

April 11, 1939.

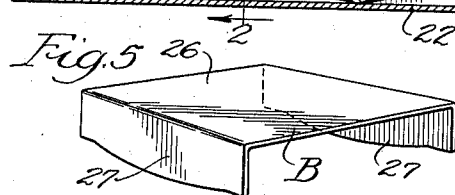
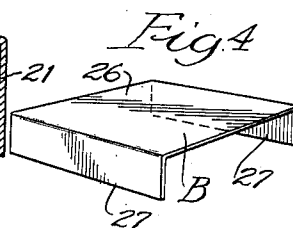
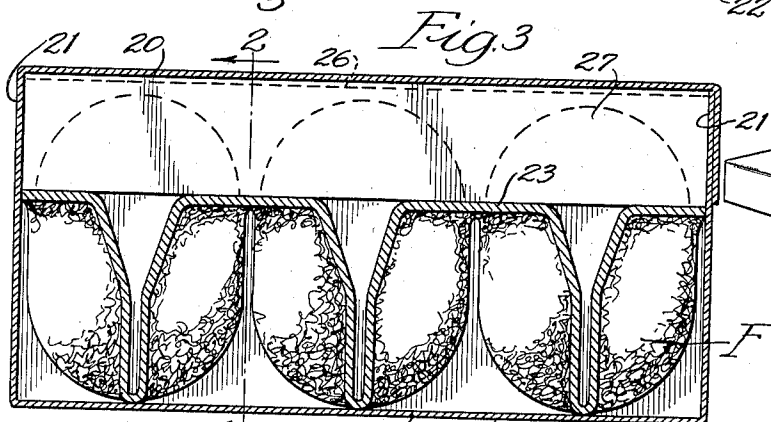
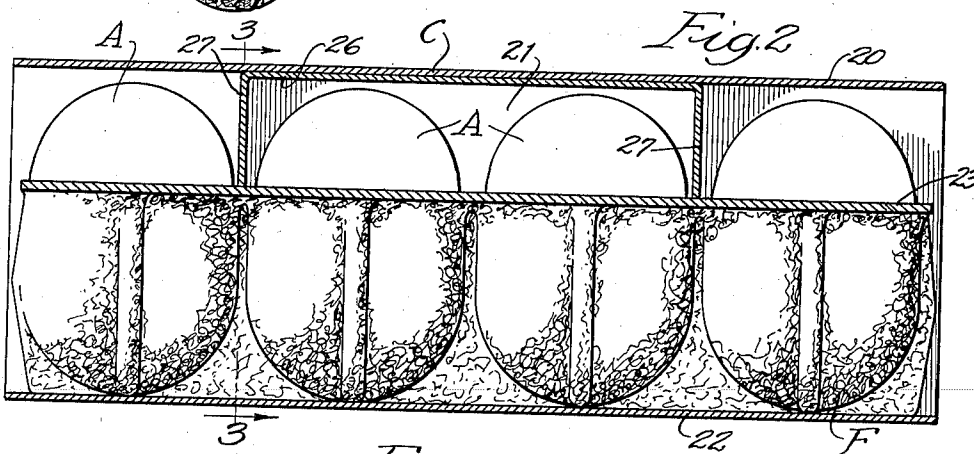
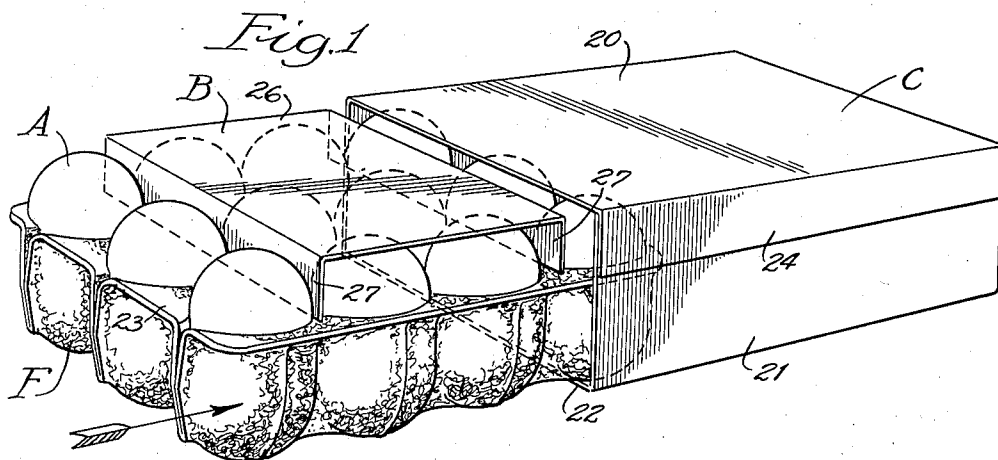
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2,154,194

FILLER PACKAGE

Filed May 26, 1937

3 Sheets-Sheet 1



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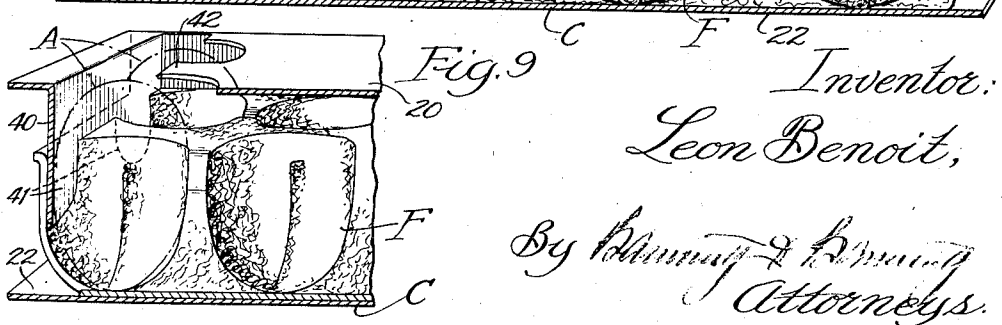
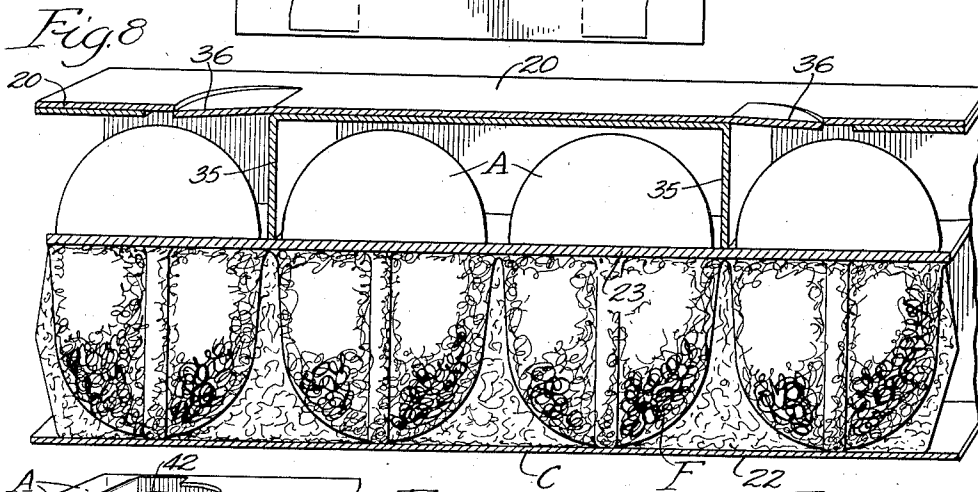
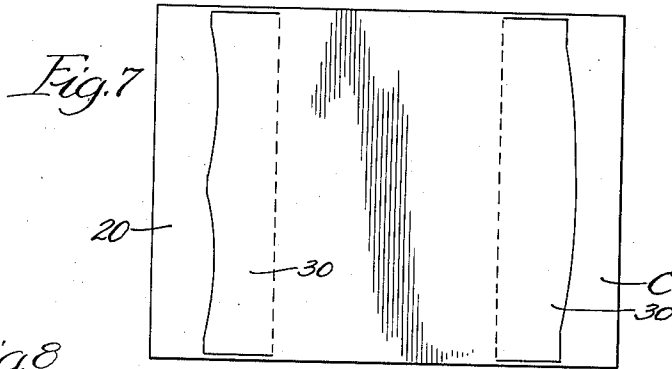
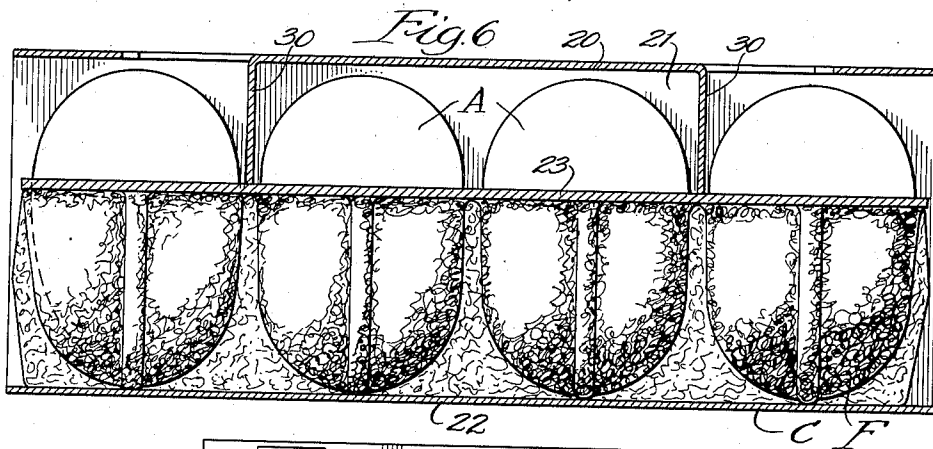
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FILLER PACKAGE

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3 Sheets-Sheet 2



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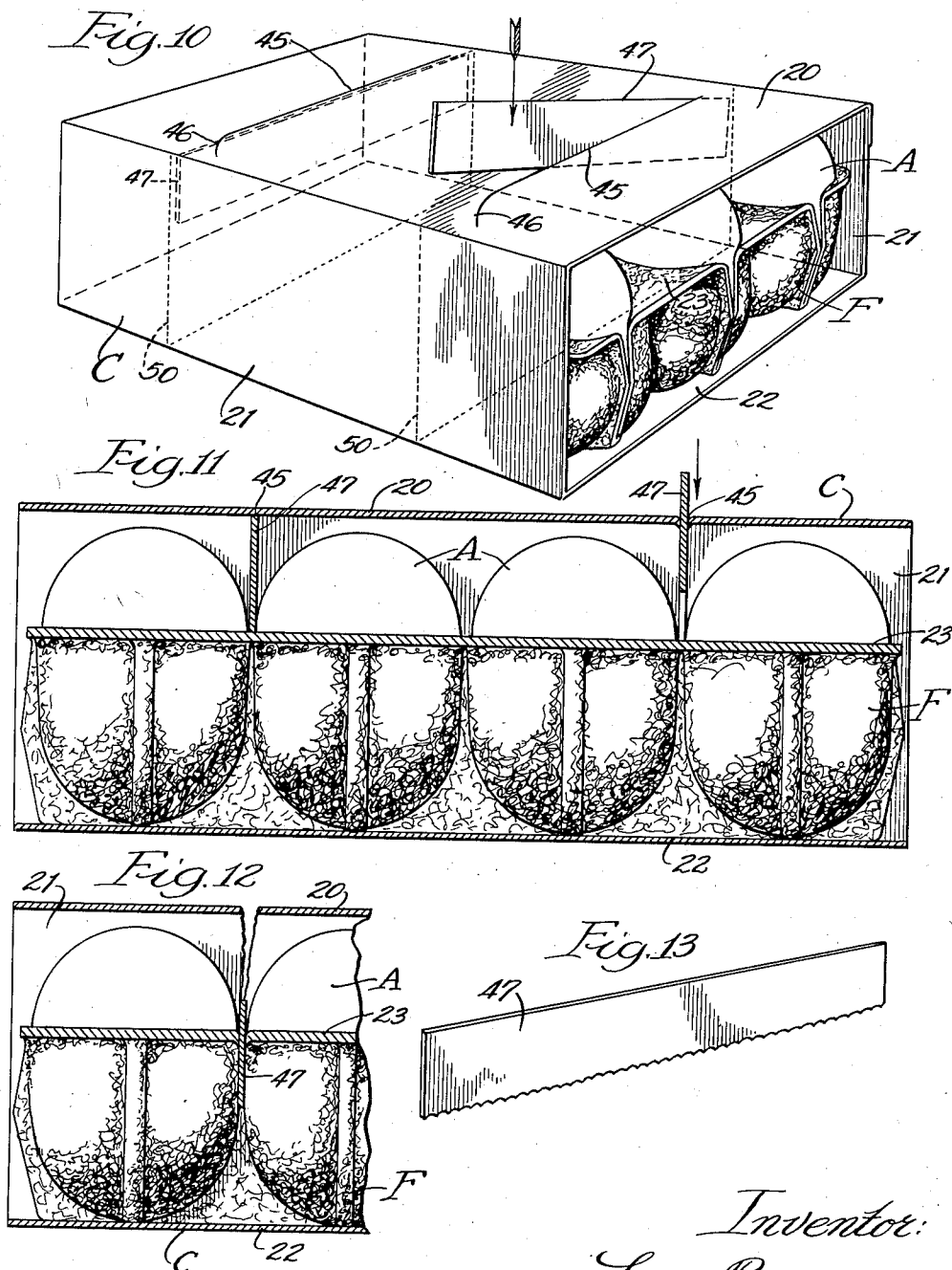
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FILLER PACKAGE

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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FILLER PACKAGE

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12 Claims. (Cl. 229—29)

My present invention relates to a filler package comprising a cellular filler for eggs or the like together with an enclosing carton therefor, the structure in its entirety defining a package of which large numbers, complete with intended contents, may be stored or shipped in packing cases, and, when removed therefrom, be delivered to consumers in quantities of one package or multiples or fractions thereof.

The filler package herein described may advantageously utilize a filler of molded pulp which provides in an integral structure a number of individual cells each having capacity for a single egg or other like article which requires protection. It may also utilize advantageously an enclosing carton of the tubular open-ended type into which the filler is slid endwise. In such a filler package, however, certain problems remain to be solved, viz., the transverse bracing of the package so that it may not sway laterally with consequent damage to the articles therewithin, and securement of the filler so that it will remain assembled within its enclosure. These primary objects are fully met by the improvements of the present invention which is also concerned with other features as well, such as economy in material for the filler itself, protection to such portions of the eggs or other articles as project above the top of the filler, severability of the filler package in its entirety if it be desired to handle or dispense a smaller unit than the entire package, etc. All such objects and advantages will more fully appear hereinafter from the ensuing description wherein reference is made to the accompanying drawings which illustrate certain exemplifications of my invention as follows:

Figure 1 is a view in perspective of a package showing the filler at the commencement of its movement into an enclosing carton;

Fig. 2 is a longitudinal section through the package, taken on line 2—2 of Fig. 3;

Fig. 3 is a transverse section through the package taken on line 3—3 of Fig. 2;

Fig. 4 is a detail in perspective of one form of cross brace which occupies the space between the filler and the top of the carton;

Fig. 5 which is a similar view shows a cross brace of slightly modified construction;

Fig. 6 which is a view similar to Fig. 2 shows a modification of the cross brace which in this case is integral with the carton;

Fig. 7 is a top plan view of the enclosure as it appears before the bracing elements are inwardly bent to operative position;

Fig. 8 is a sectional perspective view of a pack-

age in which the enclosure top is of two-ply construction;

Fig. 9 is a fragmentary sectional view in perspective of a package having a cross brace forming an end wall for the carton;

Fig. 10 is a perspective view of a filler package in which independent bracing strips are employed;

Fig. 11 is a longitudinal section through the filler package of Fig. 10;

Fig. 12 which is a detail in section shows one of the bracing strips advanced to sever the filler; and

Fig. 13 is a perspective view of a bracing strip formed with a toothed cutting edge.

Considering first the structure in its general aspects, the filler package may comprise an enclosing carton C having a top 20, opposite sides 21, and a bottom 22, providing an open-ended tube, in combination with a filler F therewithin, made desirably of a suitable pulp material molded to shape to provide a plurality of rows of cells each adapted to accommodate a single article A, such as an egg or the like. In such a filler the bottoms of the several cells terminate in a common plane which is adapted to rest upon the carton bottom. The height of the filler is substantially less than that of its associated carton whereby articles contained within the filler may be extended into the unoccupied space thereabove. The top of the filler, as shown clearly in Fig. 1, is defined by a plurality of flanges forming, in effect, a platform 23.

In commercial practice the carton may be made of a suitable material, such as chipboard or the like, in sheet form having suitable bend lines to facilitate forming of its four walls, one end of the sheet being lapped over the other as at 24 and adhered thereto in any approved way thereby providing a two-ply wall at such place. For economy in space the carton when first produced is left in a flat or collapsed condition to be thereafter erected into the form shown in Fig. 1. Owing to the inherent resiliency in the material of which the carton is made, the enclosure tends to resume its collapsed state unless a transverse bracing be provided. The presence of the filler within the carton is insufficient for this purpose, particularly when the filler is relatively low as herein disclosed, and if the package be subjected to a transverse shock, the whole structure may be swayed to such an extent as to cause damage to the articles within the filler.

Realizing the deficiency of this type of filler package, I combine therewith a transverse brace

B which, in the form shown in Figs. 1 to 4, consists of a sheet body 26, of chipboard or the like, which is extended across the carton in the space between its top and the filler therebelow. This
 5 brace is provided at opposite ends with down-turned wings 27 whose ends engage the carton sides, the vertical dimension of these wings being such as to extend from the underside of the carton top to the platform of the filler on which
 10 the lower edges of the brace wings are rested along lines which lie between adjacent rows of cells in the filler. When so disposed, the articles protruding upwardly beyond the filler top will lie upon opposite sides of the brace wings, thereby
 15 retaining them vertically in the position most effective for transverse bracing of the package. The lower wing edges may be straight as shown in Fig. 4, in which event vertical loads are evenly applied at every point transversely of the filler platform, or the wing edges may be undulating or otherwise contoured (or suggested, for example,
 20 in Fig. 5) in case it is desired that the pressure be unevenly applied to the filler.

The brace of Figs. 1 to 4 is shown as formed separately from the carton. While it may be used without any connection therewith, I prefer that it be adhered thereto as by means of an adhesive, a staple, or other suitable device. If thus connected, the wings of the brace which lie between rows of articles projecting above the filler,
 25 will serve to hold the filler in place within the carton. As shown, the brace body 26 lies to the inside of the carton top, but obviously it may be attached thereto upon its outer face in which case the wings would pass through straight transversely extending slits, much the same as shown in Fig. 11, to lie within the carton in a manner to brace the same, as already described.

I would have it understood that the present
 40 filler package may be of any selected dimensions and arrangement of cells. In practice it will be preferable to employ either a 3 x 4 arrangement of cells, as shown, or a 2 x 6 arrangement as is very common. Inasmuch as the normal position of the package is as illustrated, the words "top",
 45 "bottom", etc., are apt for purposes of description, but otherwise are not to be regarded as terms of limitation.

Referring now to Figs. 6 and 7, the transverse bracing of the tubular carton may also be achieved by striking down from the carton top a pair of wings 30 whose lower edges are adapted to rest against the filler platform. In practice both wings are defined by slits (see Fig. 7), the
 55 wings being turned down after the filler is inserted in place. When so disposed the wings lie between the articles projecting from adjacent rows of cells whereby to be maintained vertically in place. To so dispose the wings it may be desirable to shift the filler endwise, as required, to facilitate movement of the wings into these final positions. The engaging lower edges of the wings may be straight or be variously formed as suggested in Fig. 7, there being some advantage in not having the wings straight so as to promote ventilation through the package.

In Fig. 8 is shown a filler assembled within a carton having a two-ply top. From the inner ply are struck a pair of downwardly turned wings 35
 70 each adapted to present its lower edge in engagement with the filler platform. To bend the wings to this position, the outer ply may also be slitted to define a pair of tabs 36, which, when pressed in, will cause the wings to swing down to be
 75 maintained vertically in place between ad-

jacent rows of eggs or other articles contained with the filler; upon release of such pressure the tabs will spring back due to the inherent resiliency of the material of which the carton is made, so as to close, entirely or substantially, the opening from which the tabs were displaced. This construction has the advantage of not leaving in the carton top any exposed openings which might be objectionable in certain cases.

In Fig. 9 I have shown a sectional perspective
 10 fragmentary view of a carton with assembled filler having a construction which is generally similar to those already described. In the showing of Fig. 9, however, the carton top adjacent each end is slitted to define a wing 40 which may
 15 be downwardly swung to provide an end wall for the package. The free edge of this wing is scalloped to form certain tongues 41 each of which is adapted to lie within the proximate end cell of the filler without interfering with reception
 20 therein of the eggs or other articles. These wings serve as end walls for the tubular carton, as cross braces therefor, and as locks for the filler therein. Complementary to the tongues on each wing are other tongues 42 on the carton top, the openings between these tongues being such as to expose to view the contents of the filler, while still confining them in place.

Referring now to Fig. 10, I have here shown a filler slidable to advance within an open-ended
 30 tubular carton the top of which is provided with a pair of transverse slits 45 each terminating short of the carton sides, one slit end being angled or curved somewhat as at 46. Each of these slits is disposed in a plane which lies between adjacent rows of cells in the filler. With such a filler package I may employ a pair of independent strips 47 each having a length substantially equal to the carton width and being insertable through one of the slits so as to lie within the carton with its lower edge engaging the platform of the filler.
 40 When so positioned, each end of the strip will extend beyond the proximate end of the slit at which point its upper edge will lie against the carton top opposite an intact area thereof. In reaching this position, one strip end is passed through the slit and advanced past its straight end, and thereafter the carton top may be bent inwardly adjacent the opposite end slit, as necessary, to permit the strip to pass therethrough and into its final position, as shown at the left end of Fig. 11. The strips which remain supported between adjacent rows of articles within the filler perform a bracing function for the carton in the manner already described.

The carton which is so formed for reception of the strips may also be provided in its sides and bottom, in the plane of each slit, with a line of weakness 50, continuous or otherwise, produced as by perforations or scorings, so as to facilitate divisibility of the package, if and when desired. In use, the lower edges of the strips will remain engaged with the filler platform. If pressure be applied to the carton top directly above either strip the filler will be ruptured therebelow (see Fig. 12) in a transverse plane which coincides with the line of weakness extending around the carton. By so proceeding, little or no difficulty will be experienced in dividing from the filler package a unit of smaller size, complete
 70 in itself in that it comprises a plurality of cells with contained articles enclosed within a carton of smaller size. If desired, the lower edge of each strip, which in such circumstances is required to serve as a cutting blade, may be toothed, 75

as at 47 (see Fig. 13), so as to facilitate cutting of the filler platform, which, because of its pulpy consistency, may be readily severed in response to such an operation.

5 Among the many advantages which are realized by my invention as herein disclosed is the utilization of a lesser amount of material for the filler whose height need be only half or two-thirds that of the carton. Such a filler, if made of
10 pulp material molded to shape, is relatively soft and requires for its successful handling an associated container in which it is confined. The tubular type of carton which is admirably suited for this purpose is, nevertheless, weak from the
15 standpoint of swaying; the filler package, in consequence, may be greatly improved by the provision of a transverse bracing which, if desired, may also serve to hold the filler assembled within the carton. In practice it will be found that
20 such a filler, complete with contents, may be expeditiously placed within a tubular carton which, when equipped with transverse bracing of the kind hereinbefore described, may be quickly adjusted to operative position.

25 I claim:

1. In a filler package, the combination of an open ended normally collapsible tubular carton, a filler of less height than the carton fitted therewithin, and a cross brace element of materially
30 less length than the distance between the open ends of the carton extending transversely and vertically within the space between the filler and carton to engage the side walls of the carton at the sides of said element to resist lateral
35 swaying of the carton.

2. In a filler package, the combination of an open ended normally collapsible tubular carton, a cellular filler of less height than the carton adapted to be slidably fitted therewithin, the filler
40 cells communicating with the space between the filler and carton and each adapted to receive an article which projects beyond the filler into said space, and a cross brace fixed with respect to the carton extending transversely within the
45 space between the filler and carton and between articles projecting upwardly beyond the cells of the filler, the cross brace being disposed in a vertical plane with its ends engaging opposite sides of the carton adapted to resist lateral swaying thereof and to resist endwise sliding movement of the filler.

3. In a filler package, a tubular open ended carton enclosing a cellular filler of less height adapted to receive therein rows of articles whose
55 upper portions are extended freely into the space between the filler and carton, and a cross brace having a vertical wall extending transversely within the space between the filler and carton and between rows of articles received within the
60 filler, the brace being secured to the carton whereby to prevent sliding movement of the filler with respect thereto.

4. In a filler package, the combination of an open ended normally collapsible tubular carton, a cellular filler of less height than the carton fitted therewithin, the filler being adapted to
65 sustain articles which are extended upwardly into the space between the filler and carton, and a U-shaped cross brace having vertical wings adapted to extend transversely of the package
70 in the space between the filler and carton and between rows of articles contained within the filler, the brace being fixedly secured with respect to the carton whereby to resist sliding movement of the filler lengthwise thereof.

5. In a filler package, the combination of an open ended normally collapsible tubular carton, a cellular filler of less height than the carton fitted slidably therewithin, and a pair of wings struck from the carton top depending into the
5 space above the filler to engage therewith and within one of the filler cells, the wings being extended transversely of the package between opposite sides thereof whereby to brace the carton against transverse swaying and to hold the filler
10 against endwise sliding movement therewithin.

6. In a filler package, the combination of a normally collapsible tubular carton, a filler of less height than the carton fitted therewithin, the carton top having a transverse slit terminating short of opposite sides thereof, one end of the slit being laterally deflected, and a brace movable through the slit to extend transversely of the package vertically between opposite sides of the carton within the space between the filler
20 and the carton whereby to brace the carton against lateral swaying.

7. In a filler package, the combination of an open ended normally collapsible tubular carton, a filler of less height than the carton fitted therewithin, and means separate from the filler and extending fixedly relatively thereto within the
25 space between the filler and carton engaging the filler top and carton sides adapted to furnish a vertical and transverse brace for the package.

8. In a filler package, the combination of an open ended normally collapsible tubular carton, a cellular filler of less height than the carton fitted therewithin, and means separate from the filler and secured to the carton to extend fixedly
35 within the space between the filler and carton engaging with a vertical wall of the former and a side wall of the latter adapted to oppose endwise movement of the filler within the carton and to brace the carton against lateral swaying.

9. In a filler package, the combination of an open ended normally collapsible tubular carton, a cellular filler fitted therewithin, and a pair of wings struck from the carton top and hinged thereto adapted to swing downwardly to vertical
45 position for engagement with the filler whereby to close the package ends and brace the carton against lateral swaying.

10. In a filler package, the combination of a tubular carton, a cellular filler of less height than the carton fitted therewithin, a vertical
50 bracing wall extended transversely of the package within the space between the filler and the carton with the ends of the brace abutting opposite sides of the carton and the lower edge of the brace in engagement with the filler top, weakened lines of severance provided in walls of the carton in the plane of the vertical bracing wall to facilitate severance of the carton into a plurality of sections, and means to permit severance of the
60 filler in the plane of the lines of severance in the carton walls.

11. In a filler package, the combination of an open ended normally collapsible tubular carton, a filler of less height than the carton fitted therewithin, a vertical bracing wall extended transversely of the package within the
65 space between the filler and the carton, said brace being of a length and height sufficient to engage over a substantial extent of the filler and engage an inner side of the carton, weakened lines of severance provided in walls of the carton in the plane of the vertical bracing wall to facilitate severance of the carton into a plurality of sections, and means to facilitate severance of
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the filler in the plane of the lines of severance in the carton walls.

12. In a filler package, the combination of an open ended normally collapsible tubular carton, a filler of less height than the carton fitted therewithin, the carton top having a transverse slit terminating short of opposite sides thereof, a brace of greater length than the slit movable through the slit to extend transversely of the package vertically between opposite sides of the

carton within the space between the filler and the carton whereby to brace the carton against lateral swaying, weakened lines of severance provided in the side walls of the carton in substantial alignment with said transverse slit to facilitate severance of the carton into a plurality of sections, and means to permit severance of the filler in the plane of said brace and lines of severance in said carton walls.

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