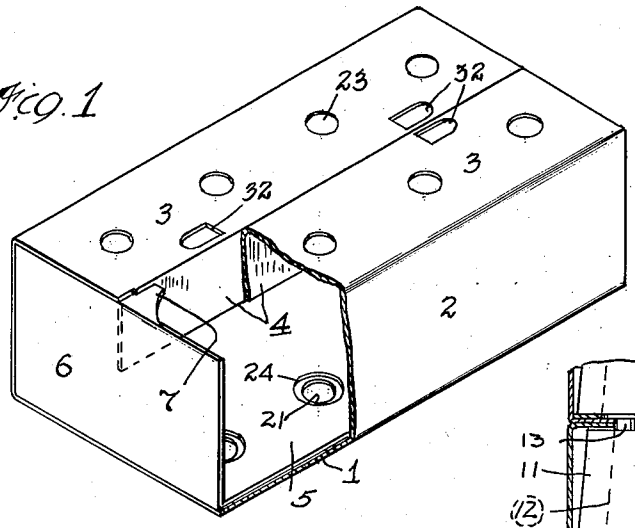
March 8, 1938. R. L. BARLOW 2,110,480

RAYON CONE CONTAINER

Filed Feb. 3, 1937

Fig. 1



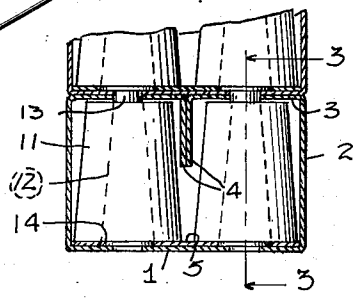


Fig. 2

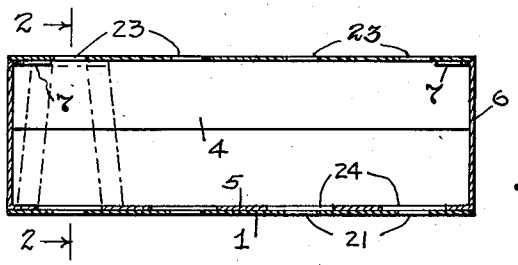


Fig. 3.

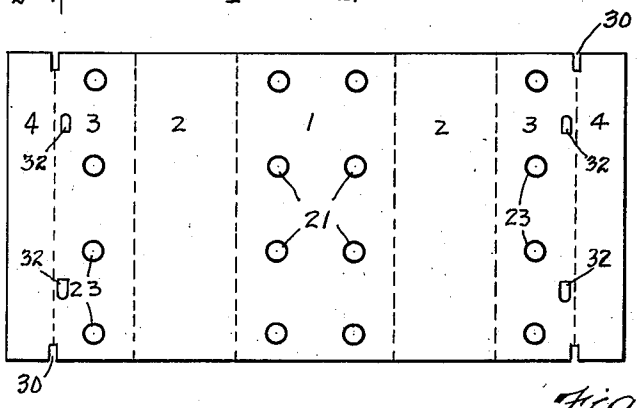


Fig. 5

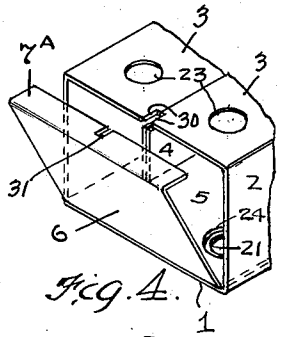


Fig. 4.

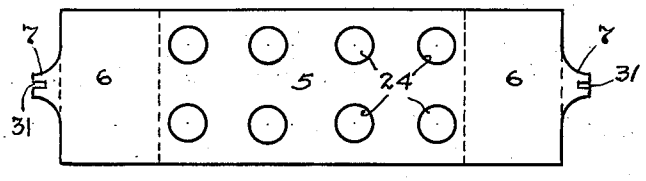


Fig. 6

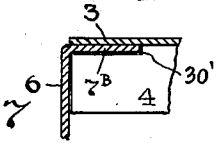


Fig. 7

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RAYON CONE CONTAINER

Ralph L. Barlow, Baltimore, Md., assignor to The Hinde and Dauch Paper Company, Sandusky, Ohio, a corporation of Ohio

Application February 3, 1937, Serial No. 123,826

8 Claims. (Cl. 206—65)

The purpose of this invention is to provide a container which will carry a number of spools of soft yarn each maintained securely in place and immovable in any position of the shipping package, protected from dust and dirt, and the surface of each spool protected from any contact with the adjacent spools or with the sides of the package. In the present developments of textiles, and particularly in the manufacture of synthetic textiles, softer and softer yarns are being produced, which require increased care and protection in handling and in packing for storage or for transportation. It is the purpose of this invention to provide a container meeting the requirements stated, which container at the same time is characterized by simplicity of construction, by strength, and by the opposing qualities of security of closure combined with ease of opening.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain structure embodying the invention, such disclosed means constituting, however, but one of various structural forms in which the principle of the invention may be used.

In the accompanying drawing:

Fig. 1 is a perspective view of my improved container closed, with parts broken away for interior showing;

Fig. 2 is a transverse vertical section on the plane 2—2, Fig. 3, but showing parts of two stacked boxes and showing cones of yarn in elevation;

Fig. 3 is a longitudinal vertical section on the plane 3—3, Fig. 2, the position of a single cone being indicated by dot and dash lines;

Fig. 4 is an end detail in perspective to further illustrate the closing arrangements and also showing a slightly different form;

Fig. 5 illustrates the blank which forms the exterior of the carton;

Fig. 6 illustrates the blank which forms the interior of the carton; and

Fig. 7 is a fragmentary longitudinal vertical section showing an alternative end construction.

As seen by reference to Fig. 1, my improved container, in its general aspects, comprises a lap-top exterior or wrapper and a liner with outside ends. The lap-top wrapper comprises in detail bottom 1, sides 2, top half-laps 3 and flanges 4, all separated by the usual folding lines indicated in Fig. 5 by dashes. The liner comprises bottom 5, ends 6 and end tucks 7, these panels being also separated by the usual fold lines, indicated in dashes on Fig. 6. The corners of the tucks 7 are preferably cut away to avoid contact with the yarn on the cones.

Yarn is customarily wound in a frustro-conical cop on a central spindle which tapers from bottom to top and projects below and above the wound yarn. Such a cop is shown at 11 in Fig. 2, the central spindle being indicated by dashes and designated by reference character 12. The top projection 13, of less diameter than the bottom projection 14, is of somewhat greater vertical extension.

In order to accommodate a plurality of such cops (eight in the container here selected to illustrate the principles of the invention), the bottom 5 of the liner is perforated at appropriate intervals forming holes 24 each to receive a lower spindle extension 14, while smaller holes 23 in the top lap 3 receive the spindle upper ends 13, all as illustrated in Fig. 2. Inasmuch as these upper ends 13 project above the outer face of the top laps 3, piling of cartons, and stability in the piles, are provided for by holes 21 of proper size in the outer bottom 1, which receive the ends 13 as shown in Fig. 2.

It will be readily seen from the drawing that the various holes 21, 23 and 24 are all so disposed as to occupy the proper relative position to hold the cops in place in the container when closed.

In order to fasten the container shut an end interlock is provided consisting of slots 30 directed inward along the respective fold lines between each of the panels 3 and 4 at each end and preferably of a depth approximately half the width of tucks 7. Slots 31 equal in width to the thickness of the two flanges 4, and preferably about half the depth of 7, are disposed at mid-width of each tuck 7. At each end of the box the slot 31 and the two slots 30 interlock the tuck 7 with the adjacent ends of the two flanges 4 as shown in Figs. 1 and 4, thus closing the box securely until the end 6 is swung out. Matching hand holes 32, are cut in the top near each end, whereby the worker can press the two flanges together while closing the ends 6 and fitting the slot 31 over the flange edges.

In the event that relieved corners are not needed on the tuck 7 the tuck may be carried out to full width, as 7A, Fig. 4.

As an alternative locking arrangement, shown in Fig. 7, the slots 31 can be omitted from the

end tucks 7B and the slots 30' in the flanges cut to a depth not less than the corresponding depth of 7B, but this arrangement is less advantageous because it permits the flanges 4 to spread so that their bottom edges may come against the sides of the cops.

In assembling the box, the inner bottom panel 5 is laid over the outer bottom panel 1, thus bringing the holes 24 and 21 into the concentric relationship shown in Fig. 1, the sides 2 and ends 6 are folded upward, and the cones 12 are loaded into the box, with the bottom projections 14 fitting into the apertures 24. The top laps 3 are now folded to the closed position, bringing the flanges 4, 4 downward into face-adjacent relationship, Figs. 1 and 2, where they are held by the operator reaching through the pair of holes 32, and the ends 6 are then closed with the tucks 7 resting under the laps 3, and the slots 30, 31 interengaging as explained above. If necessary, further fastening, such as tape, may be employed, but this is optional and not in itself a part of the invention, hence is not shown in the drawing.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the structure herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In a container in combination, a liner and a covering separate therefrom, said liner comprising an inner bottom and outer ends, tucks on said liner ends, top laps and inwardly projecting flanges on said covering, said top flanges and end tucks constituting interlocking elements in the closed container.

2. In a container in combination, a liner and a covering separate therefrom, said liner comprising an inner bottom and outer ends, tucks on said liner ends, said tucks occupying only the middle parts of said ends, top laps and inwardly projecting flanges on said covering, said top flanges and end tucks constituting interlocking elements in the closed container.

3. A container comprising a bottom panel, a pair of side panels, a pair of top panels, and closing flanges carried by each of said top panels, an inner bottom panel separate from all the foregoing, outer end walls attached thereto, tucks on said end walls, and interlocking means between said end tucks and said top closing flaps.

4. A container comprising an outer body and a liner therein, said liner comprising an inner bottom, outer ends, and tucks on said ends, said outer body comprising a bottom, sides, top half-laps, and flanges depending from said half-laps and adapted for face-to-face engagement in the closed container, and slots longitudinally disposed at the ends of the junctions of the half-laps with the dependent flanges, and of width substantially equal to the thickness of the slide-end tucks.

5. A container comprising an outer body and a liner therein, said liner comprising an inner bottom, outer ends, and tucks on said ends, said outer body comprising a bottom, sides, top half-laps, and flanges depending from said half-laps and adapted for face-to-face engagement in the closed container, slots longitudinally disposed in the ends of the half-lap flanges, said slots being substantially equal in width to the liner-end-tuck thickness, and slots in the liner-end tucks disposed opposite the half-lap flanges and as wide as the combined thickness of the half-lap flanges.

6. A container comprising an outer body and a liner, said liner comprising an inner bottom, outer ends, and tucks on said ends, and an outer body comprising a bottom, sides, top half-laps, and flanges depending from said half-laps and adapted for face-to-face engagement in the closed container, slots longitudinally disposed at the ends of the junctions of the half-laps with the dependent flanges, the depth of said slots being less than the corresponding dimension of end tucks engageable in said slots in the closed position of the box.

7. A container for articles having reduced end projections, said container comprising an outer body and a liner, said body and said liner each including bottoms of substantially equal size and shape, large openings in the liner bottom adapted to receive container ends, small openings in the outer bottom aligned with said large openings; said outer body also including a lap top, and openings therein aligned with said large openings when the container is closed.

8. In a carton adapted for the packing of material having projecting end elements, an outer cover and a liner adapted to fit therein and form the ends thereof, said liner being apertured to conform to the positions of the end elements of the contained articles, and corresponding apertures in the top of the cuter container adapted, when said container is closed, to align with the first-named apertures.

RALPH L. BARLOW.