April 18, 1944. J. T. PARSONS ET AL 2,346,700

BOMB FIN CRATE

Filed Jan. 11, 1943 2 Sheets-Sheet 1

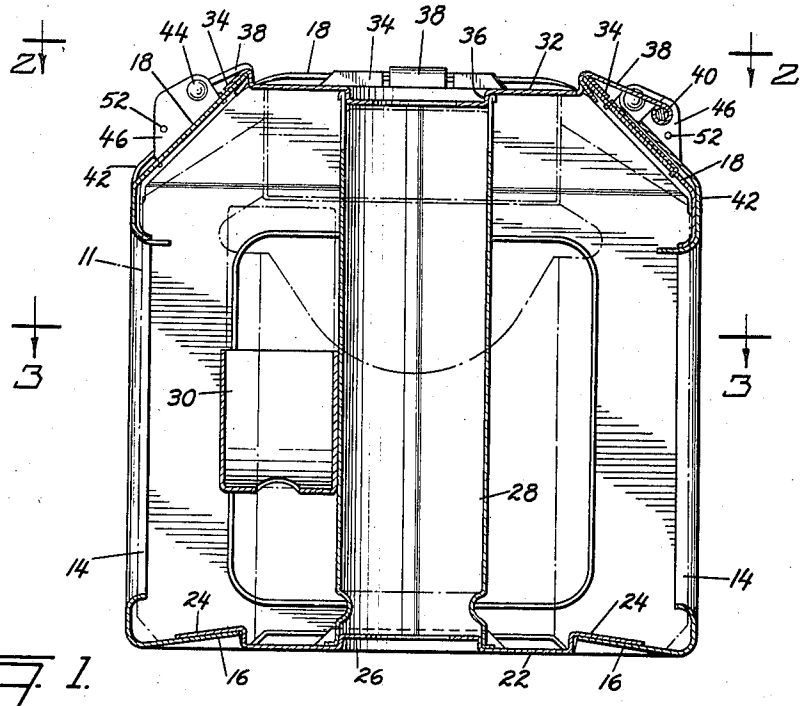


Fig. 1.

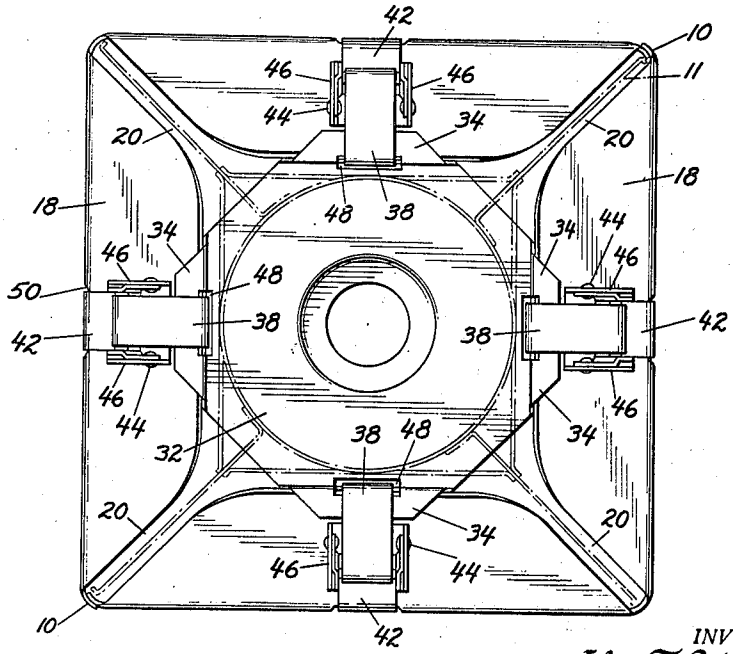


Fig. 2.

INVENTOR.
John T. Parsons &
BY Axel V. Brogren

Parker & Burton
ATTORNEYS.

April 18, 1944. J. T. PARSONS ET AL 2,346,700

BOMB FIN CRATE

Filed Jan. 11, 1943 2 Sheets-Sheet 2

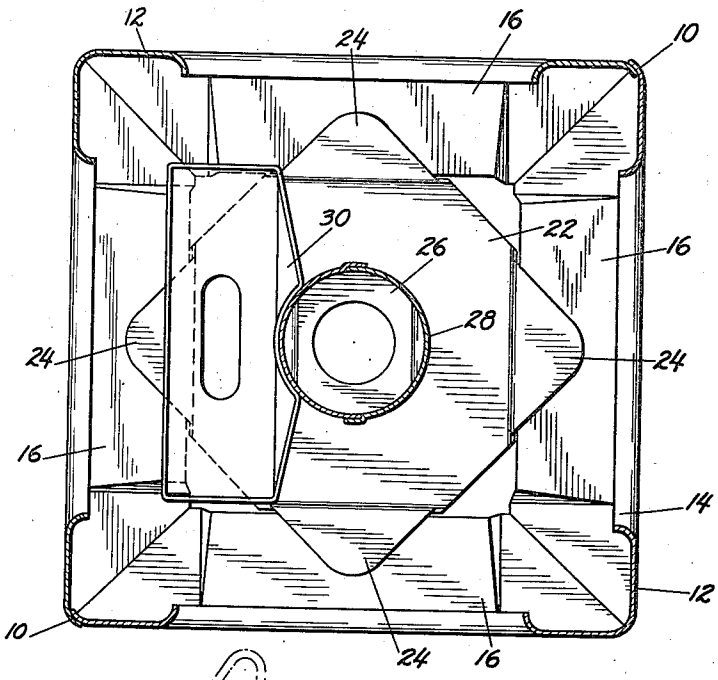


FIG. 3.

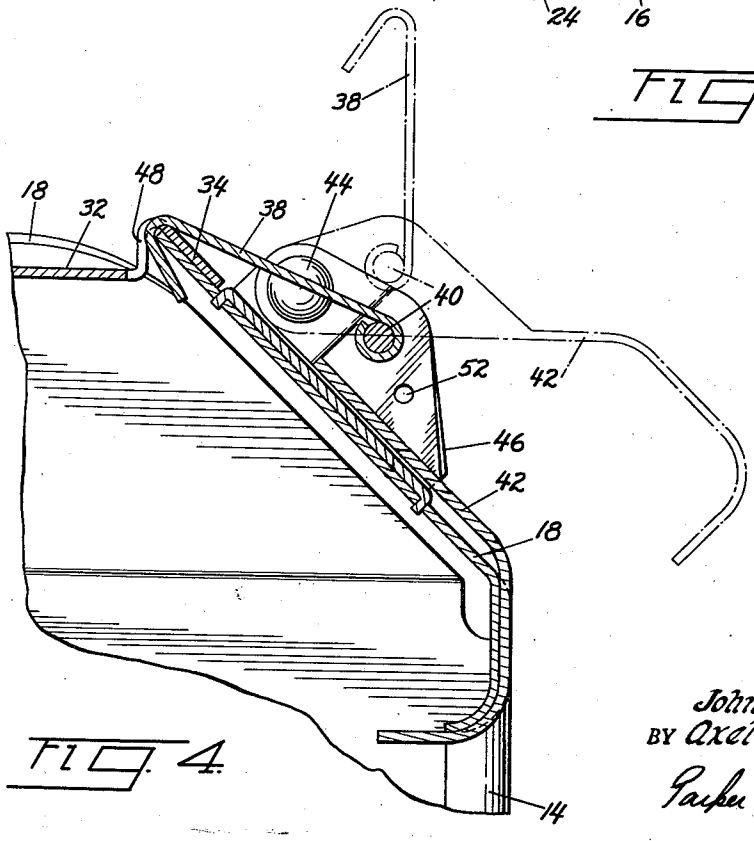


FIG. 4.

INVENTOR.
John T. Parsons &
BY Axel V. Blogren
Parker & Burton
ATTORNEYS.

Patented Apr. 18, 1944 2,346,700

UNITED STATES PATENT OFFICE

2,346,700

BOMB FIN CRATE

John T. Parsons and Axel V. Brogren,
Detroit, Mich.

Application January 11, 1943, Serial No. 472,079

3 Claims. (Cl. 206—1)

This invention relates to an improved type of crate or container. It is illustrated and particularly adapted for use as a crate adapted to contain a bomb fin or tail piece. The invention has nothing to do with the tail piece or fin of the bomb, which is conventional.

The invention relates to an improved crate, adapted to serve as a receptacle or a container for the tail piece during storage, shipment and handling of the same. It is adapted to protect the tail piece from bending or mutilation during shipment and storage. The crate is formed of sheet material, preferably sheet metal. A feature of importance is that the crate is designed to provide maximum protection with minimum weight.

Another object of the invention is that the crate is designed so that a large number of such crates may be stored within a minimum of space. The crate is also constructed in such a manner as to provide a particularly rugged and well braced container, which, even though it is roughly handled, will give complete protection to the fin which it contains.

Another object is to provide a crate which presents a smooth exterior so that there are no projecting parts to be accidentally engaged. Furthermore, the crate is designed to provide storage for the fuse and the vane of the bomb.

The crate is provided with a removable top closure, which when it is secured in place, braces the side wall portions of the crate, but which is so releasably secured in place that it may be quickly removed. Other objects advantageous and meritorious features of the invention will more fully appear from the following descriptive appended claims and accompanying drawings. In the drawings—

Fig. 1 is a vertical sectional view through the improved crate showing a bomb fin in dotted outline.

Fig. 2 is a top plan view of the crate.

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

Fig. 4 is a fragmentary sectional view through a portion of the crate showing the clamping mechanism adapted to connect the top closure in place.

In the embodiment of the invention illustrated in the drawings the crate is formed of sheet metal so cut out and shaped as to provide four side walls joined at the corners. The side walls may be formed of sheet metal. In the drawings these four side walls are illustrated as formed of two sheets of metal welded together at opposite corners as at 10. Each corner portion is somewhat channel shaped as shown in Fig. 3 at 12. The margins of these channels are in-turned as at 14. Each side wall is cut away as shown in Figure 1, between the corner portions. Each side wall has an in-turned bottom flange 16 and an in-turned top flange 18. The top flanges of adjacent side walls are spaced from each other providing an opening 20 of a slot-like nature, super-posing the channel shaped corner portion. There is provided a bottom wall portion also stamped from sheet metal, indicated as 22 and illustrated particularly in Figs. 1 and 3, which is provided with angular margins 24 that over-lap and are secured to the bottom margins 16 of the side walls. This bottom wall secures the side walls together at the bottom end of the crate, and braces them rigidly, and as shown, leaves an opening opposite each corner. This bottom wall is crimped inwardly as at 26, and a tubular standpipe 28 is secured to such inwardly crimped portion 26 and projects upwardly substantially centrally within the crate. This standpipe is adapted to contain the bomb fuse to be received interially within the bomb fin. An open pocket 30 is secured, as shown in Fig. 1, to one side of the standpipe and is adapted to receive the vane for the bomb.

The crate is provided with a top cover or wall portion shown in Figs. 1, 2 and 4, and indicated as 32. This cover is provided with oppositely disposed complementary angular flanges 34 adapted to seat over the edge of the top margin 18 of the side walls, as shown particularly in Figs. 1 and 2. The central portion of the cover is depressed as at 36 to provide a part which is received within the open upper end of the standpipe 28 to position the cover and to stabilize the standpipe.

The top margin 18 of each side wall carries a clamping device of a toggle-like character, which is adapted to releasably engage the top cover and secure it to the side walls in such a manner as to hold the cover in place and rigidly brace the crate across the top. This toggle-clamping means has a hook-like end portion 38 pivoted through a pin 40 to a lever arm 42. This lever arm is pivoted at one end, as at 44, between a pair of ears or lugs 46, which lugs are secured to the top margin 18 of the side wall, as shown in Figs. 2 and 4. Hook-end 38 is adapted to be received through an opening 48 within the angular flange 34 of the cover, as shown in Figs. 1, 2, and 4. This is illustrated particularly in Fig. 4. It will there be seen that when the lever arm 42 is brought down over the side wall as illustrated in solid line the hook 38 grips the angular flange 34 of the cover securely against

the edge of the top margin 18 of the side wall. The end of the lever arm projects interially of the crate underneath the rolled-over flange that encircles the opening in each side wall. By cutting away each side wall to provide a center opening the crate is lightened, and by rolling over the edge around such opening the side is strengthened and a smooth exterior surface is provided on the crate. Each side wall along the top is recessed as at 50, underneath the lever arm 42, to receive such lever arm within the recess.

When the lever 42 is elevated to position shown in dotted outline in Fig. 4 and the hook 38 is likewise elevated, it is apparent that the cover may be readily removed, and the bomb fin 11 and other accessories may be inserted into the crate or removed therefrom. When the hook is engaged as shown in solid line in Fig. 4 over the edge of the top margin 18 of the side wall and through the opening 48 in the cover, and the lever is depressed, as shown in solid line in Fig. 4, the cover is releasably securely connected in place. The arrangement is such that when the toggle clamps are tightened down there is a tension imposed upon the cover binding it to the top margins of the side walls, bracing the crate across the top and holding the contents securely in place. Openings 52 are provided through the ears 46, through which opening a tie wire may be fastened. It will be seen that the portion of the cover between the top flanges of the side walls is somewhat depressed to bear against the upper margin to the bomb fin 11, as shown in Figure 1, and that the centrally depressed area 36 of the cover is adapted to hold a fuse within the standpipe 38. The radially projecting fins of the tail piece 11 seat within the channel like portions 12 of the crate, as shown in Fig. 2.

We claim:

1. A rectangular bomb fin crate having four complementary side walls joined by four angular corner portions and a bottom wall, each side wall having a top marginal flange bent inwardly overhanging the interior of the crate, each top marginal flange terminating at each end spaced from the end of the adjacent top marginal flange by an opening bisecting the included angle of the corner portion, a cover plate secured to each marginal flange and seated against the inner edge thereof bracing said marginal flanges to maintain the openings between their ends.

2. A substantially rectangular crate having four complementary side walls joined together at the corners by angular corner portions, each side wall having a top marginal flange inturned over the interior of the crate, the top marginal flange of each side wall being spaced at its ends from the adjacent ends of the top marginal flanges and the adjacent side walls by openings into the interior of the crate superposing the corner portions and substantially bisecting their included angles, a rectangular top wall extending across the top of the crate and secured at its four corners to the four top marginal flanges of the side walls intermediate their ends.

3. A bomb fin crate formed of sheet metal comprising four complementary side walls joined together by angular corner portions, each side wall cut away between said corner portions and having the edges of the cut away opening rolled inwardly, each side wall having a marginal top flange turned inwardly overhanging the interior of the crate, the inwardly turned top marginal flange of each side wall being spaced at its ends from the adjacent ends of the top marginal flanges of the adjacent side walls superposing each angular corner portion, a bottom wall extending across the bottom of the crate, a square top wall having each corner bent upwardly out of the plane of the top wall and seated over a top marginal flange midway between its ends, and means securing each corner of the top wall to said top marginal flange.

JOHN T. PARSONS.
AXEL V. BROGREN.