Jan. 22, 1946 A. C. BEARDSELL 2,393,277

ONE PIECE SELF-LOCKING CARTON

Filed Nov. 6, 1943 2 Sheets-Sheet 1

FIG. 1

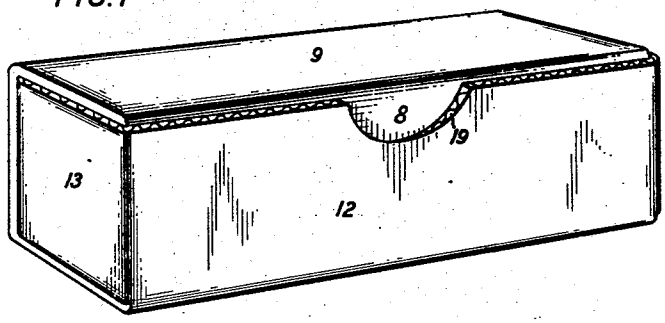
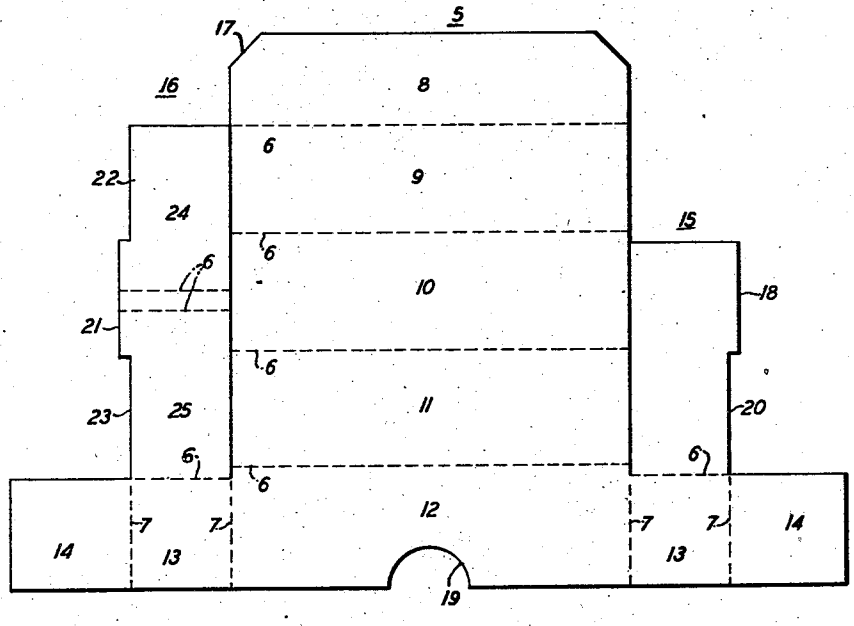


FIG. 2



INVENTOR
A. C. BEARDSELL

BY E. B. Nowlan

ATTORNEY

Jan. 22, 1946. A. C. BEARDSELL 2,393,277

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Filed Nov. 6, 1943 2 Sheets-Sheet 2

FIG. 3

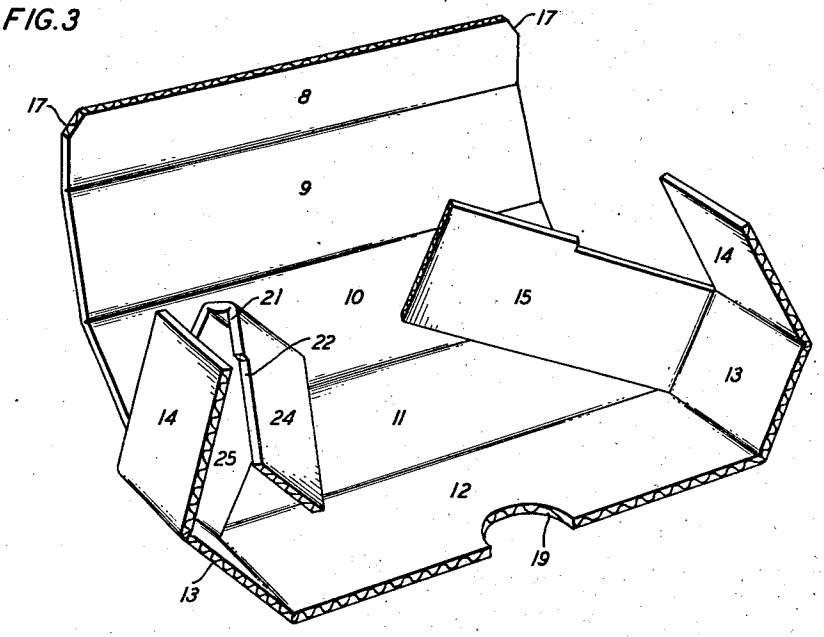
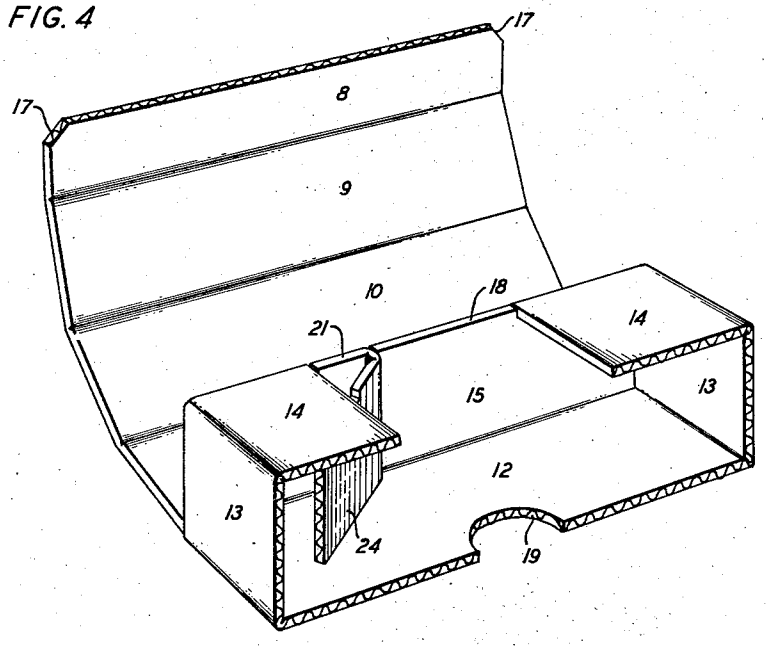


FIG. 4



INVENTOR
A. C. BEARDSELL

BY E. R. Nowlan
ATTORNEY

Patented Jan. 22, 1946 2,393,277

UNITED STATES PATENT OFFICE

2,393,277

ONE-PIECE SELF-LOCKING CARTON

Allyn C. Beardsell, Springfield, N. J., assignor to Western Electric Company, Incorporated, New York, N. Y., a corporation of New York

Application November 6, 1943, Serial No. 509,163

7 Claims. (Cl. 229—16)

This invention relates to cartons and more particularly to a carton made from a single blank of corrugated paper board or similar material which may be speedily assembled by inexperienced operators and which when assembled will provide a shockproof carrier for shipping or storing vacuum tubes, or similar articles.

The primary object of the invention is the production of a carton suitable for packaging frangible vacuum tubes, or similar articles.

Other objects and advantages will be understood by referring to the following specification and accompanying drawings wherein

Fig. 1 is a perspective view of the container shown with the cover and tuck flap in a closed position;

Fig. 2 is a plan view on a reduced scale of a blank ready to be folded to produce the container shown in Fig. 1;

Fig. 3 is a perspective of a side elevation showing the relative working positions of the tongue member and the general plan of coherent assembly; and

Fig. 4 is a side elevation view with the end, side and bottom walls in their final positions.

In the drawings particularly in Fig. 2 there is shown a blank 5 which may be sheared or punched or otherwise cut from corrugated cardboard or other suitable material. The blank shows a plurality of transverse folding lines indicated by broken lines 6 and a plurality of vertical creasing lines indicated by broken lines 7 which form when folded, cover flap 8, cover portion 9, side wall 10, bottom wall 11, side wall 12, end walls 13 and end wall extensions 14. Cut out 19 identifies a finger grip portion coacting with the flap 8 of cover portion 9. The ends of flap 8 are sharply cut away near the corners at 17 for a frictional insertion at the front corners of the side wall portion 12 and the end walls 13. The end wall portions 13 have foldable extensions 14 and articulated extensions 15 and 16 respectively. It will be noted that 15 has an offset section at 18 and an edge recess at 20 and 16 has an offset section at 21 and a plurality of edge recesses at 22 and 23 which offset sections form rests for side wall extensions 14 when the container is in a closed position. 16 has at less than mid point of the bottom wall of the container two transverse score lines 6 so that the upper half of this section may be return folded. As 16 is return folded the lower half 25 will become a supplemental bottom wall 11 and the folded upper extension 24 becomes a resilient tongue or platform section which is pressed downwardly by the weight of the terminal portion of the tube and the lead wires. It may be seen that extension 15 also forms an auxiliary bottom wall, extending a little distance beyond the medial line of the carton in accordance with the length of the tube but abutting the folded end of the other extension. The resilient tongue takes the line of stress from the terminal end of the tube and distributes it obliquely as the tongue is depressed by the weight of the tube.

Fig. 3 clearly shows the coherent relationships between extensions 15 and 16 and tongue 24.

The container is formed by folding the blank 5 in a forward direction as viewed in Fig. 3. Bottom extensions 15 and 16 are moved in a counterclockwise direction by bringing end sections 14 into their respective rests, and lifting slightly on tongue 24.

The tube which usually has a lead wire attached is inserted by resting the pronged and terminal lead end, on the resilient tongue. Side wall 12 is brought into position after the tube has been inserted. Cover 9 comes into its working position as flap member 8 is tucked downwardly between the edges of the end walls and the front side wall. Pressure exerted by closing the cover depresses the resilient tongue and the tube is held in such a position that the line of stress flows in an oblique direction upwardly and away from the terminals and toward the end wall.

While the forming of the container and the packing of the tube has been no more than a single drawing and single folding operation which takes a minimum of time or skill yet the tube is securely packed. It may be unrolled by merely lifting the cover and the container if desired returned to its original flat position and used several times over.

What is claimed is:

1. A quick assembly device for packing vacuum tubes or similar articles attached to terminal wires comprising a unit of cardboard or similar flexible material foldable into a solid four wall container, having a plurality of supplemental bottom and side wall sections articulated to the end walls of said container, each of said supplemental bottom sections having edge recesses coextensive with each supplemental side wall, an edge recessed tongue member flexibly integral with one of said supplemental bottom wall sections, and a self-locking cover integrally disposed from one of the walls of the container.

2. A collapsible solid wall carton formed from a single blank and comprising portions coherently scored to form a bottom, two sides, end walls, supplementary side walls, cover and locking flap,

and a plurality of portions articulated from the end walls and forming supports of different thicknesses and resiliency for different portions of the article to be packed, said articuated portions having edge recesses coextensive with each supplemental side wall.

3. A collapsible solid wall carton for vacuum tubes or similar articles formed from a single blank comprising in combination a main unit transversely scored to provide two side walls, a bottom, cover and friction grip flap, one side wall carrying a plurality of extensible portions constituting end walls and partial side wall linings, and a plurality of predetermined edge recessed end wall extensions, one said extension being return folded to provide a bearing point obliquely resilient for the article to be packed.

4. A two movement foldable solid wall container for vacuum tubes or similar articles comprising oppositely spaced apart end walls, side walls, a bottom, cover and locking tab, a first supplemental edged recessed bottom portion extending inwardly a predetermined distance from one end wall, and a second supplemental edge recessed bottom section return folded a predetermined distance from the other end wall.

5. A four wall self-locking container for vacuum tubes, comprising a first edge recessed supplemental bottom wall portion integral with an end wall and extending beyond the medial line of the main bottom wall, and a second edge recessed supplemental bottom wall portion return folded and abutting the first mentioned supplemental bottom wall member at the fold line.

6. A collapsible carton for vacuum tubes formed from a single blank and comprising flexible units foldable to constitute a bottom, oppositely disposed side and end walls, a cover and a tuck end flap, a plurality of articulated edged recessed supplemental bottom wall portions, a plurality of extensible end wall sections lockingly engaging the recessed edges of the supplemental wall sections and a platform section resiliently integral with one of the said bottom wall sections and defining an oblique stress take up support for the article to be packed.

7. A quick fold container for vacuum tubes or similar articles comprising a main unit transversely scored to provide two side walls, two end walls, a bottom, cover, and locking flap, a plurality of end wall extensions forming oppositely disposed supplemental side walls, and a plurality of coinciding edge recessed supplemental bottom wall sections hingedly connected to the respective end walls and an edge recessed tongue resiliently integral with one of the bottom wall sections and angularly disposed therefrom.

ALLYN C. BEARDSELL.