Dec. 26, 1961 F. W. FIELDING 3,014,636

CARTON

Filed Feb. 29, 1960

Fig. 1

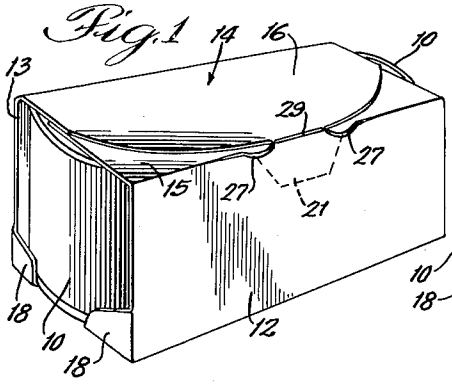


Fig. 2

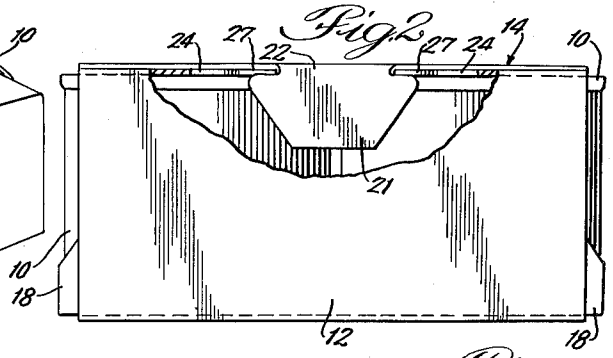


Fig. 3

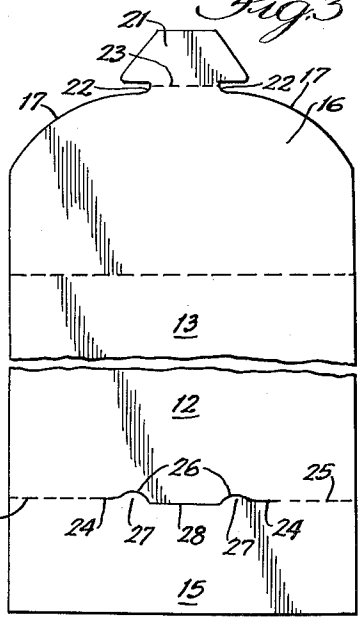


Fig. 4

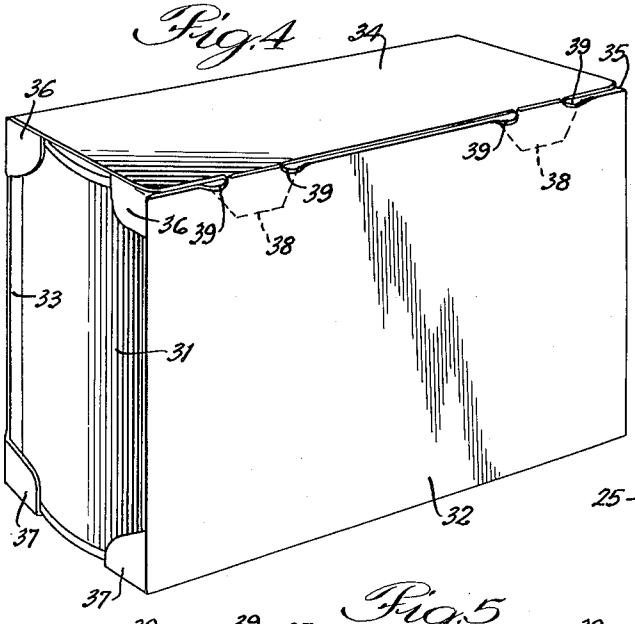
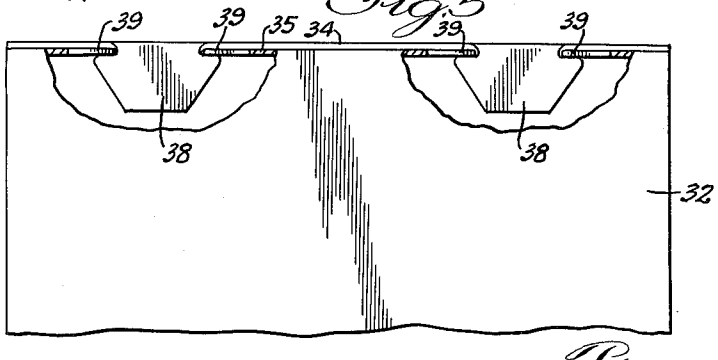


Fig. 5



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United States Patent Office 3,014,636 Patented Dec. 26, 1961

3,014,636

CARTON

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Filed Feb. 29, 1960, Ser. No. 11,679
2 Claims. (Cl. 229—39)

This invention relates to cartons and more particularly to folding paperboard cartons which are erected through the use of mechanical locking tabs.

It has heretofore been proposed to form foldable cartons in which the ends of the carton blank are connected through mechanical interlocking tabs, rather than gluing. One of the problems of such cartons has been the provision of means to insure proper alignment of the panels or panel sections connected by the tabs and to restrict the same against relative movement parallel to each other. Attempts to overcome this difficulty have included the use of separate tabs whose sole function is to align the panels and the use of a plurality of non-symmetrical locking tabs with different tips resisting relative movement of the panels or panel sections in different directions. None of these expedients has been entirely satisfactory due to cost, difficulty of erection of the carton, or both.

It is one of the objects of the present invention to provide a carton in which the ends of the blank are connected by one or more locking tabs each of which is of simple, inexpensive construction, which are easy to connect and which hold adjacent panels or panel sections securely against relative movement in any direction.

Another object is to provide a carton in which carton panel or panel sections are formed with spaced projecting ears between which the neck portion of a locking tab on another locking panel fits to limit relative movement of the sections with respect to each other.

The above and other objects and features of the invention will be more readily apparent from the following description when read in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a completed filled carton embodying the invention;

FIGURE 2 is an elevation with parts broken away;

FIGURE 3 is a partial view of the blank for the carton of FIGURES 1 and 2;

FIGURE 4 is a view similar to FIGURE 1 of an alternative form of carton; and

FIGURE 5 is an elevation of the carton of FIGURE 4 with parts broken away.

The carton, as shown in FIGURES 1 and 2, is adapted to hold two cylindrical articles 10, such as cans or the like, although articles of any other desired shape or size could be accommodated by suitable modifications in the carton. The articles 10 are held in side-by-side relationship by the carton which comprises a bottom panel 11 opposite side panels 12 and 13 and a compound top panel, indicated generally at 14. The top panel 14 is formed by a panel section 15 foldably joined to the upper edge of the side panel 12 and a complementary top panel section 16 foldably joined to the upper edge of the side panel 13. In erecting the carton the panel section 16 is overlapped over the panel section 15, as shown, and terminates substantially at the junction of the panel section 15 with the side panel 12. If desired, the side portions of the top panel section 16 may be cut back on the curved lines 17, as shown.

The articles are held in the carton by a gusset-type construction, as more particularly described and claimed in my patent Reissue No. 24,667. As shown, this construction comprises triangular gusset members 18 foldably joined to the ends of the bottom panel 11 and extending across the corners of the open ends of the carton to engage the adjacent portions of the articles 10 and hold them in the carton. The gusset members 18 are connected through triangular webs to flaps which fold inwardly over the bottom panel 11 and underlie the articles 10 to be held in place thereby. Since this specific construction does not, per se, form a part of the present invention it will not be described in further detail herein.

The carton of FIGURES 1 and 2 is formed of an elongated paperboard blank, as shown partially in FIGURE 3, with its central portion broken away. The end of the top section 16 carries a locking tab 21 having an enlarged head portion connected to the top section through a reduced neck portion 22 with a fold line at the reduced neck portion, as indicated at 23. This tab, as shown in FIGURES 1 and 2, is adapted to extend through a slot formed adjacent to the juncture of the side panel 12 and top section 15. As best seen in FIGURE 3, the slot includes relatively short end portions 24 lying on the fold line 25 between the side panel 12 and the top section 15. Inwardly of the straight sections 24, the slot is bowed outwardly, as shown at 26, to define a pair of spaced projecting ears 27 projecting outwardly from and in the plane of the top panel section 15. The slot continues in a straight line 28 between the outwardly bowed portions 26 with the portion 28 preferably being offset slightly inward of the top panel section 15, as seen in FIGURE 3.

When the carton is erected and the top panel section is folded over, as shown in FIGURES 1 and 2, the slot will define an opening through which the locking tab 21 may project with the spaced ears 27 lying adjacent to and in contact with the sides of the neck portion 22. When the locking tab is pressed through the slot, the neck will lie in the central portion thereof, defined by the straight line cut 28 which is slightly offset to form a gap in which the neck may lie with a short upward projection 29, as seen in FIGURE 1, projecting very slightly above the top of the side panel 12.

With this construction, it is very easy to push the locking tab 21 through the slot, the side panel 12 bowing very slightly during this operation to permit the ears on the tab to pass the ears 27. With the tab in its locking position, as shown, the head portion thereof will engage beneath the ears 27 which will also engage the sides of the neck portion 22 of the tab so that the tab is held securely against movement in any direction relative to the side panel 12 and the top section 15.

FIGURES 4 and 5 illustrate an alternative construction in a slightly larger carton for housing three or more cylindrical cans or similar articles 31. This carton is formed of a continuous strip of paperboard, or the like, with foldably joined sections defining side panels 32 and 33, the bottom panel, not seen in the figures, foldably connected at its sides to the respective side panels and a composite top panel. The top panel is formed by a panel section 34 of a size substantially to cover the entire top section of the carton and a short top panel section 35 foldably joined to the upper edge of the side panel 32 to underlie the top panel section 34. The top panel sections 34 and 35 are both formed with triangular gusset extensions 36 which extend across the upper corners of the open ends of the carton to engage the cans 31 and which are held in place by means of integral webs attached to the gussets 36 and engaging the cartons. Similar triangular gussets 37 are formed at the lower corners of the carton and engage the lower portions of the articles in the same manner as the gussets 18 of FIGURES 1 and 2.

The top panel section 34 is formed with a pair of extending locking tabs 38 which are similar to the locking tab 21 of FIGURES 1 to 3. The tabs 38 extend

through slots formed at the juncture of the side panel 32 and the top panel section 35 and which are similar to the slots 24—28, as shown in FIGURE 3. These slots define projecting ears 39 which overlie the head portions of the locking tabs and which closely engage the sides of the neck portions of the locking tabs to hold them against lateral movement.

The construction of FIGURES 4 and 5 is similar in all respect to that of FIGURES 1 to 3, except for the fact that the carton is larger and is provided with two locking tabs instead of a single locking tab. It will be apparent that for still larger cartons it might be desirable to employ more than two locking tabs and that other changes might be made in the constructions, as specifically disclosed. It is therefore not intended that the specific constructions disclosed be taken as a function of he scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A carton formed of paperboard or the like comprising foldably connected top, bottom and side panels, one of the panels being formed by two overlapping sections the outermost of which terminates adjacent to a fold line between the other section and an adjacent panel, a locking tab projecting beyond the end of the outermost section and including a narrow neck portion foldably joined to the end of said section and a wider head portion spaced from the end of said section, there being a slit adjacent to the fold line between the other section and the panel to which it is foldably connected through which the head portion can extend, the slit having bowed portions therein extending into said last named panel and then back to the fold line between said panel and said other section defining spaced projecting ears on and in the plane of said other section between which said neck portion fits and which engage the neck portion to limit relative movement of the sections parallel to each other.

2. A carton formed of paperboard or the like comprising foldably connected top, bottom and side panels, one of the panels being formed by two overlapping sections the outermost of which terminates adjacent to a fold line between the other section and an adjacent panel, a locking tab projecting beyond the end of the outermost section and including a narrow neck portion foldably joined to the end of said section and a wider head portion spaced from the end of said section, there being a slit along the fold line between the other section and the panel to which it is foldably connected spaced inwardly of the other section from the fold line in its central portion and offset outwardly of the other section and inwardly of the panel adjacent to its ends with its extreme end portions lying on the fold line to define spaced ears on and in the plane of the other section extending over the edge of said last named panel, the locking tab being folded at an angle to the outermost of said sections and having its head portion extending through the slit with the neck portion fitting between the spaced ears thereby to limit parallel movement of the sections relative to each other.

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