

Oct. 20, 1942.

H. W. JOHNSON ET AL
TELEVISION RECEIVER CABINET

2,299,393

Filed Oct. 31, 1940

2 Sheets-Sheet 1

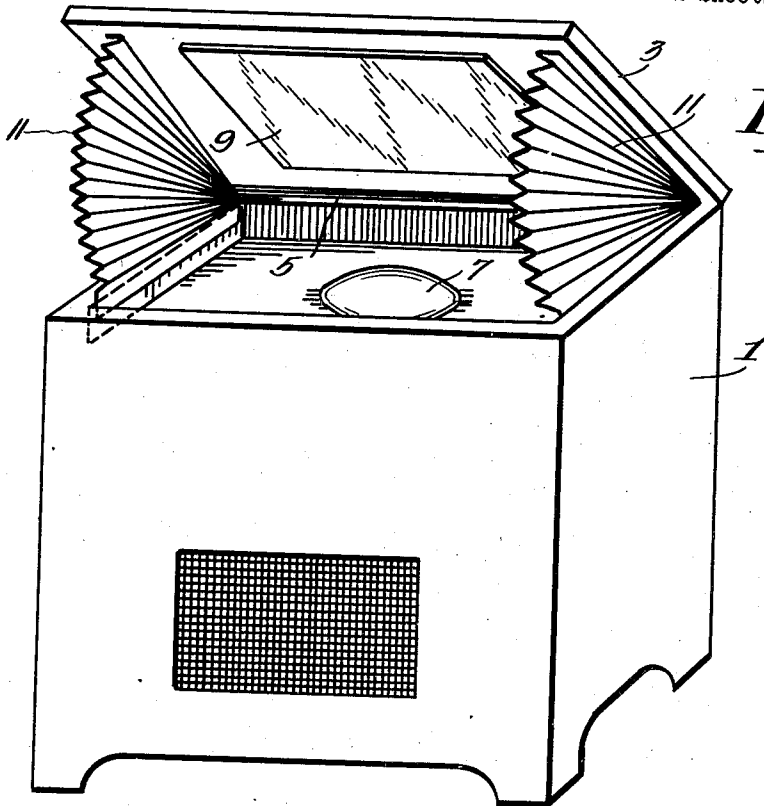


Fig. 1.

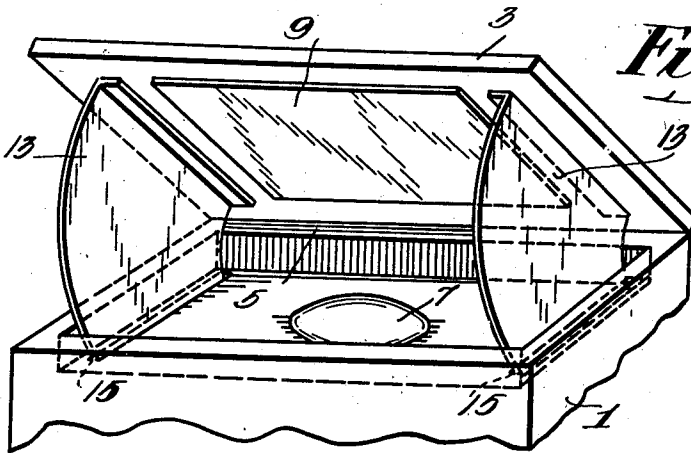


Fig. 2.

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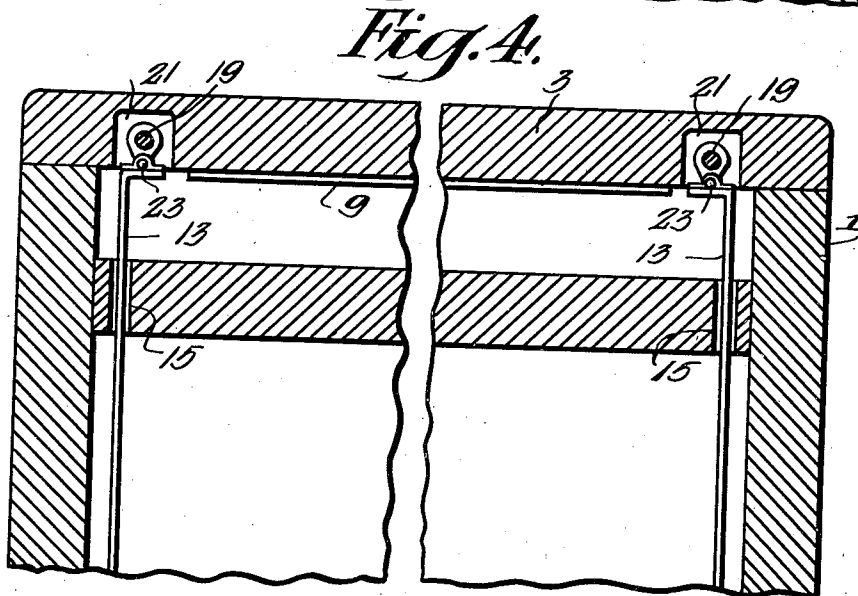
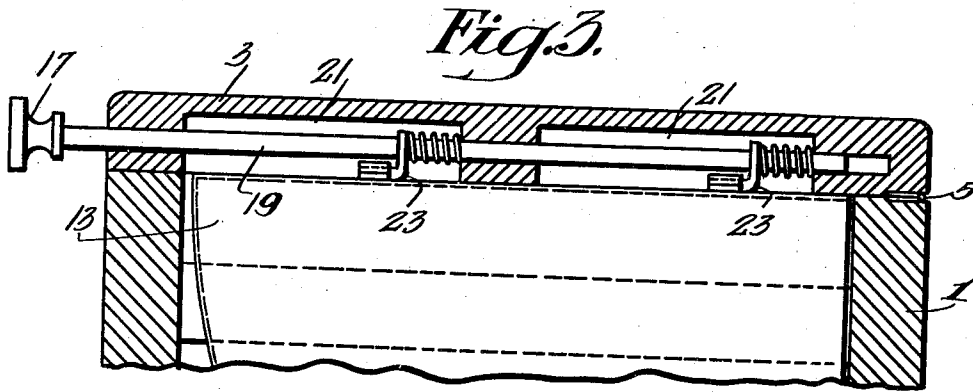
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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TELEVISION RECEIVER CABINET

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7 Claims. (Cl. 178--7.5)

This invention relates to television systems, and more particularly to television receiver cabinets.

In viewing a screen upon which there is projected a light image, it has been found that improvement in image viewing results when it is possible to maintain the area adjacent the screen reasonably free from extraneous light. It is, therefore, an object of this invention to provide a construction of a television receiver cabinet wherein there is included a suitable means to eliminate the extraneous light, such as that due to room illumination, which is usually present at the location of a television receiver for the convenience of the observers.

Furthermore, if a suitable shade is provided for the viewing screen, the television receiver may be conveniently operated during the daylight hours.

In some instances television receivers are viewed by relatively large groups of observers so that it is necessary to distribute the group throughout a relatively large viewing angle across the front of the receiver if the observers are to remain reasonably close to the viewed screen in order to appreciate fully the image reproduction. A permanent screen shade or shades box would necessarily reduce the usable viewing angle and, therefore, would render the receiver less flexible to wide use than would be a receiver where the viewer could choose whether or not the shadow box would be used.

According to this invention, a television cabinet is provided with a lid adapted to cover the viewing screen when the lid is in a closed position, and when the lid is opened, there are provided sector-shaped elements adjacent the opposite edges of the lid, whereby the extraneous light which ordinarily enters upon the viewing screen from the sides of the cabinet is shielded or masked from the usual television image reproducing tube.

Furthermore, there is provided means for detaching the sector-shaped elements from the lid so that the lid may be raised, at the selection of the user, without the sector-shaped element, whereby a large group of persons spread over a wide angle in front of the television receiver may view the image screen.

The primary object of this invention is to provide a television receiving cabinet adapted to prevent extraneous light from impinging upon the optical image screen.

Another object of this invention is to provide means for increasing the viewing angle of a shaded television screen in order to accommodate large groups of observers.

Other and incidental objects of the invention will be apparent to those skilled in the art from a reading of the following specification and an inspection of the accompanying drawings in which:

Figure 1 is a perspective view of a television receiving cabinet including one form of this invention,

Figure 2 shows another form of this invention,

Figure 3 is a side view showing the means for disconnecting the shading member, and

Figure 4 is a front view of the disconnecting means.

Referring now in more detail to Fig. 1, the television receiver cabinet 1 houses the complete radio sound and television image receiver apparatus by which received television video and control signals may cause a television image to be reproduced upon the viewing target or screen 7 of a cathode ray image reproducing tube, as is known in the art and illustrated by way of example by Zworykin Patent 1,870,702. In one form of television receiver which has been widely used (as set forth by the said Zworykin patent) the cabinet is provided with a lid 2 which is hinged to the upper surface of the cabinet along the edge 5. The image producing area 7 of the cathode ray image reproducing tube is positioned in a vertical position in the cabinet and there is provided a mirror or reflecting surface 9 on the bottom side of the lid 2, whereby the image producing area 7 may be observed from the front of the cabinet due to the reflection of the area 7 in the mirror 9 when the lid 2 is raised so as to be inclined in approximately a 45° position relative to the cabinet. While the mirror surface 9 is usually planar it is, of course, obvious that it may be slightly concave or convex toward the observer where desired.

There are shown sector-shaped bellows 11 of opaque or light screening material secured near the edges of lid 2 adjacent the hinged edge 5 and extending in a plane perpendicular to and between lid 2 and the upper surface of the receiving cabinet 1.

It will be seen that when the lid 2 of the cabinet is in a closed position, the bellows of opaque material 11 will collapse in a plane perpendicular to the upper surface of the cabinet and the lid 2 and, similarly, when the lid of the cabinet is opened (as shown) the light masking member 11 will tend to shade the viewing screen 7 from extraneous light entering from the sides of the cabinet.

Turning now to Fig. 2, wherein like numerals

refer to similar parts, the cabinet 1 contains a lid 3 hinged to the upper surface of the cabinet along its rear edge 5. The lid 3 is provided with a mirror 9, whereby the image produced on the viewing screen 7 is reflected toward the front.

According to this form of the invention, flat sector elements 13 are secured near the edges of lid 3 adjacent to the hinged edge 5 and extend in a plane perpendicular to and between lid 3 and the upper surface of the cabinet 1. Slits 15 are provided in the upper surface of the cabinet 1 so that when the lid is closed, the sector-shaped elements 13 drop down into the cabinet 1 along its sides.

As previously explained, it often is desirable to permit a wide angle of observation of the image producing area 7. Therefore, according to one form of the invention, a means is provided whereby the opaque light masking member 13 may be disconnected and the image producing area 7 may be viewed in the reflecting surface 9 over a wide angle by a large number of people.

Fig. 3 is a side view and Fig. 4 a front view of a cabinet in which a means is provided for disconnecting the opaque shading member. Knob 17 is positioned in the edge of the front of the lid and in a position convenient to the operator. The knob 17 is connected to a rod 19 which extends through a hole in the lid 3 and in the plane of the lid 3. There are a plurality of openings 21 through which extend hook-like members 23 which are joined to rod 19. The hook-like members extend outwardly from the bottom of the lid 3 through the opening 21. At the upper edge of the opaque member 13 there are provided openings 25 which are so positioned along the upper edge of the opaque member 13 that the hook-like members 23 are adapted to engage the openings 25 when the lid is in the closed position. When the lid is opened, the opaque member 13 will be lifted up in its shading position.

However, when it is desired to permit a large group of observers to view the screen 7 over a more comfortable wide angle, the opaque member 13 may be disconnected from the lid by pushing in on the button 17 as the lid is being raised, whereby the hooks 23 will disengage from the openings 25 in the upper edge of the opaque screen 13.

It is obvious that the opaque member in the form of a bellows may also be adapted to be disconnected in a manner similar to that shown in Figs. 3 and 4, in which case the bellows will collapse on the upper surface of the cabinet 1 and permit viewing from a wide angle across the front of the cabinet.

While several systems for carrying this invention into effect have been indicated and described, it will be apparent to one skilled in the art that this invention is by no means limited to the particular organization shown and described, but that many modifications may be made without departing from the scope of this invention as set forth in the appended claims.

We claim as our invention:

1. In a television system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing the image producing area, light shields secured near the edges of said lid adjacent to said hinged edge and extending in a plane perpendicular to and between said lid and said member including said

image producing area, and means operative from the outside of said cabinet to disengage said light shields from said lid when said lid is in a closed position.

2. In a television system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing the picture screen, and opaque screens each detachably secured near the edges of said lid adjacent to said hinged edge by a rod extending beyond the edge of said lid and normally engaging said opaque screens and wherein a movement of said rods will disengage said rods from said screens and said opaque screens extending in a plane perpendicular to and extending substantially the full distance between said lid and said member including said image producing area.

3. In an image reproducing system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing said image producing area, and means comprising a rod in said lid having extensions positioned thereon and adapted to engage corresponding openings in opaque screens extending in a plane perpendicular to and extending substantially the full distance between said lid and said member including said image producing area and wherein said rod is movable to at least two positions, one position of which causes said extensions to disengage said openings in said screens.

4. In a television system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing said image producing area, light shields extending in a plane perpendicular to and between said lid and said member and detachably secured near the edges of said lid adjacent to said hinged edge each by a rod having extensions thereon and movable to two positions, one position of which causes said extensions to engage corresponding openings in said light shields.

5. In a television system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing said image producing area, light shields extending in a plane perpendicular to and between said lid and said member and detachably secured near the edges of said lid adjacent to said hinged edge each by a rod having extensions thereon and movable to two positions, one position of which causes said extensions to engage corresponding openings in said opaque members, and said surface having openings therein to receive said light shields.

6. In a television system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing said image producing area, bellows of opaque material extending in a plane perpendicular to and between said lid and said member and detachably secured near the edges of said lid adjacent to said hinged edge each by a rod having extensions thereon and movable to two positions, one position of which causes said extensions to

engage corresponding openings in said bellows.

7. In an image reproducing system including a cabinet having in one member thereof an image producing area, the combination of a lid hinged at one of its edges to said member, a view reflecting surface supported by the lid and facing said image producing area, light shields extending in a plane perpendicular to and between said

lid and said member and detachably secured near the edges of said lid adjacent to said hinged edge each by a rod extending outside said cabinet when said lid is in a closed position and said rod having means thereon for disengaging said light shields upon a movement of said rod.

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