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PACKAGING OF SPLIT RING BEARINGS
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5 Claims. (Cl. 206-46)

This invention relates to the packaging of split ring bearings, and more particularly to a package construction incorporating a box for a pair of semi-circular bearing halves which permits the insertion of the bearing members in a nesting arrangement which considerably reduces the overall size of the package.

Split ring bearings of the type with which the present invention is concerned comprise a pair of semi-circular bearing halves adapted to be operatively assembled to form a complete ring bearing. In such bearings, the inner concave surface of the bearing halves is highly finished to form a smooth, anti-friction bearing surface. The bearings are normally packaged and sold in units of two bearing halves which form one complete bearing. Conventionally, the bearing halves have been placed in a box in a back-to-back arrangement with the exterior convex surfaces of the bearing halves abutting against each other. Such a package results in a unit having a thickness substantially equally to the width of the bearing halves and a square front area, each side of which is substantially equal to the diameter of the bearing. This arrangement prevents contact of the inner concave bearing surface of each bearing half with portions of the other bearing half. Such contact would lead to scratching or otherwise damaging of the bearing surfaces. The advantage of packaging the bearing halves in this manner is that the necessity for the individually wrapping of each bearing half in paper or other packing material to protect the bearing surfaces is avoided. The disadvantage of such a package resides in the relatively large area of the square box front which results in a relatively large overall package size. The present invention provides a packaging arrangement in which the bearing halves are nested together without danger of damaging the bearing surfaces, the arrangement resulting in an overall package size of considerably reduced proportions relative to the above-discussed conventional package.

It is an object of the invention to provide an improved packaging arrangement for split ring bearings.

Another object of the invention is to provide a packaging construction in which the two halves of a split ring bearing may be nested together without danger of damaging the bearing surfaces of the bearing members to thereby result in a package unit of relatively small proportions.

A further object of the invention is to provide a box for packing bearing halves in nested relationship, the box having a pair of elongated tongues which extend into the interior thereof and act as dividers between nested bearing halves to prevent contact of one half with the other.

A still further object of the invention is to provide a tongue construction as above-mentioned in which the tongues are easily insertable into a bearing half and which are configured to permit conformation thereof to the arcuate contour of the bearing members.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawing forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In the drawing:

FIGURE 1 is a plan view of a blank for a box for

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packaging two bearing halves according to one embodiment of the present invention;

FIGURE 2 is a view in perspective of a typical bearing half;

FIGURE 3 is a front elevational view of the blank of FIGURE 1 assembled to form a box and with one bearing half placed therein;

FIGURE 4 is a view similar to FIGURE 3 showing the box tongues folded into the box in preparation for the insertion of a second bearing half therein; and

FIGURE 5 is a front elevational view of the package construction with both bearing halves placed therein and the box top closed.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

The container for the bearing halves is assembled from the blank 10 illustrated in FIGURE 1. The blank 10 is cut from a sheet of cardboard or like material and scored along lines 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 and 34 to define a rear panel 36, side panels 38, 40, a front panel 42, a top 44 and top flap 46, a bottom 48 and bottom flap 50, bottom tabs 52, 54, side tab 56, and a pair of elongated tongues 58, 60. The top 44 and bottom 48 are slit at 62, 64, 66, 68 for interlocking engagement with, respectively, the tongues 58, 60 and the tabs 52, 54.

The type of split ring bearing half 70 which is to be packaged is illustrated in FIGURE 2. As will be noted, the bearing half 70 is semi-circular. The member 70 will form, with a second bearing half, a complete ring bearing. The inner concave surface 72 is highly finished to provide an anti-friction bearing surface. The outer convex surface 74 does not have a bearing finish.

A container assembled from the blank 10 is best illustrated in FIGURE 3. As will be noted, the rear panel 36, front panel 42 and sides 38, 40 have been folded to form an oblong-shaped container. The side tab 56 is secured to the inner surface of the side panel 40 by means of an adhesive material to secure the assembly in place. The bottom tabs 52, 54 have been folded upwardly and the bottom 48 has been folded to overlie these tabs with the flap 50 being inserted into the interior of the now formed box.

The rear panel 36 and front panel 42 have a length slightly larger than the diameter of the bearing half 70 and the side panels 38, 40 have a width slightly larger than the width of the bearing half 70 whereby the bearing half is readily received in the assembled box.

With the top 44 and tongues 58, 60 in the open position, a bearing half 79 is inserted into the box with the convex outer surface 74 resting on the bottom 48. Then, as illustrated in FIGURE 4, the tongues 58, 60 are folded downwardly from the dotted line position into the box and extend into the recess defined by the inner concave bearing surface 72. Each tongue 58, 60 is provided with a notch 76, 78 to engage the slits 62, 64 of the top 44 to lock the top in the closed position. The tongues 58, 60 are tapered to a reduced area at their outer ends 80, 82 so that they will be received in the bearing half 70 without binding.

A second bearing half 70' is then inserted into the box as illustrated in FIGURE 5. The bearing half 70' is inserted with the outer convex surface 74' facing the bottom of the box and the concave bearing surface 72'

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facing the top of the box with the result that the bearing half 70' will nest within the bearing half 70 to thus conserve space. As will be noted in FIGURE 5, the tongues 58, 60 serve to separate the bearing halves 70, 70' and prevent the bearing halves from contacting each other. This avoids the possibility of one bearing half abrading the bearing surface of the other brading half. It will be noted that the tongues 58, 60 deform to take the general shape of the bearing curvature. This deformation is promoted by scoring the tongues along the lines 84, 86, 88, 90 as is illustrated in FIGURE 1.

The tongues 58, 60 must be long enough so that when they are folded into the box, they will overlie the edges 92, 94 of the bearing 70 to thus provide separation of the bearing halves 70, 70'. Preferably, the tongues are long enough to project well into the interior of the bearing half 70 as shown. This extra length avoids the possibility of the tongues slipping behind the bearing half 70 due to canting of the bearing half or the shaking of the box. Additionally, the tapering of the tongues 58, 60 should start at a point beyond edges 92, 94 of the bearing half 70 so that the entire length of these edges will be covered by the tongues and separated from the upper bearing half 70'.

Having thus described my invention, I claim:

1. A split ring bearing package unit comprising a container, said container including a pair of oppositely disposed side panels, a pair of semi-circular split ring bearing halves positioned in the container, each bearing half having an exterior convex surface and an interior concave bearing surface, said bearing halves being positioned in the container with the exterior convex surface of one bearing half projecting into the recess defined by the interior concave bearing surface of the other bearing half, and an elongated tongue on the upper edge of each side panel of the container, each of said tongues being folded into the container and positioned between the bearing halves to prevent contact of one bearing half with the other.

2. A split ring bearing package unit comprising a container, said container including a pair of oppositely disposed side panels, an elongated tongue on the upper edge of each side panel, a pair of semi-circular split ring bearing halves positioned in the container, each bearing half having an exterior convex surface and an interior concave

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bearing surface, one of said bearing halves being disposed in the container with said elongated tongues extending into the recess defined by the interior concave bearing surface, the other of the bearing halves being disposed in the container with the exterior concave surface thereof projecting into said recess of said one bearing half and separated from contact with said one bearing half by said tongues.

3. A split ring bearing package unit comprising a container, a pair of semi-circular split ring bearing halves positioned in the container, each bearing half having an exterior convex surface and an interior concave bearing surface, said container having a bottom wall, a front panel, a rear panel, a pair of side panels, a closable top extending from the upper edge of the rear panel, and a pair of elongated tongues, each tongue extending from the upper edge of one of the side panels, said front and rear panels having a length slightly larger than the diameter of the bearing halves, said side panels having a width slightly larger than the width of the bearing halves one of said bearing halves being disposed in the container with its exterior convex surface resting on the container bottom wall, said elongated tongues being folded into the container and extending into the recess defined by the interior concave surface of said one bearing half, the other of the bearing halves being disposed in the container with its exterior concave surface projecting into said recess of said one bearing half and separated from contact with said one bearing half by said tongues.

4. A package unit as claimed in claim 3 and further characterized in the provision of score marks on said tongues to facilitate the tongues assuming the circular configuration of said bearing halves.

5. A package unit as claimed in claim 3 and further characterized in that the outer ends of said tongues are reduced in area for ready reception in said recess of said one bearing half.

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