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Tam et al.

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(54) **GENERATION OF A DEPTH MAP FROM A MONOSCOPIC COLOR IMAGE FOR RENDERING STEREOSCOPIC STILL AND VIDEO IMAGES**

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(73) Assignee: **Her Majesty the Queen in Right of Canada, as represented by the Minister of Industry, through the Communications Research Centre Canada**, Ottawa (CA)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1476 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(51) **Int. Cl.**
G06K 9/00 (2006.01)

(52) **U.S. Cl.**
USPC **382/154**; 348/44; 345/419

(58) **Field of Classification Search**
None
See application file for complete search history.

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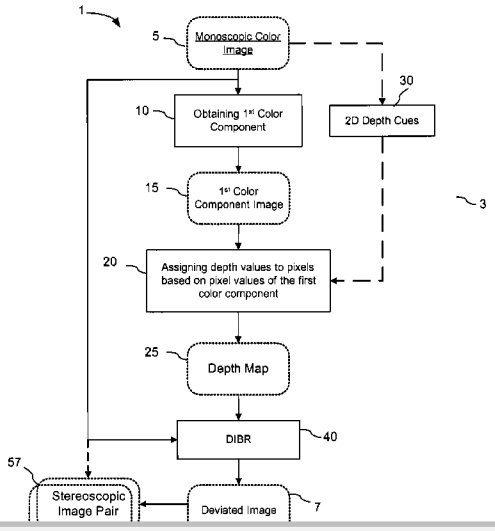
(57) **ABSTRACT**

The invention relates to a method and an apparatus for generating a depth map from a digital monoscopic color image. The method includes the following general steps: a) obtaining a first color component of the MCI, said first color component corresponding to partial color information of the MCI; and, b) assigning depth values to pixels of the MCI based on values of the first color component of respective pixels for forming the depth map for the MCI. In one embodiment, the depth values are generated by adjusting and/or scaling of pixel values of the Cr chroma component of the monoscopic source color image in the Y'CbCr color system.

19 Claims, 6 Drawing Sheets



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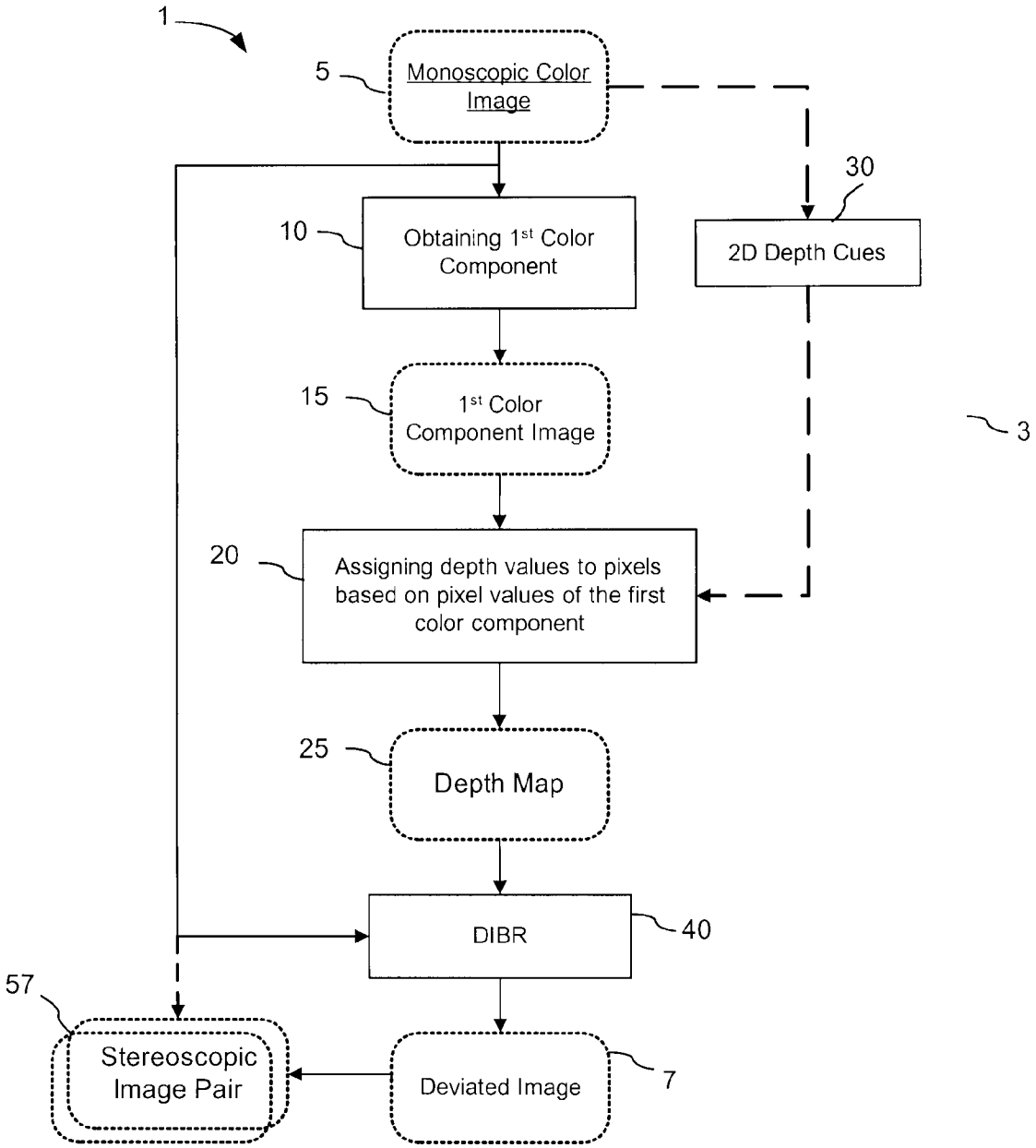

FIG. 1

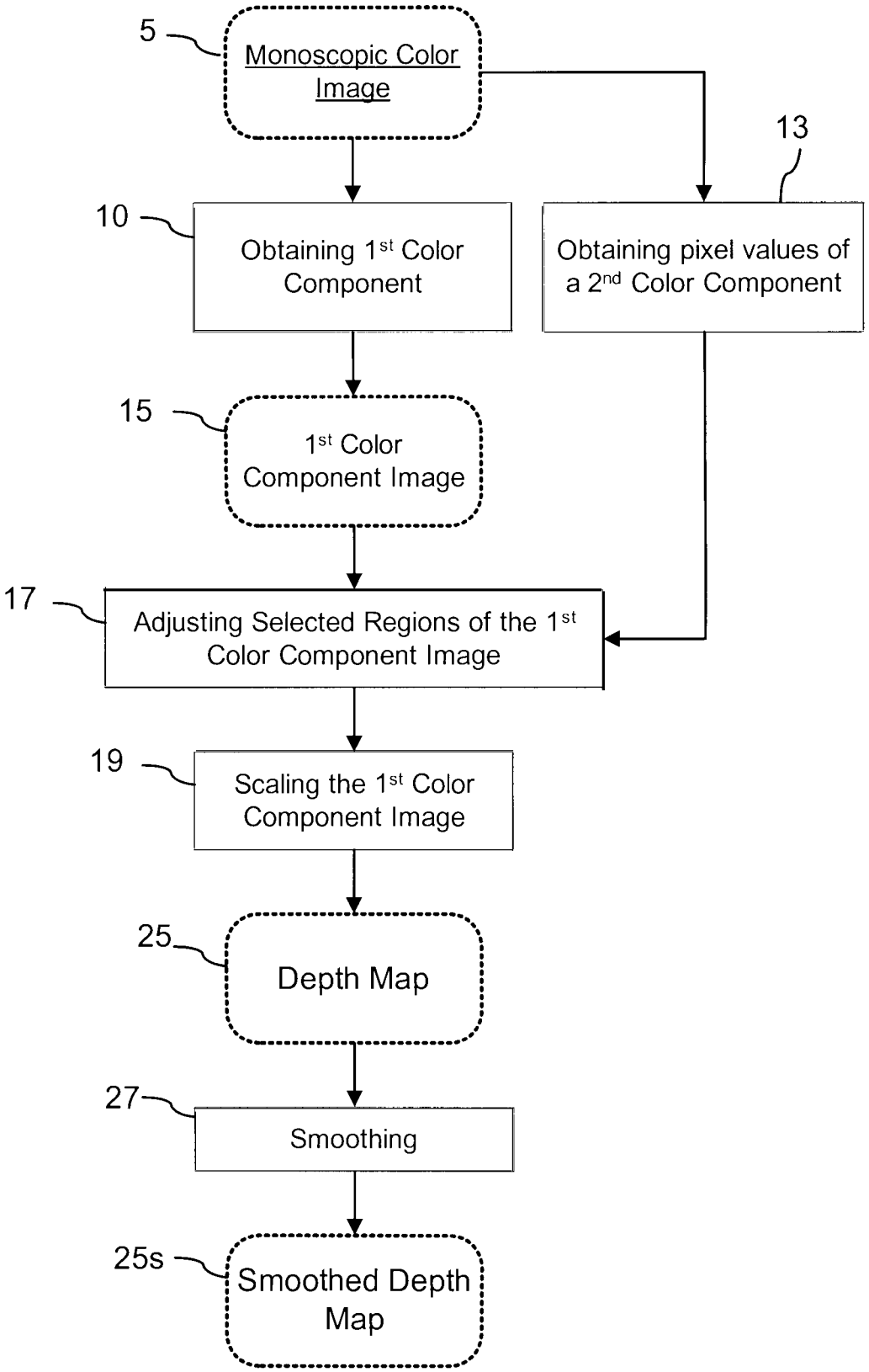

FIG. 2

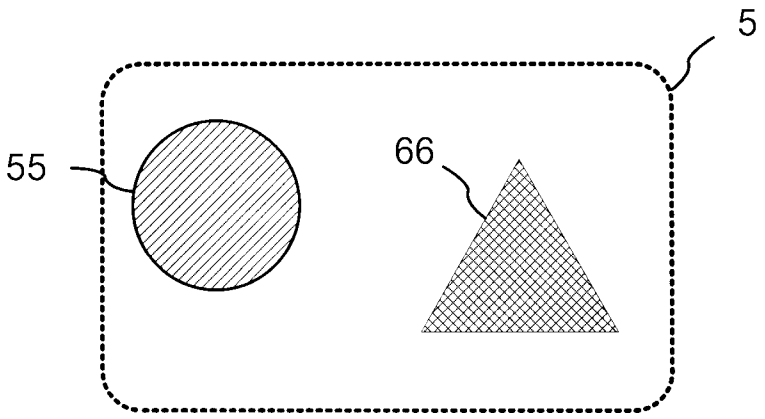

FIG. 3A

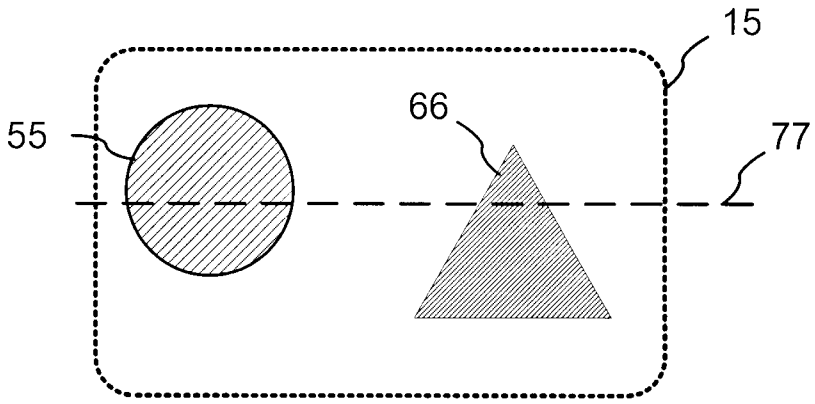

FIG. 3B

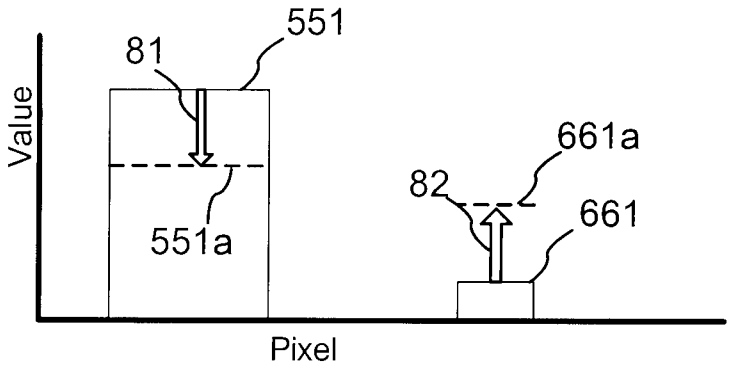

FIG. 3C

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