Dec. 17, 1940. H. SILVER 2,225,133

ARTICLE CONTAINER

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Fig. 1.

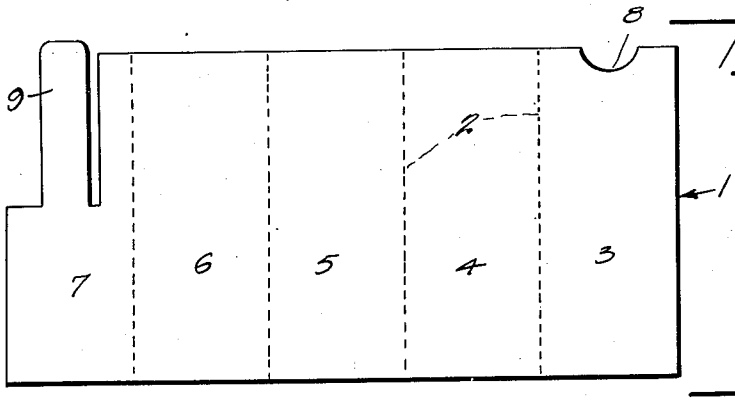


Fig. 2.

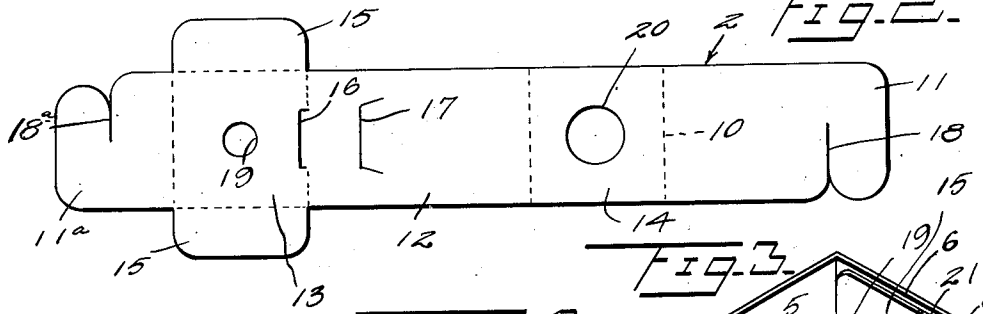


Fig. 3.

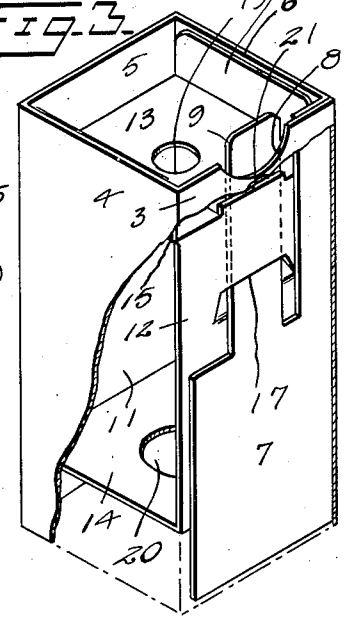


Fig. 4.

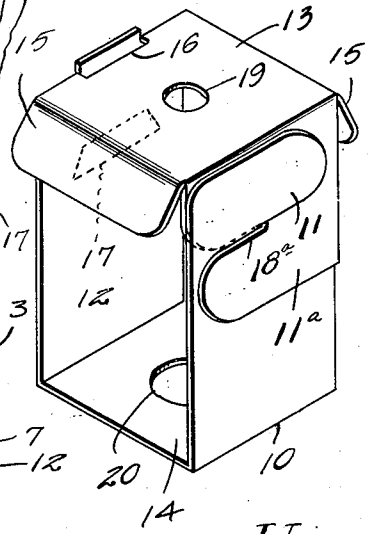
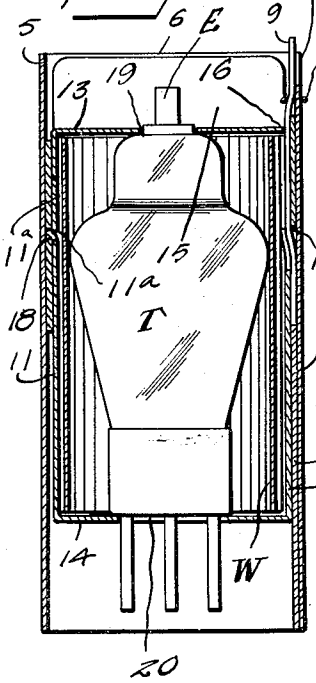


Fig. 5.



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Fig. 6.

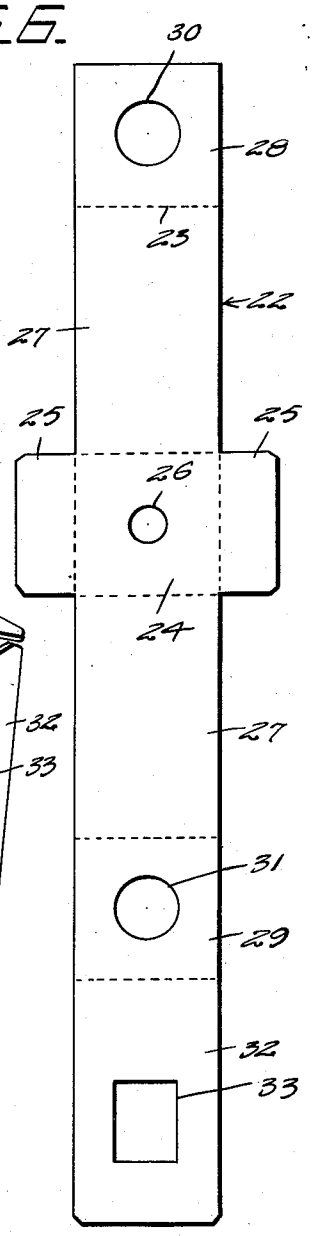


Fig. 7.

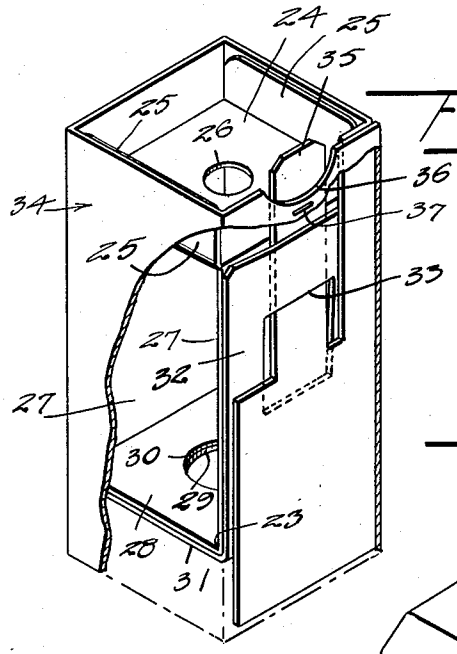


Fig. 8.

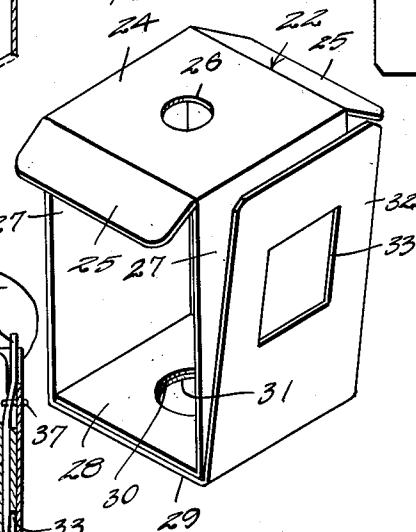
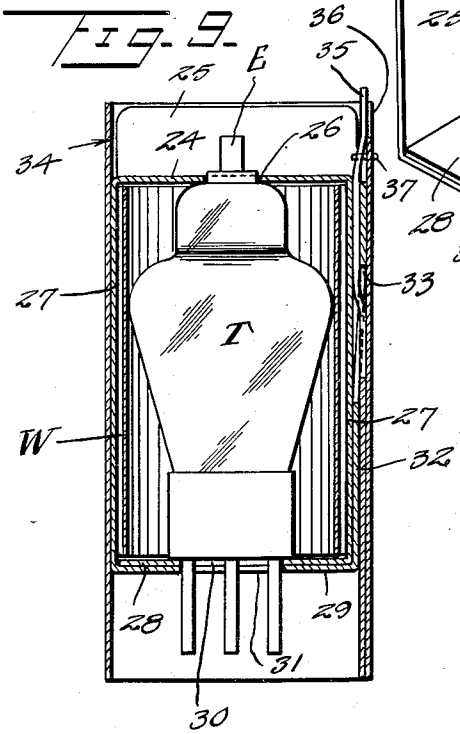


Fig. 9.



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Patented Dec. 17, 1940 2,225,133

UNITED STATES PATENT OFFICE

2,225,133

ARTICLE CONTAINER

Henry Silver, Philadelphia, Pa.

Application February 25, 1939, Serial No. 258,526

5 Claims. (Cl. 229—6)

This invention relates to improvements in containers or cartons for merchandise and pertains particularly to an improved container for radio tubes or similar articles which are to be protected until they reach the consumer.

The present invention has for its primary object to provide a radio tube container which is so constructed as to enable the seller of the article to test the same without having to remove it from or break the receptacle in which it is wrapped, the object of this being to prevent the substitution of an inferior grade of tube for the one in the package or of a tube which may have been used.

Another object of the invention is to provide a container for the above described purpose, which is of simple design and may, therefore, be readily formed from cardboard or other suitable material and easily assembled at a minimum expense.

Still another object is to provide a receptacle of the character described in which the tube is securely sealed and may be firmly retained so as to be safe from damage, while at the same time the tube may be shifted to a predetermined position in the container so that it can be connected with a tester for the purpose of determining its condition before it is sold.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not to be confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Fig. 1 is a plan view of the outer shell blank for the container.

Fig. 2 is a plan view of the inner shell blank.

Fig. 3 is a view in perspective of the container with portions of the outer shell broken away to show the relative positions of the parts.

Fig. 4 is a view in perspective of the inner shell, per se.

Fig. 5 is a vertical sectional view through the assembled container showing the manner in which a tube and its wrapper are placed therein.

Fig. 6 is a plan view of a blank for the inner shell of the modified form of the container.

Fig. 7 is a view in perspective of the modified form with a portion of the outer shell broken away to show the relation of the parts.

Fig. 8 is a view in perspective of the inner shell of the modified structure.

Fig. 9 is a view in section through the assembled modified container showing the tube and its wrapper therein.

Referring now more particularly to the drawings, it will be seen that the container embodying the present invention is made up of two units which are designated 1 and 2 and which comprise, respectively, the inner and outer shells for the container. Referring particularly to Fig. 1, there is illustrated the cardboard blank from which the outer shell is formed, which blank is generally of rectangular form and is marked transversely by score lines 2 to divide it into the five sections shown, the sections 3, 4, 5 and 6 constituting the wall sections while the section 7 constitutes a flap which in the assembly of the outer shell is disposed against the inner face of the first section 3, as illustrated in Fig. 5. The first wall section 3 is provided at one end with the edge notch or recess 8 and the flap 7 is cut longitudinally throughout substantially half of its length to form the tongue 9. The end of this tongue projects slightly beyond the edge of the blank in which the notch 8 is cut and, as shown in Fig. 3, when the outer shell is assembled, this extended end of the tongue 9 projects across the notch 8 for the purpose hereinafter described.

The inner shell of the receptacle is indicated by the numeral 2 and comprises a strip of cardboard or other suitable material which is transversely marked by the spaced score lines 10 to provide at one end a partial wall section 11 and at the opposite end a partial wall section 11a which cooperates with the section 11 to form one complete side wall of the inner shell. Between these wall sections 11—11a, the transverse score lines divide the blank to form the complete side wall section 12 and the top and bottom end wall sections 13 and 14, respectively.

The top wall section 13 has formed integral with each of its side edges the flaps 15 and at the central part of the score line between the sections 12 and 13, a slot 16 is formed which cooperates with a slit 17 formed adjacent thereto and transversely of the central portion of the side wall section 12 to receive the tongue 9, as hereinafter described.

Means is provided for locking together the partial wall sections 11—11a by the provision of the edge slits 18 and 18a, each of which receives the uncut or unslit part of the other partial wall

section, as illustrated in Fig. 4, so as to hold the inner shell in the rectangular form illustrated. It will be seen from this last-mentioned figure that the inner shell has two open sides and as shown here and in Fig. 3, the flaps 15 at the upper ends of these open sides are disposed vertically in the assembled receptacle to lie against the inner sides of the walls 4 and 6.

The top wall 13 of the inner shell is provided with an aperture 19 for the reception of the top electrode E of a vacuum tube T, while the bottom wall 14 is provided with a slightly larger opening 20 through which the usual bottom terminals of the tube may extend, the base of the tube resting upon the bottom wall 14 in the manner shown. The interior height of the inner shell is such that a vacuum tube will be snugly received between the top and bottom walls with the bottom terminals of the tube extending through the opening 20.

In the assembly of the present container, the tube T, after being wrapped in the usual protective wrapper W, has the inner shell 2 placed lengthwise thereabout so that the upper electrode E will extend through the top wall opening 19 and the bottom electrodes or terminals will project through the opening 20 with the base of the tube resting upon the bottom wall, as described. The outer shell having been previously assembled with the flap 7 glued to the inner side of the wall portion 3, then has the inner shell containing the vacuum tube inserted bottom end first into that end of the outer shell from which the free end of the tongue 9 projects. The insertion is made with the wall 12 against the flap 7, so that as the free end of the tongue 9 approaches the slit 17, the tongue may be guided into this slit by the finger and the wrapper W will cause the tongue to be guided through the slot 16. After the inner shell has been placed in position in the manner stated, the tongue 9 is secured to the wall portion 3 of the outer shell at a point adjacent the notch 8, by means of a metal staple 21. This staple constitutes the single securing or coupling means between the inner and outer shell and it will be readily apparent from the illustration of the container that the inner shell will have limited sliding movement in the outer shell, such movement being limited by the portion of the wall 12 lying between the slot 16 and slit 17, the securing staple and the end of the flap 7 from which the tongue 9 extends.

Fig. 7 illustrates a slightly modified form of the container. The modification exists entirely in the form of the inner shell. In this modified form of the inner shell, there is provided the strip of material 22 which is marked transversely by the score lines 23 to provide the single top wall portion 24 having the flaps 25 at each side and having the central opening 26 for the top electrode E of the tube and at each side of this top, the imperforate side walls 27 are formed, one of which has at its outer end the inner bottom wall 28, while the other one has at its outer end the outer bottom wall 29. Through these bottom walls 28 and 29, openings 30 and 31, respectively, are formed for the reception of the base terminals of the vacuum tube. The outer bottom wall 29 of the shell is joined to an auxiliary side wall 32 through the central portion of which a window opening 33 is formed. The outer shell of the modified form of the invention is indicated generally by the numeral 34 and is of exactly the same construction as the outer shell 1 of the first described form, therefore does not require any specific description. In the assembly of the modified form of the container, the vacuum tube after being placed in its wrapper is enclosed in the inner shell 22, the top electrode E being extended through the top wall opening 26 while the bottom walls 28 and 29 are brought into overlapping relation, as shown in Fig. 9, so that the lower electrodes or terminals of the tube may extend therethrough and the auxiliary side wall 32 is brought into overlapping relation with the adjacent side wall 27. The bottom part of the inner shell is then inserted into the outer shell 34 through the end from which the tongue 35 of the outer sell projects and the end of the tongue is guided into the window 33 and passes beneath the portion of the wall 32 which lies between this window and the free end of the wall, coming out between the wall 32 and the adjacent wall 27 as the ends of the shells come into alinement. The inner shell is forced into the outer shell well beyond the notch 36 and a securing staple 37 is then passed through the tongue and adjacent outer shell wall, as previously described, to couple these parts together and thus limit the movement of the inner shell.

As will be seen, the side flaps 25 in this modified form of the container are turned upwardly in the assembled structure to lie against the inner sides of opposed walls of the outer shell 34. These flaps in both forms of the container may be employed to facilitate sliding the inner shell back into position after it has been shoved forwardly so as to extend the prongs of the vacuum tube to the position where the tube may be tested.

From the foregoing, it will be readily apparent that in both forms of the container described, the two parts may be easily cut by dies from cardboard or other suitable material and may be easily and quickly assembled in the wrapping or packaging of a tube. The closing of such a package is made particularly simple by reason of the provision of the guide tongues upon the outer shell, assembled in the novel manner described for attachment to the adjacent outer shell wall so as to positively limit the movement of the inner shell after the tongue has been extended through the openings of the inner shell walls in the manner described.

What is claimed is:

1. A container for radio tubes and the like, comprising an outer casing, having side walls, one of said side walls having a flap joined thereto and secured against the inner face of an adjacent side wall, an elongated tongue extending from said flap at substantially the transverse center of the shell to and beyond one end thereof, the said outer shell being open at its ends, an article receiving inner shell having two opposite side walls and end walls connecting the side walls, said inner shell being of an overall length less than the outer shell and being slidable in the outer shell with one of the side walls thereof against said flap and tongue, the said one of the inner shell side walls being provided with a transversely extending slit adjacent an end of the inner shell and a slot at the said end of the inner shell, said tongue being extended through the slit and passing through said slot to project beyond the adjacent end of the inner shell, and means securing the tongue to the adjacent wall of the outer shell at a point between the two adjacent ends of the inner and outer shells.

2. A container for radio tubes and the like, comprising an outer casing, having side walls, one of said side walls having a flap joined thereto

and secured against the inner face of an adjacent side wall, an elongated tongue extending from said flap at substantially the transverse center of the shell to and beyond one end thereof, the said outer shell being open at its ends, an article receiving inner shell adapted to be slidably positioned within the outer shell and including oppositely disposed side walls and end walls connecting the side walls, said inner shell being of an overall length less than the length of the outer shell and one of said end walls having an opening therethrough, an auxiliary side wall integral with an end wall of the inner shell and extending over the outer side of a side wall of the inner shell, said auxiliary wall being positioned against said flap and having a window therein, the said tongue being extended through said window to a position between the adjacent inner shell wall and a part of the auxiliary wall adjacent the free end of the latter and extending beyond the said free end of the auxiliary wall and the adjacent inner shell end wall, and a securing element between the tongue and the adjacent outer shell wall, said securing element being located beyond the free end of the inner shell auxiliary wall.

3. A receptacle for fragile articles of the nature of radio tubes and the like, comprising an outer shell having overlapping wall portions, the inner one of said overlapping portions being partially in the form of a narrow tongue having a length equalizing at least half the length of the receptacle and extending longitudinally thereof and to one end of the same, an inner shell formed to be slidably extended into the outer shell and having a length less than that of the outer shell, the inner shell having a wall opening through which the tongue extends, the tongue when extending through said wall opening, when the inner shell is within the outer shell, extending longitudinally of the inner shell and beyond an end thereof and having a part of its outer end positioning against the inner face of the outer one of the overlapping portions, and a securing element passing through the said part of the outer end of the tongue and the outer one of the overlapping portions.

4. A receptacle for fragile articles of the nature of radio tubes and the like, comprising an outer shell having a length greater than that of a radio tube and having a polygonal cross sectional design, said shell having an extra wall portion disposed against the inner face of one of the walls of the shell, the said extra wall portion being of reduced width throughout substantially half its length to provide a tongue extending longitudinally of the shell, the tongue being of a length to project beyond the end of the shell, the said one wall portion having a recess formed in the end edge across which the free end of the tongue extends, an inner shell having opposed side walls and end walls connecting the side walls, the inner shell being of materially less length than the length of the outer shell and being designed to be slidably extended thereinto, one of said side walls of the inner shell being disposed against the inner face of the extra wall portion of the outer shell and having an opening therein through which said tongue is extended, the said tongue extending beyond the adjacent end of the inner shell, and a fastener extending through the tongue adjacent the cut-out edge of the said one wall of the outer shell and through the said one wall, the said inner shell having sliding movement which is limited in one direction by a portion of the said extra wall adjacent the inner end of the tongue and in the opposite direction by said securing element, one end wall of the inner shell having an opening therethrough through which the prongs of a vacuum tube may extend.

5. A receptacle for fragile articles of the nature of radio tubes and the like, comprising an outer shell having a length greater than that of a radio tube and having a polygonal cross sectional design, said shell having an extra wall portion disposed against the inner face of one of the walls of the shell, the said extra wall portion being of reduced width throughout substantially half its length to provide a tongue extending longitudinally of the shell, the tongue being of a length to project beyond the end of the shell, the said one wall portion having a recess formed in the end edge across which the free end of the tongue extends, an inner shell having opposed side walls and end walls connecting the side walls, the inner shell being of materially less length than the length of the outer shell and being designed to be slidably extended thereinto, one of said side walls of the inner shell being disposed against the inner face of the extra wall portion of the outer shell and having an opening therein through which said tongue is extended, the said tongue extending beyond the adjacent end of the inner shell, a fastener extending through the tongue adjacent the cut-out edge of the said one wall of the outer shell and through the said one wall, the said inner shell having sliding movement which is limited in one direction by a portion of the said extra wall adjacent the inner end of the tongue and in the opposite direction by said securing element, one end wall of the inner shell having an opening therethrough through which the prongs of a vacuum tube may extend, and a pair of flaps formed integrally with the end wall of the inner shell remote from the wall through which the aperture is formed and extending longitudinally of the outer shell away from the inner shell and bearing against the inner sides of opposite walls of the outer shell and facilitating retraction of the inner shell when it has been shifted in the outer shell toward the end of the latter which is adjacent the apertured end wall of the inner shell.

HENRY SILVER.