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M. J. PIFER
CABINET STRUCTURE

2,980,484

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2 Sheets-Sheet 1

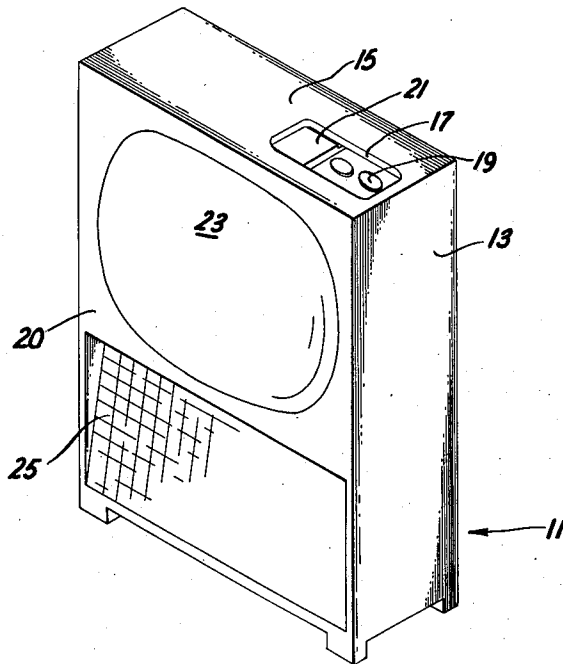


Fig. 1

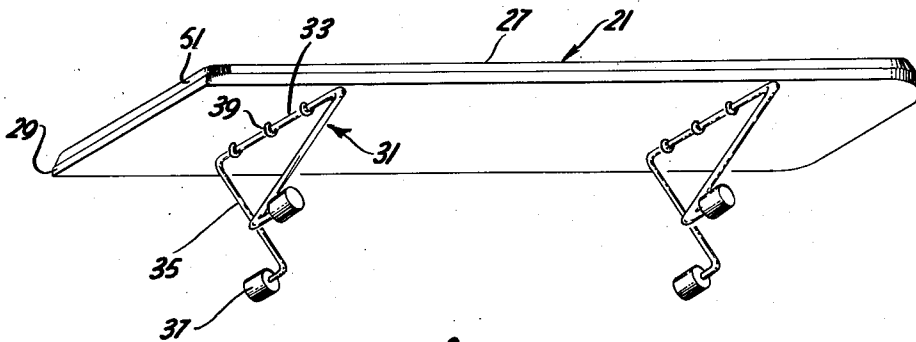


Fig. 2

INVENTOR
MARION J. PIFER

BY *Robert E. Strauss*
ATTORNEY

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2 Sheets-Sheet 2

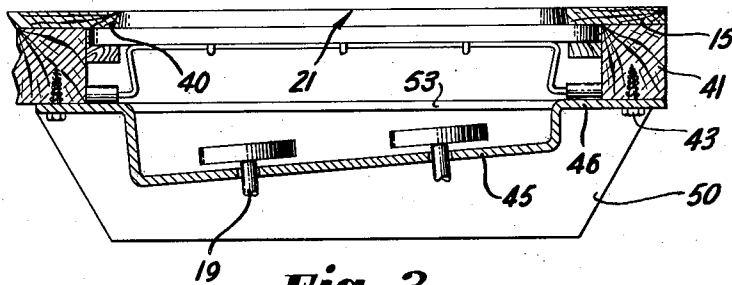


Fig. 3

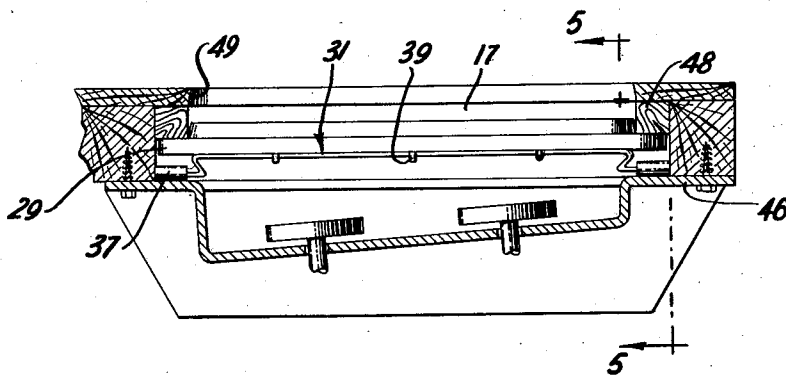


Fig. 4

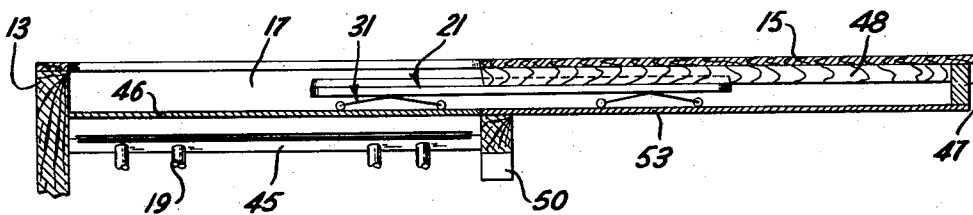


Fig. 5

INVENTOR
MARION J. PIFER

BY Robert E. Strauss
ATTORNEY

1

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Marion J. Pifer, Williamsville, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

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1 Claim. (Cl. 312—319)

This invention relates to cabinet structures for electrical units and more particularly to cabinets employing normally concealed operator controls.

Commercial electrical units such as radio and television receiving apparatus and phonographs which normally utilize concealed operator controls conventionally employ hinged or externally mounted slidable cover members for the controls. These cover members are generally unsightly in that they conventionally do not conform to the cabinet styling in the closed position and seldom conform when they are in the open position. In addition, these structures do not withstand wear for a sustained period of time without breakage and deterioration of the cover member and adjoining structural finishes.

Accordingly, an object of the invention is to reduce the aforementioned disadvantages and to increase the life and utility of cabinets employing normally concealed operator controls.

A further object is to achieve fabrication of an improved cabinet utilizing a uniquely adapted cover member for the operator controls.

The foregoing objects are achieved in accordance with one aspect of the invention by the provision of a cabinet for an electrical unit comprising a housing having an opening formed therein. A closure member is constructed to fit in the opening and flush with the top cabinet surface when the operator controls are concealed and to be depressed and slid internally of the cabinet when the operator controls are to be made available for manipulation. A torsion spring serves to continuously bias the closure member toward the exterior surface of the cabinet so that it is held either flush with the cabinet surface or in slidable engagement with internally positioned structures when the controls are to be operated.

For a better understanding of the invention, reference is made to the following description taken in conjunction with the accompanying drawings in which:

Fig. 1 is a perspective view of a television receiver;

Fig. 2 is a perspective view of the cover member employed in the receiver shown in Fig. 1;

Fig. 3 illustrates in section a portion of the cabinet when the closure member is in position to conceal the operator controls;

Fig. 4 illustrates in section a portion of the cabinet when the cover member is depressed and moved to a position whereby the operator controls are exposed; and

Fig. 5 is a section taken along line 5—5 of Fig. 4.

Referring to the drawings, a cabinet 11, which is shown for purposes of illustration as one utilized with a television receiver, comprises a housing 13 formed with an upper panel 15 having an opening 17 formed therein. Operator controls 19 for the receiver are shown recessed from the surface of panel 15. A cover member 21 is illustrated at a position partially removed from the opening 17 to expose several of the controls 19, e.g., volume and tuning controls. The remainder of cabinet 11 comprises the conventional side and back panels and

2

front panel 20 which is formed to surround the viewing mask 23.

Referring particularly to Fig. 2, cover member 21 has an outer surface 27 formed to substantially conform to the configuration of opening 17. The cover member is provided with a shoulder 29 for engaging the lower surface of panel 15 which defines opening 17. Mounted beneath the cover member is a biasing means or torsion spring 31 formed with a cross bar 33 and oppositely disposed legs 35. Each of the legs are provided with feet 37 adapted to engage a structure mounted internally of the cabinet as will be hereafter described. These feet may be slidable pads or rollers. Cross bar 33 is affixed to member 21 by means of fasteners 39. The torsion spring legs are disposed at an angle relative to one another so that they will rotate in opposite directions when pressure is exerted against feet 37.

Figs. 3, 4 and 5 show the internal structure of cabinet 11 and the manner in which the cover member 21 may be positioned above operator controls 19 and slidably removed from the control concealing position internally of the cabinet when it is desired to utilize the controls. Mounted on upper panel 15, which is provided with an edge portion 40 surrounding opening 17, are a plurality of blocks 41. Attached to the blocks by means of screws 43 is a control panel 45 forming part of bracket 50 through which the shafts of operator controls 19 pass. The upper portion of panel 45 is formed to provide oppositely disposed spaced shelves 46 which serve as runners for feet 37. Also mounted on upper panel 15 are a pair of spaced guide tracks 48 positioned adjacent opening 17 and extending from the edge of the opening beneath panel 15 to a stop block 47. The guide tracks cooperate with the upper surface of shoulders 29 to provide means for guiding cover member 21 during slidable engagement therewith. Shelves 46 extend from panel 45 in spaced relationship to and substantially parallel with guide tracks 48.

It can be seen that the end 49 of edge portion 40 is tapered and that the end 51 of the outer surface 27 of cover member 21 has a complementary taper. Therefore, when the cover member is flush with the surface of panel 15, the ends of the cover member and edge portion 40 fit snugly together.

During normal operation of the receiver, cover member 21 is in the position shown in Fig. 3 whereat the top surface of the cover is flush with upper panel 15 and the operator controls 19 are concealed. Torsion spring 31 is exerting an upward bias holding shoulder 29 against the lower surface of edge portion 40. The feet 37 of the spring are pressing against shelves 46. When it is desired to utilize the controls, pressure is exerted downwardly to the cover member to cause depression thereof as legs 35 of torsion spring 31 are forced to rotate in opposite directions. Pressure is continuously applied until shoulder 29 lies beneath the lower surface of guide tracks 48. The cover member is then slid within the cabinet along the guide tracks until all of the desired ones of the operator controls 19 are exposed. During this sliding motion, feet 37 slide or roll along shelves 46 which are formed by the continuous surface provided by the upper portion of panel 45 and strips 53. Spring 31 is in torsion and exerts an upward force causing shoulders 29 to press against guide tracks 48. The upper or finished surface of member 21 does not contact any adjoining structures during this movement. The cover member can only be slid to a position where it is easily retrieved due to the positioning of stop block 47.

When it is desired to reposition the cover member over the controls, it is only necessary to slide it to a position where it clears the guide tracks 48. Since the cover member is no longer maintained in a depressed posi-

tion by virtue of the guide tracks, the torsion springs 31 bias it upwardly into the control concealing position and flush with the upper surface of the cabinet.

A cabinet structure for an electrical unit of the type described herein is rugged and will not show signs of wear even after a sustained period of use. The top surface of member 21, which is a finished surface, never comes in contact with any other portion of the cabinet. In addition, the internal sliding member allows conformance in styling when it is in both the open and closed positions. Also, utilization of the torsion spring provides improved means for continuously biasing the cover member into the engagement position desired.

Although several embodiments of the invention have been shown and described, it will be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the scope of the invention as defined by the appended claim.

What is claimed is:

A cabinet for an electrical unit comprising a housing having an external surface formed with a tapered edge portion defining an opening, allowing access to electrical controls, a guide track disposed adjacent said opening internally of the cabinet surface, and a shelf mounted within the opening extended to lie in spaced relationship with

said guide track, in combination with a sliding cover member formed with an outer surface having a configuration substantially conforming to the shape of said opening, a shoulder formed to abut the internal surface of said edge portion when said cover member is in closed position over said controls and slidably engage said guide track when said cover member is depressed and slidably removed from the closed position, and two spaced torsion springs each having a cross bar connected to the internal side of said cover member provided with legs disposed at an angle relative to one another and having feet adapted to track along said shelf, said torsion springs continuously biasing said cover member toward the exterior surface of said cabinet.

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