May 2, 1967 J. BALINT 3,317,172

PICTURE TUBE MOUNTING

Filed June 2, 1965 3 Sheets-Sheet 1

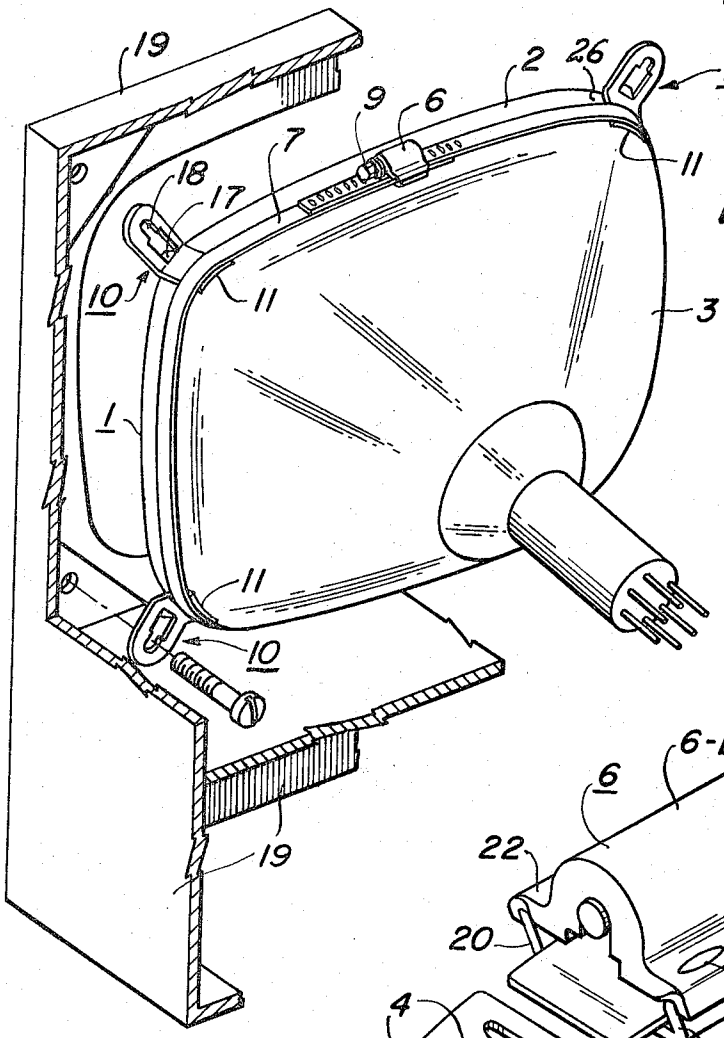
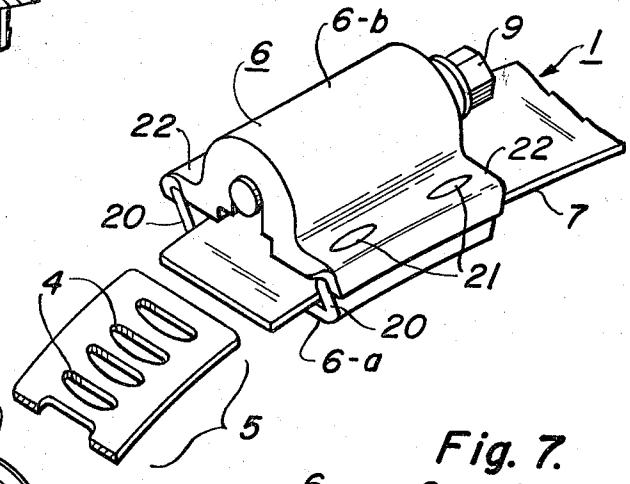


Fig. 1.

Fig. 6.



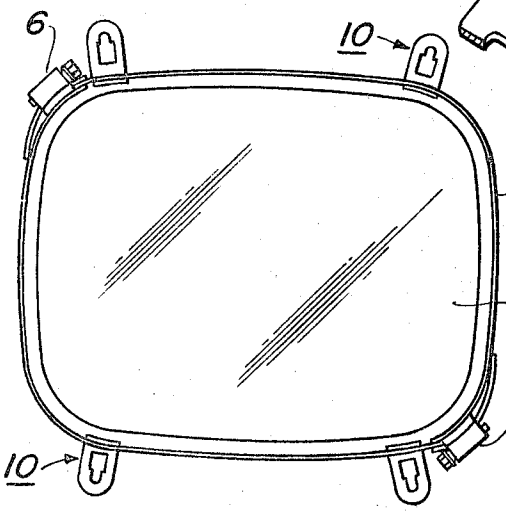
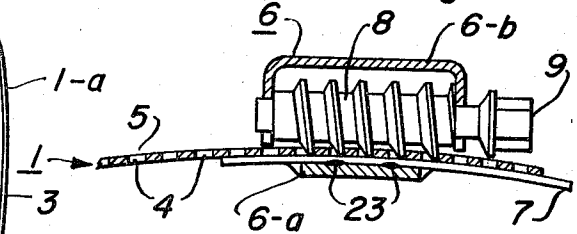


Fig. 8.

Fig. 7.



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Fig. 2.

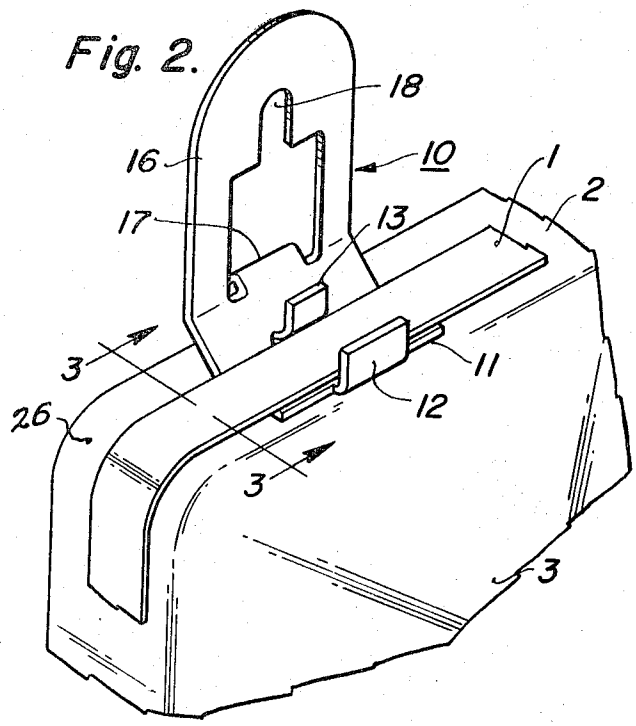


Fig. 3.

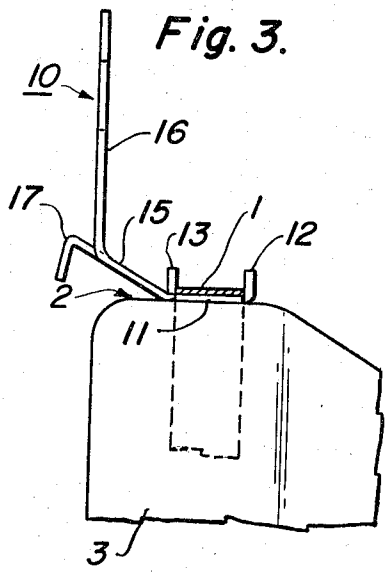


Fig. 4.

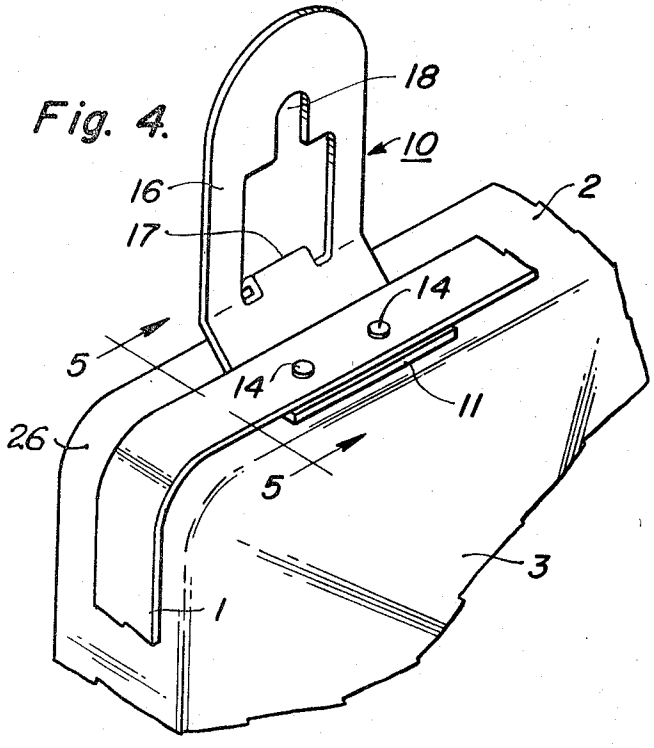
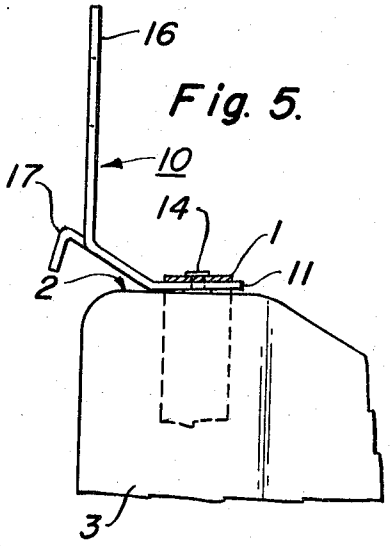


Fig. 5.



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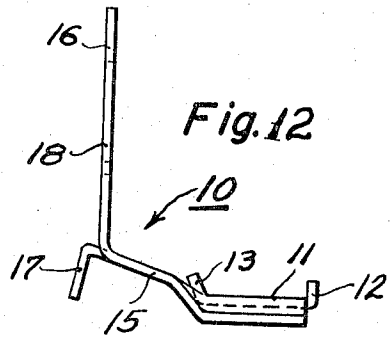


Fig. 12

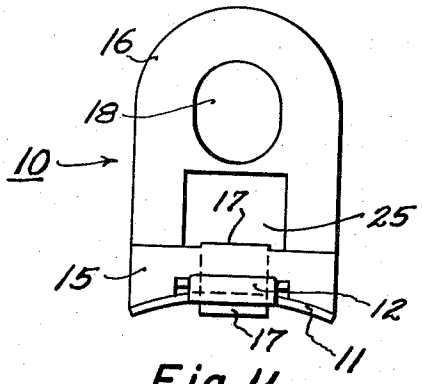


Fig. 11

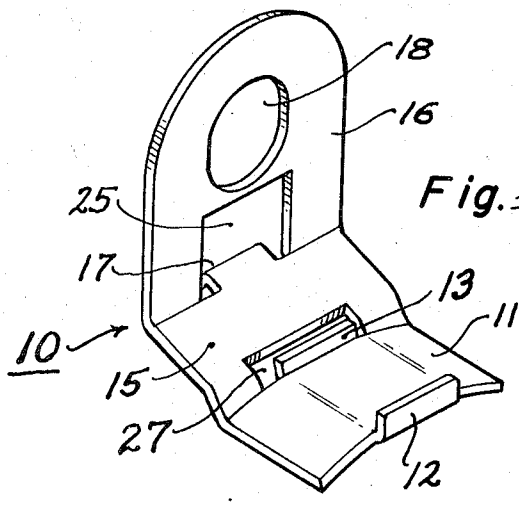


Fig. 10

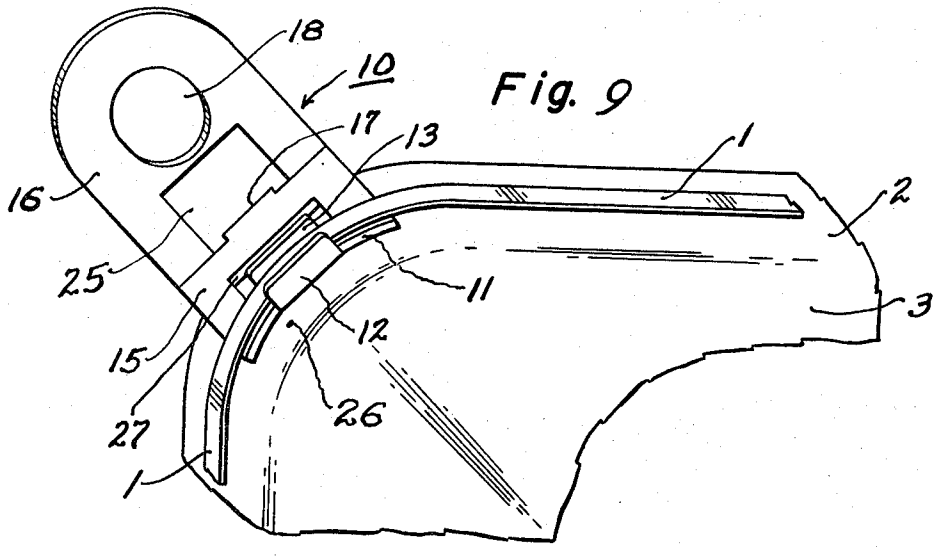


Fig. 9

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Patented May 2, 1967

3,317,172

PICTURE TUBE MOUNTING

John Balint, Langhorne Manor, Pa., assignor to George K. Garrett Company, Division of MSL Industries, Inc., Philadelphia, Pa., a corporation of Minnesota

Filed June 2, 1965, Ser. No. 460,640
5 Claims. (Cl. 248—316)

The present invention relates to a picture-tube mounting, whereby the picture-tube may be detachably secured to the enclosing cabinet or casing of a television receiver and held securely and safely in place with good distribution of the clamping forces and with sufficient flexibility in the mounting to minimize the strain upon the wall of the picture-tube incident to its mounting and securement to a cabinet or a casing.

The object of the present invention is flexibly and adjustably to mount or secure the picture-tube to the cabinet in a detachable manner with good distribution of clamping forces upon the tube and with uniformity of mounting in the assembly-line or mass-production of television receivers and to retain the transparent protective plate in the spaced relation to the face of the picture-tube.

Wih the above and other objects in view which will appear more fully from the following description and accompanying drawings, the present invention comprises a metallic clamping band which is sufficiently flexible and bendable to conform itself to the rectangular (or other) shape of the front portion of the periphery of the picture-tube near the face thereof (namely that part of the periphery of the picture-tube in which the cross-section thereof normal to its axis is uniform), worm-and-slot band-tightening means between the ends of the band to draw the ends together to the desired tightness around the picture-tube, and sheet metal mounting brackets at four or so selectively distributed points along the band and held between the band and the periphery of the picture-tube, whereby the picture-tube may be detachably mounted to the cabinet by screws or other fastening means connecting the brackets with the cabinet or housing.

In the accompanying drawings, in which like reference characters indicate like parts,

FIGURE 1 represents a perspective view of a picture-tube with the clamping band and mounting brackets, in operative juxtaposition to a television cabinet.

FIGURE 2 represents a perspective view of a fragmentary portion of the picture-tube and of the clamping-band and of a bracket.

FIGURE 3 represents a cross-section on line 3—3 of FIGURE 2.

FIGURE 4 represents a perspective view similar to FIGURE 2, but showing a modified construction.

FIGURE 5 represents a cross-section on line 5—5 of FIGURE 4.

FIGURE 6 represents a perspective view, on an enlarged scale, of the juxtaposed worm-end and slotted-end (respectively) of the tube-clamping member.

FIGURE 7 represents a cross-section on line 7—7 of FIGURE 6, in which the aforementioned tube-ends are in operatively overlapping relation to each other.

FIGURE 8 represents a front elevational view illustrating and modifying embodiment of the present invention.

FIGURE 9 represents a fragmentary rear perspective view of a picture-tube with the clamping-band and with a mounting-bracket of another embodiment of the present invention.

FIGURE 10 represents a rear perspective view of the bracket shown in FIGURE 9.

FIGURE 11 represents a rear elevational view of the same.

FIGURE 12 represents a side elevational view of the same.

The clamping-band designated generally by the numeral **1** is in the form of a flat strip or band of steel (or other suitable metal) of sufficient flexibility and deformability to conform to the aforementioned periphery **2** of the picture-tube **3** and having worm-engaging notches or slots **4** along the terminal portion **5** thereof and having a worm-housing **6** secured to the other end **7** thereof; there being a space or clearance between said worm-housing **6** and the end **7** of the band **1**, in which clearance the slotted end **5** of the band **1** is adapted to pass, with the slots **4** thereof intermeshed with the worm **8** revolvably mounted within the worm-housing **6**, as indicated in FIGURES 6 and 7.

By turning the outer end **9** of the stem of the worm **8**, the slotted end **5** of the band **1** may be moved into greater or lesser overlapping relation with the end **7** of the band **1**, so as to contract or expand the closed loop so formed by said band and thus tighten the band onto the uniform cross-sectioned front portion **2** of the picture-tube **3** to the extent desired for clamping the picture-tube within such loop with a circumferentially distributed force adequate for its mounting to the cabinet and yet not so great as to place undue strain upon the picture-tube.

Each of the brackets, designated generally by the numeral **10**, has a base portion **11** which overlaps the band **1** and is disposed between the band **1** and the peripheral portion **2** of the picture-tube **3**, as indicated in FIGURES 2 to 5, and is held against the picture-tube by the clamping force of the band **1**.

In the embodiment shown in FIGURES 2 and 3, the bracket **10** is not permanently secured to the band **1** but is instead provided with a rear base-tab **12** bent upwardly from its base **11** and a front base-tab **13** bent out of its base **11**. The tabs **12** and **13** are spaced from each other (in a fore-and-aft direction) just sufficiently to accommodate the width of the band **1**, so that the band **1** nests between said tabs.

In the embodiment shown in FIGURES 4 and 5 the base **11** is permanently secured to the band **1** by rivets **14** or by being spot-welded thereto. The bracket **10** and band **1** may also be riveted to each other by extruding from or pressing out of one of these two members a small rivet-like projection and forming a registering hole in the other member, and then passing such projection through the hole and riveting it over to serve as a securement between the two members.

The bracket **10** includes a forwardly and outwardly angled or outwardly offset base-extension **15** which extends from and is formed in direct continuation of the front edge of the band-overlapping base **11**. The bracket **10** further includes a generally vertical and generally U-shaped single-ply mounting plate **16**, extending outwardly from the front edge of the base-extension **15**, and with the U-shape thereof inverted with respect to the base-extension, and with the ends of the legs of such U-shape formed in direct continuation of the base-extension **15**.

From the vertical mounting-plate **16** of the bracket **10** a shield-retainer or tab **17** is pressed outwardly and is formed in the manner indicated in FIGURES 3, 5, 12 and 10. This tab **17** has an inwardly extending hook-like terminal portion which is disposed at an angle to the base-extension **15**, as indicated particularly in FIGURES 3, 5 and 12. The shield-retainer or tab **17** serves to retain the safety-shield in front of the picture-tube.

A screw or bolt receiving slot or hole **18** is provided in the mounting-plate **16**, through which a bolt or screw is extended for detachably securing the bracket **10** to a cabinet **19** in the manner indicated in FIGURE 1.

By means of the so illustrated picture-tube mounting, the picture-tube is held securely in place, yet with sufficient flexibility or adjustability in the mounting thereof

not only to aid in the distribution of the clamping forces but also to minimize strain upon and damage to the picture-tube.

In FIGURE 8 a modified embodiment is shown, wherein the loop which encircles the picture-tube is made of two bands **1**–*a* and **1**–*b* of steel (or other suitable metal), with two adjustable worm connections. Each of the two half-loops (**1**–*a* and **1**–*b*) may have a worm-housing **6** (and worm therein) at one end thereof and worm-engaged slots **4** at the other end thereof, or, in the alternative, one of the half-loops (**1**–*a* or **1**–*b*) may be a band with worm-engaged slots **4** at both ends thereof, the other half-loop then having the two worm-housings **6** (and worms therein), namely, one at each end thereof.

The worm-housing **6** includes a lower housing member **6**–*a* and an upper housing-member **6**–*b*. The lower housing member **6**–*a* has side-flanges **20** with rivet-like projections **21** standing upward therefrom. The upper housing member **6**–*b* has corresponding aligned holes of the side-flanges **22** thereof through which the rivet-like projections **21** extend, by which the two housing members **6**–*a* and **6**–*b* are riveted to each other as indicated in FIGURES 6 and 7. The lower housing member **6**–*a* is spot-welded to the inner or lower surface of the end **7** of the band **1**, as indicated at **23** in FIGURE 7.

In the embodiment shown in FIGURES 9 to 12, a hole **18** is provided in the vertical panel **16**, while the tab **17** is pressed out of the area **25** of the main panel **16**. In this embodiment the base or saddle portion **11** is curved to correspond to the curved corner portion **26** of the picture tube, and the tab **13** is connected to the saddle **11** as indicated in FIGURE 10 rather than being connected to the opposite longitudinal edge of the hole **27** (from which the tab **13** is struck) as in the embodiment shown in FIGURES 2 and 3.

Having described the invention, the following is claimed:

1. A picture-tube mounting, comprising a flexible tube-encircling band extending around the generally largest peripheral portion of the picture-tube, adjustable fastener means associated with the free ends of said tube-encircling band for securing said ends to each other and adjustably tightening said tube-encircling band about said peripheral portion of the picture-tube, a plurality of circumferentially distributed brackets operatively connected with said tube-encircling band when the latter is tightened around said peripheral portion of the picture-tube so that said brackets are firmly held to said peripheral portion of said picture-tube in circumferentially distributed relation thereto, said brackets including a base portion overlapping and connected with said tube-circling band, a base-extension extending forwardly and offset outwardly of said band-overlapping base and formed in direct continuation thereof, an inverted generally U-shaped single-ply mounting-plate with the ends of the legs thereof formed in direct continuation of said base-extension, a shield-retainer formed in direct continuation of the portion of the front end of said base-extension which is between the legs of the inverted U-shaped mounting-plate, said shield-retainer extending forwardly of said base-extension in the direction of the face of the picture-tube for retaining a transparent tube-shield panel in front of the picture-tube, said shield-retainer having an inwardly extending hook-like terminal portion disposed at an angle to said base-extension, and a recess in the outer end of said mounting-plate for receiving a fastener for securing said mounting plate to the cabinet.

2. A picture-tube mounting according to claim **1**, including rear and front band-retaining base-tabs extending outwardly from the base of the bracket and flanking the band, with the band nested between said tabs.

3. A picture-tube mounting according to claim **1**, in which the base of the bracket is permanently secured to the band.

4. A bracket for mounting a television picture-tube to a cabinet and for retaining a tube-shield in spaced relation to the face of the picture-tube, said bracket including a saddle-like base for receiving a tube-encircling band, a base-extension extending forwardly and offset outwardly of said band-receiving base and formed in direct continuation thereof, an inverted generally U-shaped single-ply mounting-plate with the ends of the legs thereof formed in direct continuation of said base-extension, a shield-retainer formed in direct continuation of the portion of the front end of said base-extension which is between the legs of the inverted U-shaped mounting-plate, said shield-retainer extending forwardly of said base-extension in the direction of the face of the picture-tube for retaining a transparent tube-shield panel in front of the picture-tube, said shield-retainer having an inwardly extending hook-like terminal portion disposed at an angle to said base-extension, and a recess in the outer end of said mounting-plate for receiving a fastener for securing said mounting plate to the cabinet.

5. A bracket according to claim **4**, including outwardly extending front and rear band-retaining base-tabs along the front and rear edges of the base.

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