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CASE CONSTRUCTION EMBODYING SEPARABLE UNITS

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2 Sheets-Sheet 1

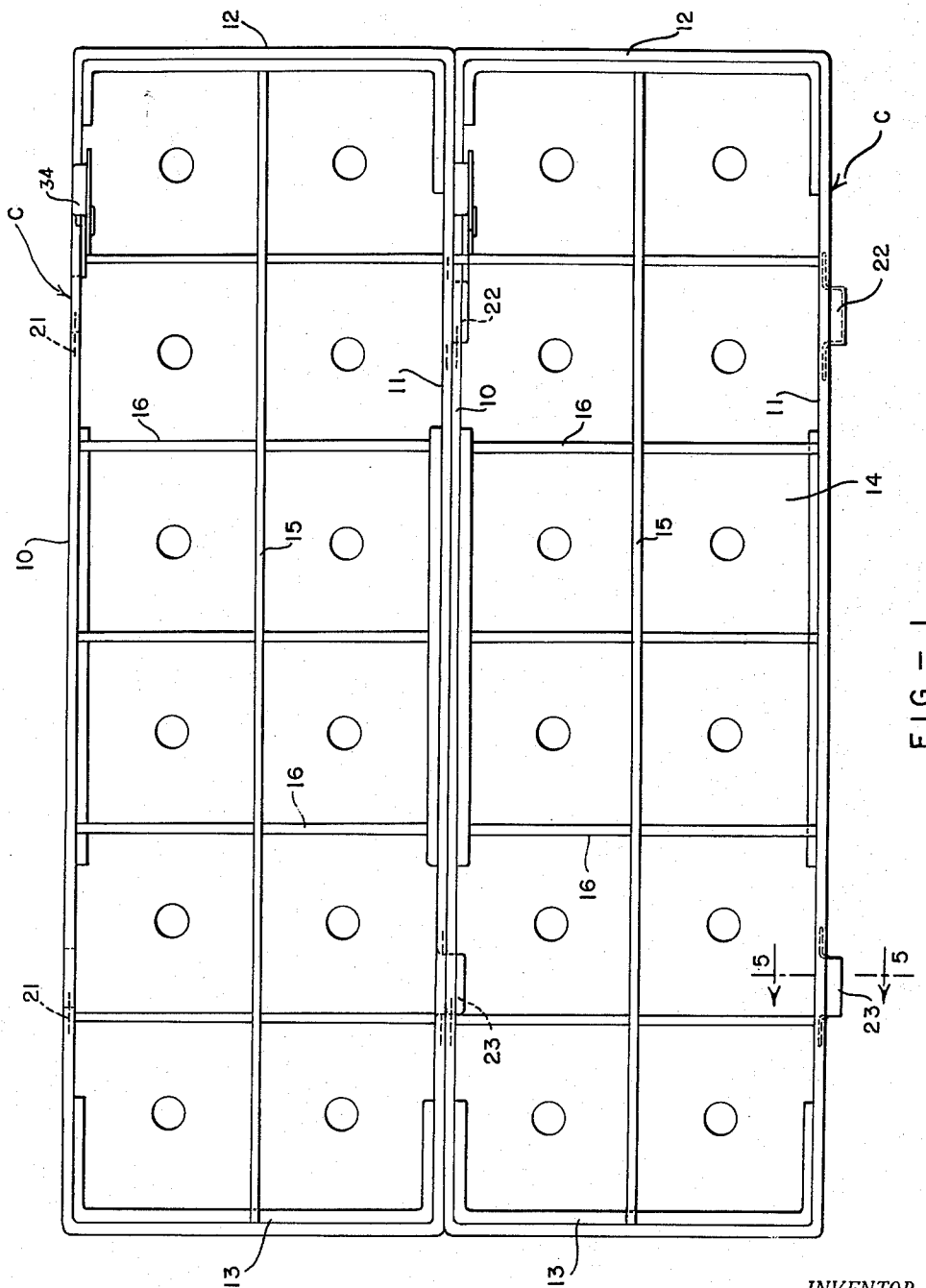


FIG. - 1

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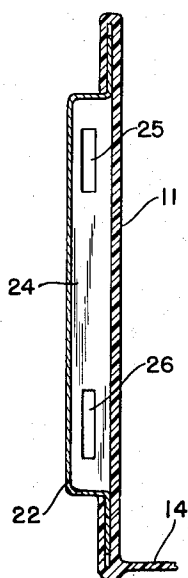
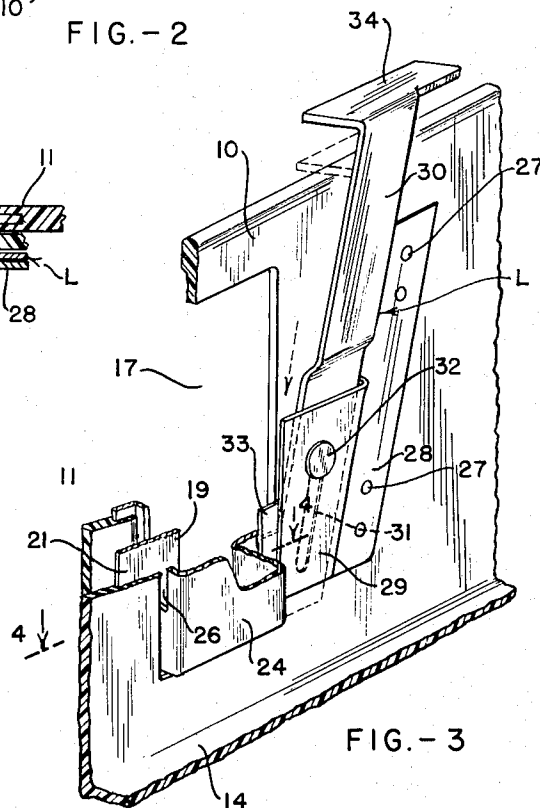
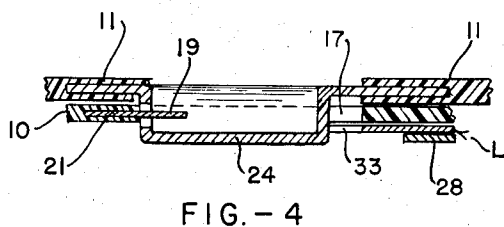
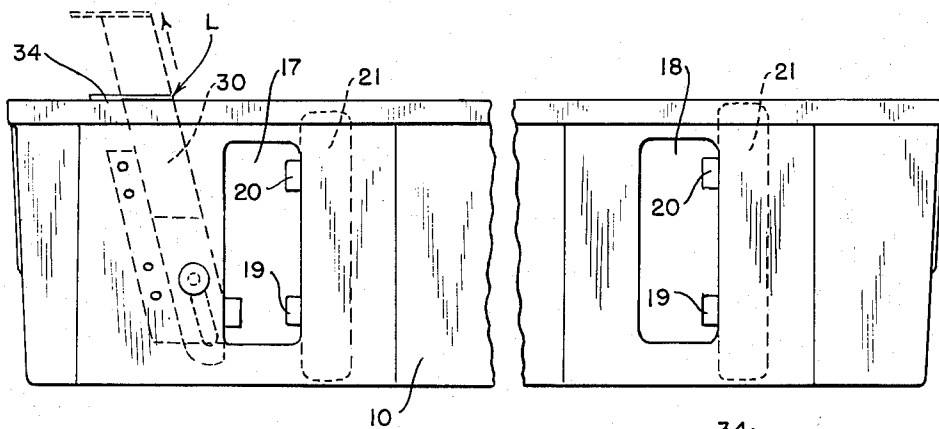
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CASE CONSTRUCTION EMBODYING SEPARABLE UNITS

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CASE CONSTRUCTION EMBODYING SEPARABLE UNITS

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10 Claims. (Cl. 220—23.4)

This invention relates to an improved case or receptacle construction, and more particularly one embodying separable units.

One of the objects of the invention is to produce in a case construction embodying separable units improved means for permitting the units to be quickly and easily connected together and disconnected so as to be usable individually.

A further object is to so construct identical case units and provide each with means for connecting it to other like units that the units can be connected together at either of two sides with a side by side relationship.

Another object is to provide improved means for connecting the sides of two members together at a plurality of points in a detachable manner by employing a single operable member at one of the points only.

A still further object is to produce improved interengageable means controllable by a single movable member for positively and firmly connecting two members together in side by side relation, and particularly one which is easily manipulatable to either connect or disconnect the relationship.

Yet another and more specific object is to produce an improved bottle case unit for quick and firm attachment to other like units so that bottled goods can be readily sold in lots comprising either one of the units or a multiple thereof all connected together.

Other objects of my invention will become apparent from the following description taken in connection with the accompanying drawings in which:

Figure 1 is a top view showing two case units embodying my invention with said units in connected relation;

Figure 2 is a view of one of the sides of a unit showing the attaching openings and tongues or prongs for cooperation with parts on the side of another like unit to make a connection of the units;

Figure 3 is a perspective view of the single slidable catch on each unit to accomplish the locking of units in connected relationship;

Figure 4 is a sectional view taken on approximately line 4—4 of Figure 3; and

Figure 5 is an edge view of the attaching part on a side of the unit which is to be received in the hole and cooperate with the tongues.

Referring to the drawings in detail, my invention is disclosed as being embodied in a case or receptacle construction for bottles and particularly one having independent units for attachment and detachment, but it is to be understood that this is by way of example only. Figure 1 shows the bottle case comprising two separable units U, but it may have more if desired. Each unit U is of identical construction and, as shown, is designed to hold twelve bottles. Thus, when two units are attached together as shown in Figure 1, there will be a full case. These full cases can be delivered from the bottling plant to a retailer. If a customer desires to buy only "half a case" or twelve bottles, then the units can be detached

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from each other and each sold separately. Since the units are of like construction, any one unit can be attached to any other unit at any time.

Each unit U is preferably made of a synthetic material such as from a preformed fibreglas mat employing a suitable resin. Other material, of course, could be used such as metal. Each unit consists of side walls 10 and 11, end walls 12 and 13 and a bottom 14. There is a single longitudinal portion 15 down the center of the unit and sufficient cross partitions 16 to provide for twelve compartments into each of which a bottle can be placed.

The side wall 10 of each unit is constructed to have two longitudinally spaced openings 17 and 18. These openings are elongated, with the long axes being vertical in the wall. Into like sides of each opening there extends a short distance two tongues or prongs 19 and 20. In the plastic case shown these tongues are integral with a flat piece of metal 21 which is embedded in the side wall 10 as indicated.

The other side wall 11 has embedded therein two metal cup shaped members 22 and 23 of like construction. These each provide elongated portions 24 which will project outwardly from the side wall. Each of these projecting portions are of a width to fit into an opening on a side wall 10 of a unit by moving past the ends of tongues 19 and 20. Like side walls of each projecting portion 24 have two spaced slots 25 and 26 of a size and position to receive the tongues after the portion 24 is placed in the opening and the two units given a relative longitudinal movement. The distance between the side walls of each projecting portion 24 of the cup shaped members 22 and 23 which have the slots will be the same as the distance between the side of the openings 17 and 18, from which the tongues extend. Thus, when any two units U are connected together as shown in Figure 1, the ends thereof will be flush with each other.

In order to lock two units together so separation will be prevented when the cup shaped members 22 and 23 are in the openings 17 and 18 and the tongues received in slots, all as shown in Figure 1, a suitable locking means is employed. The locking means preferred is shown in Figures 1, 2, 3 and 4 and it is to be noted that only one locking structure is employed to perform the locking of the connecting means at the two spaced points. The locking means, which is generally indicated by the letter L, is associated with the opening 17 and is mounted on the inside of the side wall 10. Secured to the wall, as by rivets 27, is a strip 28 and this strip carries on its outer surface a holder plate 29 which extends toward the opening from the strip and is spaced from the wall. The strip 28 is positioned at an acute angle to the vertical and away from the side edge of the opening opposite that from which the tongues extend. Associated with the strip and holder plate is a slidable catch 30 having a longitudinal slot 31. This catch is arranged to slide along and be guided by the edge of the strip and be held in the space between the wall of the holder plate. A pin 32 is carried by the plate and wall and extends through the slot 31 to hold the catch in proper sliding position and also limit its angular sliding movement. On the lower end of the catch is a holding finger 33 which extends toward the opening and on its upper end the catch has a handle flange 34 to facilitate manual sliding of the catch.

With the construction just described it will be seen that when the catch is slid downwardly as far as possible to the position shown in full lines with the flange 34 engaging the top edge of the wall 10, the finger 33 will be moved into the opening 17 from the side thereof opposite the tongues. If the cup shaped member 22 is in the opening 17 and moved so the tongues are in the slots, as shown in Figure 1, then when the catch is down in lock-

ing position the finger 33 thereof will engage the side of the cup shaped member 22 opposite its slots and thus hold the member from movement in the opening. When the catch is pulled up to a non-holding position, as shown in dotted lines, then because of the angular sliding of the catch the finger 33 will be moved to one side of the opening 17 and thus permit the cup shaped members 22 and 23 both to be withdrawn from the openings 17 and 18 by proper relative movement of the two units.

It will be noted that my holding means is simple and easily and quickly operated. Only one catch member needs to be operated to make holding connections at spaced points. With the plastic construction of the units they will be light and durable, yet the holding connections will be by metal parts for strength and long wear.

It is to be understood that the units and holding means for connecting them together are shown by way of example only and modifications are therefore possible without departing from the fundamental principles of the invention involved. Also the holding structure can be employed where it is desired to hold any two flat members together, regardless of whether on bottle case units or other structures. The scope of the invention is thus not to be limited except in accordance with the appended claims.

What is claimed is:

1. In a case construction, a pair of independent units having side walls arranged for close parallel attachment to each other and detachment from each other, each of said units carrying on a side wall thereof longitudinally spaced connecting elements, the elements on one wall and those on the other wall constituting spaced sets with the elements of each set being so constructed as to be capable of being interengaged simultaneously by a relative movement between the units, and a single manually operable slidable member carried by one of the walls for movement to a position cooperatively engaging with one of the elements of a set for preventing any such relative movement of the units that a disconnection of the units can take place after the sets of elements are placed in interengaging relation, each of said sets of elements constituting an opening in one wall having an element extending therein and a projection on the other wall having a slot to receive the extending element after the projection is placed in the opening, said manually operable slidable member having a hand gripping part always accessible at the edge of the wall.

2. Connecting apparatus for two walled structures, means providing an opening in the wall of one structure and a tongue extending a short distance into said opening from a side thereof, means providing a lateral projection on the wall of the other structure, said projection having a width capable of being received in that part of the opening between the end of the tongue and the other side of said opening and also being provided with a slot in the side wall thereof for receiving the tongue when the projection is placed in the opening and then moved toward the side of the opening from which the tongue extends, and a manually operable slidable member carried by the wall having the opening and movable from a position permitting the projection to be placed in the opening to a position holding the projection in a position where the tongue is in the slot thereof, said slidable member having a hand engaging part always accessible from the edge of the wall on which the member is mounted.

3. Connecting apparatus for two walled structures, means providing an opening in the wall of one structure and a tongue extending a short distance into said opening from a side thereof, means providing a lateral projection on the wall of the other structure, said projection having a width capable of being received in that part of the opening between the end of the tongue and the other side of said opening and also being provided with a slot in the side wall thereof for receiving the tongue when the projection is placed in the opening and then moved toward

the side of the opening from which the tongue extends, and a member slidably mounted on the inside of the wall having the opening and having an operating part at the top of the wall for moving the member from a position permitting the projection to be placed in the opening to a position where a part thereof engages and holds the projection in a position where the tongue will remain in the slot thereof.

4. Connecting apparatus for two walled structures, means providing an elongated opening in the wall of one structure and a tongue extending a short distance into said opening from a side thereof, means providing a lateral elongated projection on the wall of the other structure, said projection having a width capable of being received in the opening between the end of the tongue and the other side of said opening and also being provided with a slot in the side wall thereof for receiving the tongue when the projection is placed in the opening and then moved toward the side of the opening from which the tongue extends, and a manually operable elongated member slidably mounted on the wall having the opening to move lengthwise thereof and movable from a position permitting the projection to be placed in the opening to a position where a portion thereof engages and holds the projection in a position where the tongue is in the slot thereof, the mounting of the slidable member being such that it is slidable in a direction having an acute angle with the longitudinal axis of the opening.

5. Connecting apparatus for two walled structures made of plastic material, one of said structures having an opening therein, a metal tongue embedded in the wall and extending a short distance into the opening, a metal member embedded in the other wall and provided with a projecting portion extending laterally from the wall and being of a size to be moved into the opening past the end of the tongue, said projecting portion being so constructed as to interengage with the tongue by a relative movement between the walled structures after the projecting portion is in the hole, and a manually operable member carried by the structure having the opening and being mounted for movement to engage the projecting portion and hold it and the tongue in interengaging relation.

6. Connecting apparatus for two walled structures made of plastic material, one of said structures having an opening therein, a metal tongue embedded in the wall and extending a short distance into the opening, a metal member embedded in the other wall and provided with a cup shaped projecting portion extending laterally from the wall and being of a size to be moved into the opening past the end of the tongue, said projecting portion having a slot in one side thereof to receive the tongue by a relative movement between the walled structures after the projecting portion is in the hole, and a manually operable member carried by the structure with the opening and mounted for movement to engage the projecting portion and hold it and the tongue in interengaging relation.

7. In a case construction for bottles, two independent units each having side walls for attachment to and detachment from each other, each of said units being made from mouldable plastic material and one of said units being provided with an opening in its side wall, a metal tongue embedded in the side wall and projecting into the opening, a metal member embedded in the wall of the other unit and having a portion projecting out from the wall and being of a size to fit into the opening in the other wall by movement past the end of the tongue, said projecting portion being constructed to interengage with the tongue by a relative movement of the units after the projecting portion is in the opening, and manually operable means carried by the wall having the opening and being mounted for movement to such an engaging position with the projection as to hold the projecting portion and the tongue in interengaged position.

8. In a case construction for bottles, two independent

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units each having side walls for attachment to and detachment from each other, each of said units being made from mouldable plastic material and one of said units being provided with an opening in its side wall, a metal tongue embedded in the side wall and projecting into the opening, a metal member embedded in the wall of the other unit and having a portion projecting out from the wall and being of a size to fit into the opening in the other wall by movement past the end of the tongue, said projecting portion being constructed to interengage with the tongue by a relative movement of the units after the projecting portion is in the opening, and a manually operable member carried by the wall having the opening and being mounted for sliding movement along the side of the wall and across the opening to such an engaging position with the projection as to hold the projecting portion and the tongue in interengaged position.

9. In a case construction, a pair of independent units having said walls arranged for attachment to and detachment from each other, one of said units having its side wall provided with a pair of longitudinally spaced openings with each opening having a fixed tongue element extending into the opening from a side thereof, the other unit having a side wall provided with two lateral projections each of a size to be received in an opening, said projections being so constructed as to simultaneously interengage with the tongues by a movement of the units relatively to each other when the projections are in the open-

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ings, and a member carried on the inside of a wall of one unit and movable to a position engaging a projection for holding the projections and the tongues in interengaging relation, said member having a part accessible at all times above the side wall on which it is mounted.

10. In a case construction for bottles, a pair of independent units having side walls arranged for attachment to and detachment from each other, one of said units having its side wall provided with a pair of longitudinally spaced elongated openings with each opening having a fixed tongue element extending into the opening from a like side thereof, the other unit having a side wall provided with two lateral elongated projections each of a width to be received in an opening by movement past a tongue, said projections being so constructed as to simultaneously interengage with the tongues by a movement of the units relatively longitudinally to each other when the projections are in the openings, and a member carried by the unit having the wall with the opening and mounted for slidable movement parallel to the wall and at an angle to the longitudinal axis of an opening and to a position across the opening for engaging and holding a projection and tongue in interengaging relation.

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