

Sept. 28, 1943.

G. W. BOH ET AL
BOTTLE PARTITION OR DIVIDER

2,330,671

Filed March 12, 1941

2 Sheets-Sheet 1

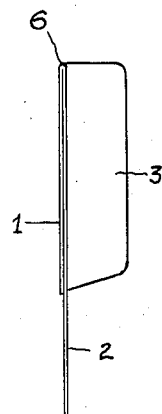
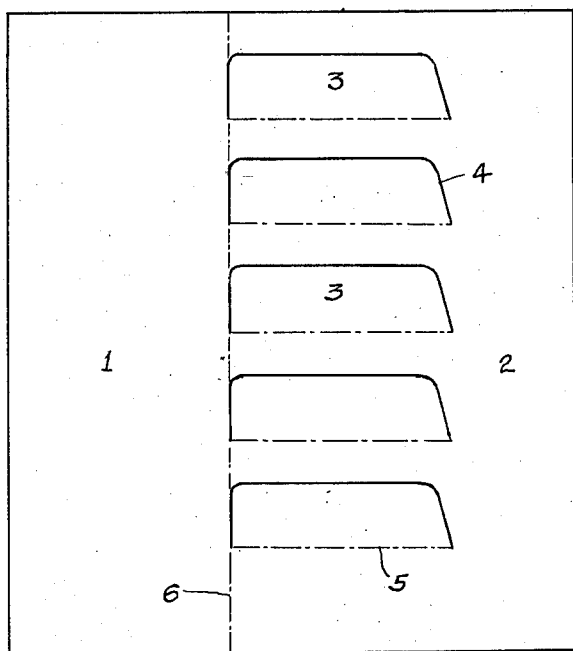


FIG. 3.

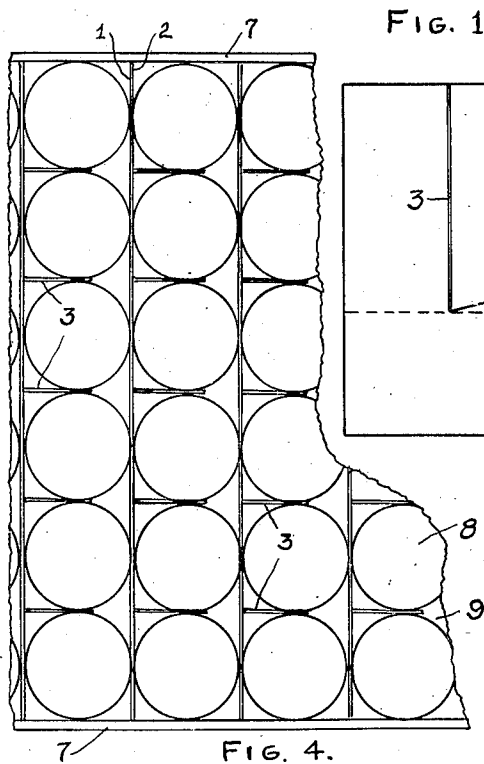


FIG. 1

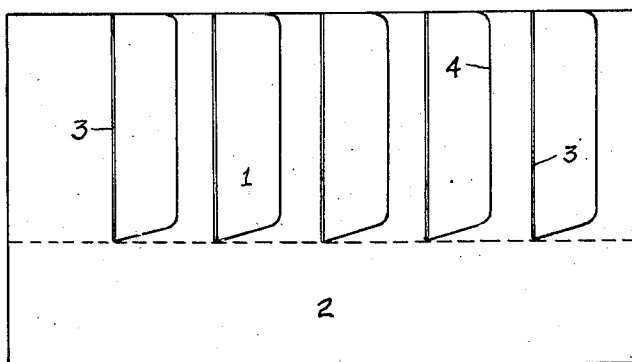


FIG. 2.

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2 Sheets-Sheet 2

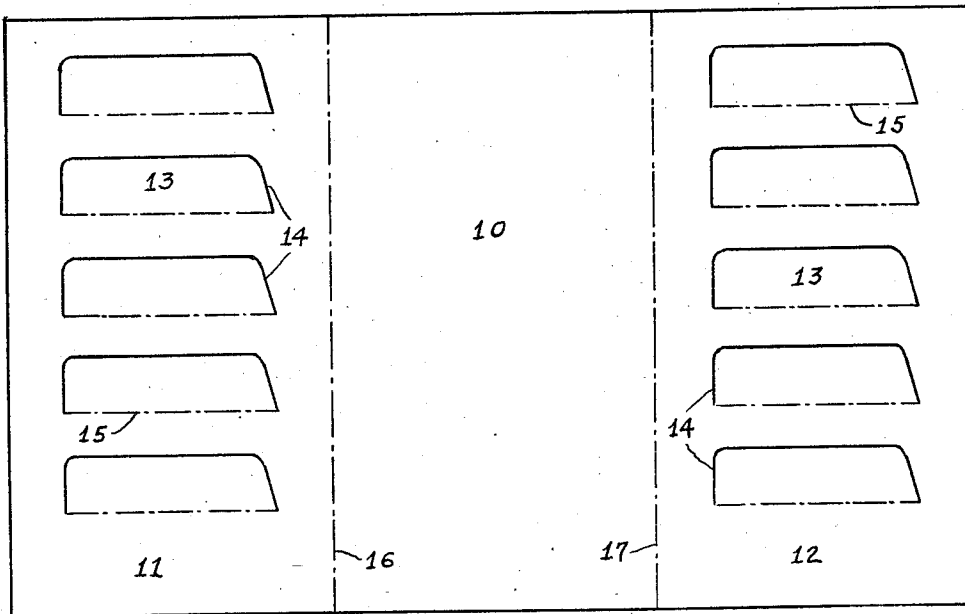


FIG. 5.

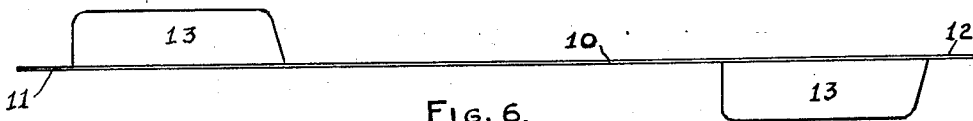


FIG. 6.

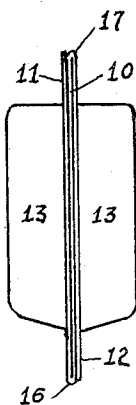


FIG. 7.

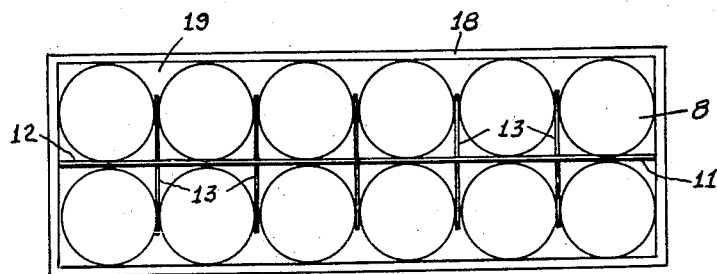


FIG. 8.

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2,330,671

BOTTLE PARTITION OR DIVIDER

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Application March 12, 1941, Serial No. 382,929

3 Claims. (Cl. 229—42)

Our invention relates to partition or divider elements, and more particularly to such elements for separating bottles and preventing them from rubbing together during shipping or transportation.

Heretofore in the prior art it has generally been the practice in shipping or transporting bottles from the factory where they are made to the bottler or consumer to pack them in paper board or card board containers in rows, and in some instances the rows are spaced apart by partitions of paper board or other material.

It has been found that during transportation bottles so packed tend to rub together and sometimes cause breakage. However, one of the principal objections occurs when bottles having irregular outer contours or raised figures, designs, or letters thereon are subject to this rubbing or abrasion, in which case the surface of the glass on these raised or irregular portions is rubbed off and the remaining surface assumes a creamy white color which is very difficult to read or follow, detracts from the appearance of the bottles, and removes the newness from them before they reach the purchaser. A very marked effect has especially been noted on "Coca-Cola" bottles during shipment.

The use of plain partition or divider elements separates the bottles to some extent but not completely. That is, the bottles in separate rows are partially separated from each other and the rubbing engagement thereof is materially reduced but no substantial separation of the bottles within the rows is effected by such partition. Efforts have been made by staggering and offsetting the bottles in the row to reduce rubbing and contact generally, but this requires bending or distortion of the dividers and reduces somewhat the available packing space of the container. Furthermore, these dividers or partitions not being co-extensive with the bottles in the separate rows permit some contact and rubbing between them.

While applicants recognize that tabs have been employed in other arts as subdividing partitions to prevent breakage in handling very fragile articles and as supporting elements for others when the container is partially emptied, apparently no one has recognized their value in solving the problems of this art or has been able to adapt them to the structures of the art in such a manner as to overcome the aforesaid defects.

Examples of the use of tabs or subdividers may be found in such patents as Henning, 713,216 wherein tabs are struck from the side walls of the box and turned inwardly to subdivide the

two rows of the box. For eggs or light fragile articles packed in small quantities such a box would be satisfactory. It could not be applied, however, to a box of general application, nor to a large box having many rows of articles. The breaking down of the sides in this manner would also weaken the container too much for use with large, heavy articles such as bottles. The same would also be true of a container such as Cohon, 1,028,438 where tabs folded inwardly from the walls of a box serve to support and retain cigarettes in place as the container is progressively emptied.

Likewise, it is recognized that partition elements have been used for retaining collapsible metal tubes in place, such as Heinick, 1,016,148, and Cooney, 1,922,233, but would be wholly unsuited for the separation of bottles in the manner desired, since openings formed by the struck out portions of the tabs would permit portions of the bottles in adjacent rows to contact each other as heretofore mentioned.

Applicants with a knowledge of all these defects in and objections to the prior art have as an object of their invention the provision of a partition or divider element for use with a box or container of general application which will separate not only the rows of bottles therein but also the bottles in each row from contact and rubbing engagement.

Applicants have as another object of their invention the provision of a partition element for use with two rows of bottles or for interposition between alternate rows of bottles in a container for not only separating the rows of bottles but also separating the bottles in the rows on either side thereof.

Applicants have as another object of their invention the provision of a partition or divider element which may be made in large quantities, nested together in stacks, shipped to bottle manufacturers or consumers and easily and quickly removed from such stacks as they are used in the packing of bottles for shipment.

Applicants have as another object of their invention the provision of a partition or divider element having struck out tabs with beveled portions to facilitate the removal of the partition elements from the nested stacks.

Applicants have as another object of their invention the provision of a partition or divider element for quick and easy insertion between rows of bottles and for offering complete separation between said rows of bottles and the individual bottles in each row.

Applicants have as a further object of their invention the provision of a partition or divider element having a series of struck out portions or tabs forming subdividers for the separation of the bottles in a row and a folded over portion for covering the openings formed by the struck out tabs and serving not only to separate the bottles in adjacent rows, but also as a stiffener for the upper extremity of the partition element.

Other objects and advantages of our invention will appear in the following specification and the accompanying drawings and the novel features thereof will be particularly pointed out in the annexed claims.

In the drawings, Fig. 1 is a plan view of the blank from which one form of our improved partition or divider element is formed. Fig. 2 is a front elevation of the same form of partition element folded into operative position. Fig. 3 is an end elevation of the same form of partition element or divider. Fig. 4 is a fragmental plan view of the series of the same form of partition elements in operative position and separating a series of rows of bottles in a box or container. Fig. 5 is a plan view of the blank of a modified form of our improved partition element. Fig. 6 is an end view of the modified form of blank before being folded into operative relation. Fig. 7 is an end elevation of the modified partition element folded into operative position. Fig. 8 is a plan view of a container with our modified partition element used therein for the separation of two rows of bottles.

Referring to the drawings in detail, Fig. 1 shows one form of the blank of our improved divider or partition element wherein 2 designates the body portion thereof which is joined through a crease line 6 to a flap or folded over portion 1. Struck outwardly from the body portion 2 in spaced relation adjacent the crease line 6 is a series of tabs 3 defined by slit 4 and joined to body 2 through crease line 5 having upper straight edges and lower beveled edges, the lower beveled edges being for the purpose of facilitating the removal of partition elements from nested stacks by lifting the lower edge of the body 2. The tabs 3, 3 are of such width as to be substantially co-extensive with the bodies of the bottles and of such length as to extend to or beyond the line of contact of the bodies of adjacent bottles in a row.

In its use the flap 1 is folded back on the body 2 of the partition element and with the tabs 3 projecting outwardly or forwardly from the opposite side of the body as shown in Fig. 3 the partition element is positioned against one end wall of a container such as shown in fragmental detail in Fig. 4 wherein 7, 7 designate the sides and 8 the bottom. In this position the lower free edge of body 2 of the partition element rests upon bottom 8 and the upper creased and folded edge 6 serves as the reinforced upper extremity of the partition. Bottles 9, 9 are then inserted in the box with necks down, engaging and resting upon bottom 8 and with the bottoms of the bottles up. In this manner the bottles are so positioned in a row across the box or container that the forwardly extending tabs 3, 3 of the partition element are interposed between and separate the bottles of the row. Then another partition element is inserted in the same manner and a second row of bottles is progressively built up, and so on until the container is filled.

It will be apparent that the bodies of the bottles 9 are engaged substantially throughout their lengths by the substantially co-extensive tabs 3 which are bent outwardly along the crease line 5 or their line of juncture with the body 2. The height of partition 2 is substantially the same as the height of the bottles and serves to separate rows of them. The folded over flaps 1 stiffen the partition element adjacent its upper edge, serve to cover the openings formed by the struck out tabs 3, 3 and prevent contact of bottles in rows on either side of the partition through such openings.

In the other form of partition element 11, 12 designate outer body portions joined to an intermediate flap 10 through crease lines 16, 17. Each body 11, 12 has a series of struck out tabs 13 positioned in spaced relation, joined through crease lines 15 to their respective bodies 11, 12, and defined by slits 14, 14. The inner edges of tabs 13 on body 11 and the outer edges of the tabs 13 on body 12 are beveled to facilitate removal from a nested stack thereof by lifting of the extremity of body 12 of the blank.

In setting up the partition, body 12 is folded downwardly along crease line 17 and body 11 is folded upwardly along crease line 16, with tabs 13, 13 extended outwardly from the partition on either side thereof and having flaps 10 interposed between bodies 11, and 12 as indicated in Fig. 7.

The partition is then inserted in preferably a box of the character disclosed in Fig. 8 with crease line 16 resting on the bottom 19 and crease line 17 forming the upper extremity. Bottles 8 are then inserted in the container on either side of the partition with their necks resting on bottom 19 and tabs 13 interposed between the bodies of the bottles in each row, separating the bodies of the bottles 8 and extending along them in the same manner as indicated in connection with the other form of partition. It will be understood also that the partitions are of substantially the same height as the bottles and effect complete separation. In addition the tabs 13 are of substantially the same width as the lengths of the bodies of the bottles. In both modifications also the beveled portions of the tabs are positioned towards the bottle necks rather than towards the bottom of the bottles.

It will be understood also that a partition of the type of the latter modification may be used in conjunction with plain partition elements where a series of rows of bottles are packed in a box by using this modified partition between alternate rows of bottles and a plain partition between the other rows.

In this latter construction the flap 10 serves to cover the tab forming openings in both bodies 11 and 12 for separating the bottles in adjacent rows from contact. And it will be understood that in both modifications the flaps may be folded on the body, or, bodies folded on the flaps, and this term is to have no significance in the method since when used herein, for it is only used to indicate the relation of the elements with respect to each other and not the manner in which they assume this relation.

Having thus described our invention, we claim:

1. A bottle partition element formed from a single blank for insertion between rows of bottles comprising a body portion of substantially the same height as the height of the bottles to be separated, vertical tabs struck from said body at

spaced intervals and bent outwardly at right angles to the body for interposition between adjacent bottles in a row, a flap along the upper edge of said body portion, said flap being hingedly connected to the body portion to fold downwardly upon the plane face of the body portion, the flap being of sufficient width to completely cover the tab openings formed in said body portion. 5

2. A bottle partition element formed from a single blank for insertion between rows of bottles having a longitudinal crease defining a main body portion of a height corresponding to the height of the bottles to be separated, and a flap adapted to fold upon one face of the body portion, and vertical tabs struck from said body at spaced intervals and bent outwardly at right angles to the body portion for interposition between adjacent bottles in a row, said flap being of 10

sufficient width to completely cover the tab openings formed in said body portion.

3. A bottle partition element for insertion between adjacent rows of bottles comprising a sheet body divided by spaced parallel creases to form an intermediate and end sections of equal width, said end sections being adapted to fold over opposite faces of the intermediate section, and vertical tabs struck from said end sections at spaced intervals and bent outwardly at right angles to the faces thereof for interposition between the adjacent bottles in a row, said intermediate section completely covering the tab openings to prevent contact between the bottles of adjacent rows. 15

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