

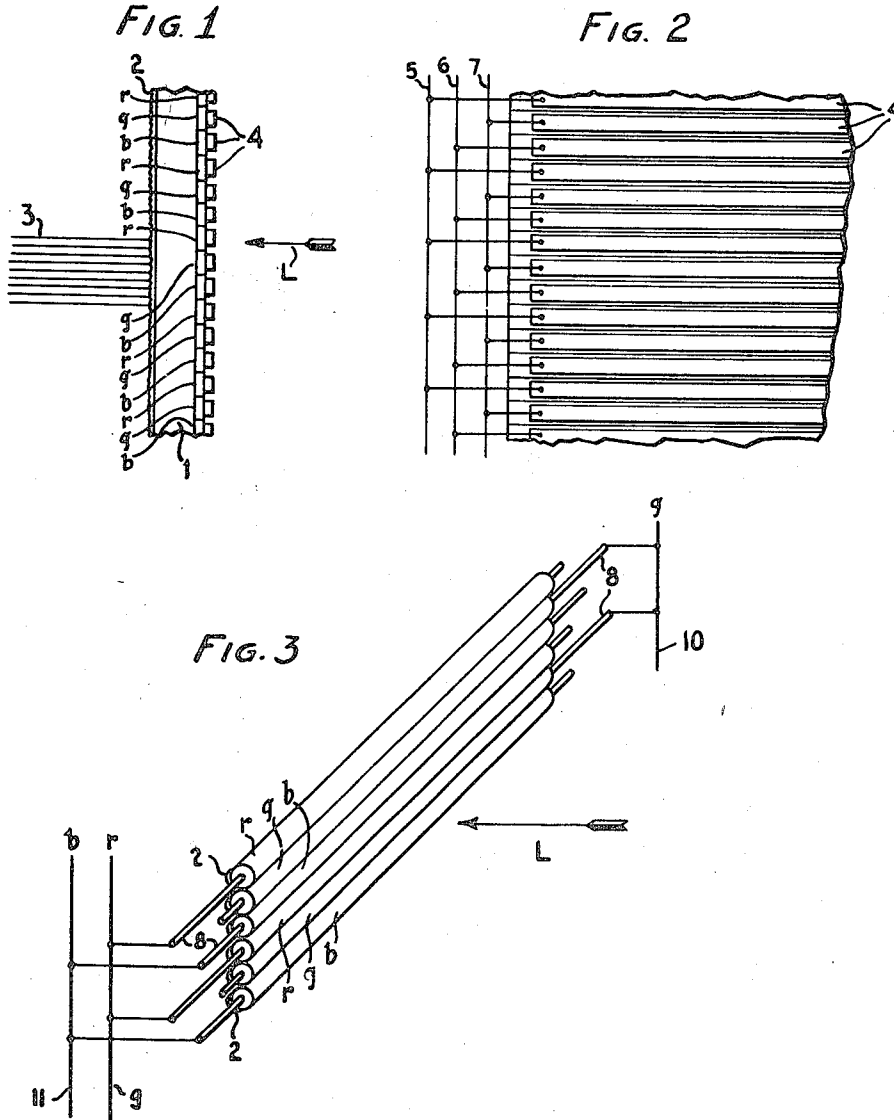
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A. C. SCHROEDER

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PICK-UP TUBE FOR COLOR TELEVISIONS

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INVENTOR.
ALFRED C. SCHROEDER
BY
William A. Zalesak

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PICKUP TUBE FOR COLOR TELEVISION

Alfred C. Schroeder, Feasterville, Pa., assignor
to Radio Corporation of America, a corporation
of Delaware

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4 Claims. (Cl. 250-164)

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This invention relates to targets for color television pick-up tubes. Various proposals have been made for such targets in which signals produced by light from a colored object are transmitted either sequentially over one link or simultaneously over separate links or carriers.

An object of my invention is to provide a target of special construction for simultaneous transmission of the signals.

Another object of my invention is to construct a pick-up target with a multiplicity of color filters and signal plates extending transversely of the direction of line scanion with all the signal plates for a color connected in parallel.

More specifically, an object of my invention is to construct a target of a plurality of small glass or plastic rods of red, green and blue colors, arranged in sequence.

Other objects of the invention will appear from the following description, reference being had to the drawings, in which:

Fig. 1 is an illustration of a small section of one type of target.

Fig. 2 is a side view of the target section of Fig. 1, showing the parallel connections of the signal plates for each color.

Fig. 3 is a perspective view of a small section of a modified form of target.

Referring to Fig. 1 of the drawing, the target consists of an insulation plate 1, such as thin mica, having a mosaic 2 on one side and a plurality of strips of color filters on the other side. These may be red, green and blue, *r*, *g* and *b*, respectively, arranged in continual sequence from one side of the target to the other and extending transversely of the direction of line scanion of cathode ray beam 3. On the outside of the color strips are transparent metal conducting strips 4, each acting as a signal plate for the opposite strip of mosaic elements. These strips are spaced, or otherwise insulated, from each other. The conducting strips on the filters of one color, e. g., red, are all connected in parallel to a conductor or lead wire 5 extending outside the tube to a transmitting channel; the conducting strips of another color filter, say green, are similarly connected in parallel through another conductor 7 to another transmitting channel and the conducting strips of the blue color filters are connected by conductor 8 to a third transmitting channel. These channels may be separate wire or radio links, or transmission may be accomplished by modulation of three different carriers over a single channel, or by other known ways of transmitting intelligence.

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Another way of securing the same result is shown in Fig. 3. In this modification a plurality of very small wires 8 are coated with translucent colored sheaths of red, green and blue glass, *r*, *g* and *b*, respectively. The wires 8 may be only a mil or so in diameter and the sheaths may be relatively large to provide paths for the light at each side of the wires. These rods are arranged with the colors in continual sequence, as in Figs. 1 and 2. The wires are the signal plates and wires for red, green and blue are connected in parallel to leads 9, 10 and 11, respectively, as in Fig. 2. These leads may all be connected to the ends of the wires at the same side of the target, but preferably two are connected at one side and one at the other, as shown in Fig. 3. On one side of the rods are the mosaic elements 2.

In both embodiments shown, it is preferable that the color filters be sufficiently small to permit the beam spot to encompass at least three filters.

In Fig. 1 light, indicated by arrow L, from the object to be televised in color will be imaged on the mosaic 2 through the transparent metal strips 4, filters *r*, *g*, *b* and mica body 1 to set up an electrostatic image on the elemental areas of the mosaic in proportion to the colored light focused thereon. In Fig. 3 the light L passes on each side of the wires through the colored sheaths to the mosaic elements on the opposite side of the sheaths.

The electrons of the beam, in landing on the mosaic, produce signals in the usual way, except that at least three signals are formed and transmitted simultaneously, proportional to the red, green and blue light focused on the beam spot. Ways are known for producing a color picture at the receiver, as by a kinescope, from the "red," "green" and "blue" signals simultaneously transmitted and since this is not a part of the invention claimed, it need not be described.

I claim:

1. A target for color television pick-up tubes comprising a plurality of color filter strips extending across the target, signal strips on one side of said color strips and a mosaic on the other side of said color strips, the signal strips of each color strip being connected together and insulated from the others.

2. A target for color television pick-up tubes comprising a plurality of red, green and blue filter strips extending across the target, transparent metal signal strips on one side of the filter strips and a mosaic on the other side of the filter strips, and lead wires connected in parallel

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to the signal strips on the red, green and blue filters, respectively.

3. A target for color television pick-up tubes comprising a plurality of glass rods of different colors arranged in color sequence, each rod having a transparent signal strip on one side, a mosaic on the other side of said rods, the signal strips of each color being connected in parallel, and a lead wire connected to each group of parallel-connected signal strips.

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4. A target for color television pick-up tubes comprising a plurality of red, green and blue glass rods arranged in color sequence, each rod having a transparent signal strip on one side, a mosaic on the other side of said rods, the signal strips of each color being connected in parallel, and a lead wire connected to each group of parallel-connected signal strips.

ALFRED C. SCHROEDER.

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