No. 717,089. Patented Dec. 30, 1902.

W. H. FERGUSON.

COLLAPSIBLE CELL BOX.

(Application filed June 16, 1902.)

(No Model.)

Fig. I

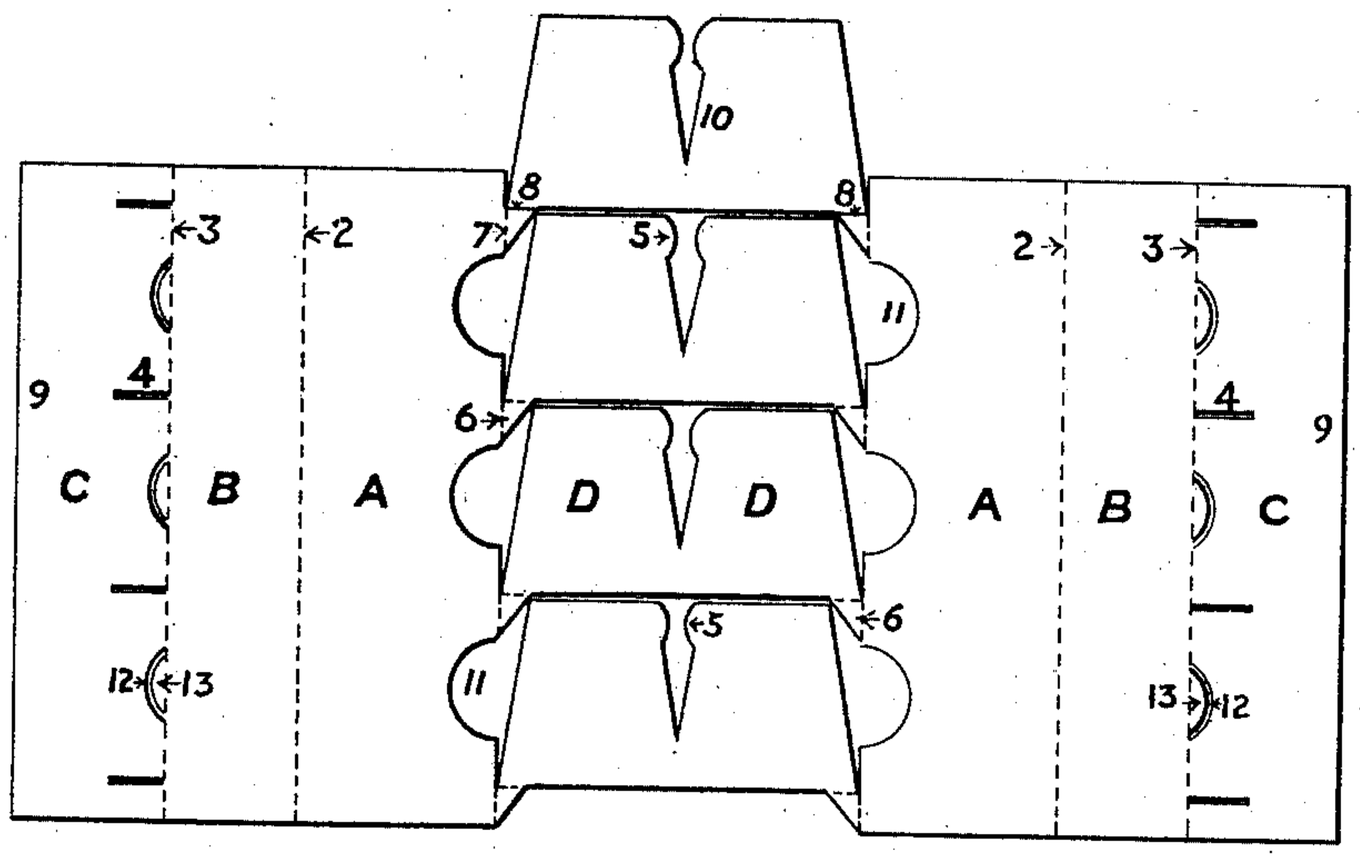


Fig. 2

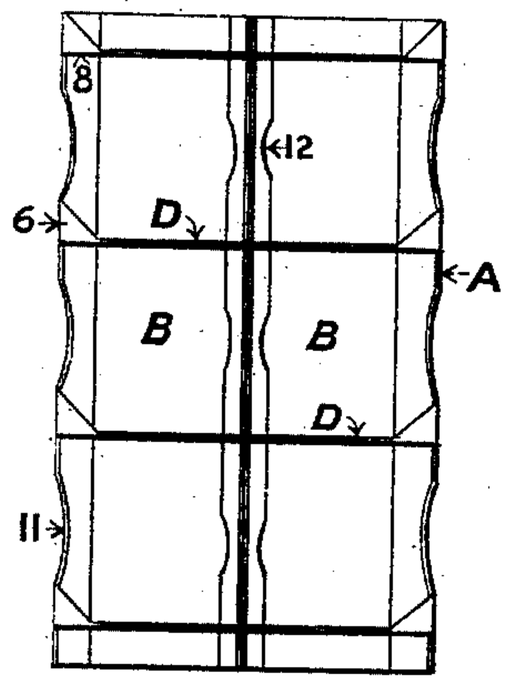
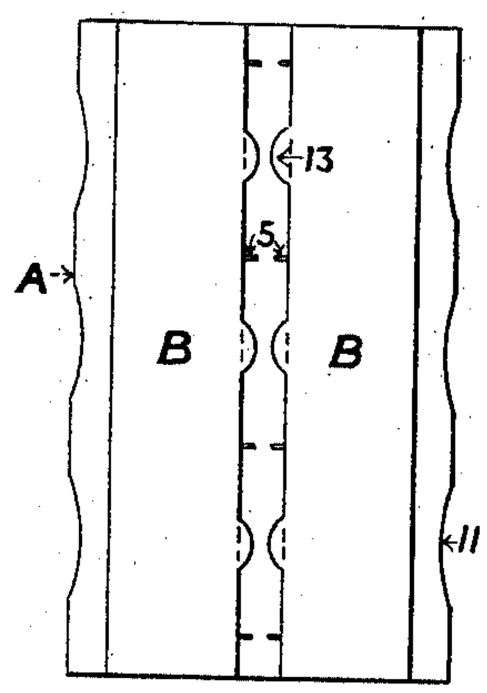


Fig. 3



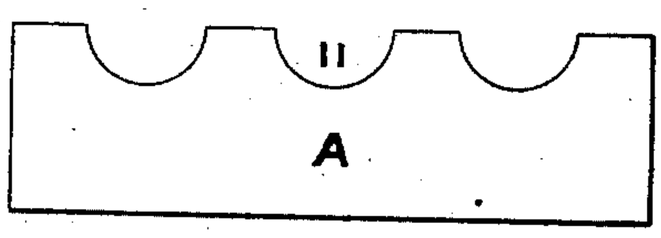


Fig. 4

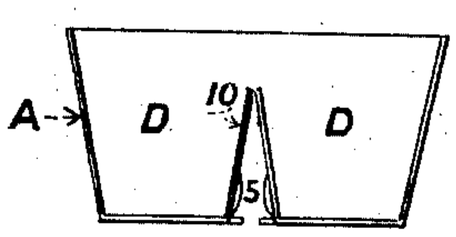


Fig. 5

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UNITED STATES PATENT OFFICE.

WILLIAM H. FERGUSON, OF SAN JOSE, CALIFORNIA.

COLLAPSIBLE CELL-BOX.

SPECIFICATION forming part of Letters Patent No. 717,089, dated December 30, 1902.

Application filed June 16, 1902. Serial No. 111,889. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. FERGUSON, a citizen of the United States, residing at San Jose, county of Santa Clara, State of California, have invented an Improvement in Collapsible Cell-Boxes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in boxes or packages such as are designed to contain eggs, fruit, or like substances; and it consists in the construction of a multiple cell box or package made from a single piece of pasteboard or like material cut to the proper shape and folded to form the cells or compartments.

My invention also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of the box-blank before being folded. Fig. 2 is a top plan view of the completed box. Fig. 3 is a bottom plan view of the box. Fig. 4 is a side view of the box. Fig. 5 is a transverse sectional view of said box.

Compartment-boxes or boxes for containing eggs, fruit, and similar articles and keeping them separate from each other are commonly made of pasteboard or very thin veneers of wood, which being scored or indented at points where they are to be bent or folded may afterward be bent into the form of cells or boxes, some of which are afterward subdivided by transverse partitions, so as to make a number of cells in one package.

In my invention the sides, ends, and transverse partitions are all made from a single sheet of material properly cut and scored, so that it may be folded to form a compartment-box. Such a box is shown complete in Fig. 2. The sides A, bottom B, central partitions C, and the transverse partitions D are all cut from a single sheet of material, with proper lines of indentation or scoring, so that they can be folded into the shape designed. It will be manifest that by the use of proper dies or tools a number of forms may be prepared at each impression, and they can be shipped in a flat or knocked-down form and afterward folded into the box form at the point where they are to be used.

Fig. 1 shows the form of the material when cut out and before folding. An indented line or score-mark is made at 2, which forms the junction of the sides A and the bottom sections B; another indented line or score-mark at 3, which forms the junction between the inner edges of the bottom sections B and the upturned central partitions C. These upturned central partitions have transverse slots made in them, as at 4, for the reception of tongues 5, which are formed upon the inner edges of the transverse partitions D. These partitions D are connected by triangular pieces 6 with the upper edges of the sides A. Indented or scored lines are made, as at 7, between the triangular pieces and the top of the box, so that the triangular pieces may be folded to stand transversely across the top of the box, and similar score-lines are made at 8, which allow the partitions D to be folded down at right angles with the triangles 6, which, in conjunction with the transverse partitions, form the connection to hold the top sides of the box together. The box is formed by folding the parts A, B, and C along the scored lines 2 to form the sides, the bottom sections, and the central upwardly-extending partitions, the edges 9 of which meet centrally. The width of the bottom edges of the sections D, exclusive of the tongues 5, is equal to the width of the bottom sections B of the box. The upper edges of the partitions D are sufficiently longer than the bottom width of the box to cause the sides A to diverge from the bottom. The central upturned longitudinal sections C also diverge from the top downward, so that there will be a considerable space left between these two partitions when the box is folded. The partitions D have open cuts 10 extending from the tongues 5, converging to a point, which point is at such a position that the partitions D may be folded down about the score-marks 8, and they will thus fit transversely between the sides A and C. The tongues 5 and the partitions C are sufficiently elastic so that the tongues may be moved along the inner sides of the partitions until they arrive opposite the slots 4, which have been formed in the parts C, and when they arrive opposite these slots the tongues 5 will spring into them, and thus hold the partitions steady. It will be manifest, if found desir-

able, that similar tongues and slots could also be made upon the outer edges of the partitions D and in the bottom of the sides A, respectively, to insure greater steadiness and firmness of the partitions.

In order to properly ventilate the packages and allow free access of air, the upper edges of the sides A have segmental or other suitably-formed openings cut out, as at 11, and in order to ventilate the bottom of the box segmental cuts 12 are made in the inner sides C and contiguous to the folding-line 3 between the bottom and said sides. The tongues 13, which are formed by the segmental cuts 12, are not scored in line with the fold or bend, and they thus remain horizontal and in plane with the bottom B of the box after the inner sides C have been turned upwardly, and this leaves the segmental opening at 12, through which air can freely enter and keep the fruit or other substances ventilated and cool.

By the formation of the package with the convergent outer and inner longitudinally parallel sides and the transverse partitions, as here shown, are formed cells which aid in packing the substances closely and preventing their being moved about and bruised or broken in transportation.

The divergence of the central sides C from their apex to the bottom provides a space between these sides, and the elasticity which allows them to yield further serves to prevent injury to the contained articles.

To fold the blank and complete the box, the following operation is performed: The blank shown in Fig. 1 is first folded to bring the edges 9 together in the middle bottom up. Then turn over and push the transverse partitions D down, sliding the curved projections 5 along the longitudinal central partitions until they arrive in line with the slots 4, into which they will drop and interlock, thus completing the box.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A cell box or package formed of a single sheet of material, having scored lines and folded to form convergent and exterior and interior parallel sides and transverse subdividing partitions.

2. The cell or compartment box formed of a single piece bent in parallel lines to form two bottoms, outer and inner sides and transverse partitions connected and foldable from the upper edges of the outer sides.

3. A compartment-box consisting of outer and centrally-disposed parallel sides and transversely-foldable partitions cut from a single piece of material, said sides having transverse slots made near the bottom, and the partitions having corresponding tongues adapted to interlock therewith.

4. A compartment-box consisting of outer and centrally-disposed parallel sides, transverse partitions connected with the upper edges of the outer sides, all cut from a single piece of material, said sides having vertically-disposed slots near the bottom, and said transverse partitions having centrally upwardly convergent central slots to fit the central partitions and projecting tongues at the lower edges adapted to engage with the slots of the sides to retain the partitions in position.

5. A compartment-box consisting of parallel outer and centrally-disposed sides, transversely-foldable partitions all cut from a single sheet of material and having ventilating-openings formed on the upper edges of the outer sides, and similar segmental openings upon the lower separated edges of the inner sides.

6. A compartment-box consisting of two bottom sections in substantially the same plane, upwardly-extending outer and inner longitudinal parallel sides divergent from the bottom, the central sides meeting at an apex, and separated to form an air-space between them; segmental ventilating-spaces formed at the bottom of said inner sides; transverse partitions foldably connected with the upper edges of the outer sides, and having slots convergent from the bottom upwardly to fit the correspondingly-shaped inner sides, and tongues at the bottom of said openings to engage with vertical slots which are formed in the sides whereby the partitions are locked in place.

In witness whereof I have hereunto set my hand.

WILLIAM H. FERGUSON.

Witnesses:

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W. S. CLAYTON.