

#### US006351569B1

## (12) United States Patent Kimura et al.

#### (54) CODING METHOD, DECODING METHOD, CODING DEVICE AND DECODING DEVICE

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- 382/240, 241, 242, 243, 244, 245, 246, 247, 248, 249; 348/415, 416, 417

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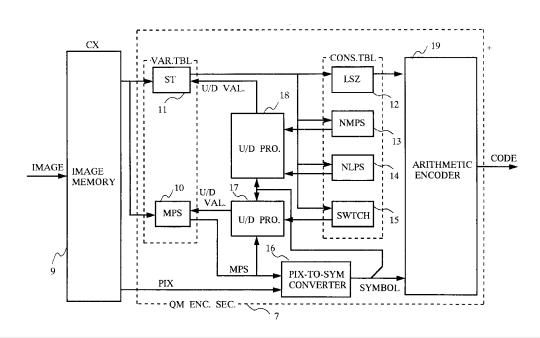
(List continued on next page.)

Primary Examiner-Phuoc Tran Assistant Examiner-Amir Alavi

#### (57) ABSTRACT

A prediction value is previously set in an MPS table corresponding to a state number, a state number for an encoding pixel is obtained from a STATE table, the prediction value is determined based on the MPS table using the state number, a pixel-to-symbol converter compares the prediction value and the encoding pixel to obtain a symbol, and an arithmetic encoder obtains an LPS interval from an LSZ table using the state number for the encoding pixel, and the arithmetic encoder implements encoding based on the symbol and the LPS interval.

#### 32 Claims, 56 Drawing Sheets



(10) Patent No.:

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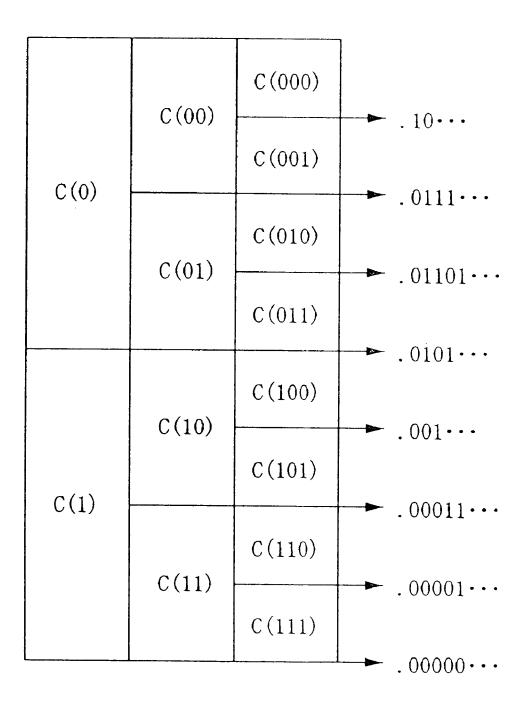
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Fig.1



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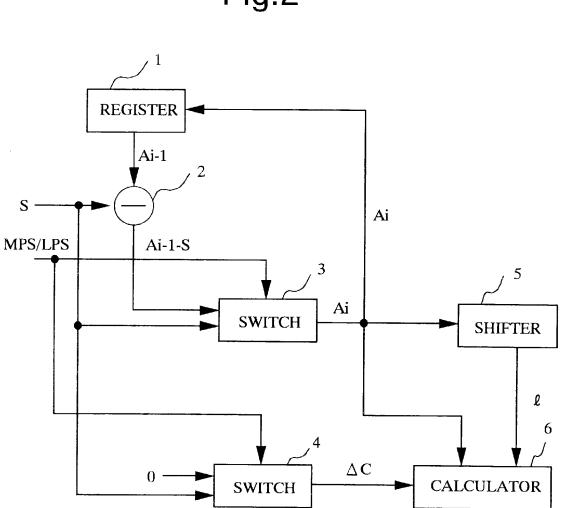


Fig.2

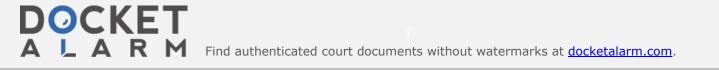


Fig.3 CODE ARITHMETIC ENCODER 19 13 12 15 14 SYMBOL Г - CONS.TBL SWTCH SAMN NLPS LSZ PIX-TO-SYM CONVERTER 18U/D PRO. U/D PRO. 16 MPS U/D VAL. -- QM ENC. SEC. U/D VAL. - VAR.TBL -10MPS ST PIX IMAGE MEMORY S IMAGE 5 - 6

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