Jan. 7, 1936. J. M. LEAKE ET AL 2,026,901

SHIPPING CASE

Filed Oct. 7, 1933

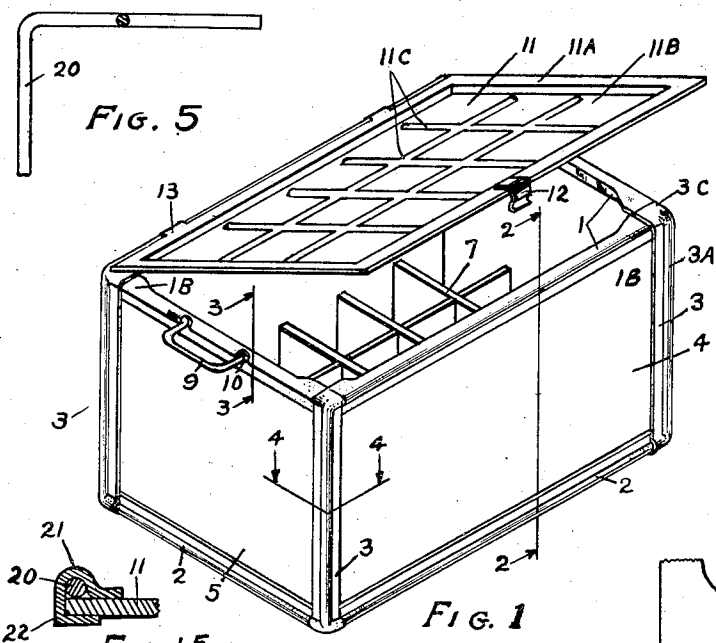


FIG. 5

FIG. 1

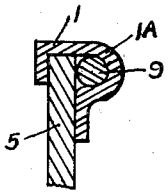


FIG. 3

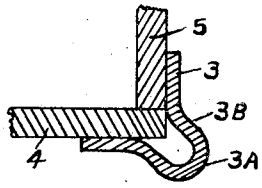


FIG. 4

FIG. 15

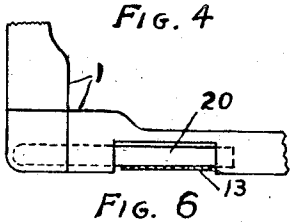


FIG. 6

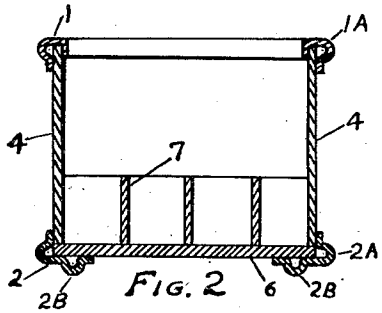


FIG. 2

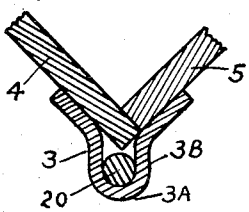


FIG. 8

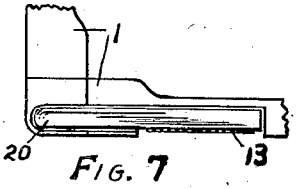


FIG. 7

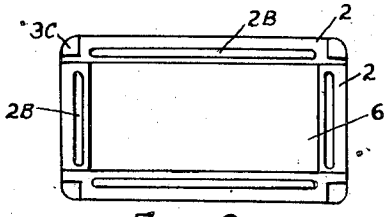


FIG. 9

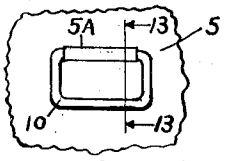


FIG. 12

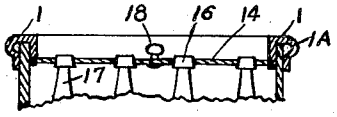


FIG. 11

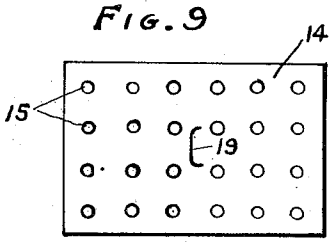


FIG. 10

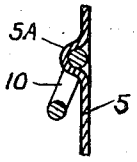


FIG. 13

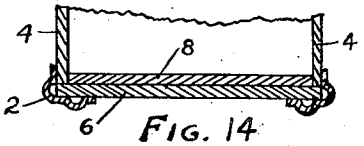


FIG. 14

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UNITED STATES PATENT OFFICE

2,026,901

SHIPPING CASE

James M. Leake and Glen G. Fairchild,
Toledo, Ohio

Application October 7, 1933, Serial No. 692,675

14 Claims. (Cl. 217—12)

Our invention relates to shipping cases and particularly to the type that can be used more than once.

The object of our invention is to provide a strong, durable and inexpensive shipping case or box.

Another object of our invention is to provide a shipping or delivery case in which the panels are removable and can readily be replaced.

Another object of our invention is to provide a shipping case or box that combines the advantages of steel cases and wood cases.

Another object of our invention is to provide a shipping case that is lighter in weight than the shipping cases in use at the present time.

Another object of our invention is to provide a shipping case with handles that does not admit light. This feature is very important. For example; in shipping bottled beer the hand holes are often covered with cardboard to keep the light from striking the beer. Our case with cover does not permit light to enter the case.

Another object of our invention is to provide a shipping or delivery case that is easily assembled.

Another object of our invention is to provide a shipping case or box that has the advantages of a wood case and at the same time is considerably smaller.

Another object of our invention is to provide a shipping case or box in which the side panels are protected against breakage and the painting, printing or advertising on the panels is protected from being scratched or marred.

Another object of our invention is to provide a hinged lid which is easily removed when desired.

Another object of our invention is to provide a shipping case or box in which the ends or sides form an embossed panel for advertising purposes.

Another object of our invention is to provide a shipping case or box in which broken panels can be replaced without the use of tools.

Another object of our invention is to provide a box or shipping case that can be assembled without the use of nails, screws or rivets.

With these and other objects in view our invention consists in the arrangement, construction and combination of the various parts of our improved device as described in the specification, claimed in the claims and illustrated in the accompanying drawing.

Fig. 1 is an isometric view of a shipping case embodying our invention.

Fig. 2 is a sectional view taken along line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken along line 3—3 of Fig. 1.

Fig. 4 is a sectional view taken along line 4—4 of Fig. 1.

Fig. 5 is a view of a wire used for a hinge-pin.

Fig. 6 is a top view of the corner portion of the box or shipping case showing how the hinge-pin is fastened in the upper channel.

Fig. 7 is a view showing a removable hinge-pin.

Fig. 8 is a sectional view showing how the hinge-pin is placed in the bead of the vertical angle.

Fig. 9 is a bottom view of the box or shipping case.

Fig. 10 is a top view of a lid for a box or shipping case embodying our invention.

Fig. 11 is a sectional view of the upper portion of a shipping case or box using the lid shown in Fig. 10.

Fig. 12 is a view of a portion of an end panel showing how a handle can be fastened to the end panel.

Fig. 13 is a sectional view taken along line 13—13 of Fig. 12.

Fig. 14 is a sectional view of the lower portion of our improved shipping case showing an inner or false bottom.

Fig. 15 is a sectional view showing another method of fastening the lid to the hinge-pin.

In Fig. 1 of the drawing we have shown a box or shipping case with a metal frame. The top of the frame is composed of four beaded channel members 1 which are welded together at the corners. The bottom of the frame is composed of four beaded angle members 2. These beaded angle members 2 are spot welded at the overlapping portions of the corners. One end of the vertical angle member 3 fits over the corner formed by the junction of the channel members 1 and the opposite end of the vertical angle member 3 fits over the corner formed by the junction of the angle members 2. The vertical angles 3 have horizontal portions 3C at either end which act as a guide to determine the height of the case while it is being assembled. The horizontal portions 3C of the frame member 3 are spot welded to the upper and lower members of the frame.

The bottom and the sides of the shipping case or box are enclosed with panels made of metal, wood, fibre, mesh composition or any other suitable material.

Fig. 2 shows how the upper part of the side panel 4 is held in position by means of the channel member 1. The channel member 1 has a

beaded portion 1A. The beaded portion 1A adds strength to the channel member 1. The vertical member 3 has a beaded portion 3A and a flat portion 3B. The flat portion 3B adds considerable strength to the angle member 3. The angle member 2 has a beaded portion 2A which increases the strength of the member 2. The beaded portion 2B has a twofold purpose. It prevents the flat portion of the angle member 2 from resting on a surface. This flat surface of the angle member 2 would tend to rust if it rested on a damp surface. The bead 2B is also used for nesting or stacking purposes. The bead 2B is so located that when one shipping case is placed on a similar shipping case the bead will fit within the opening of the top of the box. If a shipping case with a lid is used the bead 2B will fit on the inside of similar beads placed on the lid.

The ends of the handle 9 are inserted in the slots 10 and then bent so they will rest in the beaded portion 1A of the channel member 1. Fig. 3 shows how the ends of the handle 9 are held in position by the panel 5. The handle turns or rotates in the beaded portion 1A. This turning allows the handle 9 to drop when not in use. When the handle 9 drops it is flush with the outer surface of the box or shipping case.

In case metal end panels are used the handle can be fastened as shown in Figs. 12 and 13. A rib or bead is formed in the end panel 5. The ends of the handle 10 are inserted in the rib or bead 5A and then bent into a plane parallel with the plane of the end panel 5. This type of handle will also drop so that it is flush with the outside of the case.

Various types of lids may be used with our type of box or shipping case. These lids may be composed of metal, wood, fibre, mesh, composition or a combination of these materials. The lid 11, shown in Fig. 1, is a metal lid. The lid 11 has a rim 11A which rests on the top frame of the box when the lid is down. The inner portion 11B of the lid is dropped so that it fits down in the top frame of the box or shipping case. This allows the bead 2B to fit or nest on the lid for stacking purposes. The lid 11 is provided with a spring snap 12 for holding the lid in a closed position. The lid 11 has ears or straps 13 which are bent around a hinge-pin. Thus the lid can be turned open or shut. The dropped portion of the lid 11 is embossed. These embossings or ribs 11C give the lid strength. Various designs of embossing can be used for this purpose.

Fig. 10 shows our improved type of lid 14. This type of lid is especially adapted for shipping bottles. The lid 14 has apertures 15 so spaced that they will fit snugly around the bottle caps 16 as shown in Fig. 11. The lid 14 fits against the edges of the channel members 1 as shown in Fig. 11. This type of lid prevents light from entering the case and it also makes the case rattle proof. The lower ends of the bottles are held in position by means of the filler 7 while the upper ends of the bottles are rigidly held by our improved type of lid 14. The lid 14 may be provided with a means to facilitate in removing the lid. This may be accomplished by means of a knob 18 as shown in Fig. 11. In case a flexible material is used it may be cut as shown at 19 in Fig. 10. This slot or cut may be cut entirely through the lid or it may be cut to a depth that it can readily be pushed through. This cut 19 will permit the fingers to be pushed through the lid 14 and thus grip the lid for removal.

Fig. 5 shows a hinge-pin 20 that is particularly adapted to our improved box or shipping case. One leg of the hinge-pin 20 is inserted in the bead of the beaded angle 3 as shown in Fig. 8. The other leg of the hinge-pin 20 is located in the bead 1A of the frame member 1 as shown in Figs. 6 and 7. Fig. 7 shows a construction such that the lid 11 can be removed with the hinge-pin 20 from the box or shipping case. In this construction the one leg of the hinge-pin 20 slides into the bead 3A and the other leg of the hinge-pin drops into the slotted top frame as shown in Fig. 7. The ear or strap 13 of the lid 11 is bent around the hinge-pin 20 at the position shown in Fig. 7. This type of construction provides a hinged lid that can be removed if desired. Fig. 6 shows a construction for a hinged lid that is not removable. In this construction the hinge-pin is placed in the beads 1A and 3A before the panels 4 and 5 are inserted. When the panels 4 and 5 are inserted the hinge-pin 20 is locked in position. The ear or strap 13 is bent around the hinge-pin in the position shown in Fig. 6. This type of construction provides a lid that is hinged but not removable.

In case a wood or fibre lid with metal binding is used a bead 21 can be formed in the binding 22, for the insertion of one leg of the hinge-pin. The bead 21 will then turn about the hinge-pin 20 when the lid is turned.

The filler 7 is used for separating such articles as bottles. This filler not only guides and holds the bottles in position but it also holds the end panel 5 in position. The filler 7 also strengthens the side panels 4 and the end panels 5. When our improved type shipping case is used without a filler 7 an inner or false bottom is placed in the bottom of the box or shipping case. This false bottom 8 holds the end panels 5 and the side panels 4 securely in position. The side and end panels must be inserted before the inner or false bottom 8 is inserted. In order that a tight fitting filler 7 or a false bottom 8 may be inserted the opening of the top of the case is made slightly larger than the inside dimensions of the bottom of the case.

The portions 1B of the channel members 1 are flat on the ends, that is the leg of the channel is bent into the same plane as the top of the case at the ends of the channel member 1. These flattened portions 1B are lapped and welded with the portion 3C of the angle member 3. This provides three thicknesses of metal at the corners which makes a strong and rigid corner.

When the metal frame is assembled it can be painted by dipping the frame into a bath of paint. This provides a simple method of painting the frame without painting the panels 4, 5 and 6. This also permits the use of unpainted panels or the panels 4, 5 and 6 may be painted a color different than the color of the metal frame.

After the frame is painted the bottom panel 6 is placed in position in the frame. To insert the side panels 4 the panel is held at an acute angle with the side of the box. The upper portion of the panel is then inserted in the channel portion of the channel member 1. Then the lower portion of the panel is pushed against the frame of the box. After the side panels 4 are inserted the end panels are inserted in the same manner as the side panels 4. After the end panels 5 are inserted the filler 7 or the false bottom 8 is inserted. This arrangement makes the panels self locking. The bottom 6 of the box is held in position by the side panels 4 and the end panels 5.

The side panels 4 are held in position by the end panels 5 while the end panels 5 are held in position by the filler unit 7. In case a filler unit is not used a false bottom 8 is placed in the bottom of the case to hold the end panels in position.

This method of assembly provides a simple, quick and inexpensive method of replacing broken, discolored or marred panels. For example: To replace a side panel 4 the filler 7 or the false bottom 8 is removed and then the end panels 5 are removed. The side panel 4 can then be removed and a new panel inserted. All of this can be done without the use of tools.

It will be noted that in this description we have a distinction between the side panels 4 and the end panels 5, for the purpose of clear explanation. It is common practice to refer to the ends and sides as sides and likewise to refer to the side panels and end panels as side panels.

In order to facilitate the insertion of the assembled filler 7 or a snug fitting inner bottom 8 the opening of the top of the case is made slightly larger than the inside dimensions of the bottom.

The beaded and flat portions of the members 1, 2 and 3 give the sides of the box an embossed design. Any advertising placed on the panels 4 and 5 will appear much more attractive because of the frame or edge effect of the metal frame. An attractive advertisement on a shipping case is very valuable because it shows that the goods are actually selling.

The beaded portions 1A, 2A and 3A provide a chamber for the expansion of the panels 4, 5 and 6 in case they should be exposed to conditions causing considerable expansion of the panel. The beaded portions 1A, 2A and 3A also provide a protection for the panels 4, 5 and 6. They prevent the other boxes from striking the panels and breaking them. These beads also prevent the panels of adjacent cases from rubbing together and scratching or marring the panels.

Our improved shipping case, when used with a lid, prohibits light from entering the case. This is a very important feature. It is claimed that the qualities of beer are destroyed when exposed to sunlight for only a short time. It can then readily be seen that it is important to have a shipping case for beer that is light proof. Our improved type of lid 14 not only renders the case light proof but it makes the case rattle proof For this purpose wood or fibre fillers are used. The lower ends of the bottles are held in position by the sound proof filler and panels and the upper ends of the bottles are held securely by the lid 14. The lid 14 does not allow the bottles to shake to and fro because the lid is held firmly against the tapering edges of the bottle caps due to the fact that the edges of the lid 14 are held by the edges of the channel member 1.

Many modifications in our invention can be made. For example; it can readily be seen that a cardboard or fibre box could be inserted in our frame formed from the beaded members 1, 2 and 3. For certain purposes this type of construction would be quite satisfactory. This type of box or shipping case would have removable bottom, side and end panels because the entire cardboard or fibre box could be removed.

While we have described several embodiments of our invention, we do not wish to be limited to the particular forms shown and described as it will be apparent that many modifications therein may be made without departing from the scope of our invention as set forth in the appended claims.

Having thus described our invention what we claim is:

1. A shipping case comprising; a unitary metal frame, a plurality of side and end panels, a bottom panel, and an inner bottom, the top periphery of frame including a panel securing groove, said side and end panels held in permanent position by means of said panel securing groove and said inner bottom.

2. A shipping case comprising; a unitary metal frame, a plurality of side and end panels, a bottom panel and a filler, the top periphery of said frame including a panel securing groove, said side and end panels held in permanent position by means of said panel securing groove and said filler.

3. A shipping case comprising; a unitary metal frame, removable side and end panels, a bottom panel and an inner or false bottom, the top periphery of said frame including a panel securing groove, said side and end panels held in permanent position by means of said panel securing groove and said inner or false bottom.

4. A shipping case comprising; a unitary metal frame, removable side and end panels, a bottom panel and a filler, the top periphery of said frame including a panel securing groove, said removable panels held in permanent position by means of said panel securing groove and said filler.

5. A shipping case comprising; a unitary metal frame, a panel securing groove in the top member of said metal frame, a plurality of panels, an inner or false bottom, said panels held in position by means of said panel securing groove and said false or inner bottom.

6. A shipping case comprising; a unitary metal frame, the top periphery of said metal frame including a panel securing groove, side panels, end panels, a bottom panel and an inner bottom, said side and end panels held in position by means of said inner bottom and said panel securing groove.

7. A shipping case comprising; a unitary metal frame, the top periphery of said metal frame including a panel securing groove, side panels, end panels, a bottom panel and a filler yieldably retained in position, said panels being engaged by said filler and said panel securing groove so as to hold said panels in permanent position.

8. A shipping case comprising; a unitary metal frame, a bottom panel, a plurality of individually removable panels and a filler, the top periphery of said frame including a panel securing groove, said removable panels being held in permanent position by means of said panel securing groove and said filler.

9. A shipping case comprising; a unitary metal frame, side panels, end panels, a bottom panel and a filler, the top periphery of said frame constituting a locking member for the upper portion of side and end panels and said filler locking the lower portion of said side and end panels in permanent position.

10. A shipping case comprising; a unitary metal frame, a plurality of side and end panels, a bottom panel and a filler, the top periphery of said frame constituting substantially an inverted U-shaped member, said side and end panels held in permanent position by means of said inverted U-shaped member and said filler.

11. A shipping case comprising; a unitary metal frame, a plurality of side and end panels, a bottom panel and a false or inner bottom, the top periphery of said frame constituting substantially an inverted U-shaped member, said

side and end panels held in permanent position by means of said inverted U-shaped member and said false or inner bottom.

12. A shipping case comprising; a unitary metal frame, a plurality of side and end panels, a bottom panel and a filler, the top periphery of said metal frame being substantially an inverted U-shaped member, the bottom periphery and the vertical portions of said metal frame being substantially V-shaped portions, said side and end panels being held in permanent position by said U-shaped member and said filler.

13. A shipping case comprising; a unitary metal frame, removable side and end panels, a bottom panel and a filler, the top periphery of said metal frame including a panel securing groove, said bottom held in position by said side and end panels, said side panels held in position by means of said panel securing groove and said end panels, said end panels held in position by means of said panel securing groove and said filler.

14. A shipping case comprising a unitary metal frame, a panel securing groove in the top member of said metal frame, removable side panels held in position at the top by said panel securing groove and at the bottom by said filler.

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