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EXPANDABLE CONTAINER

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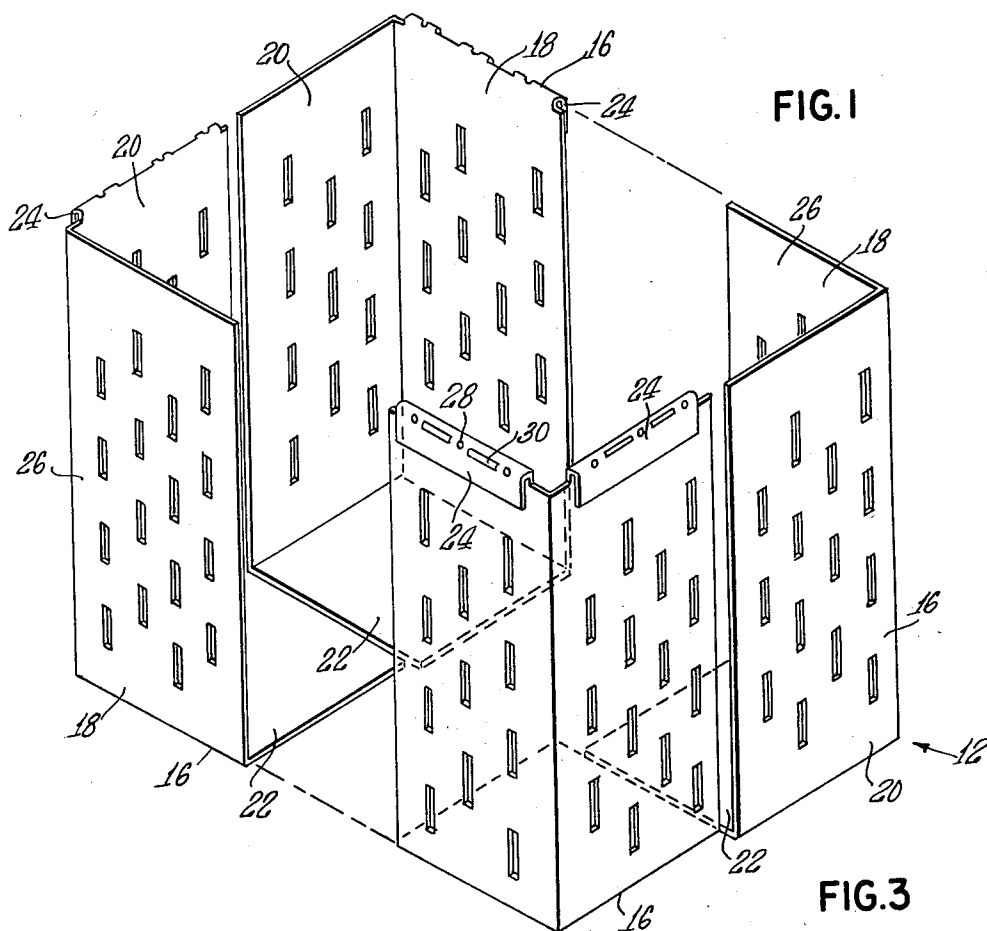


FIG. 3

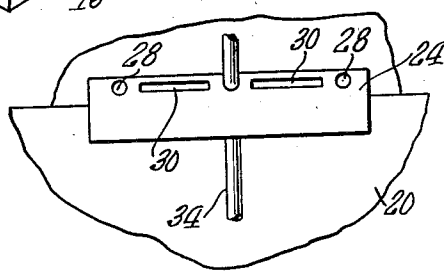
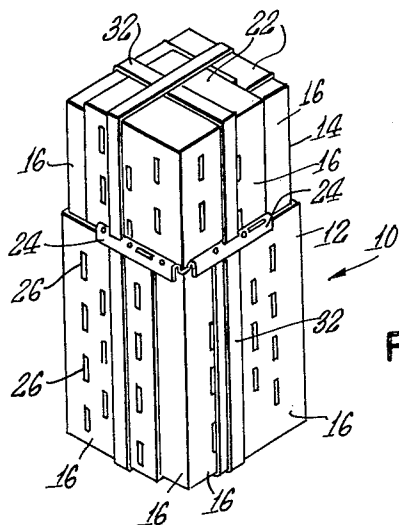


FIG. 2

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This invention relates to containers, packing cases and the like and more particularly, to a container which is dimensionally adjustable in three dimensions to accommodate the article or articles to be packed therein.

In packing operations wherein packing cases, shipping containers and the like are utilized, a variety of differing containers are required to accommodate the varying bulk of the article or articles to be packed. Even where a plurality of containers of varying capacity are available, which is not always the case, there still may not be a container available in which the article or articles in question may be tightly packed without the necessity of adding packing to the case. The above stated condition adds to the complexity and the cost of any packing operation.

Accordingly, it is one of the primary objects of the present invention to provide a packing case which is dimensionally adjustable in all three dimensions to accommodate an article or articles to be packed therein.

It is another important object of the present invention to provide a packing case which may be manipulated to closely contain the article packed therein within, of course, a certain range of sizes.

It is still another important object of the present invention to eliminate the necessity of packing to take up the slack in shipping cases so as to prevent the material being shipped from shifting its position during transit.

It is yet another object of the present invention to provide a packing case of the above character having adjustable walls wherein the final adjustment may be made after the goods are packed therein.

It is still another object of the present invention to provide a packing case which can assume a wide variety of sizes thereby eliminating the need for a plurality of differently sized packing cases and reducing the costs and the complexities of packing and shipping operations.

Briefly stated, the self-adjusting packing case of the present invention comprises upper and lower box-shaped halves open at mating ends thereof, said halves adapted to slidably telescope into one another to form a single closed structure, each of said halves comprising four matching corner members, each corner member having two side walls connected perpendicularly to one another and an end wall connected perpendicularly to said side walls, each corner member adapted to slidably overlap adjacent corner members to form an expandable and contractable box half, and means at the open end of each box half for maintaining said corner members in slidable engagement with one another.

A fuller understanding of the invention and the manner in which its objectives and advantages may be realized will become apparent from the following detailed description thereof taken in connection with the accompanying drawing wherein:

Fig. 1 is a view of a container half in accordance with the present invention, exploded to show the relationship of the corner members making up said half.

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Fig. 2 is a perspective view of a completely assembled container in accordance with the present invention as it would appear after goods have been packed therein for shipment, and

Fig. 3 is a fragmentary view of a portion of the open end of one of the box halves showing the exterior flange and the openings formed therein.

Referring to the drawing and more particularly to Fig. 2 thereof, a shipping container in accordance with the present invention, designated generally by numeral 10, consists of box halves 12 and 14 having mating open ends to permit the halves to be telescoped into one another to form the single closed unit shown in Fig. 2.

Each box half consists of four matching corner members, each designated by numeral 16. The relationship of the corner members making up box half 12 is shown in Fig. 1. Each corner member consists of sides 18 and 20, respectively, connected perpendicularly to one another and an end wall 22 connected perpendicularly to said side walls.

The open end of each box half is provided with a plurality of generally downwardly directed flanges, each designated by numeral 24, extending exteriorly of the box halves. These flanges form inverted L-shaped or inverted U-shaped channels wherein the side walls of adjacent corner members may be held in slidable engagement when the box half is assembled. When the box is closed or partially closed, end walls 22 assist in clamping the corner members together.

If the flanges are to be uniformly distributed along the exterior of the box half when the box half is closed, it appears that one corner member 16 will be devoid of flanges whereas an adjacent corner member will have a flange on each of its side walls (see Fig. 1).

The container is preferably made of a readily workable metal such as aluminum, magnesium, tin or the like. Corner members 16 are punched or cut from sheet metal and then bent into the desired form. In some instances, end wall 22 may be soldered or brazed to its adjacent side wall if support on two sides is desired. Alternatively, strips of metal may be utilized to effect this union.

Elongated vents 26 in side walls 18 and 20 and circular openings 28 and elongated slots 30 in flange 24 are formed when the corner members are stamped out. Elongated vents 26 are for the passage of air into the container to preserve the freshness of the article being transported therein. This is important when fresh vegetables and the like are being transported.

In practice, a box half is opened to accommodate the article or articles to be packed. The goods, of course, may extend above the open end of the box half. The mating half of the box is then opened to the desired size and slipped over the half wherein the goods are inserted. The case is then compressed against the goods to insure a tight fit. The packing case is then clamped by strapping 32 to firmly clamp the unit and prevent the outward movement of its integral parts.

As may be seen in the drawing, flange 24 is provided with slots 30 to hold the strapping in place and also to secure the corner members against movement relative to one another. Wire 34 may alternatively be used to clamp the unit together, as is shown in Fig. 3. Circular opening 28 in flange 24 is provided if wire rather than strapping is utilized to clamp the unit together.

In accordance with one form of the present invention, it is apparent that flanges 24 should be uniformly distributed along the open end of the box half if non-slip clamping is to be effected by metal straps, wire and the like. However, if flanges are provided on only one pair of the oppositely disposed walls, reliable non-slip clamping may still be effected if the flanges are utilized to

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anchor the clamps in accordance with the present invention.

A suggested size for the container is 6 x 6 x 15 (feet). A box of this size will expand to 12 x 12 x 30 and the range of sizes between these two stated dimensions will take care of most situations arising in the shipping of produce, furniture and the like.

It may therefore be seen that by virtue of the present invention a packing case has been provided which will dimensionally adjust in three dimensions to accommodate an article or articles to be packed therein and which may be manipulated from without, so to speak, to mold the container around the articles packed therein. Moreover, by virtue of the packing case of the present invention, there is no danger of the articles being shipped shifting about during transit and therefore no necessity of additionally padding the container. Furthermore, the case of the present invention may be locked in position after the goods have been inserted therein, there being no need to guess as to what box capacity is required before packing the goods as with adjustable boxes and cases whose walls must be adjusted and locked prior to the insertion of the goods. Lastly, by reason of the present invention, a packing case has been provided which can assume a wide variety of sizes thereby eliminating the need for a plurality of differently sized containers and reducing the costs and the complexities of packing and shipping operations.

Although the invention has been described in detail primarily with respect to one preferred embodiment thereof, it will be understood by those skilled in the art, after reading this specification, that various changes and modifications may be made without departing from the spirit of the invention and the scope of the appended claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A self-adjusting packing case adapted to dimensionally adjust to the article packed therein comprising upper and lower box-shaped halves open at mating ends thereof, said halves adapted to slidably telescope into one another to form a single closed structure, each of said halves comprising four matching corner members, each corner member having two side walls connected per-

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pendicularly to one another and an end wall connected perpendicularly to said side walls, each corner member adapted to slidably overlap adjacent corner members to form an expandable and contractable box half, exterior flanges depending generally downwardly from the open end of each box half for maintaining said corner members in slidable engagement with one another, said flanges having openings formed therein to receive clamping means running generally longitudinally of said case to limit the further expansion of the case after the goods are packed therein.

2. The packing case according to claim 1 wherein each flange embodies a plurality of differently shaped openings to accommodate variously shaped elongated clamping means.

3. A self-adjusting packing case adapted to dimensionally adjust to the article packed therein comprising upper and lower box-shaped halves open at mating ends thereof and slidably telescoped into one another to form a single closed structure, each of said halves comprising four matching corner members, each corner member having two side walls connected perpendicularly to one another and an end wall connected perpendicularly to said side walls, each corner member slidably overlapping adjacent corner members to form an expandable and contractable box half, exterior flanges depending generally downwardly from the open end of each box half for maintaining said corner members in slidable engagement with one another, said flanges having openings formed therein to maintain clamping bands tightly encircling said case longitudinally, said clamping bands limiting the further expansion of the packing case after the goods are packed therein.

References Cited in the file of this patent

UNITED STATES PATENTS

495,151	Desmarais	Apr. 11, 1893
1,212,948	Hesse	Jan. 16, 1917

FOREIGN PATENTS

512,708	Great Britain	Sept. 25, 1939
128,918	Australia	Aug. 27, 1948