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2,845,174

COUPLING DEVICE FOR CONTAINERS

Filed April 22, 1955

2 Sheets-Sheet 1

Fig. 1

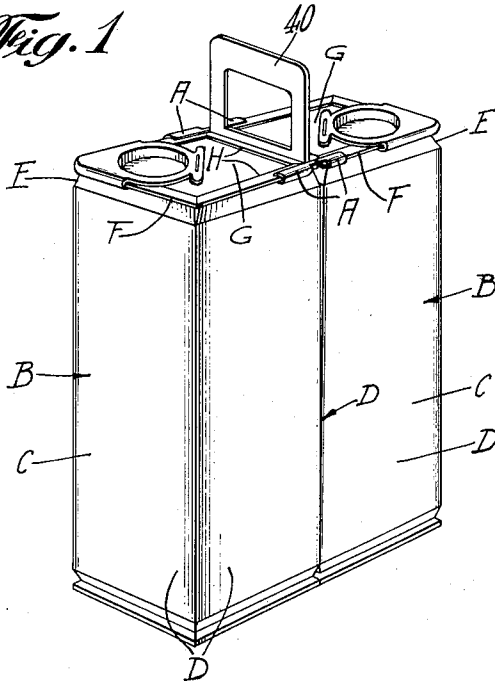


Fig. 2

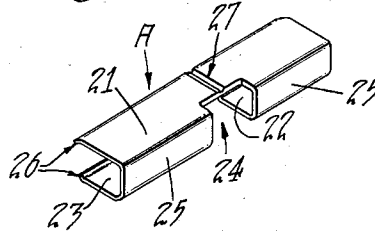


Fig. 3

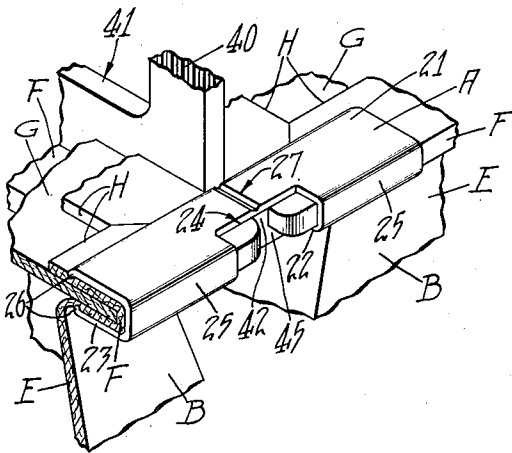
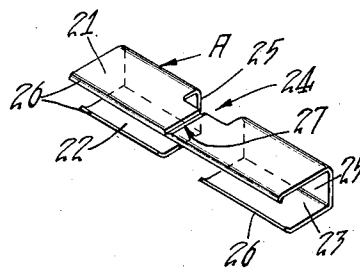
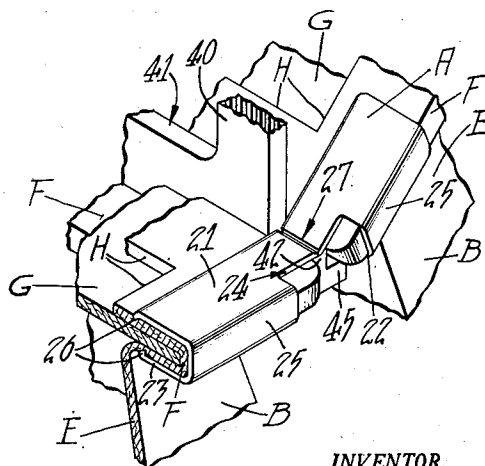


Fig. 4

Fig. 5



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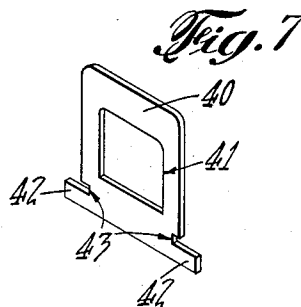
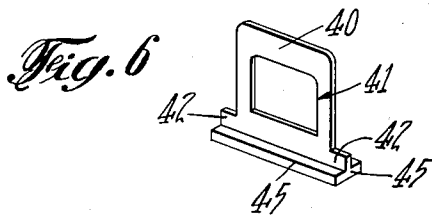


Fig. 8

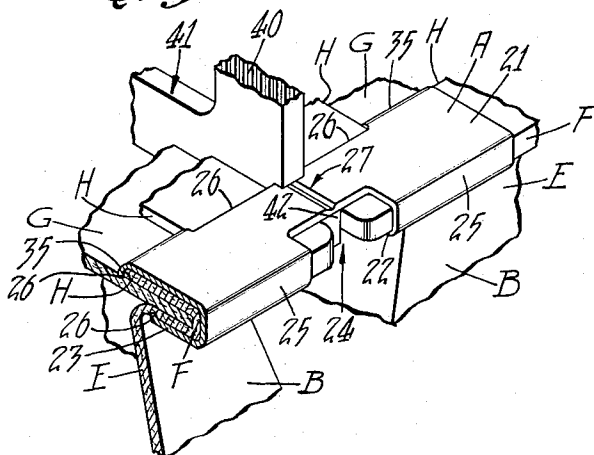


Fig. 9

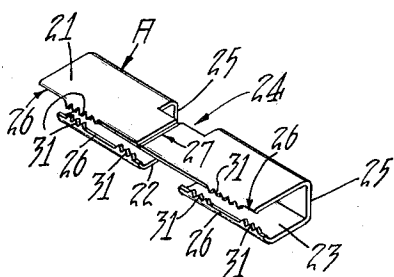


Fig. 10

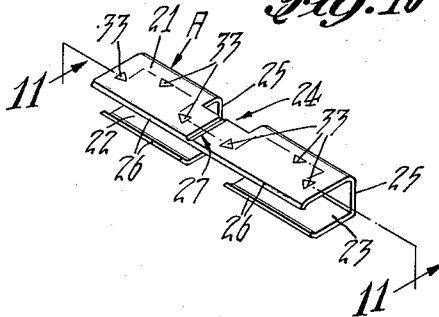
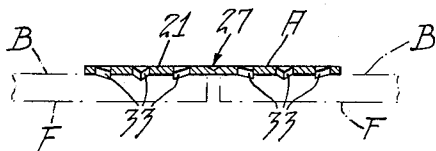


Fig. 11



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COUPLING DEVICE FOR CONTAINERS

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8 Claims. (Cl. 206—65)

The present invention relates generally to devices for carrying a plurality of containers and the like and has particular reference to a novel coupling member adapted to tie together a plurality of containers for carrying as a unitary package.

For economy, convenience and other reasons, certain products packed in containers are frequently sold in unit packages comprising two or more containers tied together. An example of such a unit package is fresh milk packed in fibre containers and marketed for the convenience of the housewife as two independent quart containers tied together with a surrounding paper band to produce a unitary package. In another example, a paper overcap having a depending skirt disposed over the tops of a pair of juxtaposed containers is utilized to tie the containers together.

It has been found that in some cases these surrounding bands and overcaps are difficult to attach to the containers in such a manner as to hold the containers tightly together so that they cannot slip loose and thereby become detached. The bands have a tendency to stretch when wet and thereby no longer hold the containers tightly together. It has also been found that such bands and overcaps are expensive and difficult to apply to the containers and that for high speed production, for example, at the rate of from 100 to 200 quarts a minute, rather complicated and costly machinery is required.

It is an object of the instant invention to overcome these difficulties or disadvantages by the provision of a simple and inexpensive coupling member which can be readily attached to laterally projecting ledges or end seams of fibre milk containers to securely tie two such containers together with such rigidity that they can be readily moved about and carried as a unitary package.

Another object is the provision of such a coupling member which can be readily broken apart by a mere swinging of one container away from the other to separate the containers for individual use.

Another object is the provision of such a coupling member which may be applied to the containers of such a unitary package in a manner which in no way interferes with the opening of the containers separately for use.

Another object is the provision of such a coupling member which is readily cooperable with a handle to facilitate carrying of the containers as a unitary package.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a perspective view of a pair of juxtaposed fibre milk containers tied together for carrying as a unitary package by coupling members embodying the instant invention, the view also showing a handle in place for carrying the package;

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Figs. 2 and 3 are enlarged perspective views of the coupling member used in the package shown in Fig. 1;

Figs. 4 and 5 are enlarged perspective views showing fragmentary portions of the containers and handle and the coupling member holding them together, Fig. 5 illustrating how the coupling member may be broken to separate the containers for use;

Figs. 6 and 7 are perspective views of exemplary handles which may be used in the package shown in Fig. 1;

Fig. 8 is a perspective view similar to Fig. 4 and showing a modified form of coupling member and its application to the package shown in Fig. 1;

Figs. 9 and 10 are enlarged perspective views of two further modified forms of the coupling member; and

Fig. 11 is a sectional view taken substantially along a plane indicated by the lines 11—11 in Fig. 10.

As a preferred or exemplary embodiment of the instant invention the drawings illustrate a coupling member A (Figs. 1 to 5 inclusive) for securing together a pair of fibre milk containers B of the character disclosed in United States Patent 2,085,979, issued July 6, 1937, to John M. Hothersall, on Container. Such a container B comprises a rectangular body C having flat side walls D which at their upper ends are formed with necked-in portions E and an immediately adjacent outwardly or laterally projecting end seam projection or ledge F which surrounds the periphery of and secures in place a flat top member G. The end seam or ledge F which comprises at least three layers of web material is utilized by the coupling member A to tie or secure together two such containers disposed in side-by-side or juxtaposed relation as shown in Fig. 1.

In this juxtaposed relation of the containers B two side walls D are directly opposite each other in contiguous relation and the sections of the ledges F for these side walls extend transversely of the package and are substantially coincident. The immediately connecting sections of the ledges F, disposed at right angles to the ends of the transverse sections of the ledges, extend along the two long outer edges of the package in continuing or endwise alignment and are termed the outer longitudinally aligned ledges.

The coupling member A preferably is made from sheet metal, such as aluminum or tin plate and comprises a channel or U-shaped elongated member having a horizontal top leg 21 (Figs. 2 and 3) and spaced therefrom a distance substantially equal to the thickness of the ledge F, two short longitudinally aligned horizontal bottom legs 22, 23. The legs 22, 23 are separated at the middle of the member by an opening or gap 24 and connected to the long top leg 21 by vertical connecting wall sections 25. The inner edges of the top leg 21 and the bottom legs 22, 23 preferably are bent inwardly toward each other to provide angularly disposed clamping or gripping edges 26. The top leg 21 midway of its length, at a bridge portion adjacent the gap 24, preferably is provided with a transverse score line 27 to permit breaking the coupling member in half if desired, as will be hereinafter further explained.

Two coupling members A preferably are used to secure a pair of the juxtaposed containers B together as a unitary package. When the coupling members A are applied to the containers, their top and bottom legs 21, 22, 23 preferably are spread apart slightly to readily fit over and receive the ledge F of the containers. With the legs in this spread apart condition the two coupling members A, disposed one along each longitudinal outer edge of the package adjacent the transverse inner edges of the package as shown in Fig. 1, are pushed over the longitudinally aligned portions of the ledges F as shown in

Fig. 4, with the top leg 21 of each coupling member A overlapping the top of the ledges and the two bottom legs 22, 23 of the coupling member adjacent the lower or under face of the ledges. The score line 27 at the middle of the top leg 21 is disposed in register with the substantially coincident inner portions of the ledges F.

Thus the coupling members A extend from one container to the other and bridge the slight gap between them and embrace adjacent portions of the longitudinally aligned ledges F of the two containers. In this position the top and bottom legs 21, 22, 23 of the coupling members are pressed together to imbed the intumed gripping edges 26 into the top and bottom faces of the ledges F and thus tightly clamp the coupling members to the containers. This clamping action secures the two juxtaposed containers B together in a unitary package, as shown in Fig. 1, which may be readily moved about or carried if desired.

To separate the containers B for use individually, they may be readily pulled apart so that the coupling members A become detached from the ledges F or if desired the containers may be swung outwardly as shown in Fig. 5 to bend the coupling members A at the transverse score lines 27. This bending of the coupling members breaks them through at the score lines and thus separates the containers.

In a modified form of the coupling member A, as shown in Fig. 9, the intumed gripping edges 26 of the top leg 21 and bottom legs 22, 23 are provided with groups of sharp teeth or serrations 31 for secure gripping engagement with the top and bottom faces of the ledges F. The groups of serrations 31 in the cooperating legs of the coupling member preferably are staggered as shown in Fig. 9 to facilitate this gripping action.

In another modified form of the coupling member A, as shown in Figs. 10 and 11, the top leg 21 of the members is provided with sharp depending prongs 33 struck out from the material of the top leg and bent inwardly toward the bottom legs 22, 23 for gripping action against the top face of the ledges F. The prongs 33 are distributed over the flat face of the top leg 21 of the coupling member to distribute the gripping action of the prongs. If desired, similar prongs may also be provided in the bottom legs 22, 23.

In a still further modified form of the coupling member A, as shown in Fig. 8, the top leg 21 of the member is provided with inwardly curled extensions or hooks 35 which are particularly useful with ledges which have an inwardly disposed step shoulder or raised edge H (Figs. 4 and 8) extending above the top face of the container top member G. The hooks 35 are proportioned to engage over the raised edge H along the longitudinally aligned ledges F of the juxtaposed containers B and also at their inner terminal ends to engage endwise against the raised edge H of the transverse sections of the ledges F to lock against this latter raised edge H. Thus the hooks 35 prevent outward displacement of the clamped-on coupling members A laterally away from the containers and also prevent separation of the containers adjacent their coincident transverse ledges by locking the containers together.

In some cases a handle 40 may be used to carry the tied together containers B as shown in Fig. 1, such a handle being disposed between the containers adjacent their substantially coincident transverse sections of the ledges F. The handle may be of any suitable form and material. A preferred form of handle is shown in Figs. 6 and 7. Such a handle preferably is made of a plastic material and in general is of rectangular configuration with an opening 41 for carrying purposes. The base of the handle preferably is formed with a pair of outwardly projecting horizontal lugs 42 which extend from the outer vertical edges of the handle for carrying engagement under the coupling members A as shown in Fig. 8. Thus the weight of the containers during carrying is supported

on the coupling members A and handle lugs 42. Notches 43 (Fig. 7) preferably are provided in the outer edges of the handle adjacent and spaced above the lugs 42 for engagement over the inner edges of the coupling members A to retain the handle in place and keep it from slipping down between the containers.

If it is desired to support the weight of the containers B directly, the base of the handle 40 may be provided with a pair of laterally and horizontally projecting shoulders 45 (Fig. 6) which extend preferably the full length of the handle and which engage under the substantially coincident transverse sections of the ledges F of the juxtaposed containers as shown in Figs. 4 and 5. In this construction, the notches 43 may not be necessary.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a unit package of rectangular fibre containers having at their top ends surrounding peripheral laterally projecting ledges, said containers being disposed in juxtaposed relation with portions of said ledges arranged in transverse parallel relation and other portions of said ledges arranged in endwise longitudinally aligned relation, said longitudinally aligned portions being united by coupling means to form the package, the improvement wherein said coupling means is an elongated channel shaped rigid coupling member having top and bottom legs in locking engagement with corresponding faces of said ledges to secure said containers together as a package.

2. A combination of the character defined in claim 1 wherein the inner terminal edges of the legs of said coupling member are bent inwardly and imbedded into said ledges to tightly secure said member to said ledges.

3. A combination of the character defined in claim 1 wherein said bottom leg and the adjacent portion of said coupling member is cut away to leave said top leg as a connecting link and wherein said top leg adjacent said cut away portion is provided with a transverse break-off score to facilitate separation of said containers by bending and breaking said top leg at said score.

4. A combination of the character defined in claim 1 wherein said ledges of the containers are provided with inner shoulders and wherein said top leg is formed with hooks projecting therefrom and engaging over the shoulders of said longitudinally aligned ledges to hold said coupling members against displacement, said hooks adjacent their inner edges engaging against the shoulders on said transverse parallel ledges to hold said containers against displacement away from each other.

5. A combination of the character defined in claim 1 wherein at least one of said legs of the coupling member is formed with prongs imbedded into said ledges to tightly secure said coupling member to said containers.

6. In a unit package of rectangular fibre containers having at their top ends surrounding peripheral laterally projecting ledges, said containers being disposed in juxtaposed relation with portions of said ledges arranged in transverse parallel relation and other portions of said ledges arranged in endwise longitudinally aligned relation, said longitudinally aligned portions being united by coupling and carrier means to form the package, the improvement wherein said coupling and carrier means comprises a pair of elongated channel shaped rigid coupling members extending from one container to the other and bridging a small gap between juxtaposed portions of said container ledges, each of said channel members having top and bottom legs in locking engagement with corresponding faces of said longitudinally aligned ledges of the containers, and a handle having an upper and a

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lower portion, said upper portion extending upwardly through said gap between said juxtaposed ledge portions and said lower portion having a pair of outwardly projecting horizontal lugs, each of said lugs being disposed under a said channel member whereby the weight of said containers is supported by said lugs and said channel members while the package is carried by said handle.

7. A combination of the character defined in claim 6 wherein said lower portion of the handle is provided with laterally projecting shoulders extending under and supporting parallel portions of said juxtaposed ledges on opposite sides of said gap between the containers.

8. A combination of the character defined in claim 6 wherein each of said coupling members is provided with a weakened area substantially in alignment with said handle and said gap between the juxtaposed container ledge portions to facilitate separation of said containers by bending and breaking said coupling members.

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