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M. W. LOEWI ET AL

2,571,903

ROTATABLE CABINET AND MECHANISM

Filed April 28, 1949

2 SHEETS—SHEET 1

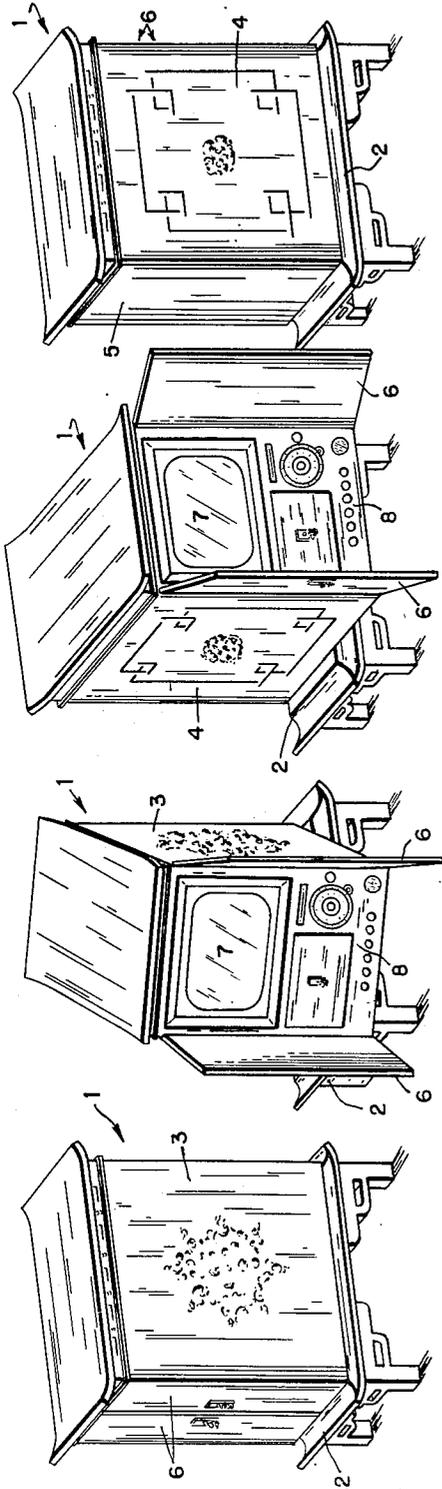


Fig. 1

Fig. 2

Fig. 3

Fig. 4

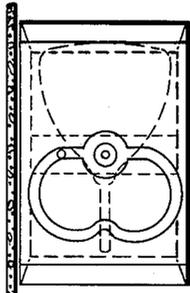


Fig. 9

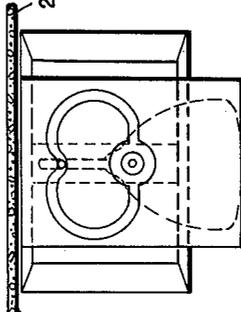


Fig. 8

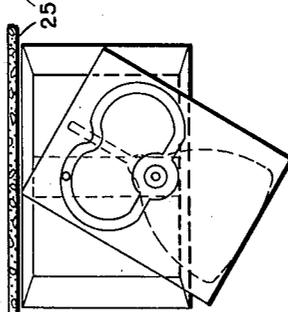


Fig. 7

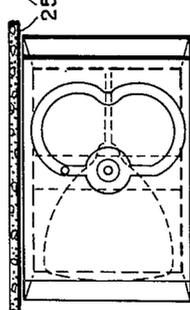


Fig. 6

MORTIMER W. LOEWI
 OTTO G. FURMAN INVENTORS
 BERNARD L. MUELLER

BY *Darby & Darby*

ATTORNEYS

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2 SHEETS—SHEET 2

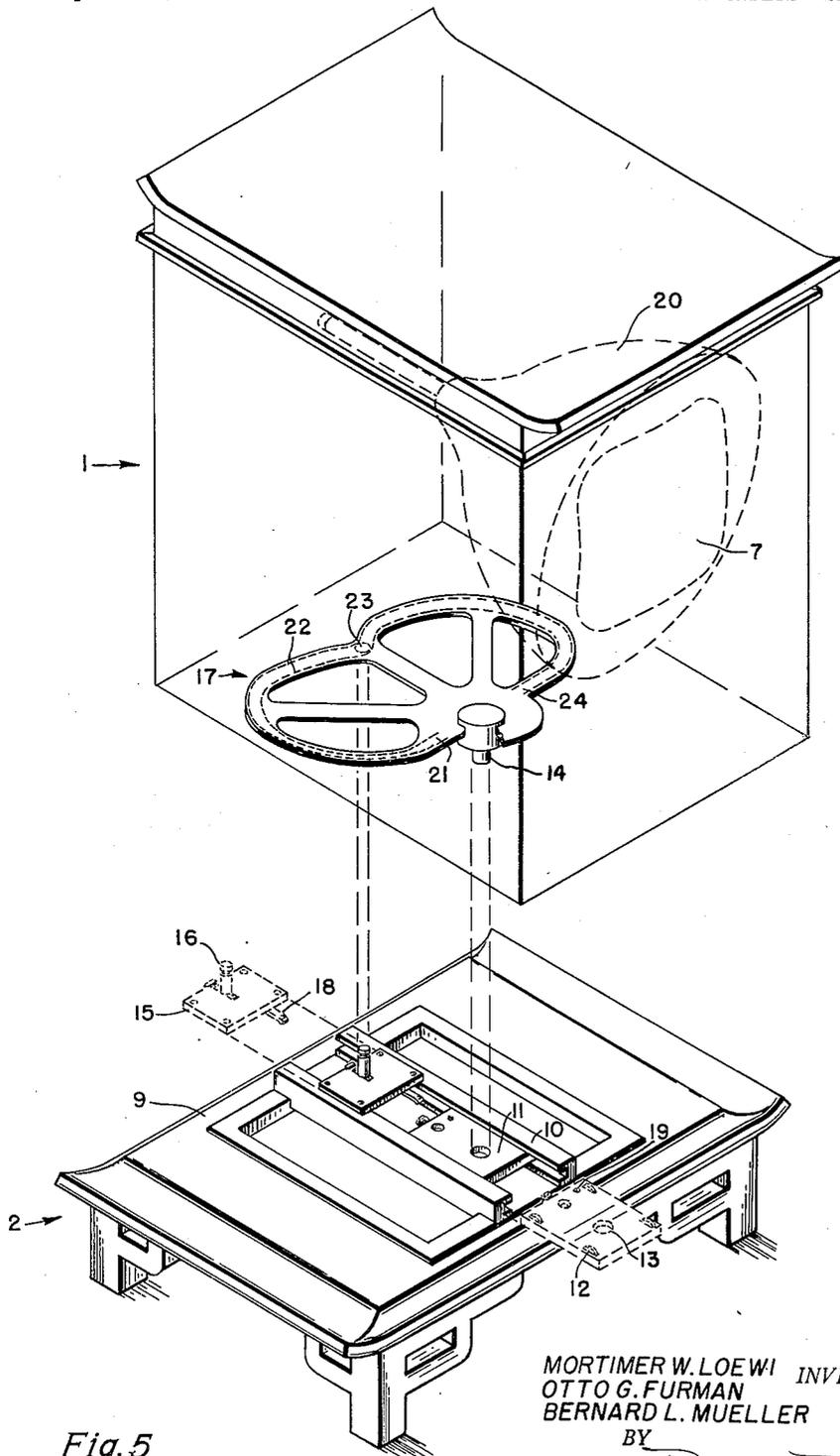


Fig. 5

MORTIMER W. LOEWI INVENTORS
OTTO G. FURMAN
BERNARD L. MUELLER

BY

Parby & Parby

ATTORNEYS

UNITED STATES PATENT OFFICE

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ROTATABLE CABINET AND MECHANISM

Mortimer W. Loewi, Golden Beach, Fla., Otto G. Furman, St. Albans, N. Y., and Bernard L. Mueller, Woodridge, N. J., assignors to Allen B. Du Mont Laboratories, Inc., Passaic, N. J., a corporation of Delaware

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4 Claims. (Cl. 312-7)

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This invention relates to cabinets for electronic equipment and particularly to cabinets for housing television receivers and the like.

One of the problems in the design of television receiver cabinets arises from the shape of the cathode-ray picture viewing tube, which usually is funnel shaped and symmetrical about a center axis, having at one end a neck containing the electron gun and deflecting means, and at the other end a wide flaring face containing the fluorescent screen upon which the picture is formed. The axial dimension of the tube is in general much greater than its diameter. A typical large cathode-ray tube, for instance, has a diameter of approximately 20 inches and an axial length of approximately 29 inches.

The cabinet for housing this tube, however, being a piece of furniture for use in the home, preferably should be shaped so that it fits flatly against a wall, so that the dimension extending outwardly from the wall is usually less than sufficient to comfortably house a large cathode-ray tube of the type described facing out from the wall. In the prior art the problem has been recognized and several solutions have been proposed. One is to use the cathode-ray tube in a vertical position with a mirror tilted at about 45°. Another is to provide a tilting mechanism for the tube which allows it to stand vertically when not in use and to tilt outward into a horizontal position for viewing. In general each of the solutions heretofore employed possesses the disadvantage either of unsatisfactory performance or high cost.

An object of this invention is to provide a cabinet for a large cathode-ray tube, particularly adapted to be used against a wall.

Another object is to provide a television receiver cabinet the upper part of which can be continuously swivelled through a wide horizontal angle so that the optimum viewing angle may be conveniently chosen.

Another object is to provide a cabinet the upper part of which when not in use can be turned flat against the wall in either of two ways, so that the decorative appearance of the cabinet can be readily changed in accordance with different designs or colors on different sides of the rotatable top part of the cabinet.

A further object of the invention is to provide a unique swivel mechanism, particularly adapted to the needs of a cabinet for television receivers.

The apparatus embodying our invention can best be understood by referring to the accompanying drawings in which:

Figs. 1 through 4 show four perspective views of a cabinet embodying our invention, the four

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views corresponding respectively to four positions of the rotatable top member.

Fig. 5 is an exploded view of the cabinet showing the swivel mechanism.

Figs. 6 through 9 are plan views of the cabinet in different consecutive positions showing the operation of the swivel mechanism.

In accordance with our invention, a bottom member of a television cabinet, adapted to have one edge thereof against a wall, is connected to a rotatable top member of the cabinet by means of a swivel mechanism, which mechanism allows the top member to fit flatly against the wall in either of two positions, and to turn continuously through the viewing angles between these positions, the location of the pivot meanwhile changing in such a manner that no part of the upper portion protrudes over said edge.

Referring to Figs. 1 through 4, where a cabinet embodying the invention is shown in four positions of the swivel, a rotatable top member 1 of the cabinet turns with respect to a fixed bottom member 2. The top member 1 has sides 3 and 4, preferably differing from one another in design, color, or both, a back 5, and a front having doors 6, which doors are shown closed in Figs. 1 and 4, and open in Figs. 2 and 3. When the doors are open the face 7 of the cathode-ray picture tube is made visible as are the control knobs 8.

In the exploded view of Fig. 5, the apparatus and operation of the swivel in the preferred form can be seen. The stationary bottom member 2 of the cabinet contains a back edge 9, intended to be placed against a wall, and a track 10. A movable platform 11, contains rollers 12 and a hole 13 adapted to receive a rotary thrust bearing 14 which supports the top member 1 of the cabinet. Affixed rigidly to the track 10 is a stationary platform 15 containing a roller 16 which rotates about a vertical axis and engages a double walled kidney or heart shaped track 17 rigidly attached to the bottom of the rotatable top member 1 of the cabinet. A spring 18 attached to the stationary platform 15 engages a hole 19 in the movable platform 11 to provide a spring locking action at the extreme positions of the swivel. A cathode-ray tube 20 is shown with its axis parallel to the longer dimension of the top member 1, and its viewing face 7 at one end thereof.

The operation of the swivel is as follows: With the top member 1 of the cabinet in the position shown in Fig. 1, the roller 16 engages the track 17 at a point 21, the track being so shaped that the position 21 of the roller in the track causes the movable platform 11 to be pushed flush

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against the stationary platform 15, forming therewith a stop for the swivel action and allowing the spring 18 to engage the hole 19, thus locking the swivel mechanism in this position.

The swivel action may be initiated by hand pressure against the rotatable top member 1 sufficient to disengage the spring 18 from the hole 19. The top member 1 will then revolve on the swivel bearing 14 causing the movable platform 11 to move away from the stationary platform 15. This motion of the movable platform 11 supporting the swivel bearing 14 causes the center of the top member 1 to move away from the wall, thus preventing the corners of the top member 1 from extending over the back edge 9 of the bottom member 2.

When the roller reaches the point 22, the top member has revolved to the position in which it is shown in Fig. 2. If the top member is turned further, it will reach the center position shown in Fig. 3 in which the center axis of the cathode-ray tube 20 is at right angles to the wall. The roller 16 then will have reached the point 23 in the track 17 which point 23, being closer to the pivot point 14 than adjacent parts of the track, guides the back of the top member 1 snugly against the wall, the front of said member containing the face of the cathode-ray tube projecting forwardly and outwardly from the wall as shown. If the cabinet is further turned, the roller 16 continues along the track 17 to a point 24 of extreme travel, where the other side of the cabinet is flush against the wall as shown in Fig. 4 and where the spring 18 engages the hole 19 locking the swivel against further rotation.

The plan views of Figs. 6 through 9 are helpful in seeing the relation between the rotation of the tube and the position of the back corners in relation to the rear edge 9 of the bottom portion 2 of the cabinet. To fully illustrate the principle involved, a wall 25 is shown. The positions of Figs. 6 through 9 respectively correspond to the similarly designated positions shown in Figs. 1 through 4.

A feature of the embodiment shown is that the bearing 14 is located directly under the geometrical center of the rotatable upper portion. Since the center of gravity is close to the geometrical center, the force on the bearing 14 is that of simple thrust, which simplifies the design of the bearing, helps insure smoother swivel action, and minimizes wear of the bearing surfaces.

Although in the embodiment shown, the sides 3, 4 and back 5 of the top member 1 are decorative rather than functional, it will be obvious

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that they might contain controls for a broadcast receiver, a record changer, record cabinet space, a loud speaker, or other auxiliary equipment desirable or have associated with television receiving apparatus.

While a specific embodiment of the invention has been shown and described, it will be apparent from the following claims that other embodiments are included within the scope thereof.

What is claimed is:

1. A television receiver cabinet comprising a stationary base portion and a rotatable upper portion supported thereon by a pivotal bearing mounted on said base portion and laterally movable within the confine thereof and a guide bearing mounted on one of said portions engaging a kidney or heart shaped track mounted on the other of said portions, guiding the rotation of said upper portion about a laterally movable axis, a corner of said upper portion being maintained substantially in alignment with one edge of said lower portion during said rotation.

2. A cabinet for television receivers and the like comprising a stationary base portion and a rotatable upper portion, a pivotal thrust bearing supporting said upper portion, said bearing being mounted on said base portion and movable laterally with respect thereto within the confine thereof, a guide affixed to said lower portion positioned in alignment with the lateral path of said thrust bearing, and a kidney or heart shaped track affixed to said upper portion in engagement with said guide.

3. The cabinet of claim 2 in which the center of gravity of said upper member is located substantially above said pivoted thrust bearing.

4. A cabinet in accordance with claim 2 in which said upper portion is rotatable a full 180° with respect to said lower portion, said upper portion having sides differing from one another in appearance so that the rotation of said upper portion permits said cabinet to change its appearance.

MORTIMER W. LOEWI,
OTTO G. FURMAN,
BERNARD L. MUELLER.

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