Dec. 4, 1928. 1,693,906

C. L. LIPPINCOTT

SHEET METAL CRATE

Filed Oct. 19, 1925

Fig. 1.

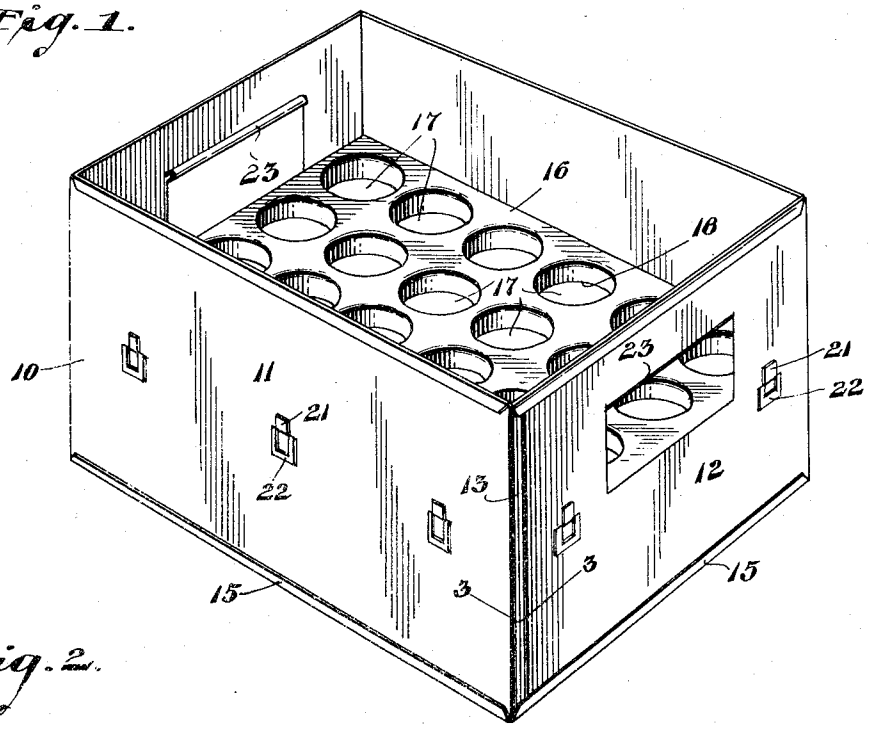


Fig. 2.

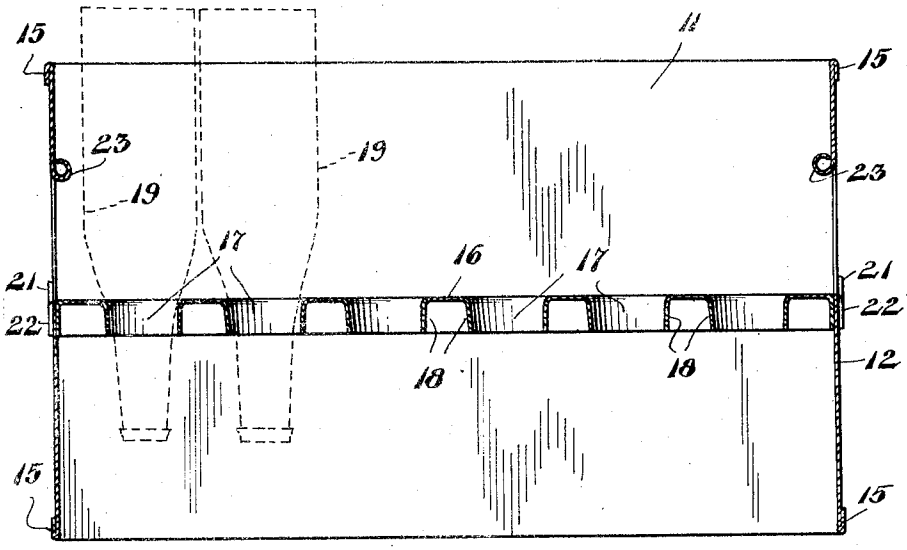


Fig. 3.

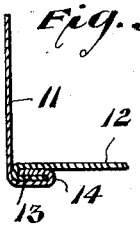


Fig. 4.

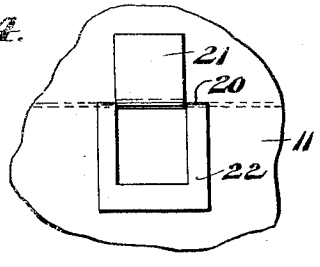
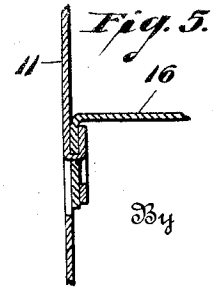


Fig. 5.



Inventor

Carl L. Lippincott

By W. O. McDowell.

Attorney

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UNITED STATES PATENT OFFICE.

CARL L. LIPPINCOTT, OF NEWARK, OHIO.

SHEET-METAL CRATE.

Application filed October 19, 1925. Serial No. 63,268.

This invention relates to an improved sheet metal crate for use particularly in the handling and storing of beverage containing bottles. Most of these cases or crates in the past have been formed from wood or a combination of wood and metal. In the main, these wooden or combination cases or crates because of their inherent frailty in design have been exceedingly short lived, particularly when subjected to the rough usage to which articles of this kind are placed ordinarily. It is therefore an object of the present invention to provide a sheet metal bottle case of all-metal construction which will possess a maximum degree of strength and rigidity, capable of withstanding the destructive forces and stresses incident to handling and shipping, capable of being produced at a low manufacturing cost as compared with the ordinary form of wooden case and of such form and design as to take up considerably less storage space than a similar capacity wooden case.

It is another object of the invention to provide a sheet metal bottle case wherein the side and end walls thereof are formed from an integral sheet of metal and wherein an improved substantial joint is provided for connecting the meeting edges of one of the side and end walls so as to lock and hold the said walls in proper rectangular form. Another object of the invention resides in providing the case interiorly with an apertured bottle holding horizontally extending wall which serves to brace and support the side walls of the case as well as to provide a bottle retaining tray; in forming the tray with projecting locking tongues, arranged to pass through slits provided in the outer walls of the case and to form said tongue so that the same may be bent to securely lock the tray in its operative position in the case; in providing certain of the outer walls of the case with openings for enabling the case to be manually grasped for lifting and removal purposes, and in various other features hereinafter fully described and pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a perspective view disclosing a bottle case constructed in accordance with the invention,

Figure 2 is a vertical longitudinal sectional view thereof,

Figure 3 is a horizontal section on the line 3—3 of Figure 1,

Figure 4 is a detail view disclosing the locking tongue construction provided upon the bottle supporting tray,

Figure 5 is a detail sectional view of the modified form of the invention.

Referring more particularly to the drawings the numeral 10 designates my improved bottle case whose side and end walls 11 and 12 respectively are in this instance formed from an integral section or blank of sheet metal of any appropriate gauge. The blank is bent in rectangular form to produce the walls 11 and 12 and the meeting edges of the blank are united and locked preferably by the joint disclosed in detail in Figure 3. In this figure it will be noted that the vertical edge of one of the end walls is bent backwardly upon itself as at 13 and this portion is engaged by a similarly formed substantially U shaped loop 14 provided upon the adjacent side wall. By this construction a strong and substantial union is effected between the meeting edges of the metallic blank provided in forming the outer walls of the case, and a construction produced which resists effectively forces which tend to destroy the operative form of the case. The upper and lower longitudinal edges of the walls 11 and 12 are bent outwardly as at 15, so that these longitudinal edges will be reinforced by a double thickness of metal and to produce correspondingly added strength.

Within the case substantially mid-way of the height thereof is arranged a horizontally disposed bottle supporting tray 16. This tray is also of sheet metal and in its process of formation is stamped to produce a plurality of bottle receiving openings 17. These openings are provided with elongated vertical walls 18, which engage with the necks of the bottles 19 as shown in Figure 2 so as to hold the bottles securely in position and to overcome lateral shifting movement thereof. This tray is retained in place by providing the outer edge portions thereof with a plurality of integral projections which are adapted to be inserted in slits 20 provided in the walls 11 and 12 of the case. These projections are cut so as to include minor and major tongues 21 and 22 respectively, which are adapted to be bent in opposite directions so as to engage the outer surface of the walls 11 and 12. By this construction the tray is capable of being readily secured to the walls of the case at the time the lock joint 14 and 15 is effected, and after the lock joint has been

formed it will be seen that the shelf or tray will be permanently positioned within the case without involving the use of rivets, welding and other fastening agencies. To remove the tray it is necessary to first break the lock joint, and this indicates the security involved in the retention of the tray in its operative position within the case. By locating the tray in the horizontal plane shown the bottles are inserted in the case with the necks thereof pointed downwardly and with the bottoms of the bottles projecting an appreciable distance above the upper edge of the case. However, it will be observed that the caps of the bottles are located well above the bottom of the case, so that when the latter is stacked the bottles projecting above the upper edge of one case will be received within the bottom of the next higher case. This facilitates stacking and also provides for accessibility in the removing of the individual bottles from the case.

In view of the foregoing it will be seen that the present invention provides a bottle case consisting essentially of but two sections of sheet metal which when assembled into completed case formation are so disposed as to present a case characterized by its mechanical strength and resistance to wear and distortion. Also, the case has the advantage of occupying less space than that which is taken up by a wooden case of similar holding capacity, a feature which is of considerable importance in the shipping and storing of large quantities of cases. Again, the case may be manufactured and sold at a cost materially below the standard form of wooden case and is lighter in weight than said previously used cases so that the handling thereof is correspondingly facilitated.

The walls 12 are preferably provided with openings 23, the upper edges of which are suitably rolled to constitute handles, permitting of the convenient manipulation of the case. As shown in Figure 5 the tongues 21ª may be formed integrally with the side walls 11 and are received within slits provided in the tray 16. This is nothing more than a reversal of the locking means described in the preferred form of the invention. In the modified form, however, an advantage is present in that the locking projections or tongues are arranged within the case and are not apt to be bent or broken since they are greatly protected by the walls of the receptacle.

What is claimed is:

1. As a new article of manufacture, a sheet metal bottle case including parallel side and end walls, a horizontally disposed bottle receiving tray arranged horizontally within said case, and tongues projecting from the edges of said tray and arranged to pass through openings provided in said side walls, each of said tongues including minor and major sections, adapted to be bent in opposite directions.

2. As a new article of manufacture, a sheet metal bottle case including parallel side and end walls, a bottle receiving tray arranged horizontally within said case, and tongues projecting from the edges of said tray and arranged to pass through openings provided in said side walls, each of said tongues being formed to comprise an outer major section and an inner minor section, adapted to be bent in opposite directions.

In testimony whereof I affix my signature.

CARL L. LIPPINCOTT.