

[54] IMAGE PICK-UP DEVICE, IMAGE DISPLAY DEVICE AND INFORMATION RECORDING MEDIUM COMPRISING A FISHEYE LENS

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[51] Int. Cl.⁷ G02B 13/04

[52] U.S. Cl. 359/749; 359/672

[58] Field of Search 359/749, 750-753, 359/680-682, 672-675

[56] References Cited

U.S. PATENT DOCUMENTS

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Primary Examiner—Georgia Epps

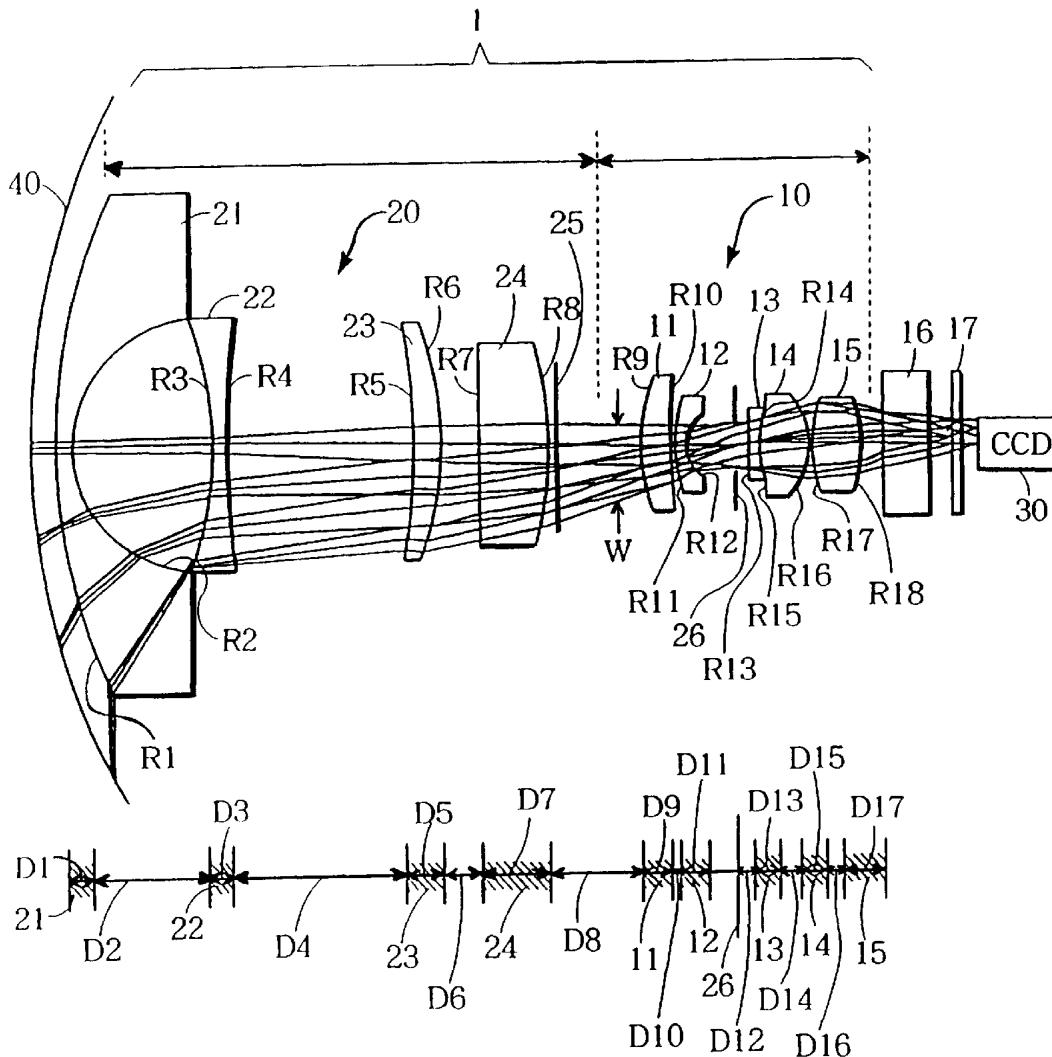
Assistant Examiner—Jordan M. Schwartz

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[57] ABSTRACT

An image is picked up by a camera comprising a fisheye lens having a relationship of $h=n \cdot f \cdot \tan(\theta/m)$, wherein h is the height of an image of a subject at a certain point, f is the focal distance of the fisheye lens, θ is a field angle, m has a value of $1.6 \leq m \leq 3$, and n has a value of $m - 0.4 \leq n \leq m + 0.4$, and the image data of which is output from the camera, is converted into a plane image by an image data processing unit, and this converted image is then output to a monitor unit. Preferably, n and m both equal 2.

14 Claims, 9 Drawing Sheets



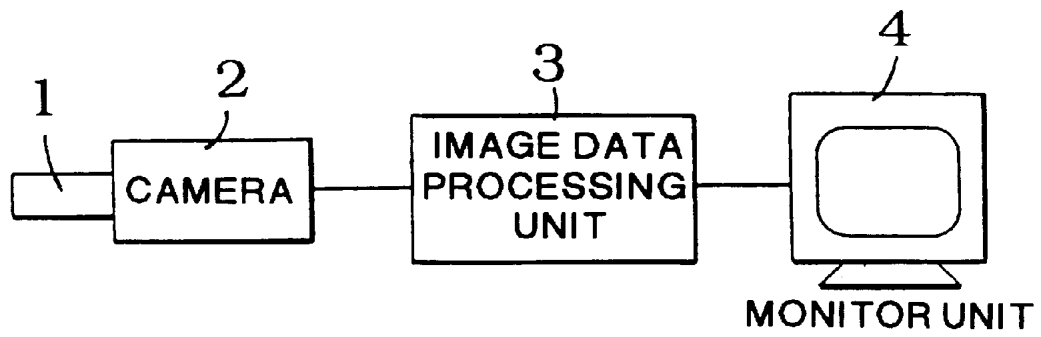


FIG.1

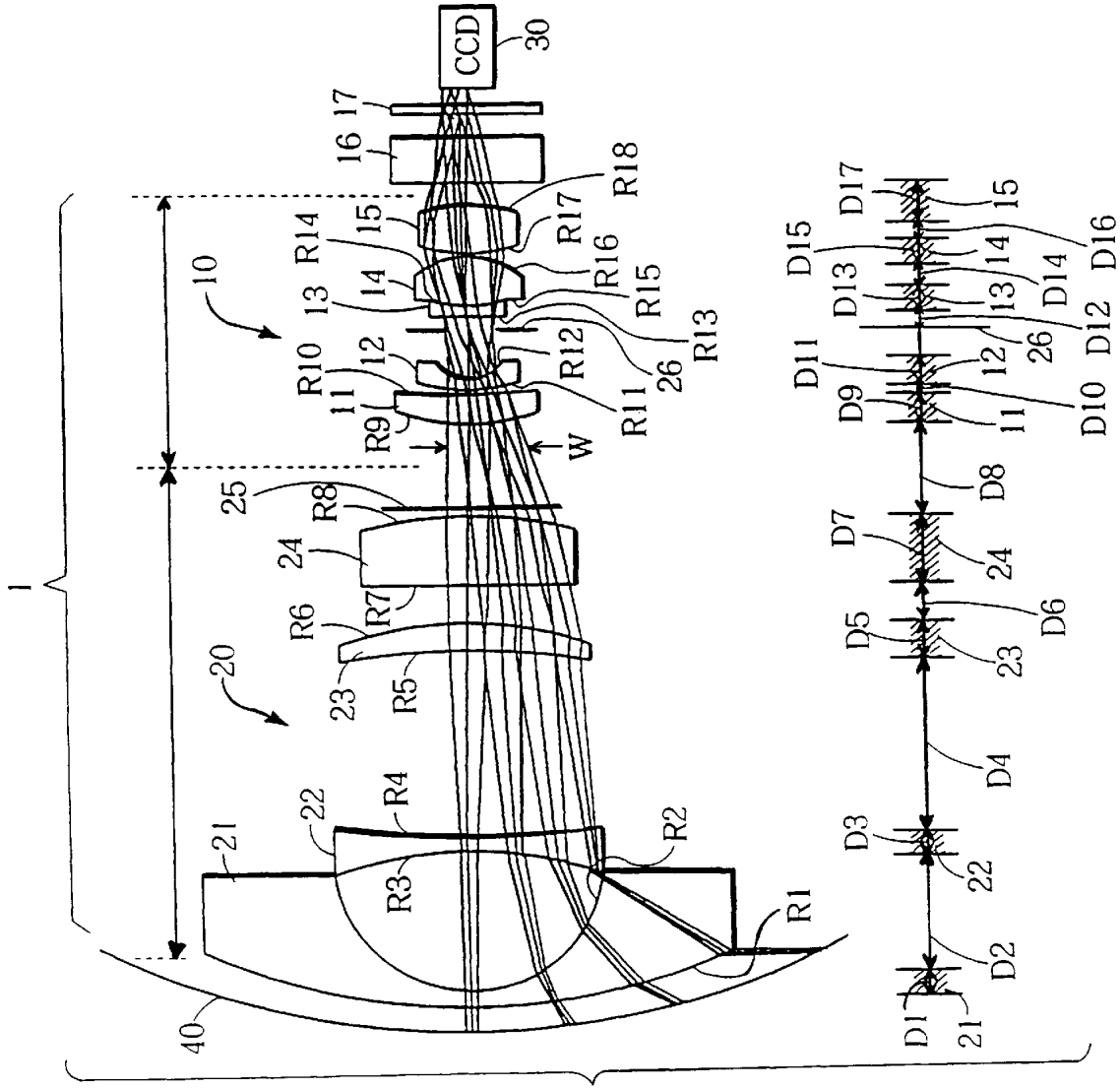


FIG. 2

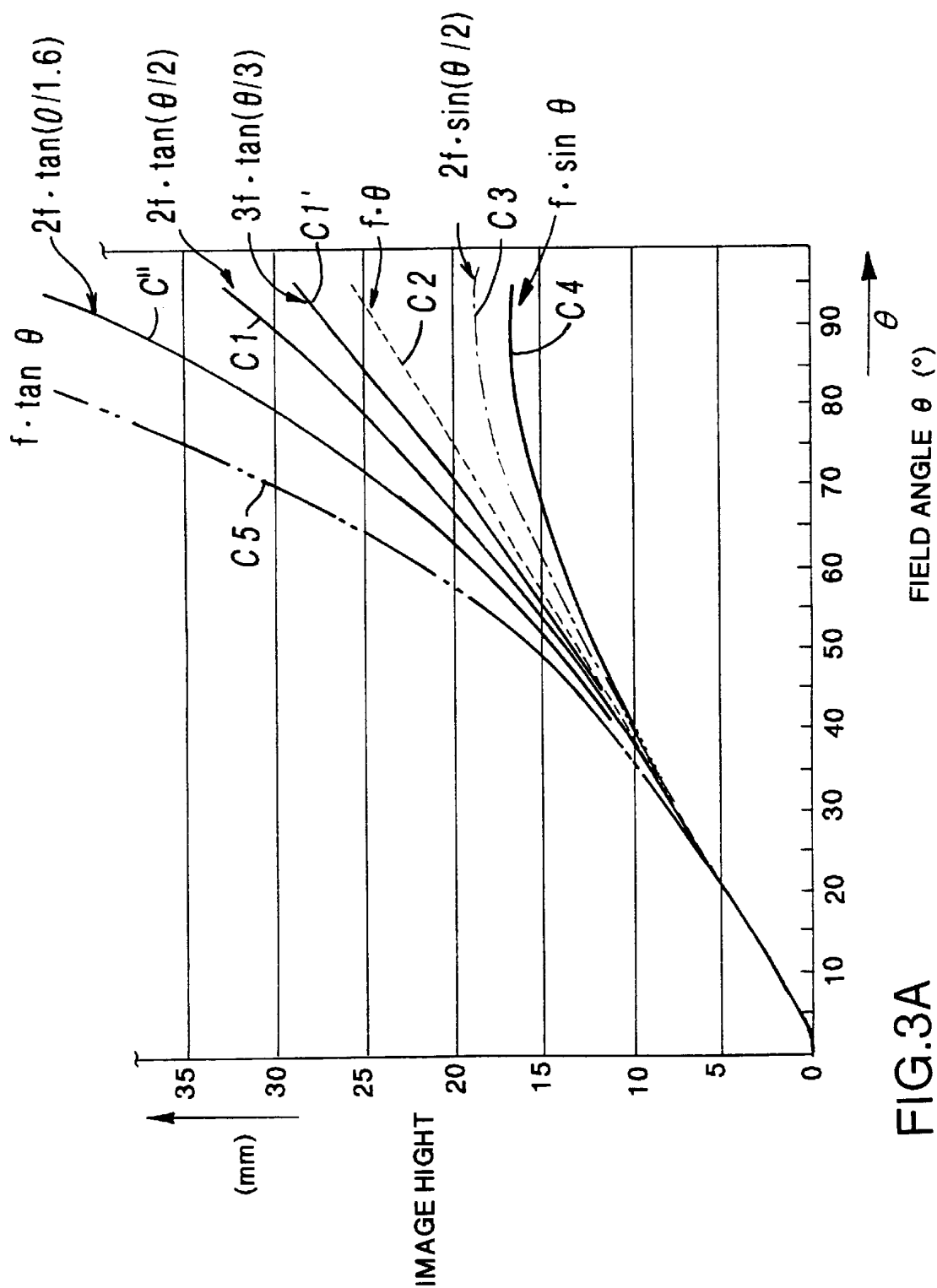


FIG.3A

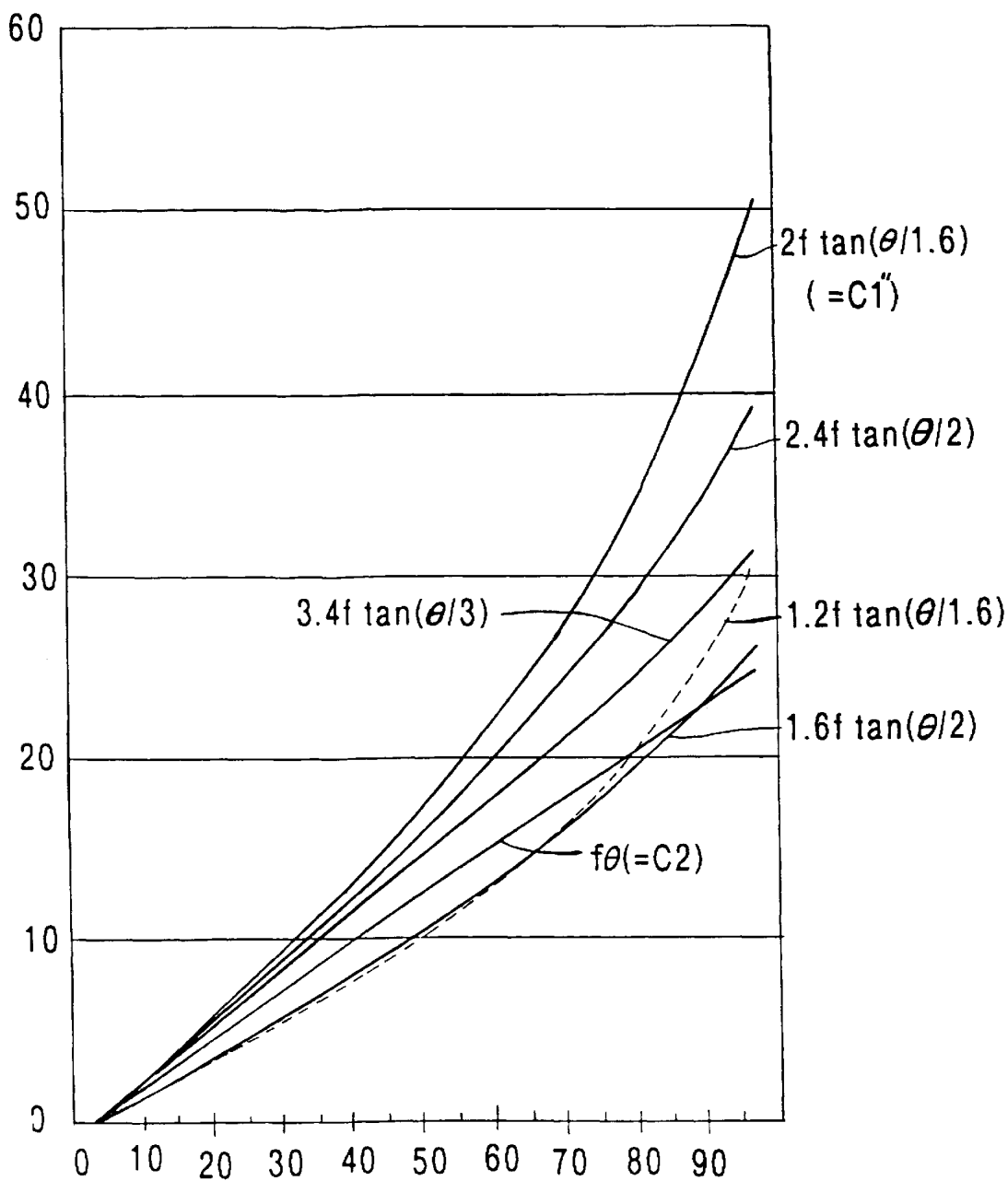


FIG.3B

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