Jan. 8, 1946. A. I. LAMB 2,392,675

SHIPPING CONTAINER

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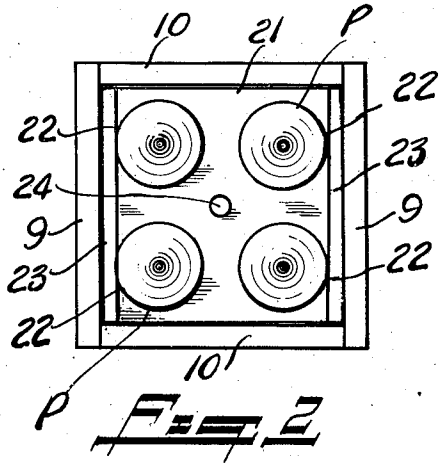


Fig. 2

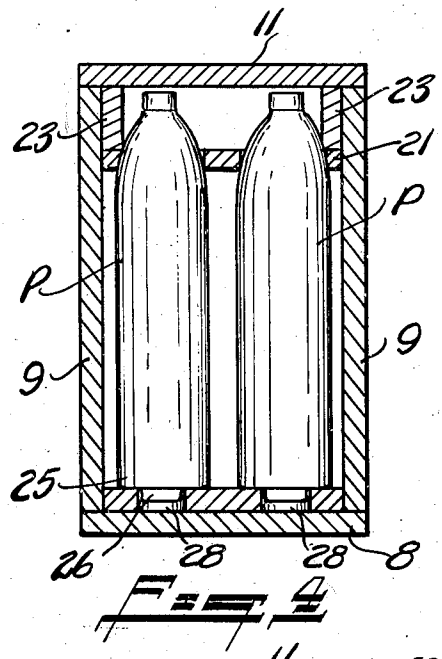


Fig. 4

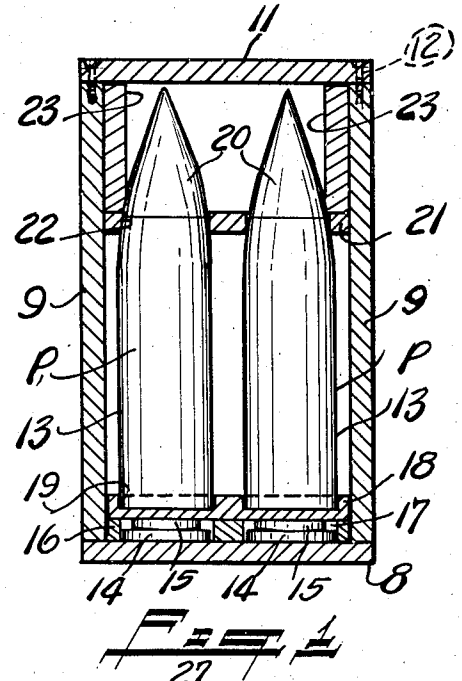


Fig. 1

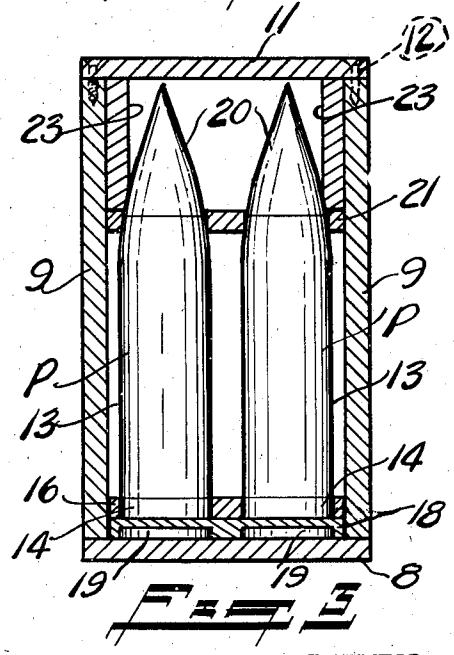


Fig. 3

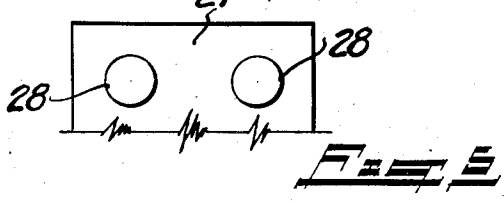


Fig. 5

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SHIPPING CONTAINER

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3 Claims. (Cl. 206—3)

This invention relates to shipping containers for projectiles, shells, and similar articles.

One of the prime objects of the invention is to design a simple and practical box or container which accommodates a predetermined number of projectiles in spaced apart relation, and which can be easily and quickly packed and/or unpacked in a minimum length of time and with a minimum of effort by the workman.

Another object is to design a box in which the projectiles are definitely and accurately spaced and separated and then held in proper position, and wherein no substantial amount of lost space between the adjacent pojectiles is permitted.

A further object is to provide a box in which the manufactured projectile parts can be securely and compactly packed and secured, and from which the parts can be easily and quickly removed and again repacked after assembling without changing the box structure, spacing, or securing means.

A still further object is to provide a box including reversible centering and spacing means which serve to space and center the ends of the projectiles and to compensate for additional body length created by the assembling of the projectile after it has been loaded.

A further object still is to provide a box which will withstand rough usage, which can be turned upside down or otherwise handled without displacement of the projectiles or other articles packed therein.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 is a vertical sectional side elevational view of my shipping container;

Fig. 2 is a top plan view with the cover omitted;

Fig. 3 is a view similar to Fig. 1 showing the lower spacer and filler member in reversed position to accommodate the assembled projectiles;

Fig. 4 is also a view similar to Fig. 1 and showing the filler member omitted; and

Fig. 5 is a fragmentary detail plan of the lower spacer member used in the alternate construction.

In the manufacture of projectiles and shells it is customary for the manufacturer to first manufacture the shell proper at the factory. The parts of the manufactured shell are then placed in containers or boxes and are then shipped to an arsenal for loading and attachment of the base, after which the loaded shells are shipped to their destination for use.

At the present time, the manufacture of the boxes and the packing of the projectiles therein present certain difficulties, primarily because the projectiles when first packed are not completely assembled and must be spaced and securely held in separated position. These packed boxes must then be shipped to another plant or destination where the projectiles are loaded and fully assembled. This same fully assembled projectile (of increased overall length) must now be repacked in the same box without adding thereto or otherwise changing the shape or dimensions of the box structure. The several parts must fit only in their one correct position so that there will be no possibility of inserting certain parts in wrong position, thus necessitating removal and correct insertion. There must be no binding of the parts, and the arrangement must be compact in order to conserve space, weight, and materials; and I have, therefore, perfected a very simple, practical, and economical box structure in which the various parts can be easily and quickly packed, which securely holds the parts in proper position, and which accommodates the assembled projectiles in the same relative position after the loading and assembling operation.

Referring now to the drawing in which I have shown a box or container preferably, but not necessarily, formed of wood. It is designed to accommodate a limited number of projectiles, and while in the present instance I have shown this box designed to hold but four (4) projectiles, it will be readily understood that it can be manufactured to hold any reasonable desired number.

The box proper comprises bottom, side, and end walls 8, 9, and 10, respectively, secured together by nails or other securing devices, and a cover member 11 forms a closure for the open end of the box and is held in position by means of screws 12 or the like.

The projectiles indicated at P are packed in upright position in this container and usually comprise two or more parts, the lower end of the elongated body portion 13 being internally bored to accommodate a cap 14 which is formed with a shouldered projecting section 15 adapted to be received in the bored body and secured therein in any desired manner when the projectile is loaded and assembled.

Inasmuch as the loading and assembling is done at a place other than the manufacturing plant, these parts must be packed at the plant for shipment to an arsenal or other place where they are loaded and assembled, after which they must be again repacked in the same box for shipment to the place of use.

In order that the box may accommodate and properly secure the projectile or shell parts before assembly, and then the assembled shell after loading, I provide a centering and spacer member 16 which closely fits the interior of the box and rests on the bottom thereof. A plurality of openings 17 are provided in this member 16 and are of suitable diameter to accommodate the caps 14 which snugly fit therein, the overall cap thickness being the same as the thickness of the spacer.

A filler member 18 is superimposed on the spacer 16, and this member is of the same size and thickness as the spacer, counterbored seats 19 being provided in the one face thereof, and are of predetermined depth so that the distance between the bottom of the seat and the opposite face of the filler member is equal to the body portion of the cap member 14, these seats accommodating the ends of the shell body 13 which project thereinto.

The projectiles P are packed upright to facilitate the insertion and removal of the parts and also to conserve space, the upper end of the body of each shell being tapered as shown at 20 and an upper spacer member 21 is provided for holding the upper ends of the projectiles in proper relation, spaced apart openings 22 being formed in the member 21, and these openings are of a size to closely fit the upper tapered end of the shell directly adjacent the body portion so that when the spacer is placed in position, it is wedged tightly on the tapered ends of the projectiles.

Blocks 23 of predetermined width and thickness are then inserted between the side walls of the box and the tapered upper ends of the projectiles, the lower edge resting on the upper spacer 21 with the upper edge flush with the upper edge of the box, the cover 11 is then placed over the open end and the screws 12 are inserted, thus firmly securing the cover and each individual part in its proper position.

The packed box is now ready for shipment to an arsenal or other place for loading and assembly, and upon arrival at the destination, the cover 11 is first removed, after which the blocks 23 are taken out. The workman then places his finger in the centrally disposed finger opening 24 provided in the upper spacer member 21, and removes said spacer, and the various parts are now free for easy removal, preparatory to loading and assembly.

After the projectiles have been assembled the boxes are prepared for repacking, the member 18 being turned over and then placed in the bottom of the box, see Fig. 3 of the drawing. The spacer 16 is then superimposed on the member 18 and the assembled projectiles P are next inserted, the ends extending through the openings 17 and resting on the flat face of the member 18. The remaining parts now fit in the same position and relationship as previously described, and the packing operation is completed.

This reversal of the parts compensates for the additional overall length of the shell body created by the assembling of the parts, the body 13 fits in exactly the same position and as snug as when first packed, and the packing of the loaded projectiles is easy and can be accomplished in a minimum of time.

In Figs. 4 and 5 of the drawing I have shown an alternate construction in which the projectile is assembled by the manufacturer before packing. In this construction the lower cap 25 is of reduced diameter and terminates in a wide rib section 26. In the packing of this projectile the filler member 18 is eliminated, and the lower spacer member 27 is formed with an opening 28 in which the cap is accommodated; otherwise the construction is identical with the previously described.

From the foregoing it will be obvious that I have perfected a very simple, practical, and substantial container for projectiles and similar articles.

What I claim is:

1. A box for packing projectiles, comprising bottom, side, and end walls, a spacer mounted in the bottom of the box and provided with openings of a size to snugly accommodate a projectile cap, a filler member mounted on said spacer and formed with counterbored seats of predetermined depth therein and in which the lower ends of the projectile are seated, an upper spacer member spaced from said seat member and formed with openings of a size to engage and wedge on the tapered upper end of the projectiles, a cover, and loosely mounted flat spacer members of predetermined width and thickness disposed against the side walls and interposed between and bearing against the cover and the upper spacer member respectively, when the cover is secured in position, for securing the parts firmly in position.

2. A container in which projectiles are packed comprising bottom, end, and side walls, a spacer mounted in the bottom of the container and provided with openings therein for accommodating a projectile part entirely within the marginal edges of the openings, a reversible filler member mounted on said spacer and provided with seats of predetermined depth therein and adapted to receive the lower end of the projectile, an upper spacer member mounted in the upper end of the container and formed with openings for wedging on the upper tapered ends of the projectile, a cover and loosely mounted blocks wedged between the side walls and the upper ends of the projectiles, with the edges bearing against the upper spacer member and the cover, said spacer and filler members being interchangeable to permit the projectile to extend through the opening in the spacer member and rest on the filler member after the projectile has been assembled.

3. A box in which projectiles are packed comprising bottom, end, and side walls, a spacer mounted in the bottom of the box and provided with openings of a size to accommodate the end cap of a projectile, a filler member of the same thickness as the spacer and mounted thereon, said filler being formed with seats of the same diameter and of predetermined depth, an upper spacer member adjacent the upper end of the box and provided with openings adapted to accommodate the tapered ends of the projectiles, a cover member, blocks removably interposed between the upper spacer member and the cover, said lower spacer member and the filler member being interchangeable, with the filler member being turned upside down to permit the projectile to extend through the openings in the spacer member and rest on the filler member after the projectile has been assembled.

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