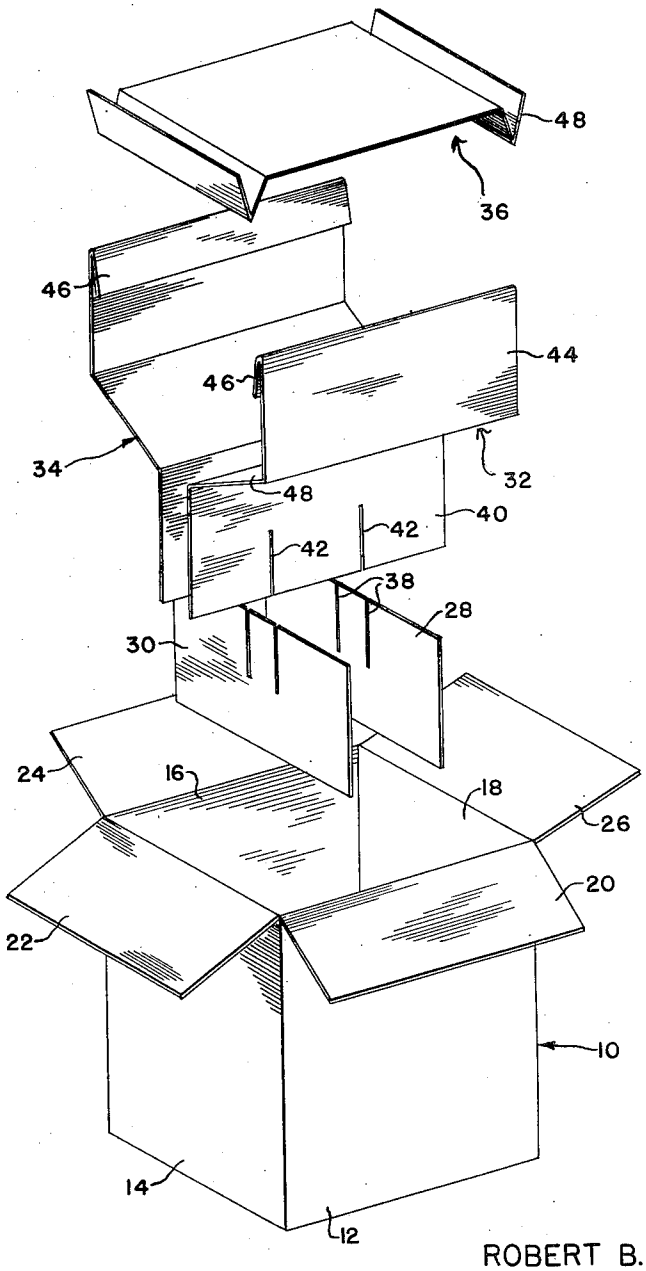
Oct. 30, 1956 R. B. CALLAHAN 2,768,737

PICTURE TUBE SHIPPING CONTAINER

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FIG.I.



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PICTURE TUBE SHIPPING CONTAINER

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FIG.2.

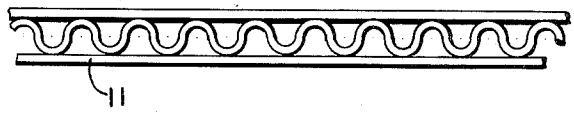
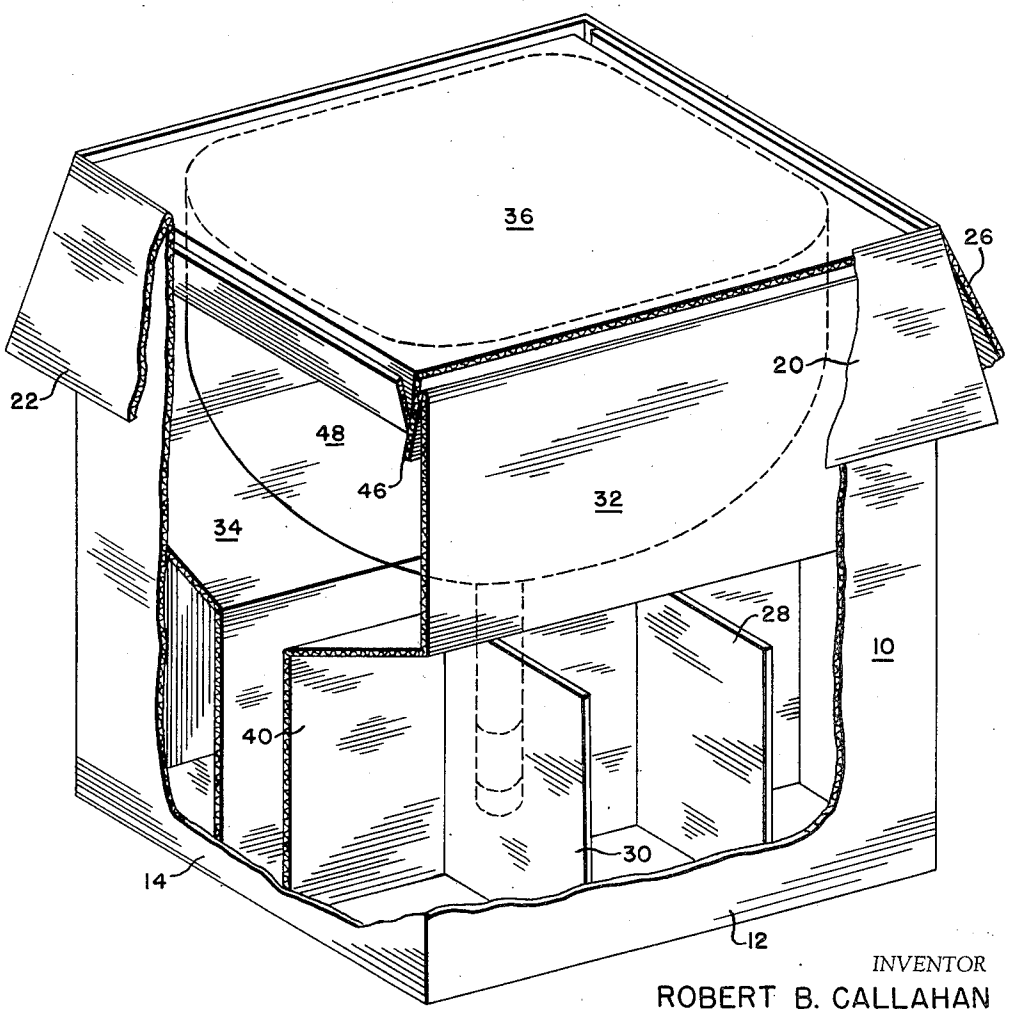


FIG.3.



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PICTURE TUBE SHIPPING CONTAINER

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Application October 21, 1954, Serial No. 463,690

6 Claims. (Cl. 206—46)

This invention relates to cathode ray tube shipping cartons.

Cathode ray tubes, in shape, are characterized by having a long tubular neck portion terminating in a flaring portion with a relatively substantially flat face plate over the wide end of the flare. The flared portion may be circular or rectangular in cross section.

These tubes, in accordance with prior art, are shipped in containers, parallelepiped in form, with the neck portion of the tube confined in the containers by suitable vertical interlocked partitions and with the juncture of neck and flare supported by a horizontal centrally perforated cardboard. Additional side and face plate protecting cardboards were utilized to ensure against injury to the cathode ray tube.

It is an object of the present invention to simplify the packaging of such tubes by eliminating some of the cardboards previously used, and by reshaping other cardboards. This results in a saving of material over the prior art, and yet affords at least the same degree of protection to the tube within the carton as in the prior art. Also with a lesser number of parts, savings are effected in assembly of parts and in space necessary to stock the parts.

For a fuller understanding of my invention, attention is directed to the accompanying drawings in which

Fig. 1 is an exploded view of my novel container with its separating cards.

Fig. 2 is an enlarged end view of a portion of the material utilized in the manufacture of the container, and

Fig. 3 is a perspective view of a packaged tube, with parts of the container open to expose interior portions of the package.

In said figures, the container is shown in the form of a carton **10**. This carton is shown as made of conventional double wall corrugated cardboard, as shown in greater detail at **11** in Fig. 2, with four rectangular sides **12**, **14**, **16** and **18** and top flaps **20**, **22**, **24**, and **26**. The bottom of the carton has flaps similar to flaps **20** to **26** and these lower flaps are glued to one another in folded over position as is conventional practice. To package the tube there is employed a pair of vertical partition walls **28** and **30**, a pair of combined vertical partition and glass breakage protecting stepped wall structures **32** and **34** and a cover cardboard section **36**. The partition walls **28** and **30** are rectangular in shape, substantially of a width to reach across the width of the carton and of a height at least a little greater than the length of the cathode ray tube neck. They are each further centrally provided with two slots **38** extending about halfway down the walls, these slots being spaced apart substantially the diameter of the tube neck.

Each of the stepped walls is made in four portions. The lower portion **40** constitutes a vertical partition wall and is of a height substantially equal to the height of partition wall **28** or **30** and provided with upwardly extending slots **42** of the same depth as the slots **38** but spaced about twice as far apart to allow for considerable

freedom of insertion of the tube neck into the assembled carton. The width of the portions **40** is substantially equal to the corresponding transverse dimension of the carton. The stepped wall member is also provided with a second vertical wall **44** which has a reversely bent inwardly turned flap **46**. The flap is resiliently held by reason of the nature of the corrugated cardboard. The wall **44** is of a size to fit from edge to edge against a corresponding wall, as wall **12**, of the container, with the upper edge of the wall **44** substantially at the upper edge of the wall **12**, and maintained there notwithstanding the subsequent closing of the cover flaps by the resiliency of the cardboard at the bends. Since the flap **46** is directed away from the side of the wall **44** which lies against the side wall of the carton, it does not interfere with the snug fit of wall **44** against the carton wall, thereby giving better reinforcement for the carton wall than were the flap turned outward. Moreover the flap **46** affords better resilient support for the tube when turned toward the tube. This wall **44** not only reinforces the corresponding container wall but also provides support for the flap **46** which additionally supports the tube at the thickened glass portion existing where the face plate is joined to the flared section. Connecting the two vertical wall sections **40** and **44** is the inclined wall **48**, this wall serving to properly space apart the walls **40** and **44** and offering protection to the flaring walls of the tube. To complete the protection of the tube, there is provided the corrugated cardboard plate cover **36** of a width to fit snugly between the flanges **46** and of a length to fit snugly between end walls of the container. This cover **36** is resiliently provided with two doubly bent flaps **48** providing double thickness of material to reinforce the container and prevent injury to the cathode ray tube at the edge portion of the face plate, there being in effect three thicknesses of material present.

The package may be assembled by setting up the carton **10**, interlocking partition walls **28** and **30** with walls **40**, inserting the assembled wall structure into the carton, inserting the cathode ray tube, neck downward, in between the wall sections, applying the cover plate **36** to the assembly and closing and securing the top flaps of the carton. It will be noted that only five pieces are necessary for insertion within the carton to package the tube, and each of these pieces is of simple character, easy to set up and easy to assemble with other pieces, all pieces lying wholly within the container.

Having thus described the invention what is claimed as new is:

1. A carton and insert assembly comprising a lower pair of spaced apart rectangular vertical partition walls, each of said walls being provided with a pair of spaced slots extending from an upper edge of the wall toward the bottom of the wall, a second pair of spaced apart wall members, each of the members of said second pair comprising a lower vertical rectangular wall portion with a pair of spaced slots extending from the lower edge thereof upwardly of the wall member, with the wall portion interlocked with the lower pair of partition walls, each of said wall members further comprising a second vertical rectangular wall portion parallel to its first wall portion but offset laterally and vertically with respect thereto and bearing against an inner vertical wall of the carton, and an inclined wall member joining the upper edge of the lower vertical wall portion with the lower edge of the upper wall portion, each of said partition walls being of a height, in the plane of the partition wall, no greater than the height of its companion lower wall portion.

2. A carton and insert assembly comprising a lower pair of spaced apart rectangular vertical partition walls, each of said walls being provided with a pair of spaced

slots extending from an upper edge of the wall toward the bottom of the wall, a second pair of spaced apart wall members, each of the members of said second pair comprising a lower vertical rectangular wall portion with a pair of spaced slots extending from the lower edge thereof upwardly of the wall member, with the wall portion interlocked with the lower pair of partition walls, each of said wall members further comprising a second vertical rectangular wall portion parallel to its first wall portion but offset laterally and vertically with respect thereto and bearing against an inner vertical wall of the carton, an inclined wall member joining the upper edge of the lower vertical wall portion with the lower edge of the upper wall portion, each of said partition walls being of a height, in the plane of the partition wall, no greater than the height of its companion lower wall portion and a reversely bent flap at the upper edge of the upper wall portion with the flap on the side of the upper wall portion toward which the inclined wall runs.

3. A package comprising a carton, rectangular in cross section, a lower pair of spaced apart vertical partition walls resting on the bottom of the carton, each of said walls being provided with a pair of spaced slots extending from an upper edge of the wall toward the bottom of the wall, a second pair of spaced apart wall members, each of the members of said second pair comprising a lower vertical rectangular wall portion with a pair of spaced slots extending from the lower edge thereof upwardly of the wall member, with the wall portion interlocked with the lower pair of partition walls, each of said wall members further comprising a second vertical rectangular wall portion parallel to its first wall portion but offset laterally and vertically with respect thereto and bearing against an inner wall of the carton, an inclined wall member joining the upper edge of the lower vertical wall portion with the lower edge of the upper wall portion, a reversely bent flap at the upper edge of the upper wall portion with the flap on the side of the upper wall portion toward which the inclined wall runs, a cathode ray tube inserted in said carton with the neck portion extending downward and positioned between the lower partition walls and the lower portions of the wall members and with the face plate edges of the tube supported by the reversely bent flaps at the upper edges of the upper wall portions of the wall members, a rectangular cover plate with doubly bent flaps on a pair of opposite edges of the cover plate resting on the face plate of the tube, with the doubly bent flaps interposed between the remaining two edges of the tube and the remaining two sides of the carton, and the carton being provided with flaps overlying the cover plate, said carton flaps being sealed to each other.

4. Means for use within a parallelepiped and for assisting in supporting and protecting an electron tube which has a long neck, flaring walls extending from the neck and a substantially flat face plate over the flaring walls, said means comprising a pair of spaced vertical partition walls, two spaced wall structures, each

having two parallel vertical wall members with the members vertically spaced one from the other and with an inclined wall joining the upper edge portion of the lower wall member with the lower edge portion of the upper wall member and with the upper wall member bearing against a wall of the parallelepiped, and means on the lower wall members to interlock with the partition walls, said partition walls being arranged at an angle to the wall structures and being of a height, in the planes of the partition walls, no greater than the height of the lower wall members.

5. Means for use within a parallelepiped and for assisting in supporting and protecting an electron tube which has a long neck, flaring walls extending from the neck and a substantially flat face plate over the flaring walls, said means comprising a pair of spaced vertical partition walls, two spaced wall structures, each having two parallel vertical wall members with the members vertically spaced one from the other and with an inclined wall joining the upper edge portion of the lower wall member with the lower edge portion of the upper wall member and with the upper wall member bearing against a wall of the parallelepiped, means on the lower wall members to interlock with the partition walls, said partition walls being arranged at an angle to the wall structures and being of a height, in the planes of the partition walls, no greater than the height of the lower wall members, and a reversely bent flap at the upper edge of each of the upper wall members.

6. Means for use within a parallelepiped and for assisting in supporting and protecting an electron tube which has a long neck, flaring walls extending from the neck and a substantially flat face plate over the flaring walls, said means comprising a pair of spaced vertical partition walls, two spaced wall structures, each having two parallel vertical wall members with the members vertically spaced one from the other and with an inclined wall joining the upper edge portion of the lower wall member with the lower edge portion of the upper wall member and with the upper wall member bearing against a wall of the parallelepiped, means on the lower wall members to interlock with the partition walls, said partition walls being arranged at an angle to the wall structures and being of a height, in the planes of the partition walls, no greater than the height of the lower wall members, and a reversely bent flap at the upper edge of each of the upper wall members with the flaps on the sides of the upper walls toward which the inclined walls run.

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