July 19, 1927. 1,636,223

B. B. FREEMAN

COLLAPSIBLE PACKING CASE

Filed Aug. 9, 1924

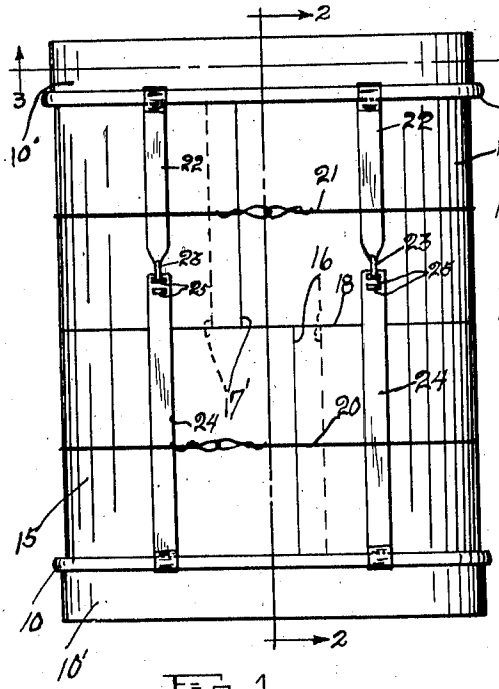


Fig. 1.

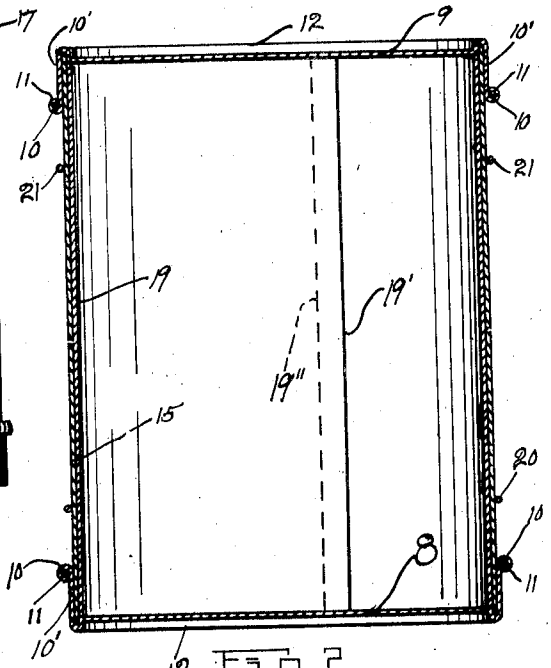


Fig. 2.

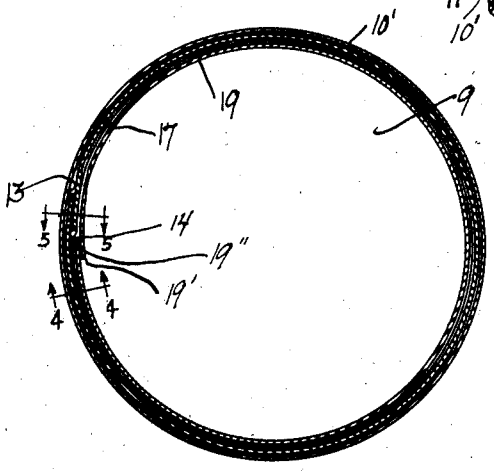


Fig. 3.

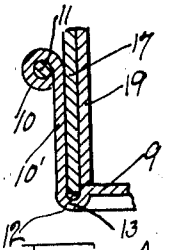


Fig. 4.

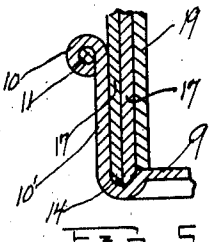


Fig. 5.

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UNITED STATES PATENT OFFICE.

BERTRAND B. FREEMAN, OF PONTIAC, MICHIGAN.

COLLAPSIBLE PACKING CASE.

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My invention relates to a new and useful improvement in a collapsible packing case adapted for the packing and shiping of various commodities, such as, fruits, vegetables and so forth. The container, or packing case, is so arranged and constructed as to be readily collapsible, and also, quickly and easily assembled, which makes the packing case a desirable container for shipping, inasmuch as it may be shipped in the unassembled condition and quickly and easily assembled by the user.

An object of the invention is the provision of a packing case which consists of a plurality of parts adapted for assembling in co-operative relation, none of the parts being permanently attached to the other.

Another object of the invention is the provision of a shipping container or packing case having removable heads, so that the contents may be inspected from either end without disturbing the contents themselves.

Another object of the invention is the provision of a collapsible shipping case, or container, having a plurality of parts adapted for assembling in co-operative relation, and provided with means for retaining the parts in their assembled relation when in use.

Another object of the invention is the provision in a shipping container or packing case of the class described of removable heads provided with grooves for receiving the edges of the body forming member, the groove being formed to accommodate the overlapping edges of the body forming members.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood from a reference to the accompanying drawings which form a part of this specification and in which,

Fig. 1 is a side elevational view of the invention,

Fig. 2 is a sectional view taken on substantially line 2—2 of Fig. 1,

Fig. 3 is a sectional view taken on substantially line 3—3 of Fig. 1,

Fig. 4 is a fragmentary sectional view illustrating the groove in the head,

Fig. 5 is a fragmentary sectional elevational view illustrating the expanded groove in the head.

The container, which, as shown in the drawings, consists of five main parts, none of which are permanently fastened, can be shipped in the knock-down condition, and be quickly put up by the user. This method not only affords a decided saving in space required for storage of the containers, but it affords a great saving in the cost of freight in shipping the packages to the user.

As shown in the drawings, the preferred form comprises a pair of oppositely disposed heads 8 and 9, each of which is formed cup-shaped, so as to be provided with a flange 10′, the extreme end of which is curled to form a lip or bead 10, in which is positioned a reinforcing wire 11. Each of the heads is provided with a flange 12, which affords an internal groove 13, extending circumferentially of the head. As shown in Fig. 3, the groove 13 is enlarged at a portion 14, so as to accommodate the over-lapping edges of the body forming material which is adapted to be inserted within the cup-shaped heads. As shown in Figs. 1 and 2 of the drawings, the body is formed preferably from a pair of strips of fibre, the lower half comprising the strip 15, which has one end inserted into the head 8, the end of this strip 15 engaging in the groove 13, the edges being overlapped, as shown in Fig. 1 at 16, the overlapping edges being adapted for engagement in the enlarged portion 14 of the circumferentially extending groove.

The upper half of the container comprises the strip 17 of fibre, or other suitable material, having its edges overlapped as at 17′ and one end inserted into the head 9, so as to engage in the groove 13 formed therein, the edges being overlapped as at 17′. In Fig. 1, the line 18 indicates the meeting edges of these portions 15 and 17. In assembling the device, the strip 15 is positioned within the head 8, as shown in Fig. 1 and Fig. 2. Positioned loosely within the strip 15 is a strip of suitable material, such as fibre, 19, the edges 19′ and 19″ of which overlap, as shown in Fig. 2. This strip 19 is adapted to engage the upper surface of the head 8, and the container is now in a condition for being filled. After the container is filled, the strip 17, which has previously been inserted into the head 9, is placed over the strip 19, as shown in Fig. 2, and the head 9 pressed downwardly in the direction of the head 8 as far as possible. The use of the separate inside part 19 enables the user, when putting on the

upper half of the outer part, or strip 17, of the head 9 to easily and thoroughly compress the contents of the container without damage to the contents, and with the loss of very little time. In filling the inside portion 19 with apples, potatoes, or other similar products, the articles placed therein will be allowed to project slightly above the upper edge, so that, in order to bring the edges of the body forming strip 17 and 15 into close relation to each other, it will be necessary that the inside of the heads have a tendency to press the contents of the container into compact condition, so that, in shipping, there will be no relative movement of the contents, while within the container. This feature makes the package a desirable one for shipping fruit and the like. With the barrel, which is now used, in packing fruit for shipping, the packer of the barrel, unless extremely careful, may pack the fruit too tightly with the head, of the barrel, or not tightly enough, in either event damaging the contents. With the present invention these difficulties are eliminated and at the same time the advantages of the barrel are present. After the two heads are put into assembled relation, the heads are securely fastened relatively to each other, so that they may not be withdrawn from the strip 19. In order to accomplish this, I have provided a strap 22, which is curled around the bead 10 and around the wire 11, as shown in Fig. 1, and securely fastened. The end of the strap 22 is provided with a hook 23, which is adapted for engaging in a slot 25 formed in the other end of a strap 24, the hook 23 being doubled upon itself, so as to securely retain the straps 22 and 24 in cooperative relation. The end of the strap 24 is fastened around the bead 10 and around the wire 11. When the user is about to secure the heads in operative relation, a pressing down of the upper head will press the contents of the container under a certain pressure, so that, when the pressure on the upper head is released, the straps 22 and 24 will remain taut. I have also provided hoops 20 and 21 made from wire, which are adapted to embrace the strips 15 and 17 respectively to prevent any bulging of the same. It is thus seen that I have provided a container made from parts, none of which are permanently fastened together, and one which may be quickly disassembled into a knocked-down condition. It is also apparent that when the contents of the container are to be inspected, the upper head together with the body forming strip used therewith may be removed from the inner strip 19. After the inspection, this portion may be replaced, the container turned over on its opposite end, and the opposite head removed for inspection of the contents of the opposite end of the container.

It is believed to be apparent that the container, when the heads are securely fastened together in the manner indicated affords a compact, strong and durable structure which may be easily and quickly disassembled, the heads and sides being provided with perforations, for ventilation if desired.

The hoops 20 and 21 may be moved relatively to the strips about which they are placed, so that their location may be varied, depending upon the product which is placed within the container. It is also apparent that the number of these hoops 20 and 21 may be increased, as desired. In the view show in Fig. 1, I prefer to provide the head with four of the connecting straps, although the number of straps may be varied as desired. It is also apparent that the method of connecting the adjoining ends of the straps may be varied to suit individual requirements.

It is to be noted that the strip 19 will serve as a reinforcement of the strips 17 and 15, so that these members may be made from a lighter material than would be the case were the strip 19 not present. The use of the lighter material facilitates the assembling of the device and reduces the space required for storing the container when in knocked down condition.

It is also apparent that when the strips 17 and 15 are pressed into the groove formed in the head with which they co-operate, the strip will be pressed into the groove, so as to afford a pressfit. The result is that when the head is removed, the strip pressed therein will also be removed from the filler 19.

While I have illustrated and described the preferred form of structure, I do not wish to limit myself to the precise form of structure shown, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A container of the class described comprising a pair of heads and body forming portions adapted for loose engagement in said heads, the edges of said body forming portions being overlapped, said heads being provided with a circumferentially formed groove for the reception of the end of each of said body forming portions, said groove being enlarged at the point of overlapping of said edges; a filler adapted for engagement in said body forming portions, the end edges of said filler being adapted for normally engaging the inner surface of said heads, and means for connecting said heads together for retaining said body forming portions and said filler in operative relation.

2. A container of the clas s described comprising a pair of cup-shaped head forming

members; each having a circumferentially extending groove formed on the inner surface of its base adjacent the periphery thereof, said groove being enlarged at one portion, a pair of cylindrical body forming portions, each comprising a strip of material rolled to substantially cylindrical shape and engaging at one of its ends in the groove of one of said head forming members, the edges of said body forming portions overlapping and engaging in said enlarged portion of said groove, said body forming members being adapted for engaging in said groove in a press fit; and a filler adapted for loose engagement in said body forming portions, said body forming portions being of equal length and said filler being of a length substantially twice the length of the projection of said body forming portions from said head forming members, the free ends of said body forming members engaging each other upon placing said head forming members in engagement with said filler under strain.

3. A container of the class described comprising a pair of cup-shaped head forming members, each having a circumferentially extending groove formed on the inner surface of its base adjacent the periphery thereof, said groove being enlarged at one portion; a pair of cylindrical body forming portions each comprising a strip of material rolled to substantially cylindrical shape and engaging at one of its ends in the groove of one of said head forming members, the edges of said body forming portions overlapping and engaging in said enlarged portions of said groove, said body forming members being adapted for engaging in said groove in a press fit; and a filler adapted for loose engagement in said body forming portions, said body forming portions being of equal length and said filler being of a length substantially twice the length of projection of said body forming portions from said head forming members, the free ends of said body forming members engaging each other upon placing said head forming members in engagement with said filler under strain; and means for connecting said head forming members and retaining the same under said strain.

In testimony whereof, I have signed the foregoing specification.

BERTRAND B. FREEMAN.