

FORM 2

THE PATENTS ACT, 1970
(39 of 1970)
AND
THE PATENTS RULES, 2003

**COMPLETE
SPECIFICATION**

(See Section 10; rule 13)

TITLE OF THE INVENTION

“DEBLOCKING FILTERING WITH MODIFIED IMAGE BLOCK BOUNDARY
STRENGTH DERIVATION”

APPLICANT

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The following specification particularly describes
the invention and the manner in which
it is to be performed

[REDACTED]: [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]: [REDACTED]

NEW CLAIMS FOR AMENDMENT UNDER ARTICLE 34 PCT

1. A method for deblocking filtering of image blocks of pixels, comprising the steps of

determining a first parameter indicating a strength of a block boundary between two adjacent image blocks,

calculating a second parameter, based on said first parameter and a quantization parameter, wherein said second parameter is calculated as a function of the sum of said first parameter and said quantization parameter, and

selecting a first or a second deblocking filter for being applied to said block boundary using a threshold that is defined based on said second parameter, wherein said first and said second deblocking filters have different filter strengths,

wherein said determining step comprises the step of first judging whether at least one of said adjacent pixel blocks is intra-coded, wherein said first parameter is set to a first fixed value if said first judgment is affirmative.
2. The method according to claim 1, further comprising the step of deciding based on said first parameter, whether to apply deblocking to said boundary at all, before said selecting step.
3. The method according to claim 1 or 2, wherein said first fixed value is 2.
4. The method according to any of claims 1 to 3, wherein said determining step comprising the step of second judging whether at least one of said adjacent pixel blocks includes at least one non-zero level of transform coefficients, if said first judgment is negative, and the determined value of the first parameter depends on whether the second judgment is affirmative or negative.

5. The method according to any of claims 1 to 4, further comprising the step of third judging, whether a reference index indicating a picture, from which an image block is referenced, is different for both of said adjacent image blocks.
6. The method according to any of claims 1 to 5, further comprising the step of fourth judging whether the absolute difference in at least one of the vertical and horizontal components of motion vectors corresponding to said adjacent image blocks are larger than a predetermined value.
7. The method according to any of claims 1 to 6, wherein said threshold is determined based on said second parameter using a look up table.
8. The method according to any of claims 1 to 7, wherein said selecting step includes the step of comparing pixel value differences of pixels adjacent to both sides of said block boundary with said threshold.
9. A method for encoding a current block of an image including a plurality of pixels, the method comprising the steps of:

compressing and reconstructing the current block, and

applying all steps according to any of claims 1 to 8 to the reconstructed block.
10. A method for decoding a coded current block of an image including a plurality of pixels, the method comprising the steps of:

reconstructing the coded current block, and

applying all steps according to any of claims 1 to 8 to the reconstructed block.
11. A computer program product comprising a computer-readable medium having a computer-readable program code embodied thereon, the program code being adapted to carry out the method according to any of claims 1 to 10.
12. An apparatus for deblocking filtering of image blocks of pixels, comprising

a determining unit for determining a first parameter indicating a strength of a block boundary between two adjacent image blocks,

a calculation unit for calculating a second parameter, based on said first parameter and a quantization parameter, wherein the calculation unit calculates said second parameter as a function of the sum of said first parameter and said quantization parameter, and

a selection unit for selecting a first or a second deblocking filter for being applied to said block boundary using a threshold that is defined based on said second parameter, wherein said first and said second deblocking filters have different filter strengths,

wherein said determining unit comprises a first judging section for judging whether at least one of said adjacent pixel blocks is intra-coded, and for setting said first parameter to a first fixed value if said first judging section judges affirmative.

13. An integrated circuit for embodying the apparatus of claim 12, further comprising a memory for storing pixels to be filtered.

Dated this 22 day of April 2014

Arindam Paul
REG.NO:IN/PA-174
of Depenning & Depenning
Agent for the Applicants

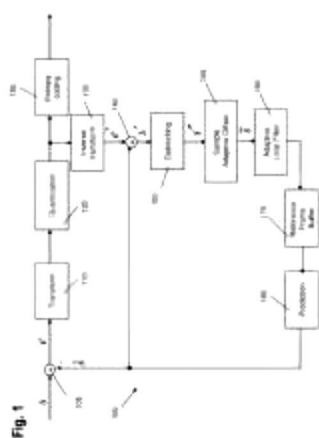


Fig. 1

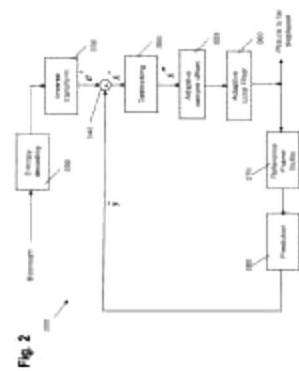


Fig. 2

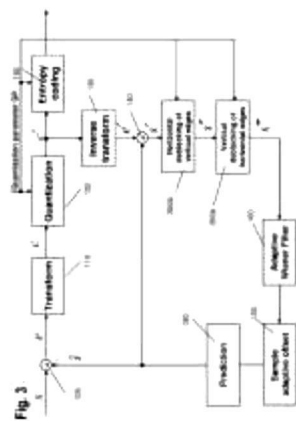


Fig. 4B

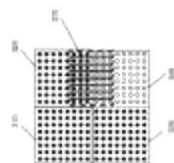
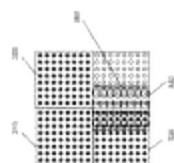
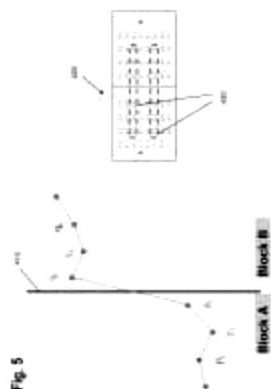


Fig. 4A





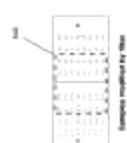


Fig. 6A

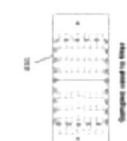


Fig. 6B



Fig. 6

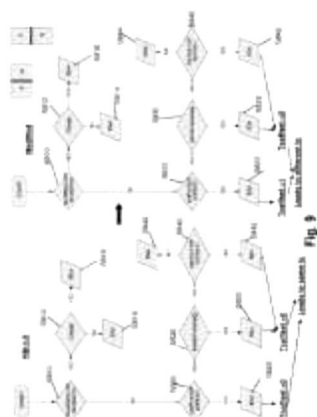




Fig 11

Year	2020	2021	2022	2023	2024	2025
Population	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000
Population Density	1,120,000	1,140,000	1,160,000	1,180,000	1,200,000	1,220,000

Source: U.S. Census Bureau, American Community Survey, 2020

Fig. 12

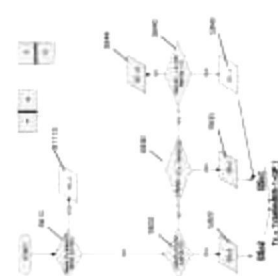


Fig. 13

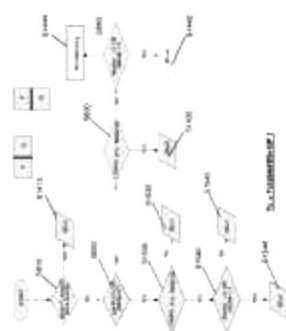


Fig. 15



Fig. 17

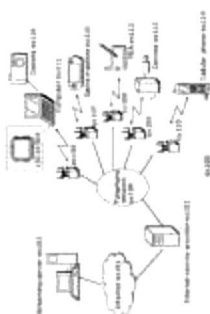


Fig. 20

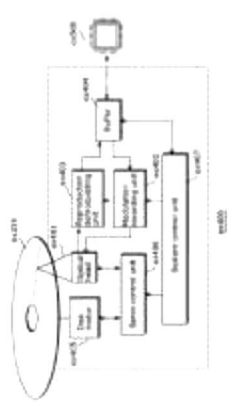
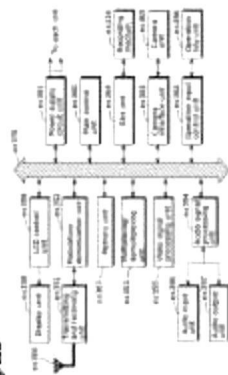




Fig. 22A

Fig. 22B



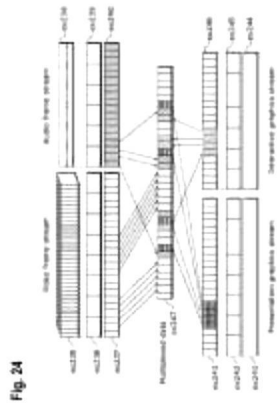


Fig. 23

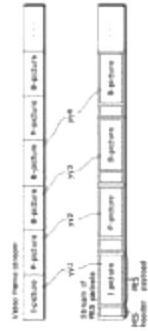


FIG. 23

FIG. 23

FIG. 23

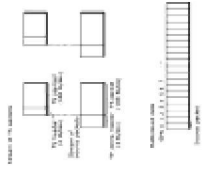


Fig. 28

Fig. 27



Table with 4 columns

Table with 4 columns

Table with 4 columns

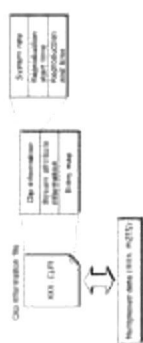
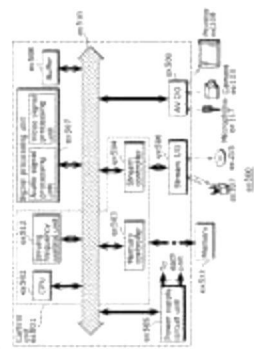




Fig. 30

Fig. 31



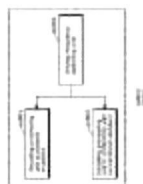


Fig. 32

Fig. 33





Fig. 35A

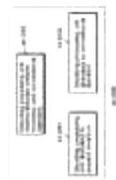


Fig. 35B