

Jan. 29, 1946.

A. C. BEARDSSELL

2,393,734

ONE PIECE SELF-LOCKING CARTON

Filed Nov. 6, 1943

2 Sheets-Sheet 1

FIG. 1

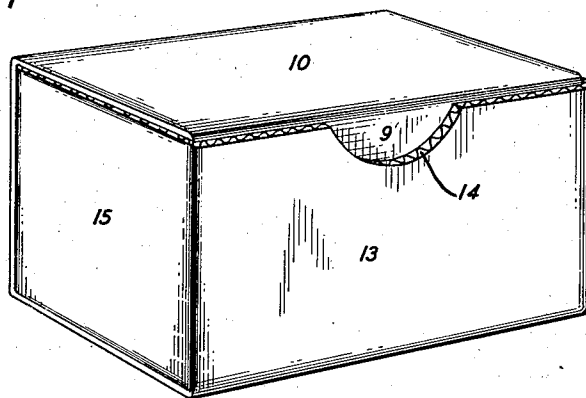
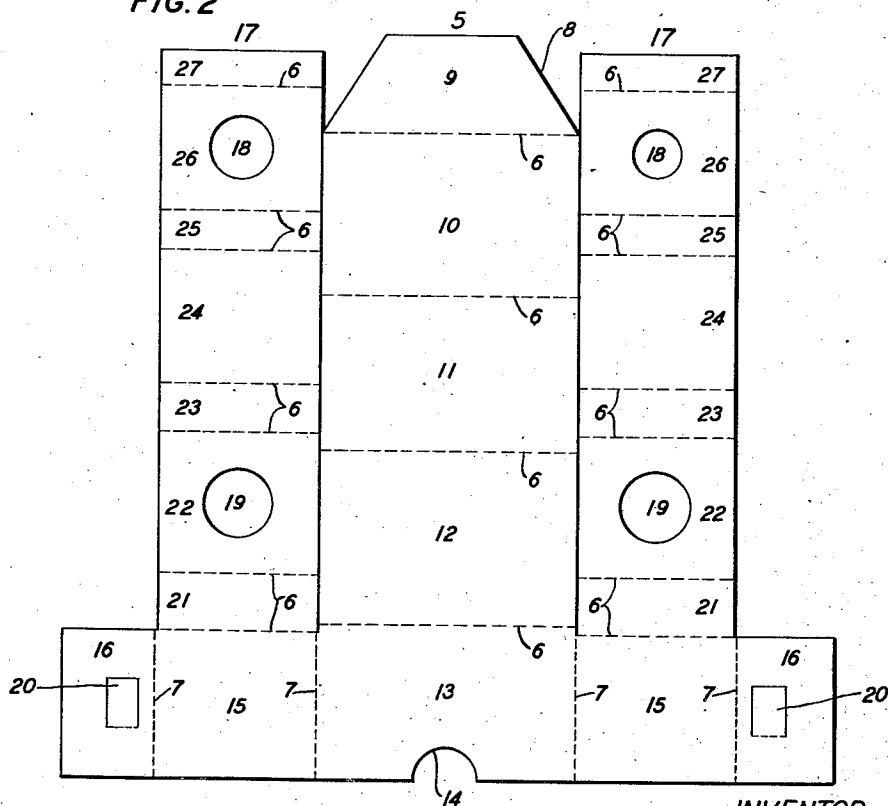


FIG. 2



INVENTOR
BY A.C. BEARDSSELL

E. R. Nowlan
ATTORNEY

Jan. 29, 1946.

A. C. BEARDSSELL

2,393,734

ONE PIECE SELF-LOCKING CARTON

Filed Nov. 6, 1943

2 Sheets-Sheet 2

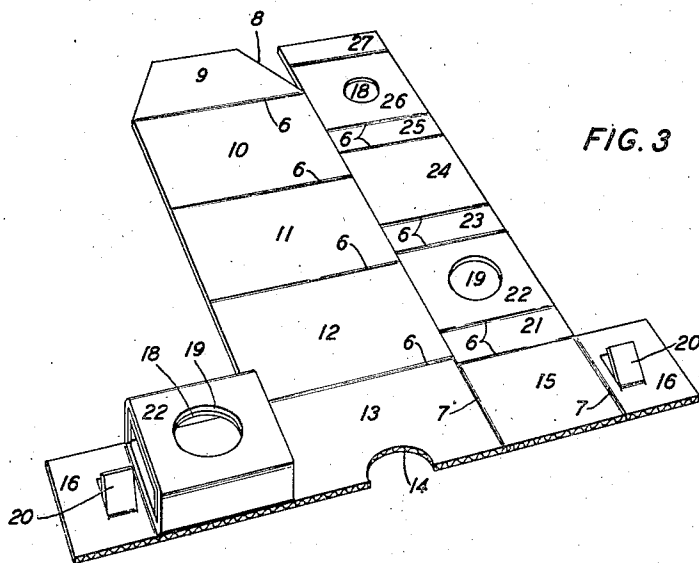


FIG. 3

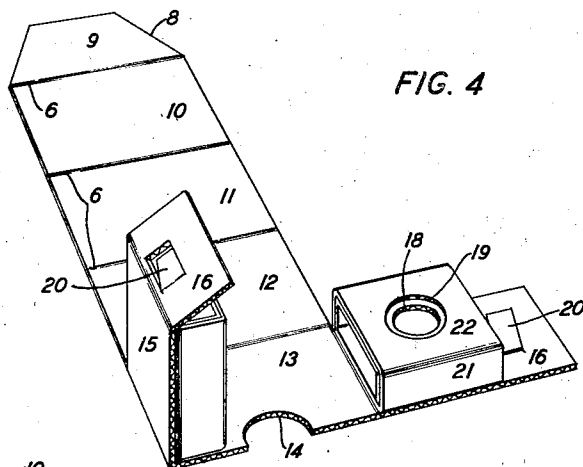


FIG. 4

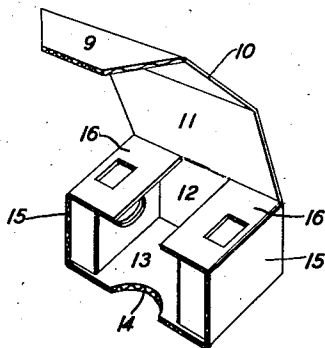


FIG. 5

INVENTOR
A. C. BEARDSSELL
BY

E. R. Nowlan
ATTORNEY

UNITED STATES PATENT OFFICE

2,393,734

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. 509,164

7 Claims. (Cl. 229—6)

This invention is for a container and more particularly for a one piece self-locking container for vacuum tubes or articles of similar character. These fragile tubes with delicate filaments highly carbonized and with complicated grid structures must be packed in such a way that all shock and stress is avoided in packing, during shipment, and finally unpacking.

The primary object of the invention is to produce a self-locking carton from a single blank of cardboard, which may be stored in a small space, and which may be speedily assembled by inexperienced people.

Other objects and advantages of the invention may be understood from the accompanying drawings in which

Fig. 1 shows the carton assembled;

Fig. 2 shows a plan view of the blank as it has been scored and cut into the component working parts;

Fig. 3 shows one end wall extension before folding and the other end wall extension folded into the apertured tube gripping member;

Fig. 4 shows how these tube supporting members are drawn into position and also the assembly of the locking tab and the end wall brace; and

Fig. 5 shows the relationship between the working parts just before the cover flap is brought into position.

Referring to Fig. 1, 5 shows a blank of fibre-board or similar material scored transversely as shown in dotted lines 6 and vertically as shown in dotted lines 7. The unit as folded along the scored lines 6 creates tuck flap 9, with a sharply cut away section at 8, cover 10, back wall 11, bottom 12, front wall 13 with the finger grip section 14. End walls 15 have a pair of like extensions designated by 16 which serve as bracing sections. Disposed as resilient cut out extensions of end walls 15, are foldable units 17 scored at 6 to form walls 21, 22, 23, 24, 25, 26 and 27. It will be noted that each of these units are equivalently perforated at 18 and 19 in such a way that when these strips are multi-folded as per Fig. 3 a pair of matchable cushioned platform extensions composed of hollow walls 21, 22, 23, 24, 25, 26 and 27 result as seen in Fig. 4. In Fig. 5 the relationship between the folded panels is clear. It will also be noted that end wall extensions 16, Fig. 4 have tabs 20 the geometric proportions of which are such that they project tightly between the side walls of the folded portions in such a manner as to effectively lock the strut sections 16 to the open end of the folded units.

out as shown in Fig. 2. Tuck flap 9 is folded and the two cut out sections 17 are simultaneously interfolded against end walls 15. At the same time end extensions 16 are locked to the interfolded units as tabs 20 are pushed between the walls of these cushioned sections. The tube may now be inserted in one pair of the perforations 18 and 19. As the folded sections have been formed perforations 18 and 19 have come into alignment as will be clearly seen from Fig. 4. At this stage it will be understood that the top of the tube is resting in one of the openings and both of the tube supporting units are swung inwardly and then outwardly against back wall 12, the position being that shown in Fig. 5. The tuck flap 9 is then pushed between the front wall 13 and the open ends of members 20, the cut out of the tuck flap being such that a maximum of friction exists at the bearing point.

While if desired gummed tape or similar material may be strapped around the box merely as a precaution for mailing purposes, otherwise this is not necessary, as the container will remain in a locked position due to the frictional grip as identified. It will be appreciated that the tube can be taken from this box by inserting the thumb at the thumb grip 14 and merely lifting the cover. The tube supporting units 20 fall outwardly and the tube is displaced. Due to the fact that in normal use no damage results to the carton it may be unrolled and given its original form as the blank shown in Fig. 2 and used again and again.

What is claimed is:

1. A blank for fashioning a quick fold fragile article container comprising a flat carton blank transversely scored in a direction coincident with the long axis of the carton blank to form a bottom wall, two end walls, two side walls, a cover, and cover lock, a plurality of vertically cut spaced apart coinciding completely multifoldable end wall extensions resiliently integral with the end walls, and a plurality of supplemental side wall portions lockingly engaging said end wall extensions.

2. A blank for fashioning a fragile article stress take-up container comprising a flexible paper board transversely scored to form a solid four wall self-locking covering, a pair of completely multifoldable spaced apart hollow end wall extensions each of said end wall extensions being centrally perforated and swingable into an operating position simultaneously with the closing of the container.

3. A quick foldable self-locking container for vacuum tubes or similar articles, comprising a

In assembling the container the blank is laid

flexible sheet of paper board or similar material scored to shape into a box, a plurality of congruent cushion grip members completely multifolded in a long axis direction from each end wall of said box and swingable into position simultaneously with the folding of the box and a pair of end wall bracing supports lockingly engaging the cushion grip sections at predetermined points contiguous to the back wall of the container when the container is closed.

4. A speed fold container for vacuum tubes comprising integral cardboard or similar material foldable into five self-locking solid wall panels, a plurality of congruent auxiliary units completely multifolded in a long axis direction with each of the end panels, and being centrally perforated, and a pair of supplemental support sections for said units with each of the end panels lockingly engaging these units.

5. A self-locking one piece quick fold container for fragile articles comprising a single sheet of flexible carton material longitudinally scored for substantially its full length to form three units, each of said units being multifoldable to form solid end walls, side walls, cover, cover lock, and a pair of spaced apart matchable article grip members completely multifolded in a direc-

tion coincident with the long axis of the carton material and lockingly engaging each end wall.

6. A self-locking one piece quick fold container for fragile articles comprising a single sheet of flexible carton material longitudinally scored for substantially its full length to form three units, each of said units being multifoldable to form solid end walls, side walls, cover, cover lock, and a pair of spaced apart centrally perforated hollow rectangular article supporting platforms completely multifolded in a direction coincident with the long axis of the carton material and lockingly engaging each end wall.

7. A self-locking one piece quick fold container for fragile articles comprising a single sheet of flexible carton material longitudinally scored for substantially its full length to form three units, each of said units being multifoldable to form solid end walls, side walls, cover, cover lock, a pair of spaced apart matchable article grip members completely interfolded in a direction coincident with the long axis of the carton material and against each end wall, and a plurality of bracing sections in frictional association with each of said matchable tube grip members.

ALLYN C. BEARDSSELL.