April 28, 1959 L. R. FINK ET AL 2,884,626

COMBINATION TELEVISION CABINET AND PICTURE TUBE MOUNTING

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FIG. 1.

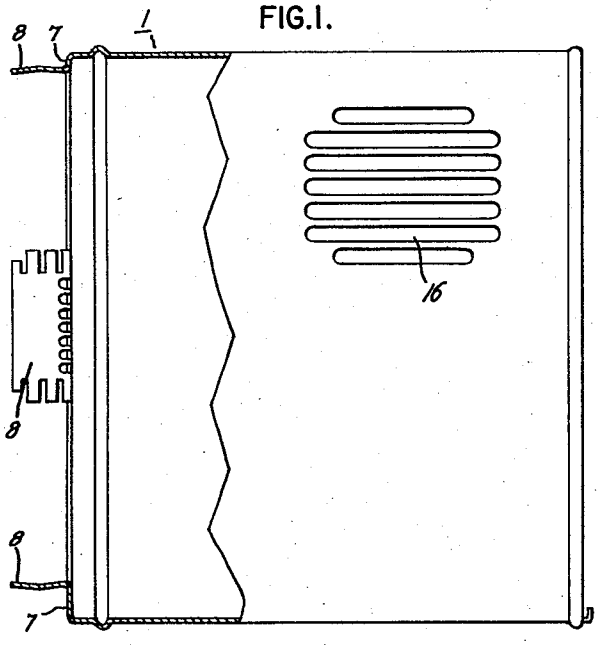


FIG. 2.

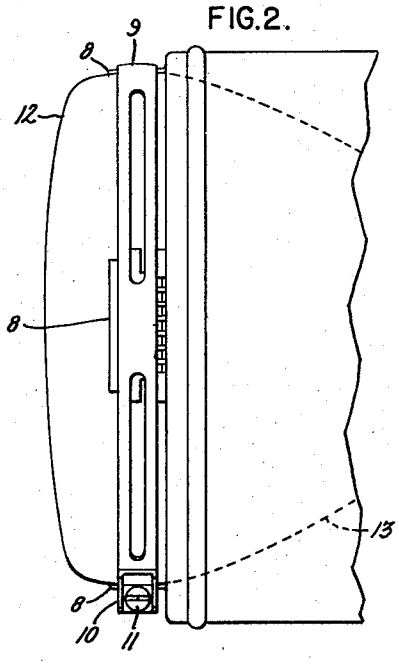
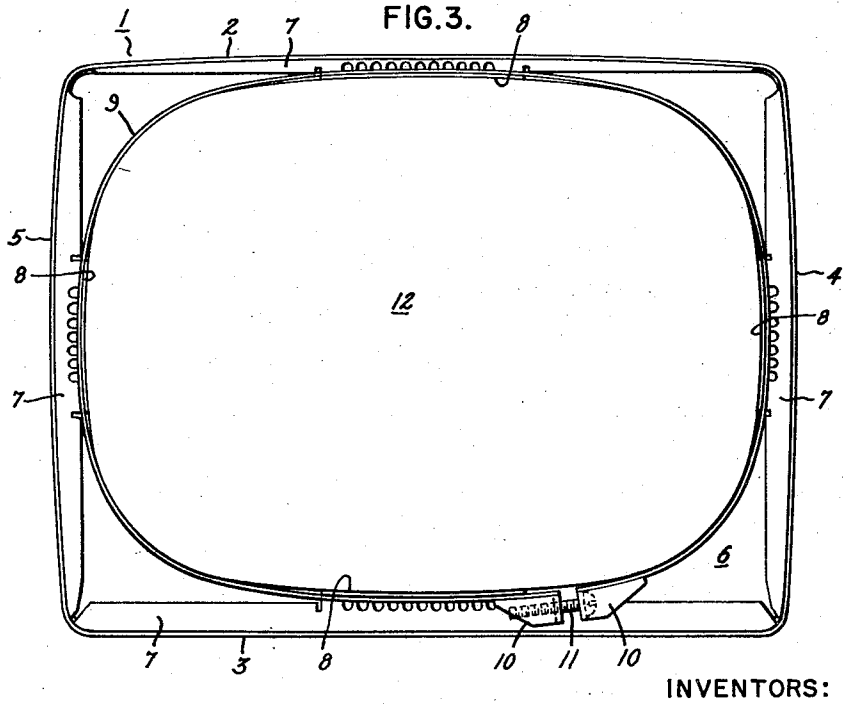


FIG. 3.



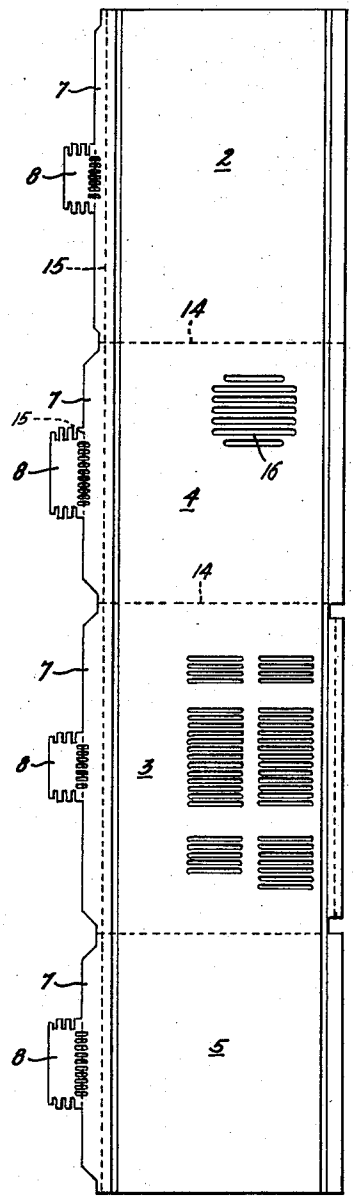
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FIG. 4.



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COMBINATION TELEVISION CABINET AND PICTURE TUBE MOUNTING

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8 Claims. (Cl. 340—367)

This invention relates to a novel cabinet for devices including cathode-ray tubes, which in addition to mounting the device also provides a means for mounting the cathode-ray tube.

There are numerous electronic devices which utilize cathode-ray tubes. One of the more common is the television receiver which is intended for use in large numbers in homes. These receivers are usually produced using mass production techniques. In the use of such techniques, any means which serves to reduce the cost of the material and the labor involved in the final assembly of the television receiver would reduce the ultimate selling price of such devices to consumers and would speed up their production. The prior cabinets for such devices of which we are aware usually provide a cabinet structure and a separate structure for supporting the cathode-ray tube. The separate structure may support the tube either on the chassis of the device which is mounted in the cabinet, or the tube supporting structure may be secured in some manner to the cabinet itself. In any case, those devices of which we are aware, require a large number of parts and in the assembly of such devices, a large number of assembly steps are required.

Therefore, it is an object of this invention to provide a novel cabinet for electronic devices including cathode-ray tubes which is provided with a relatively simple structure thereon for mounting and supporting the cathode-ray tube.

It is another object of our invention to provide a novel cabinet for devices including cathode-ray tubes which cabinet provides a means for mounting the cathode-ray tube on the cabinet and which has a minimum number of parts arranged in such a manner wherein the assembly may be carried out with a minimum number of steps.

Briefly, the objects of this invention are achieved in one form by the provision of a cabinet structure including a body portion which may be formed out of a single sheet of metallic material. The formation may take place by punching or cutting the sheet to the desired shape. When assembled, the body portion may have a top, bottom, and a pair of sides interconnecting the top and the bottom. The front and rear openings are usually provided at each end of the body portion. In order to provide rigidity and to accommodate tubes of different size and shape, the ends of the top, bottom, and sides adjacent to the front opening may be bent inwardly. Tabs which are adapted to conform to the periphery of the cathode-ray tube to retain it are formed at the inner edge of the inwardly bent portions so as to lie in the plane of the periphery of the tube. The cathode-ray tube is placed between the tabs and a strap is wrapped around the outside of the tabs so as to depress them inwardly against the surface of the cathode-ray tube. Suitable means are provided on the ends of the strap whereby it may be tightened to cause the tabs to grip firmly the cathode-ray tube.

The novel features which we believe to be characteristic of our invention are set forth with particularity in the appended claims. Our invention itself, both as to its

structure and manner of use, together with further advantages and objects thereof, may best be understood in conjunction with the accompanying drawing, in which:

Figure 1 is a side view of a television cabinet embodying our invention with a portion cut away to show the interior construction;

Figure 2 is a partial side view of the television cabinet embodying our invention illustrating the final assembly of a television tube into the cabinet;

Figure 3 is a front view of the television cabinet illustrated in Figure 1, and;

Figure 4 is a plan view of a shaped blank of material embodying our invention which when folded assumes the configuration of the cabinet illustrated in Figure 1.

In Figure 1 there is shown a cabinet designated generally by reference numeral **1** for electronic devices, which cabinet may be formed out of a single sheet of metal. The material may be punched or cut to a desired shape and then folded to have the generally rectangular configuration illustrated.

In Figure 3 of the drawing it may be seen that the cabinet includes a body portion constituted by the top **2**, the bottom **3**, and the sides **4** and **5** interconnecting the top and the bottom. As illustrated, these elements define a front opening **6** and a rear opening into which a chassis supporting an electronic device may be inserted. The front opening **6** is adapted to expose the face of the cathode ray tube forming a part of the device.

Extensions are provided at substantially a right angle to one of the top **2**, bottom **3** and sides **4** and **5**. The extensions are provided with first portions constituted by flanges **7** which may project into the plane of the front opening **6** and may be made as wide or narrow as desired. At substantially the center of each flange **7** there is provided a second portion of the extensions in the form of tabs or projections **8**, which is preferably out of the same sheet of metal. The tabs **8** extend at substantially a right angle to the plane of the flanges **7** in the direction away from the body portion and the plane of the front opening **6**. However, it should be understood that if the flanges **7** extend in a direction other than that illustrated, the tabs **8** must only extend to conform to the periphery of the cathode-ray tube. A strap **9** formed of any suitable flexible material such as a metal is wrapped around the outside of the tabs **8** and is tightened to support the tube. The tightening of the strap is effected in the form of our invention illustrated by a pair of upstanding brackets **10** provided on each end of the strap **9**. The length of the tabs **8** is such that they may be easily forced into engagement with the surface of the tube. A threaded means **11** passes through these brackets and upon rotation will pull the ends of the strap together. The means illustrated for tightening the strap is but merely one of many which can be used. After assembly of the tube in the cabinet, a suitable cover (not shown) which supports a piece of transparent safety glass may be placed over the front of the tube and cabinet and held by a securing means.

A cabinet embodying our invention may be fabricated out of a single sheet of material which may be metal. By punching and/or cutting, an elongated blank having the configuration shown in Figure 4 is formed. Score lines **14** are provided to form panels which will constitute the top **2**, the bottom **3**, and sides **4** and **5**. Additional score lines **15** form the extensions comprised by the flanges **7** and tabs **8**. After these steps have been carried out, the blank may be folded in the proper direction along the score lines **14** and **15** to assume the configuration in the cabinet illustrated in Figures 1–3.

While a complete metal enclosure is shown and described, it is readily understood that the cabinet does

not have to be so formed. Thus, it may be desired to form only three sides of the cabinet blank and the equipment chassis itself may constitute the bottom or one of the other enclosure walls.

Other changes in the construction of the cabinet may be found desirable. For instance, the flanges may be eliminated and the tabs 8 made to extend directly from the walls of the container. The length and configuration of the flanges 7 and tabs 8 may be varied as desired. The material by which they are constituted should have a certain amount of flexibility so that they may be bent to engage the surface of the tube, but should also be sufficiently rigid so that they may adequately support the tube.

It may be seen that a simple construction is provided which houses the chassis of the electronic device and further provides a means for supporting the picture tube 12, which means is formed partially by a portion of the cabinet itself. The number of steps required to assemble the picture tube in the cabinet are reduced to a minimum and adequate support is provided. By making the flanges 7 of any desired width, tubes of varying dimensions can be accommodated in a cabinet of given dimensions. Also, if desired, stops may be provided on the ends of the tabs 8 to limit the forward motion of the tube. If desired, apertures 16 may be provided in suitable walls of the cabinet for ventilation purposes or for providing access for the loudspeakers forming a part of the device.

While we have described a particular embodiment of our invention, other applications and arrangements will readily occur to those skilled in the art. We do not, therefore, desire our invention to be limited to the specific construction illustrated and described, and we intend by the accompanying claims to cover all modifications within the spirit and scope of our invention.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. A means for supporting a cathode-ray tube and housing associated electronic equipment comprising a cabinet having a top and bottom, and sides interconnecting said top and bottom, a plurality of resilient extensions projecting from one or more of the top, bottom and sides, a strap engaging said resilient extensions to cause them to be bent toward the center of the cabinet so as to be able to grip portions of a cathode-ray tube and means on said strap to tighten it.

2. A cabinet combination for devices including a cathode-ray tube comprising a body portion formed from a single piece of metallic material and having a top and bottom and sides interconnecting said top and said bottom, a plurality of resilient extensions formed integrally with and extending from one or more of said top, bottom and sides, a strap encompassing said extensions, and means for tightening said strap so that it presses inwardly on said extensions.

3. A cabinet for television receivers comprising a body portion formed from a single sheet of metallic material and including a top, a bottom and a pair of sides, each side interconnecting said top and bottom, each of said top, bottom and sides having a tab extending from one end thereof at substantially the center of said end, a strap adapted to encompass said tabs, means on said strap whereby it may be tightened, said strap when encompassing said tabs and when tightened bending said tabs to cause them to hold and provide the sole support of the picture tube of a television receiver mounted in said cabinet.

4. A cabinet for television receivers comprising a body portion formed from a single sheet of metallic material and having four surfaces constituting a top, a bottom, and a pair of sides interconnecting said top and bottom, said top, said bottom, and each side having a flange formed integrally therewith, each said flanges extending at substantially a right angle to the plane of its supporting surface and toward the center of said body portion, each flange having a tab formed integrally therewith and at substantially the center thereof, each said tab projecting at substantially right angles to its respective flange and away from said body portion, a metallic strap adapted to encompass said tabs, means on each end of said strap whereby said strap may be tightened, said strap when encompassing said tabs and tightened bending said tabs toward the center of the cabinet to hold the picture tube of a television receiver mounted in the cabinet.

5. A cabinet for television receivers comprising a body portion formed from a single metallic sheet and having a top, a bottom and a pair of sides interconnecting said top and bottom, and defining supporting surfaces, said top, bottom and sides defining a front opening in said body portion, the ends of said top, bottom and sides adjacent said front opening having flanges formed thereon, said flanges extending at substantially a right angle to the plane of its respective supporting surface, each flange having a tab formed thereon, said tabs extending at substantially right angles to said flanges and away from the plane of the front opening and said body portion, a strap formed from a metallic material encompassing said tabs, means on the ends of said strap to tighten said strap, said strap when tightened bending said tabs toward the center of said front opening to hold the periphery of television picture tube mounted with a portion extending through said front opening.

6. A television receiver combination comprising a cabinet having a top, a bottom and a pair of sides interconnecting said top and bottom, said cabinet having a front and a rear opening, the ends of said top, bottom and sides adjacent said front opening having flanges formed thereon, said flanges extending into said front opening, a tab formed on each flange and extending away from front opening and said cabinet, a cathode-ray tube mounted between said tabs, a flexible strap encompassing said tabs and means on said strap to tighten it, said strap when tightened bending said tabs to cause them to grip a portion of said cathode-ray tube to hold it in said cabinet.

7. A cabinet for electronic devices including cathode-ray tubes comprising a body portion having a top, a bottom and a pair of sides interconnecting said top and said bottom, said top, bottom and sides defining a front and rear opening, a flange on each of said top, bottom and sides bent in the direction of said front opening and a resilient tab on each flange bent away from said front opening and said body portion.

8. In combination a cathode ray tube having a face plate, a housing for said tube comprised of several sides defining an opening at one end, a semi-rigid resilient tab extending from each of two or more of said sides at the edge of said opening in such manner that at least a portion of said tabs lie adjacent said face plate, a strap, said strap engaging said tabs, and tightening means for said strap whereby said tabs may be bent toward said cathode ray tube so that said face plate of said cathode ray tube provides increased structural rigidity for said housing and at the same time is held in said housing.

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