

June 16, 1964

R. A. BERG

3,137,434

CARTON

Filed April 19, 1961

2 Sheets-Sheet 1

Fig. 1.

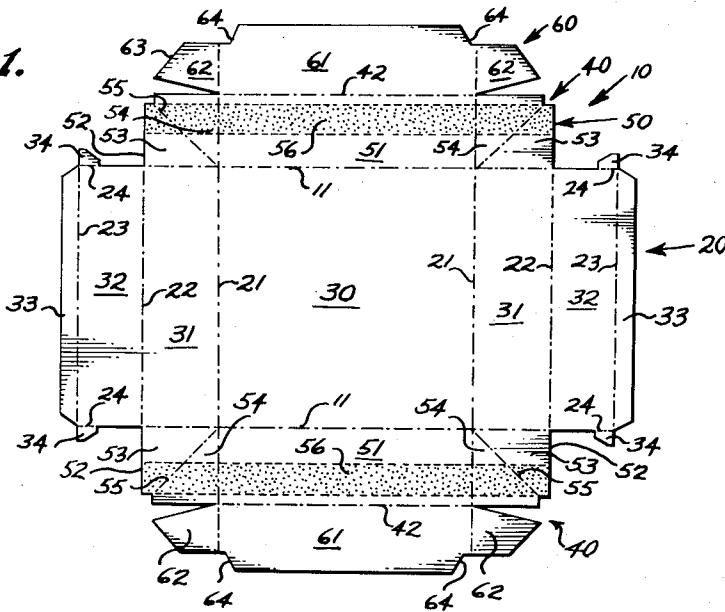
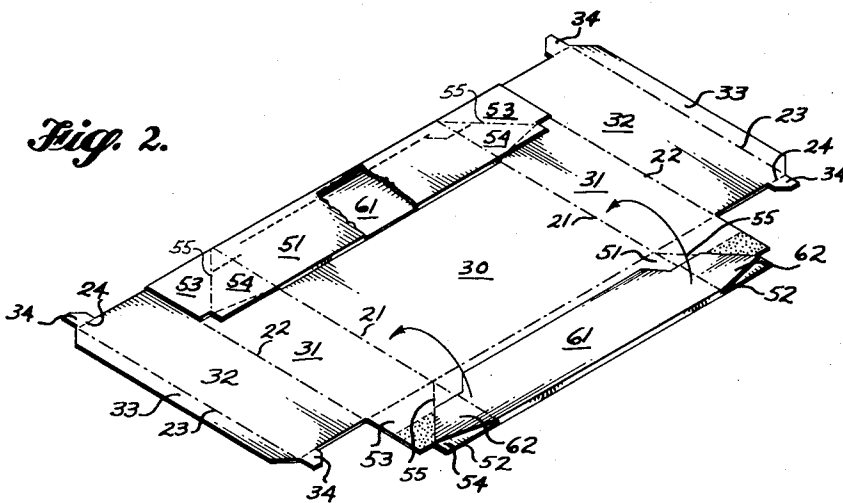


Fig. 2.



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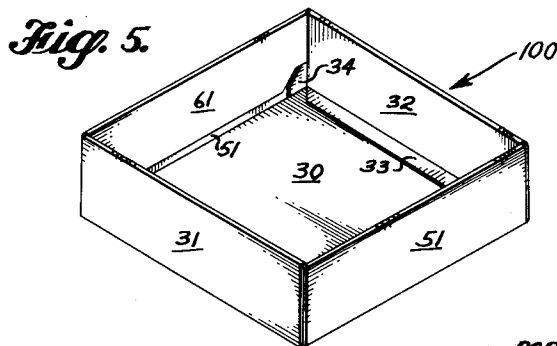
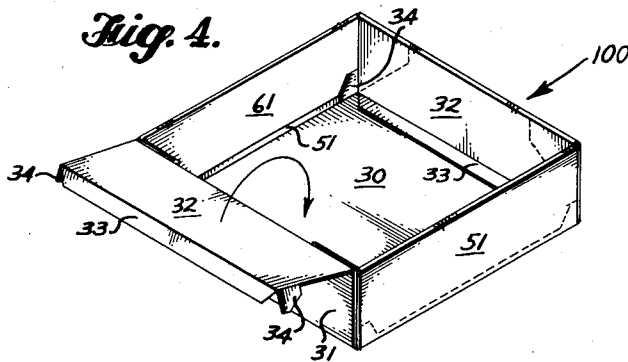
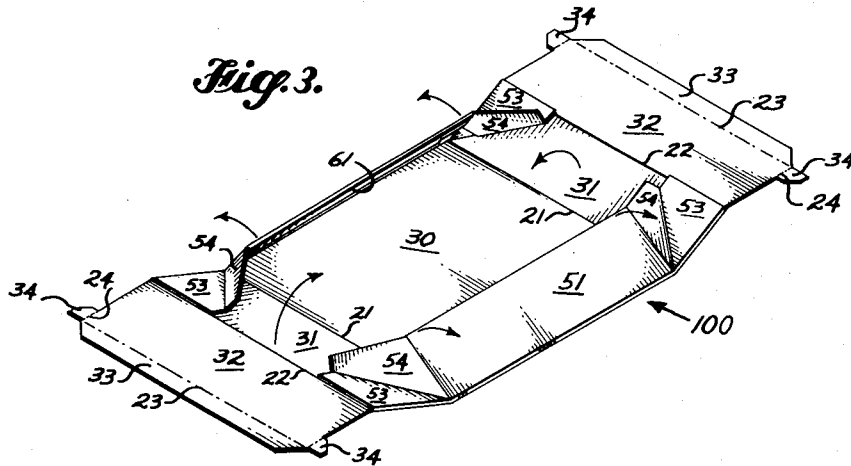
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CARTON

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1 Claim. (Cl. 229—31)

This invention relates to an easily erectable carton having bellows panels connecting the side and end walls wherein the bellows panels are adhered to the end walls.

This type of carton need only be squared to be ready for use. Such a carton typically has the section of each of the connecting, or bellows, panels between the side and end walls that is adjacent to the end wall glued or adhered in some manner to that end wall so that the side walls are forced into an upright position by the bellows panels when the end walls are squared with respect to the base. The carton is maintained in this state by locking the bellows panels in place.

Heretofore, a spot gluing technique has been used to selectively adhere a section of each of the bellows panels to each of the end panels. In this technique, glue is placed on the section of the bellows panel to be adhered to the end wall, but not on the section that was not to be adhered. Since glue is placed over most of the area of the section to be adhered, the technique requires close tolerances on glue placement or the wrong section of a bellows panel might be glued and be adhered to the end wall. If this happens, the carton cannot be squared. Thus, each new length or width of carton requires a repositioning of the spot gluer, requiring additional time and adding to the cost of the carton. These problems are eliminated by the present invention.

It is, therefore, an object of the present invention to provide a carton requiring a minimum amount of time to prepare the applicator machinery for the application of the adhering medium.

It is a further object of this invention to provide a carton of the type described which eliminates spot gluing for the selective adherence of the bellows panel to the end wall.

It is also an object of the present invention to provide a carton of the type described in which only a selected section or sections of each of the bellows panels is adhered to an end wall even though all sections of the bellows panels are glued.

These and other objects will become readily apparent from a reading of the following specification in conjunction with the attached drawings.

FIGURE 1 is a top plan view of a blank of the preferred form of the inventive structure.

FIGURES 2 through 4 are isometric views showing the preferred form of carton in various stages of fabrication.

FIGURE 5 is an isometric view showing the completed version of the preferred form of the inventive structure.

Referring to the figures, the numeral 10 indicates a preferred form of blank for carton 100. Blank 10 is divided by a pair of longitudinal fold, or score, lines 11 into a central panel 20 and side extension panels 40. Central panel 20 is divided by transverse score lines 21, 22, and 23 into a base 30, outer end walls 31, inner end walls 32, and base flaps 33. The inner end walls 32 have locking tabs 34 hingedly connected thereto along score lines 24 which are in alignment with score lines 11.

The side extension panels 40 are also divided into an outer wall panel 50 and an inner wall panel 60 by score line 42. Transverse score lines 21 extend across side extension panels 40 dividing panel 50 into an outer side

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wall 51 and bellows fold members 52, and dividing panel 60 into an inner side wall 61 and end flaps 62. Each of the bellows fold members 52 is formed of two sections 53 and 54 which are hingedly joined along the diagonal score line 55.

In cartons of this type, section 53 is glued to outer end wall 31 but section 54 is not so glued. When end wall 31 is squared with respect to base 30, section 53 which is contiguous with wall 31 is also squared with respect to base 30. Section 54 hingedly connected to section 53 along fold line 55 and hingedly connected to wall 51 along fold line 21 is also raised into an upright position and becomes contiguous with section 53. This action squares side wall 51 with respect to base 30. Inner end wall 32 is folded over bellows fold sections 53 and 54, holding them in place, and is locked to square the carton permanently.

As can be seen, the squaring of this type of carton depends on the selective adherence of the bellows panels. Heretofore this was achieved by a spot gluing technique in which glue was precisely placed over most of the surface of section 53 but was not placed or would not run onto section 54. This precision meant that the carton would cost more because of the additional time that was required to position the spot gluing mechanism at the start of a run of cartons and to check the cartons to make sure that the spot gluing mechanism remained in position.

This precise placement of the glue and its attendant difficulties is avoided in the present carton construction. In this construction a glue line 56 is placed on the inner face of the outer side wall panel 50. As may be seen in FIGURE 1, glue strip 56 extends across both sections of the bellows fold members 52 and the outer side face 51. That portion of glue strip 56 extending across bellows fold sections 54 and outer face 51, is covered by inner wall panel 60. To this end outer edge 63 of each of the flaps 62 is cut diagonally so that it will be contiguous with score line 55 of bellows folds 52 when inner side wall panel 60 overlays outer side wall panel 50.

Following the above operation, the side walls are folded inwardly along fold line 11 until they are contiguous with center section 20 and bellows fold sections 53 are adhered to end walls 31. This operation is shown in FIGURE 2. In this form the cartons are shipped from the carton plant to the user.

The user squares the carton in the usual manner by squaring end walls 31 with respect to base 30, causing the side walls also to be squared with respect to the base. Inner end walls 32 are folded over bellows fold sections 53 and 54, locking these sections in place and locking the carton in its assembled condition. The panels 32 are held in position by locking tabs 34 which are inserted into indentations formed in the side walls by relief 64 in the inner side wall panel 61. The base flaps 33 are contiguous with base 30.

As may be seen, this carton eliminates much of the machinery set-up time that would be required if the carton were spot glued.

While specific details of preferred embodiments have been set forth above, it will be apparent that many changes and modifications may be made therein without departing from the spirit of the invention. It will therefore be understood that what has been described herein is intended to be illustrative only, and is not intended to limit the scope of the invention.

What is claimed is:

A carton comprising

a base having upstanding side and end walls,

said side and end walls comprising inner and outer wall members,

said inner side wall members comprising an inner side

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wall hingedly connected to said outer side wall member along the upper edge thereof, and a pair of end flaps hingedly connected to the side edges of said inner side walls,
 bellows fold members connecting outer side and end wall members, said bellows fold members comprising at least a pair of sections separated from each other by a diagonal fold line,
 said sections being contiguous with and extending between said inner and outer end wall members,
 a single line of adhesive material extending across the inner face of each of said outer side wall members and each of said bellows fold members,
 said inner side wall being contiguous with and adhered to the inner face of said outer side wall member,
 and said end flaps being contiguous with and adhered to the inner face of said bellows fold section adjacent said outer side wall member, said outer side edge of said end flaps being in alignment with the diagonal juncture of the said bellows fold sections,
 said bellows fold section adjacent said outer end wall being adhered to said outer end wall,
 each of said inner side wall having a pair of relief portions along its upper side edges forming indentations in said side walls,

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each of said inner end wall members having a pair of locking tabs hingedly connected to their upper side edges and extending into said indentations in said side walls.

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