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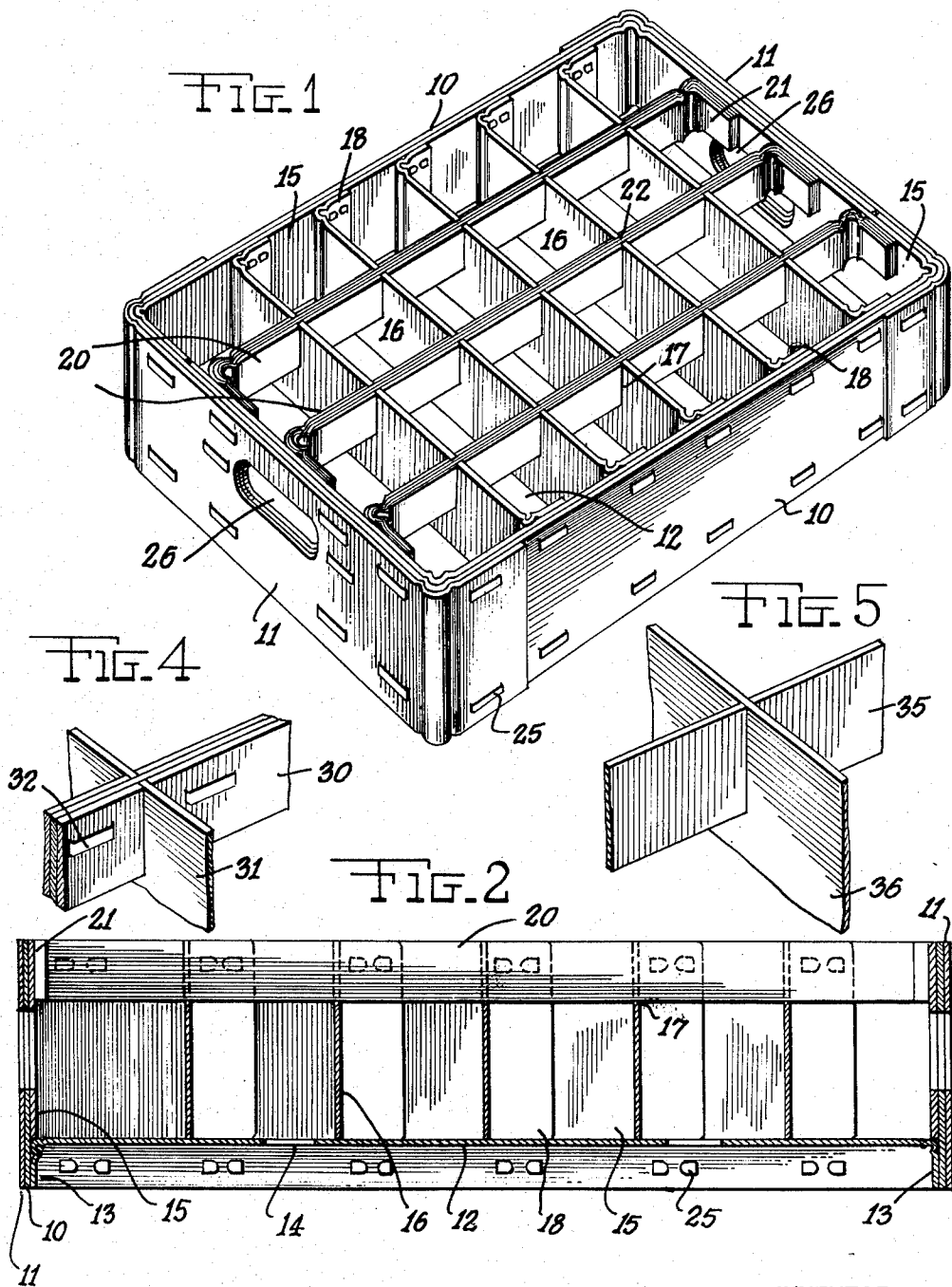
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1,842,380

TRAY

Filed Dec. 3, 1929

3 Sheets-Sheet 1



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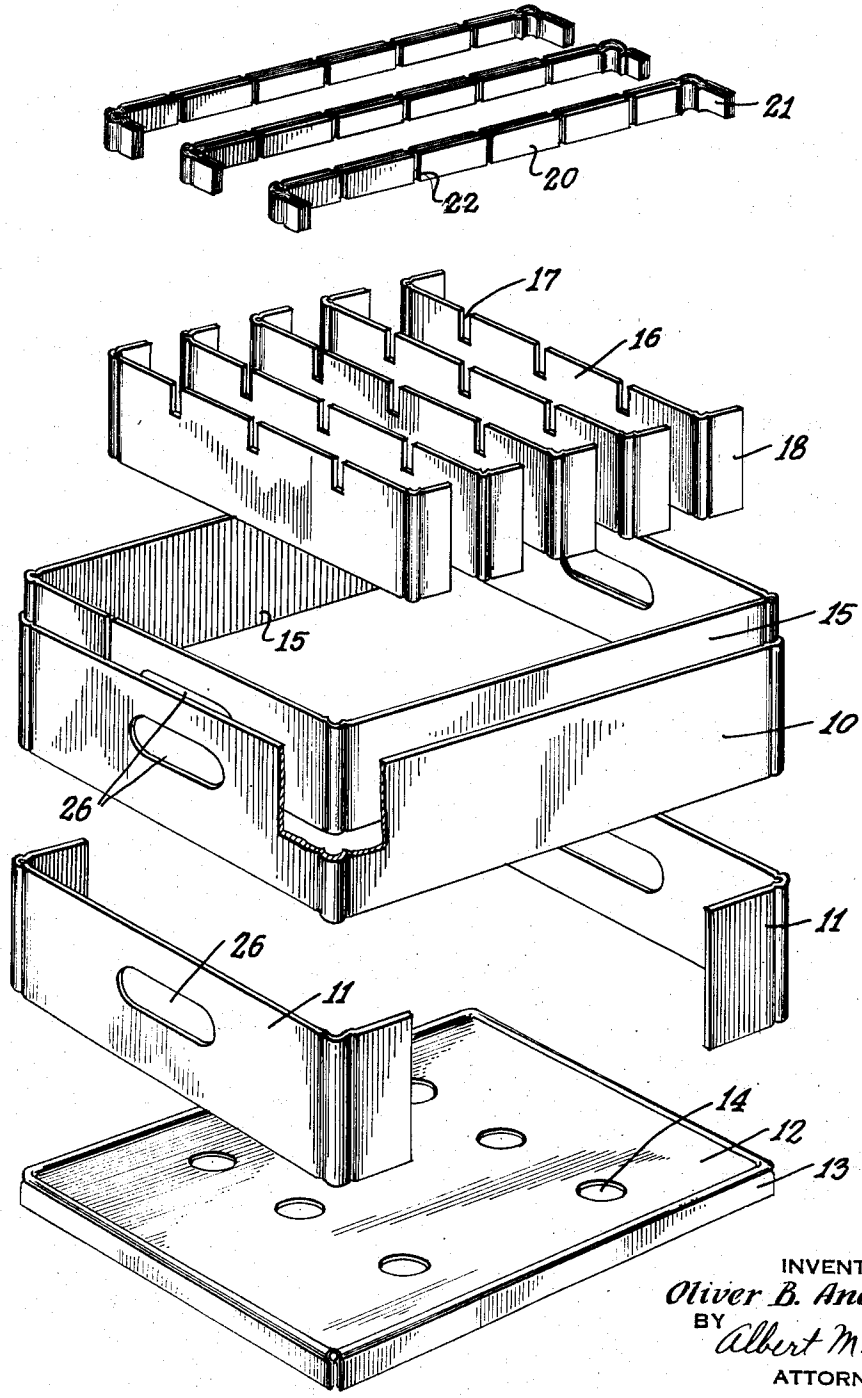
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FIG. 3



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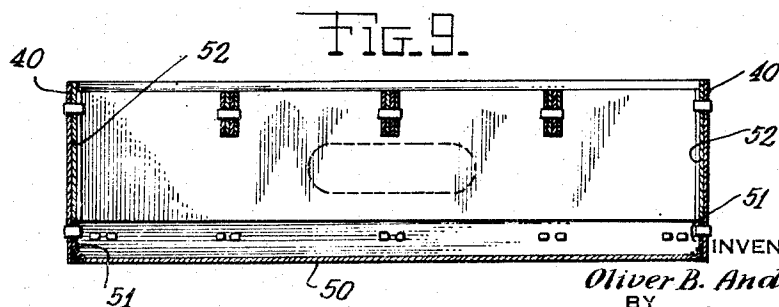
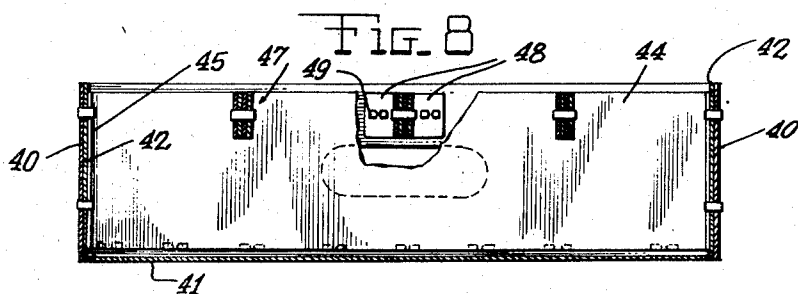
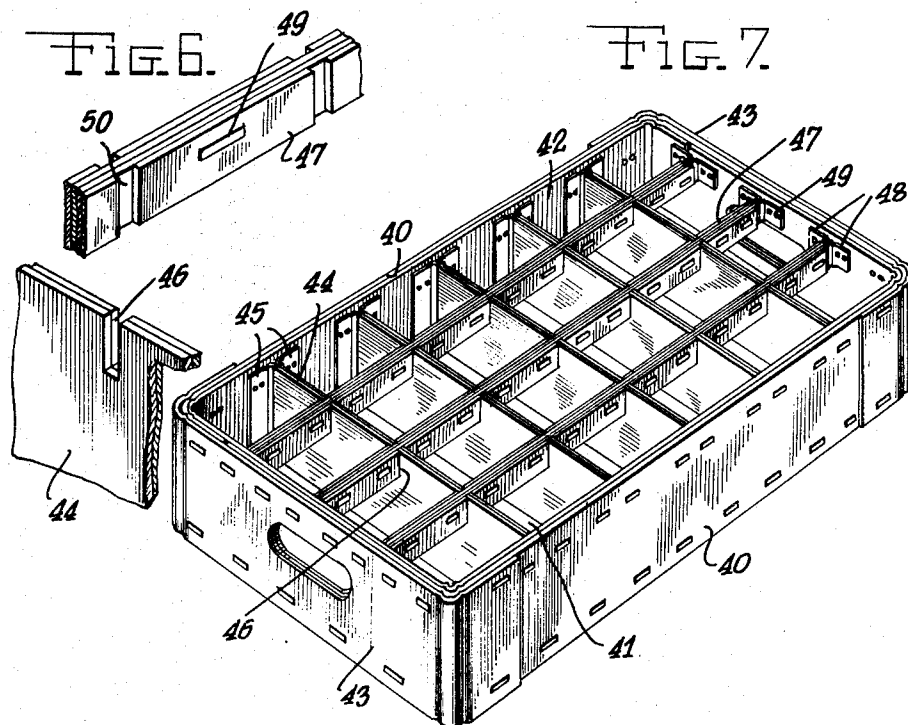
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UNITED STATES PATENT OFFICE

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TRAY

Application filed December 3, 1929. Serial No. 411,243.

This invention relates to fiber containers, and more particularly to a fiber tray having a plurality of partitions therein to render the tray suitable for the transportation of a plurality of articles, as for example, soda water bottles.

The invention provides a fiber tray of the above type which is particularly strong and rigid and may be used to replace wooden or metal trays. Furthermore, the tray is simple and cheap to manufacture and is sufficiently durable to compare favorably with wooden trays heretofore employed.

The invention also provides for suitably coloring the fiber board and for waterproofing the surface thereof whereby deterioration of the board is prevented. A novel means is also employed for inserting partitions in the tray and for securing the various partitions together at their points of intersection. The partitions are so formed that they reinforce the sides of the container and also mutually reinforce each other in producing a rigid construction.

The invention also consists in certain new and original features of construction and combinations of parts hereinafter set forth and claimed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claim appended hereto, the invention itself, as to its objects and advantages, the mode of its operation and the manner of its organization may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part thereof, in which

Fig. 1 is a perspective view of the tray and partitions in assembled relationship;

Fig. 2 is a transverse sectional view showing the longitudinal partitions;

Fig. 3 is an expanded perspective view of the component parts of the container;

Fig. 4 is an enlarged detailed view of a modified form of intersecting partition;

Fig. 5 is an enlarged detailed view of a further modified form of intersecting partition;

Fig. 6 is an expanded view of the form of partition shown in Figs. 1, 3 and 7;

Fig. 7 is a perspective view of a modified form of tray;

Fig. 8 is a transverse section thereof; and

Fig. 9 is a transverse section of a further modified form of tray.

Like reference characters denote like parts in the several figures of the drawings.

In the following description and in the claims parts will be identified by specific names for convenience, but they are intended to be as generic in their application to similar parts as the art will permit.

Referring to the drawings more in detail the invention is shown as comprising a container having side walls 10 formed from a strip of fiber board which is suitably scored and bent into a rectangular form. End strengthening members 11 are also formed of said fiber board and are scored and bent to pass around the four corners of the container to strengthen the ends by which the container is lifted.

The bottom of the container comprises a bottom member 12 which is formed from a fiber board, cut and scored at its edges to permit flanges 13 to be turned at right angles thereto. Holes 14 may be formed in bottom 12 for the purpose to be described.

A liner 15 of similar box board is formed in a manner similar to sides 10 and is of less width than said sides, so that it may be inserted over the bottom member as will be described.

Transverse partitions 16 may be formed of a similar fiber board, preferably of double thickness, (Fig. 6) and are provided with slots 17 which extend partly therethrough for the reception of the longitudinal partitions. Members 16 are scored and bent at their ends to form flaps 18 by which they are secured to the inner surface of the sides of the box.

Longitudinal partitions 20 are preferably formed of a plurality of thicknesses of fiber board, as for example, four thicknesses (Fig. 6) which may be secured together in any convenient manner. Partitions 20 are also scored at their ends and bent to form end flaps 21 which facilitate attachment to the box. A plurality of grooves 22 are cut

through partitions 20 in alignment with the transverse partitions 16. These grooves may be cut through a single thickness of fiber board and serve as shoulders for the transverse partitions. The thickness of fiber board between said grooves corresponds to the width of slots 17 so that the partitions may be suitably interleaved.

In assembling the above described container, bottom 12 is inserted in side member 10 with flanges 13 in engagement therewith. Liner 15 is then inserted in sides 10 above said bottom member. Transverse partitions 16 may then be located as desired with their flaps 18 contacting with the inner surface of liner 15, and longitudinal partitions 20 may be inserted in slots 17 of said transverse partitions. End strengthening members 11 may then be applied over the surface of sides 10 and the entire assembly secured by suitable rivets or stitches 25 as shown in Fig. 1. Hand holes 26 are formed in side piece 10, end members 11 and liner 15 to permit the tray to be readily grasped by the hand.

With this particular construction, as above described the shoulders of longitudinal partitions 20 adjacent slots 22 contact with the surface of the transverse partitions 16 adjacent slots 17 and prevent bending or breaking of said members. Holes 14 provide a drain for water or moisture which might otherwise collect in the bottom of the tray when certain types of goods are transported therein.

A modified form of joint for the transverse and longitudinal partitions is shown in Fig. 4 in which longitudinal partitions 30 are formed of three thicknesses of material and are inserted in suitable slots in transverse partitions 31. Various thicknesses of material are secured together by stitches 32 and the partitions are assembled in the manner pointed out above.

A simplified form of partition is shown in Fig. 5 in which longitudinal partitions 35 and transverse partitions 36 are each provided with slots to permit the partitions to be interleaved. This type of partition is simpler to construct than that above mentioned, although its rigidity may not be sufficient to permit use for heavy articles.

In the form of the invention shown in Figs. 7 and 8, the box is formed with side members 40 which are constructed similar to side members 10 of Fig. 3. Bottom 41 is provided with upturned flanges 42 which are substantially coextensive with side members 40 and form the reinforcing means for the container. Strengthening members 43 are formed similar to members 11 of Fig. 3.

Transverse partitions 44 comprise a double thickness of fiber board which is bent outwardly at its ends to provide attaching flanges 45. Said members are provided with slots 46 (Fig. 6) to receive the longitudinal partitions.

Longitudinal partitions 47 are formed of four thicknesses of fiber board, two of the thicknesses being bent outwardly to provide attaching flanges 48, the two outer thicknesses being secured to the center thicknesses by stitches 49 (Fig. 6) and separated to form grooves 50 which are of suitable size to dovetail in slots 46. The above elements are assembled and secured by suitable stitches as pointed out in connection with Figs. 1 to 3.

In the modified form shown in Fig. 9, sides 40 are formed in the same manner as sides 40 of Fig. 7. Bottom 50 is provided with narrow upstanding flanges 51 which are inserted within sides 40 and the strengthening member 52 is provided similar to member 15 in Fig. 3 which is inserted within sides 40 above flanges 51. Strengthening member 52 and flanges 51 are together substantially coextensive to sides 40 and serve as reinforcing means therefor.

In the type of tray shown in Figs. 7 to 9 the bottom member is substantially flush with the side members and provides an even supporting surface which permits the tray to be stacked in transportation and eliminates downward projections which might interfere with the ready removal of one of the trays.

The fiber board from which the above described container is formed is preferably treated with a waterproofing and stiffening composition to render the same rigid and impervious to moisture. For example, the board may be treated with a paraffin solution which forms an impervious coating on the surface thereof. The board may be treated with paraffin either before or after assembly as desired.

One suitable method of treating the fiber board and for applying the coloring thereto comprises applying a paint solution to the untreated board whereby the desired color is produced. The colored board may then be printed and a permanent finish imparted thereto by dipping in boiling paraffin to which a pigment of the same color as the original board has been added.

For example, to form a yellow box the board is first painted yellow and printed. Thereafter the box is dipped in boiling paraffin containing a dry paint pigment, such as yellow ochre. It is preferable to apply the coloring to both the paraffin solution and to the board in order to produce the desired result.

While certain novel features of the invention have been shown and described and are pointed out in the annexed claim, it will be understood that various omissions, substitutions and changes in the forms and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

A container of waterproof fiber board comprising side members and a bottom member rigidly secured together, transverse partitions of said board comprising a double thickness of said fiber board and having outwardly extending flaps in engagement with said side members, and longitudinal partitions having four thicknesses of fiber board, the two center thicknesses having outwardly extending flaps in engagement with said side members, the two outer thicknesses being secured thereto and being separated to provide grooves for receiving said transverse partitions.

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In testimony whereof I have hereunto set my hand.

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