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A. W. ENGEL

DISPLAY BOX

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2 Sheets-Sheet 2

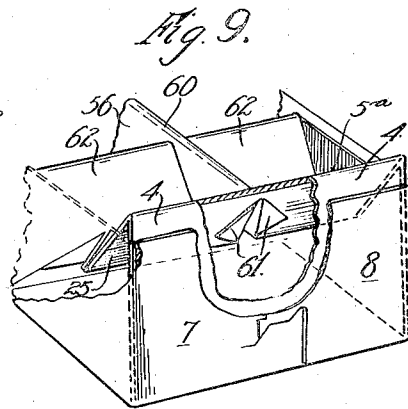
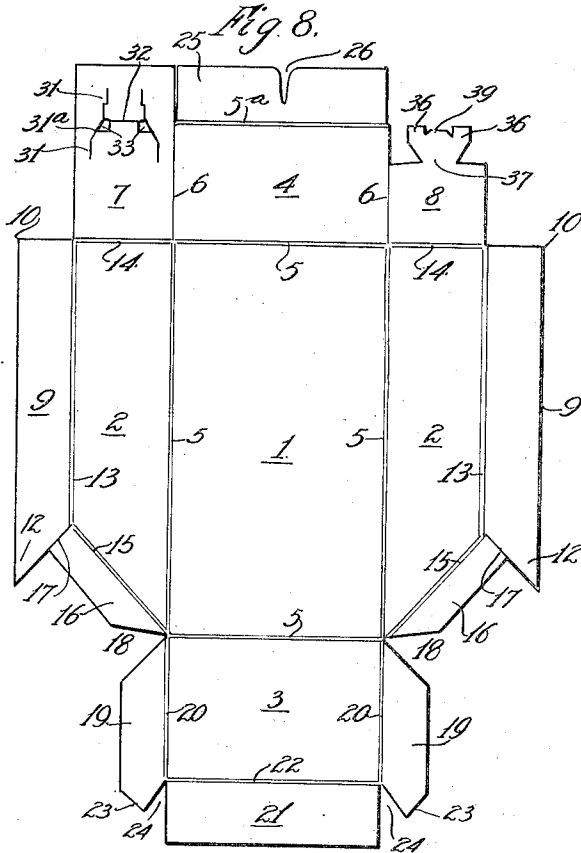
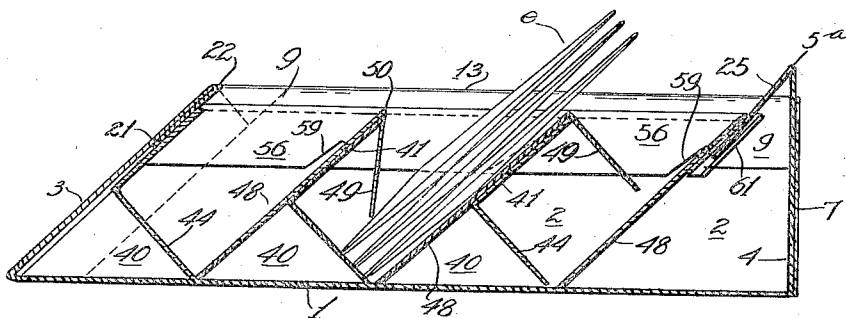


Fig. 10.



WITNESS

A. C. M. H. G. et al.

INVENTOR.

ALBERT W. ENGEL.

By *Burton & Burton*
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALBERT W. ENGEL, OF CHICAGO, ILLINOIS.

DISPLAY BOX.

Application filed October 9, 1922. Serial No. 593,273.

To all whom it may concern:

Be it known that I, ALBERT W. ENGEL, a citizen of the United States, residing in the city of Chicago, in the county of Cook and the State of Illinois, have invented certain new and useful Improvements in Display Boxes, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide a display box of cardboard construction exclusively, that shall be particularly adapted for the display of several groups of envelopes containing merchandise.

The invention consists in the features of construction and combination of parts herein described and shown in the drawings as set forth in the claims.

In the drawings:—

Figure 1 is a perspective of a display box embodying the invention, portions of the front wall being broken away.

Figure 2 is a perspective of one of the partition sections, detached.

Figure 3 is a perspective of the rib member, detached.

Figure 4 is a plan view of the piece from which the partition shown in Figure 2 is made, seen as laid out flat.

Figure 5 is a detail view of the two lockable ends of the piece shown in Figure 4, before said ends are connected.

Figure 6 represents the end portions shown in Figure 5 as interlocked.

Figure 7 represents the same lock joint as shown in Figure 6, but viewed from the opposite side.

Figure 8 is a lay-out of the piece forming the body of the box.

Figure 9 is a perspective of the rear portion of the box, the rear wall being partly broken away.

Figure 10 is a diagrammatic vertical longitudinal section of the box taken at one side of the longitudinal rib member.

Referring first to Figure 8, the body of the box is formed from an integral piece of material which comprises a central rec-

tangular portion, 1, symmetrical lateral portions, 2, for the sides, a rectangular portion, 3, for the front, and a narrower rectangular portion, 4, for the back of the box. The double lines marked 5 indicate scorings, upon which the bends are made in forming up the box.

Integral with parts, 2, and separated from part, 4, by slits, 6, are a pair of flaps, 7, 8, which form a lock for the rear wall, 4, when co-engaged as seen in Figure 9.

Each side wall part, 2, is provided with a flap portion, 9, having a square corner, 10, and an acute corner, 12, the score lines, 13, showing the junction of the flaps with the parts, 2. Each side wall part, 2, has a square rear end, defined by the scoring, 14, and has an oblique angled front end, defined by scoring, 15. Each oblique end, 15, is provided with a narrow flap, 16, separated by a slit, 17, from flap, 9, and by a gore, 18, from a flap, 19, formed on front wall part, 3. This part, 3, is provided at its outer end with a narrow flap, 21, defined by scoring, 22. Each lateral flap, 19, has its foremost end cut to a point as 23, forming a gore, 24, between said point and the flap, 21.

The rear wall portion, 4, is provided with a flap, 25, defined by scoring, 5^a, a notch as, 26, is cut in the center of the outer longer edge of this flap.

The purpose of each of the flaps, marked 9, 16, 19, 21 and 25, is to provide smooth rounded edges for the four walls of the box. Accordingly after said walls have been struck up, said flaps are folded down against the inner faces of the respective walls.

The rear wall, 4, sets vertically, but it is preferred that the front wall, 3, be inclined as shown, wherefore the scorings, 15, defining the forward edges of the side walls, 2, run obliquely, so that the pointed portions of walls, 2, and their flaps, 9, will fit within the inclined front wall, 3, of the box.

In forming said front wall the first step is bending it up and back at the scoring, 5; the second step is folding its lateral flaps, 19, within the respective side walls, 2; and the

last step is folding the end flap, 21, down and forwardly, thus forming a rounded edge, 22.

After the side walls, 2, have been bent up at the lines, 5, their large lateral flaps, 9, are folded in at lines, 13, the angular corners, 12, thereof being tucked under the box front, and by their shape acting as retainers to hold the flaps, 9, in proper position. The box proper has now been set up with exception of its rear end portion.

The first step in setting up and assembling the rear end of the box is bending up the wall, 4, at line 5; the second step is folding down the flap, 25, upon the inner face of the wall, 4, at line 5^a, thus forming a rounded edge, marked 5^a on Figure 1. The box now presents four rounded upper edges: the longitudinal edges, marked 13 on Figure 1, and the front and rear transverse rounded edges, 22 and 5^a. It will be observed that this rear upper edge, 5^a, projects above the upper edge of the box, 3. The purpose of this projection will be hereinafter explained.

As shown in the drawings, the rear wall of this box is of double construction, or comprises two plies: the ply, 4, just described, being innermost and the outer ply comprising two flaps, 7, 8, provided with locking members, as will now be described.

As most clearly shown in Figure 5, one of the locking flaps, 7, is rectangular in outline and is longer than the companion flap, 8. Two symmetrical incisions, 31, entirely through the material, are connected by a transverse incision, 32. A pair of openings, 33, are punched, each being bounded partly by the transverse incision, 32, and partly by the proximate incision, 31. Each of the latter includes an intermediate obliquely offset portion, 31^a. This arrangement of incisions provides a pair of endwise-abutting flaps, 34, 35, which function as locking members when engaged with means formed on the opposite flap, 8. Roughly stated, said means consists of a flaring flap, 36, or one having a reduced neck, 37, by which it is united with the main flap 8. Flap, 36, is subdivided into three tongues, 36, 36 and 39, the latter being between the other two. The two main flaps, 7, 8, are locked together by inserting the tongues, 36, through the openings, 33, preferably from the outer side, (see Figure 7), the middle tongue, 39, being at the same time placed on the opposite side of tongue, 34, from the said tongues, 36. The lock joint will then appear from the outside, as shown in Figure 7, Figure 6 showing a reverse view of the same. It will be observed that the proximate edges of internal flaps, 34, 35, are still in the same plane after the parts have been locked as shown, and that the shorter flap, 8, overlaps the other flap, 7. Other and different fastening means may be employed without af-

fecting the main features of the invention.

Referring now to Figures 1 and 10, the box as shown contains three transverse compartments open at the top for the reception of such articles of merchandise as envelopes or cards.

Each of said compartments is provided by a separately constructed cardboard structure, one of which is shown by itself in Figure 2. Essentially, the structure comprises a folded member having rhomboidal side portions, 40, connected by sloping front and back portions, 41, 42, and 48, the front portion, 41, being divided by a fold, 43, into an upper section and a lower section, 44, the latter being inclined rearwardly downward to meet the bottom of the box and form a bottom for the compartment. Preferably, this bottom lies at right angles to the walls of the compartments.

This compartment is formed from a blank shown in Figure 4, in which, 45, denotes incisions and 46 denotes scorings in line therewith; 43 is a transverse scoring; 40, the rhomboidal panels; 47, scorings for bends between panels, 40, and the back-wall members, 42, 48.

Each back-wall member is provided with an integral extension, 49, of rectangular form; the score lines, 50, Figure 4, providing for bending these extensions from the plane of said members to provide yielding flaps depending from the upper edge of the pocket—i. e., the angular edge, 50. Desirably, this edge, 50, is spaced below the upper edges, 13, of the box walls, 2.

The overlapped ends of pocket members, 42, 48, are provided with locking means similar to those of the rear box wall, above described. As shown in Figure 4, the member, 42, has the incisions, 51, the two openings, 62, and the abutting tongues, 52, 53. The companion member, 48, has the undercut extension, 54, having the same configuration as is shown in the right-hand section of Figure 5, and the parts are interlocked as indicated in Figure 2. The central recesses, 55 and 55^a, shown in Figure 2, are provided for the reception of a medially folded rib member, 56, shown as detached in Figure 3. This member has an inclined forward edge, 57, cut to fit within the front wall, 41, of the front compartment, and may have also an angular cut, 58. To permit its intersection with the several pocket walls, this member is provided with a narrow inclined notch, 59, for each of said walls. Being folded together, it is inserted in all of the notches, 55, 55^a, and pushed down and forward as far as it will go. Its apex, 60, will then be flush with the apices, 50, of the pockets. For locking the rib member in place, its rear end is provided with triangular ears, 61, which are bent outwardly behind and in contact with the interior flaps,

25, of the rear box wall, 4, as seen in Figure 10.

This constitutes the box complete, having each of its pockets divided in two by the rib member, 56.

A pack of envelopes, as indicated at *e*, is placed in each compartment to fill same if desired. As envelopes are removed and sold, the flaps, 49, will be sprung rearwardly by the tension of their hinges, 50, so maintaining contact with the outermost envelope and holding the pack slightly under compression. The purpose of the upward extension shown at 5^a on Figure 10 is to protect the contents, *e*, from being crushed down by wrapping the box in paper.

While I have described a preferred structure, it may be understood that the details thereof are susceptible of modification without a departure from the spirit of the invention.

I claim:

1. A display box of folded pasteboard or the like having a rearwardly and upwardly sloping front wall and a horizontal bottom with partitions forming pockets having inclined back walls, each extending downwardly to the bottom of the box and substantially parallel to said sloping front thereof.

2. In the combination defined in claim 1, each partition comprising a folded member having rhomboidal sides inserted with their upper and lower side edges parallel to the bottom of the box and connected by sloping front and back portions, the front portion being divided by a fold into an upper and lower section, and the lower section being inclined rearwardly downward to meet the bottom of the box and form a bottom for the pocket.

3. In the combination defined in claim 1, each partition comprising a folded member having rhomboidal sides connected by inclined front and back walls, said inclined walls being notched at their upper edges; and a fore-and-aft rib member having downwardly opening notches inclined to its lower edge and spaced at intervals to interlock with the notches of the partitions to reinforce them and subdivide the pockets.

4. In combination with a box body, a plurality of separately constructed compartments adapted to be fitted therein in parallel relation to each other, each compartment structure comprising side walls parallel to each other, and front and rear walls parallel to each other, said front and rear walls being set obliquely in the box with respect to the bottom of the latter and a rib member having oblique notches in its lower edge engaging the said oblique walls of the compartments for retaining them in position.

5. In combination with a box body, a plurality of separately constructed compart-

ments assembled therein in parallel relation to each other, each compartment structure comprising side walls, a rear wall joining the rear edges of the side walls and a front wall composed of material integral with the side walls and bent inwardly therefrom at their forward edges together with a flap bent down over said material from the upper edge of the rear wall of the forwardly adjacent compartment.

6. A display box of folded paste board or the like, having a plurality of upwardly open pockets formed by partitioning members, each of said members including side walls connected by front and rear walls, the side walls fitting snugly within the side walls of the box, said front and rear walls being notched at their upper edges, and a medially folded rib member placed with its folded edge upward, and having notches in its lower edges interlocked with the notches of the partition members for spacing and reinforcing them; said rib member being provided with means for interlocking its rear end with a portion of the back wall of the box.

7. In the combination defined in claim 6, the rear wall of the box body having a forwardly and downwardly inclined flap, and the rear end of the rib member having ears inserted through a notch in said flap and bent oppositely for retaining said flap in inclined position parallel to the front and rear walls of the compartments.

8. In a paste board box formed from a unitary folded blank and having an upwardly and rearwardly inclined front wall, inwardly folded flaps at the lateral edges of said front wall, and inwardly depending flaps at the upper edges of the side walls, said side wall flaps being acutely pointed at their forward ends to fit under the inclined front wall and interlock with the front wall flaps.

9. In the combination defined in claim 8, the upper edge of the front wall and the forwardly inclined edges of the side walls having inwardly folded flaps to render all the exposed edges blunt or rounded.

10. In the combination defined in claim 8, the lateral flaps of the front wall having end portions which project beyond the upper edge of said wall to interlock with the flaps of the side walls.

11. In a folded paste board box structure, a locking device for connecting overlapped ends of the material comprising a flared tongue extending from one of said ends, slits in the other end conforming substantially to the lateral outlines of said flared tongue with short parallel extensions from the narrowing parts of such outline toward the terminal edge of the material, and a flap having a narrow tongue extending in the area between said slits but not reaching

between the parallel extensions thereof, the terminal edge of the flared tongue being notched to interlock with said narrow tongue when the flared tongue is drawn into the parallel slit extensions.

5 12. In the combination defined in claim 11 a flap occupying the space between said slit extensions and itself formed by further extensions of said slits offset toward each

other to provide stop shoulders for the flared tongue whereby said flap overlies said tongue when the parts are connected, for the purpose indicated.

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 6th day 15 of September, 1922.

ALBERT W. ENGEL.