Nov. 21, 1950 F. A. WYATT ET AL 2,530,849

BEVERAGE CASE

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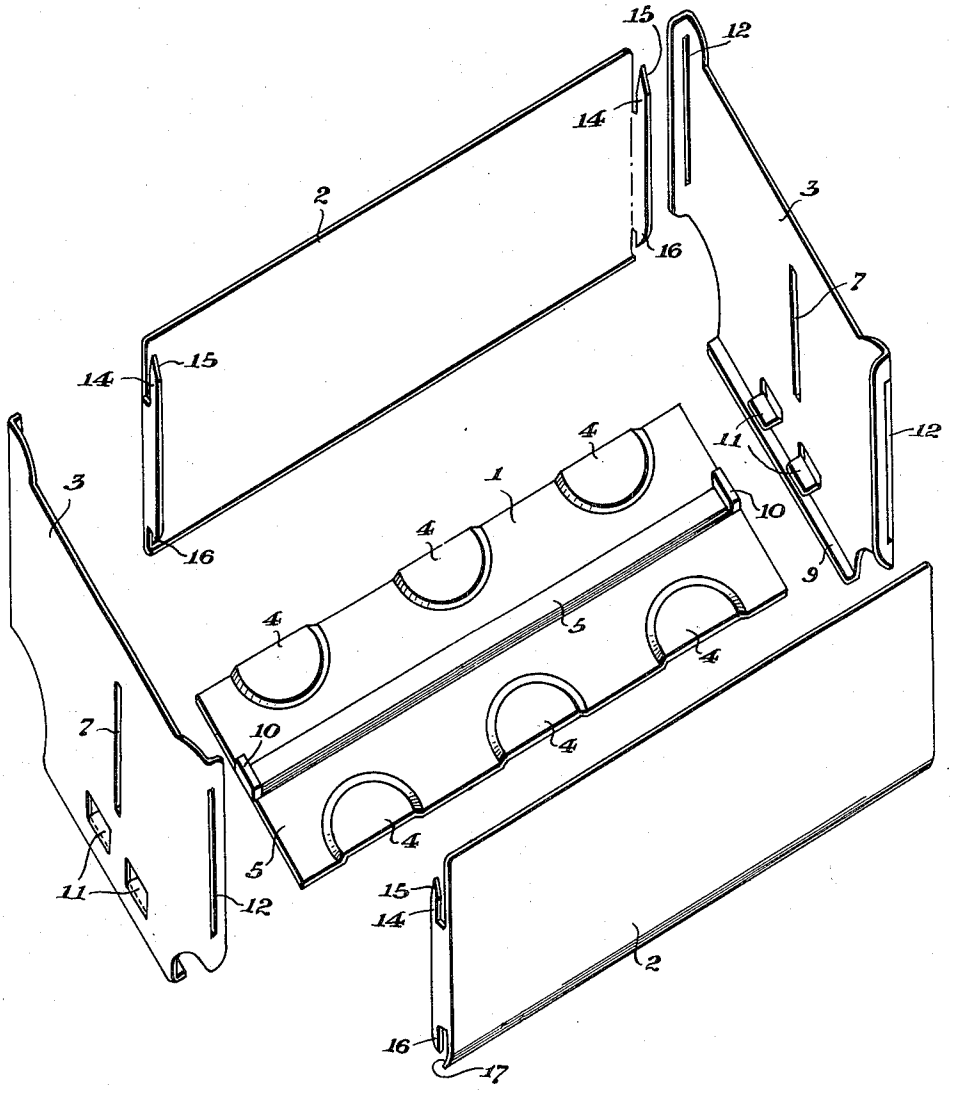


Fig. 1.

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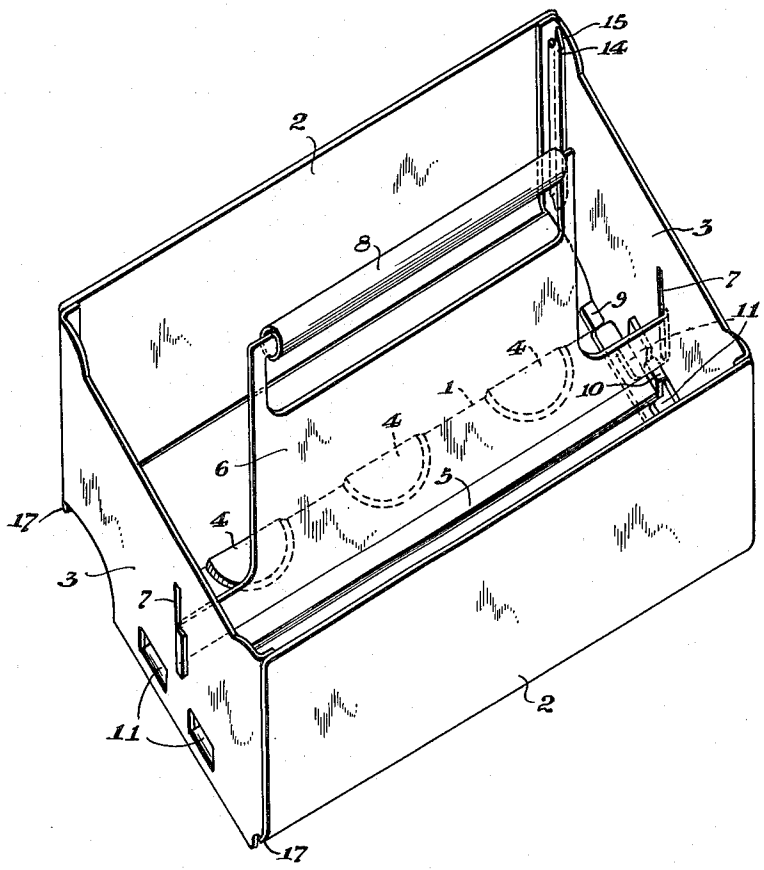


Fig. 2.

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BEVERAGE CASE

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4 Claims. (Cl. 224—48)

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This invention relates to box-like containers and in particular to containers which can be collapsed or knocked down.

Such containers are particularly useful in transporting consumable goods since they can be used many times and when being returned for refilling they can be knocked down so as to occupy minimum space. However, the prior containers are subject to several criticisms. A number of them are complicated and expensive to manufacture so that their use is economically impractical. The detachable connections often are made by lugs received in slots in such a way that they may accidentally separate during rough travel. Further, such lugs often project outwardly of the container and either may be bent so as to become useless or be completely sheared off. Such outwardly projecting connecting members also present undesirably rough and jagged surfaces. Other connections require the use of separate members which eventually become lost. Another serious handicap lies in the fact that, due to the type of connections used, the parts of the containers are not interchangeable.

It is among the objects of this invention to provide a knock-down container which is quickly and easily assembled, which is inexpensive to manufacture, which is sufficiently sturdy to be used a great number of times, and the parts of which are interchangeable and jointed together in a secure manner.

A further object is to provide connecting members for such a container which do not project outwardly of it.

The preferred embodiment of the invention is illustrated in the accompanying drawings of which Fig. 1 is an isometric exploded view of the container, and Fig. 2 an isometric view of the assembled container.

The container illustrated in the drawings is designed as a beverage case to transport bottled goods such as Coca Cola, or the like. It is composed of a bottom 1, sides 2 and ends 3. These members preferably are metallic so as to provide a light and strong container which can be used a number of times. The bottom is provided with circular elevations 4 which are adapted to fit into the bottom of the bottles and steady them. Also, the bottom has a longitudinal rib 5 adapted to partition bottles in the case. It is obvious that the case can be designed to carry any desired number of bottles. Preferably, the bottom is of less width than the ends in order to provide open spaces through which moisture that may be on the bottles can escape and also to economize on material.

To further steady the bottles as well as provide a handle for the container, a longitudinal partition wall 6, Fig. 2, is slidably mounted in the ends of the container. For this purpose, ends 3 are provided with vertical slots 7 to receive the end portions of the partition wall. Preferably the end portions of the partition extending through slots 7 are bent so as to avoid outwardly projecting surfaces and to further secure the partition. The upper portion of the partition is reduced in length and a handle 8 is formed therein by cutting and rolling a section of it in the manner shown. When the container is not being lifted by the handle, the partition drops into the case a sufficient amount to position the handle just below the level of the bottle tops.

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The bottom is supported in the case by ledges 9 which are formed by bending the lower marginal portions of the sides inwardly of the case. In order to hold the bottom firmly in place, upwardly projecting lugs 10 are formed in it and a pair of flaps 11 are provided in each end of the case by cutting windows in the lower portions of the ends and bending the windows inwardly along their lower edges. When the bottom rests on ledges 9, lugs 10 fit between flaps 11 to prevent lateral movement of the bottom, and the ends of the bottom fit closely between ledges 9 and flaps 11 to prevent the bottom from moving upwardly.

Another feature of this invention is the manner in which the sides and ends are jointed together. Accordingly, the end marginal portions of both the sides and the ends are bent inwardly at right angles to these members. Vertical slots 12 are provided in the bent portion of the ends and are sized to receive the inwardly bent portions of the sides. The bent portions of the sides are reduced in length at the top and bottom thereof and upper and lower flanges 14 and 16 are formed in these bent portions by cutting slots therein. The sides and ends are jointed together by inserting upper flange 14 into the top portion of the vertical slot 12 and then lifting the sides a sufficient amount to permit bottom flange 16 to be inserted into the lower portion of the slot. The sides then may be lowered so that they become caught by the engagement of the upper and lower flanges with the interior surfaces of the bent portions of the ends. Preferably, the upper portion of upper flange 14 converges slightly to form a taper 15 which facilitates its insertion into slot 12 and also aids in preventing this flange from being bent. Also, it is desirable to bend the bottom edges of the sides inwardly a small amount so as to form flanges 17 which, as shown in Fig. 2, snap under the inwardly bent portions of the sides and additionally lock the sides and ends.

To form the side and end connections it is desirable to adhere to certain dimensional relationships between vertical slots 12 and upper and lower flanges 14 and 16. Although these dimensions need not be precisely as stated, it is preferred to have upper flange 14 approximately twice the length of the lower flange. Also, the length of vertical slot 12 is made less than the total length of the bent ends of the sides by

approximately the length of lower flange 16. With this relationship, upper flange 14 can be raised in vertical slot 12 just far enough to permit lower flange 16 to be inserted into the slot. Thus, when the case is lifted by means of handles 8, there will be a minimum amount of relative movement between the sides and the ends. Further, as explained above, such relative movement is limited by the engagement of the ends of the bottom by ledges 9 and flaps 11.

In assembling the case, it will be apparent that the bottom, ends and partition wall connections are made, and then the sides secured to the ends as described above. The reverse procedure is used to knock down the case.

From the foregoing, it will be seen that a knock-down container is provided which can be quickly and easily assembled and taken apart. Further, the connections are such that they will not accidentally separate due to rough traveling or handling. Also, should either a side or end of the container become damaged, any side or end of another container can be substituted in its place. A particular advantage of this container is that none of the connecting or jointing members extend outwardly of the container, and therefore such members will not become bent or sheared off during use. The container is economically practical since all of its parts can be quickly stamped out of thin sheet metal and, by simple fabricating processes, cut, bent and provided with the necessary slots, and also since production costs are reduced due to the fact that no assembly of parts is required at the time of manufacture.

The invention has been illustrated and described with reference to a beverage case. However, as is apparent, it can be readily adapted for transporting a variety of consumable goods, such as eggs or butter, which normally require the protection of a case during transportation. Furthermore, it is not desired to limit the fabricating material of the case to metal since any other material which is sufficiently light, durable and inexpensive can be used in place of the metal.

According to the provisions of the patent statutes, we have explained the principle, preferred embodiment and mode of operation of our invention, and have illustrated and described what we now consider to represent its best embodiment. However, we desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

We claim:

1. A knock-down container comprising a bottom, a pair of sides and a pair of ends, the lower edges of said ends being bent upwardly to support said bottom, said bottom having an upwardly projecting lug and said ends each having a pair of inwardly projecting members adapted to receive said lug and hold the bottom against lateral and vertical movement, the end portions of each of said pairs being bent inwardly, the bent portions of one of the pairs each being provided with a vertical slot, the bent portions of the other pair being greater in length than said slot and having upper and lower flange sections whereby said sides and ends can be jointed together by inserting said upper flange sections into said vertical slots and sliding them upwardly a sufficient amount to permit said lower flange sections to be inserted therein.

2. A knock-down container comprising a bottom, sides and ends, the lower edges of said ends being bent upwardly to support said bottom, said bottom having an upwardly projecting lug and said ends each having a pair of inwardly projecting members adapted to receive said lugs and hold the bottom against lateral and vertical movement, the end portions of each of said ends being bent inwardly and provided with a vertical slot, the end portions of each of the sides also being bent inwardly, being greater in length than the said vertical slot and having upper and lower flange sections, whereby said sides and ends can be detachably jointed together by inserting said upper flange sections into said vertical slots and sliding them upwardly a sufficient amount to permit said lower flange sections to be inserted therein.

3. A knock-down beverage case comprising a bottom, a pair of sides and a pair of ends, said bottom being of less width than said ends and having an upwardly projecting lug, said ends each having a pair of inwardly projecting members adapted to receive said lugs and hold the bottom against lateral and vertical movement, the end portions of each of said pairs being bent inwardly of the container, the bent portions of one of said pairs each being provided with a vertical slot, the bent portions of the other pair each being greater in length than said vertical slot and having upper and lower flange sections, whereby said sides and ends can be detachably jointed together by inserting said upper flange sections into said vertical slots and sliding them upwardly a sufficient amount to permit said lower flange sections to be inserted therein.

4. A knock-down beverage case comprising a bottom, sides and ends, the lower edges of said ends being bent upwardly to support said bottom, said bottom being narrower than said ends and having a longitudinal partitioning rib the end portions of which are formed into upwardly projecting lugs, said ends each having a pair of inwardly projecting flaps formed therein and adapted to receive said lugs and hold the bottom against lateral and vertical movement, the end portions of each of the ends being bent inwardly and provided with a vertical slot, the end portions of each of the sides also being bent inwardly, said bent portions being greater in length than the said vertical slot and having upper and lower flange sections, whereby said sides and ends can be detachably jointed together by inserting said upper flange sections into said vertical slot and sliding them upwardly a sufficient amount to permit said lower flange sections to be inserted therein said upper flange section being tapered to facilitate the jointing.

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