Oct. 20, 1959 M. R. LEVITT 2,909,311

MULTIPLE CELL CARTONS

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Fig. 1.

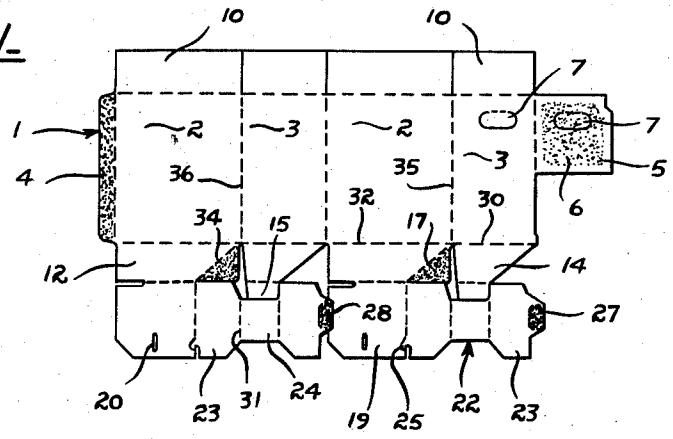


Fig. 2.

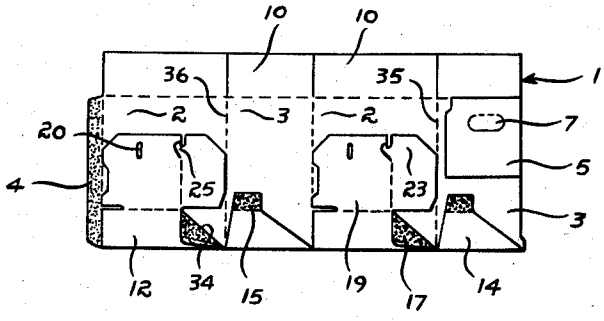


Fig. 3.

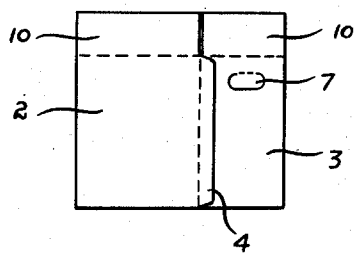
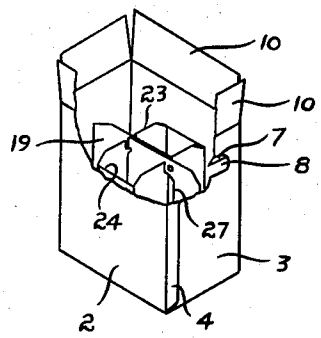


Fig. 4.



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Fig. 5.

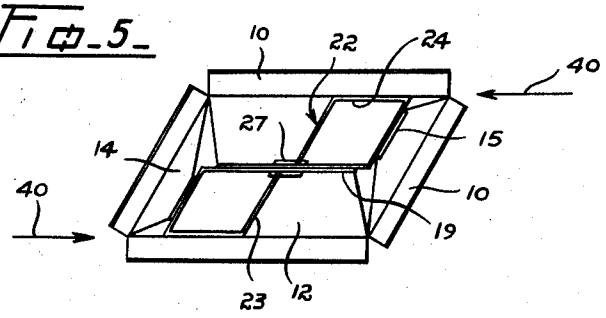


Fig. 8.

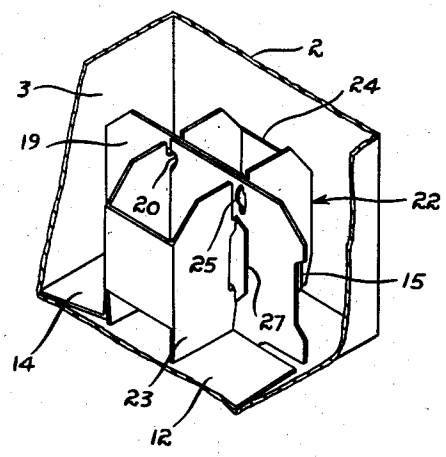


Fig. 7.

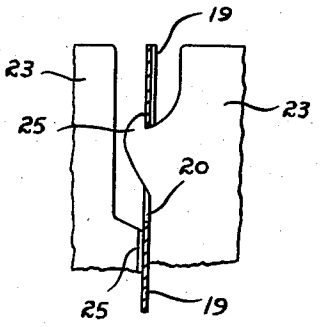
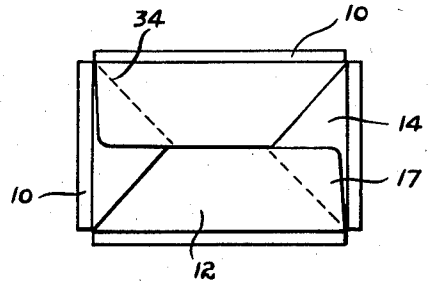


Fig. 6.



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MULTIPLE CELL CARTONS

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Application January 2, 1958, Serial No. 706,791

3 Claims. (Cl. 229—28)

My invention relates to improvements in multiple cell cartons.

Cartons having an internal cell structure such as are regularly used for carrying bottles and which are provided with a top closure are usually made of corrugated cardboard and have to be entirely assembled from the blank at the plant where the cartons are to be filled with their bottled goods.

It is amongst the objects of the invention to provide a carton which can be blanked out of a single sheet of plain cardboard and be partly assembled with the appropriate parts glued together. When the collapsed structure is required for filling, endwise pressure is exerted upon the folds of the collapsed carton, which will cause it to assume its appointed rectangular box-like form ready for loading with bottles.

Since cartons so designed are normally formed manually as above described, and are often delivered to a loading point by a conveyor having a downward slop along which the cartons must travel, means are provided for automatically locking the cell structure against reverting to collapsed form as it descends said slope, so that it shall still be properly erected on arrival at the point of loading.

The above and other objects of the invention will appear in the following description taken in conjunction with the accompanying drawings, in which:

Figure 1 is a plan of a blank from which the invention is made.

Figure 2 is a view showing the blank after the first fold is made.

Figure 3 is a view showing the joining of the outer end wall and side wall together and the collapsing of the blank to a condition ready for delivery to the bottling warehouse.

Figure 4 is a perspective of the carton opened ready for loading.

Figure 5 is an enlarged plan looking down into the carton as the several parts are moving to assume a box-like form.

Figure 6 is a plan looking up at the bottom of the completed carton.

Figure 7 is a detail section showing the lock for holding the cell structure in locked open position.

Figure 8 is a fractionated perspective of the carton showing the cell parts locked together to support the carton in rectangular box-like form.

In the drawings like characters of reference indicate corresponding parts in each figure.

The blank **1**, from which the carton is wholly made up, is creased and incised as shown to provide two side walls **2**, two end walls **3**, a glued side flap **4** and a handle flap **5** which is glued on its inner face as indicated by shade dots as at **6**.

The handle flap **5** is adapted to be folded over and glued to the inner face of the adjacent end wall **3** and a knock-out flap **7** is blanked out in each of these parts. The flap **7** can be folded inwardly into the carton body

when filled and handed to the ultimate user to provide a hand hole **8** in double thick material by the use of which the filled carton can be conveniently carried.

The glue flap **4** is intended finally to bind the side wall **2** at left to the end wall **3** at the right as shown in Figures 3 and 4. A top closure flap **10** is provided at the upper end of the side walls **2** and end walls **3**, which flaps are to be folded in the usual way after the carton is loaded. Bottom wall flaps **12** are provided on the lower edge of the side walls **2** and bottom wall flaps **14** are similarly provided on the lower edge of the end walls **3**. Each of the bottom wall flaps **14** are provided with a turn up tab **15** which is coated with glue on its outer side as indicated by shade dots in Figure 2. The right hand lower corners of the bottom wall flaps **12** are creased to provide triangular tabs **17** which are glued on their front faces as shown in Figure 1 and are folded back upon their bottom wall flaps as shown in Figure 2.

At the lower edge of each bottom wall flap **12** is a divider **19** which in width is two-thirds of the length of the carton. This divider is provided intermediate its width with a slot **20**, which slot is clearly shown in Figure 7. To the right of each divider an extension **22** is provided, which is divided into three panels consisting of two transverse cell walls **23** and a connector wall **24**. The transverse cell wall **23** to the left of the wall **24** is provided with a hook **25** which in the final forming motion of the carton automatically latches into complementary slot **20** of a divider **19**. The transverse cell wall **23** to the right of the wall **24** is provided with a lozenge shaped sticker **27** which is glued on its inner face and is incised and creased as at **28**. The lozenge shaped sticker **27** is adapted to be united to the longitudinal center of the divider **19**, as illustrated in Figure 8.

All glued areas will preferably be coated with a pressure setting glue, so that all parts will be united when the blank is appropriately folded and subjected to the required pressure.

In preassembling the blank for sale to the bottled goods producer, handle flap **5** is first folded inwardly to cover the right hand end wall **3** to strengthen it and provide a hand hole for the carton as previously described. Subsequent to the folding of the handle flap **5**, the bottom wall flaps **14** are folded along the crease lines **30** onto the end walls **3**. The right transverse cell walls **23** and connector walls **24** are folded as a unit along the lines **31** into contact with the divider **19** and the left transverse cell wall. By folding the bottom wall flaps **12** along the crease lines **32**, said wall and associated parts are placed in contact with the adjoining side walls **2**. The triangular tabs **17** are then folded along the diagonal crease line **34** so that the several parts are positioned as shown in Figure 2. It then remains for the right end wall **3** to be folded along the crease lines **35** onto the adjoining side wall **2** and for the left side wall to be folded along the line **36** onto the adjoining end wall. The glued side flap **4** then overlies the handled end wall and is united thereto when pressure is applied to the folded carton as shown in Figure 3.

When endwise pressure is applied to the folded carton in the direction indicated by the arrows **40** of Figure 5, the several parts move to assume a rectangular form. Adhesion between the parts **17** and **14** will cause the flaps **12** and **14** to swing to a horizontal position and into a common plane to form the bottom of the carton. The bonding of the tabs **15** to the adjoining cell wall **23** and the uniting of the lozenge shaped stickers **27** to the dividers **19** will cause the cell structure to open up to the position shown in Figures 4 and 8. The forming up of the carton causes the dividers **19** to move substantially in contact with each other and in opposite directions

and also causes the free or unattached ends of said dividers to rise slightly above their opposite ends, so that the latch hooks **25** on transverse cell walls **23** will engage the slots **20**, see particularly Figure 7, and prevent the return of the parts to collapsed position during handling prior to the loading of the carton with bottled goods.

What I claim as my invention is:

1. A multiple cell carton comprising a pair of side walls, a pair of adjoining end walls, said side and end walls being extended to form side bottom flaps and end bottom flaps, said end bottom flaps being provided with a turn up tab having a glued outer face, said side bottom flaps being provided with a triangular tab having a glued inner face united to an end bottom flap, said side bottom flaps having at their free edges a divider, said dividers being disposed lengthwise of the carton and parallel to each other when the carton is extended to box-like form, an extension on each of said dividers, said extensions being foldable to provide transverse multiple cell walls, a transverse multiple cell wall of each extension being united to a glued outer face of a turn up tab, a lozenge shaped sticker on a transverse multiple cell wall of each extension, said stickers having a glued face united to a divider.

2. A multiple cell carton as claimed in claim 1, said extensions having two hinged parts, one of said parts being adapted to be folded parallel to the divider and form with a portion of the divider from which it springs one of the multiple cells.

3. A multiple cell carton as claimed in claim 1, said extensions having two hinged parts, one of said parts being adapted to be folded parallel to the divider and form with a portion of the divider from which it springs one of the multiple cells, one of said dividers having a slot and one of said hinged parts having a latch hook adapted to lodge in the slot and lock the carton against reverting to collapsed form subsequent to its having been pressed into substantially rectangular form.

References Cited in the file of this patent

UNITED STATES PATENTS

2,431,932	Hall	Dec. 2, 1947
2,513,079	Buerger	June 27, 1950
2,662,682	Bolding	Dec. 15, 1953
2,727,653	Pasjack	Dec. 20, 1955