

Oct. 9, 1934.

K. E. VERHOVEN

1,976,530

DELIVERY CONTAINER

Filed Feb. 21, 1933

5 Sheets-Sheet 1

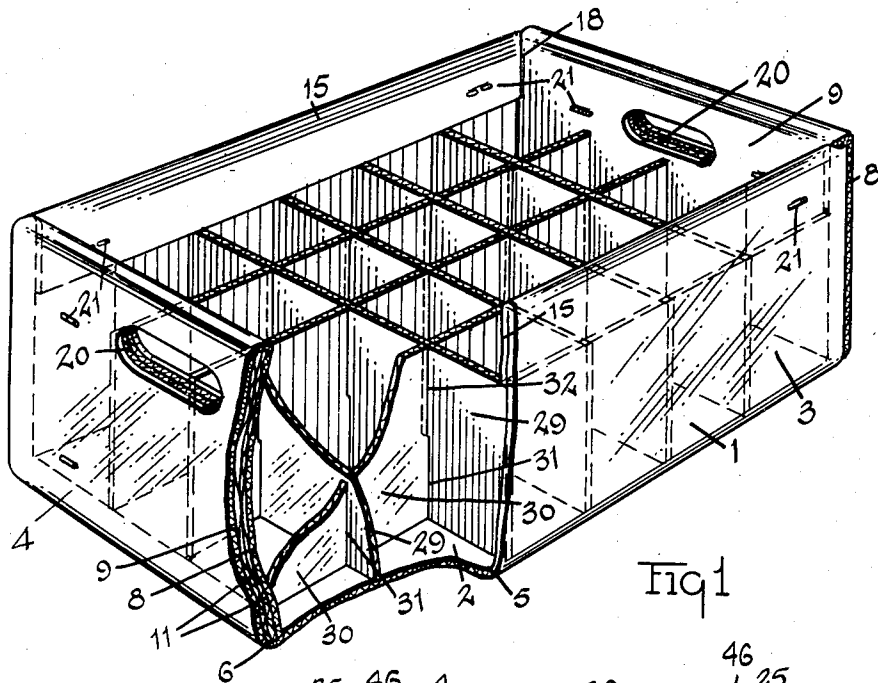


Fig 1

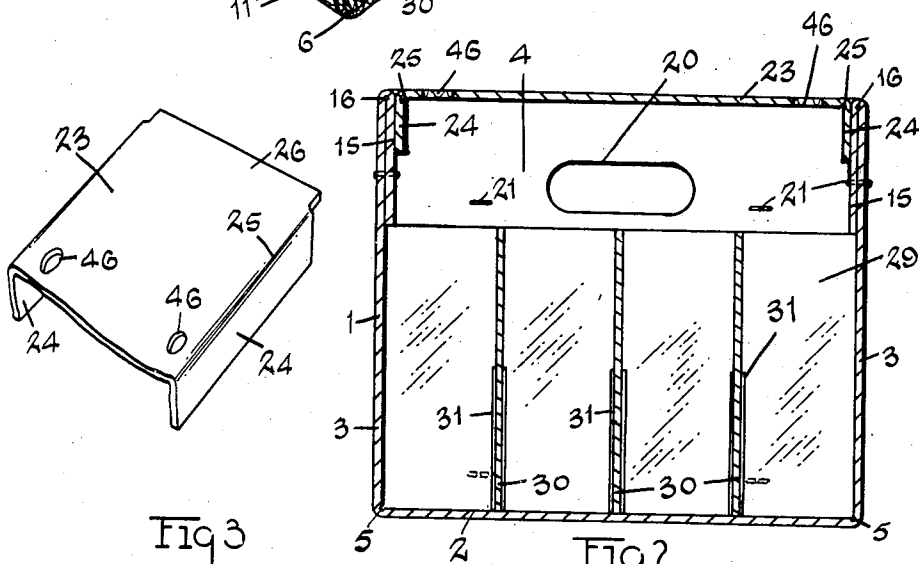


Fig 3

Fig 2

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Oct. 9, 1934.

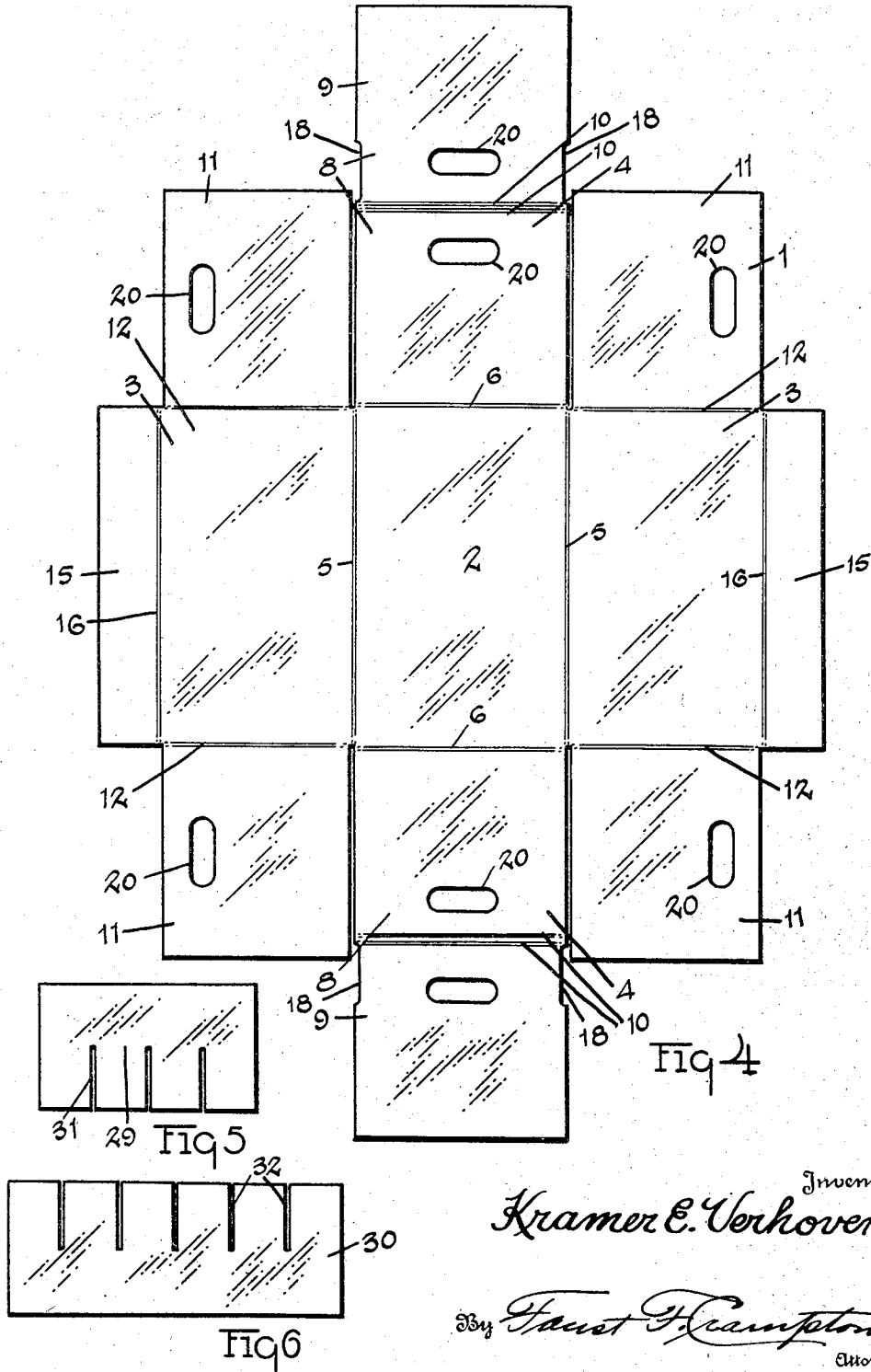
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5 Sheets-Sheet 3

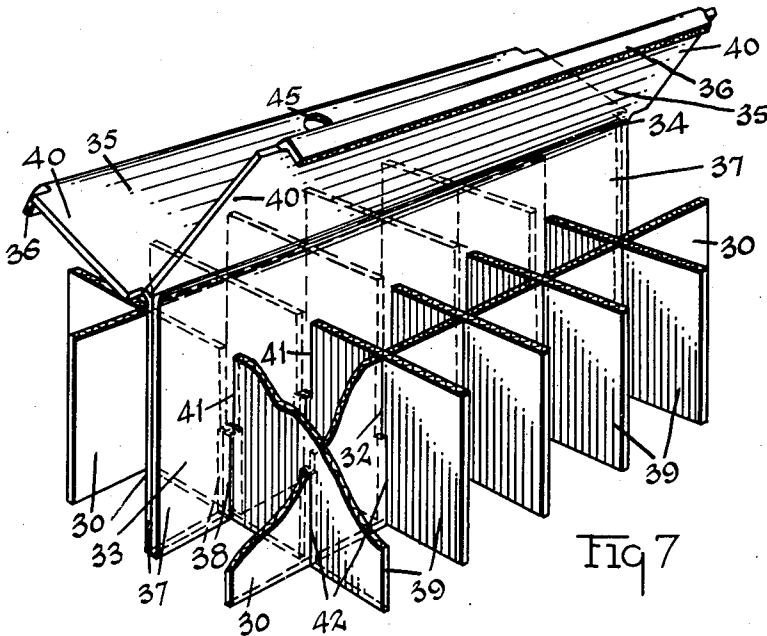


Fig 7

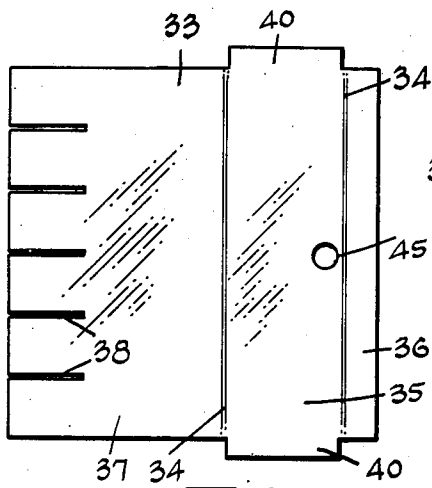


Fig 9

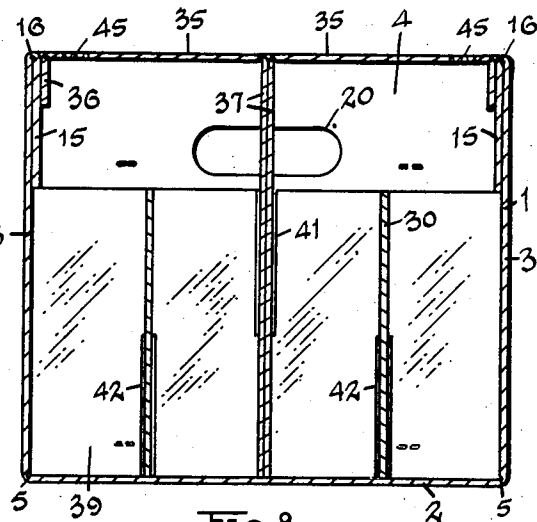


Fig 8

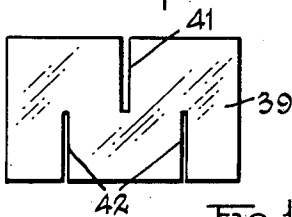


Fig 10

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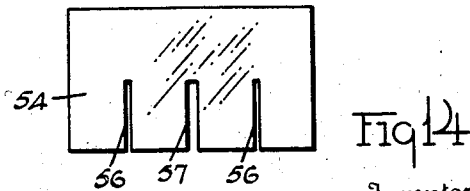
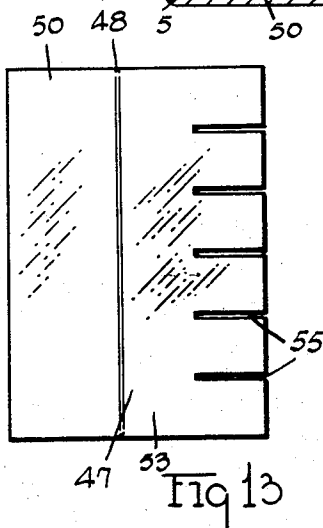
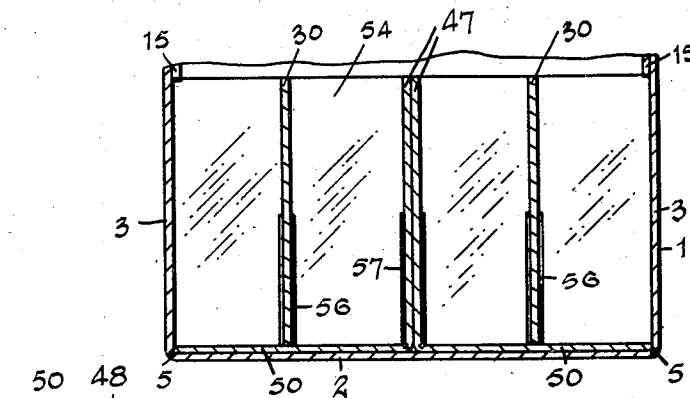
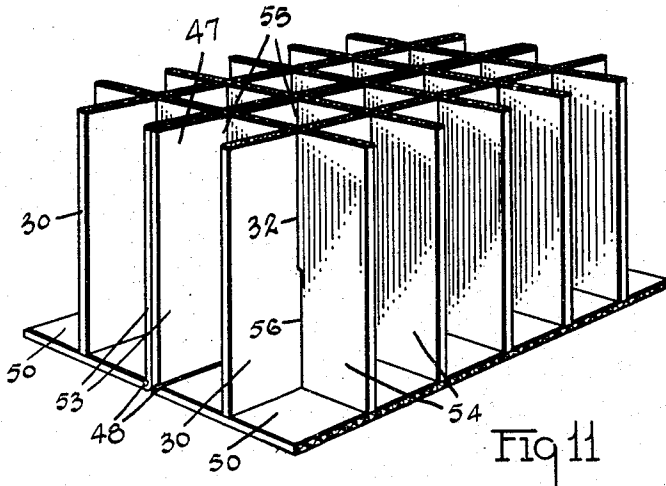
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DELIVERY CONTAINER

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5 Sheets-Sheet 4



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DELIVERY CONTAINER

Filed Feb. 21, 1933

5 Sheets-Sheet 5

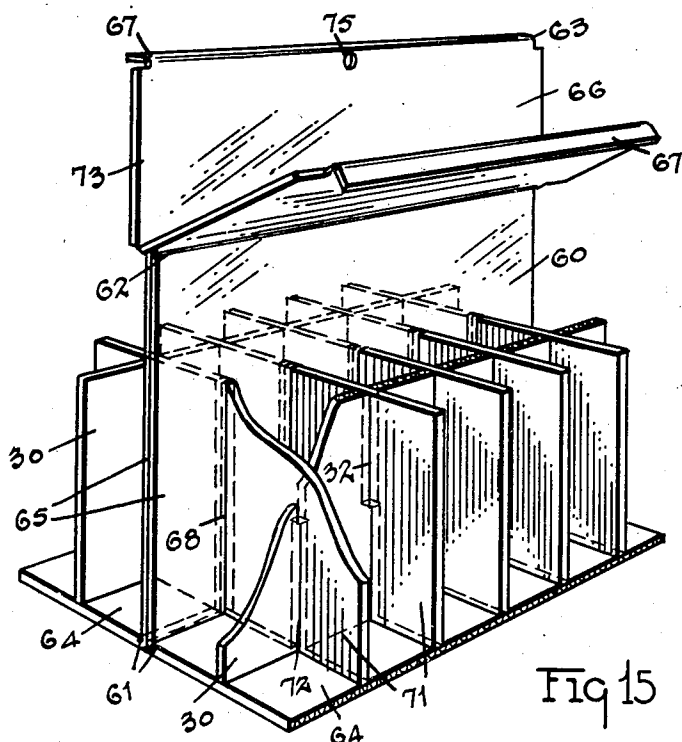


Fig 15

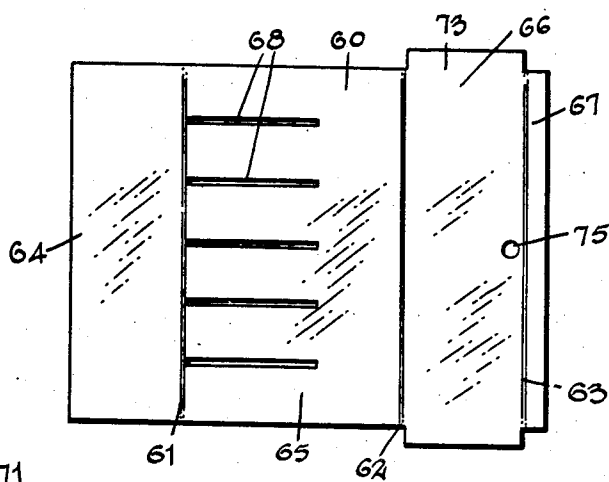


Fig 16

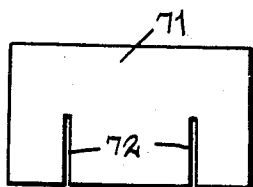


Fig 17

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UNITED STATES PATENT OFFICE

1,976,530

DELIVERY CONTAINER

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Application February 21, 1933, Serial No. 657,822

3 Claims. (Cl. 229—52)

My invention has for its object to provide a container that is particularly adapted for delivering articles in that it is strongly made and conveniently formed for ready handling. As is well known, delivery containers are commonly continuously roughly used by delivery men and one object of the invention is to provide a light weight delivery container formed from fiber board or corrugated board that will withstand the wear of such rough usage. The container box is formed of sheet material either in the form of fiber board or corrugated board. Preferably, it is formed from one or more blanks that may be shipped flat and readily folded to produce an exceedingly durable light weight box that may be conveniently handled.

The invention also has for its object to provide a delivery box that is particularly adapted for containing and delivering bottles or other articles that, by their nature, should be kept separate from each other. Thus the invention provides partitioning members that have slotted and dovetailed portions that interfit to form the desired separated spaces or chambers into which articles may be inserted.

The invention also provides means for securely interlocking the parts of the box to retain the parts in their folded positions and, where partitions are used, to lock the partitions in their proper positions.

The invention also provides means where partitions are used for reinforcing and strengthening the box.

The invention also has for its object to provide a convenient cover for the box which, by reason of its formation and its use, is particularly adapted to the box embodying my invention.

Other features and advantages of the invention will appear from examination of the drawings and the description hereinafter set forth. The invention may be contained in boxes and containers of different forms and, to illustrate a practical application of my invention, I have selected a box that is particularly adapted to delivery of material contained in bottles, as an example of the different forms of constructions that embody my invention. The particular form of box selected, as an example, and partitioning and cover constructions therefor, are shown in the drawings and are described hereinafter.

Fig. 1 is a perspective view of a box formed from corrugated board, a part being shown broken away to show the construction of the partitions of the box. Fig. 2 is a view of a cross section of the box and the cover. Fig. 3 is a

perspective view of the cover of the box. Fig. 4 illustrates a blank from which the box, shown in Fig. 1, may be formed. Figs. 5 and 6 illustrate side views of the cross partitions of the box shown in Fig. 1. Fig. 5 illustrates one of the partitions that extend crosswise the length of the box. Fig. 6 illustrates a side view of one of the partitions that extend lengthwise of the box. Fig. 7 illustrates a perspective view of the partitions shown in Fig. 1 but wherein is shown a central partition of the modified form. Fig. 8 illustrates a view of the cross section of the box having the partitions shown in Fig. 7. Fig. 9 illustrates a side view of the partition. Fig. 10 illustrates one of the partitions that extend crosswise the major length of the box shown in Fig. 7. Fig. 11 illustrates a perspective view of the partitions shown in Fig. 1, and a reinforcing central partition. Fig. 12 illustrates a view of the cross section of the box having the partitions shown in Fig. 11. Fig. 13 illustrates a side view of the reinforcing partition shown in Fig. 11. Fig. 14 illustrates a side view of one of the cross partitions shown in Fig. 11. Fig. 15 illustrates a perspective view of the partitions shown in Fig. 1, but wherein is shown a modified central partition. Fig. 16 illustrates a side view of the partition shown in Fig. 15. Fig. 17 illustrates one of the partitions shown in Fig. 15 that extend crosswise the major length of the box.

The box is formed from corrugated paper board usually comprising three layers, the outer layers being formed of plain paper or board and the central layer being formed of corrugated paper. The parts that form the bottom side and end walls of the box are cut from the blank and scored so that parts thereof may be folded to form the box shape.

The blank 1 is cut to form the bottom 2, the sides 3 and the ends 4. These parts are rendered foldable relative to the bottom 2, by means of the score lines 5 and 6 respectively. The score lines are of the type well known. They are produced by depressing the board along the lines 5 and 6 and rendering adjacent parts foldable relative to each other within limited angular movements. Thus the score lines 5 and 6 enable the parts 3 and 4 to be folded to planes at right angles to the bottom 2 of the box. The ends 4 are each formed of two parts 8 and 9 that are separated by the double score lines 10 and the sides 3 are provided with the parts 11 that are defined by the score lines 12 and foldable along the score lines to a point at right angles to the side 3. The sides 3 are also provided with edge sections 15 that are

foldable with respect to the sides 3 along the score lines 16.

In forming the box, the sides 3 are folded to planes at right angles to the bottom 2 and the parts 11 are folded at right angles to the sides 3 and so as to overlap. The ends 4 are brought up on the outside of the parts 11 and then the parts 9 are folded on the double score lines 10 so as to enclose the parts 11 and locate the parts 9 in contact with the innermost parts 11 and at right angles to the bottom. The parts, preferably, have substantially the same dimension and consequently the ends are formed of four layers of the corrugated board.

The side sections 15 are folded inward and so as to engage the parts 9 and thus hold the parts 8, 9, and 11 in their folded positions. Preferably, the parts 9 are cut away, as at 18, sufficiently to form an interengagement between the end edges of the sections 15 to produce and interlock between the edges along the cut-away portions 18 and the end edges of the sections because of the tendency of both parts to unfold. They interengage by reason of the tendency of the parts to move in directions that are at right angles to each other.

If desired, the parts may be stapled or stitched in their positions. That is, the parts 8, 9, and 11, that form the ends of the box, may be stapled together and the sections 15 may be stapled to the sides 3 of the box.

For convenience of handling the box when formed, slots 20, of suitable size to form handle parts, are cut in the ends of the box. The slots 20 are formed in each of the parts 8, 9, and 11 of the blank and so that when they are folded the slots register one with the other. By reason of the quadruple thickness of the corrugated board that is formed at the ends of the box, there is produced an exceedingly convenient handle for the manipulation of the box. Also, the handles being located in each of the parts 8, 9, and 11, which are connected to the bottom and the sides of the box, they provide means for sustaining the weight of the contents of the box efficiently by reason of the fact that the bottom is sustained by the side walls and the end walls, and these parts extend to and form a part of the handle portions of the box which are gripped in lifting the box.

A suitable cover may be provided for closing the box. The form of cover shown in Fig. 3 is particularly adapted for use in connection with boxes of the type illustrated in the drawings. The cover 23 may be formed from corrugated or fiber board and provided with edge sections 24 produced by score lines 25. The sections 24 may be folded to fit the inner surfaces of the folded edge sections 15, and will, by reason of their elasticity and tendency to return to substantially the plane of the body of the cover, frictionally resist outward movement. The body of the cover preferably protrudes beyond the ends of the flanges 24, as at 26, and so as to rest upon the edge of the quadrupled layer that forms each end of the box. The quadrupled thickness of the ends of the box forms broad edge portions on which the cover 23 may be supported by the protruding portions 26 formed at the ends of the cover.

For delivering or shipping material contained in bottles or articles that, for any reason, it is desirable to maintain in separate compartments, the box may be provided with partitions to form separate chambers into which the bottles or articles may be inserted. As shown in Fig. 1 the

box is provided with a plurality of cross partitions 29 and 30 that are provided with slots 31 and 32. The slotted portions are disposed relative to each other to form dovetailing portions that interengage and support the partitions in planes that are located at right angles to the top and bottom edges when placed in position in the box. When the partitions are assembled, and before they are placed in the box, they may be folded together by reason of the flexibility of the edge portions of the slots and so as to locate the surfaces of the partition 29 against the surfaces of the partition 30, in what might be termed a "knock-down" form and quite as compact for shipping purposes as the blanks from which the boxes may be formed.

The partitions are, preferably, so located relative to each other that when assembled in the box, the slots 31 of the partitions 29 extend from the bottom of the box upwardly. Also, the partitions 29 have a length sufficient to extend crosswise of the length of the box and a height such that they may be located below the edge of the intumed edge sections 15 of the sides of the box. The edge sections 15 thus operate to engage the upper corners of the partitions 29 and hold the partitions against removal except by outward pressure of both sides of the box. The partitions 29 are preferably disposed so that the slots 31 extend from the center to the lower edge of the partitions to lock both the partitions 29 and 30 by the edge sections 15.

In the box shown in Fig. 8, the central longitudinally extending partition 33 is formed of either fiber board or corrugated board and scored along the score lines 34 to form cover parts 35 and flange edge sections 36. The cover parts are thus hingedly connected to the partition parts 37 and the flange sections may be bent substantially at right angles to the cover parts 35. The lower edge of the partition parts 37 may be slotted, as at 38. The partitions 39 that extend across the length or major dimension of the box are provided with slots 40 and 41 that are staggered relative to each other. When the partitions 39 and 30 are assembled, the cross partitions 39 are located so that the slots 42 extend from the bottom of the box to about the center of the height of the partitions 39 and so as to lock the cross partitions 30 and 39 when they are placed in position in the box by the side edge sections 15. This will locate the slot 41 of the partitions 39 in position so that the central partition 33 may be located in the slots 41 in dovetailed arrangement with respect to the cross partitions 39 and the scored lines 34 in the plane of the top edge of the box. The widths of the cover parts 35 are such as to cause the flanged edge sections 36 to fit the inside surfaces of the edge sections 15 of the sides of the box, and when the cover parts 35 are hingedly moved downward, the flanges 36 will be frictionally engaged by the inner surfaces of the edge sections 15.

If desired, the cover parts may be provided with protruding end edge portions 40 that extend beyond the ends of the flanges 36 and consequently may be placed upon the upper edges of the ends of the box formed by the quadruple layer produced by the parts 8, 9, and 11 that form the ends of the box.

The cover 23 and the cover parts 35 and 66 may be provided with suitable finger openings 45, 46, and 75 for manipulating the covers in opening and closing the box.

In the modified form of the box shown in Figs. 150

11, 12, 13, and 14, a central longitudinally extending partition and reinforcement is provided by a pair of sheet members 47 which may be formed of either fiber board or corrugated board. Each member 47 is scored along the score line 48 and bent to form a partition part 53 and a bottom-reinforcing part 50, located at substantially right angles to each other. When the members 47 are assembled in the box, with the partition parts 53 located contiguous to each other, and the parts 50 extending oppositely to each other to substantially the inner surfaces of the sides 3 of the box, thereby covering and reinforcing the bottom 2, each of the members 47 forms an exceedingly rigid L-construction. The upper edges of the partition parts 53 may be slotted as at 55. The partitions 54, which extend across the length or major dimensions of the box, are provided with slots 56 and 57. The central slot 57 has width to receive and tightly fit the partitions 53. When the partitions 30 and 54 are assembled, the cross partitions 54 are located so that the slots 56 extend from the bottom 2 of the box to substantially the center of the height of the partitions 54, and the cross partitioning members are locked in place in the box by the side edge sections 15. This will locate the slots 57 of the partitions 54 in position so that the central partition 47 may be located in the slots 57 in dove-tailed arrangement with respect to the cross partitions 54 and the part 53 will be secured perpendicular to the part 50, and the resultant substantially rigid L-construction of the members 47 will greatly reinforce and strengthen the bottom of the box.

In the box shown in Figs. 15, 16, and 17, central longitudinally extending members 60 are formed of either fiber board or corrugated board and each scored along the score lines 61, 62, and 63, to form bottom reinforcing parts 64, partition parts 65, cover parts 66 and flange edge sections 67. The cover parts 66 are thus hingedly connected to the partition parts 65, and the flange sections may be bent at substantially right angles to the cover parts 66. The partition parts 65 may be slotted along lines extending from and perpendicular to the score lines 61, as at 68. The length of the slots 68 is substantially the height of the partitions 71, and permits the insertion of the partitions 71 at right angles to the partitions 64 and perpendicular to the reinforcing part 64 and so as to fit tightly the partitions 71. The partitions 71 that extend across the length or major dimension of the box are provided with slots 72. When the partitions 30 and 71 and the members 60 are assembled in the box with the partition parts 65 located side by side and in contact, the parts 64 extend oppositely to each other to substantially the inner surfaces of the sides of the box to form a substantially rigid L-construction that reinforces and strengthens the bottom 2. The cross partitions 71 are located so that the slots 72 extend from the bottom reinforcing member 64 to about the center of the height of the partitions 71, and the partitions 30 and 71, together with the members 60, are locked in position by the side edge sections 15 by reason of the partitions 30 and the members 60 interlocking with the cross partitions 71. The widths of the cover parts 66 are such as to cause the flanged edge sections 67 to fit the inside surfaces of the edge sections 15 of the sides of the box, and when the cover parts 66 are hingedly moved downward, the flanges 67 will be frictionally en-

gaged by the inner surfaces of the edge sections 15.

If desired, the cover parts may be provided with protruding end edge portions 73 that extend beyond the ends of the flanges 67 and consequently may be placed upon the upper edges of the ends of the box formed by the quadruple layer produced by the parts 8, 9, and 11, that form the ends of the box when it is assembled.

I claim:

1. In a shipping box, a blank scored and cut to form bottom, side, and end portions, the end portions formed of two parts, each of the parts having a length substantially equal to that of the depth of the box and a width substantially the same as that of the box, the side portions having end parts and reinforcing edge sections, the end portions foldable to enclose the parts of the side portions, each of the said end parts having a length substantially the same as the width of the box and a width substantially the same as the depth of the box, and the end portions and the end parts of the side portions having registering openings located substantially centrally with respect to the width of the box and near the upper edges of the box, and forming box handles, and the edge sections operating, when folded, to lock the said parts in their folded positions.

2. In a shipping box, a blank scored and cut to form bottom, side, and end portions, the end portions formed of two parts, each of the parts having a length substantially equal to that of the depth of the box and a width substantially the same as that of the box, the side portions having end parts and reinforcing edge sections, the end portions foldable to enclose the parts of the side portions, each of the said end parts having a length substantially the same as the width of the box and a width substantially the same as the depth of the box, the parts of the end portions and the end parts of the side portions having registering openings located substantially centrally with respect to the width of the box and near the upper edges of the box and forming box handles, a plurality of cross-partitioning members having dove-tailed portions, the partitioning members extending cross-wise the box from one side portion to the other side portion having slots extending upwardly from the lower edge of the last named members, the other of the members extending lengthwise of the box from one end portion to the other end portion having slots extending from their upper edges to the central part of the last named members, and the edge sections, when folded, operating to engage the ends of the cross-wise extending members for locking the cross-partitioning members in the box.

3. In a shipping box, a blank scored and cut to form bottom, side, and end portions, the end portions formed of two parts, each of the parts having a length substantially equal to that of the depth of the box and a width substantially the same as that of the box, the side portions having end parts and reinforcing edge sections, the end portions foldable to enclose the parts of the side portions, each of the said end parts having a length substantially the same as the width of the box and a width substantially the same as the depth of the box, the parts of the end portions and the end parts of the side portions having registering openings located substantially centrally with respect to the width of the box and near the upper edges of the box and forming box handles, a plurality of cross-partitioning mem-

- bers having dove-tailed portions, the partitioning members extending cross-wise the box from one side portion to the other side portion having slots extending upwardly from the lower edge of the
- 5 last named members, the other of the members extending lengthwise of the box from one end portion to the other end portion, having slots extending from their upper edges to the central part of the last named members, certain of the
- 10 said lengthwise extending partitioning members having slots having a length equal to the width of the cross-wise extending partitioning members for receiving the said crosswise partitioning members, the said lengthwise partitioning members having parts foldable at right angles thereto for substantially completely covering the bottom of the box and substantially covering the top of the box and having a flange portion for fitting the sides of the box, and the edge sections operating, when folded, to engage the ends of the cross-wise extending partitioning members.
- KRAMER E. VERHOVEN.

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