Feb. 16, 1960 P. WASYLUKA 2,925,209

CELLULAR PARTITION RELEASABLY LOCKED IN A COMPARTMENTED SHIPPING CONTAINER

Filed Oct. 24, 1956

2 Sheets-Sheet 1

FIG. 2

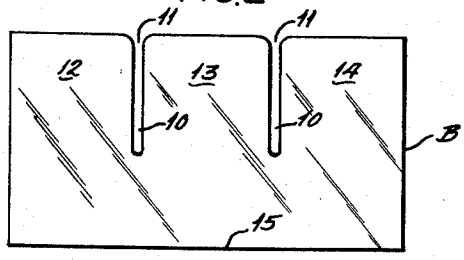


FIG. 1

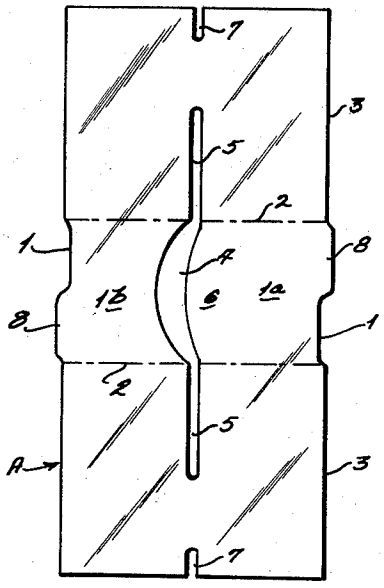


FIG. 3

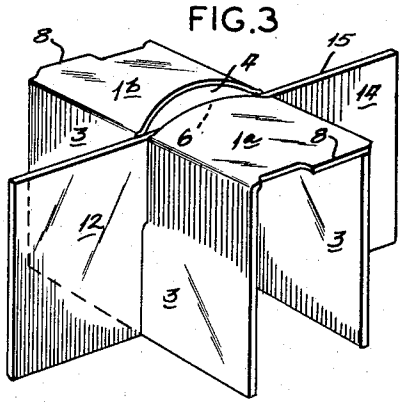


FIG. 4

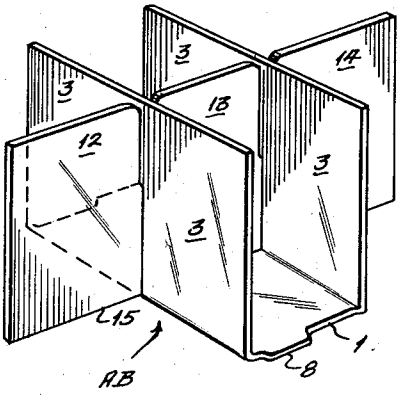


FIG. 5

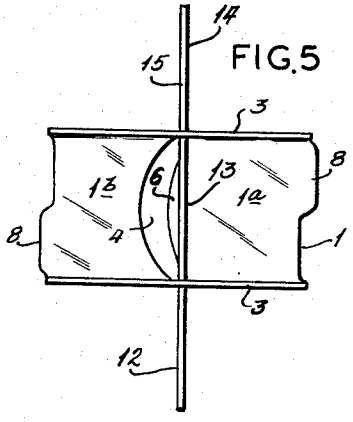
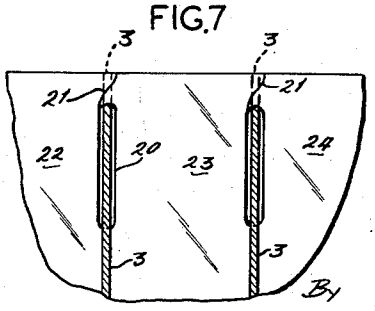


FIG. 7



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CELLULAR PARTITION RELEASABLY LOCKED IN A COMPARTMENTED SHIPPING CONTAINER

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FIG.8

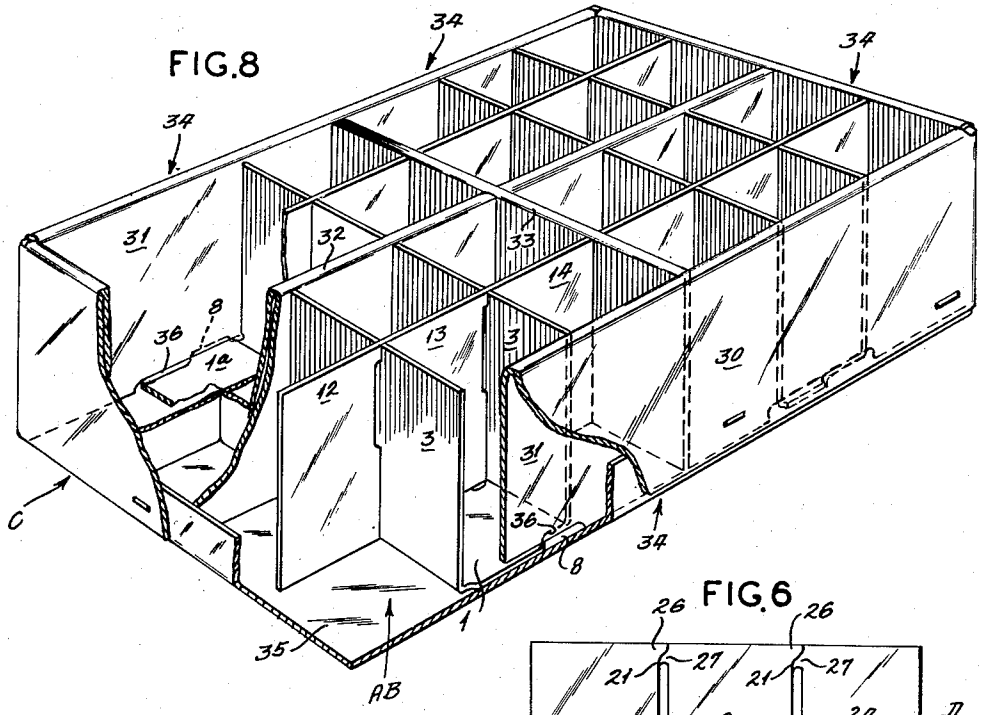


FIG.6

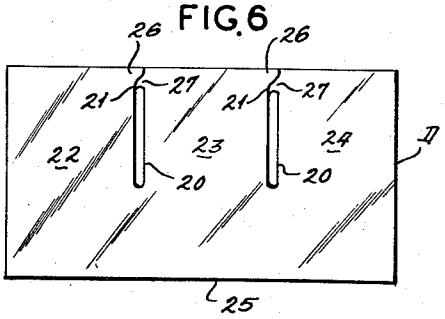
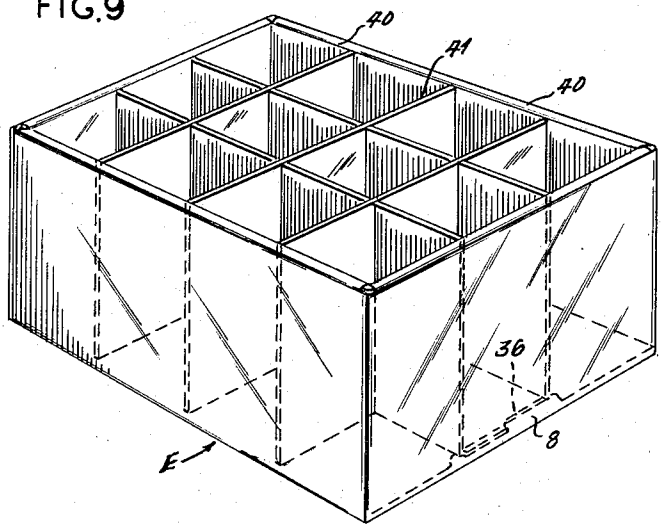


FIG.9



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2,925,209

CELLULAR PARTITION RELEASABLY LOCKED IN A COMPARTMENTED SHIPPING CONTAINER

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Application October 24, 1956, Serial No. 617,967

1 Claim. (Cl. 229—15)

The invention relates to an improvement in the combination of a rigid 6-cell partition unit of the kind described in the Paul Wasyluka Patent No. 2,717,713, entitled, "Partition for a Container," which issued September 13, 1955, and a multi-trip tray, preferably of the kind described in the Wasyluka application S.N. 259,379, filed December 1, 1951, now Patent No. 2,823,845 entitled, "24-Bottle Beverage Case," whereby the partition unit is releasably locked in a unit receiving compartment of the tray of the kind described in the above referred to application.

The partition unit has added thereto a locking shoulder on each end of the base panel of a U-shaped transverse member thereof while the tray is divided by longitudinal and transverse members into compartments each corresponding in length and width to a partition unit. The side walls of the tray have upper marginal flaps folded inwardly flatwise against the side walls and provided with elongated cutouts in their lower margins positioned in each compartment to receive the locking shoulders of the partition units, whereby the partitions are securely but releasably locked in the tray.

The two-piece cellular partition of the present invention is characterized in the preferred embodiment by substantially rigid rectangular cells, which qualify it for use with high-speed automatic loading machines. The partition comprises a U-shaped transverse member and a flat separating member similar to those shown in Figs. 1 and 2 of the Patent No. 2,717,713. The U-shaped member has a base panel with parallel upstanding cell forming walls integral with each side edge thereof. The base panel has a transverse slot extending from side to side, laterally displaced from a straight line, forming a locking seat in the base panel, the slot continuing into and bisecting each cell forming wall and terminating inwardly from the upper edge of the walls. The flat separating member has two spaced slots extending downwardly from its upper edge, terminating inwardly of its lower edge and defining three cell forming panels of substantially equal width.

In the assembled position of the partition, the spaced slots of the separating member straddle the solid portions of the cell forming walls of the U-shaped member and the lower edge of the intermediate panel of the separating member rests on and is releasably locked to the transverse member by the locking seat in the base panel thereof, forming a rigid six-cell partition unit. The locking shoulders on each side edge of the base panel of the transverse U-shaped member are positioned in reverse relation to each other and extend outwardly beyond the plane of the vertical side edges of the cell forming walls of the transverse member in the assembled form of the partition.

In some instances, especially where the partition units are formed of relatively light weight paperboard, the central panel of the longitudinal separating member may have a tendency to become displaced from its proper

vertical relation and possibly interfere with high-speed machine loading.

To avoid any possibility of such interference the separating member may be provided with a device which automatically locks the upper margins of the separating panels in right angular relation to the cell forming walls of the transverse member. The locking device is formed by terminating the slots in the separating member a short distance from the top edge thereof and providing a slit from one side boundary of the upper terminous of each slot extending outwardly in the form of a reverse curve and terminating at the top edge of the separating member in an upward extension of the plane of the other side boundary of the slot. The slit forms locking ears on the upper margins of the adjacent panels of the separating member which enter slots provided in the cell forming walls of the transverse member, securing the top margins of each of the cell walls against movement in any direction.

In a preferred form of the invention a tray similar to either of the trays disclosed in the above referred to application Serial No. 259,379 is divided into four compartments by a longitudinal partition and a central transverse partition, each designed to receive a partition unit. The side wall downturned flaps of the tray are provided with elongated cut-outs in their free lower longitudinal edges disposed in each compartment into which the hereinbefore described locking shoulder of the assembled cellular partition unit snaps and is releasably held as the unit is inserted downwardly into the compartment until the base panel rests upon the bottom panel of the tray. This locking device secures the partition units in the compartments against displacement regardless of the position of the tray, yet due to the resiliency of the paperboard forming the locking shoulder, permits the release of the unit from the compartment when desired.

The dimensions of the compartments are such that the vertical edges of the partition units are held in rigid right angular relation to the walls of the compartment and to each other by friction, further removing the need for any manual adjustment and unqualifiedly adapting the combination of the tray and cellular partition units of the invention to use by automatic high-speed bottle loading equipment.

Other styles of shipping trays may be employed having down turned side wall flaps with locking cutouts in their lower free end edges located to receive a shoulder of a six-cell partition unit. Another requirement of the tray is that it shall have one or a plurality of compartments each dimensioned to frictionally receive a six-cell partition unit. In the preferred forms of the tray, handholes are provided in the end walls and the longitudinal dividing partition may terminate at substantially the height of the walls of the tray or may extend above the walls with a handhole in its upper margin.

An object of the invention is to provide a compartmented multi-trip beverage shipping carrier in combination with rigid six-cell partition units releasably locked in each compartment against accidental or unintentional displacement regardless of the position of the carrier.

Another object is to provide means for releasably locking cellular partition units of the kind described in the Wasyluka Patent No. 2,717,713 in a carrying tray divided into compartments each dimensioned to frictionally receive a partition unit and having side wall upper marginal flaps folded inwardly and downwardly with their free end edges abutting the bottom panel of the tray. The said means comprising a shoulder extending outwardly from the ends of the base panel of the partition and cooperating cutouts in the end margins of the side wall flaps of the tray into which the shoulder of the

partition snaps and becomes releasably locked when the partition is inserted downwardly into the compartment until the base panel rests on the bottom panel of the tray.

Still another object is to provide in a compartmented multi-trip beverage tray in combination with modified rigid six-cell partition units releasably locked in each compartment against accidental displacement, means for locking the upper margins of the cell forming panels of the separating member in alignment with each other and in right angular relation with the cell forming walls of the U-shaped member of the partition. The said means comprising terminating the spaced slots in the separating member below the upper edge thereof and slitting the remainder of the distance to the upper edge of the member in the form of a reverse curve, thereby providing locking ears which in the assembled form of the partition, secure the cell forming walls and separating panels in substantially rectangular relation to each other.

The invention also consists in the parts and in the arrangements and combination of parts hereinafter described and claimed. In the accompanying drawings which form part of the specification and wherein like numerals and symbols refer to like parts wherever they occur:

Fig. 1 is a plan view of a blank forming the U-shaped transverse partition member;

Fig. 2 is a plan view of the longitudinal flap separating member;

Fig. 3 is a perspective view of the assembled partition in inverted position illustrating the under side of the base panel;

Fig. 4 is a perspective view of the assembled partition in its normal position; and,

Fig. 5 is a plan view of the assembled partition showing the slot extending across the base panel, defining a part of the base panel on which the bottom edge of the separating member rests;

Fig. 6 is a plan view of a modified form of the separating member;

Fig. 7 is a partially cut-away sectional view of the separating member of Fig. 6 showing the means for locking the cell walls in right angular relation;

Fig. 8 is a perspective view partially cut away showing a partition unit locked in a compartmented tray;

Fig. 9 is a perspective view of a two-compartment tray having 12 bottle cells.

The blank A, Fig. 1, is divided by parallel transverse scores 2 into an intermediate base panel 1 and substantially counterpart cell forming walls 3. The base panel has a slot 4 extending from side edge to side edge at its mid-length, the slot being laterally displaced from a straight line, defining a locking seat 6 for a purpose to be described later. The slot 4 may be the arc of a circle or any other form which results in a portion of the panel extending across a straight line from side edge to side edge to form a locking seat at least the thickness of the paperboard. The slot also divides the base panel into portions 1*a* and 1*b*. The ends of slot 4 continue as at 5 into the cell forming walls 3 approximately bisecting the walls and terminating within their outer half of the walls. Each of the outer end portions of sections 1*a* and 1*b* have a shoulder 8 in opposed relation extending outwardly beyond the side edges of the cell forming walls 3.

The blank B, Fig. 2 is trisected by slots 10 into substantially equal portions 12, 13 and 14. The slots extend from the upper edge of the blank downwardly in parallel relation and terminate inwardly of the bottom edge 15 of the blank. The outer boundaries of the slots are flared as at 11 to facilitate the assembly of the blank A and B into partitions shown in Figs. 3 and 4.

Fig. 3 is a perspective view of the assembled partition showing the slot 4 extending across the base panel forming the seat 6 which locks the separating member in the assembled form. Fig. 4 is a perspective view of the assembled partition of Fig. 3 in normal position for inserting into a compartment of a carrying tray. Fig. 5 is a plan view of the assembled partition of Fig. 4 showing the locking seat 6 in the base panel 1.

The blank D of Fig. 6 is a modification of the separating member B Fig. 2. In this modification the slots 20 trisect the blank and define substantially counterpart panels 22, 23 and 24. The slots however terminate a short distance from the upper edge of the blank. From the upper termini of the slots, the blank is separated by a reverse curve slit 21 which forms locking ears 26 and 27 which as will be explained hereinafter lock the panels 22, 23 and 24 in right angular relation to the cell forming panels 3 of the transverse partition member. It is to be noted that when the modified separating member D, Fig. 6 is employed, a slot 7 is provided in the transverse member A Fig. 1, to receive the locking ears 21 in the assembled form of the partition. A vertical section of the assembling partition, Fig. 7, shows the position of the elements of Fig. 1 and Fig. 6, when these parts are fully integrated.

A carrying tray divided into four compartments by longitudinal and transverse partitions 32 and 33 with six-cell partitions inserted in each compartment and partially broken away to illustrate the locking means is shown in perspective in Fig. 8. The upper marginal side wall flaps 31 are folded downwardly flatwise against the side walls 30 with their lower free edges abutting the bottom panel 35 of the tray. The free end margins of the down turned flaps 31 are cutout as at 36 to receive the locking tongues 8 on the outer edge of the base panel of the partition.

A two compartment tray is shown in perspective in Fig. 9. The compartments 40 extend across the tray and are divided by a transverse partition 41 thus providing a 12-cell bottle carrier. In this form of the invention the partition units are locked into the tray as hereinbefore described in connection with the 4 compartment, 24-bottle tray.

The partition unit comprising transverse member A, Fig. 1, and either the separating member B, illustrated in Fig. 2, or the modified separating member D, illustrated in Fig. 6 are assembled precisely as illustrated in Figs. 3 to 11 inclusive, and described in the specification, column 3, lines 3 to 48 inclusive of the Wasyluka patent hereinbefore referred to No. 2,717,713. The fully assembled partition of the subject invention is illustrated in the perspective drawing 3, which corresponds to the Fig. 11, of the above referred to patent, the sole difference being that in the present invention, locking shoulders 8 are provided on the ends of the base panels 1*a* and 1*b*. The perspective drawing, Fig. 4, shows the assembled partition of Fig. 3, in its normal position ready for insertion into a compartment of the carrying tray. It is to be noted that as a result of the assembly of the transverse and separating members as described, the lower edge 15 of the separating member rests upon and is securely locked in integrated relation with the transverse member.

It is to be understood that the embodiments herein described are illustrative and not restrictive and it is also to be understood that the invention may be susceptible of embodiments in other modified forms and that all such modifications which are similar or equivalent hereto come equally within the scope of the appended claim.

What I claim is:

A beverage carrying tray with at least two integrated rigid two-piece six-cell side-by-side units releasably locked therein, the tray having a bottom wall and connected together opposed pairs of upstanding walls, one pair of opposed walls each having upper integral flaps infolded downwardly in substantial parallelism with relation to its adjacent wall and with the end edges of the flaps abutting the bottom wall, the downturned flaps each hav-

ing an elongated cut-out at its lower free end portion, permanent irremovable partition means in the tray and dividing the tray into at least two compartments of fixed dimensions, the intermediate cells only of the six-cell partition units each including upstanding walls which have opposed free straight vertically disposed end edges and the walls being connected at their lower portion by a transverse rigidizing base panel seated on the bottom wall of the tray, each base panel having an outwardly projecting tongue on each of its respective outer free end edges, the width of each tongue being substantially half the width of the base panel and in the plane of said panel, one tongue being diagonally disposed with respect to the other tongue, at least one of said tongues on each base panel extending into one of said cut-outs in the said respective opposed downturned flaps of the tray, the opposite respective vertically disposed end edges of each of the units being in alignment with the end edges of the other unit and with their respective vertical edges

in contact with the downturned flap and an adjacent portion of the partition means, whereby the permanent irremovable partition means and the said opposed flaps of the opposed walls rigidize each unit in each compartment of the tray when the said vertical edges of each unit are in contact respectively with the downturned flaps and with adjacent portions of the partition means and the tongues will prevent accidental or unintentional removal of the unit from the compartment but permit deliberate manual removal therefrom.

References Cited in the file of this patent

UNITED STATES PATENTS

489,664	Sheperd	Jan. 10, 1893
549,783	Guilbert	Nov. 12, 1895
2,199,740	Carney	May 7, 1940
2,643,810	Fleming	June 30, 1953
2,717,713	Wasyluka	Sept. 13, 1955
2,728,485	Howard	Dec. 27, 1955