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BOTTLE CRATE CONSTRUCTION

Filed Dec. 11, 1931

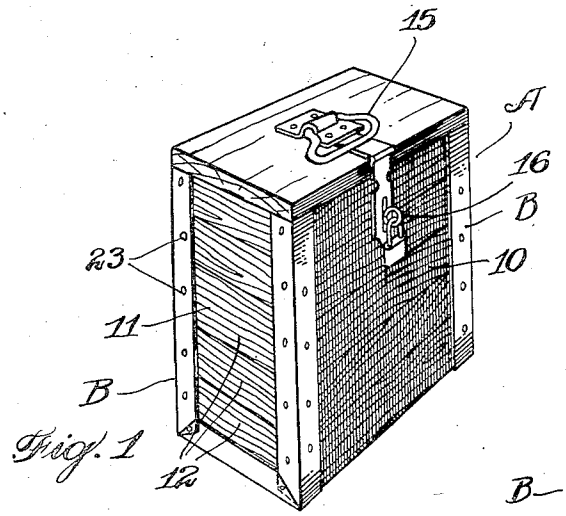


Fig. 1

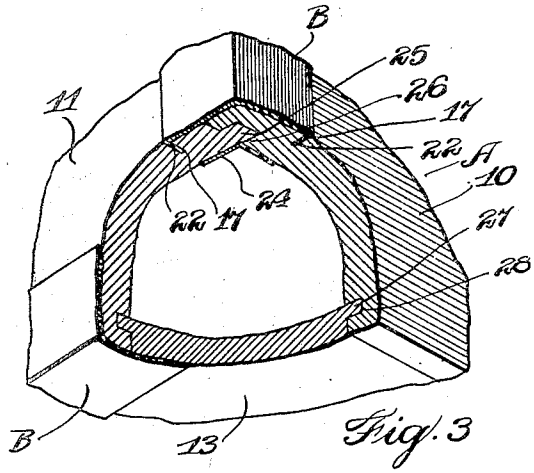


Fig. 3

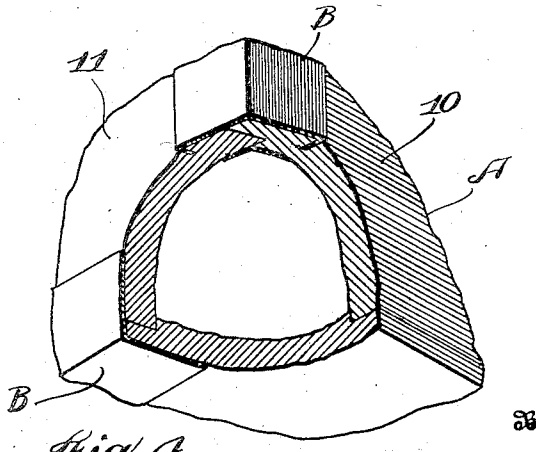


Fig. 4

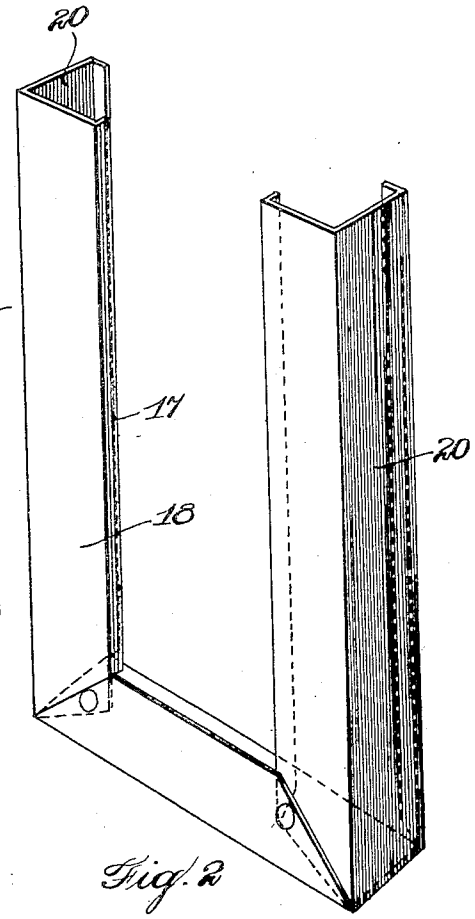


Fig. 2

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BOTTLE CRATE CONSTRUCTION

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5 Claims. (Cl. 217—5)

Our invention relates to an improvement in bottle crate construction and is concerned primarily with that type of crate known as a certified milk case. Such cases are used to contain bottles of certified milk or other milk of particularly high grade during the transportation of the same. Cases for certified milk differ from ordinary milk crates in that the cases are usually entirely enclosed to prevent dust and dirt from entering the container and to positively separate this high grade milk from the ordinary milk carried in crates. Certified milk cases are ordinarily of suitable construction to permit the milk carried therein to be iced during transit. This insures the customer of the highest grade milk obtainable in the very best of condition.

Crates of this type must be very sturdy and it is desirable to provide as strong a structure as is possible. Accordingly, we have devised a novel type of corner reinforcement structure for such cases, which is inexpensively manufactured, which is very sturdy, and which is easy to assemble with the case. This corner structure comprises a U-shaped reinforcing member adapted to encase two vertical corners and one transverse corner between the vertical corners. One of these reinforcing members is positioned at each end of the case. Accordingly, when the case is in assembled form, each of the corners formed by the juncture of the side walls of the case are covered and reinforced and the bottom corner formed by the juncture of the end walls and the bottom of the case is protected. The corners are in this way effectively reinforced and well protected.

It is a feature of our invention that each unitary reinforcing member, which extends down one corner along the bottom and up the other adjacent corner, covers three corners of the case. Accordingly, these corners are not only separately reinforced by the connection of the slat members building up the side walls of the case with each corner reinforcing member, but also the corners at each end of the case are jointed unitarily one with another to reinforce the entire end of the case and hold the same in shape. Accordingly, our certified milk case cannot become deformed or out of shape as readily as cases provided with a separate reinforcing member along each corner.

It is an object of our invention to form each reinforcing member from one single piece of material. One side of the angle member forming the reinforcement is notched while the other side is bent up at right angles. The notch formed in one side is so shaped as to permit the edges thereof to overlap somewhat when the reinforcing is bent at right angles and these overlapping edges are connected rigidly together by riveting or any other suitable means. Accordingly, the U-shaped reinforcing member is firmly and rigidly held in shape and will stand considerable abuse, without materially affecting the same.

It is a feature of our construction that inturned flange edges are formed on the angle members reinforcing the vertical corners. These inturned flanges fit in grooves formed in the side walls of the crate and in assembly the reinforcing members must be slid into place from the bottom end and riveted into this position. As the side walls of the case are connected together with a tongue and groove connection, or other similar rigid joints, the resultant crate is extremely sturdy in nature and will withstand serious abuse. As the reinforcing for the lower transverse corners extends somewhat below the bottom of the case, the case will at all times rest upon this reinforcing and the bottom of the case will in this way be protected.

Other objects and novel features of our invention will be more fully and clearly set forth in the following specification and claims.

In the drawing forming a part of this specification:

Figure 1 is a perspective view of our certified milk case fully assembled.

Figure 2 is a detailed view of one of the U-shaped end reinforcing members.

Figure 3 is a detailed perspective view of a bottom corner of our certified case, a portion of which is broken away to illustrate the construction.

Figure 4 is a view similar to that shown in Figure 3, illustrating a slightly different type of construction.

Our certified milk case A is provided with front and rear walls 10 and end walls 11. These walls 10 and 11 are built up of a series of superimposed slats 12 in usual construction, as illustrated in Figure 1 of the drawing. A bottom member 13 forms the flooring of the case A and a top 14 is hinged to the rear walls 10. A handle member 15 is provided by means of which the case A may be handled and a locking latch 16 holds the cover 14 in closed position when desired.

The reinforcing member B is formed of an angle member having inturned flanges formed longitudinally along the edges thereof. These flanges 17 extend only along that portion of the reinforcement which is adapted to protect the vertical corners of the crate. In the formation

of the reinforcing members B, the angle member 18 from which the member B is formed, is notched through one side of the angle member 18 and a triangular piece of this side is removed, the apex of which lies a distance from the end of the reinforcing member equal to the height of the case A. A similar notch is made in the same side member at a distance from the first notch equal to the thickness of the box or to the length of the end wall 11. The other wall 20 is then bent at right angles adjacent the apex of the notch, in the manner illustrated in Figure 2 of the drawing. The notch is so formed that the edges overlap somewhat when bent up at right angles. The overlapping edges are then secured together by riveting or any other suitable manner.

The reinforcing member B is thus formed and comprises a U-shaped member adapted to encircle the vertical corners and the juncture between the end wall and the bottom member. This reinforcing member B is put into place by sliding the flanges 17 into grooves 22 extending vertically in the slats 12 forming the front and rear walls 10 and the end walls 11. The open end of the reinforcing member is placed in the grooves 22 adjacent the bottom of the case A and the reinforcing member is then slid upwardly into position. It is then secured in place by suitable bolts or rivets 23 which extend through the reinforcing member B, through the slats 12 and through the angle members 24, acting to reinforce the inside of the corners.

Figures 3 and 4 illustrate two different methods of connecting the front, rear and end walls together and connecting these walls to the bottom member 13. Figure 3 illustrates a tongue and groove connection in which the tongue 25 extends into a groove 26 formed in the connecting slat 12. The bottom member 13 is also provided with a peripheral flange 27 extending thereabout which is adapted to fit into a groove 28 formed for the purpose. Figure 4 illustrates the entire end of one slat 12 fitting into a groove on the adjacent slat 12. The base 13 in this modification is grooved to accommodate the edge of the bottom slat 12.

We have found our reinforcing member B to be easily manufactured, simply to apply to the certified case A, and to be extremely sturdy and able to withstand wear and abuse. The overlapping edges of the sides 19 of the angle members 18 act to hold the portions of the reinforcing member which act to reinforce the vertical corners, in proper alignment and at a proper angle with the portion of the reinforcement adapted to reinforce the transverse bottom corner.

In accordance with the patent statutes, we have described the principles of construction of our bottle crate A and the reinforcing members therefor, and while we have endeavored to set forth the best embodiment thereof, we desire to have it understood that this is only illustrative of a means of carrying out our invention and that obvious changes may be made within the scope of the following claims without departing from the spirit of the invention.

We claim:

1. A bottle crate including, side portions, vertically extending grooves therein adjacent said corners, an outer angle iron corner portion and bottom rail open at the top formed of a single angle iron piece, vertical flanges on said corner portion engageable in said grooves, one leg of the angle iron being split at each corner and overlapped, holes formed in said overlapped portions, and rivet members extending through said holes to rivet said overlapped portions at the corners of the split leg of said angle iron corner member said open top permitting the corner portion to be slid into position.

2. A reinforcing corner and rail for crates in combination with a crate body having vertically extending grooves therein adjacent the corners thereof including, an angle iron member having outwardly extending leg portions, one of said leg portions extending down the front along the bottom and up the back of said crate, remaining open at the top, the other of said leg portions extending down the corner of the end at the front, a split and overlapped portion formed at the lower corner, a rivet for holding said split overlapped portion together, a portion extending along the bottom end corner, a split at the back corner and an overlapped portion and a rivet for holding said overlapped split portion together, and a portion extending up the corner of the back, flanges on said upwardly and downwardly extending portion to engage in said grooves, and rivets through each of the legs of said angle iron corner member to securely fasten the same to the sides of the side and end walls of the crate.

3. A crate structure including, sides, ends, and bottom portions formed of non-metallic material, vertically extending grooves in said sides and ends adjacent the vertical corners, a corner angle reinforcing portion formed by bending an angle iron member to substantially U-shape having two substantially parallel sides after splitting one leg of the angle iron member at the bottom corners of the crate, said parallel sides acting to longitudinally slidably engage the crate, rivets for securing the split overlapped corners together, flanges on said parallel sides slidable in said grooves, and rivets for securing the angle iron member along the corners of the sides, ends and bottom portions of said crate, to provide a strong reinforcing for the corners thereof and a bottom rail along the bottom thereof.

4. A crate comprising, side walls, end walls, a bottom wall, a means for reinforcing the corners between one end wall and the adjacent side and bottom walls including, a U-shaped angle member, flanges on the vertical members of said angle member, and slots in said side and end walls to longitudinally slidably engage flanges on said reinforcing means.

5. A crate including, side, end, and bottom walls, a means for reinforcing three connecting corners including, a substantially U-shaped angle member adapted to enclose said connecting corners, flanges on said angle member, and slots adjacent parallel enclosed corners for engagement with said flanges to slidably secure said reinforcing members in place.

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