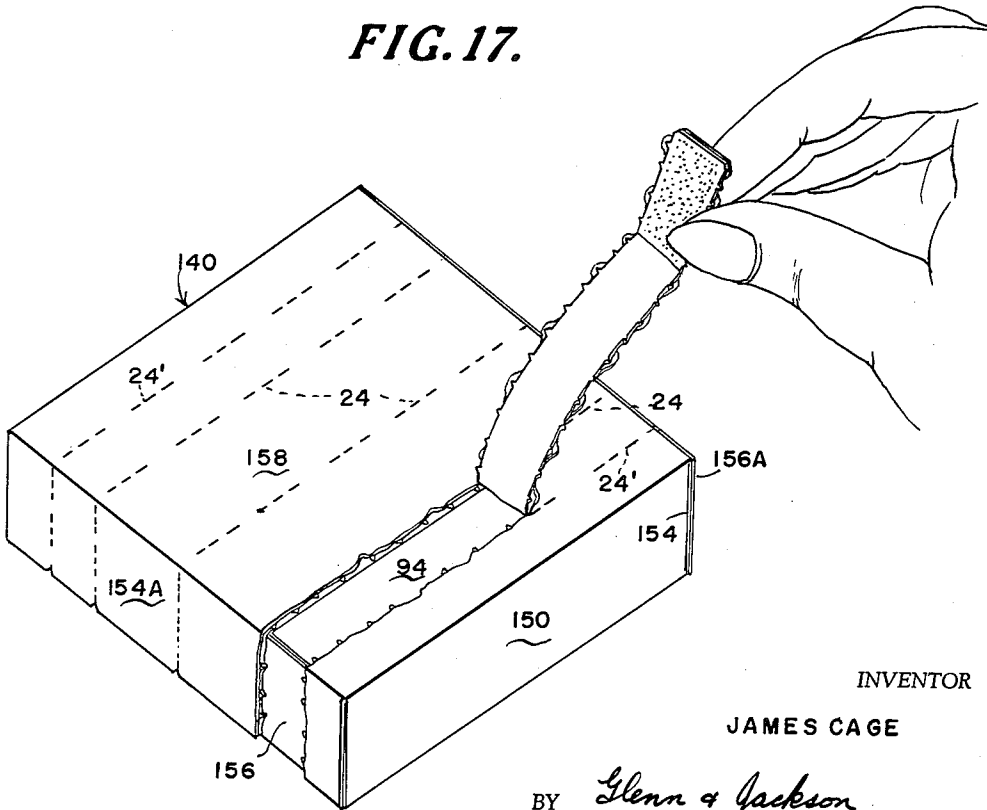


FIG. 17.



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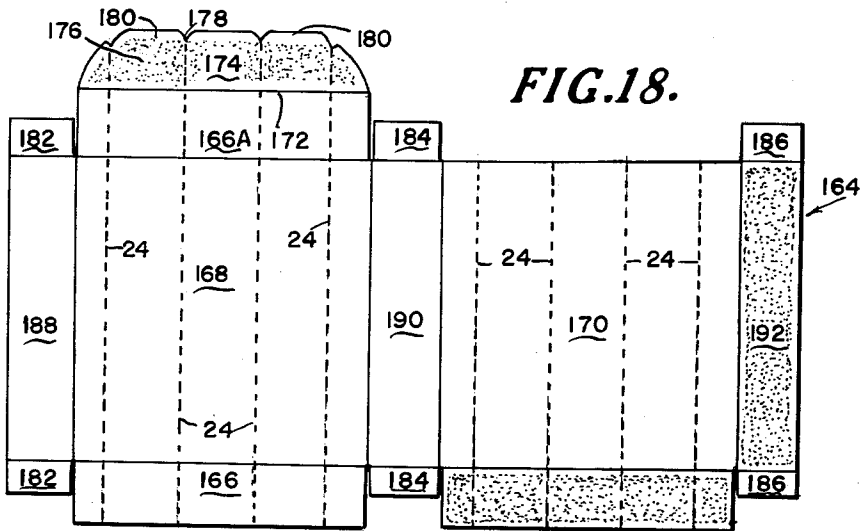


FIG. 18.

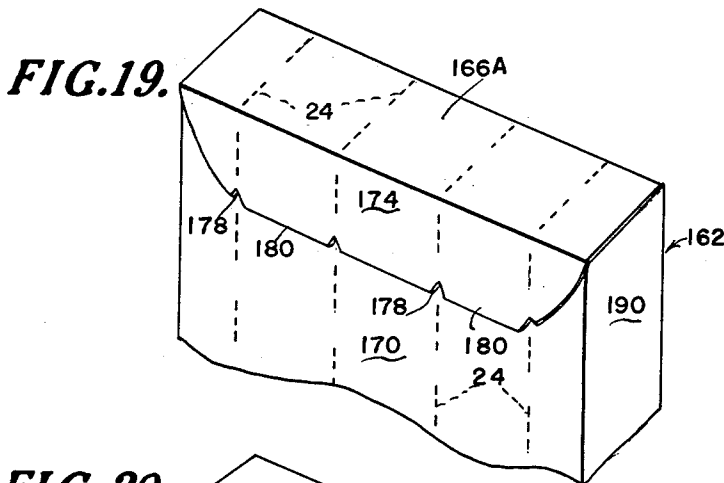


FIG. 19.

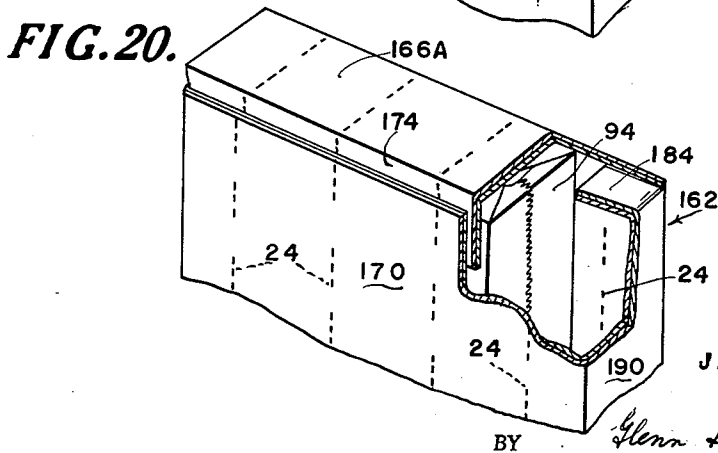


FIG. 20.

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3,086,692

UNITARY SECTIONABLE CONTAINER

James Cage, Valley Stream, N.Y., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Feb. 2, 1959, Ser. No. 790,534

3 Claims. (Cl. 229-51)

This invention relates to containers for materials where-
in sections of the container may be readily removed in
succession in order to expose successive portions of the
container contents for removal. More particularly, this
invention relates to improvements in sheet material or
stock for making unitary sectionable containers and to im-
provements in containers made from such sheet material.
This application is a continuation-in-part of my copending
application Serial No. 765,156, filed October 3, 1958, and
now abandoned, which is a continuation-in-part of my
copending application Serial No. 659,997, filed May 17,
1957 and now U.S. Patent No. 2,969,902.

The packaging of materials, such as grease, shortening,
butter, margarine, ice cream, and the like, both in bulk
and in separately wrapped smaller portions, in unitary
sectionable containers which can be reduced in size on re-
moval of successive portions of the contents of the con-
tainer, and the advantages of such packaging, are known
in the art. For example, the patent to Inman, No. 2,490,-
133, discloses a unitary sectionable carton made from a
one-piece blank. The disclosure of that patent is illus-
trative, however, of disadvantages heretofore attendant
sectionable containers. In particular, in the past the weak-
ened section lines along which the container walls are
adapted to be divided have usually been formed by a
succession of slits or perforations in the material forming
the container wall, such as cardboard, paperboard, or the
like. Such perforations or slits usually have extended
completely through the wall, thus not only destroying the
hermetic integrity of the wall but also impairing its struc-
tural strength and qualities of thermal insulation.

The packaging of certain materials in a container hav-
ing perforate or pervious walls is highly undesirable. For
example, butter or margarine packaged in a container
having pervious walls may become contaminated not only
by contact with other materials which might penetrate
the walls, but also by objectionable odors in the proximity.
Additionally, certain materials, such as soft ice cream,
lack structural strength in and of themselves, so that the
packaging of the same in a structurally weak container is
not very desirable. Moreover, such materials, if they
should become too soft, would readily leak out of a con-
tainer having perforate walls. Furthermore, the wall per-
forations actually facilitate softening of certain materials
when the container in which it is packaged is exposed to
room temperature.

Accordingly, it is an object of this invention to pro-
vide an improved inexpensive sheet material for making
unitary sectionable containers, which material is imperv-
ious, structurally strong, and a good thermal insulator,
while at the same time readily sectionable along predeter-
mined lines.

It is another object of this invention to provide a simple
and efficient method for making improved sheet material
for constructing sectionable containers.

It is another object of this invention to provide an im-
proved impervious, structurally strong sectionable con-
tainer having good thermal insulation characteristics.

It is a further object of this invention to provide an im-
proved unitary sectionable container with a cap that forms
a part of the full size container and which can be used to
close the container as successive sections thereof are re-
moved.

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It is a further object of this invention to provide a pack-
age including a carton containing several portions of dis-
pensable material, the carton being ripingly openable for
dispensing successively the portions of material.

Other objects and advantages of the invention will be-
come apparent from the following description and accom-
panying drawings, in which:

FIGURE 1 is a fragmentary plan view of a section of
improved laminated sheet material embodying this in-
vention. One of the plies is shown partially peeled back
from the other to illustrate details.

FIGURE 2 is an enlarged fragmentary sectional view
taken substantially on line 2-2 of FIGURE 1.

FIGURE 3 is a diagrammatic view illustrating the
method of making the material shown in FIGURE 1.

FIGURE 4 is a view of the inner side of a one-piece
flat blank constructed from the material shown in FIG-
URE 1 and adapted to form a unitary sectionable con-
tainer embodying this invention.

FIGURE 5 is a perspective view of a carton formed
from the blank shown in FIGURE 4.

FIGURE 6 is a view corresponding to FIGURE 5 but
illustrating the step of removing the first section of the
carton shown in FIGURE 5.

FIGURE 7 is a fragmentary view corresponding to
FIGURE 5 but illustrating the first section of the con-
tainer completely removed.

FIGURE 8 is a view corresponding to FIGURE 4 but
illustrating a modified form of this invention.

FIGURE 9 is a perspective view of a carton formed
from the blank shown in FIGURE 8 and illustrating the
step of removing the first section of the carton.

FIGURE 10 is a view corresponding to FIGURE 9
but illustrating the first section completely removed.

FIGURE 11 is a view corresponding to FIGURE 10
but showing the carton closed by the cover formed by the
removal of the first section.

FIGURE 12 is a view corresponding to FIGURE 4
but illustrating another modified form of this invention.

FIGURE 13 is a perspective view of a carton formed
from the blank shown in FIGURE 12, with the carton
filled and partially closed and sealed.

FIGURE 14 is a perspective view corresponding to
FIGURE 13 but showing the carton closed and sealed
and also illustrating the step of removing the first section
of the carton.

FIGURE 15 is an enlarged sectional view taken sub-
stantially on line 15-15 of FIGURE 14.

FIGURE 16 is a view corresponding to FIGURE 12
but illustrating still another modified form of the inven-
tion.

FIGURE 17 is a view corresponding to FIGURE 14
but wherein the carton is formed from the blank shown
in FIGURE 16.

FIGURE 18 is a view corresponding to FIGURE 4
but illustrating a further modified form of this invention.

FIGURE 19 is a fragmentary perspective view of a
carton formed from the blank shown in FIGURE 18.

FIGURE 20 is a view corresponding to FIGURE 19
but showing the carton partially reclosed after removal of
a portion of its contents. A portion of the carton is shown
broken away for better illustration.

Referring first to FIGURES 1 and 2 of the drawings,
there is shown a section of material embodying this inven-
tion for forming a unitary sectionable container. The ma-
terial or stock is in the form of a laminated sheet 20, one
ply 22 of which is relatively stiff, strong, and provided
with spaced parallel weakened tear lines 24, while the
other ply 26 is of thinner, lighter, flexible and substantial-
ly impervious material. Preferably, the heavier and stiffer
ply 22 is formed of a relatively strong, foldable fibrous

material, such as paperboard, cardboard, or the like, while the lighter impervious ply 26 is formed of foil, such as aluminum foil. Foil, when used for packaging, customarily is laminated to relatively thin paper in order to enable the foil to be printed upon directly without danger of perforation by the type. Consequently, although not specifically illustrated in the drawings, it will be understood that the ply 26 may be formed of a laminate of foil and paper with the former on the outer surface of the stock 20. The foil of such a ply can be printed upon before such ply is laminated to the heavier ply 22 as well as after being laminated thereto. Each of the weakened tear lines 24 in the heavier ply 22 preferably is formed by an interrupted slit but may be formed by successive perforations of a different configuration. When the lines are formed by an interrupted slit, i.e., a succession of short slits, each individual slit 28 may be, for example, of the order of $\frac{3}{8}$ " in length, while the ends of adjacent individual slits may be spaced apart, for example, on the order of $\frac{1}{10}$ ", as shown in FIGURE 2. Although each of the weakened lines 24 in the stiffer ply 22 may possibly be formed by a continuous and uninterrupted slit (not shown), it is preferable that the slit be interrupted so that the succession of, what may be termed, bridges 30 (FIGURE 2) thereacross serves to reinforce the ply sufficiently that its structural strength is not too greatly impaired. For the purposes at hand, it is sufficient that each line 24 be weak enough so that the heavier ply 22 can be divided readily therealong by a manual action that results in tearing the ply along the weakened line.

Obviously, the formation of the weakened tear lines 24 by slits 28 or other perforations destroys the hermetic integrity of the heavier ply 22 so that materials packaged in a container having walls formed by that ply alone would be subject to the afordescribed dangers of contamination, by solids, gases, or even odors, and possible leakage. The foil 26 which is laminated to the stiffer ply 22, however, renders the entire sheet material 20 substantially impervious so that the contents of containers made of such material are not subject to contamination, and possible leakage of such contents is greatly inhibited. Moreover, aluminum foil is a good insulator so that containers formed of the material 20 are extremely effective for packaging materials required to be kept at a low temperature. Additionally, the foil 26 serves to reinforce the ply 22 along its weakened tear lines 24 while at the same time still permitting the entire sheet 20 to be torn with facility along the weakened tear lines. It also has been found that the sheet material 20 can be scored readily by an indenting action to provide fold lines without cutting through or breaking the foil 26 so that the desirable imperviousness of the latter is retained. Preferably, containers formed of the material 20 have the foil ply 26 disposed on the outside both because of its well known attractive appearance and because its surface is uninterrupted which both enhances the appearance and facilitates the application of printing or decoration thereon.

Referring now to FIGURE 3, there is shown diagrammatically the method of making the stock or sheet material 20 illustrated in FIGURES 1 and 2. The paperboard or other material forming the stiffer ply 22 may be fed from a roll 32 of the material through laterally spaced cutting knives 34, the edges of which may be appropriately serrated to form interrupted slits constituting weakened tear lines 24 in the material. From the knives 34 the ply 22 progresses between a pair of laminating rolls 36 where the foil 26, which is fed from a roll 38 thereof, is brought into engagement with the stiffer material 22 and pressed into laminating engagement therewith by the laminating rolls. As previously mentioned, the foil 26, particularly if preprinted, may be reinforced by a laminated backing of thin paper (not shown). In travelling to the laminating rolls 36, that side of the foil 26 which is pressed into contact with the paperboard 22

may have an appropriate adhesive applied thereto by an applicator roll 40 which picks up adhesive from a transfer roll 42 rotating in a bath of adhesive contained in an appropriate trough 44. From the laminating rolls 36 the laminated material 20 or stock preferably is fed to a conventional cutting and scoring machine 46 that forms one-piece blanks 48 that are appropriately cut, scored, and provided with adhesive so that the blank can be erected to form a carton-like container.

Of course, the width of the sheet material 20 and the number of, and spacing between, the weakened tear lines 24 can be varied as required and depends upon the nature and size of the container to be made. Likewise, containers constructed of the material 20 need not necessarily be formed from one-piece blanks, although the latter are a convenient form of utilization of the material. For the purposes of illustrating the principles of this invention, its application to the packaging of butter or margarine will now be described. In this connection, those commodities conventionally are packaged in a container containing four $\frac{1}{4}$ -pound sticks of the commodity each generally square in cross section, individually wrapped in paper of tissue-like quality, and disposed in side-by-side relation in a single row.

Referring now to FIGURE 4, there is shown a one-piece blank 50 formed by the method illustrated in FIGURE 3 and adapted to form a carton for packaging, in stacked relation, four $\frac{1}{4}$ -pound sticks of butter or margarine as described above. The blank 50 is cut and scored to form four generally rectangular side walls, 52, 54, 56 and 58 separated by spaced scored fold lines 60, 62 and 64. The length or height of all the side walls is substantially equal to the height of a stack of $\frac{1}{4}$ -pound sticks of the commodity to be packaged, while the width of the walls 52 and 56 is substantially equal to the width of each stick and the width of the walls 54 and 58 is equal to the length of each stick. The scoring of the fold lines 60, 62 and 64 may be accomplished, as mentioned above, by indenting the stock or material 20 from one, or even both, sides. The side wall 58 at one end of the blank 50 preferably is extended laterally to provide a securing strip 66 provided with a glued area 68 and separated from the wall 58 by a scored fold line 70. It will be noted that the glued area 68 is spaced inwardly from the free lateral edge of the strip 66 so as to leave an edge portion that is separated into tabs 72 by cut-outs 74, for a purpose later described. The side walls 52, 54, 56 and 58, and the strip 66 are extended at their opposite ends to form end closure flaps 76, 78, 80, 82 and 84 separated from the side walls by scored fold lines 86, and from each other by slits 88. Preferably, a pair of opposite wider flaps, such as 78, are likewise provided with glued areas 90 so that the flaps 78 can be folded inwardly over the flaps 82 and secured thereto to provide closures for each end of the carton to be formed from the blank 50.

The blank 50 has weakened tear lines 24 in the heavier ply of the stock forming the blank that extend laterally across all the side walls 52, 54, 56 and 58 and the securing strip 66 and are spaced substantially equally from each other at distances substantially equal to the thickness of a stick of the commodity to be packaged, it will be noted, however, that the weakened tear lines 24 at the opposite ends of the side walls and securing strip preferably are not coincident with the scored fold lines 86 in order to avoid any possibility of further weakening these tear lines by the indenting action necessary to form the scored fold lines 86.

In order to form the carton 92 shown in FIGURE 5 from the blank 50, the latter first is folded along its score lines 60, 62, 64 and 70 around four sticks 94 of the commodity so that the strip 66 overlaps the outer surface of the side wall 52 and is secured thereto by the glued area 68. The narrow end flaps 76, 80 and 84 are then folded inwardly, followed by the infolding of the longer

end flaps 82 and finally the glued end flaps 78, so that the latter overlie the flaps 82 and are adhesively secured thereto by the glued areas 90. It will be seen that although the glued strip 66 is secured to the wall 52, the tabs 72 are left free so that they can be grasped by the fingers. It also will be seen that the weakened tear lines 24 in the stiffer ply 22 lie substantially in the planes of separation between the sticks 94 contained within the carton 92 and substantially in the end planes of the stack of sticks. Thus, when it is desired to open the carton 92 and removes a stick 94, the tab 72 adjacent one end of the carton may be grasped by the fingers and pulled back in order to tear away a section of the side walls of the carton along adjacent tear lines 24, as shown in FIGURE 6. The removal of this section of the carton 92 simultaneously removes the adjacent end wall or closure formed by the flaps 76, 78, 80, 82 and 84, thus exposing a wrapped stick 94 of the commodity for removal. The sticks 94 contained in the remainder of the carton 92, while exposed at one end thereof, as shown in FIGURE 7, are readily retained in the reduced carton for convenient storage. It is obvious that succeeding sections of the carton can be torn away to expose succeeding sticks 94 while retaining the unremoved sticks in successively smaller remainders of the carton.

While it will be noted that the inner ply 22 of the material 20 forming the carton 92 is readily separable along the lines 24 formed by the interrupted slits to leave a neat edge, as shown in FIGURES 6 and 7, the outer ply 26 of foil does not tear along neat, strictly straight lines. This somewhat ragged appearance of the edges of the open end of the carton, as shown in FIGURE 7, is, of course, of no detriment whatsoever, once the carton has been opened.

Referring now to FIGURE 8 of the drawings there is shown a modified form of one-piece blank 96 for forming a sectionable unitary carton 98 (FIGURES 9 to 11) that, when the first section is removed, provides a cap 100 that can be used to reclose the remainders of the carton after the initial and each succeeding section is removed therefrom. This desirable result is achieved with a blank 96 which differs from the blank 50 only in a different spacing and disposition of the weakened tear lines 24 in the side walls and securing strip. These lines 24 are so located in the blank 96 that when the carton 98 is formed and contains the sticks 94, the tear lines are disposed between, preferably substantially midway between, the planes of separation of the sticks. Thus, the tear lines 24 adjacent the ends of the carton 98 are spaced from such ends a distance less than, and preferably approximately equal to one-half, the width or transverse dimension of a stick 94 of material to be packaged in the carton.

Consequently, when the first section of the side walls of the carton 98 is removed, in order to remove the first stick 94, as shown in FIGURE 9, a portion, preferably substantially half, of the second stick is exposed, as illustrated in FIGURE 10. This exposed portion of the second stick 94 can be covered, however, by a cap 100 formed by the end section of the carton, adjacent the removed side wall section, as illustrated in FIGURE 11. In this connection, it will be seen that this cap 100 fits snugly over the second stick 94 so that the projection of the latter both into the remainder of the carton 98 and into the cap serves to rather securely retain the latter in proper covering position. It will be evident that as succeeding sections of the carton side walls are removed, the cap 100 can be reused, even in conjunction with the other end section of the carton 98 to completely enclose the last stick 94.

Referring to FIGURE 12 of the drawings there is shown another modified form of a one-piece blank 102 made from the stock 20 for forming a sectionable unitary carton 104 (FIGURES 13-15) that not only has the reclosable cap features of the carton 98 shown in FIG-

URES 9-11, but also can be filled by automatic carton filling machinery (not shown) now in use. The carton 104 to be formed from the blank 102 is adapted to hold, endwise therein, four ¼-pound commodity sticks 94 in a side-by-side relation, i.e., the sticks are disposed endwise in the carton 104 instead of in the sidewise stacked relation shown in the previously described embodiments. By reason of this disposition of the sticks 94, the carton 104 can be filled by automatic filling machinery now in use.

The blank 102 differs from the blanks 50 and 96 of the previously described embodiments both in side wall proportions and in different spacing and disposition of the weakened tear lines 24. The blank 102 has transverse and longitudinal fold lines 106 and 108 and slits 110 to define a pair of narrow opposite side walls 112 and 114, a pair of wide side walls 116 and 118, a securing strip 120, and end flaps 122, 124, 126, 128, and 130, a construction similar to previously described embodiments. All of the side walls 112, 114, 116, and 118, and the securing strip 120, are of a length or height, however, substantially equal to the length of a commodity stick 94 to be packaged, while the width of each of the two opposite wider side walls 116 and 118 is equal to a multiple, in this case 4, of the width of a commodity stick. It also will be noted that the glued areas 132 on the end flaps 124A and 128A of the wider side walls 116 and 118 are staggered, i.e., there is a glued area 132 on the flap 124A on one end of the wider side wall 116 and on the end flap 128A at the other end of the opposite side wall 118. Additionally, the end flaps 122, 126 and 130 on the narrow side walls 112 and 114 and on the securing strip 120 are shorter than those 124 and 128 on the wide side walls 116 and 118 for reasons later described. Preferably, these shorter end flaps are no longer than one-half the width of a commodity stick 94.

The weakened tear lines 24 in this embodiment are disposed only in the wider side walls 116 and 118 and in their end flaps 124 and 128, and the lines 24 extend longitudinally in such walls, i.e., lengthwise thereof, and across their end flaps. The lines 24 in each of the side walls 116 and 118 are spaced apart at distances substantially equal to the width of a commodity stick 94 to be packaged, but such tear lines are offset from the planes of separation between such sticks when the carton 104 is filled therewith, so that the lines are spaced from the two other opposite side walls 112 and 114, i.e., from the transverse fold lines 106, at distances less than the width of a commodity stick 94, preferably one-half of such width. The lines 24 in each wall 116 or 118, and in its end flaps 124 or 128, are in register with those in the opposite wall and its flaps when the blank 102 is folded to make a carton 104. For reasons later evident, the two glued end flaps 124A and 128A have their outer edges separated into tabs by cut-outs 134 aligned with the weakened tear lines 24.

Present day automatic filling machinery (not shown) can be employed to simultaneously form and fill a carton 104 from the blank 102. In such an operation four commodity stick 94 first are brought into overlying and registering relation with one of the wider side walls of the blank, e.g., the wall 118. The blank 102 then is folded about its transverse fold lines 106, wrapped around the sticks 94, and the securing strip 120 glued to the outer surface of the side wall 112, as shown in FIGURE 13. The end flaps then are folded inwardly, the shorter end flaps 122, 126, and 130 first, followed by the unglued longer flaps 124 and 128, and finally the glued end flaps 124A and 128A, which overlie the unglued longer flaps 128 and 124 and are glued thereto.

It will be noted from an inspection of FIGURE 15 that, when the carton 104 is closed, the glued end flap, e.g., 124A, on one end of one, e.g., 116, of the wider side walls overlies the corresponding unglued end flap 128 on the opposite wall 118, while the end flap 124 on the

other end of the one wall 116 underlies the corresponding glued end flap 128A on the opposite wall 118. Furthermore, before any of the flaps are closed, the tear lines 24 in the opposite walls 116 and 118, and in their flaps 124 and 128, are in register. Consequently, when the carton 104 is closed, the tear lines 24 define bands extending completely around the carton, endwise thereof. It will be particularly noted that the weakened tear lines 24 in the walls 116 and 118, and their end flaps 124 and 128, are offset from the planes of separation between the commodity sticks 94 to thereby somewhat increase the strength of the carton when filled and minimize the possibility of inadvertent rupture of the carton walls 116 and 118 and end flaps 124 and 128 along their weakened tear lines by accidental exterior forces urging relative sliding movement between the commodity sticks 94. Such forces could be developed, for example, by the dropping of a filled carton. It also is pointed out that when the carton 104 is closed, no weakened tear line 24 crosses the shorter end flaps 122, 126 and 130 on the narrow side walls 112 and 114 and on the securing strip 120, i.e., these shortened flaps do not extend inwardly beyond the tear lines nearest the sides of the longer flaps 124 and 128.

In order to open a carton 104 formed from the blank 102, a tab on one of the glued end flaps 124A or 128A that is adjacent one of the side walls 112 or 114 is pulled back in the manner best shown in FIGURE 14, to thus tear away a band extending endwise completely around the carton and expose a first stick 94 of the commodity for removal from the carton. As described with reference to FIGURES 9-11, it will be seen that a portion of a second stick of the commodity also is exposed by removal of the band, but that the side wall 114, together with portions of the walls 116 and 118 and of their end flaps 124 and 128, form a cap 136 that can be used to fit over the exposed portion of the second stick to reclose the carton 94. The reason for the shorter flaps 122, 126 and 130 now becomes evident, i.e., they do not project beyond the skirt of the thus-formed cap 136 to interfere with reclosing the carton. The reason for the particular overlapping arrangement of the flaps 124 and 128, best shown in FIGURE 15, also becomes evident. In this connection it will be seen that because the untabbed flaps 124 and 128 are integral with their side walls 116 and 118 and underlie the glued flaps 128A and 124A, respectively, when the band being torn initially from one of the side walls 116 or 118 reaches the corresponding underlying end flap, the band continues to be torn from such underlying flap and thus readily initiates tearing the band from the overlying flap 128A or 124A, and thence from its wall 118 or 116.

Referring now to FIGURES 16 and 17 of the drawings, there is shown a still further modification of the invention. In this modification, the blank 138 is substantially identical to the blank 102 shown in FIGURE 12, save that the weakened tear lines 24 are adapted to be disposed in the planes of separation between the commodity sticks 94 when the carton 140 formed by the blank is filled. Consequently, this embodiment does not make provision for a reclosure cap as a first band is torn from the carton 140. For that reason, there is no need for the end flaps 142, 144, and 146 on the narrow side walls 148 and 150 and on the securing strip 160' to be shorter than those 154 and 156 on the wide side walls 158 and 160.

In addition to the provision of weakened tear lines 24 adapted to be in registration with the commodity stick separation planes, additional weakened tear lines 24' are provided adjacent each side of the wide side walls 158 and 160 and spaced from the sides thereof a distance substantially equal to one half of the width of a commodity stick 94. These lines 24', together with the next adjacent lines 24, define bands one of which can be first torn from the carton 140 to expose the first commodity stick 94 for removal, as shown in FIGURE 17. In other

words, it is only essential for these weakened tear lines 24' to be located between the side edges of the carton walls 158 and 160 and the next adjacent tear line 24 which registers with the aforementioned plane of separation.

Referring now to FIGURES 18 to 20 of the drawings, there is shown still another modification of the invention. This modification provides a carton 162 which can be used not only in the manner shown in FIGURE 14 to progressively reduce its size as separate commodity sticks are removed therefrom, and on the first reduction form a reclosure cap, but also alternatively in a conventional manner, wherein it can be opened conveniently and simply reclosed without size change as successive commodity sticks 94 are removed.

In this modification, the blank 164 is generally like the blank 102 shown in FIGURE 12, save that one (166A) of the end flaps 166 and 166A (which in the blank 102 is provided with a glued area 124) on one (168) of the wide side walls 168 and 170 is devoid of glue and is extended laterally outwardly of the blank. The flap 166A is scored along its junction with its extended portion to provide a longitudinal fold line 172 so that the extended portion defines a tuck-in flap 174 through which are continued the weakened tear lines 24 in the wide side wall 168 and in its end flaps 166 and 166A. A glued area 176 is provided on the inner surface of the tuck-in flap 174 and the corners of the latter preferably are rounded, as shown, or alternatively the side edges of the flap 174 are tapered, in order to facilitate the tucking operation later described.

The outer edge of the flap 174 may be notched as at 178, in registration with the weakened tear lines 24 to provide tabs 180, outwardly of the glued area 176, for facilitating the tearing off of bands extending endwise completely around the carton 162 in the manner previously illustrated in FIGURE 14 of the drawings. The blank 164 further differs from the blank 102 in that there is no end flap on the other wide side wall 170, on the same side of the blank as the flap 166A. The reason for such omission will become apparent later.

The procedure for filling and setting up a carton 162 formed from the blank 164, is substantially similar to that previously described with reference to the blank 102 shown in FIGURE 12, such procedure being generally illustrated in FIGURE 13. With the blank 164, however, after the end flap 166A is closed, the tuck-in flap 174 is folded over the outside or exterior surface of the wide wall 170 of the carton 162, and adhesively secured thereto, as shown in FIGURE 19. From an inspection of this latter figure, it can be seen that a tab 180 on the tuck-in flap 174 can be grasped easily by the fingers and pulled back to tear a band from the carton to reduce its size, in the same manner illustrated in FIGURE 14, while on the first such size reduction forming a cap that can be used to reclose the carton, again in the same manner as that disclosed in FIGURE 14.

It also will be seen, however, that in the event that it is not desired to progressively reduce the size of the carton 162, as successive commodity sticks 94 are removed therefrom, the carton can be opened in a conventional manner by pulling back all of the tabs 180 on the tuck-in flap 174 substantially simultaneously so that the entire flap 174 is pulled loose or detached from its adhesive securement to the underlying area of the wide wall 170, preferably without tearing either of the flaps 174 and 166A along any of their weakened tear lines 24. This action will serve to release the end flap 166A so that it can be opened, together with the end flaps 182, 184, and 186 on the narrow walls 188 and 190 and securing strip 192, to expose the commodity sticks 94 for removal. After a stick 94 has been removed, the tuck-in flap 174 can be tucked into the interior of the carton 162 into the narrow space between the wide side wall 170 and the commodity sticks remaining in the carton, to thus

reclose the carton in the manner illustrated in FIGURE 20. In order to permit such tucking operation it will be seen that the wide side wall 170 needs be devoid of an end flap at its end corresponding to the tuck-in flap 174.

Thus, the construction shown in FIGURES 18 to 20 provides a carton that can be opened and reclosed in a conventional manner, or can be reduced in size progressively as successive portions of the commodity packaged in the carton are removed, depending upon the desires of the purchaser of the package.

Container blanks of the general shape illustrated, for example, in FIGURES 4, 8, 12, 16 and 18, would conventionally be cut from a strip of stock material with the top and bottom edges shown in said figures extending parallel to the sides of the strip. However, in the present preferred practice of the invention it is important that the blanks be positioned with said top and bottom edges extending normal to the side edges of the strip of laminated sheet 20, instead of parallel. This facilitates slitting to form the weakened tear lines 24, and the subsequent lamination of plies 22 and 26, by the means and method illustrated in FIGURE 3. More important from the point of view of the finished product is the fact that the ease and reliability of tearing the unslit material along the tear lines 24 is directly related to the direction of "grain" of the paperboard or the like forming such unslit portions. If the grain (the direction in which most of the fibers extend) is parallel to the tear lines 24, it is possible to tear relatively easily and cleanly along the tear lines 24 when the container is to be reduced. Since the grain runs lengthwise of the usual strip of fibrous material made by conventional paper or paperboard systems of manufacture, the desired grain orientation is provided by slitting the paperboard of like fibrous stock parallel to the sides of the strip of the stock being slit, as illustrated at 34 in FIGURE 3. This, in turn, requires orienting the blank in a direction at right angles to the conventional position for blanks of similar outline which are manufactured in the conventional manner instead of in accordance with the present invention. If this is not done, and the slitting is done along lines transverse to the grain of the fibers of the paperboard or like ply 22, the fibers will extend transversely across the unslit portions of the stock, with the result that tearing across such unslit portions will be relatively difficult, and the line of tear may readily depart from the desired path along the end-to-end slits which form the tear lines 24.

It thus will be seen that the objects of this invention have been fully and effectively accomplished. It will be realized, however, that the foregoing specific embodiments have been shown and described only for the purpose of illustrating the principles of this invention and are subject to change without departure from such principles. For example, the laminated sectionable sheet material embodying this invention is admirably suited for the packaging of bulk materials, such as ice cream, and for forming sealed or sealable containers. Therefore, this invention includes all modifications encompassed within the spirit and scope of the following claims.

I claim:

1. A carton made of foldable sheet material comprising a blank thereof folded and secured together along opposite edges to provide two pairs of opposite carton side walls having extensions thereof to form flaps for closing the ends of the carton, said carton being adapted to contain in side-by-side relation separate equisize portions of material, each having a pair of opposite flat sides disposed parallel to the walls of one of said pairs, the walls of the other of said pairs having weakened tear lines therein

extending longitudinally therealong and across their corresponding end flaps in spaced relation laterally of said carton and with the lines in one wall and its flaps in register with those in the opposite wall and its flaps, the end flap at one end of said walls of the other pair overlying the corresponding flap of the opposite wall, and the end flap at the other end of one wall underlying the corresponding flap on said opposite wall, said overlying end flaps having notches formed in their edges to define finger engageable tabs so as to define when said end flaps are closed, bands extending endwise around said carton and adapted to be torn in succession from said walls and flaps of said other pair along said lines in order to expose for removal successive portions of the contents of said carton when filled.

2. A carton made of foldable laminated sheet material having at least two superimposed congruent plies, one comprising stiff fibrous material and the other comprising thinner, lighter, substantially impervious, flexible, readily tearable material, and comprising a blank of said laminated material folded and secured together along opposite edges to provide two pairs of opposite carton side walls, said walls having extensions thereon providing flaps for closing the ends of the carton, and said one ply having lines therein along which it is readily separable and which lines extend longitudinally along both side walls of one of said pairs and across their corresponding end flaps in spaced relation laterally of said carton, with the lines in one wall and its flaps of said one pair in register with those in the opposite wall and its flaps so as to define, when said end flaps are closed, bands extending endwise around said carton and adapted to be torn in succession from said walls and end flaps of said one pair along said lines in order to expose for removal successive portions of the contents of said carton when filled, said end flaps being separated by slits extending substantially parallel to said lines, and in which the end flap at one end of one of the side walls of the one pair is provided with an extension and scored to form a tuck-in flap having the lines extended thereacross, and the corresponding end of the other wall of said one pair is devoid of an end flap.

3. The structure defined in claim 2 in which adhesive means are provided on the blank for securing the inner side of the tuck-in flap to the exterior of the other wall.

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