July 6, 1954 W. A. RINGLER 2,682,972

HANDLE FOR CARRIERS

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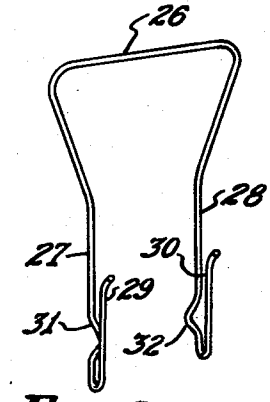


FIG. 6.

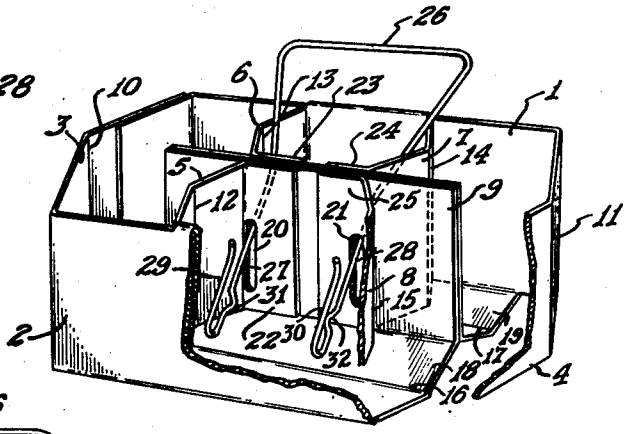


FIG. 1.

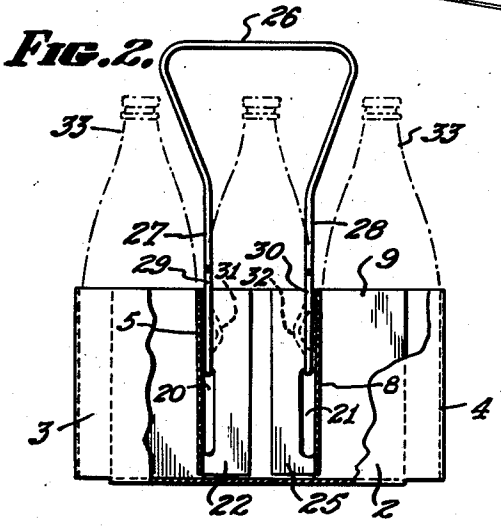


FIG. 2.

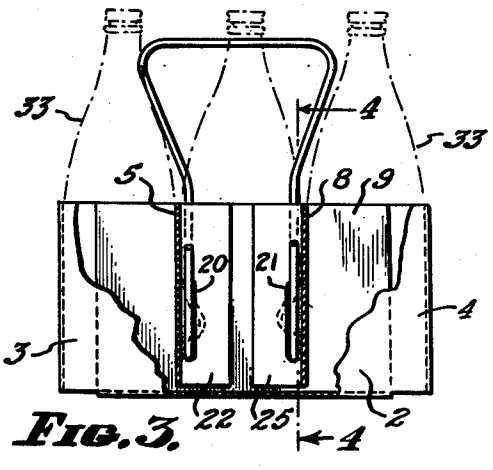


FIG. 3.

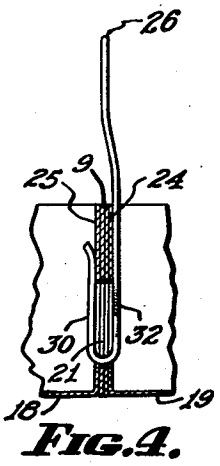


FIG. 4.

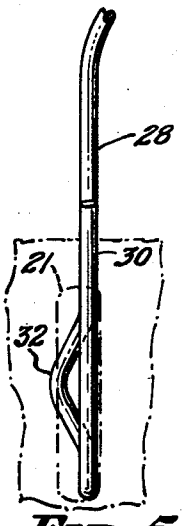


FIG. 5.

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HANDLE FOR CARRIERS

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2 Claims. (Cl. 220—105)

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My invention has to do with the provision of a handle member for knock-down or collapsible paperboard bottle carriers, an exemplary one of which is set forth in my copending application Serial No. 780,266, filed October 16, 1947, and entitled: Carrier and Method, now Patent No. 2,556,341.

The specific object of this invention is the provision of an improved handle member for use with bottle carriers of a type in which the central partition, and preferably attachment portions of lateral partitions are slotted for reception of the handle member, which handle member coacts with the carrier in new ways to alleviate certain difficulties encountered in the use of such carriers, particularly where the carriers are machine loaded and unloaded. I shall describe my invention in connection with the exemplary carrier shown in my copending application, it being understood that its utility is not confined thereto.

In my copending application I have provided a bottle carrier including a body having side and end walls for surrounding an assembly of bottles, a central longitudinal partition element and lateral partition elements extending between the side walls and the central longitudinal partition element, and a wire handle element having reversely bent legs for engaging the central longitudinal partition, the central longitudinal partition being slotted to receive the handle element, with the legs passing through the slots in the central longitudinal partition and serving to clamp together the central longitudinal partition and the attachment portions of the lateral partition elements extending along the central longitudinal partition element. The end walls, bottom portions, and lateral partition elements of the carrier are medially scored so that the structure will collapse. Also, the slots in the central longitudinal partition are elongated and extend from near the bottom of the partition upwardly toward the upper edge thereof; and the reversely bent portions of the handle are of a length somewhat greater than the length of the slots. The handle element is associated with the carrier by passing the reversely bent ends thereof through the slots while the carrier is in collapsed or semi-collapsed condition, in which condition the lower extremities of the handle will move downwardly beyond the bottom edge of the central longitudinal partition into the well formed by one of the medially scored bottom forming portions, which collapses downwardly on its median score line. This permits the reversely bent portions of the handle, which are longer than the slots, to pass through

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the slots, and hence when the handle is drawn upwardly the reversely bent leg will engage the carrier body on the side opposite from the bail and leg portions of the handle, thus bringing the handle into clamping engagement with the central longitudinal partition. Due to the fact that the slots are elongated, the handle may be raised until the lowermost, closed end of the handle formed by the reversely bent portions contacts the upper ends of the slots. The carrier is so designed that in this position the bail portion of the handle will lie above the tops of the bottles carried in the carrier. However, the handle by the same token may be depressed until the looped portions thereof rest on the lower ends of the slots, in which condition the bail of the handle is carried below the tops of the bottles and hence a plurality of the carriers may be stacked one upon the other without interference from their respective handle members.

While the carrier and handle combination which I have just described is satisfactory under most conditions of use and has been widely accepted by the trade, it has been found in practice that under certain circumstances the handle member can tilt or cant to one side when it is in the depressed condition. This tilting may, if the carrier is empty, extend to the point of virtual disengagement. The tilting may occur because the handle has been thrust downward from its uppermost position with undue force; but the tendency is increased by any looseness in the gripping action of the reversely bent portions of the legs.

The tilting of the handles referred to above is of little or no consequence under ordinary conditions of use, but where the carriers are being machine loaded a misaligned handle will, in some instances, be struck by one or more of the bottles as they are being loaded into the carrier, thereby misaligning the bottles or otherwise causing the loading operation to be interrupted. Again, where the carriers are being automatically unloaded, as when the empty bottles are returned to the bottling works, it is essential to prevent any tilting or misalignment of the handle elements since the equipment with which such carriers are unloaded includes closely spaced hold-down bars for the carriers and between which the handle members are moved. If the handle member is out of alignment, it will strike one of the hold-down rods and cause the unloading device to be jammed. Machine loading and unloading operations are normally carried on with the carriers in bottle crates.

It is therefore a principal object of my invention to provide a handle member which will coact with the carrier in such a way that it will not become misaligned with respect to the carrier in either the up or down positions or at any intermediate position.

It is a further object of my invention to provide a handle member which not only will maintain its alignment with respect to the carrier but will also retain all of the attributes and advantages of the handle member of my copending application, such as its depressibility for stacking purposes, its simplicity of construction and mode of attachment to the carrier, and its ability to clamp together the various parts of the carrier body.

It is also an object of my invention to provide a combination of a paperboard bottle carrier and a handle member in which the handle member cannot become displaced with respect to the carrier.

These and other objects of my invention which will be set forth hereinafter or which will be apparent to the skilled worker in the art upon reading these specifications, I accomplish by that construction and arrangement of parts of which I shall now describe an exemplary embodiment.

Reference is made to the accompanying drawings wherein:

Figure 1 is a perspective view with parts broken away showing the carrier in a partial stage of erection and the handle member in process of being engaged therewith.

Figure 2 is a side elevational view with parts broken away showing the handle member associated with the central partition of the carrier, the handle member being in its extended or carrying position.

Figure 3 is similar to Figure 2 but shows the handle in the depressed or stacking position.

Figure 4 is a partial sectional view taken along the line **4—4** of Figure 3 and showing the reversely bent legs of the handle passing through the slots and in engagement with the central partition member.

Figure 5 is an enlarged view of one of the handle legs in the position shown in Figure 3, the enlarged view illustrating the relative sizes of the slot and the deformation in the main leg portion of the handle.

Figure 6 is a perspective view showing the handle member.

Briefly, in the practice of my invention I provide a handle member for association with the slotted central partition element of a paperboard carrier, the handle member comprising in general a bail portion, leg portions extending from the bail portion and terminating in reversely bent portions for effecting clamping engagement with the central partition element. To prevent the handle member from tipping or becoming misaligned with respect to the carrier, I provide deformations or indentations on the main legs of the carrier which are slightly wider than the slots in the central partition elements, the deformation serving to prevent the legs of the carrier from slipping through the slots in the central partition element and thereby causing the handle member to become misaligned. While the deformations or indentations are such that they will prevent accidental passage of the legs through the slots, they are not such as to prevent the legs from being initially passed through the slots when the handle is associated with the carrier, nor to prevent its deliberate dissociation therefrom should that be desired.

For a further and fuller description of my invention, reference is made to Figure 1 of the drawings wherein I have shown a collapsible paperboard carrier comprising side walls **1** and **2**, end walls **3** and **4**, lateral partition elements **5**, **6**, **7** and **8**, and a central longitudinal partition **9**. The carrier is collapsible on the median score lines **10** and **11** in the end walls, **12**, **13**, **14** and **15** in the lateral partitions, and **16** and **17** in the bottom forming portions **18** and **19**. The central longitudinal partition element **9** is provided with slots **20** and **21** for the reception of the handle member. The slots **20** and **21** are preferably formed also in the attachment portions **22**, **23**, **24** and **25** of the lateral partition elements. The slots **20** and **21** are elongated and extend vertically with respect to the central longitudinal partition element. The length of the slots will be determined by the degree of depressibility desired in the handle member. It is preferable to make the slots of a length such that the handle member when in contact with the upper edges of the slots will extend above the height of the bottles in the carrier; and when in contact with the lower ends of the slots will lie below the tops of the bottles.

My novel handle member is illustrated in Figure 6 of the drawing and comprises a bail portion **26**, leg portions **27** and **28**, reversely bent leg portions **29** and **30** and deformations or indentations **31** and **32** in the leg portions **27** and **28**.

In the embodiment illustrated the bail portion **26** and the leg portions **27** and **28** define the general plane of the handle member, the reversely bent leg portions **29** and **30** extending substantially parallel to the legs **27** and **28** and lying in a plane paralleling but spaced from the general plane of the handle. The deformations **31** and **32** lie in the general plane of the handle member and are inwardly directed, although it will be understood that the deformations may be outwardly directed or one may be inwardly directed and the other outwardly directed, without departing from the spirit of my invention.

The manner in which the handle member is associated with the carrier can be seen in Figure 2 wherein the leg portions **27** and **28** are shown extending through the slots **20** and **21** respectively, the lower ends of the leg extending into the well formed by the partially collapsed bottom wall **18**. If it were not for the collapsibility of the bottom wall portions, it would be difficult if not impossible to pass the legs of the handle member through the slots since the reversely bent portions **29** and **30** are longer than the slots **20** and **21**.

The relationship and relative size of the reversely bent legs with respect to the slots can be seen in Figure 4 of the drawings wherein the reversely bent leg portion **30** is shown to be longer than the slot **21**.

In Figure 2 the handle member is shown in extended position and in clamping engagement with the central partition element. It will be noted that in this position the lowermost closed ends of the handle engage the upper edges of the slots **20** and **21** and the bail **26** of the handle extends above the tops of the bottles carried in the carrier, the bottles being indicated generally at **33**. In this position there is substantially no chance of the handle member becoming misaligned since the leg portions **27** and **28** and the reversely bent leg portions **29** and **30** are in clamping engagement with the central longitudinal partition **9** throughout the entire area between the tops of the slots and the upper edge of the

central longitudinal partition. However, when the handle member is depressed to the position shown in Figure 3, the reversely bent leg portions **29** and **30** will contact the central longitudinal partition for only a short distance above the slots **20** and **21**. It is in this position that the ordinary handle member will be subject to misalignment. However, with my present construction, the deformations **31** and **32** act to prevent the leg portions **27** and **28** from passing through the slots. As can be clearly seen in Figure 5, the deformations are slightly wider than the width of the slots through which the handle member is passed and hence will normally prevent the legs from passing from one side of the slots to the other. Thus tilting of the handle toward the position shown in Figure 1 is prevented. Tilting in the opposite direction is rendered substantially impossible by engagement of the legs proper with the central partition assembly above the slots. Of course, the legs may be pushed through the slots upon the application of pressure, the boxboard yielding sufficiently to permit the deformations to pass through the slots. Such pressure would, however, be exerted only when the carrier is initially erected and would not be applied during normal handling and use of the carrier.

For the purposes of my invention, I have found it preferable to locate the deformations **30** and **31** at points intermediate the ends of the leg portions **27** and **28** and preferably in such position that the deformations will be adjacent the slots **20** and **21** when the handle member is in the depressed or lowered condition. Thus the deformations in a preferred embodiment of my invention will lie opposite the reversely bent leg portions of the handle.

It will of course be apparent that modifications may be made in the location and direction of the deformations without departing from the spirit of my invention, and I do not intend to be limited in their specific location other than in the manner set forth in the claims which follow.

Having thus described my invention in an exemplary embodiment what I claim as new and desire to secure by Letters Patent is:

1. In a bottle carrier, the combination of a paperboard carrier including a central partition having elongated slots therein, said slots being vertically disposed in spaced apart relation with their upper ends coterminous and spaced downwardly from the top edge of said central partition, and a wire handle having a bail portion and a pair of main leg members extending downwardly from the ends of said bail portion, said bail portion extending longitudinally of said central partition, said main leg members each having a first portion which is straight, a second portion which is offset from the axis of said first portion in the direction of the length of said central partition by a distance greater than the width of said slots, and a third portion which is straight and has its axis lying in prolongation of the axis of said first portion, the combined depth of said second and third main leg portions being less than the length of said slots, said main leg members terminating at their lower ends in reversely bent leg members extending upwardly in parallelism to the first and third portions of said main leg members and spaced laterally therefrom by a distance substantially equal to the thickness of said central partition, said reversely bent leg members being greater in length than said slots, said reversely bent leg members extending through said slots with said main leg members and said reversely bent leg members contacting opposite sides of said central partition in the areas above said slots, said handle being movable from a lower position in which the lowermost ends of said reversely bent leg members contact the bottoms of said slots and the offset portions of said main leg members lie opposite said slots, thereby acting to prevent the main leg members from passing through said slots, to a raised carrying position in which the lowermost ends of said reversely bent legs contact the tops of said slots.

2. A wire handle for engagement with the central partition of a bottle carrier, said handle comprising a horizontally disposed bail portion and a pair of main leg members extending downwardly from the ends of said bail portion, said main leg members each having a first portion which is straight, a second portion which is offset from the axis of said first portion in the direction of the axis of said bail portion, and a third portion which is straight and has its axis lying in prolongation of the axis of said first portion, said main leg members terminating at their lower ends in reversely bent leg members which are spaced laterally from the said main leg members and extend upwardly in parallelism to the first and third portions of said main leg members, said reversely bent leg members terminating upwardly adjacent the first portions of said main leg members whereby the offset portions of said main leg members lie opposite said reversely bent leg members intermediate the ends thereof.

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