UNIVERSAL-TYPE PACKAGE FOR FIREARMS

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Filed: Apr. 3, 1972

Appl. No.: 240,657

U.S. Cl. ............... 53/35, 206/16 R, 206/46 FC, 217/53, 229/14 C

Int. Cl. ...................... B65B 5/04

Field of Search ............... 206/46 FC, 16 R, 206/46 FR; 229/14 C; 217/58, 52, 53; 53/35, 36, 37

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ABSTRACT

This invention relates to a unique firearm package for the handling, storage, and transportation of firearms. The package contains supporting blocks of polystyrene foam which receive and support the gun assembly by sandwiching the stock and barrel therebetween. The universality of the package is achieved by contouring one or more of the supporting blocks to conform to a select portion of the gun which has a common shape and dimensional feature with like guns of a class. Thus, any one of a series of guns of a varying shape and size can be accommodated by the same package.

3 Claims, 7 Drawing Figures
UNIVERSAL-TYPE PACKAGE FOR FIREARMS

This invention pertains to a package for a firearm and more particularly to a firearm package having the capability of accommodating any one of a series of guns of a class having a varying shape and size.

The present invention has a few features that are well known in the packaging art, such as the use of foam plastic supporting blocks not unlike those shown in the patents to:

E. ENGLISH, Jr. U.S. Pat. No. 3,286,834, Issued Nov. 22, 1966; and


It is also well known to transport guns in a carrying case using supporting blocks as shown in the United States patents to:


C. R. NEAL, U.S. Pat. No. 2,706,036, Issued Apr. 12, 1955; and


The present invention distinguishes itself from the prior art teachings in that a single package using non-resilient foam supports can accommodate a wide variety of gun sizes and shapes, thus in effect providing a "universal" gun package for firearms of a class.

Casings designed to envelope the gun in supporting material (full tray of foam or fabric) such as shown by C. R. Neal above, are not capable of providing a universal feature unless the support is resilient or flexible. Naturally, the use of resilient foams can only be used in permanent cases. A temporary package, as in this invention, for use as a shipment container cannot withstand the spring-like pressure the resilient foams produce upon the case backing, which is usually of cardboard or corrugated paper-like material. Also, from an economic standpoint, the inexpensive, non-resilient expanded foams are preferable to the flexible variety.

The present invention further distinguishes itself from the prior art in that the foam supporting blocks are contoured to select portions of the firearm. Although the aforementioned patent to V. F. Dale shows blocks with undercuts to encase sections of the gun, the Dale patent does not show the distinctive encapsulating and conforming contoured feature which is the heart of the present system.

The present package was designed to accommodate a wide range of guns of a given class by contouring at least one supporting block to fit a common feature inherent to all the firearms of that class.

In any class of guns, there are usually one or more portions of the stock which do not vary much in either shape or size.

In the Remington line of firearms, for example, one of the distinct features of the gun is its very narrow sloping pistol grip. This particular section of the gun is very uniform in shape and dimensionality, since the gripping portion is designed to fit the hand of the so-called "average man."

With this in mind, the invention contemplates contouring a supporting block to the pistol grip portion, so that all the Remington class of guns will be accommodated.

Of course, natural differences occur between shotguns and rifles, so that certain variations are present within the same package, i.e., shotguns are too long to be packaged in the fully assembled state, so that the stock and barrel are separated within the package. Rifles, on the other hand, are short enough to be packaged fully assembled.

Furthermore, there are both natural and designed dissimilarities in even identical features of the same class of guns so that some dimensional differences are unavoidable. To accommodate for these small variations, the contoured supporting blocks are either made to have a slightly loose fit, and/or they are made to be slightly deformable as in the case with expanded foams.

The gun usually is positioned between the supporting blocks in such a fashion that a slight looseness in fit is permissible without destroying the firmness of fit, as when the block is contoured to the highest tolerance. This is accomplished by sandwiching the firearm between supporting blocks which prevent slippage.

If, on the other hand, the blocks are contoured to the least tolerance, a good fit will nonetheless result, since larger sized guns will slightly deform the blocks to size.

Several advantages are achieved with this packaging technique, as follows:

a. The polystyrene blocks are inexpensive; do not require compression to hold the gun in place; and add rigidity to the package, thus increasing its structural integrity;

b. The gun is suspended from the walls of the container preventing the gun from contacting the backing material which is abrasive to the gun surfaces;

c. The suspension of the gun between small supporting blocks instead of a complete envelopment in a foam jacket, produces a lighter package since less material is used. This also gives a cost saving due to the reduction of package material and shipping weight;

d. Separate styrofoam blocks are about one-half the cost of a full styrofoam tray and one-fifth to one-tenth the cost of resilient (soft) foams;

e. Separate blocks require one-fourth the storage volume of either a full tray of styrofoam or the resilient (soft) foams; and

f. Smaller contoured blocks require less expensive dies than full tray molds.

It is an object of this invention to provide a firearm package which is of the universal type.

It is another object of this invention to provide a low-cost and efficient firearm package for the handling, storage, and transportation of a firearm of a class of firearms having a varying shape and size.

It is another object of this invention to provide a universal-type package for a firearm of a class using contoured supporting blocks which conform to a select portion of the firearm characterized by its uniform shape and dimensionality.

It is a further object of this invention to provide a universal-type package for a firearm of a class using a contoured supporting block which conforms to the pistol grip portion of the stock of the firearm.

It is another object of this invention to provide a firearm package which is lighter in weight but just as rugged as similar firearm packages, especially those employing a full measure of supporting encapsulation.

These and other objects of this invention will become apparent and will be better understood with reference to the subsequent detailed description in which the following figures are merely exemplary, said figures in which:
FIG. 1 shows a firearm package of this invention containing the stock and barrel parts of a shotgun. The package has lid and container portions, the container being shown in cut-away to expose the interior to view; FIG. 2 depicts the empty firearm package of FIG. 1; FIG. 3 illustrates the contoured sandwiching blocks of the firearm package of FIGS. 1 and 2; FIG. 4 shows a firearm package of this invention containing a rifle sandwiched between two middle supporting blocks; FIG. 5 depicts the empty firearm package of FIG. 4; FIG. 6 illustrates a firearm package of this invention containing a rifle held in place by the "bridging" effect of only one middle supporting block and two positioning blocks located at the sides of the container respectively; and FIG. 7 shows a firearm package of the type shown in FIG. 1 with the difference that the container and lid are separated, and the lid is of a rectangular construction.

Generally speaking, the invention is for a universal-type firearm package for the storage, handling and transportation of a firearm of a class of firearms having a varying shape and size. The package has a container portion and lid portion to enclose the gun within upon closure of the lid. The package contains at least one supporting block having an encapsulating and conforming contoured surface for receiving and supporting a select portion of the firearm characterized by its substantially uniform shape and dimensionality. The package also contains end support means to receive and support the firearm at its fore and aft ends.

Now referring to FIG. 1, a firearm package of this invention is shown. It contains the stock and barrel parts of a shotgun. The package is shown in cutaway to expose the interior to view. FIG. 2 depicts the empty package of FIG. 1. The package comprises a lid 1 and a rectangular container 2. The lid in this particular embodiment is hinged to the container at edge 3, although it may be of the type construction depicted in FIG. 7. The stock 4 and the barrel 5 rest within the container section of the package as shown. These gun parts are positioned and supported within the container by means of blocks 6, 7, and 8, respectively. For purposes of discussion, blocks 6 and 7 are generally referred to as positioning-type blocks, and block 8 as a supporting-type block. The supporting block 8 has special contoured sections 18 and 28, respectively. These contoured sections conform to the distinctive areas on the surface of the gun parts (barrel and stock, respectively) which by their design nature are substantially uniform in their shape and in their dimensions.

The area of selection for the contour is the pistol grip portion 14 of the stock as shown in FIG. 1, and as grip portion 114 as shown in FIGS. 4 and 6. This area is selected, because generally speaking, it is designed to fit the hand of the so-called "average man," and thus, is usually quite uniform in shape and size. Thus, the same support block is usable with all guns of that class. The pistol grip section is also the most practicable because of its sufficient curvature, especially as regards Remington firearms. The highly sloped surface is ideal for maintaining a firm supporting surface. The gun will not shift or wobble in supporting blocks having such a highly conforming contour.

In order to obtain a firm hold upon the gun, it is desirable that at least one and usually several other blocks be disposed within the gun package to cooperate with the basic support block 8.

The support for the gun may be produced by a "sandwiching" effect as depicted by the diametrically opposed support blocks 8 and 9 (FIGS. 1–3), and support blocks 108 and 109 (FIGS. 4 and 5), respectively. The support may also be effected by a "bridging" effect shown in FIG. 6, as will be described hereinafter.

It will be seen with reference to FIGS. 2 and 3, that block 9 also contains contours mirror-like to those shown for block 8. These contours are designated as 19 and 29, respectively. Block 9 is attached to the lid 1. When the lid is closed and flaps 10 is tucked within the container 2, blocks 8 and 9 cooperate to "sandwich" the firearm between themselves. Generally, blocks 8 and 9 are dimetrically placed twin blocks, whose mirror images are identical in most respects. This does not have to be the case, however, in order to achieve proper support. It is possible to have one block of a greater contoured depth, or have only one block per se containing most of the firearm contour.

There are many ways in which these blocks can be married to each other, but the basic sandwich concept more or less contemplates that the blocks mate to produce a sandwich-like construction without disturbing the interchangeable contouring feature.

It is also to be noted that the "sandwiching" blocks can be slightly shifted in prolongation of the container length, to further accommodate variations which may occur.

Blocks 6 and 7, respectively, are used to supply end support for the gun at its fore and aft ends. Block 6 contains cutout portion 16 for providing support to the butt end of the stock, and cutout portion 26 to contain the end of the barrel. Block 7 has cutouts 17 and 27, respectively, to receive the fore-end section of the stock and the other end of the barrel.

Positioning blocks are generally widely cut out to accommodate all the angular, dimensional, and configurative differences of the firearms at these end points. In other words, no specific configuration or conformity need be used, although some conformity is desirable.

Block 6 is similarly disposed as block 7 at the opposite end of the container.

Block 7 can be moved backward and forward at the end of the container, as shown by arrows 15, to accommodate the varying length and angle of the different firearms. (See FIG. 2).

FIG. 3 depicts a close-up view of the support blocks 8 and 9, respectively, of FIGS. 1 and 2. Block 8 shows an additional depression 12, and block 9 shows an additional depression 22. These depressions are used to contain the distinctive ring section of the barrel of Remington shotguns. This provides for a better support of the barrel, since this depression comprises a greater conforming contoured area by which the barrel can be held in place.

FIG. 4 contains a rifle in a similar package as that shown for the shotgun package of FIGS. 1 and 2.

FIG. 5 is the empty package of FIG. 4.

The container 102 has a lid 101 hinged at point 103. Sandwiching blocks 108 and 109 are located midway within the package. Positioning blocks 106 and 107 are located at the ends of the container. The positioning blocks each contain only one cutout portion as depicted by sections 116 and 117, respectively.
supports the butt end 104 of the rifle stock, and section 117 the barrel end 105.

For rifles the positioning blocks contain only one cut-out, since the stock and barrel are packaged already assembled.

Block 107 can be moved within the container to accommodate different rifles, as shown by arrows 115.

Supporting blocks 108 and 109 contain contour sections 118 and 119, respectively, which conform to the pistol grip section 114 of the gun stock. No depression is made for the barrel, which is packed separated as in the shotgun package.

Blocks 8 and 9 which contain the barrel depressions can probably be used in rifle packages, but these depressions would serve no purpose. One advantage would be realized, however, by having to make only one type of block for either package design.

FIG. 6 illustrates a package identical to the one shown in FIGS. 4 and 5 except that block 108 has been removed. In this package the rifle is held in place by a "bridging" effect. The gun is held in place by supporting block 109 whose contour 119 conforms as before to the pistol grip section 114 of the gun stock. The two end supports 106 and 107 now act to cushion the gun against block 109 in bridge-like fashion when the lid 101 is closed.

FIG. 7 shows a firearm package similar to that shown in FIGS. 1 and 2 with the exception that the lid 201 is not hinged to the container 202, but is made a rectangular counterpart of the container section. Blocks 208 and 209 correspond to the supporting blocks 8 and 9 of FIGS. 1 and 2, respectively, and the positioning blocks 206 and 207 correspond to the blocks 6 and 7, respectively. The depressions 216, 217, 218, 219, 226, 227, 228, and 229 are the same as originally specified as: 16, 17, 18, 19, 26, 27, 28, and 29, respectively.

In this package, the lid slips over the container section. This particular package configuration is slightly more rigid, since it provides more material about the circumference of the box. In all these embodiments, the package can be made sturdier by adhering the support blocks and/or the positioning blocks to the container or lid walls.

Many modifications and variations in package construction can be made, which will naturally present themselves to those skilled in this art. For example:

All the container blocks may be switched in place with the lid blocks and vice versa. The resulting mirror-like construction will work just as well.

Another modification entails adding a thin layer of resilient material in depressions 16, 17, 18, 19, 26, 27, 28, and 29. Since expanded or expandable foams tend to take a permanent set when displaced, such as when the package is dropped or subjected to shock loading, the resilient material will expand to take up the slack so that a more permanent and rugged package will be achieved.

Also, it is to be noted that the positioning blocks may be made in one encapsulating piece or of "sandwich" construction if so desired. "Sandwiching" can be of interlocking construction to assist the engagement of the blocks.

These and other modifications which will be apparent to the skilled practitioner are considered to be within the purview and scope of this invention as represented by the appended claims, and it is to be further understood that the embodiments as represented by the figures are considered to be merely exemplary of the invention as expressed within.

What is claimed is:

1. The method of packaging any firearm of a class of firearms each of which has a varying shape, length, and size, but all of which are characterized by at least one select portion remote from either end of the firearm which select portion is, in each member of the class, of substantially uniform shape and dimensions, said method comprising the steps of:

   a. providing a container for housing a firearm having a stock and barrel assembly;
   b. providing an opening in the container for insertion of said firearm therein;
   c. providing a lid for substantially covering said container opening to provide an enclosed package upon closure of the lid;
   d. rigidly securing inside said container at least one supporting block member which has a contoured inner surface complementarily conforming to and encapsulating the contour of said select portion of the firearm whereby the firearm may receive from said block lateral support and substantially its entire support against endwise movement within the container;
   e. providing end support means within the container whereby the firearm may be supported against lateral movement within the container substantially at its end portions; even though variations in the length of the firearm may prevent the end support means from providing any substantial support against endwise movement; and
   f. placing said firearm in the container whereby it will be received and supported against lateral and endwise movement within the container by interengagement with said block member and with said end support means.

2. The method of claim 1, further comprising the steps of:

   g. attaching the supporting block member to the lid with the complementarily contoured inner surface facing the interior of the container;
   h. placing said firearm in the container so as to support the firearm by engagement of the end portions thereof with the end support means; and
   i. closing the lid upon said container to provide a "bridge" supporting effect to said firearm.

3. The method of claim 1, wherein the supporting block member comprises two mating sections, the method comprising the further steps of:

   j. rigidly securing one mating section of the supporting block member in the container, and rigidly securing the other mating section of the supporting block member to the lid with the contoured inner surfaces of said sections facing each other;
   k. placing said firearm in the container with the select portion of the firearm received in the mating section of the supporting block member which is secured in the container; and
   l. closing the lid upon the container to sandwich the select portion of the firearm between the mating sections of the supporting block respectively secured to the container and to the lid therefor.

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