

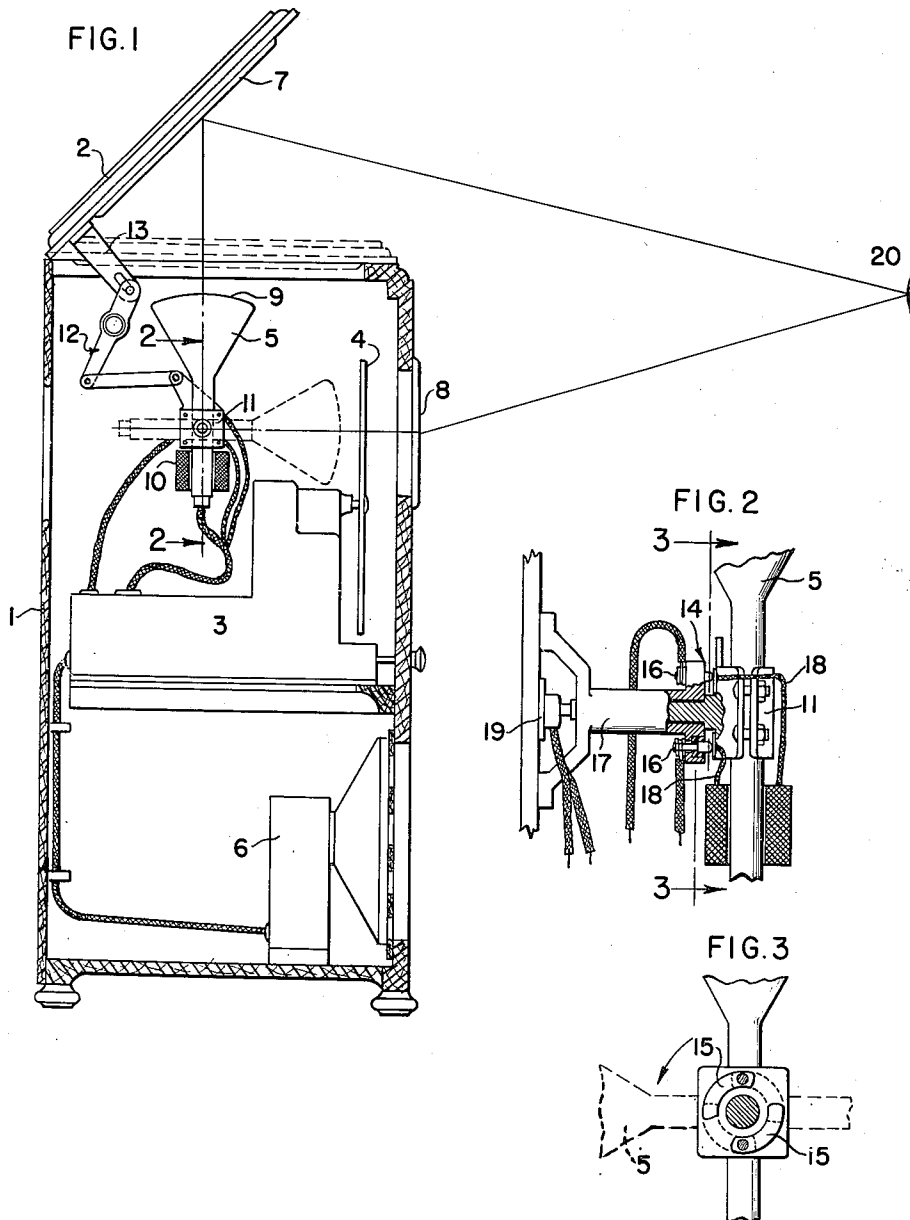
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TELEVISION RECEIVING SYSTEM

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TELEVISION RECEIVING SYSTEM

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This invention relates to television receiving systems and more particularly to a television receiver adapted alternatively to reproduce pictures in color or in black and white.

In the ordinary television receiver adapted for reproduction of pictures in black and white, the screen of the cathode-ray tube may be viewed by the observer either directly or by means of a mirror. For the reproduction of pictures in color, in accordance with certain systems, color-filtering means must be interposed between the cathode-ray screen and the observer. This filtering means generally takes the form of colored segments inserted in an opaque disc which revolves about an axis parallel to the longitudinal axis of the cathode-ray tube. It is obvious that there is no position of such a disc which permits the screen of the cathode-ray tube to be viewed directly by the observer. Conventional television receivers, therefore, are adaptable for the reception of colored pictures, in a system such as described, or of black and white pictures, but ordinarily are not suitable for receiving alternatively either type of pictures.

It is an object of the present invention, therefore, to provide a television receiver which is capable of reproducing alternatively colored pictures or black and white pictures.

It is a further object of the invention to provide a television receiver which may be quickly and easily adjusted for the reproduction of either colored or black and white pictures.

In accordance with the present invention, there is provided a television receiver comprising a signal-reproducing device having a picture-reproducing screen or target. A disc having segments of different colors is arranged in front of the screen when the reproducing device is in a first position. An adjustable reflecting surface is provided which is adapted to be positioned in front of the screen when the reproducing device is in a second position. Means are provided for causing the signal-reproducing device to assume the second position when the reflecting surface is adjusted to a position in front of the screen. In a preferred embodiment, switching means interlinked with the adjusting means are also provided for changing the operating connections of the reproducing device. Interlinked switching means may also be provided for controlling the rotation of the disc.

In the preferred embodiment of the invention, the disc revolves about a horizontal axis, and the axis of the reproducing device, which preferably is a cathode-ray tube, is horizontal when in its

first position and vertical when in its second position. The reflecting surface is preferably mounted on the underside of the cover of the television receiver, and is adapted to be raised to an operating position approximately 45° above the horizontal. In such an arrangement, the observer views the screen of the tube through the colored segments of the disc during the reproduction of colored pictures, and watches the direct reflection of the screen in the reflecting surface when black and white pictures are being reproduced.

For a better understanding of the invention, together with other and further objects thereof, reference is made to the following description taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is an elevation, partly in section, of a television receiver in accordance with the present invention;

Fig. 2 is a fragmentary view, partly in section, taken on the line 2—2 of Fig. 1; and

Fig. 3 is a fragmentary view, partly in section, taken on the line 3—3 of Fig. 2.

Referring now more particularly to Fig. 1, there is here shown a television receiver including a cabinet 1 having a hinged cover 2. Housed within the cabinet 1 is a television receiving apparatus 3 provided with a color disc 4 and connected to a signal-reproducing device or cathode-ray tube 5 and a loud speaker 6. A reflecting surface 7 is attached to the underside of the cover 2, and the front of the cabinet 1 is provided with a viewing window 8.

The cathode-ray tube 5 has a picture-reproducing screen 9 and is equipped with a deflecting-coil system 10. The cathode-ray tube 5 is supported by a mounting 11, which in turn is arranged to pivot about a horizontal axis. The mounting 11 is connected by a linkage 12 to an arm 13 extending from the underside of the cover 2.

As shown more clearly in Figs. 2 and 3, there is provided a reversing switch 14, comprising segments 15 secured to and insulated from the mounting 11 and contacts 16 mounted upon and insulated from a supporting bracket 17. Leads 18 from the deflecting coil 10 are connected to the segments 15. The contacts 16 are connected to the television receiving apparatus 3, as shown. When the cathode-ray tube 5 is in its vertical position, indicated by the solid lines, in Figs. 1 and 3, its picture-reproducing screen

9 is reflected by means of the reflecting surface 7, mounted on the underside of the cover 2, to the observer's eye indicated at 20. When the cathode-ray tube 5 is in its horizontal position, indicated by the dotted lines in Figs. 1 and 3, its screen 9 may be observed through the window 8 and the disc 4. In addition a switch 19 may be provided, which is also actuated by rotation of the mounting means 11 and is connected to the television receiving apparatus 3, as shown.

The cathode-ray tube 5 is shifted from the vertical position to the horizontal position, by means of the linkage 12, when the cover 2 is lowered to the closed position. When this is done, the rotation of the mounting 11 causes the switch 14 to reverse the polarity of the deflecting coils 10, thus automatically preventing the vertical reversal of the reproduced picture which would otherwise occur. The switch 19 is arranged to start the color disc 4 when the tube 5 is shifted to the horizontal position, and may also be utilized to make any other changes in the circuit arrangement of the television receiving apparatus 3 which may be necessary in the transition from black and white to color reproduction.

It will be understood that the two positions of the cathode-ray tube may be at suitable angles other than the 90° angle shown in the drawing, and that electrostatic deflecting means may be employed instead of the electromagnetic deflecting means here shown. It will also be understood that any other suitable arrangements may be substituted for the linkage 12 and for the switches 14 and 19, without departing from the scope of the invention.

While there has been described what is at present considered the preferred embodiment of

the invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A television receiver comprising a signal-reproducing device having a picture-reproducing screen, a color filter disposed in front of said screen when said reproducing device is in a first position, an adjustable reflecting surface normally positioned in a first closed position and adjustable to a second open position opposite said screen when said reproducing device is in a second position, and means operably connecting said reproducing device and said reflecting surface for effecting simultaneous adjustments thereof to their first and second positions.

2. A television receiver comprising a signal-reproducing device having a picture-reproducing screen, a pivotal mounting for said reproducing device, a color filter disposed in front of said screen when said reproducing device is in a first position, a hinge-mounted reflecting surface normally positioned in a first closed position and adjustable to a second open position opposite said screen when said reproducing device is in a second position, and means operably connecting said reproducing device and said reflecting surface for effecting movement of said reproducing device about its pivotal mounting simultaneously with movement of said reflecting surface about its hinge mounting.

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