July 11, 1950 R. M. BATES 2,514,364

AMMUNITION CONTAINER

Filed Dec. 18, 1945

Fig. 1.

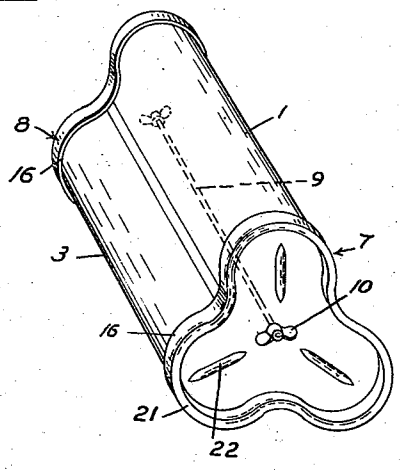


Fig. 2.

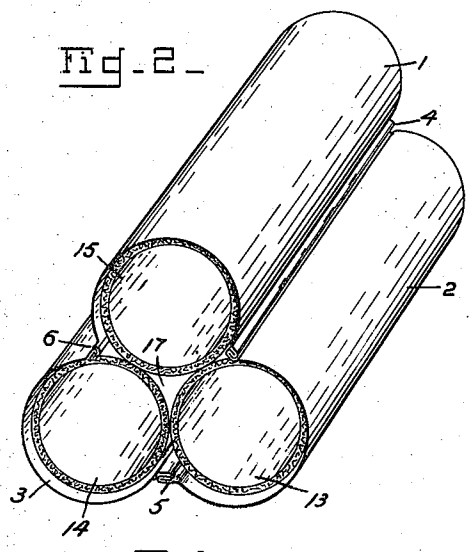


Fig. 3.

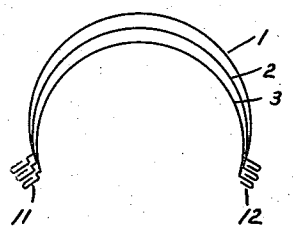


Fig. 4.

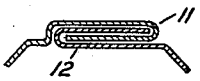


Fig. 5.

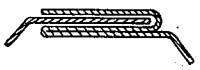
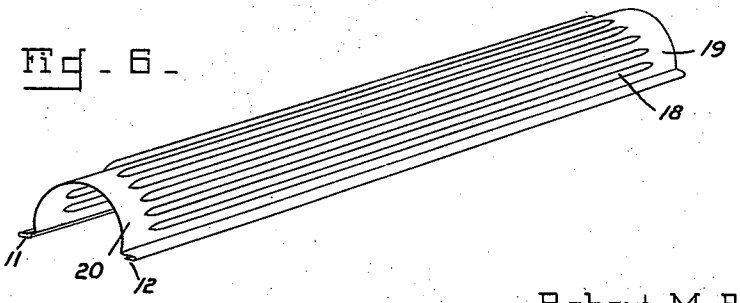


Fig. 6.



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AMMUNITION CONTAINER

Robert M. Bates, Miles City, Mont.

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1 Claim. (Cl. 206—3)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

This invention relates to ammunition containers.

A purpose of this invention is to provide an ammunition container that is light in weight, waterproof, strong, easily assembled and disassembled, and when disassembled, easily nested for economy of shipping space.

Another purpose is to provide an ammunition container which gives the contents adequate protection for rough handling.

A further purpose is to provide an improved, waterproof and greatly strengthened cloverleaf bundle for ammunition.

Other purposes will become apparent from the following description.

Reference is now had to the drawings in which similar reference characters refer to similar parts in all figures.

Figure 1 is an isometric view of the assembled ammunition container,

Figure 2 is an isometric view of the body portion of the ammunition container with the cloverleaf ends and fastening rod removed,

Figure 3 is an end view of three side segments nested for shipping or storage,

Figure 4 is a cross sectional view of a grooved lock joint,

Figure 5 is a cross sectional view of a form of slip joint, and

Figure 6 is an isometric view of an individual side segment showing the hooked edges. For purposes of illustration, longitudinal corrugations have been added to the segment shown in this view.

One form of ammunition package for artillery shells, which is known as the cloverleaf bundle, is made by taking three shells and inserting them in individual fibre cylinders closed or capped at both ends. The three cylinders are then stacked together side by side and a cloverleaf end having three lobes is applied over each end of the stack. A longitudinal rod is then passed through the space between the three cylinders and through the central holes in the two cloverleaf ends. Wing nuts screwed onto the threaded protruding rod ends, are tightened, thus drawing the cloverleaf ends tightly over the cylinders and forming a tight selfsupporting package or bundle for the three shells. A wooden crate is then built around the cloverleaf bundle to give it protection during storage and shipment.

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A disadvantage of this type of packing is the fact that the individual fibre shell cylinders were easily reached by water while being shipped and hence lost considerable strength due to becoming water soaked and would then tend to disintegrate, leaving the shells without adequate support or protection against damage due to rough handling in transit. In addition, the cost of the wooden crate was considerable.

It is proposed to obviate these disadvantages of the present cloverleaf bundle by means of the improvements shown and described herein.

Figure 1 shows the assembled ammunition container with two of the three side segments visible, namely those denoted by numbers 1 and 3 respectively. The two cloverleaf ends 7 and 8 are also shown mounted over opposite ends of the assembled side segments. The cloverleaf ends have three lobes, a central hole for a fastening rod, a skirted portion 16 around their peripheries to contain the ends of the side segments, and a peripheral channel 21. The indentations 22 are formed in the surface for added stiffness. The longitudinal rod 9 passes through the center 17 of the container and its two threaded ends protrude through the holes in the center of the two cloverleaf ends, being surmounted by wing nuts 10 for tightening same, thus drawing the whole container tightly together.

Figure 2 shows the container with the cloverleaf ends and the longitudinal fastening rod 9 removed. In the drawing the side segments 1, 2 and 3 are seen to be arcuate in cross section and adjoining side segments are connected by means of lock joints 4, 5 and 6. The three segments when joined together, form the body portion of the container which has a cross section with three lobes, each lobe formed by one side segment. The body portion is thus given an undulating contour when viewed from either end, each undulation constituting one of the three side segments, the joints being at the bases of the undulations. These joints are preferably made grooved as shown in Fig. 4, with interlocking portions or hooks 11 and 12. The joints should be made with sufficient clearance to permit easy assembly of adjacent side segments by sliding them together. Each side segment will thus be formed, as is also shown in Figure 6, with one hook 11 of Figure 4 along one of its longitudinal edges and the other hook 12 along the other longitudinal edge. The segments are placed with the edges to be joined aligned and end to end and then are slid together.

Figure 2 also shows the ammunition cylinders

13, 14 and 15, each designed to contain one round of ammunition, inserted into the ammunition container body portion in side by side relation. Each cylinder occupies one lobe of the cloverleaf cross section of the container, the cylinder ends being cut away for purposes of illustration. After the side segments 1, 2 and 3 have been joined together and the cylinders 13, 14 and 15 inserted as shown in Figure 2, the cloverleaf end portions 7 and 8 are placed over the opposite ends of the joined side segments as shown in Figure 1, and the longitudinal rod 9 inserted through the central holes in the cloverleaf end portions 7 and 8, extending through the longitudinal space 17 between the cylinders 13, 14 and 15. The two protruding ends of the fastening rod 9 are surmounted by wing nuts 10 which are tightened, thus drawing the whole container tightly together. The cloverleaf ends are provided with skirted portions 16 and peripheral channels 21 which serve to contain the ends of the joined side segments 1, 2 and 3 and thus prevent any sidewise movement thereof.

Figure 3 shows an end view of three of the side segments 1, 2 and 3 nested for shipment or storage. It is apparent that a considerable number of side segments may be nested together in this manner, for conservation of shipping space and that the nesting gives added protection to individual segments.

While the side segments may be made with smooth surfaces as shown in Figures 1, 2 and 3, it has been found advantageous to make them with longitudinal corrugations 18 as shown in Figure 6, the corrugations not extending the entire length of the side segments. Uncorrugated margins 19 and 20 are left at the ends so as to permit the skirted portions 16 of the cloverleaf ends to fit closely over them. The use of the longitudinal corrugations gives added strength and stiffness and permits the use of lighter gauge sheet metal in the side segments. Another method of stiffening is to use transverse corrugations on the segments instead of longitudinal corrugations, and a beading machine may be used for this purpose, the end margins 19 and 20 being unbeaded.

Figure 5 shows an alternate type of slip joint which may be used instead of the joint shown in Figure 4, in which case it is apparent that the side segments may also be joined by placing them side by side and by moving abutting edges toward each other in engagement instead of by sliding longitudinally. But the joint of Figure 5 does not lock together as securely as the joint of Figure 4 and more dependency is placed upon the cloverleaf ends 7 and 8 to keep the joined side segments connected to each other.

The container can be made dustproof and waterproof by an application of a waterproofing compound to the longitudinal joints, 4, 5 and 6, between the ends 19 and 20 of the side segments and the inner sides of the skirted peripheries 16 and channels 21 of the cloverleaf ends, and around the fastening rod holes in the cloverleaf ends. Litharge is one of the compositions suitable for this purpose.

It is seen that the body portion comprising the three side segments may also be applied to existing cloverleaf bundles to make them waterproof and give added protection. This will permit dispensing with the wooden crate now necessary for cloverleaf bundles. This results in a lighter and less expensive container, and also saves shipping space since the wooden crate is not used.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size, arrangement, and material may be resorted to without departing from the scope and spirit of the invention as claimed hereinafter.

I claim:

A container adapted to enclose a plurality of cylindrical objects and comprising three sheet sections each rolled to substantially semi-cylindrical form, each said section having its opposite longitudinal edges bent to form a flange adapted to interlock with the adjacent flange of the next succeeding section to thereby form a container of generally clover-leaf cross-section for a triangular stack of three cylindrical objects, cover members for closing the opposite ends of said container, each said cover member including an end plate conforming substantially to the cross-sectional shape of the said container and a dependent skirt about the periphery thereof arranged to fit over the end of the said container and snugly engage the undulating contour of the sides thereof, means for forcing the said cover members toward each other on the container including an axially disposed rod passing through said container and having threaded nuts engaging each end thereof, there being aligned axial openings in the respective cover members to permit passage of the said rod therethrough, and reinforcing means disposed circumferentially on the surface of each said sheet section, the said means including stiffening corrugations extending lengthwise of said sections and terminating at the respective ends at points spaced therefrom a distance at least equal to the depth of the dependent skirts of the respective cover members.

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